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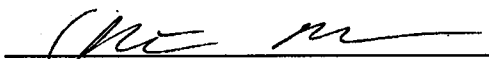
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Supplemental Site Investigation and Semi-Annual Monitoring Report January – June 2012

**North Carolina Department of Transportation
NCDOT Pittsboro Asphalt Site No. 6-48 (34613.3.13)
240 Sugar Lake Road
Pittsboro, Chatham County, North Carolina**

Supplemental Site Investigation and Semi-Annual Monitoring Report January – June 2012


Prepared By Christopher Mason, Senior Staff Scientist


Reviewed By Matt Brennan, Project Scientist


Reviewed By Michael T. Jordan, P. G., Senior Scientist

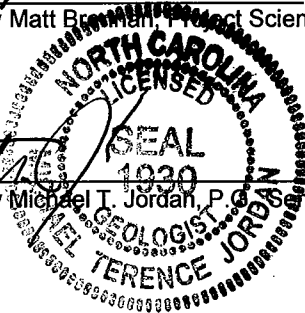


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List of Acronyms

1,1-DCA	1,1-dichloroethane
1,1-DCE	1,1-dichloroethene
1,1,1-TCA	1,1,1-Trichloroethane
2B Standards	Title 15A of the NCAC, Subchapter 2B, Section 0.216
2L Standards	Title 15A of the NCAC, Subchapter 2L, Section 0.202
AECOM	AECOM North Carolina, Inc.
ARCADIS	ARCADIS Geraghty & Miller, Inc. of North Carolina, Inc.
AS	air sparge
bgs	below ground surface
CAP	Corrective Action Plan
cis-1,2-DCE	cis-1,2-Dichloroethene
CSA	Comprehensive Site Assessment
CT	carbon tetrachloride
DO	dissolved oxygen
DPE	dual phase extraction
EPA	United States Environmental Protection Agency
ft/ft	feet/foot
fpm	feet per minute
gpm	gallons per minute
GWTS	groundwater treatment system
HPFM	Heat Pulse Flowmeter
HRAT	high-resolution acoustic televiewer
IHSB	Inactive Hazardous Sites Branch
MAG	Mid-Atlantic Geosciences
MNA	monitored natural attenuation
MOA	Memorandum of Agreement
NCDENR	North Carolina Department of Environment and Natural Resources
NCDOT	North Carolina Department of Transportation
NPDES	National Pollution Discharge Elimination System
ORP	oxidation reduction potential
PCE	tetrachloroethene
POG	Protection of Groundwater Soil Remediation Goals
PVC	polyvinyl chloride
S&ME	S&ME, Inc.
SGS	SGS North America, Inc.
SP	Spontaneous Potential
SPR	Single Point Resistance
SVE	soil vapor extraction
TCE	trichloroethene
TOC	top of casing
trans-1,2-DCE	trans-1,2-dichloroethene
VOC	volatile organic compound
µg/L	micrograms per liter

1 Introduction

This document presents the results of supplemental site investigation, system performance and semi-annual groundwater monitoring activities conducted at the former North Carolina Department of Transportation (NCDOT) Asphalt Testing Site #6-48 in Pittsboro, Chatham County, North Carolina (the Site) between January 1, 2012 and June 30, 2012. The Site location is illustrated on Figure 1.1. NCDOT is the owner/operator of a groundwater extraction and treatment system at the Site that provides hydraulic containment and removes dissolved chlorinated volatile organic compounds (VOCs) from groundwater. The property is owned by S.T. Wooten Corporation and operates as an asphalt production facility with an active on-Site laboratory. The NCDOT has never owned or controlled the Site. The remediation system and monitoring network include the following components:

- Groundwater extraction wells (RW-1 and RW-2).
- An air stripper and granulated activated carbon treatment system that discharges treated water to an unnamed tributary of the Haw River under a National Pollution Discharge Elimination System (NPDES) Permit.
- Soil vapor extraction (SVE) and air sparge (AS) wells for treatment of shallow groundwater.
- Twenty-two monitoring wells (48MW-1, 48MW-2, 48MW-3, 48MW-4R, 48MW-5, 48MW 10, 48MW-11R, 48MW-12, 48MW-13, 48MW-14, 48MW-15, 48MW-16, 48MW-17, 48DW-1, 48DW-2, 48DW-3, 48DW-4, 48DW-5, 48DW-6, 48DW-7, 48DW-8, and 48SVE-01). Monitoring wells 48MW-8 and 48MW-9 were reportedly destroyed prior to January 2003 (S&ME, Inc. [S&ME], 2003). Monitoring wells 48MW-6 and 48-MW-7 were permanently abandoned during April 2007 (ARCADIS G&M of North Carolina, Inc. [ARCADIS], 2007). Wells 48DW-6, 48DW-7, 48DW-8, and 48SVE-01 were installed during March 2012.
- Stream monitoring location 48SW-1.

1.1 Site Background

The NCDOT periodically conducted asphalt testing at the Site in an asphalt testing laboratory owned by S.T. Wooten. S.T. Wooten Company currently uses the Site as an asphalt production facility. The approximate location of the former S.T. Wooten testing laboratory is illustrated on Figure 1.2. In addition, Figure 1.2 shows the current layout of the asphalt plant and the location of the remediation system including the AS points, SVE points, recovery wells, groundwater monitoring wells, and surface water monitoring point.

The testing procedures employed at the former S.T. Wooten laboratory involved the use of chlorinated solvents, which may have included carbon tetrachloride (CT); 1,1,1-trichloroethane (1,1,1-TCA) and trichloroethene (TCE). In 1989, a Memorandum of Agreement (MOA) between NCDOT and the North Carolina Department of Environment and Natural Resources (NCDENR) was entered to conduct site assessments at 72 former NCDOT asphalt testing sites. Additional MOAs dated July 1996 and February 1999 were issued to establish a list of target compounds and to address the preparation of Comprehensive Site Assessments (CSAs) and Corrective Action Plans (CAP) at a selected number of these sites, including the Site.

The target compound list for the NCDOT sites, defined under the MOA, includes 12 chlorinated solvents associated with the former asphalt materials testing activities including the three primary compounds (CT; 1,1,1-TCA, and TCE) and associated daughter products (1,1-dichloroethene [1,1-DCE]; 1,1-dichloroethane [1,1-DCA]; trans-1,2-dichloroethene [trans-1,2-DCE]; cis-1,2-dichloroethene [cis-1,2-DCE]; vinyl chloride; chloroethane; chloroform; methylene chloride; and methyl chloride). Non-target compounds are other VOCs on the United States Environmental Protection Agency (EPA) Method 8260 target compound list that, if present, may be associated with non-NCDOT related releases.

ARCADIS performed a CSA to assess the extent of the chlorinated hydrocarbon contamination in the soil and groundwater. The CSA report (ARCADIS, 1997) was submitted to the NCDENR in June 1997. In September 1998, NCDOT contracted with S&ME to prepare a CAP. On September 7, 1999, S&ME submitted to NCDENR a CAP recommending monitored natural attenuation (MNA) as the remedial alternative. The North Carolina groundwater quality standards established in Title 15A of

the North Carolina Administrative Code, Subchapter 2L, Section 0.202 (2L Standards), were selected as the remedial goals in the CAP.

In a response letter dated January 14, 2000, NCDENR required, in addition to MNA, active remediation of “hot spots” in the soil and groundwater to remove source-area contamination. S&ME submitted a revised CAP on June 30, 2000, (S&ME, 2000) recommending soil vapor extraction, air-sparging, and groundwater pumping to remediate the “hot spots.” NCDENR approved the revised CAP in a letter dated July 19, 2001, but required the installation of two additional monitoring wells, collection of samples from the potable water supply wells surrounding the Site, and performance of quarterly monitoring after the remediation systems were started. The two additional monitoring wells (48MW-4R and 48MW-11R) were installed on March 31, 2004.

As approved in the CAP, S&ME installed and began operation of AS and SVE systems to remediate impacts in the shallow aquifer in October 2002. The groundwater treatment system (GWTS) was designed to remove contaminants from groundwater and to influence the hydraulic gradient in order to prevent migration of contaminants off-Site by pumping groundwater from two recovery wells (RW-1 and RW-2). The GWTS was started on September 11, 2003.

The average TCE (240 micrograms per liter [µg/L]) concentration in the groundwater treatment system influent between 2004 and 2010 was more than twice that observed in well MW-1, which historically had the highest impacts among the Site monitoring wells. The disparity between the average influent concentration and that observed in well MW-1 suggested a residual source area within the capture zone of the groundwater recovery system.

In April and November 2010, AECOM North Carolina, Inc. (AECOM) performed additional site assessment activities including soil and groundwater sampling and analysis for VOCs. One of the primary objectives of the Site assessment was to identify potential VOC source areas near the following:

- Former S.T. Wooten Asphalt Testing Laboratory and Septic Tank Area;
- Current Asphalt Testing Laboratory Area;
- Former Potable Water Well Area (PW-1); and
- Septic Tank Percolation Area.

The details of the additional assessment activities are presented in the 2010 Site Assessment Report (AECOM, 2010). In summary, two out of three NCDOT target compounds (CT and TCE) were detected in multiple soil samples above the Inactive Hazardous Sites Branch (IHSB) Protection of Groundwater Soil Remediation Goals (POG). TCE was also detected above its IHSB Preliminary Health-Based Soil Remediation Goal in multiple soil samples. The horizontal extent of soil impacted with TCE above its POG covers an area of approximately 8,600 square feet. TCE impacted soil extends at least to depths of approximately 25 feet below ground surface (bgs) in the central source area. However, elevated TCE concentrations in groundwater immediately down gradient of the source area suggest TCE impacted soil extends to the water table (approximately 35 feet bgs). The investigation also included installation of three additional groundwater monitoring wells (48MW-16, 48MW-17 and 48DW-5) to evaluate the horizontal and vertical extent of groundwater impacts.

The results of the 2010 soil and groundwater investigation indicated the area of highest soil impacts is located near the former asphalt testing laboratory and outside the AS/SVE system treatment zone. In addition, the groundwater pump and treat system has effectively lowered the water table of the surficial aquifer below the screened interval of the air sparging wells. Consequently, the AS and SVE treatment systems were shut down on August 12, 2010.

In April 2012, S.T. Wooten installed an additional water supply well (48PW-3) approximately 500 feet north of monitoring well 48MW-10. The new water supply is approximately 300 feet deep and capable of producing up to 50 gallons per minute. The well was installed as an industrial water supply well for dust suppression or a proposed concrete production facility (Butch Lawter, personal communication). Between March and July 2012, AECOM conducted supplemental investigation activities at the site. These activities included:

- installation of three deep bedrock monitoring wells (48DW-6, 48DW-7 and 48DW-8) to provide vertical delineation of the groundwater plume;
- installation of one SVE/dual phase extraction (DPE) well and three multi-level soil vapor monitoring points (VW-1, VW-2, and VW-3) to be used for SVE pilot testing;

- borehole geophysical surveys of 48MW-8 and the S.T. Wooten supply well installed in April 2012 (48PW-3); and
- sampling of two down-gradient private water supply wells.

Additional details of these supplemental investigation activities are provided in Section 2 of this report.

2 Summary of Supplemental Site Investigation Activities

2.1 Well Installation Activities

To provide vertical delineation of the groundwater plume, AECOM installed three Type III monitoring wells (48DW-6, 48DW-7, and 48DW-8) in March 2012. A dual phase extraction well (48SVE-01) and three multi-level soil vapor monitoring points (VW-1, VW-2, and VW-3) were also installed for a proposed SVE pilot test (SVE pilot testing was completed to evaluate the potential for SVE technology to treat source area impact areas at the Site). These wells and monitoring points were installed using a combination of hollow stem auger and air rotary techniques. Well construction permits for monitoring wells (Permit Nos. WM0500868 and WM0500756) and SVE-01 (WR0500124) were obtained from the NCDENR prior to construction. Well and monitoring point locations are presented on Figure 1.2.

Monitoring well 48DW-6 was installed upgradient of the former NCDOT asphalt testing laboratory near 48MW-10 to a total depth of approximately 140 feet bgs. Monitoring well 48DW-7 was installed upgradient of the former NCDOT asphalt testing laboratory to a total depth of approximately 70 ft bgs. Monitoring well 48DW-8 was installed downgradient and to the east of the unnamed tributary to the Haw River to a total depth of approximately 120 ft bgs. Finally, 48SVE-01 was installed immediately adjacent to the former NCDOT asphalt testing laboratory to a total depth of 45 ft bgs. A summary of the well construction details is provided in Table 2.1 and the well construction records are included in Appendix A. The horizontal location and vertical elevation of each monitoring well was surveyed by Taylor Wiseman Taylor, a North Carolina licensed surveyor.

The Type III monitoring wells (48DW-6, 48DW-7, and 48DW-8) were constructed with six-inch outer casing advanced approximately three feet into the top of bedrock. The casing was grouted in place and allowed to set for approximately 24 hours. After the grout cured, the borehole was advanced using air rotary techniques to the total depths listed above. Wells 48DW-6 and 48DW-7 were constructed with two-inch diameter schedule 40 polyvinyl chloride (PVC) casing with 20 and 10 feet of 0.010-inch slotted PVC screen, respectively. A sand pack was placed in the annulus to a height of approximately two feet above the top of well screen. A bentonite seal was placed approximately two feet above the sand pack and hydrated. The remainder of the well annulus was filled with grout to the ground surface. Monitoring well 48DW-8 was left open hole below the outer-casing to facilitate multi-level groundwater sampling and borehole geophysical analysis.

The dual phase extraction well was constructed with six-inch diameter schedule 40 PVC casing with 45 feet of 0.010-inch slotted PVC screen. A sand pack was placed in the annulus to a height of approximately two feet above the top of the well screen. A bentonite seal was placed approximately two feet above the sand pack and hydrated. The remainder of the well annulus was filled with grout to the ground surface. The soil vapor monitoring points (VW-1, VW-2, and VW-3) are located five, ten and fifteen feet away from 48SVE-01, respectively. Each of these points consists of three vapor monitoring wells constructed of ¾-inch PVC casing and screen. The three vapor monitoring wells at each point were installed with screen intervals from 4-5 feet bgs, 14-15 feet bgs, and 29-30 feet bgs to allow for vapor monitoring at various intervals during pilot testing.

Each well was secured with a locking expansion plug, and completed with a three-foot steel protective stick-up cover surrounded by a two-foot square concrete pad. After installation, each groundwater monitoring well was developed by pumping and surging with a submersible pump until the turbidity decreased. Development water was containerized in five gallon buckets and transferred to the on-site groundwater treatment facility for disposal. Drill cuttings were placed in 55-gallon drums and staged on-site pending disposal at a permitted facility by A&D Environmental, Inc., a NCDOT approved waste disposal operator.

A deep bedrock well (48PW-3) was installed by S.T. Wooten to be used as an industrial water supply well for dust suppression or a proposed concrete production facility. This well is located upgradient of the former NCDOT asphalt testing laboratory near the eastern property boundary. This Type III well was installed with steel casing to a depth of approximately 44 feet bgs and the borehole was left open to a total depth of approximately 305 feet bgs. However, at the time of the borehole geophysics survey described below, the total depth was measured at approximately 295 feet bgs.

2.2 Borehole Geophysics

To provide better understanding of water bearing zones and subsurface conditions, Mid-Atlantic Geosciences (MAG) was contracted to perform borehole geophysics on 48DW-8 and the water supply well recently installed by S.T. Wooten (SW-03 in geophysics report and 48PW-3 in AECOM reports). The geophysical logging included several sondes. These included:

- **Acoustic Televiwer:** a high-resolution acoustic televiwer (HRAT) was used to produce an image of the interior of each borehole created by reflected ultrasound. By recording both amplitude and travel time of each ultrasonic pulse, HRAT is able to produce two logs of the well. The amplitude log produces a log similar to a visual scan while the travel time log provides an indication of borehole diameter.
- **Caliper:** a spring-loaded, three arm caliper is used to measure borehole diameter as the probe is lifted upwards through the borehole. These measurements provide an indication of where solution openings or fractures are located.
- **Fluid Temperature:** Fluid temperature logs provide the temperature of the air or fluid in a borehole as a function of depth. Temperature logs can indicate where water is entering or leaving a borehole and can be used to locate zones of water movement within the borehole.
- **Fluid Conductivity:** Fluid conductivity provides a continuous measurement of the electrical conductivity of the borehole fluid. Fluid conductivity logs often deflect where water-producing features are transmitting water into or out of the well.
- **Natural Gamma:** The natural gamma log is used primarily to identify changes in lithology. Specifically, natural gamma logs indicate the relative amounts of clay in various sedimentary rock units.
- **Short and Long Normal Resistivity:** the resistivity sonde is equipped with a series of electrodes set at some fixed distance from each other. To take a measurement, a current is driven between the top of the sonde and the exposed cable 30 feet above the sonde. The potential difference, or voltage, between the short and long normal-spaced electrodes is recorded, and the resistance to current flow can be calculated. This resistance is converted to apparent resistivity, which is a physical property of the formation. In general, clay minerals or conductive (electrolytically) pore fluids are indicated by low resistivity while clean sand or carbonate beds with low porosity or low fluid conductivity within the porosity exhibit high resistivity.
- **Single Point Resistance (SPR):** SPR logs measure the resistance between an electrode on the sonde, and one buried at the ground surface near the wellhead. This provides a resistance that is specific to the particular geometry of the circuit (i.e. the placement of the wellhead electrode), and not a resistivity that is a physical property of the formation. However, the log provides relative data within a well that is sensitive to the presence of conductive minerals (e.g. clay) in the formation, and the degree of porosity and conductivity of the fluid in the porosity.
- **Spontaneous Potential (SP):** SP logging uses a lead electrode on a sonde to measure the naturally-occurring potential difference between the sonde in the formation and a reference electrode buried near the wellhead. Unlike resistivity and SPR logs, which are sensitive to beds, SP logs are sensitive to contacts between beds (or contacts between waters with differing ionic content).
- **Heat Pulse Flowmeter (HPFM):** the HPFM sonde consists of capacitors and thermistors. The capacitors discharge rapidly creating a thin disc of heated water. The heated disc of water disperses via conduction. Despite the heated water naturally rising due to convection, vertical flow in the well will move the heated disc up or down in the well. Two thermistors, mounted equidistant above and below the capacitors measure temperature differentials. The temperature differential can then be used to calculate a vertical flow rate in feet per minute (fpm) based on the known positions of the thermistors. If the borehole diameter is known, the flow in fpm can be converted to gallons per minute (gpm). In most cases, the HPFM sonde is used under static conditions. However, in some cases, HPFM can be used under stressed or pumping conditions, which induce artificial head differences.

MAG's Final Report for the borehole geophysics program conducted at the Site is provided in Appendix B. A brief summary of the findings for each well is provided below.

2.2.1 Well 48DW-8 Borehole Geophysics Results

- The total depth of the well was approximately 117.3 feet bgs;
- The caliper log revealed no significant enlargements in the borehole;
- The fluid temperature log indicated a deviation at 21.7 feet bgs (transition from casing to open borehole) and an offset at the top of the water column;

- The fluid conductivity log showed no significant deviations, offsets, or changes in slope except at the top of the water column;
- Televiwer logs indicated the largest aperture feature is a fracture zone located at 45.7 feet bgs. However, due to significant vertical deviation in the borehole, televiwer instrument centralization was affected causing image quality to be variable;
- The high electrical and low natural gamma logs showed generally smooth variations, likely due to the low clay content of the formation;
- Seven depths were chosen for HPFM measurements. Of these, measurable upward flow was detected at 45 and 47 feet bgs, with the largest flow being 0.317 fpm at 45 feet bgs.

2.2.2 Well 48PW-3 (SW-3 in Mid-Atlantic Geosciences Report) Borehole Geophysics Results

- The total depth of the well was approximately 295.3 feet below top of casing (TOC);
- The depth to water was measured at 26.7 feet below TOC at the time of the survey;
- The bottom of the casing was located at approximately 43.9 feet below TOC;
- The caliper log revealed numerous significant enlargements;
- The fluid temperature log showed no significant deviations, offsets, or changes in slope except at the top of the water column;
- The fluid conductivity log showed offsets at 73.5 feet and 99.1 feet below TOC and at the top of the water column;
- The largest aperture feature was a fracture zone located at 294.7 feet below TOC;
- The high electrical and low natural gamma logs showed generally smooth variations, likely due to the low clay content of the formation;
- Thirteen depths were chosen for HPFM measurements. Under static conditions, measureable upward flow was detected at 291 feet below TOC with a flow of 0.75 fpm. Based on these results, HPFM measurements were also collected under dynamic (pumping) conditions. Under dynamic conditions, measurable upward flow was detected at 224, 240, 250, 264, and 291 feet below TOC, with the largest flow being 0.716 fpm at 291 feet below TOC.

2.2.3 Soil Vapor Extraction/Dual Phase Extraction Pilot Test

SVE and DPE are source reduction technologies that are capable of removing volatile contaminants from the subsurface. During both SVE and DPE, air is extracted from the vadose zone soil, which transfers contaminants sorbed on soil into the gas phase. Extracted vapors are then either treated using a vapor phase treatment process, or directly discharged to the atmosphere. Since SVE is limited to vadose zone soils, the volatilization of target contaminants is often increased by the implementation of DPE. Using DPE, groundwater and vapors are simultaneously withdrawn from the treatment area, which lowers the groundwater table/increases the vadose zone thickness. Therefore, saturated soils containing sorbed contaminants are exposed to air flow and are removed (USEPA, 1997).

In March 2012, AECOM installed one SVE/DPE pilot test well and three multi-level (30, 15 and 5 feet bgs) vapor monitoring points for pilot testing SVE/DPE technology. On March 27, 2012, AECOM conducted an 8-hour vapor extraction pilot test to evaluate the effectiveness of SVE/DPE technology to remediate source area soils. Vacuum was provided using a vacuum truck with applied pressures ranging from 10.2 feet of water feet of water to 22.7 feet of water. During the test, vacuum and air flow readings from the three multi-level vapor monitoring points and the vapor extraction well were measured periodically using portable magnahelic vacuum gauges and flow meters, respectively. Results of the field pilot test indicated an effective SVE/DPE radius of influence of 8 to 10 feet. The limited radius of influence determined by the pilot test confirmed that vapor extraction is not likely to be an efficient remedial technology at the Site because the subsurface material (i.e., silt and/or clay) has low permeability to air. As a result, alternative remedial technologies are being evaluated.

3 Monitoring Methods

3.1 Groundwater Monitoring

The semi-annual groundwater monitoring event was performed in April 2012. Additional groundwater samples were also collected in May 2012. Twenty-five groundwater samples (including RW-1, RW-2 and 48PW-2), one trip blank, one duplicate, and two equipment blanks were collected in April 2012. Four additional groundwater samples were collected in May to confirm the results of the April samples from newly installed wells 48DW-8 and 48SVE-01 and an additional sample was collected from 48SVE-01 in June. Two privately owned wells (Mitchell and Sanders Wells) were also sampled. The on-Site field team consisted of two AECOM employees who collected and shipped the samples to SGS North America, Inc. (SGS) in Wilmington, North Carolina. SGS, a NCDOT contract laboratory, is certified by the State of North Carolina to perform the requested analyses. Sample locations are depicted on Figure 1.2.

3.1.1 Sampling Methods

Water level measurements, groundwater sampling, sample preservation and shipping were conducted in general accordance with the EPA Region IV guidance documents.

3.1.1.1 Monitoring and Recovery Well Sampling

Groundwater samples were collected from each of the groundwater monitoring wells and recovery wells (RW-1 and RW-2) in April 2012 during the regularly scheduled semi-annual groundwater sampling event. Confirmatory samples were collected from 48DW-8 and 48SVE-01 during May 2012. A third sample was collected from 48SVE-01 in June 2012.

Each monitoring well was purged with a peristaltic pump, submersible bladder or Grundfos® pump prior to sampling. Water levels were monitored at approximate three to five minute intervals and a steady flow rate was maintained. Field parameters (temperature, pH, specific conductance, dissolved oxygen [DO], and oxygen reduction potential [ORP]) were measured to ensure collection of a sample representative of formation water. Each well was considered ready for sampling when the parameters had stabilized to within 10 percent for three consecutive readings or if the well purged dry. After purging, groundwater samples were collected directly into laboratory supplied containers at low flow sampling rates. Field parameters were recorded on field data sheets.

The recovery wells (RW-1 and RW-2) pump continuously and were sampled from the individual faucets on the system influent pipes.

On May 30, 2012, AECOM redeveloped 48DW-8 and returned to the Site on May 31, 2012 to resample 48DW-08 and SVE-01. Low-flow sampling techniques were used to collect two samples from each well. Well 48DW-8 was first sampled with the pump (Grundfos®) set at 90 feet bgs, and then the pump was raised to 40 feet bgs. Sampling intervals were chosen based on water production observed while drilling the well. Well 48SVE-01 was first sampled using low flow techniques. Following low flow sampling, the pump discharge rate was increased until one well volume was removed from the well. Once a well volume had been extracted, the discharge rate was again decreased to low flow rates and an additional sample was collected. The number of well volumes removed was limited to reduce the amount of investigation-derived waste generated.

Groundwater samples were containerized, preserved, and shipped to the analytical laboratory. Groundwater samples collected in April and May were submitted for analysis by EPA Method 8260B. The samples collected in June (system influent and 48SVE-01) were submitted for analysis of 1,4-dioxane by EPA Method 8270D. Sampling equipment was thoroughly decontaminated with phosphate-free soap and distilled water prior to fieldwork and between wells to prevent cross-contamination.

Purge water produced during the April sampling event was temporarily contained prior to being treated through the on-Site treatment system. Purge water produced from 48SVE-01 in May and June was containerized in drums prior to off-Site disposal.

3.2 Surface Water

A surface water sample was collected on April 12, 2012 at the 48SW-1 location on Figure 1.2. The grab sample was collected by submerging a new, capped glass jar into the stream. The jar was uncapped underwater with the mouth of the jar pointed downstream. The jar was closed underwater and its contents were transferred into laboratory supplied containers. During the sampling process, the sampler was careful to stand beside the stream while sampling to reduce the extent of disturbance to the stream bottom. The surface water sample was analyzed for VOCs by EPA Method 8260B.

3.3 Private Water Supply Well Sampling

One water supply well, 48PW-2, is located on-Site. A sample was collected directly from the faucet at the well-head of 48PW-2 in April 2012. The sample from 48PW-2 was analyzed for VOCs by EPA Method 8260B. On the day of sampling, 48PW-2 was in use for facility operations.

Two off-Site, private water supply wells were sampled during this reporting period. The wells are located at 681 Mt. Gilead Church Road (Mitchell Well) and 771 Mt. Gilead Church Road (Sanders Well) as indicated on Figure 1.2. The Mitchell well was sampled on April 30 and August 1, 2012. The April 30 sample was submitted for laboratory analysis of VOCs by EPA Method 8260B, and the August 1 sample was submitted for laboratory analysis of VOCs by EPA Method 8260B and 1,4-dioxane by EPA Method 8270D. The Sanders Well was sampled on July 27, 2012 and submitted for laboratory analysis of VOCs by EPA Methods 8260B and 1,4-dioxane by 8270D. The Mitchell and Sanders wells were sampled from outdoor faucets, which were allowed to run for approximately 10 minutes prior to sampling.

4 Results

The following sections discuss the field and laboratory results of the first 2012 semi-annual groundwater monitoring event. Laboratory analytical reports from SGS and field data associated with samples collected by AECOM personnel were reviewed and validated to ensure that specific data-quality objectives were met. Laboratory analytical reports are provided in Appendix C.

4.1 Groundwater Elevations

Groundwater elevation data was collected from the Site monitoring wells in April and July 2012 and is presented in Table 2.1. The July 2012 data was used to prepare the groundwater potentiometric surface elevation contour map of the surficial (Figure 4.1) and shallow bedrock aquifers (Figure 4.2). Groundwater in the surficial and bedrock aquifers flows east/southeast toward an unnamed tributary of the Haw River. The average horizontal hydraulic gradient in the surficial aquifer was approximately 0.063 feet/foot (ft/ft) while the shallow bedrock aquifer had an average horizontal hydraulic gradient of approximately 0.019 ft/ft. Vertical hydraulic gradients were also calculated with data from paired shallow and deep wells at the Site. A downward vertical gradient was measured at well pairs 48MW-16/48DW-5 (0.022 ft/ft), 48MW-10/48DW-6 (0.022 ft/ft), and 48MW-12/48DW-4 (0.012 ft/ft) while the vertical gradient measured at well pair 48MW-11R/48DW-2 was 0.001 ft/ft upward. The July 2012 groundwater flow direction is consistent with historical data.

4.2 Groundwater Analytical Results

Groundwater samples were collected from Site monitoring wells on April 11 and 12 as part of the regularly scheduled semi-annual groundwater sampling event. Additional samples were collected from 48DW-8 and 48SVE-01 on May 31, 2012 and from 48SVE-01 on June 21, 2012. The analytical results are summarized in Table 4.1 and historical results are presented in Table 4.2. Field parameters, including temperature, DO, pH, conductivity, and ORP were recorded during the sampling events and are presented in Table 4.3.

The following is a summary of the groundwater monitoring results:

- TCE was detected at concentrations above its 2L Standard of 3 µg/L in monitoring wells 48MW-1 (16.2 µg/L), 48MW-11R (4.52 µg/L), 48MW-16 (478 µg/L), 48DW-2 (15.7 µg/L), 48DW-4 (3.3 µg/L), 48DW-5 (413 µg/L), 48DW-8 (178 µg/L; 206 µg/L; and 125 µg/L), and 48SVE-01 (48,600 µg/L; 70,700 µg/L; and 41,300 µg/L) and groundwater extraction wells RW-1 (324 µg/L), and RW-2 (86.1 µg/L). TCE was also detected at concentrations below its 2L Standard in monitoring wells 48DW-6 (1.58 µg/L), and 48DW-7 (1.61 µg/L).
- The horizontal extent of the TCE plume exceeding the 2L Standard in the surficial aquifer is generally defined by the monitoring well network. Delineation in bedrock is achieved by the combined monitoring well and private water supply (Mitchell and Sanders) well network. Isoconcentration maps of TCE in the surficial and shallow bedrock aquifers are presented on Figures 4.3 and 4.4, respectively.
- 1,1,1-TCA was detected in groundwater collected from monitoring well 48SVE-01 in April (3,200 µg/L) and May (1,710 µg/L) at concentrations above its 2L Standard of 200 µg/L.
- 1,1-DCE, a daughter product of both TCE and 1,1,1-TCA, was detected in groundwater at concentrations above its 2L Standard of 7 µg/L in monitoring wells 48MW-16 (46.8 µg/L), 48DW-5 (39.4 µg/L), 48DW-8 (13.6 µg/L and 14.5 µg/L) and 48SVE-01 (1,860 µg/L) and groundwater extraction well RW-1 (15 µg/L). 1,1-DCE was also detected at concentrations below its 2L Standard in monitoring wells 48MW-1 (2.22 µg/L), 48MW-3 (2.51 µg/L), and 48DW-2 (5.82 µg/L) and in groundwater extraction well RW-2 (6.35 µg/L).
- cis-1,2-DCE, a TCE daughter product, was detected in groundwater at concentrations below its 2L Standard of 70 µg/L in monitoring wells 48MW-11R (1.89 µg/L), and 48DW-2 (4.98 µg/L).
- 1,1-DCA, a daughter product of 1,1,1-TCA, was detected in groundwater at concentrations below its 2L Standard of 6 µg/L in monitoring wells 48MW-3 (3.42 µg/L) and 48DW-2 (2.38 µg/L).

- Tetrachloroethene (PCE) was detected in groundwater collected from monitoring wells 48MW-1 (1.61 µg/L) and 48MW-3 (2.78 µg/L), and groundwater extraction well RW-1 (10.4 µg/L), at concentrations above its 2L Standard of 0.7 µg/L. According to the NCDOT, PCE was not used by their asphalt testing laboratory. PCE degradation products can include TCE, cis-1,2-DCE; and vinyl chloride.
- Ethylbenzene, toluene, and o-Xylene were detected in groundwater collected from Site monitoring wells at concentrations below 2L Standards. These compounds are commonly associated with petroleum products and are not a target NCDOT constituent.
- On June 21, 2012, 48SVE-01 and the system effluent were sampled for 1,4-dioxane. 1,4-dioxane was detected in groundwater collected from monitoring well 48SVE-01 (92.5 µg/L), but 1,4-dioxane was not detected in the system effluent sample (<2.16 µg/L).

4.3 Surface Water Analytical Results

VOCs were not detected in the surface water sample (48SW-1) collected on April 12, 2012. Historical surface water analytical results are summarized on Table 4.4.

Surface water sampling at 48SW-1 began in January 2002 and the GWTS has operated with intermittent downtime since September 11, 2003. The GWTS was shut down due to equipment failure between August 2005 and February 2006 and between July 1, 2006 and January 19, 2007 to allow for an upgrade from single to three-phase electrical service.

Prior to GWTS startup, TCE was detected in samples collected at 48SW-1 during three of four sampling events at concentrations above the Title 15A NCAC, Subchapter 2B, Section 0.216 (2B Standard [2.5 µg/L]). After GWTS startup, TCE was not detected in surface water until September 2005 (16 µg/L) when the system was shut down due to equipment failure. TCE was not detected in the sample collected during April 2006, shortly after the system was restarted in February 2006. TCE was detected above the 2B Standard in the surface water sample collected at 48SW-1 during October 2006 (16 µg/L), which was collected while the system was down for an electrical service upgrade. Since January 2007, the GWTS has been operating with minimal disruption and TCE has not been detected above the 2B Standard in any sampling event.

Based on a review of the historical surface water analytical data, the GWTS is effectively controlling migration of the plume to surface water.

4.4 Private Water Supply Well Sampling Results

VOCs and 1,4-dioxane were not detected above laboratory detection limits in the private water supply well samples (Mitchell Well and Sanders Well) collected on April 30, July 27, and August 1, 2012. Laboratory analytical results are summarized on Table 4.5.

5 Remediation System Performance

This section addresses remediation system performance during the period from January 1, 2012 through June 30, 2012.

5.1 Air Sparge and Soil Vapor Extraction Systems

The AS and SVE systems were installed in 2002 to remediate contamination in the shallow aquifer. The systems operated with temporary interruptions from October 8, 2002 to August 12, 2010.

The results of the 2010 soil and groundwater investigation indicated the area of highest soil impacts is located near the former asphalt testing laboratory and outside the AS/SVE system treatment zone (Figure 5.1). In addition, the groundwater pump and treat system has effectively lowered the water table of the surficial aquifer below the screened interval of the air sparging wells (Figure 5.2). Consequently, the AS and SVE treatment systems were shut down on August 12, 2010.

5.2 Groundwater Treatment System

The groundwater treatment system is designed to control the migration of contaminants by extracting groundwater from the two recovery wells (Figure 1.2). Groundwater is pumped to the equalization tank and through an air stripper and carbon filtration to remove VOCs and then discharged into an unnamed tributary of the Haw River in accordance with NPDES permit NC0087629. The system is permitted to discharge up to 10-gallons per minute (gpm).

5.2.1 Groundwater Extraction Rates

During the reporting period (January 1, 2012 through June 30, 2012), a total of 353,838 gallons (1.34 gpm) of water were treated by the groundwater treatment system. Of this total, 98 percent was from recovery well RW-1.

5.2.2 Hydraulic Capture

Figure 4.1 is a shallow groundwater potentiometric surface map based on groundwater elevation data collected from monitoring wells in July 2012. Based on elevation contours, the extraction well network captures groundwater within the vicinity of the existing VOC plume.

5.2.3 Volatile Organic Compound Mass Recovery

Figure 5.3 presents the calculated total VOC mass recovery for the system since startup in 2003. Based on the system flow rates and influent VOC concentrations, an average of 0.003 pounds per day of VOCs were removed during the first half of 2012. As of June 28, 2012, approximately 13 pounds of VOCs have been removed from groundwater since startup in 2003 (Figure 5.3).

5.2.4 Treatment Efficiency

Effluent sampling is conducted monthly in accordance with the requirements of the NPDES permit. The effluent sample collected on April 10, 2012 had a detection of TCE (6.28 µg/L) above the permit Monthly Average (4.1 µg/L) and Daily Maximum (6.15 µg/L) limits. All other parameters were below their respective limits during the reporting period.

Based on the April 10, 2012 analytical results, the effluent was re-sampled and the groundwater treatment system was turned off on April 30, 2012. Analytical results of the effluent sample collected on April 30, 2012 indicated detections of TCE (4.17 µg/L) at concentrations above the Monthly Average limit, but below the Daily Maximum limit. Based on these results, the Operator in Responsible Charge replaced the carbon polishing filters and restarted the system on May 18, 2012. The system has operated within compliance since May 18, 2012. VOCs have not been detected in system samples since the sample collected on April 30, 2012.

5.2.5 Operation and Maintenance

During weekly monitoring events, the Operator in Responsible Charge, Mr. Jeff Leaver or backup Operator in Responsible Charge, Mr. Aaron Hill, of Environmental Field Management recorded the system flow rate (gpm), total flow (gallons) and resettable flow (gallons).

6 Summary and Recommendations

Based on analytical data obtained during the April/May 2012 monitoring event and groundwater treatment system evaluation from January 1 through June 30, 2012, the performance of the groundwater treatment system at the NCDOT Pittsboro Asphalt Testing Site Number 6-48 can be summarized as follows:

- The groundwater VOC plume concentrations continue to be stable. The groundwater plume in the surficial aquifer is generally defined by the existing monitoring well network, and based on surficial and shallow elevation contours; the extraction well network captures groundwater within the vicinity of the VOC plume. Delineation in bedrock is achieved by the combined monitoring and private water supply (Mitchell and Sanders) well network.
- NCDOT has been granted property owner permission to continue semi-annual sampling of the water supply wells located at 681 Mt. Gilead Church Road (Mitchell Well) and 771 Mt. Gilead Church Road (Sanders Well). Sampling results will be included in future groundwater monitoring reports.
- NCDOT will continue semi-annual groundwater monitoring and the next event is scheduled for October 2012. Sample location SVE-01 will be added to the sampling plan during future events.
- Results of the SVE/DPE pilot test indicated that this technology will be inefficient for treating source area impacts near the former asphalt testing laboratory. As a result, alternative remedial technologies are being evaluated.
- To provide better delineation of the groundwater plume, NCDOT proposes to install four additional groundwater monitoring wells at the Site. One Type II and three Type III wells are proposed at the locations illustrated on Figure 6.1. The exact location and design of the proposed wells will be determined based on field conditions.
- Based on the results of the 2012 borehole geophysical analysis, NCDOT proposes to conduct packer testing on 48PW-3. Multiple intervals will be evaluated allowing further analysis of groundwater conditions at various depths. S.T. Wooten will reportedly use the new extraction well for dust suppression or a proposed concrete production facility (Butch Lawter, personal communication). When operational, the well should be sampled periodically to evaluate the affects of pumping on the groundwater plume.
- To better evaluate surface water impacts, NCDOT proposes to monitor two additional sampling locations during future monitoring events. One location is proposed approximately 100-feet upstream of existing location 48SW-1. The other location will be located approximately 100-feet downstream of 48SW-1 and north of Sugar Lake Road. Proposed sampling locations are illustrated on Figure 6.1.
- To evaluate if and where the groundwater plume discharges to surface water, NCDOT proposes pore water sampling along the stream downgradient of the plume. Pore water samples will be collected with a manual push point sampler at intervals of approximately 100 feet depending on access and sediment conditions. Proposed pore water sample locations are illustrated on Figure 6.1. The exact location and intervals for field screening may be adjusted based on field conditions.
- The GWTS has been operational since September 11, 2003. Since operation began the system has removed an estimated 13 pounds of VOCs.
- Based on a review of the historical surface water analytical data, the GWTS is effectively controlling migration of the plume to surface water. When the GWTS is operational there have been no exceedances of VOC 2B Standards in surface water samples collected.

7 References

AECOM, 2010. Site Investigation Report, NCDOT Asphalt Testing Site #6-48, 240 Sugar Lake Road, Pittsboro, North Carolina.

ARCADIS, 2004. Groundwater Sampling Event, NCDOT Asphalt Testing Site #6-48, 240 Sugar Lake Road, Pittsboro, North Carolina.

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S&ME, 1999. Corrective Action Plan. NCDOT Asphalt Testing Site #6-48, 240 Sugar Lake Road, Pittsboro, North Carolina.

S&ME, 2000. Revised Corrective Action Plan. NCDOT Asphalt Testing Site #6-48, 240 Sugar Lake Road, Pittsboro, North Carolina.

USEPA (1997) Analysis of Selected Enhancements for Soil Vapor Extraction. Office of Solid Waste and Emergency Response. EPA/542/R-97/007.

Tables

Table 2.1
Summary of Well Construction and Groundwater Elevation
NCDOT - Former Asphalt Plant Site
Pittsboro, North Carolina

Well	Installation Date	Total Depth (ft bgs)	Screened Interval (ft bgs)	Top of Casing Elevation (ft msl)	Depth to Water (ft bTOC)	Groundwater Elevation (ft msl)
48MW-1	11/14/1996	50	36-46	405.8	32.52	373.28
48MW-2	11/14/1996	50	40-50	404.41	31.34	373.07
48MW-3	11/14/1996	56	40-50	408.31	34.46	373.85
48MW-4R	11/13/1996	36	26-36	409.33	25.82	383.51
48MW-5	11/12/1996	35	25-35	411.04	27.20	383.84
48MW-10	3/3/1997	40	30-40	409.57	29.88	379.69
48MW-11R	3/31/2004	30	20-30	400.3	28.49	371.81
48MW-12	4/17/1997	37.5	27.5-37.5	383.37	14.59	368.78
48MW-13	4/17/1997	32.5	22.5-32.5	378.28	10.78	367.50
48MW-14	4/1/2000	27.5	22.5-27.5	393.49	23.42	370.07
48MW-15	2/6/2002	13.6	3.6-13.6	380.81	10.05	370.76
48MW-16	6/9/2010	45	35-45	410.44	37.04	373.40
48MW-17	6/9/2010	35	25-35	402.92	19.50	383.42
48DW-1	1/15/1997	100	63-100	405.29	0.50	404.79
48DW-2	4/24/1997	66	43-66	402.48	30.45	372.03
48DW-3	7/26/1999	125	115-125	399.26	29.21	370.05
48DW-4	2/18/2002	125	115-125	381.79	14.09	367.70
48DW-5	6/9/2010	102	82-102	407.8	35.56	372.24
48DW-6	3/9/2012	140	120-140	409.8	32.21	377.59
48DW-7	3/9/2012	70	60-70	414.82	37.61	377.21
48DW-8	3/15/2012	120	NA	376.61	8.82	367.79
48SVE-01	3/16/2012	45	5-45	408.89	34.54	374.35

Notes:

bgs - below ground surface

ft - feet

bTOC - below top of casing

msl - mean sea level

Groundwater measurements collected July 23, 2012

48SVE-01 Groundwater measurement collected on April 12, 2012

Table 4.1
Summary of Groundwater Analytical Results
NCDOT - Former Asphalt Plant Site
Pittsboro, North Carolina

NCDOT Target Compounds	2L Standard	48MW-1	48MW-2	48MW-3	48MW-4R	48MW-5	48MW-10	48MW-11R	48MW-12	48MW-13	48MW-14	48MW-15	48MW-16	48MW-17
		4/12/12	4/11/12	4/11/12	4/11/12	4/12/12	4/12/12	4/12/12	4/12/12	4/11/12	4/12/12	4/11/12	4/11/12	4/12/12
PCE	0.7	1.61	<1	2.78	<1	<1	<1	<1	<1	<1	<1	<1	<20	<1
TCE	3	16.2	<1	<1	<1	<1	<1	4.52	<1	<1	<1	<1	478	<1
cis-1,2-DCE	70	<1	<1	<1	<1	<1	<1	1.89	<1	<1	<1	<1	<20	<1
1,1,1-TCA	200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<20	<1
1,1-DCA	6	<1	<1	3.42	<1	<1	<1	<1	<1	<1	<1	<1	<20	<1
1,1-DCE	7	2.22	<1	2.51	<1	<1	<1	<1	<1	<1	<1	<1	46.8	<1
non-Target Compounds														
1,4-Dioxane	3	na	na	na	na	na	na	na	na	na	na	na	na	na
Ethylbenzene	600	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<20	<1
Toluene	600	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<20	<1
o-Xylene	500	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<20 J	<1

Notes:

All samples were analyzed for volatile organic compounds by EPA Method 8260B
 2L Standard - Title 15A North Carolina Administrative Code (NCAC) Subchapter 2L Groundwater Quality Standards (January 2010)
 < - constituent was not detected above the quantitation limit
 All results are reported in micrograms per liter (µg/L)
 Constituents detected above NCAC 2L Groundwater Standard are shaded
 Constituents detected above the laboratory detection limit are **bold**
 Only detected compounds reported
 na - not analyzed

PCE Tetrachloroethene
 TCE Trichloroethene
 1,1,1-TCA 1,1,1-Trichloroethane
 1,1-DCE 1,1-Dichloroethene
 1,1-DCA 1,1-Dichloroethane
 cis-1,2-DCE cis-1,2-Dichloroethene

Table 4.1
Summary of Groundwater Analytical Results
NCDOT - Former Asphalt Plant Site
Pittsboro, North Carolina

NCDOT Target Compounds	2L Standard	48DW-1	48DW-2	48DW-3	48DW-4	48DW-5	48DW-6	48DW-7	48DW-8	48DW-8 (40)	48DW-8 (90)	48SVE-01	48SVE-01 (1010)	48SVE-01 (1030)	48SVE-01	48PW-2	48RW-1	48RW-2
		4/11/12	4/12/12	4/11/12	4/11/12	4/12/12	4/12/12	4/12/12	4/12/12	4/12/12	5/31/12	5/31/12	4/12/12	5/31/12	5/31/12	6/21/12	4/11/12	4/11/12
PCE	0.7	<1	<1	<1	<1	<16	<1	<1	<5	<8	<8	<2000	<1600	<1250	na	<1	10.4	<5
TCE	3	<1	15.7	<1	3.3	413	1.58	1.61	178	206	125	48,600	70,700	41,300	na	<1	324	86.1
cis-1,2-DCE	70	<1	4.98	<1	<1	<16	<1	<1	<5	<8	<8	<2000	<1600	<1250	na	<1	<10	<5
1,1,1-TCA	200	<1	<1	<1	<1	<16	<1	<1	<5	<8	<8	<2000	3,200	1,710	na	<1	<10	<5
1,1-DCA	6	<1	2.38	<1	<1	<16	<1	<1	<5	<8	<8	<2000	<1600	<1250	na	<1	<10	<5
1,1-DCE	7	<1	5.82	<1	<1	39.4	<1	<1	13.6	14.5	<8	<2000	1,860	<1250	na	<1	15	6.35
non-Target Compounds																		
1,4-Dioxane	3	na	na	na	na	na	na	na	na	na	na	na	na	na	92.5	na	na	na
Ethylbenzene	600	<1	<1	<1	1.46	<16	<1	<1	<5	<8	<8	<2000	<1600	<1250	na	<1	<10	<5
Toluene	600	<1	<1	<1	<1	<16	1.57	<1	<5	<8	<8	<2000	<1600	<1250	na	<1	<10	<5
o-Xylene	500	<1	<1	<1	5.77	<16	<1	<1	<5	<8	<8	<2000	<1600	<1250	na	<1	<10	<5

Notes:

All samples were analyzed for volatile organic compounds by EPA Method 8260B
 2L Standard - Title 15A North Carolina Administrative Code (NCAC) Subchapter 2L Groundwater Quality Standards (January 2010)
 < - constituent was not detected above the quantitation limit
 All results are reported in micrograms per liter (µg/L)
 Constituents detected above NCAC 2L Groundwater Standard are shaded
 Constituents detected above the laboratory detection limit are **bold**
 Only detected compounds reported
 na - not analyzed

PCE Tetrachloroethene
 TCE Trichloroethene
 1,1,1-TCA 1,1,1-Trichloroethane
 1,1-DCE 1,1-Dichloroethene
 1,1-DCA 1,1-Dichloroethane
 cis-1,2-DCE cis-1,2-Dichloroethene

Table 4.2
Summary of Historical Groundwater and Surface Water Analytical Results
Select NCDOT Target Compounds
NCDOT - Former Asphalt Plant Site
Pittsboro, North Carolina

Location ID	Date	1,1,1-TCA	1,1-DCA	1,1-DCE	TCE	cis-1,2-DCE
48MW-1	09/28/98	<1.0	<1.0	<1.0	<1.0	<1.0
	04/11/00	<0.5	<0.5	<0.5	<0.5	<0.5
	01/20/04	50	3.1	30	87	<1.0
	04/13/04	35	2.7	36	84	<1.0
	07/12/04	44	5.3	<1.0	81	<1.0
	10/05/04	38	3.9	37	67	1.2
	01/17/05	28	3.3	30	54	<1.0
	03/15/05	31	3.5	32	69	<1.0
	07/13/05	26	4.9	41	72	1.6
	09/29/05	28	4.6	39	79	1.5
	04/12/06	11.9	3.3	16.5	53.6	1.37
	10/03/07	<1.0	<1.0	<1.0	<2.0	<1.0
	04/16/08	11	4.6	30	93	2.1
	10/09/08	13	5.1	42	130	3.3
	04/07/09	9.3	4.3	34	91	2.4
	10/19/09	<8	<8	28	153	<8
	04/27/10	10	4.7 J	48	150	3.4 J
10/26/10	<8	<8	9.92	67.3	<8	
04/29/11	1.2	<1	5.16	30.3	<1	
10/20/11	<1	<1	2.73	3.3	7.89	
04/12/12	<1	<1	2.22	16.2	<1	
48MW-2	09/28/98	<1.0	<1.0	<1.0	<1.0	<1.0
	04/11/00	<0.5	<0.5	<0.5	<0.5	<0.5
	01/29/02	<0.50	<0.50	<0.50	<0.50	<0.50
	10/01/02	<0.50	<0.50	<0.50	<0.50	<0.50
	01/08/03	<0.50	<0.50	<0.50	<0.50	<0.50
	04/08/03	<0.50	<0.50	<0.50	<0.50	<0.50
	07/02/03	<0.50	<0.50	<0.50	<0.50	<0.50
	10/14/03	<0.50	<0.50	<0.50	<0.50	<0.50
	01/20/04	<0.50	<0.50	<0.50	<0.50	<0.50
	04/12/04	<1.0	<1.0	<1.0	<1.0	<1.0
	07/13/04	<1.0	<1.0	<1.0	<1.0	<1.0
	10/04/04	<1.0	<1.0	<1.0	<1.0	<1.0
	01/18/05	<1.0	<1.0	<1.0	<1.0	<1.0
	03/14/05	<1.0	<1.0	<1.0	<1.0	<1.0
	07/13/05	<1.0	<1.0	<1.0	<1.0	<1.0
	09/29/05	<1.0	<1.0	<1.0	<1.0	<1.0
	04/11/06	<1.0	<1.0	<1.0	<1.0	<1.0
	10/12/06	<1.0	<1.0	<1.0	<2.0	<1.0
	04/03/07	<1.0	<1.0	<1.0	<2.0	<1.0
	10/04/07	<1.0	<1.0	<1.0	<2.0	<1.0
	04/16/08	<1.0	<1.0	<1.0	<2.0	<1.0
	10/08/08	<1.0	<1.0	<1.0	<2.0	<1.0
	04/07/09	<1.0	<1.0	<1.0	<2.0	<1.0
	10/20/09	<1	<1	<1	<1	<1
	04/26/10	<5.0	<5.0	<5.0	<5.0	<5.0
10/26/10	<1	<1	<1	<1	<1	
04/29/11	<1	<1	<1	<1	<1	
10/19/11	<1	<1	<1	<1	<1	
04/11/12	<1	<1	<1	<1	<1	

Table 4.2
Summary of Historical Groundwater and Surface Water Analytical Results
Select NCDOT Target Compounds
NCDOT - Former Asphalt Plant Site
Pittsboro, North Carolina

Location ID	Date	1,1,1-TCA	1,1-DCA	1,1-DCE	TCE	cis-1,2-DCE
48MW-3	09/28/98	17	<1.0	9.0	5.0	<1.0
	04/11/00	6.1	0.93	2.2	0.077	1.6
	01/29/02	8.7	2.1	2.2	6.7	2.1
	10/01/02	20	3.1	12	12	1.9
	01/08/03	9.0	3.9	9.6	8.8	2.9
	04/08/03	11	3.8	7.0	15	1.8
	07/02/03	3.7	2.7	4.9	1.5	2.0
	10/14/03	5.3	4.5	6.5	2.1	2.3
	01/20/04	<0.50	<0.50	<0.50	<0.50	<0.50
	04/12/04	5.8	2.8	9.9	6.0	1.4
	07/13/04	<1.0	3.6	<1.0	6.0	<1.0
	10/06/04	4.8	2.8	5.7	4.6	1.2
	01/19/05	4.7	2.9	5.8	3.7	<1.0
	03/15/05	4.2	2.4	5.0	6.6	<1.0
	07/13/05	4.6	3.9	7.7	3.4	1.3
	09/29/05	3.9	3.7	5.6	<1.0	1.1
	04/11/06	4.2	4.3	5.2	5.5	1.3
	10/12/06	6.0	5.1	9.4	16.0	1.5
	04/04/07	2.4	2.3	5.2	6.5	<1.0
	10/03/07	4.5	7.6	6.0	2.9	1.4
	04/16/08	2.6	4.4	5.6	5.5	1.1
	10/08/08	2.7	5.0	7.5	5.4	1.5
	04/07/09	2.6	5.5	7.0	8.6	1.6
	10/20/09	1.67	5.88	3.44	<1	1.27
04/26/10	2.0 J	6.5	7.1	3.5 J	<5.0	
10/26/10	1.23	5.39	2.95	1.54	1.4	
04/29/11	<1	4.3	3.42	<1	1.21	
10/19/11	<1	5.4	3.86	1.05	1.59	
04/11/12	<1	3.42	2.51	<1	<1	
48MW-4R	04/11/02	<1	<1	<1	<1	<1
	04/12/04	<1.0	<1.0	<1.0	<1.0	<1.0
	07/12/04	<1.0	<1.0	<1.0	<1.0	<1.0
	10/06/04	<1.0	<1.0	1.2	<1.0	<1.0
	01/17/05	<1.0	<1.0	<1.0	<1.0	<1.0
	03/15/05	<1.0	<1.0	<1.0	<1.0	<1.0
	07/13/05	<1.0	<1.0	1.2	<1.0	<1.0
	09/29/05	<1.0	<1.0	<1.0	<1.0	<1.0
	04/11/06	<1.0	<1.0	<1.0	<1.0	<1.0
	10/13/06	<1.0	<1.0	0.77 J	<2.0	<1.0
	04/04/07	<1.0	<1.0	<1.0	<2.0	<1.0
	10/03/07	<1.0	<1.0	1.8	<2.0	<1.0
	04/17/08	<1.0	<1.0	<1.0	<2.0	<1.0
	10/08/08	<1.0	<1.0	0.80 J	<2.0	<1.0
	04/07/09	<1.0	<1.0	<1.0	<2.0	<1.0
	10/20/09	<1	<1	<1	<1	<1
	04/26/10	<5.0	<5.0	<5.0	<5.0	<5.0
	10/27/10	<1	<1	1.46	<1	<1
04/27/11	<1	<1	<1	<1	<1	
10/20/11	<1	<1	<1	<1	<1	
04/11/12	<1	<1	<1	<1	<1	

Table 4.2
Summary of Historical Groundwater and Surface Water Analytical Results
Select NCDOT Target Compounds
NCDOT - Former Asphalt Plant Site
Pittsboro, North Carolina

Location ID	Date	1,1,1-TCA	1,1-DCA	1,1-DCE	TCE	cis-1,2-DCE
48MW-5	04/12/04	<1.0	<1.0	<1.0	<1.0	<1.0
	07/12/04	<1.0	<1.0	<1.0	<1.0	<1.0
	10/06/04	<1.0	<1.0	<1.0	<1.0	<1.0
	01/17/05	<1.0	<1.0	<1.0	<1.0	<1.0
	03/15/05	<1.0	<1.0	<1.0	<1.0	<1.0
	07/14/05	<1.0	<1.0	<1.0	<1.0	<1.0
	09/30/05	<1.0	<1.0	<1.0	<1.0	<1.0
	04/11/06	<1.0	<1.0	<1.0	<1.0	<1.0
	10/13/06	<1.0	<1.0	<1.0	<2.0	<1.0
	04/03/07	<1.0	<1.0	<1.0	<2.0	<1.0
	10/04/07	<1.0	<1.0	<1.0	<2.0	<1.0
	04/17/08	<1.0	<1.0	<1.0	<2.0	<1.0
	10/08/08	<1.0	<1.0	<1.0	<2.0	<1.0
	04/07/09	<1.0	<1.0	<1.0	<2.0	<1.0
	10/19/09	<1	<1	<1	<1	<1
	04/27/10	<5.0	<5.0	<5.0	<5.0	<5.0
10/27/10	<1	<1	<1	<1	<1	
04/29/11	<1	<1	<1	<1	<1	
10/20/11	<1	<1	<1	<1	<1	
04/12/12	<1	<1	<1	<1	<1	
48MW-6	09/28/98	<1.0	<1.0	<1.0	<1.0	<1.0
	04/11/00	<0.5	<0.5	<0.5	<0.5	<0.5
	01/29/02	<0.50	<0.50	<0.50	<0.50	<0.50
	10/01/02	<0.50	<0.50	<0.50	<0.50	<0.50
	01/08/03	<0.50	<0.50	<0.50	<0.50	<0.50
	04/08/03	<0.50	<0.50	<0.50	<0.50	<0.50
	07/02/03	<0.50	<0.50	<0.50	<0.50	<0.50
	10/14/03	<0.50	<0.50	<0.50	<0.50	<0.50
	01/20/04	<0.50	<0.50	<0.50	<0.50	<0.50
	04/12/04	<1.0	<1.0	<1.0	<1.0	<1.0
	07/13/04	<1.0	<1.0	<1.0	<1.0	<1.0
	10/04/04	<1.0	<1.0	<1.0	<1.0	<1.0
	01/17/05	<1.0	<1.0	<1.0	<1.0	<1.0
03/14/05	<1.0	<1.0	<1.0	<1.0	<1.0	
07/13/05	<1.0	<1.0	<1.0	<1.0	<1.0	
48MW-7	09/28/98	<1.0	<1.0	<1.0	<1.0	<1.0
	04/11/00	<0.5	<0.5	<0.5	<0.5	<0.5
	01/29/02	<0.50	<0.50	<0.50	<0.50	<0.50
	10/01/02	<0.50	<0.50	<0.50	<0.50	<0.50
	01/08/03	<0.50	<0.50	<0.50	<0.50	<0.50
	04/08/03	<0.50	<0.50	<0.50	<0.50	<0.50
	07/02/03	<0.50	<0.50	<0.50	<0.50	<0.50
	10/14/03	<0.50	<0.50	<0.50	<0.50	<0.50
	01/20/04	<0.50	<0.50	<0.50	<0.50	<0.50
	04/13/04	<1.0	<1.0	<1.0	<1.0	<1.0
	07/12/04	<1.0	<1.0	<1.0	<1.0	<1.0
	10/04/04	<1.0	<1.0	<1.0	<1.0	<1.0
	01/17/05	<1.0	<1.0	<1.0	<1.0	<1.0
03/14/05	<1.0	<1.0	<1.0	<1.0	<1.0	
07/13/05	<1.0	<1.0	<1.0	<1.0	<1.0	

Table 4.2
Summary of Historical Groundwater and Surface Water Analytical Results
Select NCDOT Target Compounds
NCDOT - Former Asphalt Plant Site
Pittsboro, North Carolina

Location ID	Date	1,1,1-TCA	1,1-DCA	1,1-DCE	TCE	cis-1,2-DCE
48MW-10	09/28/98	<1.0	<1.0	<1.0	<1.0	<1.0
	04/11/00	<0.5	<0.5	<0.5	<0.5	<0.5
	01/29/02	<0.50	<0.50	<0.50	<0.50	<0.50
	10/01/02	<0.50	<0.50	<0.50	<0.50	<0.50
	01/08/03	<0.50	<0.50	<0.50	<0.50	<0.50
	04/08/03	<0.50	<0.50	<0.50	<0.50	<0.50
	07/02/03	<0.50	<0.50	<0.50	<0.50	<0.50
	10/14/03	<0.50	<0.50	<0.50	<0.50	<0.50
	01/20/04	<0.50	<0.50	<0.50	<0.50	<0.50
	04/13/04	<1.0	<1.0	<1.0	<1.0	<1.0
	07/12/04	<1.0	<1.0	<1.0	<1.0	<1.0
	10/05/04	<1.0	<1.0	<1.0	<1.0	<1.0
	01/17/05	<1.0	<1.0	<1.0	<1.0	<1.0
	03/15/05	<1.0	<1.0	<1.0	<1.0	<1.0
	07/13/05	<1.0	<1.0	<1.0	<1.0	<1.0
	04/12/06	<1.0	<1.0	<1.0	<1.0	<1.0
	10/12/06	<1.0	<1.0	<1.0	<2.0	<1.0
	04/03/07	<1.0	<1.0	<1.0	<2.0	<1.0
	10/03/07	<1.0	<1.0	<1.0	<2.0	<1.0
	04/16/08	<1.0	<1.0	<1.0	<2.0	<1.0
	10/08/08	<1.0	<1.0	<1.0	<2.0	<1.0
	04/07/09	<1.0	<1.0	<1.0	<2.0	<1.0
	10/19/09	<1	<1	<1	<1	<1
04/27/10	<5.0	<5.0	<5.0	<5.0	<5.0	
10/26/10	<1	<1	<1	<1	<1	
04/29/11	<1	<1	<1	<1	<1	
10/20/11	<1	<1	<1	<1	<1	
04/12/12	<1	<1	<1	<1	<1	
48MW-11R	04/13/04	18	4.7	24	160	2.3
	07/14/04	<1.0	1.2	<1.0	38	<1.0
	10/05/04	2.3	1.4	<1.0	17	3.0
	01/19/05	2.3	2.2	2.9	11	<1.0
	03/15/05	<1.0	<1.0	1.6	5.2	<1.0
	07/13/05	<1.0	1.4	1.8	6.3	<1.0
	09/29/05	3.1	1.9	4.6	23	<1.0
	04/12/06	2.6	2.4	3.8	34.3	1.03
	10/12/06	6.4	3.3	12	51	1.8
	04/03/07	<1.0	<1.0	2.4	11	<1.0
	10/04/07	<1.0	1.8	3.1	15	1.8
	04/16/08	<1.0	0.54 J	0.61 J	2.5	<1.0
	10/09/08	<1.0	1.1	1.5	6.5	0.59 J
	04/07/09	<1.0	0.92 J	1.3	2.3	0.74 J
	10/19/09	<1	1.12	1.34	7.67	<1
	04/27/10	<5.0	<5.0	<5.0	2.0 J	<5.0
	10/27/10	<1	<1	<1	4.49	3.19
04/29/11	<1	<1	<1	2.8	4.08	
10/21/11	<1	<1	1.55	7.33	5.98	
04/12/12	<1	<1	<1	4.52	1.89	

Table 4.2
Summary of Historical Groundwater and Surface Water Analytical Results
Select NCDOT Target Compounds
NCDOT - Former Asphalt Plant Site
Pittsboro, North Carolina

Location ID	Date	1,1,1-TCA	1,1-DCA	1,1-DCE	TCE	cis-1,2-DCE
48MW-12	09/28/98	<1.0	<1.0	<1.0	<1.0	<1.0
	04/11/00	<0.5	<0.5	<0.5	<0.5	<0.5
	01/29/02	<0.50	<0.50	<0.50	<0.50	<0.50
	10/01/02	<0.50	<0.50	<0.50	<0.50	<0.50
	01/08/03	<0.50	<0.50	<0.50	<0.50	<0.50
	04/08/03	<0.50	<0.50	<0.50	<0.50	<0.50
	07/02/03	<0.50	<0.50	<0.50	<0.50	<0.50
	10/14/03	<0.50	<0.50	<0.50	<0.50	<0.50
	01/20/04	<0.50	<0.50	<0.50	<0.50	<0.50
	04/13/04	<1.0	<1.0	<1.0	<1.0	<1.0
	07/14/04	<1.0	<1.0	<1.0	<1.0	<1.0
	10/05/04	<1.0	<1.0	<1.0	<1.0	<1.0
	01/18/05	<1.0	<1.0	<1.0	<1.0	<1.0
	03/14/05	<1.0	<1.0	<1.0	<1.0	<1.0
	07/13/05	<1.0	<1.0	<1.0	<1.0	<1.0
	09/29/05	<1.0	<1.0	<1.0	<1.0	<1.0
	04/12/06	<1.0	<1.0	<1.0	<1.0	<1.0
	10/13/06	<1.0	<1.0	<1.0	<2.0	<1.0
	04/04/07	<1.0	<1.0	<1.0	<2.0	<1.0
	10/03/07	<1.0	<1.0	<1.0	<2.0	<1.0
	04/17/08	<1.0	<1.0	<1.0	<2.0	<1.0
10/08/08	<1.0	<1.0	<1.0	<2.0	<1.0	
04/08/09	<1.0	<1.0	<1.0	<2.0	<1.0	
10/20/09	<1	<1	<1	<1	<1	
04/27/11	<1	<1	<1	<1	<1	
10/19/11	<1	<1	<1	<1	<1	
04/11/12	<1	<1	<1	<1	<1	
48MW-13	09/28/98	<1.0	<1.0	<1.0	<1.0	<1.0
	04/11/00	<0.5	<0.5	<0.5	<0.5	<0.5
	01/29/02	<0.50	<0.50	<0.50	<0.50	<0.50
	10/01/02	<0.50	<0.50	<0.50	<0.50	<0.50
	01/08/03	<0.50	<0.50	<0.50	<0.50	<0.50
	04/08/03	<0.50	<0.50	<0.50	<0.50	<0.50
	07/02/03	<0.50	<0.50	<0.50	<0.50	<0.50
	10/14/03	<0.50	<0.50	<0.50	<0.50	<0.50
	01/20/04	<0.50	<0.50	<0.50	<0.50	<0.50
	04/14/04	<1.0	<1.0	<1.0	<1.0	<1.0
	07/14/04	<1.0	<1.0	<1.0	<1.0	<1.0
	10/06/04	<1.0	<1.0	<1.0	<1.0	<1.0
	01/18/05	<1.0	<1.0	<1.0	<1.0	<1.0
	03/14/05	<1.0	<1.0	<1.0	<1.0	<1.0
	07/14/05	<1.0	<1.0	<1.0	<1.0	<1.0
	09/29/05	<1.0	<1.0	<1.0	<1.0	<1.0
	04/12/06	<1.0	<1.0	<1.0	<1.0	<1.0
	10/13/06	<1.0	<1.0	<1.0	<2.0	<1.0
	04/04/07	<1.0	<1.0	<1.0	<2.0	<1.0
	10/03/07	<1.0	<1.0	<1.0	<2.0	<1.0
	04/17/08	<1.0	<1.0	<1.0	<2.0	<1.0
	10/08/08	<1.0	<1.0	<1.0	<2.0	<1.0
	04/08/09	<1.0	<1.0	<1.0	0.85 J	<1.0
	10/20/09	<1	<1	<1	<1	<1
04/27/10	<5.0	<5.0	<5.0	<5.0	<5.0	
10/26/10	<1	<1	<1	<1	<1	
04/27/11	<1	<1	<1	<1	<1	
10/19/11	<1	<1	<1	<1	<1	
04/12/12	<1	<1	<1	<1	<1	

Table 4.2
Summary of Historical Groundwater and Surface Water Analytical Results
Select NCDOT Target Compounds
NCDOT - Former Asphalt Plant Site
Pittsboro, North Carolina

Location ID	Date	1,1,1-TCA	1,1-DCA	1,1-DCE	TCE	cis-1,2-DCE
48MW-14	01/29/02	<0.50	<0.50	<0.50	<0.50	<0.50
	10/01/02	<0.50	<0.50	<0.50	<0.50	<0.50
	01/08/03	<0.50	<0.50	<0.50	<0.50	<0.50
	04/08/03	<0.50	<0.50	<0.50	<0.50	<0.50
	07/02/03	<0.50	<0.50	<0.50	<0.50	<0.50
	10/14/03	<0.50	<0.50	<0.50	<0.50	<0.50
	01/20/04	<0.50	<0.50	<0.50	<0.50	<0.50
	04/13/04	<1.0	<1.0	<1.0	<1.0	<1.0
	07/14/04	<1.0	<1.0	<1.0	<1.0	<1.0
	10/05/04	<1.0	<1.0	<1.0	<1.0	<1.0
	01/18/05	<1.0	<1.0	<1.0	<1.0	<1.0
	03/14/05	<1.0	<1.0	<1.0	<1.0	<1.0
	07/14/05	<1.0	<1.0	<1.0	<1.0	<1.0
	09/29/05	<1.0	<1.0	<1.0	<1.0	<1.0
	04/12/06	<1.0	<1.0	<1.0	<1.0	<1.0
	10/12/06	<1.0	<1.0	<1.0	<2.0	<1.0
	04/03/07	<1.0	<1.0	<1.0	<2.0	<1.0
	10/03/07	<1.0	<1.0	<1.0	<2.0	<1.0
	04/17/08	<1.0	<1.0	<1.0	<2.0	<1.0
	10/08/08	<1.0	<1.0	<1.0	<2.0	<1.0
	04/08/09	<1.0	<1.0	<1.0	<2.0	<1.0
	10/20/09	<1	<1	<1	<1	<1
04/27/10	<5.0	<5.0	<5.0	<5.0	<5.0	
10/26/10	<1	<1	<1	<1	<1	
04/27/11	<1	<1	<1	<1	<1	
10/19/11	<1	<1	<1	<1	<1	
04/11/12	<1	<1	<1	<1	<1	
48MW-15	01/29/02	40	17	26	53	4.2
	10/01/02	40	20	21	21	4.0
	01/08/03	18	10	12	40	3.2
	04/08/03	14	5.3	10	79	2.2
	07/02/03	23	7.5	18	260	3.8
	10/14/03	5.1	5.9	6.0	12	2.4
	01/20/04	<5.0	<5.0	<5.0	7.7	<5.0
	04/13/04	14	6.6	21	120	2.9
	07/15/04	2.3	3.1	<1.0	2.9	<1.0
	10/06/04	4.4	5.8	6.4	4.8	2.1
	01/17/05	1.0	1.9	2.1	3.1	<1.0
	03/14/05	<1.0	<1.0	1.2	2.6	<1.0
	07/13/05	3.8	5.8	8.7	3.2	3.1
	09/30/05	6.7	6.8	13	16	3.3
	04/11/06	1.4	2.8	3.17	2.27	1.3
	10/12/06	3.8	3.8	8.6	22	2.7
	04/03/07	1.3	1.4	4.4	26	1.5
	10/03/07	4.3	4.8	13	6.2	3.7
	04/17/08	0.60 J	1.6	2.6	1.3 J	1.2
	10/09/08	0.81 J	2.6	5.3	4.7	2.3
	04/08/09	<1.0	1.0	2.0	4.0	0.97 J
	10/20/09	<1	1.57	4.09	1.66	2.04
04/27/10	<5.0	3.0 J	9.6	15	3.4 J	
10/26/10	<1	1.44	3.3	1.95	2.71	
04/27/11	<1	<1	1.22	<1	1.37	
10/19/11	<1	<1	2.23	1.03	1.61	
04/11/12	<1	<1	<1	<1	<1	

Table 4.2
Summary of Historical Groundwater and Surface Water Analytical Results
Select NCDOT Target Compounds
NCDOT - Former Asphalt Plant Site
Pittsboro, North Carolina

Location ID	Date	1,1,1-TCA	1,1-DCA	1,1-DCE	TCE	cis-1,2-DCE
48MW-16	07/09/10	<80	<80	84.8	1060	<80
	10/27/10	<80	<80	<80	870	<80
	04/29/11	<40	<40	57.2	704	<40
	10/20/11	<40	<40	40.8	482	<40
	04/12/12	<20	<20	46.8	478	<20
48MW-17	07/09/10	<1	<1	<1	<1	<1
	10/27/10	<1	<1	<1	<1	<1
	04/27/11	<1	<1	<1	<1	<1
	10/20/11	<1	<1	<1	<1	<1
	04/11/12	<1	<1	<1	<1	<1
48DW-1	09/28/98	<1.0	<1.0	<1.0	<1.0	<1.0
	04/11/00	<0.5	<0.5	<0.5	<0.5	<0.5
	01/29/02	<0.50	<0.50	<0.50	<0.50	<0.50
	10/01/02	<0.50	<0.50	<0.50	<0.50	<0.50
	01/08/03	<0.50	<0.50	<0.50	<0.50	<0.50
	04/08/03	<0.50	<0.50	<0.50	<0.50	<0.50
	07/02/03	<0.50	<0.50	<0.50	<0.50	<0.50
	10/14/03	<0.50	<0.50	<0.50	<0.50	<0.50
	01/20/04	<0.50	<0.50	<0.50	<0.50	<0.50
	07/14/04	<1.0	<1.0	<1.0	<1.0	<1.0
	10/06/04	<1.0	<1.0	<1.0	<1.0	<1.0
	03/16/05	<1.0	<1.0	<1.0	<1.0	<1.0
	09/30/05	<1.0	<1.0	<1.0	<1.0	<1.0
	04/12/06	<1.0	<1.0	<1.0	<1.0	<1.0
	10/12/06	<1.0	<1.0	<1.0	<2.0	<1.0
	04/03/07	<1.0	<1.0	<1.0	<2.0	<1.0
	10/04/07	<1.0	<1.0	<1.0	<2.0	<1.0
	04/16/08	<1.0	<1.0	<1.0	<2.0	<1.0
	10/09/08	<1.0	<1.0	<1.0	<2.0	<1.0
	04/07/09	<1.0	<1.0	<1.0	<2.0	<1.0
	10/20/09	<1	<1	<1	<1	<1
	04/26/10	<5.0	<5.0	<5.0	<5.0	<5.0
04/27/10	<5.0	<5.0	<5.0	<5.0	<5.0	
10/26/10	<1	<1	<1	<1	<1	
10/20/11	<1	<1	<1	<1	<1	
04/11/12	<1	<1	<1	<1	<1	

Table 4.2
Summary of Historical Groundwater and Surface Water Analytical Results
Select NCDOT Target Compounds
NCDOT - Former Asphalt Plant Site
Pittsboro, North Carolina

Location ID	Date	1,1,1-TCA	1,1-DCA	1,1-DCE	TCE	cis-1,2-DCE
48DW-2	09/28/98	53	8	61	470	5
	04/11/00	64	11	93	420	5.6
	01/28/02	120	5.2	96	110	2.2
	10/01/02	64	8.1	46	300	2.1
	01/08/03	74	<5.0	54	340	<5.0
	04/08/03	48	5.8	42	300	<5.0
	07/02/03	48	11	33	260	<5.0
	10/14/03	53	8.8	47	260	<5.0
	01/20/04	26	<5.0	52	220	<5.0
	04/13/04	42	8.0	62	260	2.1
	07/14/04	39	9.1	<1.0	250	<1.0
	10/05/04	37	9.0	49	240	2.4
	01/19/05	33	8.9	46	190	2.4
	03/16/05	25	7.6	39	240	<1.0
	07/13/05	19	7.6	43	210	4.0
	09/29/05	24	8.0	42	180	3.9
	04/12/06	15	7.1	31	131	48.4
	10/12/06	16	7.6	38	140	24
	04/03/07	11	5.0	26	95	9.2
	10/04/07	12	6.4	29	120	12
	04/16/08	7.8	5.2	23	74	11
	10/09/08	6.6	5.8	21	69	16
	04/07/09	8.2	8.7	30	44	36
	10/19/09	3.23	4.02	10.3	36.8	14.6
	04/27/10	4.9 J	5.7	22	42	7.4
	10/27/10	2.92	3.94	12.6	54	7.52
04/29/11	1.64	2.98	7.89	26.2	6.81	
10/20/11	1.36	3.15	8.09	27.3	7.68	
04/12/12	<1	2.38	5.82	15.7	4.98	
48DW-3	04/11/00	<0.5	<0.5	<0.5	1.5	<0.5
	01/28/02	<0.50	<0.50	<0.50	0.58	<0.50
	10/01/02	<0.50	<0.50	<0.50	<0.50	<0.50
	01/08/03	<0.50	<0.50	<0.50	<0.50	<0.50
	04/08/03	<0.50	<0.50	<0.50	<0.50	<0.50
	07/02/03	<0.50	<0.50	<0.50	<0.50	<0.50
	10/14/03	<0.50	<0.50	<0.50	<0.50	<0.50
	01/20/04	3.4	3.4	7.8	1.4	1.2
	04/14/04	<1.0	<1.0	<1.0	<1.0	<1.0
	07/13/04	<1.0	<1.0	<1.0	<1.0	<1.0
	10/05/04	<1.0	<1.0	<1.0	<1.0	<1.0
	01/17/05	<1.0	<1.0	<1.0	<1.0	<1.0
	03/16/05	<1.0	<1.0	<1.0	<1.0	<1.0
	07/13/05	<1.0	<1.0	<1.0	<1.0	<1.0
	09/29/05	<1.0	<1.0	<1.0	<1.0	<1.0
	04/12/06	<1.0	<1.0	<1.0	<1.0	<1.0
	10/12/06	<1.0	<1.0	<1.0	<2.0	<1.0
	04/03/07	<1.0	<1.0	<1.0	<2.0	<1.0
	10/04/07	<1.0	<1.0	<1.0	<2.0	<1.0
	04/16/08	<1.0	<1.0	<1.0	<2.0	<1.0
	10/09/08	<1.0	<1.0	<1.0	<2.0	<1.0
	04/08/09	<1.0	<1.0	<1.0	<2.0	<1.0
	10/20/09	<1	<1	<1	<1	<1
	04/27/10	<5.0	<5.0	<5.0	<5.0	<5.0
	10/26/10	<1	<1	<1	<1	<1
	04/29/11	<1	<1	<1	<1	<1
10/20/11	<1	<1	<1	<1	<1	
04/11/12	<1	<1	<1	<1	<1	

Table 4.2
Summary of Historical Groundwater and Surface Water Analytical Results
Select NCDOT Target Compounds
NCDOT - Former Asphalt Plant Site
Pittsboro, North Carolina

Location ID	Date	1,1,1-TCA	1,1-DCA	1,1-DCE	TCE	cis-1,2-DCE
48DW-4	01/28/02	<0.50	<0.50	<0.50	7.3	<0.50
	10/01/02	<0.50	<0.50	<0.50	7.8	<0.50
	01/08/03	<0.50	<0.50	<0.50	8.6	<0.50
	04/08/03	<0.50	<0.50	<0.50	9.3	<0.50
	07/02/03	<0.50	<0.50	<0.50	9.8	<0.50
	10/14/03	<0.50	<0.50	<0.50	7.0	<0.50
	01/20/04	<0.50	<0.50	<0.50	4.9	<0.50
	04/14/04	<1.0	<1.0	<1.0	<1.0	<1.0
	07/14/04	<1.0	<1.0	<1.0	6.4	<1.0
	10/06/04	<1.0	<1.0	1.3	6.3	<1.0
	01/18/05	<1.0	<1.0	<1.0	4.2	<1.0
	03/16/05	<1.0	<1.0	<1.0	3.6	<1.0
	07/13/05	<1.0	<1.0	<1.0	3.0	<1.0
	09/29/05	<1.0	<1.0	<1.0	4.2	<1.0
	04/12/06	<1.0	<1.0	<1.0	2.76	<1.0
	10/12/06	<1.0	<1.0	<1.0	4.2	<1.0
	04/03/07	<1.0	<1.0	<1.0	2.2	<1.0
	10/04/07	<1.0	<1.0	<1.0	3.5	<1.0
	04/17/08	<1.0	<1.0	<1.0	2.3	<1.0
	10/08/08	<1.0	<1.0	<1.0	2.7	<1.0
04/08/09	<1.0	<1.0	<1.0	1.6 J	<1.0	
10/20/09	<1	<1	<1	1.62	<1	
04/27/10	<5.0	<5.0	<5.0	2.2 J	<5.0	
10/27/10	<1	<1	<1	2.32	<1	
04/27/11	<1	<1	<1	3.45	<1	
10/19/11	<1	<1	<1	2.74	<1	
04/11/12	<1	<1	<1	3.3	<1	
48DW-5 (60 ft Bls)	07/09/10	<20	<20	30.2	313	<20
48DW-5 (80 ft Bls)	07/09/10	<20	<20	27.4	283	<20
48DW-5 (100 ft Bls)	07/09/10	<20	<20	28.2	356	<20
48DW-5	10/27/10	<20	<20	30	280	<20
	04/29/11	<10	<10	25	219	<10
	10/20/11	<10	<10	36.6	360	<10
	04/12/12	<16	<16	39.4	413	<16
48DW-6	04/12/12	<1	<1	<1	1.58	<1
48DW-7	04/12/12	<1	<1	<1	1.61	<1
48DW-8	04/12/12	<5	<5	13.6	178	<5
48SVE-01	04/12/12	<2000	<2000	<2000	48,600	<2000
48SVE-01 (1010)	05/31/12	3,200	<1600	1,860	70,700	<1600
48SVE-01 (1030)	05/31/12	1,710	<1250	<1250	41,300	<1250
48SVE-01	06/21/12	na	na	na	na	na
RW-1	10/19/09	<10	<10	13.4	280	<10
	04/27/11	<10	<10	23.9	450	<10
	10/20/11	<10	<10	<10	140	<10
	04/11/12	<10	<10	15	324	<10
RW-2	10/19/09	<5	<5	7.3	104	<5
	04/29/11	<2	<2	5.9	71.8	<2
	10/20/11	<4	<4	7.88	126	<4
	04/11/12	<5	<5	6.35	86.1	<5

Table 4.2
Summary of Historical Groundwater and Surface Water Analytical Results
Select NCDOT Target Compounds
NCDOT - Former Asphalt Plant Site
Pittsboro, North Carolina

Location ID	Date	1,1,1-TCA	1,1-DCA	1,1-DCE	TCE	cis-1,2-DCE
48PW-2	09/29/05	<1.0	<1.0	<1.0	<1.0	<1.0
	10/13/06	<1.0	<1.0	<1.0	<2.0	<1.0
	04/03/07	<1.0	<1.0	<1.0	<2.0	<1.0
	04/17/08	<1.0	<1.0	<1.0	<2.0	<1.0
	10/08/08	<1.0	<1.0	<1.0	<2.0	<1.0
	04/07/09	<1.0	<1.0	<1.0	<2.0	<1.0
	10/19/09	<1	<1	<1	<1	<1
	04/26/10	<5.0	<5.0	<5.0	<5.0	<5.0
	10/27/10	<1	<1	<1	<1	<1
	04/27/11	<1	<1	<1	<1	<1
	10/20/11	<1	<1	<1	<1	<1
04/11/12	<1	<1	<1	<1	<1	

Notes

1,1,1-TCA = 1,1,1-trichloroethane
1,1-DCA = 1,1,-dichloroethane
1,1,-DCE = 1,1-dichloroethene
TCE = trichloroethene
cis-1,2-DCE = cis-1,2-dichloroethene
Results are in micrograms per liter (µg/L)
Bold - Detected above reporting limit
na - not analyzed

Table 4.3
Summary of Field Parameters
NCDOT - Former Asphalt Plant Site
Pittsboro, North Carolina

Monitoring Well	Sampling Date	Temperature (°C)	pH (SU)	Dissolved Oxygen (mg/L)	Specific Conductivity (umhos/cm)	Oxidation-Reduction Potential (mV)
48MW-1	04/12/12	15.52	5.62	0.77	250	156.2
48MW-2	04/11/12	16.31	5.63	2.66	114	122.2
48MW-3	04/11/12	16.05	6.11	0.29	220	102.5
48MW-4R	04/11/12	17.00	5.86	0.26	322	58.0
48MW-5	04/12/12	14.07	6.06	0.80	355	-11.8
48MW-10	04/12/12	14.41	6.10	0.35	171	-44.6
48MW-11R	04/12/12	15.24	6.23	3.80	190	48.7
48MW-12	04/11/12	16.21	6.65	0.31	483	-5.4
48MW-13	04/12/12	14.03	7.00	5.35	383	175.5
48MW-14	04/11/12	16.61	6.40	6.43	197	155.8
48MW-15	04/11/12	14.24	5.66	0.80	201	122.5
48MW-16	04/12/12	15.46	5.91	0.49	306	122.4
48MW-17	04/11/12	14.53	5.93	1.37	255	128.4
48DW-1	04/11/12	14.28	7.47	0.22	116	109.8
48DW-2	04/12/12	16.44	7.12	2.45	411	87.3
48DW-3	04/11/12	16.41	7.48	1.20	281	130.1
48DW-4	04/11/12	14.74	7.66	2.59	246	-71.5
48DW-5	04/12/12	16.17	6.41	1.98	378	55.6
48DW-6	04/12/12	18.63	11.84	6.71	2521	-71.1
48DW-7	04/12/12	18.43	7.34	1.92	903	78.6
48DW-8	04/12/12	14.96	7.72	2.94	344	132.3
48SVE-01	04/12/12	16.92	5.71	0.97	231	72.0

Notes:

°C - degrees Celsius
mg/L - milligrams per liter
mV - millivolts
SU - standard units
umhos/cm - microsiemens per centimeter

Table 4.4
Summary of Surface Water Analytical Results
NCDOT - Former Asphalt Plant Site
Pittsboro, North Carolina

Location ID	Date	1,1,1-TCA	1,1-DCA	1,1-DCE	TCE	cis-1,2-DCE
48SW-01	01/28/02	2.5	<0.50	1.2	12	<0.50
	10/02/02	2.1	7.4	3.5	14	16
	04/08/03	<0.50	<0.50	<0.50	<0.50	<0.50
	07/02/03	<0.50	<0.50	<0.50	4.9	2.0
	10/14/03	<0.50	<0.50	<0.50	<0.50	1.8
	01/20/04	<0.50	<0.50	<0.50	<0.50	<0.50
	07/12/04	<1.0	<1.0	<1.0	<1.0	<1.0
	10/04/04	<1.0	<1.0	<1.0	<1.0	<1.0
	01/19/05	<1.0	<1.0	<1.0	<1.0	<1.0
	03/14/05	<1.0	<1.0	<1.0	<1.0	<1.0
	07/13/05	<1.0	<1.0	<1.0	<1.0	<1.0
	09/29/05	1.0	1.0	2.9	16	14
	04/12/06	<1.0	<1.0	<1.0	<1.0	<1.0
	10/13/06	2.2	<1.0	1.7	16	0.66 J
	04/04/07	<1.0	<1.0	<1.0	<2.0	<1.0
	10/03/07	<1.0	<1.0	<1.0	<2.0	<1.0
	10/04/07	<1.0	<1.0	<1.0	<2.0	<1.0
	04/17/08	<1.0	<1.0	<1.0	<2.0	<1.0
	10/08/08	<1.0	<1.0	<1.0	<2.0	<1.0
	04/08/09	<1.0	<1.0	<1.0	<2.0	<1.0
10/19/09	<1	<1	<1	1.26	<1	
04/26/10	<5.0	<5.0	<5.0	<5.0	<5.0	
05/10/11	<1	<1	<1	1.32	<1	
04/12/12	<1	<1	<1	<1	<1	
2B Standard		NS	6	330	2.5	60

Notes

1,1,1-TCA = 1,1,1-trichloroethane

1,1-DCA = 1,1,-dichloroethane

1,1,-DCE = 1,1-dichloroethene

TCE = trichloroethene

cis-1,2-DCE = cis-1,2-dichloroethene

< - constituent was not detected above the quantitation limit

Results are in micrograms per liter (µg/L)

2B Standard - Title 15A North Carolina Administrative Code (NCAC) Subchapter

2B Surface Water Quality Standards (August 2012)

Red Book standards are in red font.

No other EPA Method 8260B Target Compound List Volatile Organic Compounds were detected.

Table 4.5
Summary of Private Water Supply Well Analytical Results
NCDOT - Former Asphalt Plant Site
Pittsboro, North Carolina

NCDOT Target Compounds	2L Standard	Mitchell Well		Sanders Well
		4/30/12	8/1/12	7/27/12
PCE	0.7	<1	<1	<1
TCE	3	<1	<1	<1
cis-1,2-DCE	70	<1	<1	<1
1,1,1-TCA	200	<1	<1	<1
1,1-DCA	6	<1	<1	<1
1,1-DCE	7	<1	<1	<1
non-Target Compounds				
1,4-Dioxane	3	na	<2.02	<2.03
Ethylbenzene	600	<1	<1	<1
Toluene	600	<1	<1	<1
o-Xylene	500	<1	<1	<1

Notes:

All samples were analyzed for volatile organic compounds by EPA Method 8260E
 1,4-dioxane analyzed by EPA Method 8270C
 2L Standard - Title 15A North Carolina Administrative Code (NCAC) Subchapter 2L
 Groundwater Quality Standards (January 2010)

< - constituent was not detected above the quantitation limit

All results are reported in micrograms per liter (µg/L)

Constituents detected above NCAC 2L Groundwater Standard are shaded

Constituents detected above the laboratory detection limit are **bold**

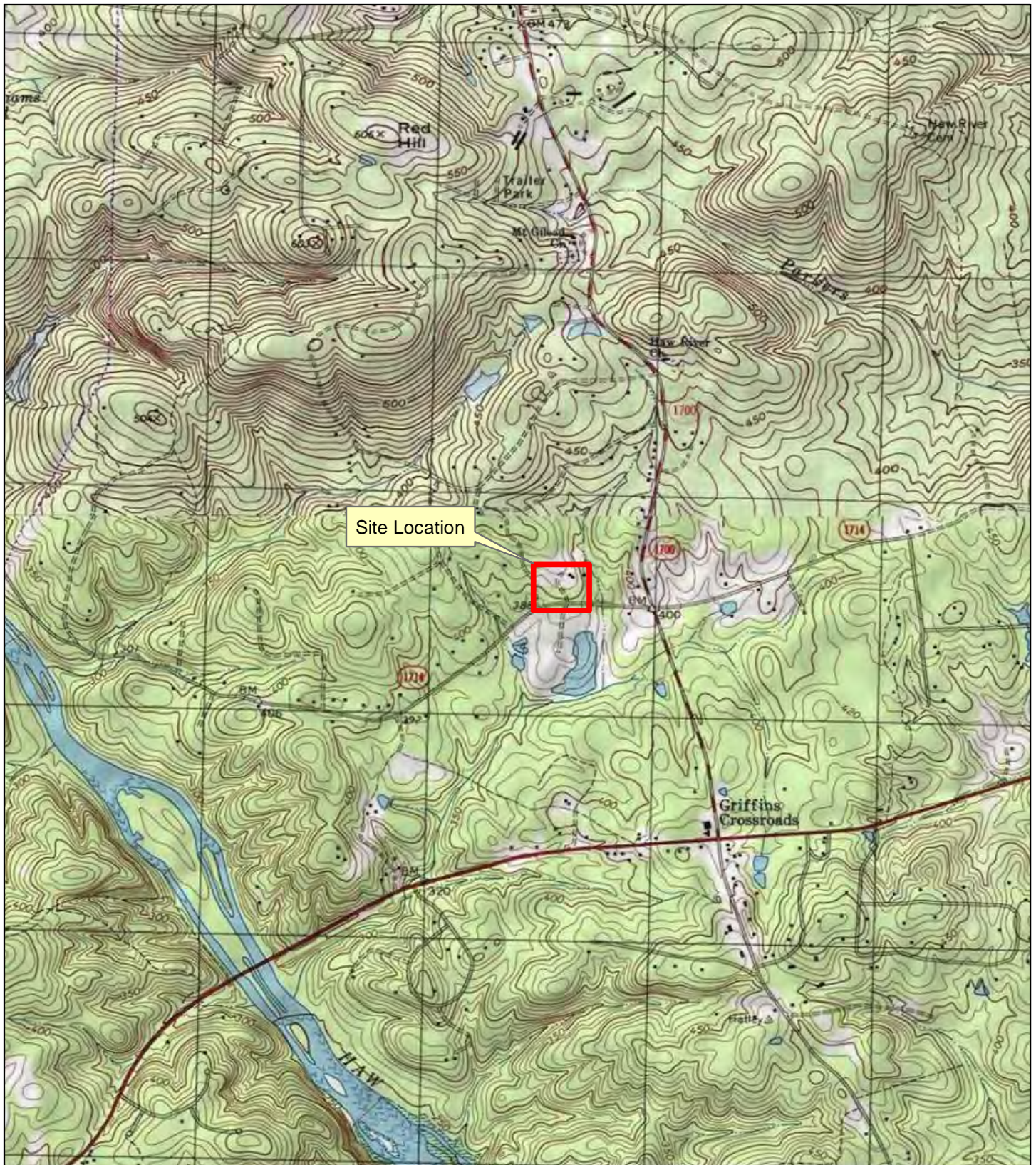
na - not analyzed

VOCs and 1,4-dioxane were not detected above laboratory detection limits

Detection limits reported for compounds recently detected in on site wells

PCE	Tetrachloroethene
TCE	Trichloroethene
1,1,1-TCA	1,1,1-Trichloroethane
1,1-DCE	1,1-Dichloroethene
1,1-DCA	1,1-Dichloroethane
cis-1,2-DCE	cis-1,2-Dichloroethene

Figures



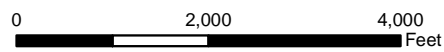
Map Location



Site Location Map

Former NCDOT Asphalt Testing Site No. 6-48
 240 Sugar Lake Road
 Pittsboro, North Carolina

Merry Oaks, NC USGS Topographic Quadrangle (1983)



July 31, 2012



60249035.4

Figure 1.1

AECOM

AECOM North Carolina Inc.
 8540 Colonnade Center Drive, Suite 306
 Raleigh, NC 27615
 Phone: (919) 872-6600
 Fax: (919) 872-7996
 Web: <http://www.aecom.com>

LEGEND

- EDGE OF WOODS
- CREEK WITH FLOW DIRECTION
- 6' CHAIN LINK FENCE
- CURB & GUTTER
- EDGE OF PAVEMENT
- EDGE OF GRAVEL
- OVERHEAD UTILITY WIRES
- UTILITY POLE
- UTILITY POLE WITH DROP
- GUY WIRE / ANCHOR
- WATER VALVE
- TELEPHONE PEDESTAL

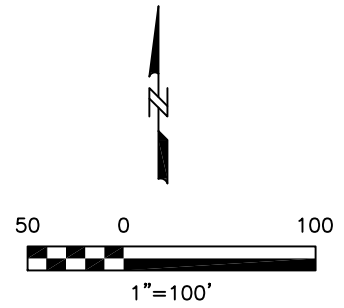
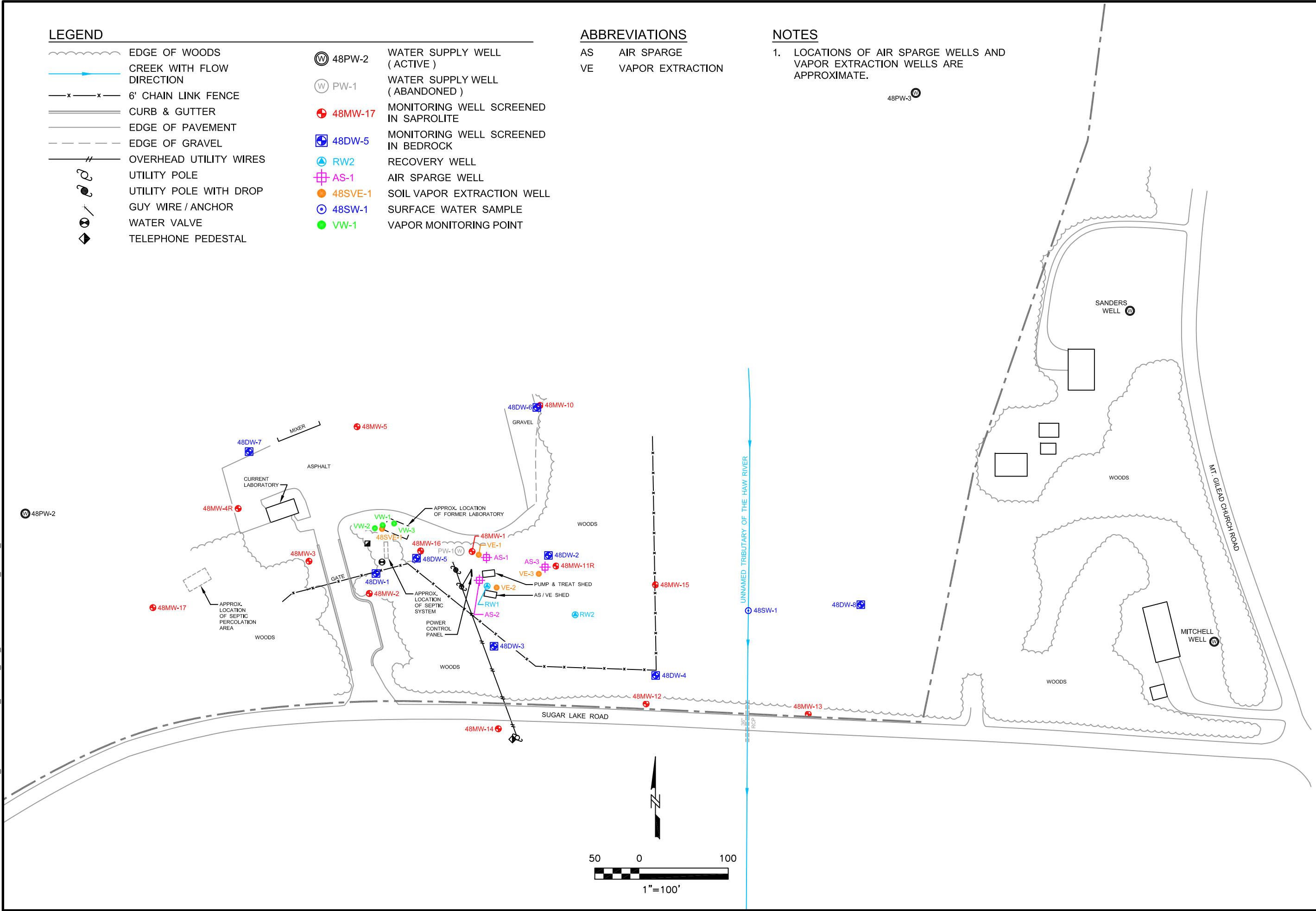
- 48PW-2 WATER SUPPLY WELL (ACTIVE)
- PW-1 WATER SUPPLY WELL (ABANDONED)
- 48MW-17 MONITORING WELL SCREENED IN SAPROLITE
- 48DW-5 MONITORING WELL SCREENED IN BEDROCK
- RW2 RECOVERY WELL
- AS-1 AIR SPARGE WELL
- 48SVE-1 SOIL VAPOR EXTRACTION WELL
- 48SW-1 SURFACE WATER SAMPLE
- VW-1 VAPOR MONITORING POINT

ABBREVIATIONS

- AS AIR SPARGE
- VE VAPOR EXTRACTION

NOTES

1. LOCATIONS OF AIR SPARGE WELLS AND VAPOR EXTRACTION WELLS ARE APPROXIMATE.



Issue Status: DRAFT

LEGEND

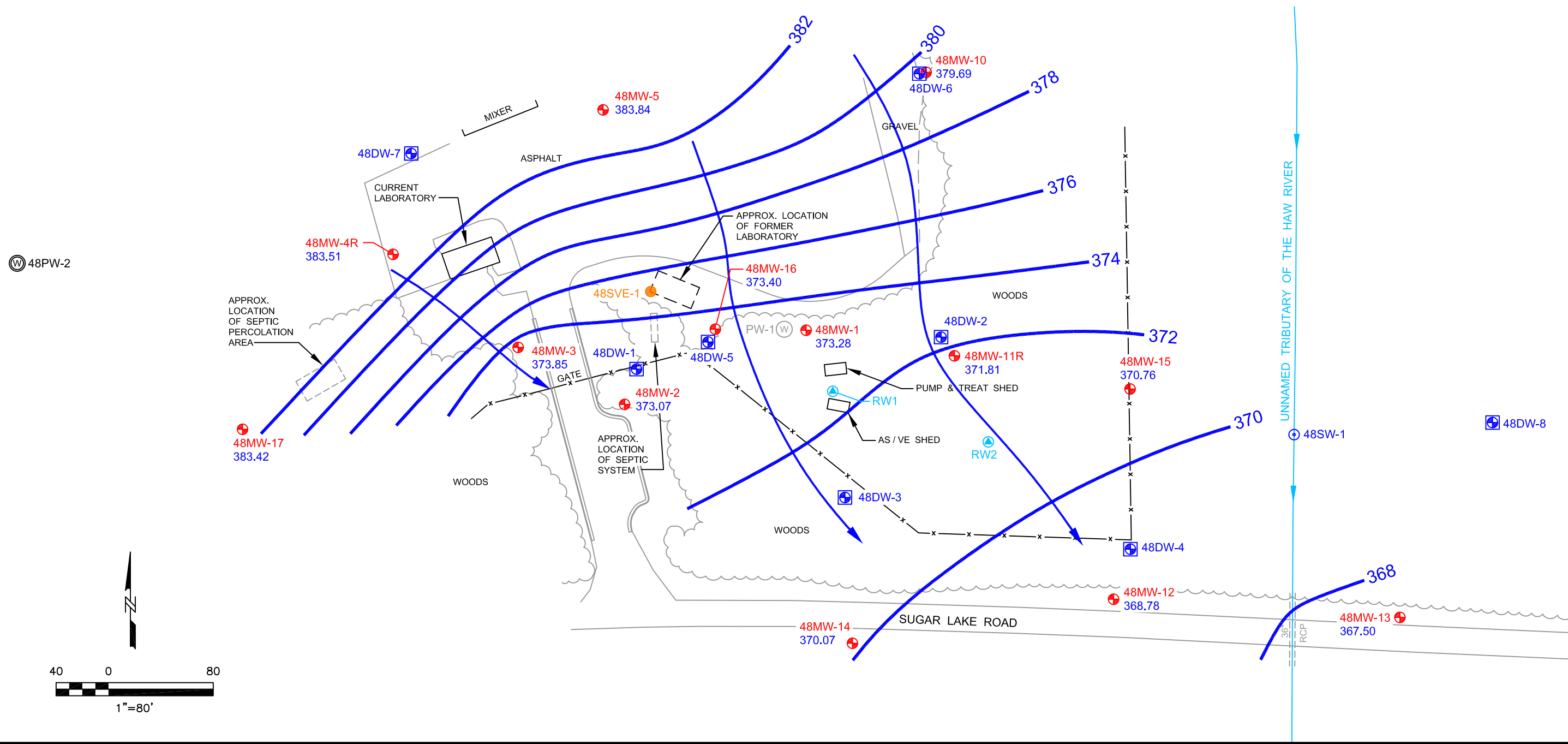
- EDGE OF WOODS
- CREEK WITH FLOW DIRECTION
- 6' CHAIN LINK FENCE
- CURB & GUTTER
- EDGE OF PAVEMENT
- EDGE OF GRAVEL
- 48PW-2 WATER SUPPLY WELL (ACTIVE)
- PW-1 WATER SUPPLY WELL (ABANDONED)

- 48MW-17 MONITORING WELL SCREENED IN SAPROLITE
- 48DW-5 MONITORING WELL SCREENED IN BEDROCK
- RW2 RECOVERY WELL
- 48SW-1 SURFACE WATER SAMPLE
- 48SVE-1 SOIL VAPOR EXTRACTION WELL
- 48MW-17 GROUNDWATER ELEVATION (ft msl) AT MONITORING WELL
- 378 GROUNDWATER POTENTIOMETRIC CONTOUR (DASHED WHERE INFERRED)

ABBREVIATIONS

- AS AIR SPARGE
- VE VAPOR EXTRACTION

Issue Status: DRAFT



LEGEND

- EDGE OF WOODS
- CREEK WITH FLOW DIRECTION
- 6' CHAIN LINK FENCE
- CURB & GUTTER
- EDGE OF PAVEMENT
- EDGE OF GRAVEL
- 48PW-2 WATER SUPPLY WELL (ACTIVE)
- PW-1 WATER SUPPLY WELL (ABANDONED)

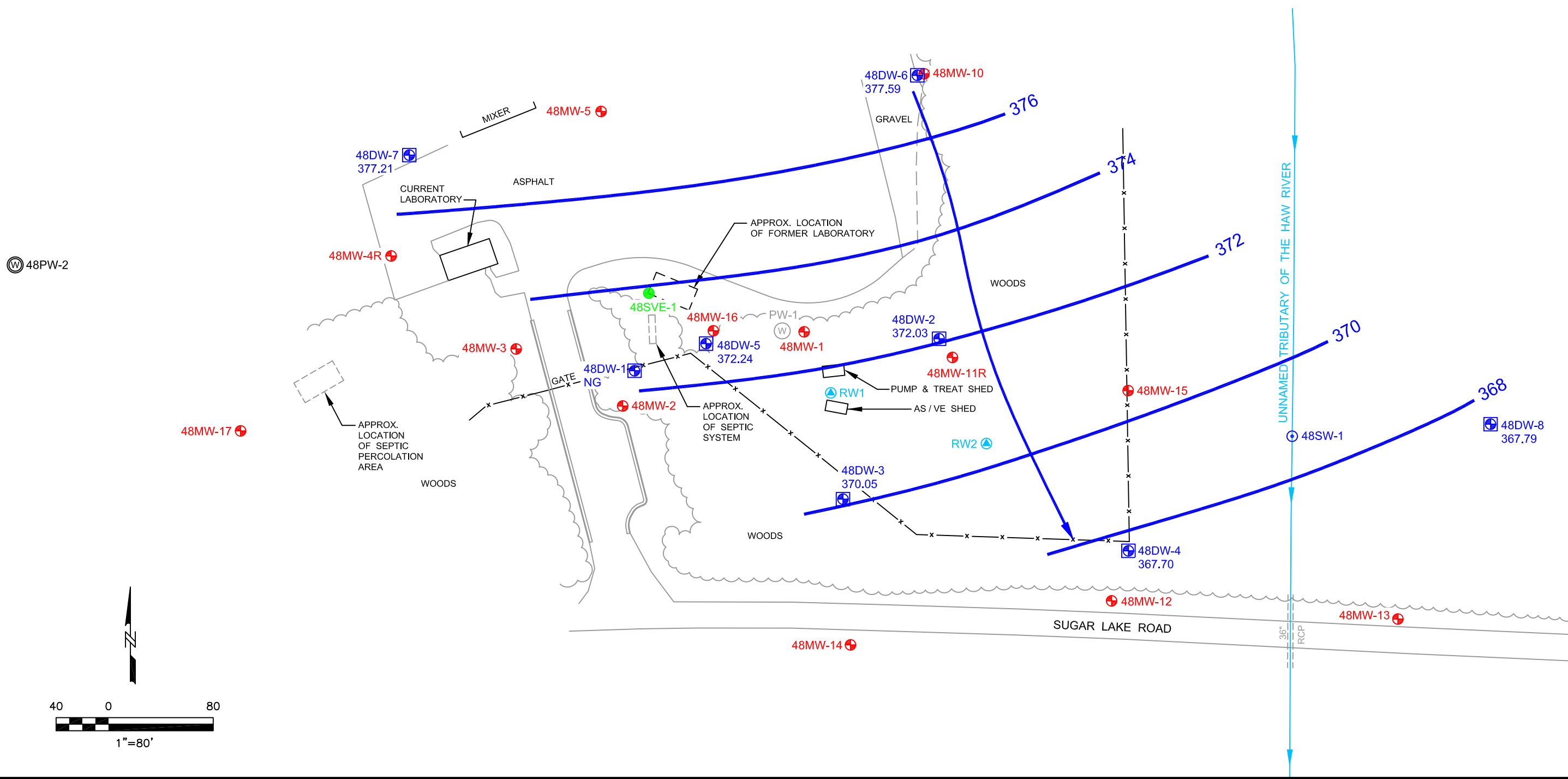
- 48MW-17 MONITORING WELL SCREENED IN SAPROLITE
- 48DW-5 MONITORING WELL SCREENED IN BEDROCK
- RW2 RECOVERY WELL
- 48SW-1 SURFACE WATER SAMPLE
- 48SVE-1 SOIL VAPOR EXTRACTION WELL
- 48DW-4 367.60 GROUNDWATER ELEVATION (ft msl) AT MONITORING WELL
- 370 GROUNDWATER POTENTIOMETRIC CONTOUR

ABBREVIATIONS

- AS AIR SPARGE
- NG NOT GAUGED
- VE VAPOR EXTRACTION

NOTES

1. MONITORING WELL 48DW-1 WAS NOT USED FOR CONTOURING AS IT IS NOT BELIEVED TO BE CONNECTED TO A WATER-BEARING FRACTURE IN THE BEDROCK.



Issue Status: DRAFT

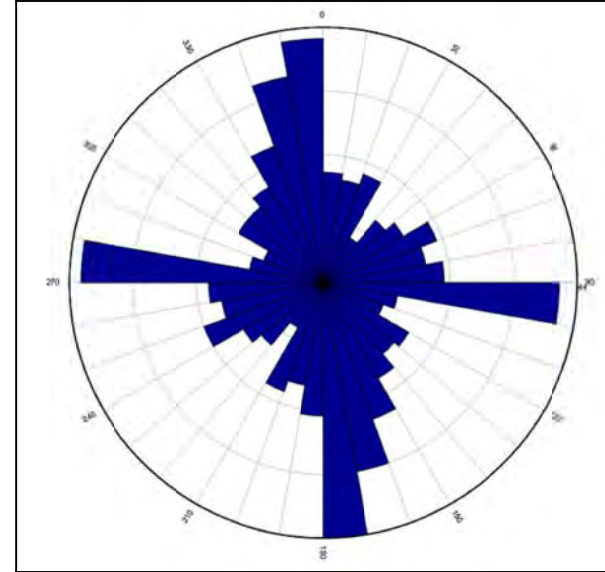
LEGEND

- EDGE OF WOODS
- CREEK WITH FLOW DIRECTION
- 6' CHAIN LINK FENCE
- CURB & GUTTER
- EDGE OF PAVEMENT
- EDGE OF GRAVEL
- WATER SUPPLY WELL (ACTIVE)
- WATER SUPPLY WELL (ABANDONED)

- 48MW-17 MONITORING WELL SCREENED IN SAPROLITE
- 48DW-5 MONITORING WELL SCREENED IN BEDROCK
- RW2 RECOVERY WELL
- 48SW-1 SURFACE WATER SAMPLE
- 48SVE-1 SOIL VAPOR EXTRACTION WELL
- 48MW-17 TCE CONCENTRATION (ug/L) AT MONITORING WELL
- TCE ISOCONCENTRATION (ug/L) CONTOUR (DASHED WHERE INFERRED)

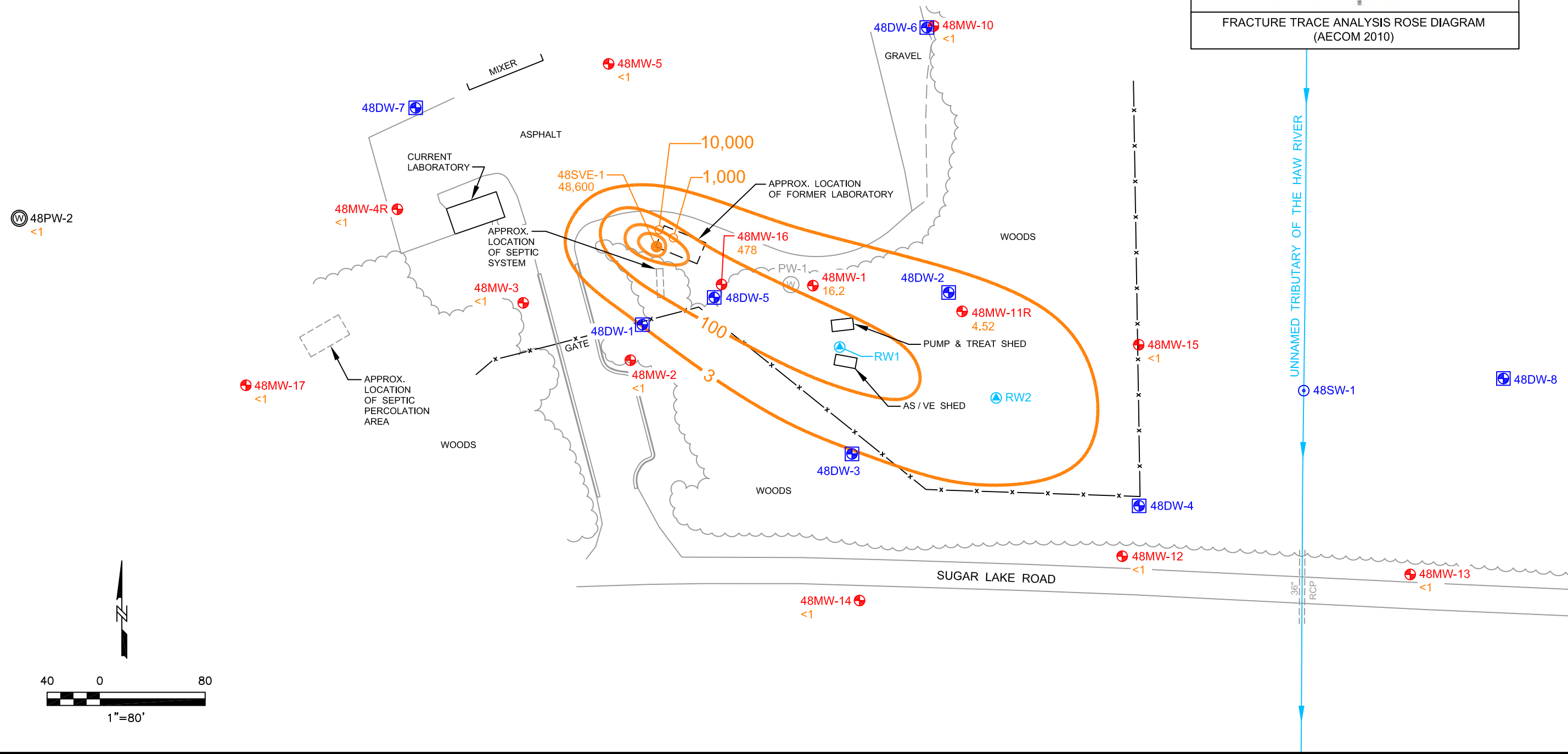
ABBREVIATIONS

- AS AIR SPARGE
- TCE TRICHLOROETHENE
- ug/L MICROGRAMS PER LITER
- VE VAPOR EXTRACTION



FRACTURE TRACE ANALYSIS ROSE DIAGRAM (AECOM 2010)

Issue Status: DRAFT



LEGEND

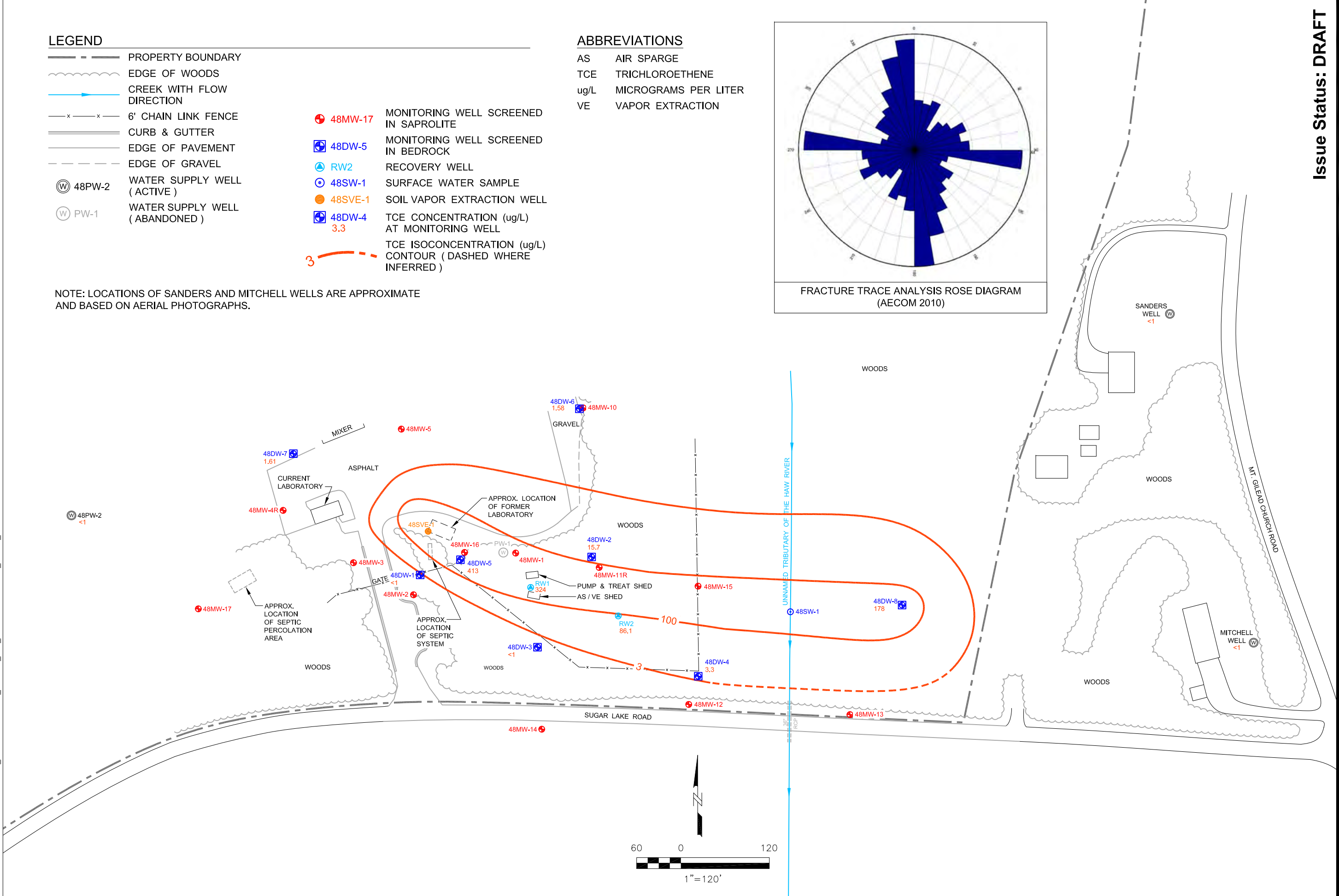
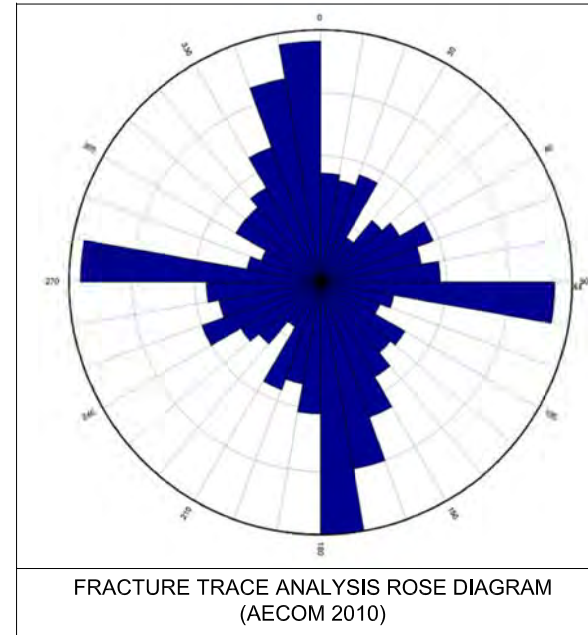
- PROPERTY BOUNDARY
- EDGE OF WOODS
- CREEK WITH FLOW DIRECTION
- 6' CHAIN LINK FENCE
- CURB & GUTTER
- EDGE OF PAVEMENT
- EDGE OF GRAVEL
- WATER SUPPLY WELL (ACTIVE)
- WATER SUPPLY WELL (ABANDONED)

- 48MW-17 MONITORING WELL SCREENED IN SAPROLITE
- 48DW-5 MONITORING WELL SCREENED IN BEDROCK
- RW2 RECOVERY WELL
- 48SW-1 SURFACE WATER SAMPLE
- 48SVE-1 SOIL VAPOR EXTRACTION WELL
- 48DW-4 TCE CONCENTRATION (ug/L) AT MONITORING WELL
- TCE ISOCONCENTRATION (ug/L) CONTOUR (DASHED WHERE INFERRED)

ABBREVIATIONS

- AS AIR SPARGE
- TCE TRICHLOROETHENE
- ug/L MICROGRAMS PER LITER
- VE VAPOR EXTRACTION

NOTE: LOCATIONS OF SANDERS AND MITCHELL WELLS ARE APPROXIMATE AND BASED ON AERIAL PHOTOGRAPHS.



Issue Status: DRAFT

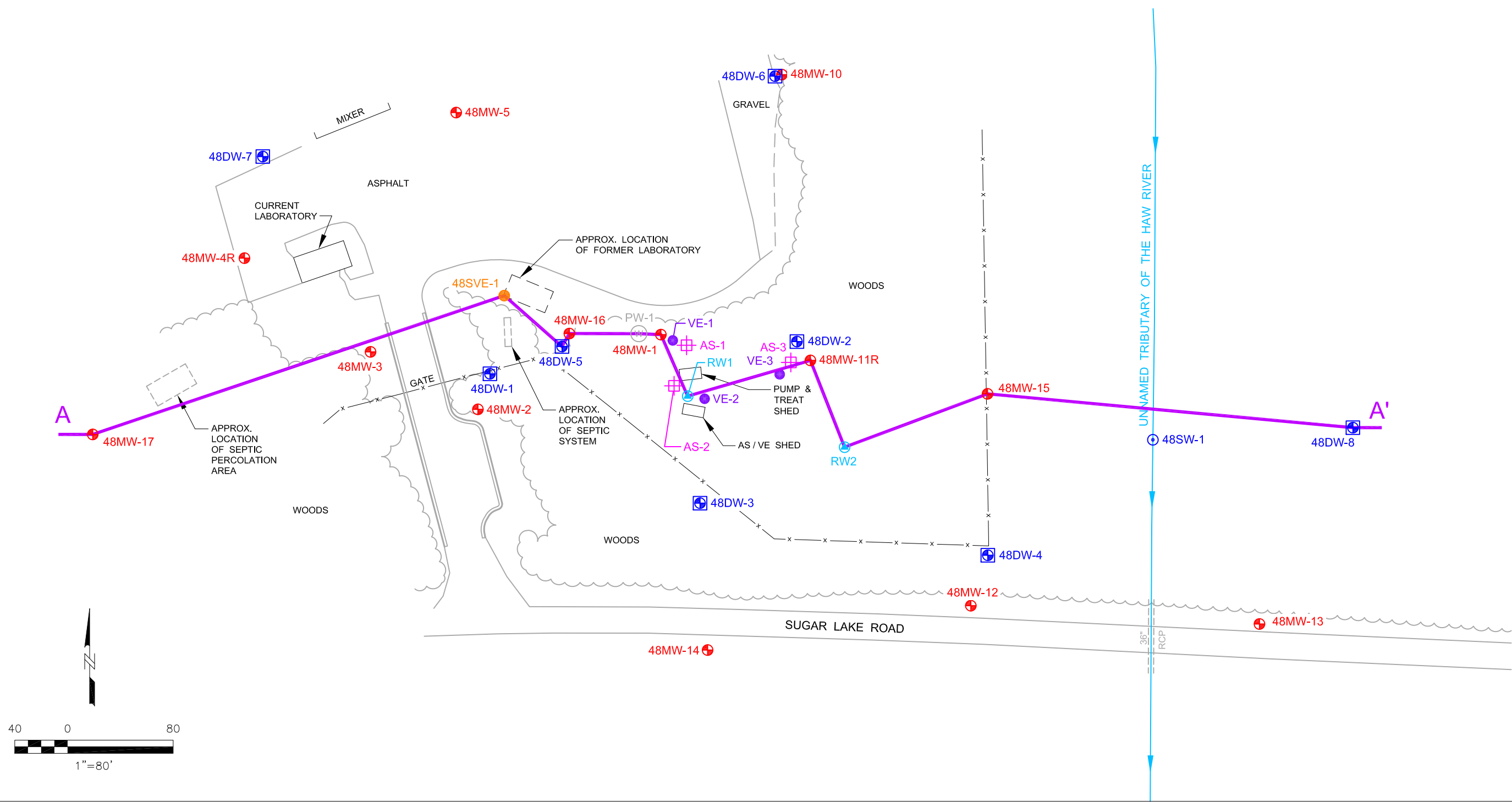
LEGEND

- EDGE OF WOODS
- CREEK WITH FLOW DIRECTION
- 6' CHAIN LINK FENCE
- CURB & GUTTER
- EDGE OF PAVEMENT
- EDGE OF GRAVEL
- 48PW-2 WATER SUPPLY WELL (ACTIVE)
- PW-1 WATER SUPPLY WELL (ABANDONED)

- 48MW-17 MONITORING WELL SCREENED IN SAPROLITE
- 48DW-5 MONITORING WELL SCREENED IN BEDROCK
- RW2 RECOVERY WELL
- 48SW-1 SURFACE WATER SAMPLE
- AS-1 AIR SPARGE WELL
- 48SVE-1 SOIL VAPOR EXTRACTION WELL
- VE-1 VAPOR EXTRACTION WELL
- A-A' GEOLOGIC CROSS SECTION TRANSECT LINE

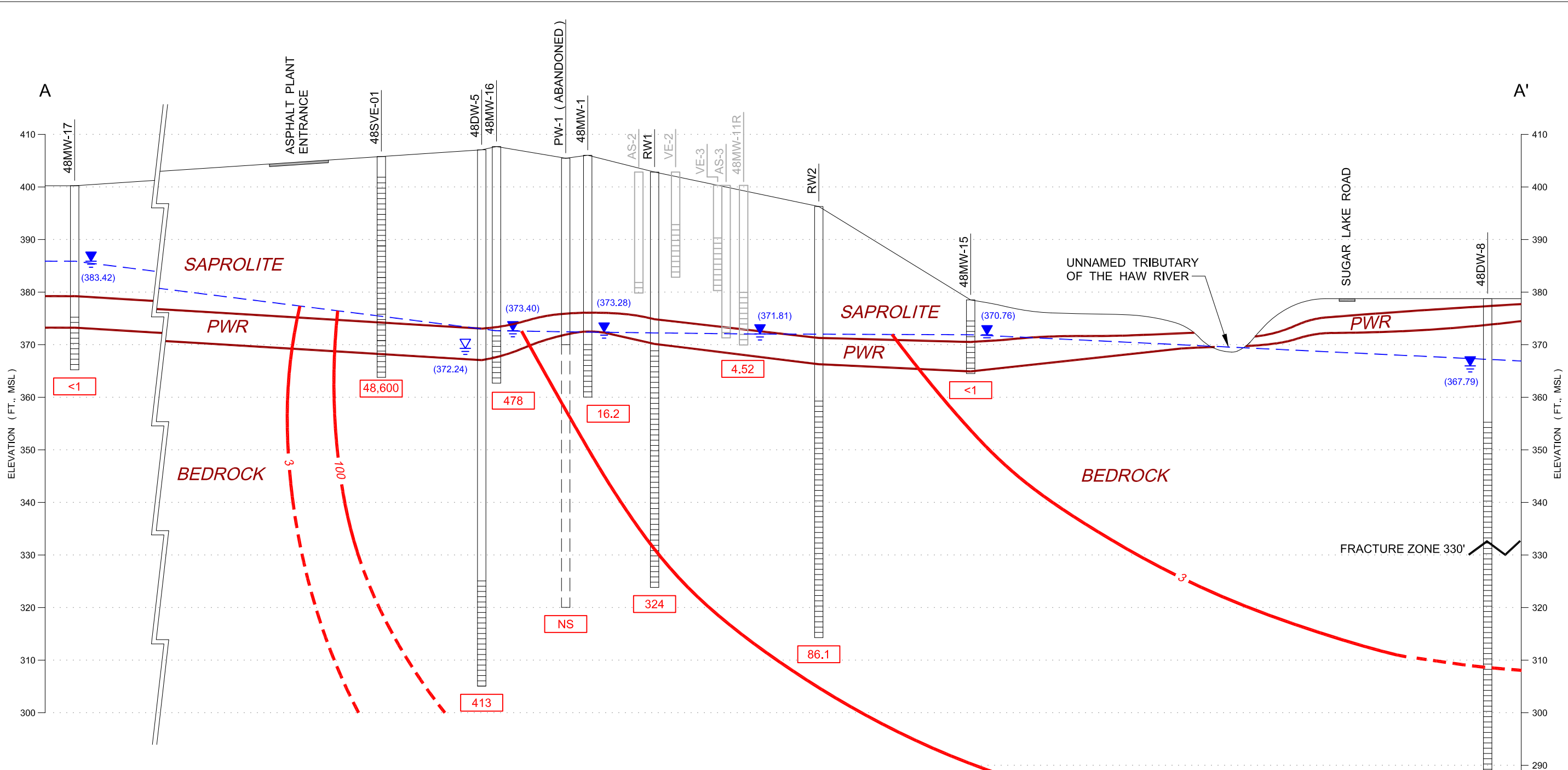
ABBREVIATIONS

- AS AIR SPARGE
- VE VAPOR EXTRACTION



Issue Status: DRAFT

GEOLOGIC CROSS SECTION MAP



LEGEND

	MONITORING WELL		MONITORING WELL
	SHALLOW GROUNDWATER OR SURFACE WATER LEVEL (FT., MSL) (DASHED WHERE INFERRED)		BEDROCK GROUNDWATER (FT., MSL)
	GROUNDWATER ELEVATION (JULY 2012)		GROUNDWATER ELEVATION (JULY 2012)
	WELL SCREEN INTERVAL		OPEN BOREHOLE
	TCE CONCENTRATION IN MICROGRAMS PER LITER (APRIL 2012)		TCE CONCENTRATION IN GROUNDWATER (ug/L)
			LINE OF LITHOLOGIC CONTACT (DASHED WHERE INFERRED)

ABBREVIATIONS

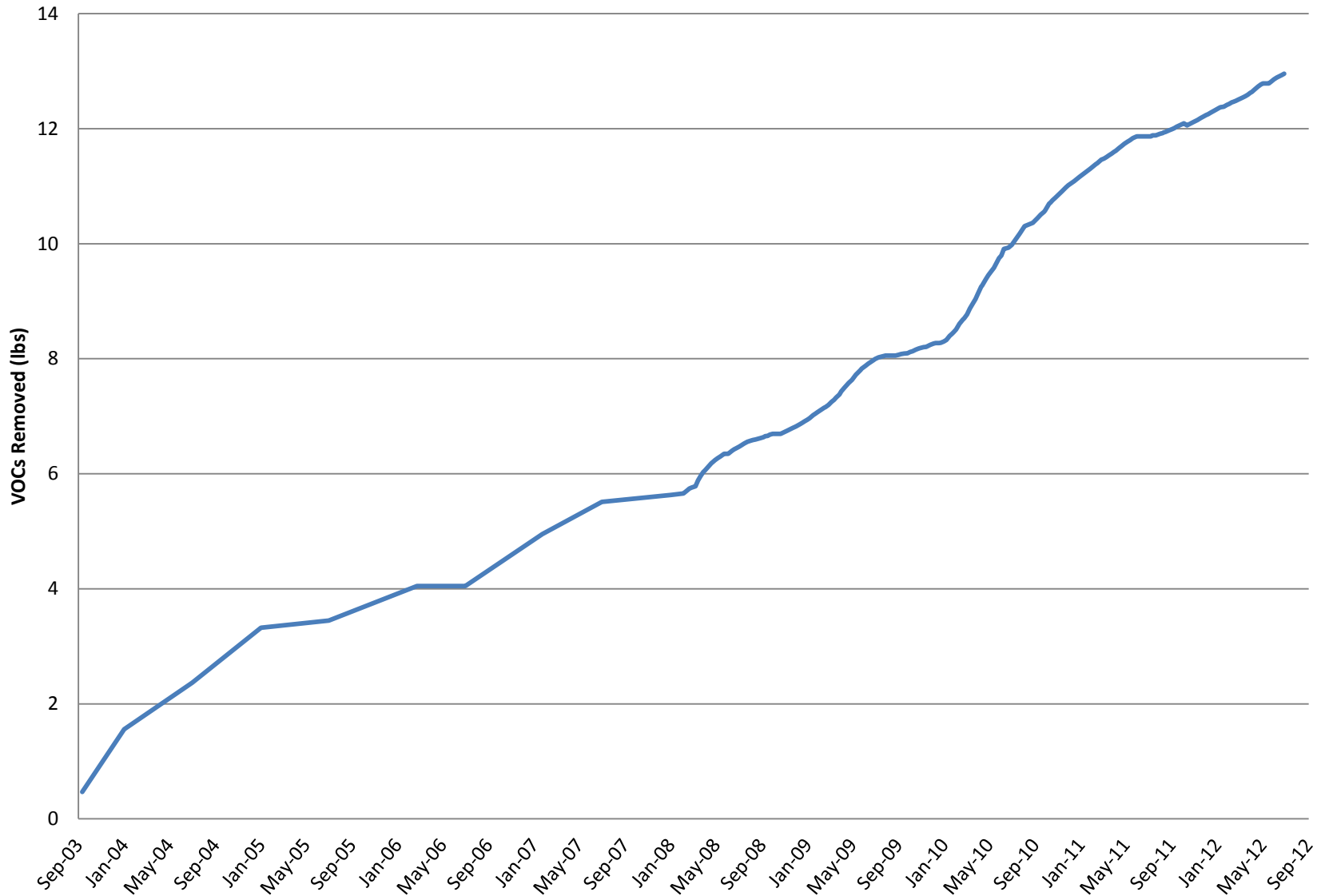
NS	NOT SAMPLED
TCE	TRICHLOROETHENE
ug/L	MICROGRAMS PER LITER

NOTE

- GROUNDWATER ELEVATION DETERMINED FROM DEPTH TO WATER MEASURED JULY 27, 2012.
- GROUNDWATER SAMPLES WERE COLLECTED ON APRIL 11 AND 12, 2012.
- WELLS SHOWN IN GRAY ARE SHOWN PERPENDICULAR TO THE TRANSECT LINE

HORIZONTAL SCALE: 1" = 80'
 VERTICAL SCALE: 1" = 20'
 VERTICAL EXAGGERATION: 4X

Figure 5.3
Total VOC Mass Recovery - Groundwater Treatment System
Former NCDOT Asphalt Testing Site No. 6-48



LEGEND

- EDGE OF WOODS
- CREEK WITH FLOW DIRECTION
- 6' CHAIN LINK FENCE
- CURB & GUTTER
- EDGE OF PAVEMENT
- EDGE OF GRAVEL
- 48PW-2 WATER SUPPLY WELL (ACTIVE)
- PW-1 WATER SUPPLY WELL (ABANDONED)

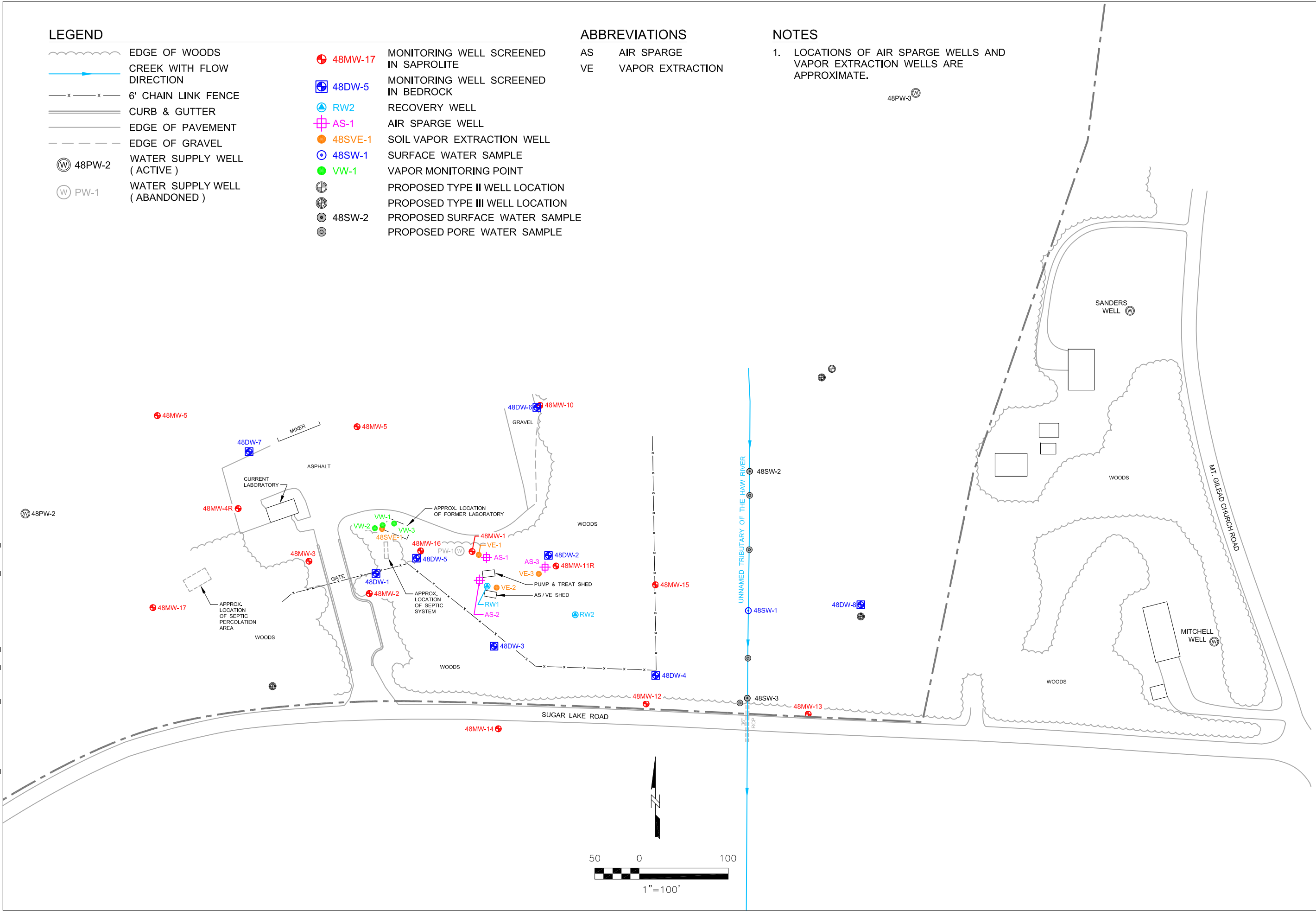
- 48MW-17 MONITORING WELL SCREENED IN SAPROLITE
- 48DW-5 MONITORING WELL SCREENED IN BEDROCK
- RW2 RECOVERY WELL
- AS-1 AIR SPARGE WELL
- 48SVE-1 SOIL VAPOR EXTRACTION WELL
- 48SW-1 SURFACE WATER SAMPLE
- VW-1 VAPOR MONITORING POINT
- PROPOSED TYPE II WELL LOCATION
- PROPOSED TYPE III WELL LOCATION
- 48SW-2 PROPOSED SURFACE WATER SAMPLE
- PROPOSED PORE WATER SAMPLE

ABBREVIATIONS

- AS AIR SPARGE
- VE VAPOR EXTRACTION

NOTES

1. LOCATIONS OF AIR SPARGE WELLS AND VAPOR EXTRACTION WELLS ARE APPROXIMATE.



Issue Status: DRAFT

Appendix A. Well Construction Records

Appendix B. Borehole Geophysics Report



**Final Report
Borehole Geophysical Logging Program
Two Wells – 48DW-8 and SW-03
240 Sugarlake Road
Pittsboro, NC
MAG Reference Number 051202**

**Prepared For: AECOM, Inc.
Prepared By: Mid-Atlantic Geosciences
July 31, 2012**





July 31, 2012

Mr. Matthew Brennan
AECOM, Inc.
8540 Collonade Center Drive
Suite 306
Raleigh, NC 27615

RE: Borehole Geophysical Logging Program
Two Wells – 48DW-8 and SW-03
240 Sugarlake Road
Pittsboro, NC
MAG Reference Number 051202

Dear Mr. Brennan:

Pursuant to our proposal dated May 2, 2012, Mid-Atlantic Geosciences (MAG – the borehole logging division of Enviroscan, Inc.) completed the above-referenced survey on June 20 and 21, 2012. The objective of the survey was to locate and characterize fractures and potential water-bearing zones intersecting the wells. To accomplish these objectives, MAG conducted Acoustic Televiwer, 3-Arm Caliper, Fluid Temperature, Fluid Conductivity, Natural Gamma, Short- and Long-Normal Resistivity, Single Point Resistance, Spontaneous Potential, and Heat Pulse Flowmeter logging in the wells.

Logging Equipment

Mid-Atlantic Geosciences conducts borehole geophysics, televiwer, and video logging using a Robertson Geologging, Ltd. Micrologger II and/or a Mount Sopris Matrix. These units record digital data for on-site log playback, reproduction, and field interpretation, as well as post-processing and report presentation. The systems are driven by field PCs running software supplied by the manufacturer for data acquisition, log replay, probe control, probe calibration, and logging environment compensation. Video data (if collected) are recorded in real time to the hard drive of a DVD player/recorder, and can be burned in the field to a DVD that is left with the client's on-site representative.

All of the logging instruments are permanently mounted in a dedicated Ford F350 or Dodge RAM2500 enclosed-bed truck, each with a self-contained power supply, and support and decontamination equipment. The downhole probes or sondes are connected to either a Robertson Geologging Smartwinch with approximately 600 feet of 0.375-inch coaxial cable, or a Robertson 2000m winch with approximately 3000 feet of 0.25-inch coaxial cable – depending on the depth of the wells logged.



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Logging Parameters and Methodology

Geophysical well logging in general involves lowering sondes in a borehole and recording parameters that are related to the properties of the adjacent soil or rock, the fluids in the borehole or formation, and/or construction details of the well. There are many tools and techniques that have been developed to provide specific information in different environments and constructions of drilled holes. The data collected can define the nature and extent of geologic formations and formation fluids, and can be used to provide correlation between holes.

The sondes used for this survey are described below. Note that before any of these tools are put into service for a particular job, MAG personnel test them for proper function and recalibrate as necessary. This is essential to the proper acquisition of downhole data and the ability to relate the data from one borehole to another.

Acoustic Televiewer

The high-resolution acoustic televiewer (HRAT) provides a scan or image of the interior of the borehole that is created not by reflected visible wavelength light, but by reflected ultrasound. Since ultrasonic pulses are used, it is possible to record both the amplitude and travel time of each pulse, and construct two separate images. The amplitude log is analogous to a visual scan, while the travel time data are affected primarily by the local diameter of the borehole (i.e. the larger the bore, the later the arrival of the reflected pulse), and therefore can supplement or replace a caliper log. The main advantage of the HRAT probe is that it can be used in larger boreholes than optical tools, and in holes with turbid or particle-loaded fluids that would be opaque to optical methods.

The HRAT operates by using a fixed acoustic transducer and a rotating acoustic mirror capable of focusing on the borehole wall at any distance from the probe diameter upwards. The acoustic transducer is focused based on the borehole diameter and impedance-matched to the borehole fluid to provide optimum image resolution and reflected amplitude. Mirror rotation speed (i.e. circumferential resolution), sampling rate (i.e. depth resolution), signal gain (i.e. amplitude image contrast), and recording time gate (i.e. travel time image contrast) are all variable and under operator control to provide the best image possible under borehole-specific conditions.

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HRAT logs are presented as accurately-scaled and accurately-oriented cylindrical images that are sliced open and laid flat. Therefore, planar dipping features appear as sinusoids from which the strike and dip of the feature can be calculated (see Appendix A). Selected and representative televiwer features are listed in Appendix B and on the log sheet. Based on their visual character, planar features have been categorized as various types of geologic interface (fractures, bedding planes, veins, etc.). Feature apertures are listed in tenths of an inch. An aperture of zero for an open fracture simply means that while it appears to be a continuous open feature, the opening is smaller than the line thickness on the log (~0.015 inches). Note that it has been the experience of MAG that the aperture or Paillet rank of a feature is not always a strong indicator of its water-producing potential. Thin, discrete features sometimes produce as much or more water (as evidence by flow meter logging or packer testing) than wide, open fractures or fracture zones.

Caliper

Caliper measurements represent the average diameter of the borehole or well at a given depth. The caliper tool collects and transmits the data from three spring-loaded arms as the tool is lifted upwards through the borehole. The caliper tool is used to locate solution openings or fractures (where the borehole is typically enlarged due either to the presence of natural openings, or to plucking of broken rock by the drill bit), and to determine the length of casing intervals (as evident from small changes in casing diameter, or the small enlargements at threaded junctions, or narrowing due to the bead at welded junctions).

Caliper logs are collected by calibrating the downhole tool with a measuring template, lowering the tool to the base of the well, remotely opening the arms, and then logging the open borehole and casing diameter in an upward direction. Caliper logs are acquired with a logging speed of no more than 12 feet per minute.

Fluid Temperature

Fluid temperature logs provide the temperature of the air or fluid in a borehole as a function of depth. Temperature logs can indicate where water is entering or leaving a borehole – and thereby disturbing the normal geothermal gradient. Deviations, offsets, or changes in the slope of the temperature log can be used to locate zones of water movement within the borehole. Temperature logs must be run in wells that have been allowed to fully equilibrate to the local geothermal gradient following any prior drilling, construction, pumping or sampling. During a temperature survey, data accuracy is ensured by maintaining a downward logging speed of approximately 10 feet per minute (fpm). This provides an adequate time buffer to allow sensors to respond to minor temperature changes.

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Fluid Conductivity

Fluid conductivity logs provide a continuous measurement of the electrical conductivity of the borehole fluid – i.e. zero in air or hydrocarbons, greater than zero in water. In water, electrical conductivity is mostly a function of electrolytic content. Water with very low dissolved solid concentrations will yield low fluid conductivity, while water containing a high level of dissolved solids will be proportionally more conductive. Fluid conductivity logs often deflect where water-producing features are transmitting water into or out of the well (since the well water may have a differing electrolytic chemistry than the formation water). The fluid conductivity log is usually collected simultaneously with the temperature log – since for both, data from a fully equilibrated water column is required.

Natural Gamma

Gamma logs are one of the most widely used geophysical logs in groundwater applications. They are used primarily to identify changes in lithology – specifically the relative amounts of clay in various sedimentary units.

A gamma log provides a record of the total natural gamma radiation detected within a given energy range. In water-bearing rocks and sediments that are not contaminated by artificial radioisotopes, the most significant naturally-occurring, gamma-emitting radioisotopes are potassium-40 and the daughter products of the uranium and thorium decay series. If gamma-emitting artificial radioisotopes have been introduced by humans into the groundwater system, they will also produce part of the radiation measured.

The amplitude of gamma-log deflections is affected by any borehole condition that alters the density of the material through which gamma photons must pass or the length of the travel path. The bedding of a gamma-emitting formation must be thick to obtain a quantitative value since the detector will be affected by the radiation from the formation as the tool approaches and passes the bed. Although increases in borehole diameter or the presence of steel casing will decrease the recorded gamma count, it is possible to collect usable information in both cased and open portions of the borehole using the gamma sonde. The presence of potassium-rich (and therefore gamma-emitting) bentonite clay commonly used in well construction will generally produce high gamma count peaks on a natural gamma log. MAG has natural gamma detectors on many sondes, and comparison of the multiple gamma logs collected for any given well logging program are used to ensure that the depths of differing logs are not erroneously shifted. Therefore, the gamma log presented for any well may have been collected simultaneously with any of the other logs from the same well.

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Short and Long Normal Resistivity

In resistivity logging, the sonde is set up with a series of electrodes set some fixed distance away from each other. The most common arrangement of these spacings is 16 inches (short normal) and 64 inches (long normal) apart. To take a measurement, a current with a fixed low amperage (I, typically tens of milliamps) is driven between the tip of the sonde, and the exposed cable armor 30 feet above the sonde. The potential difference or voltage (V) between the short and long normal-spaced electrodes is recorded, and the resistance to current flow (R) in the formation is then given by Ohms law ($R=V/I$). This resistance (in Ohms), which is a property of the electrical circuit created by the electrodes and formation, is converted to apparent resistivity (in Ohm-meters), which is a physical property of the formation, based on the known electrode geometry. Readings are recorded continuously as the sonde is lowered in the borehole – typically at less than 20 fpm.

In most situations, the 16-inch or short normal log is used to interpret the electrical properties of the formation near the borehole, or in the invaded zone. The 64-inch or long normal log gives a better indication of the resistivity deeper in the formation where there may be no effect from the drilling itself. Care must be taken when interpreting resistivity logs since thin beds that measure close to the thickness of the electrode spacing on the sonde may cause a reverse response. Therefore, normal resistivity logs are most useful in boreholes with thick lithologic units. The presence of thin-bed reversals can also be detected by comparing the normal resistivity logs with the single point resistance (SPR) log described below (which they should generally mimic in the absence of reversals). Normal resistivity logs are typically collected along with SPR and spontaneous potential (SP) logs using a single sonde. The interpretation of resistivity logs is generally straightforward. Low resistivities represent clay minerals or conductive (e.g. electrolytic) pore fluids, while high resistivities represent clean sand or carbonate beds with low porosity or low fluid conductivity within the porosity. Normal resistivity logs record a physical property of the formation, and can therefore provide valuable comparisons between differing wells.

Single Point Resistance

Single point resistance (SPR) logs measure the resistance (in Ohms) between an electrode on the sonde, and one buried at the ground surface near the wellhead. This provides a resistance that is specific to the particular geometry of the circuit (i.e. the placement of the wellhead electrode), and not a resistivity that is a physical property of the formation. However, the log provides relative data within a well that is sensitive to the presence of conductive minerals (e.g. clays) in the formation, and the degree of porosity and conductivity of the fluid in the porosity. The interpretation of resistance logs is also straightforward, and follows the relative patterns described above for normal resistivity logs. However, SPR values are relative, and may be difficult to compare between different wells.

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Spontaneous Potential

Spontaneous potential (SP) logging is the oldest and simplest method. It uses a lead (non-polarizing) electrode on a sonde to measure the naturally-occurring potential difference (typically in millivolts) between the sonde in the formation, and a reference electrode buried near the wellhead. Naturally-occurring potential differences are commonly present at the interfaces between materials with differing ionic content – e.g. at contacts between saturated sand and shale, or between salty and fresh water. Note that unlike resistivity and SPR logs that are sensitive to beds, SP logs are sensitive to the contacts between beds (or contacts between waters with differing ionic content). Like SPR, SP values are relative, and therefore difficult to compare between wells. SP logs are typically recorded along with normal resistivity and SPR logs at speeds of less than 20 fpm.

Heat Pulse Flowmeter

Unlike all other logs that are continuous records of some parameter versus depth, heat pulse flowmeter (HPFM) logs are made with the sonde stationary in the borehole at discrete depth intervals or at stations selected to suit a particular study. In the sonde, large capacitors are charged from the surface power supply and can be discharged rapidly on command through a high resistance wire grid (like the heating elements on an electric stove). The discharge creates an infinitesimally thin disc of heated water. By conduction alone, the heat in this disc disperses slowly due to the poor heat conduction of water. In addition, the slight change in density of the heated water will cause it to rise very slowly (i.e. by convection). However, in the presence of vertical flow, the heated disc of water will move up or down with the flow velocity. In the sonde, thermistors are set at fixed equal distances above and below the heating grid, and sense the passage of the heated disc. Prior to firing the heating element, the two thermistor outputs are equalized so it is possible to interpret any subsequent differential output as a relative change in temperatures between thermistors. The temperature differential data is sent to the surface where the flow rate (in fpm) can be calculated based on the known positions of the thermistors. If the borehole diameter is known, the flow in fpm can be converted to gallons per minute (gpm). Note that by convention, negative flow values represent downward flow.

The main limitation of the heat pulse flowmeter is that it can only accurately measure the vertical component of flow in a borehole. Any horizontal flow cannot be quantified due to the location of the thermistors relative to the heat grid. This factor must be taken into consideration when interpreting heat pulse flowmeter data. Unfortunately, there is no reliable tool for measuring horizontal flow in a borehole. In addition, please note that even in the presence of water-bearing features, vertical flow will only occur in a static well if it intersects two or more features with differing hydraulic heads. For example, a well might intersect just a single, highly productive zone, but since there is no other zone with a different head, the only static flow in the well would be horizontal (across the well - if at all). Therefore, lack of vertical flow under static conditions does not necessarily imply an absence of hydrogeologically important features.

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The heat pulse flowmeter is typically operated after the borehole has stabilized from the effects of any prior logging runs in the borehole. In addition, after moving the sonde itself, the hole is allowed to equilibrate before taking any measurements. At each station, multiple measurements are usually recorded to ensure repeatability. The borehole is also allowed to equilibrate between successive measurements at a given station to ensure that the measured flow is due to natural flow conditions, and not conduction or convection from previous measurements. The heat pulse flowmeter is typically run under static conditions and may not quantify flow in some water-producing zones where there is only horizontal flow and/or no head difference between adjacent features. However, in some cases, these zones may be identified by recording heat pulse flowmeter data under stressed or pumping conditions which induce artificial head differences.

Logging Results

The wells were logged on June 20 and 21, 2012. The logging results for the wells are presented on the enclosed digital logs and tables, and briefly summarized below.

Note that since analysis of borehole geophysical logs can be quite subjective, and the level of detail is dependent upon the specific goals of the geologist, the analysis by MAG below covers the major features of each log, as well as some possibly minor features to serve as examples or guides for further interpretation by geologists familiar with the site, local geology, and/or project goals. In general, logs may display deviations (i.e. "spikes" where the parameter deviates from, and then returns to, "background" level), offsets (changes in background level), or slope changes. Any of these could be considered significant in certain situations, or when compared to correlating features at the same depth on other logs. If there are any questions about the features discussed (or not discussed) below, please do not hesitate to contact MAG.

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48DW-8

Noted Features

- The total depth (TD) of the well was logged at approximately 117.3 feet below ground surface (BGS).
- The depth to water (DTW) was measured at 7.9 feet BGS at the time of the survey.
- The diameter of the casing at the surface was measured to be six inches, and the bottom of the casing (BOC) was located at approximately 21 feet BGS.
- The caliper (borehole diameter) log reveals no significant enlargements in the borehole.
- The fluid temperature log shows a deviation at 21.7 BGS and an offset at the top of the water column.
- The fluid conductivity log shows no significant deviations, offsets, or changes in slope except at the top of the water column.
- Few planar features were recognizable on the televiwer logs. The depth, strike, dip, aperture, and feature type are listed on the log, as well as on the accompanying table in Appendix B. The largest aperture feature is a fracture zone located at 45.7 feet BGS. Note that due to significant vertical deviation in this borehole, televiwer instrument centralization was affected; therefore, the image quality is variable.
- The high electrical and low natural gamma logs show generally smooth variations that are probably related primarily to the low clay content of the formation.

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- Based primarily on the locations of caliper anomalies and televiewer features recognized in the field, seven stations or depths were selected for heat pulse flowmeter measurements. The recorded flows (based on an averaging of three to seven individual measurements per station) are listed below, with positive being upward flow and negative being downward flow. Measurable upward flow was detected in the borehole at 45 and 47 feet BGS, with the largest flow being 0.317 FPM at 45 feet BGS.

Static

Depth (feet BGS)	Vertical Flow (FPM)
28	0
43	0
45	0.317
47	0.239
49	0
97	0
101	0

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SW-03

Noted Features

- The total depth (TD) of the well was logged at approximately 295.3 feet below the top of casing (TOC).
- The depth to water (DTW) was measured at 26.7 feet below TOC at the time of the survey.
- The diameter of the casing at the surface was measured to be six inches, and the bottom of the casing (BOC) was located at approximately 43.9 feet below TOC.
- The caliper (borehole diameter) log reveals numerous significant enlargements at 45.8, 58, 63.5, 65.7, 70.8, 75.6, 81.2, 84.2, 85.4, 87.5, 90, 98.3, 107.8, 139, 220.5, 228.5, 229.2, 230.2, 232.8, 238.2, and 294.7 feet below TOC.
- The fluid temperature log shows no significant deviations, offsets, or changes in slope except at the top of the water column.
- The fluid conductivity log shows offsets at 73.5 and 99.1 feet below TOC and the top of the water column.
- Numerous planar features were recognizable on the televiewer logs. The depth, strike, dip, aperture, and feature type are listed on the log, as well as on the accompanying table in Appendix B. The largest aperture feature is a fracture zone located at 294.7 feet below TOC.
- The high electrical and low natural gamma logs show generally smooth variations that are probably related primarily to the low clay content of the formation.

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- Based primarily on the locations of caliper anomalies and televiewer features recognized in the field, thirteen stations or depths were selected for heat pulse flowmeter measurements. The recorded flows (based on an averaging of three to seven individual measurements per station) are listed below, with positive being upward flow and negative being downward flow. Under static conditions, measurable upward flow was detected in the borehole at 291 feet below TOC with a flow of 0.75 FPM. Under dynamic conditions, measurable upward flow was detected in the borehole at 224, 240, 250, 264, and 291 feet below TOC, with the largest flow being 0.716 FPM at 291 feet below TOC.

Static

Depth (feet BGS)	Vertical Flow (FPM)
60	0
90	0
105	0
110	0
130	0
140	0
208	0
215	0
224	0
240	0
250	0
264	0
291	0.75

Dynamic

Depth (feet BGS)	Vertical Flow (FPM)
60	0
90	0
105	0
110	0
130	0
140	0
208	0
215	0
224	0.295
240	0.251
250	0.203
264	0.116
291	0.716

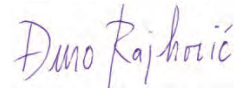
Mr. Brennan
July 31, 2012
Page 12

Limitations

In making verbal or written interpretation of logs, MAG personnel give the client the benefit of their best professional judgment. However, since all interpretations are based on inference from electrical, magnetic, or other indirect measurements, MAG does not, and cannot, guarantee the accuracy or the correctness of any such interpretations. MAG shall not be liable for any loss, damages, or expenses resulting from reliance on such interpretations. MAG does not warrant the accuracy of log data transmitted by any electronic process and will not be responsible for intentional interpretation of log data by others. MAG makes no warranties – neither explicit nor implied. Under no circumstances shall MAG, its parent company Enviroscan, Inc., or their personnel be liable for consequential damages.

We appreciate this opportunity to have worked with you again. If you have any questions, please do not hesitate to contact me.

Sincerely,
Mid-Atlantic Geosciences



Duro Rajkovic
Project Geophysicist

Technical Review By:
Mid-Atlantic Geosciences



Felicia Kegel Bechtel, M.Sc., P.G.
President

enc.: 48DW-8: Televiwer, Geophysical, and Flowmeter Logs
SW-03: Televiwer, Geophysical, and Flowmeter Logs
Appendix A: Planar Feature Orientation Parameters
Appendix B: Planar Feature Characterizations Table



Mid-Atlantic Geosciences

WELL ID

48DW-8

Logging Date: 06.20.2012

Logging Datum: Ground Surface

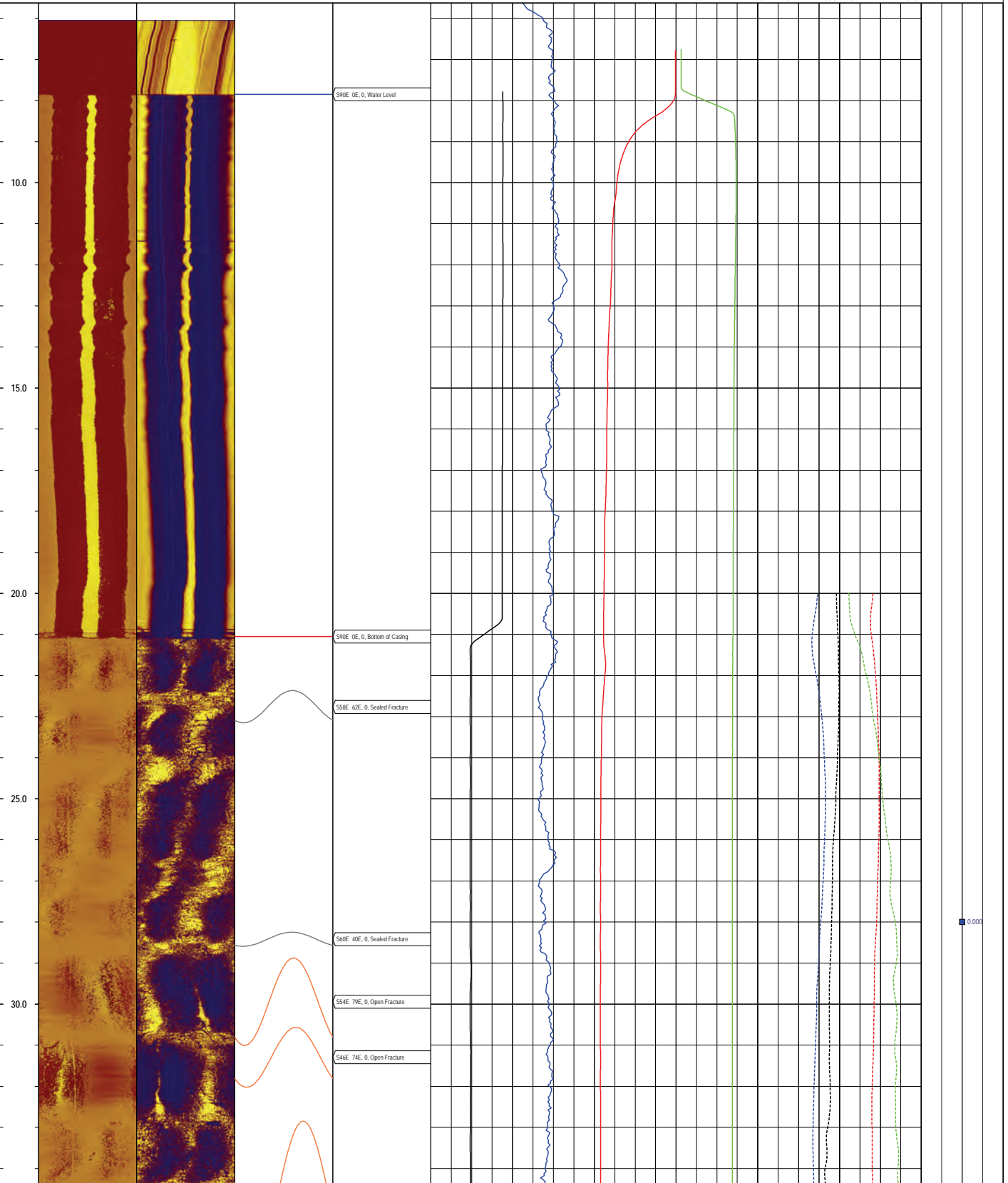
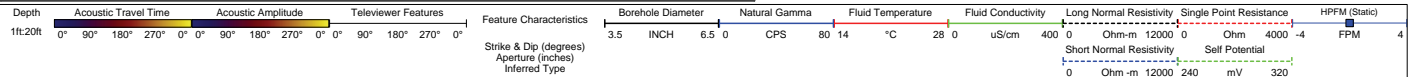
BOC: 21' DTW: 7.9' TD: 117.3'

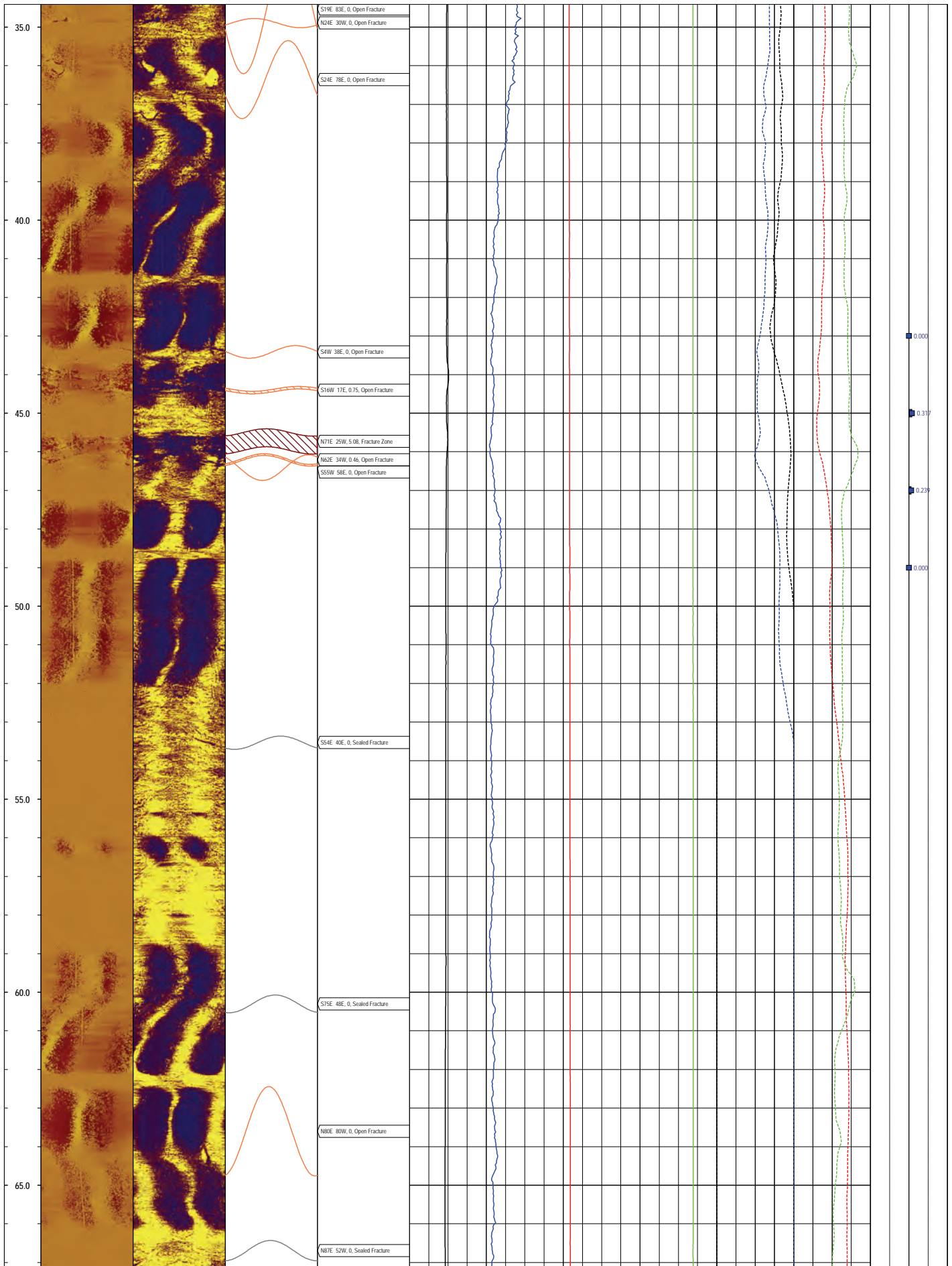
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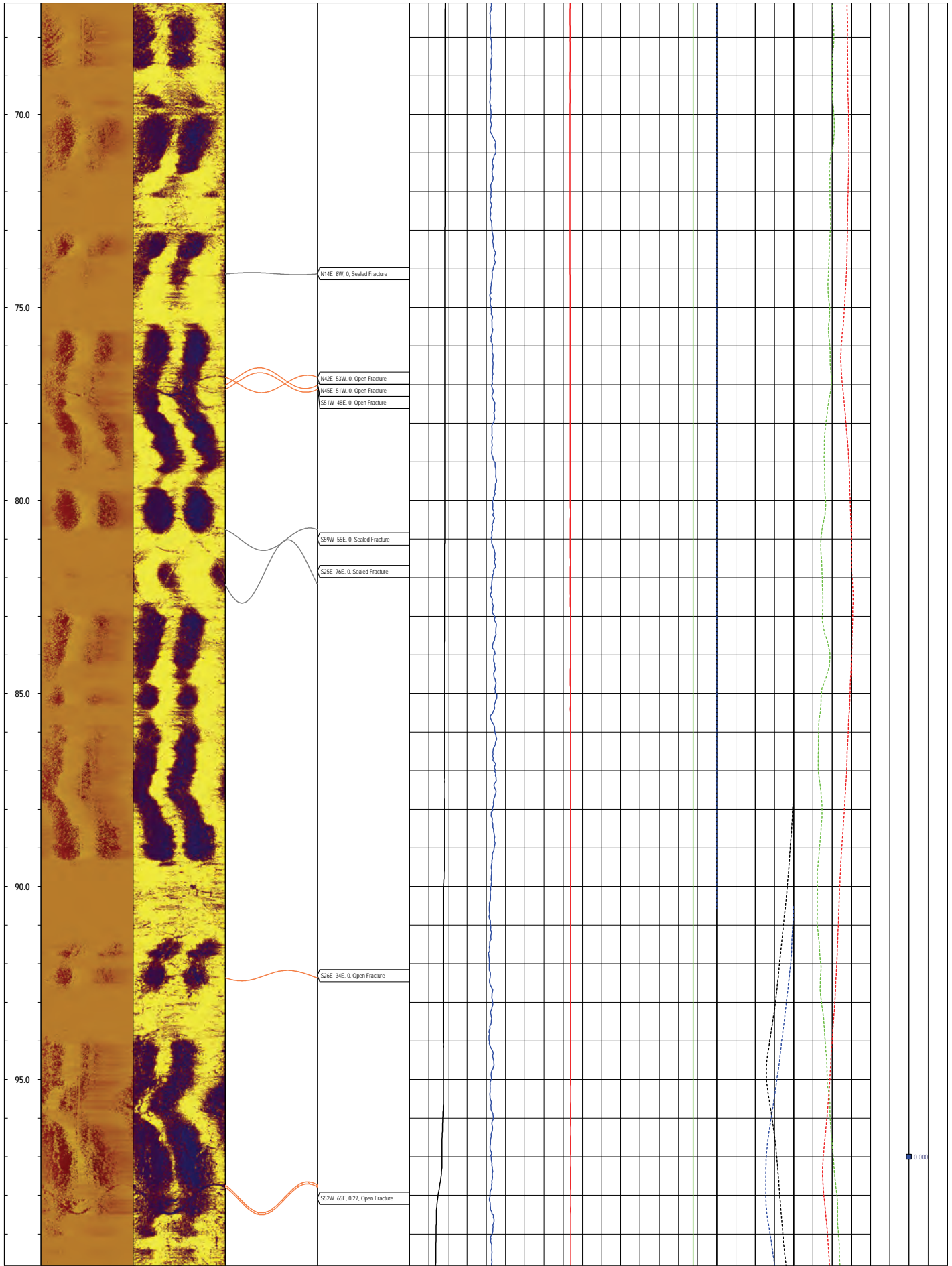
Site Name: 240 Sugarlake Road
Location: Pittsboro, NC

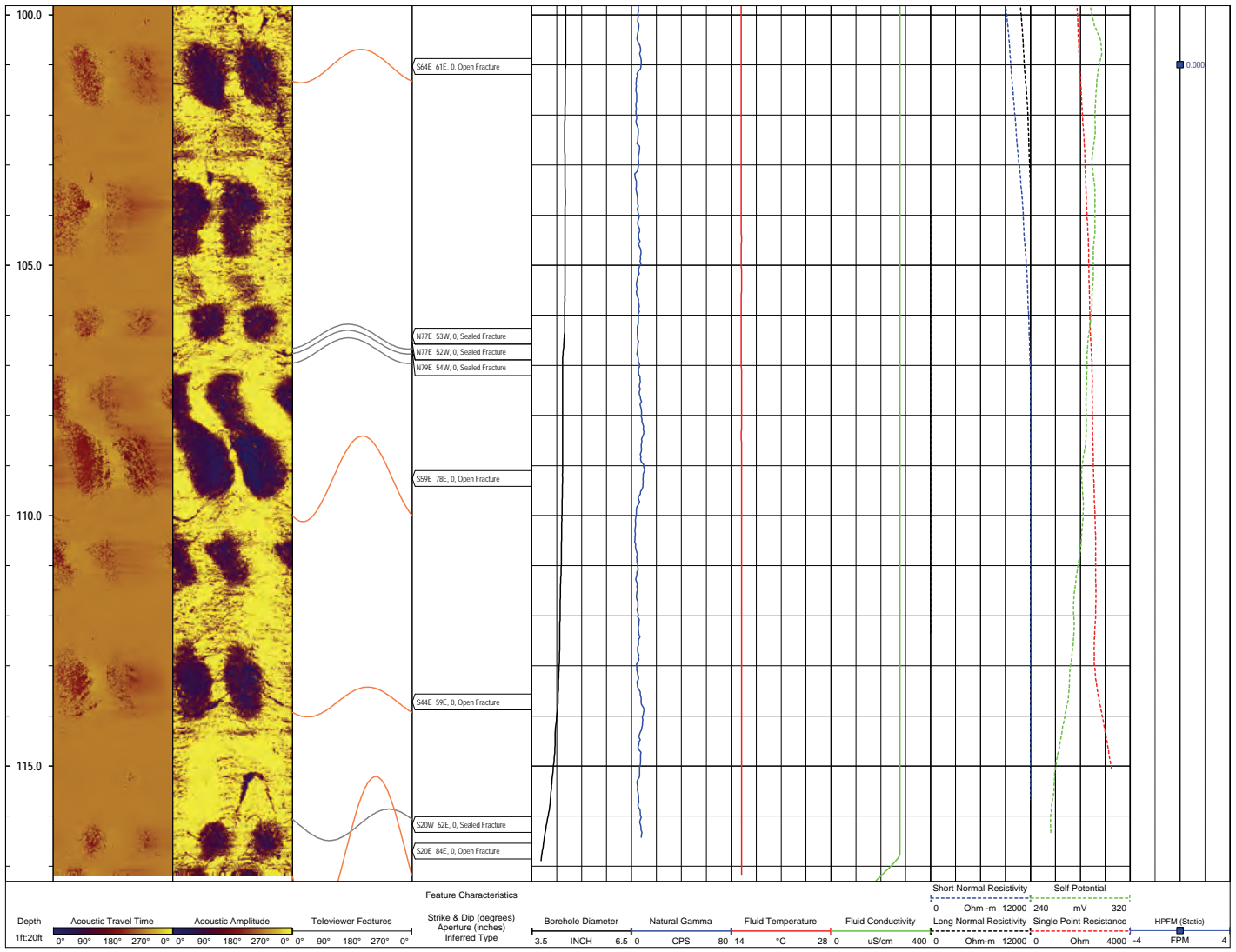
Client: AECOM
Project No.: 051202

Revision Date: 07.30.2012











Mid-Atlantic Geosciences

WELL ID

Logging Date: 06.21.2012

Logging Datum: Top of Casing

Title: *Televiwer, Geophysical, and Flowmeter Logs*

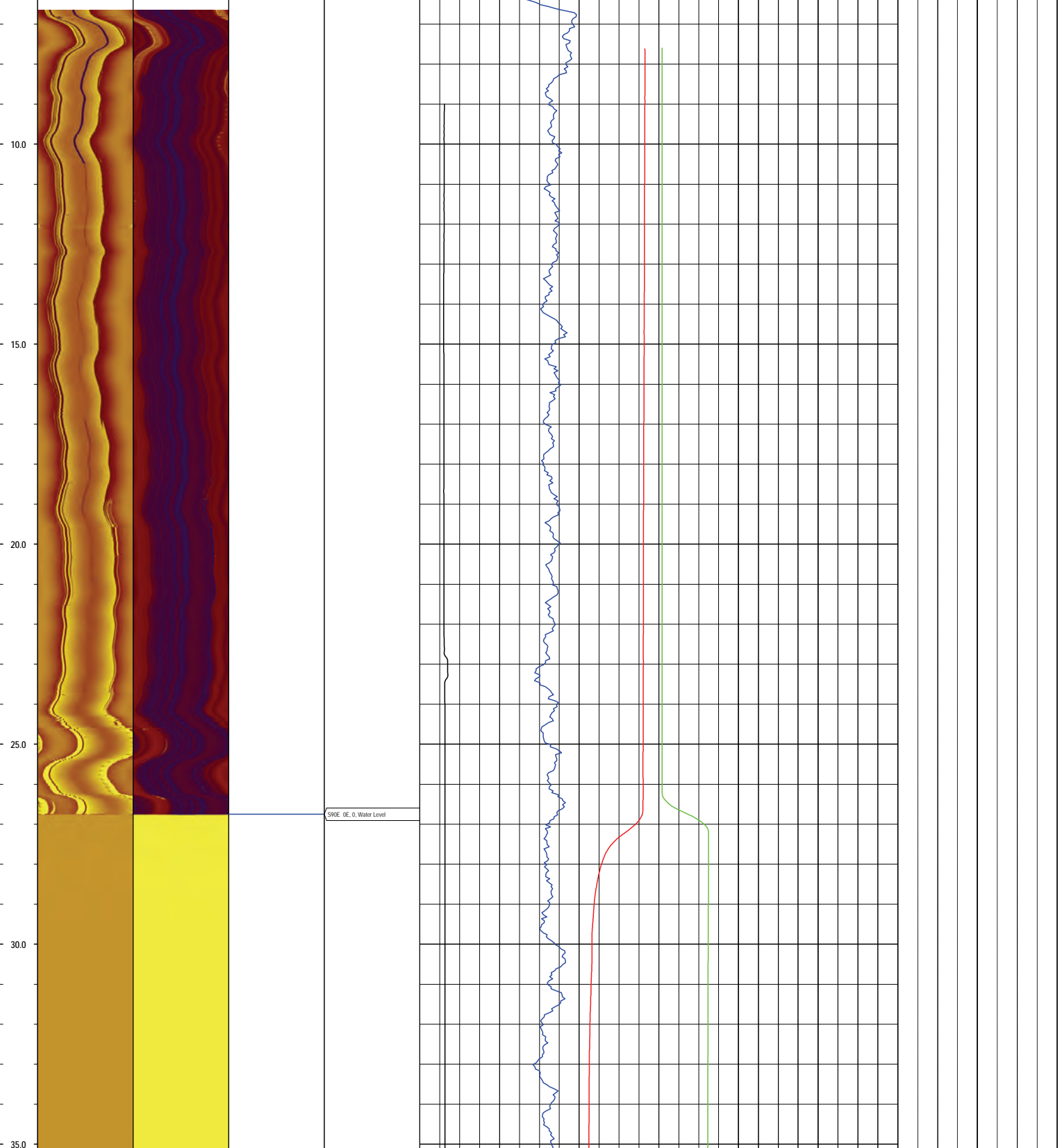
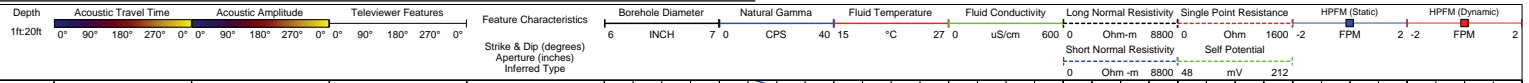
SW-03

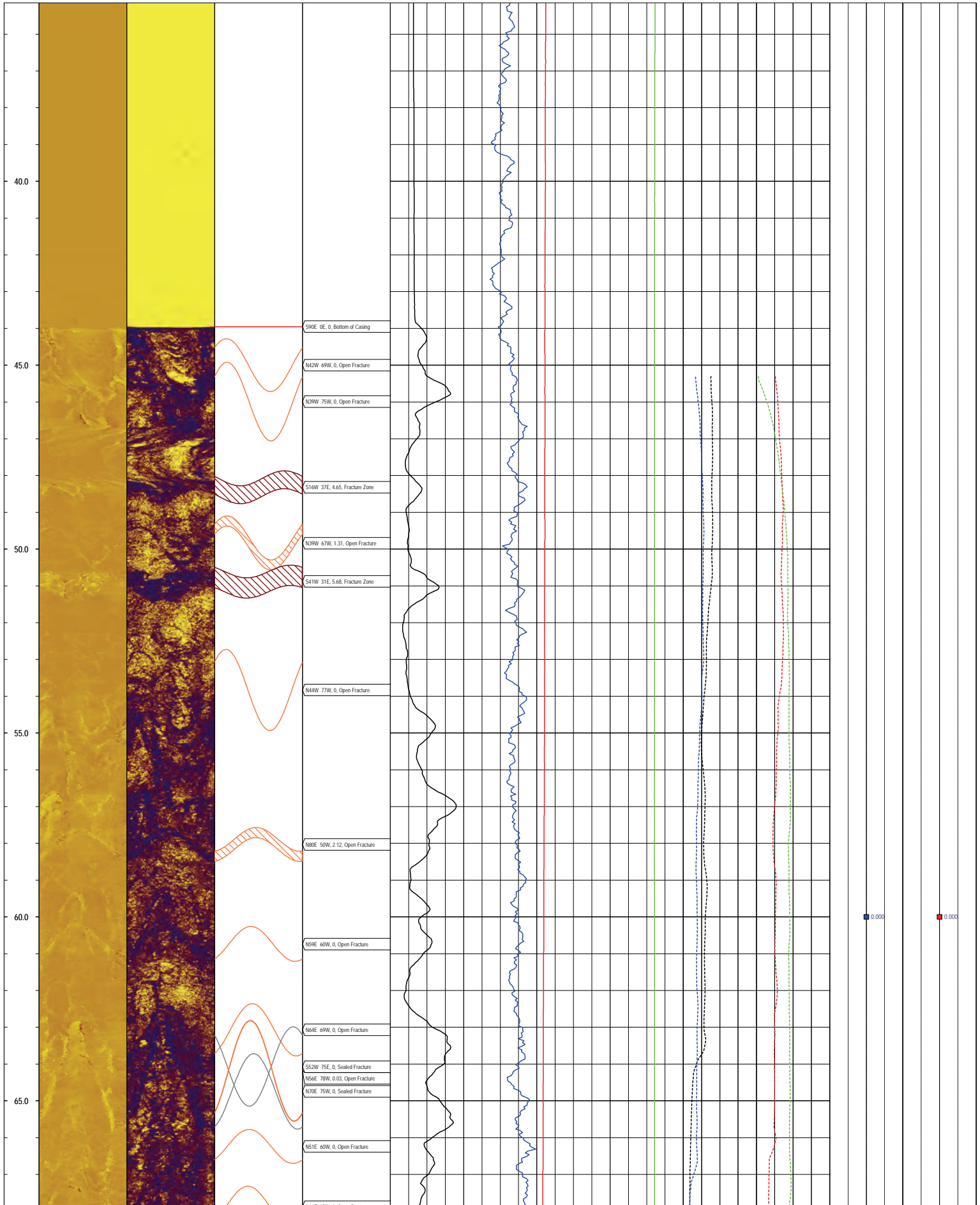
BOC: 43.9' DTW: 26.7' TD: 295.3'

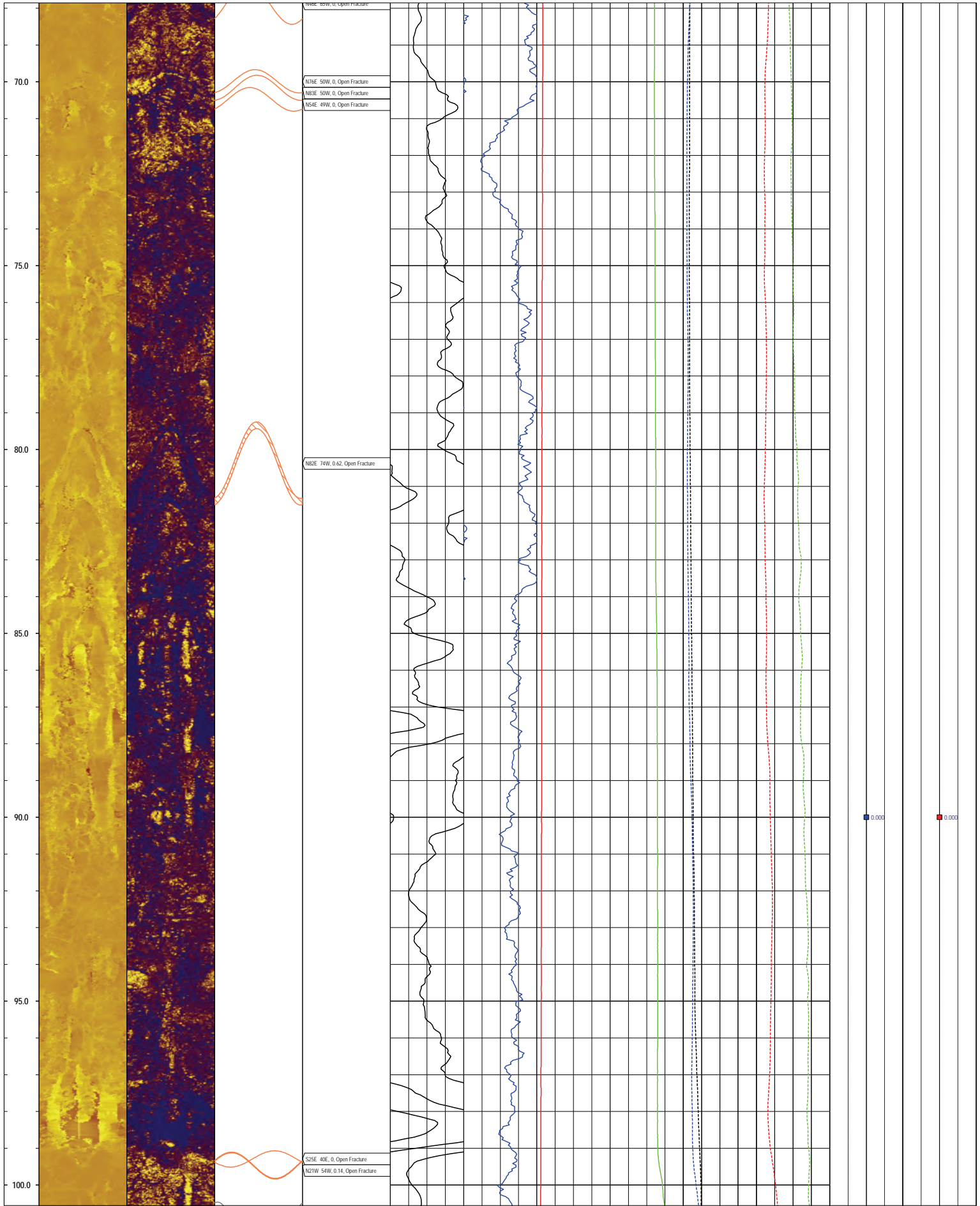
Site Name: 240 Sugarlake Road
Location: Pittsboro, NC

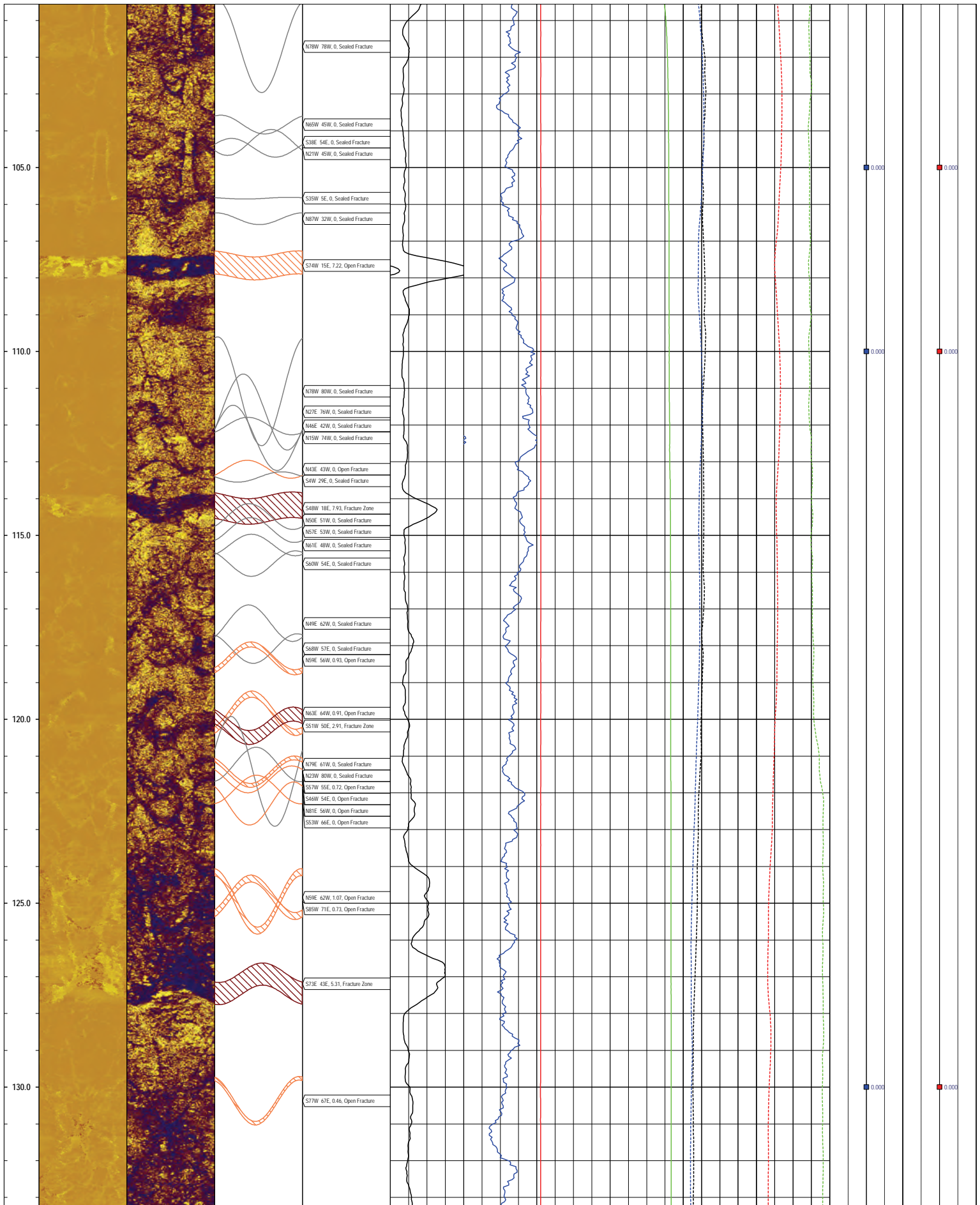
Client: AECOM
Project No.: 051202

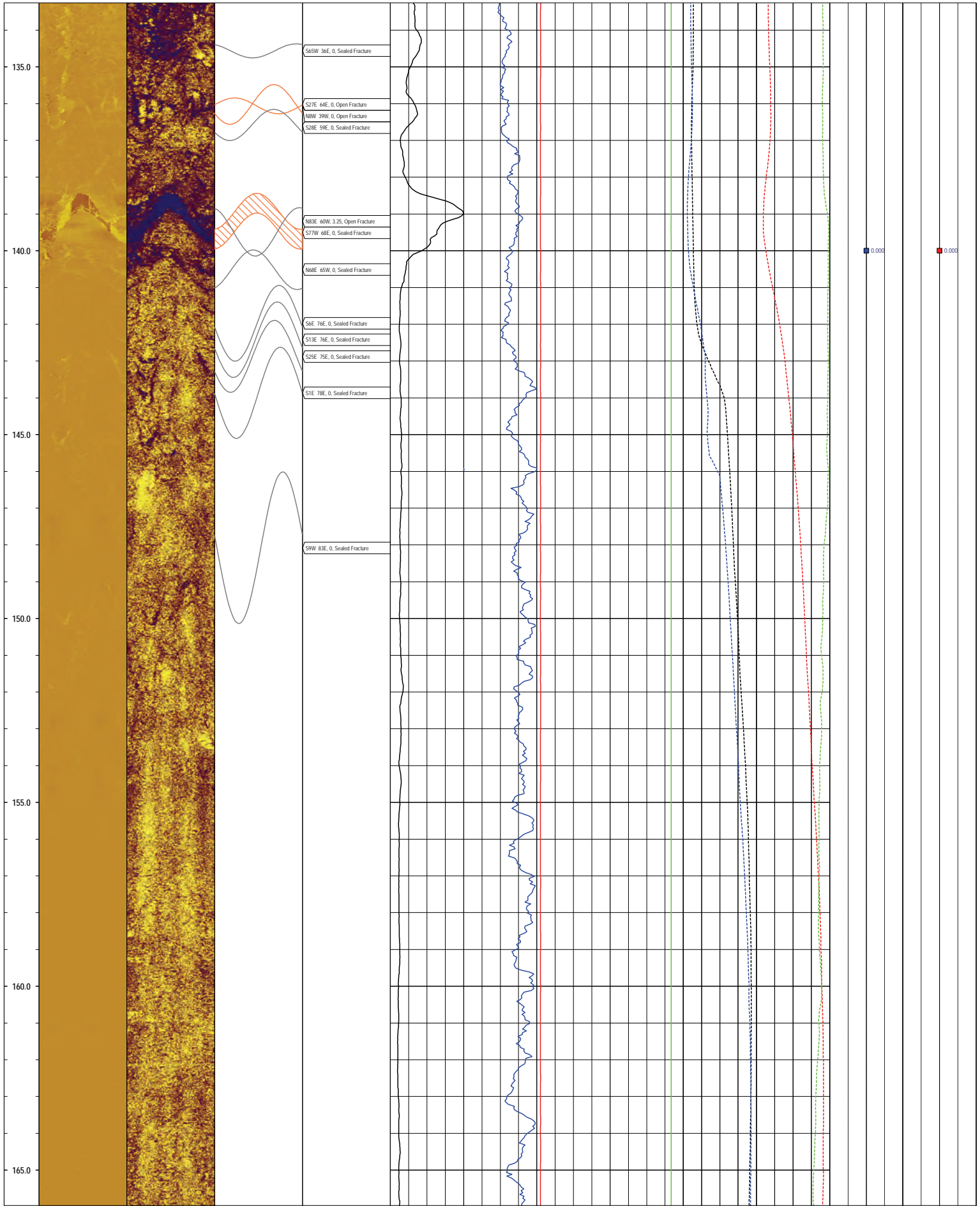
Revision Date: 07.30.2012

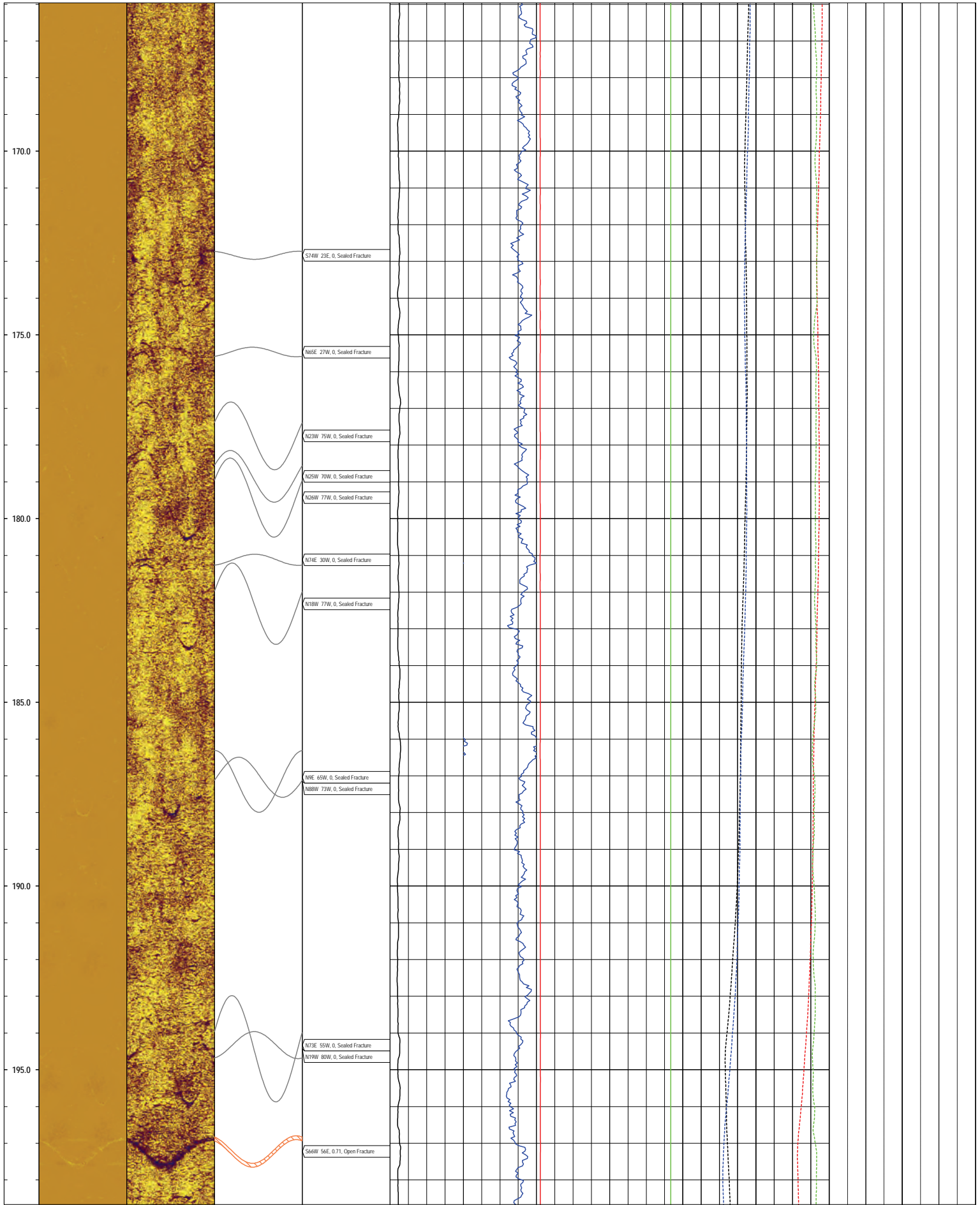


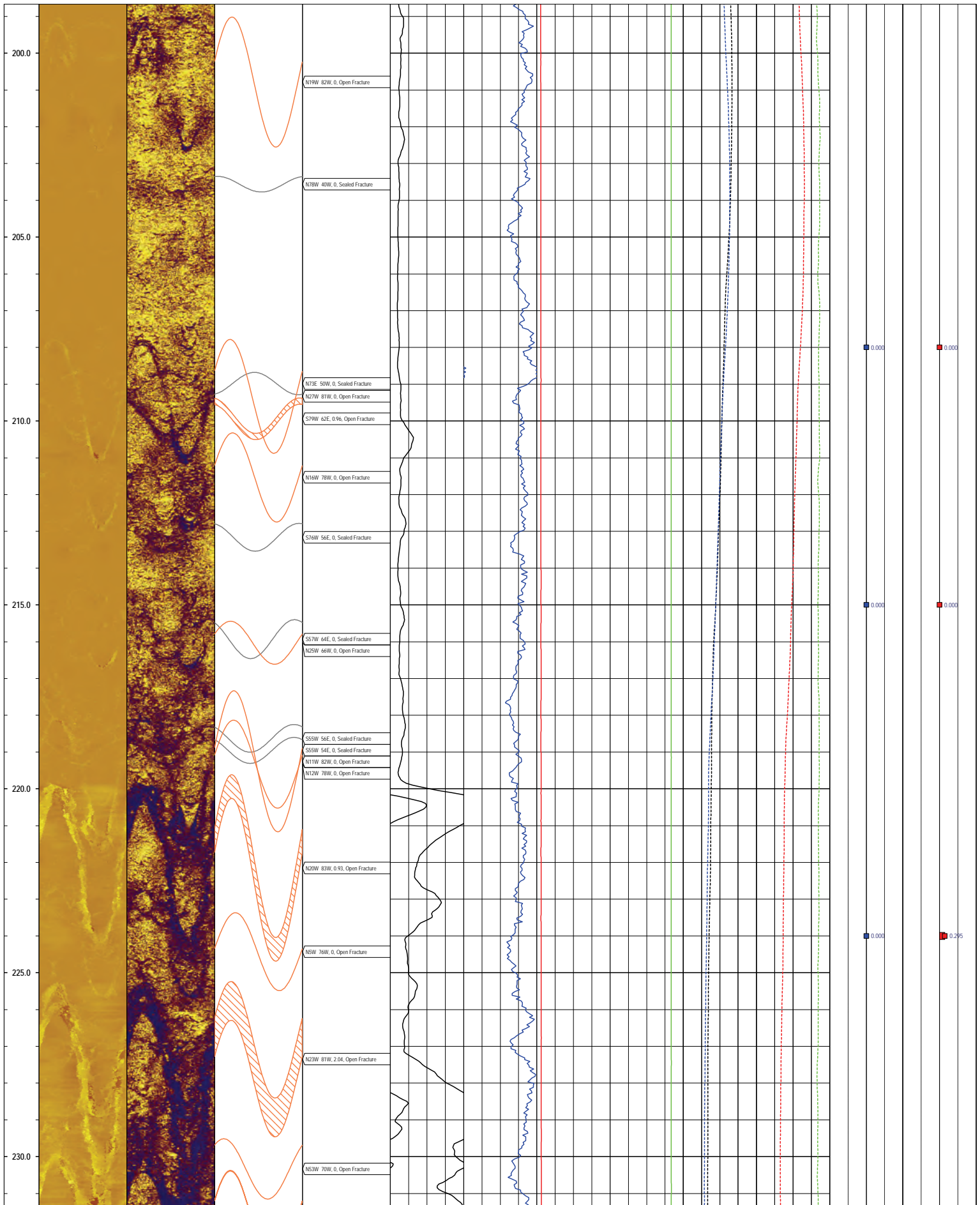


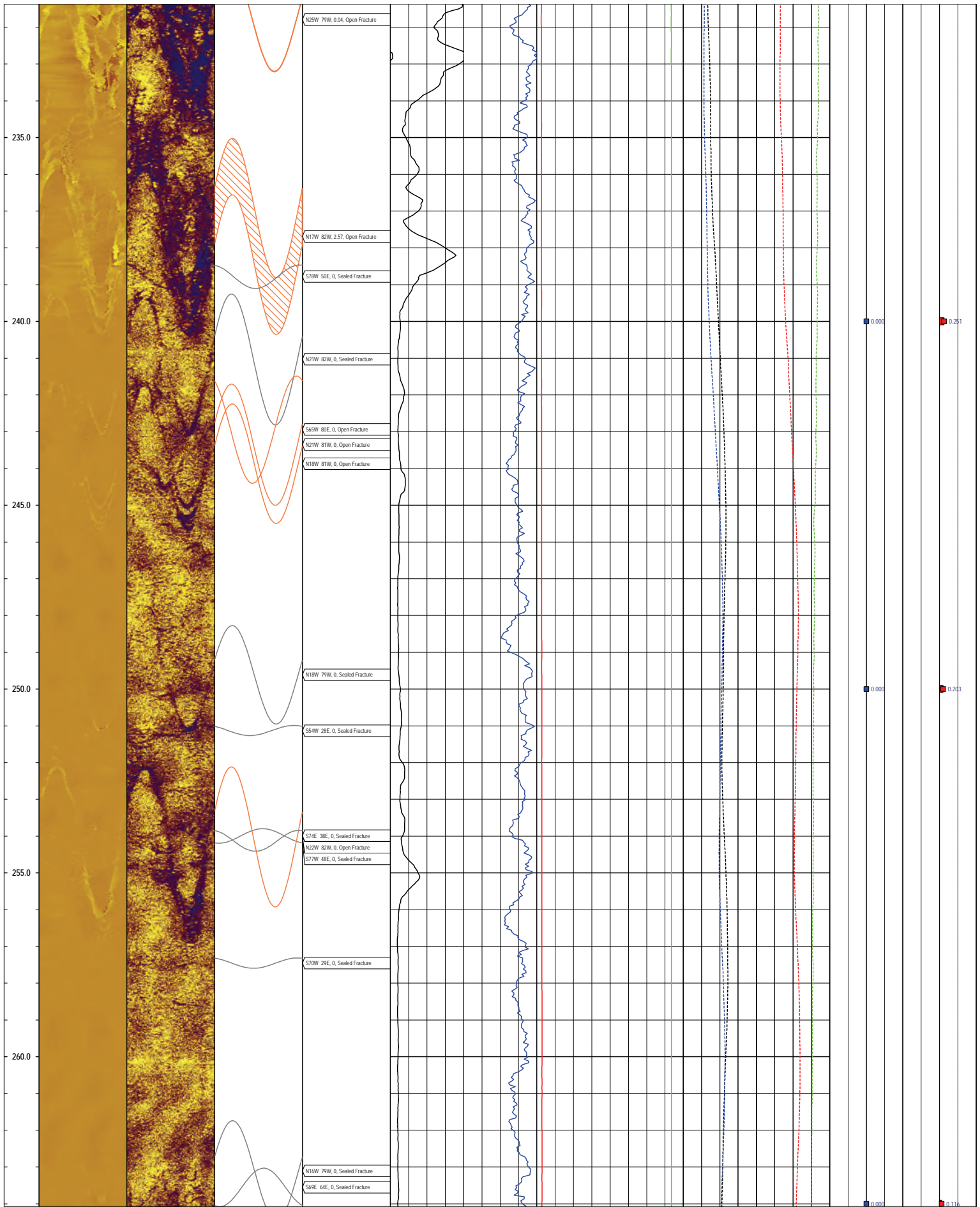


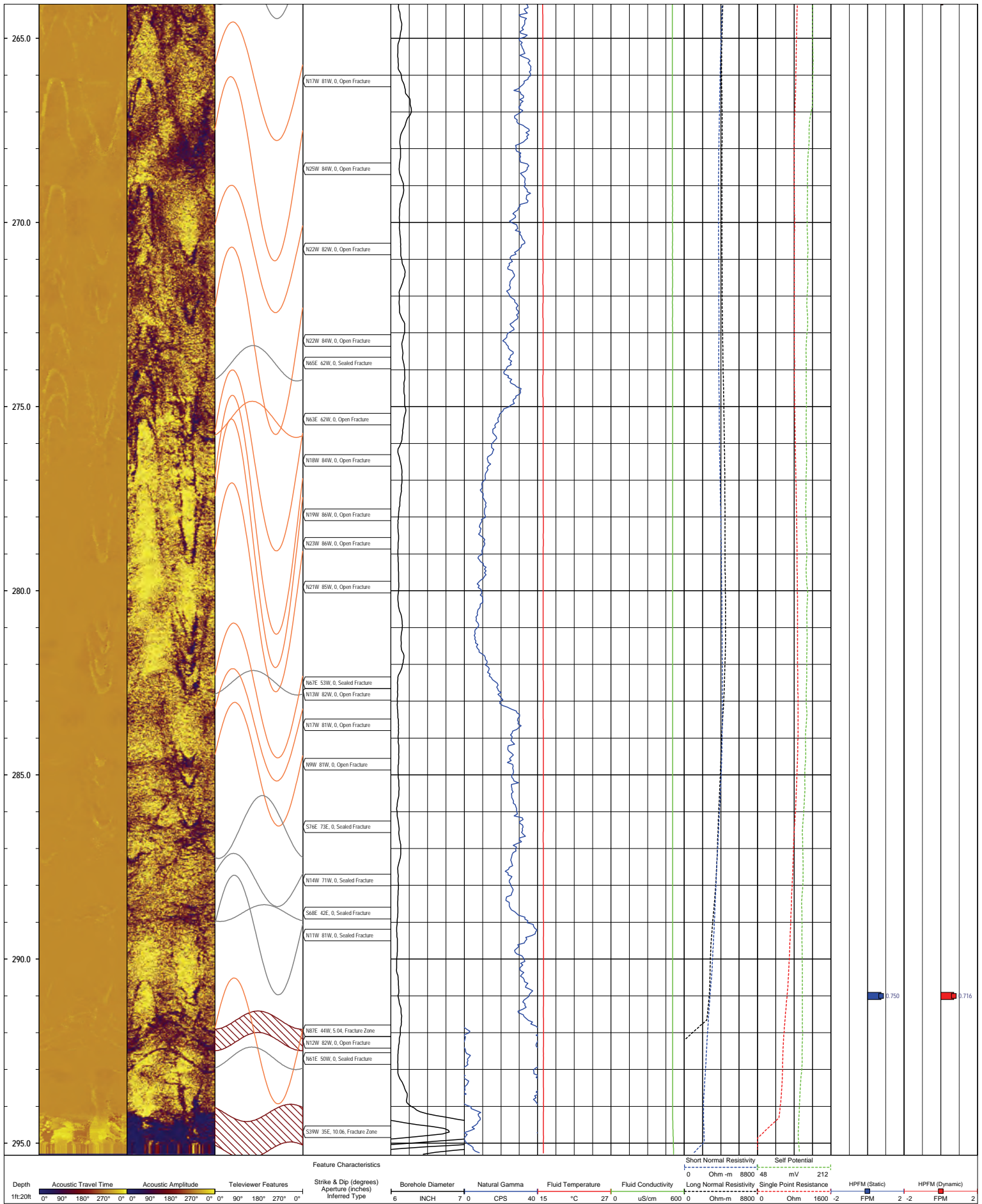












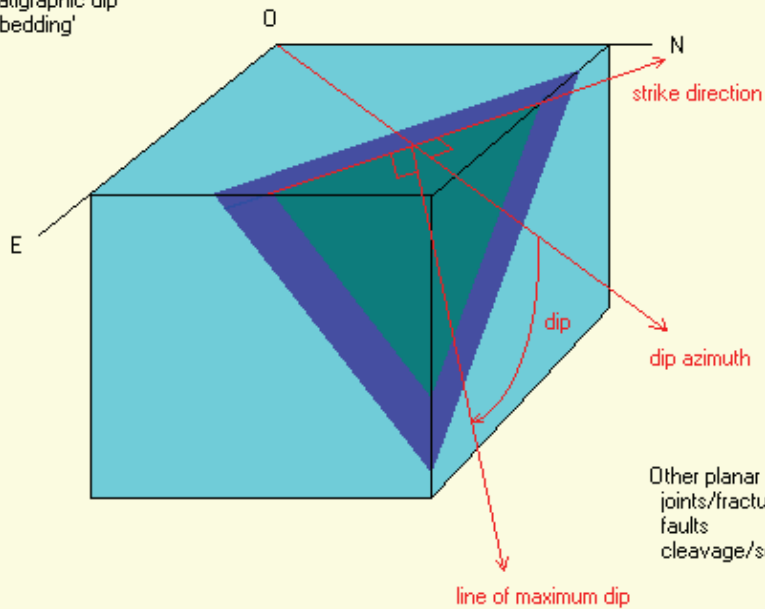
Appendix A

Planar Feature Orientation Parameters

Planar Feature Orientation Parameters

Dip = angle of inclination of the plane, downwards from the horizontal
Dip azimuth = azimuth of the line of maximum dip in the plane, clockwise from North
Strike direction = azimuth of a horizontal line in the plane (= dip azimuth - 90°)
e.g. dip and dip azimuth = 60° N041° or strike and dip = N311° 60°

e.g. Stratigraphic dip
or 'bedding'



Other planar geologic features include
joints/fractures/veins
faults
cleavage/schistosity

Appendix B

Planar Feature Characterization Tables

Mid-Atlantic Geosciences Planar Feature Characterizations



Well ID: 48DW-8
Client: AECOM
Site Name: 240 Sugarlake Road
Project No.: 051202
Location: Pittsboro, NC
Revision Date: 07.30.2012

Depth	Aperture (in.)	Dip Azimuth (deg.)	Strike (deg.)	Dip (deg.)	Feature Type
7.9	0.0	0	S90E	0E	Water Level
21.1	0.0	0	S90E	0E	Bottom of Casing
22.8	0.0	32	S58E	62E	Sealed Fracture
28.4	0.0	30	S60E	40E	Sealed Fracture
29.9	0.0	36	S54E	79E	Open Fracture
31.3	0.0	44	S46E	74E	Open Fracture
34.5	0.0	71	S19E	83E	Open Fracture
34.9	0.0	294	N24E	30W	Open Fracture
36.4	0.0	66	S24E	78E	Open Fracture
43.4	0.0	94	S4W	38E	Open Fracture
44.4	0.8	106	S16W	17E	Open Fracture
45.7	5.1	341	N71E	25W	Fracture Zone
46.2	0.5	332	N62E	34W	Open Fracture
46.4	0.0	145	S55W	58E	Open Fracture
53.5	0.0	36	S54E	40E	Sealed Fracture
60.3	0.0	15	S75E	48E	Sealed Fracture
63.6	0.0	350	N80E	80W	Open Fracture
66.7	0.0	357	N87E	52W	Sealed Fracture
74.1	0.0	284	N14E	8W	Sealed Fracture
76.8	0.0	312	N42E	53W	Open Fracture
76.9	0.0	315	N45E	51W	Open Fracture
77.0	0.0	141	S51W	48E	Open Fracture
81.0	0.0	149	S59W	55E	Sealed Fracture
81.8	0.0	65	S25E	76E	Sealed Fracture
92.3	0.0	64	S26E	34E	Open Fracture
98.1	0.3	142	S52W	65E	Open Fracture
101.0	0.0	26	S64E	61E	Open Fracture
106.4	0.0	347	N77E	53W	Sealed Fracture

106.5	0.0	347	N77E	52W	Sealed Fracture
106.7	0.0	349	N79E	54W	Sealed Fracture
109.3	0.0	31	S59E	78E	Open Fracture
113.7	0.0	46	S44E	59E	Open Fracture
116.2	0.0	110	S20W	62E	Sealed Fracture
116.7	0.0	70	S20E	84E	Open Fracture

Mid-Atlantic Geosciences Planar Feature Characterizations



Well ID: SW-03
Client: AECOM
Site Name: 240 Sugarlake Road
Project No.: 051202
Location: Pittsboro, NC
Revision Date: 07.30.2012

Depth	Aperture (in.)	Dip Azimuth (deg.)	Strike (deg.)	Dip (deg.)	Feature Type
26.8	0.0	0	S90E	0E	Water Level
44.0	0.0	0	S90E	0E	Bottom of Casing
45.0	0.0	228	N42W	69W	Open Fracture
46.0	0.0	231	N39W	75W	Open Fracture
48.3	4.7	106	S16W	37E	Fracture Zone
49.8	1.3	231	N39W	67W	Open Fracture
50.9	5.7	131	S41W	31E	Fracture Zone
53.8	0.0	226	N44W	77W	Open Fracture
58.0	2.1	350	N80E	50W	Open Fracture
60.7	0.0	329	N59E	60W	Open Fracture
63.1	0.0	334	N64E	69W	Open Fracture
64.1	0.0	142	S52W	75E	Sealed Fracture
64.2	0.0	326	N56E	78W	Open Fracture
64.7	0.0	340	N70E	75W	Sealed Fracture
66.2	0.0	321	N51E	60W	Open Fracture
67.9	0.0	316	N46E	65W	Open Fracture
70.0	0.0	346	N76E	50W	Open Fracture
70.2	0.0	353	N83E	50W	Open Fracture
70.5	0.0	324	N54E	49W	Open Fracture
80.4	0.6	352	N82E	74W	Open Fracture
99.3	0.0	65	S25E	40E	Open Fracture
99.5	0.1	249	N21W	54W	Open Fracture
101.7	0.0	192	N78W	78W	Sealed Fracture
103.8	0.0	205	N65W	45W	Sealed Fracture
104.3	0.0	52	S38E	54E	Sealed Fracture
104.5	0.0	249	N21W	45W	Sealed Fracture
105.8	0.0	125	S35W	5E	Sealed Fracture
106.4	0.0	183	N87W	32W	Sealed Fracture

107.7	7.2	164	S74W	15E	Open Fracture
111.1	0.0	192	N78W	80W	Sealed Fracture
111.6	0.0	297	N27E	76W	Sealed Fracture
112.0	0.0	316	N46E	42W	Sealed Fracture
112.4	0.0	255	N15W	74W	Sealed Fracture
113.2	0.0	313	N43E	43W	Open Fracture
113.4	0.0	94	S4W	29E	Sealed Fracture
114.3	7.9	138	S48W	18E	Fracture Zone
114.5	0.0	320	N50E	51W	Sealed Fracture
114.9	0.0	327	N57E	53W	Sealed Fracture
115.3	0.0	331	N61E	48W	Sealed Fracture
115.8	0.0	150	S60W	54E	Sealed Fracture
117.4	0.0	319	N49E	62W	Sealed Fracture
118.1	0.0	158	S68W	57E	Sealed Fracture
118.3	0.9	329	N59E	56W	Open Fracture
119.8	0.9	333	N63E	64W	Open Fracture
120.2	2.9	141	S51W	50E	Fracture Zone
121.2	0.0	349	N79E	61W	Sealed Fracture
121.4	0.0	247	N23W	80W	Sealed Fracture
121.4	0.7	147	S57W	55E	Open Fracture
121.6	0.0	136	S46W	54E	Open Fracture
121.9	0.0	351	N81E	56W	Open Fracture
122.3	0.0	143	S53W	66E	Open Fracture
124.8	1.1	329	N59E	62W	Open Fracture
125.0	0.7	175	S85W	71E	Open Fracture
127.2	5.3	17	S73E	43E	Fracture Zone
130.4	0.5	167	S77W	67E	Open Fracture
134.6	0.0	155	S65W	36E	Sealed Fracture
136.0	0.0	63	S27E	64E	Open Fracture
136.1	0.0	262	N8W	39W	Open Fracture
136.6	0.0	62	S28E	59E	Sealed Fracture
139.2	3.3	353	N83E	60W	Open Fracture
139.5	0.0	167	S77W	68E	Sealed Fracture
140.5	0.0	338	N68E	65W	Sealed Fracture
142.0	0.0	84	S6E	76E	Sealed Fracture
142.4	0.0	77	S13E	76E	Sealed Fracture
142.9	0.0	65	S25E	75E	Sealed Fracture

143.9	0.0	89	S1E	78E	Sealed Fracture
148.1	0.0	99	S9W	83E	Sealed Fracture
172.8	0.0	164	S74W	23E	Sealed Fracture
175.5	0.0	335	N65E	27W	Sealed Fracture
177.8	0.0	247	N23W	75W	Sealed Fracture
178.9	0.0	245	N25W	70W	Sealed Fracture
179.4	0.0	244	N26W	77W	Sealed Fracture
181.1	0.0	344	N74E	30W	Sealed Fracture
182.3	0.0	252	N18W	77W	Sealed Fracture
187.0	0.0	279	N9E	65W	Sealed Fracture
187.2	0.0	182	N88W	73W	Sealed Fracture
194.3	0.0	343	N73E	55W	Sealed Fracture
194.4	0.0	251	N19W	80W	Sealed Fracture
197.2	0.7	156	S66W	56E	Open Fracture
200.8	0.0	251	N19W	82W	Open Fracture
203.6	0.0	192	N78W	40W	Sealed Fracture
209.0	0.0	343	N73E	50W	Sealed Fracture
209.3	0.0	243	N27W	81W	Open Fracture
209.9	1.0	169	S79W	62E	Open Fracture
211.5	0.0	254	N16W	78W	Open Fracture
213.2	0.0	166	S76W	56E	Sealed Fracture
215.9	0.0	147	S57W	64E	Sealed Fracture
216.0	0.0	245	N25W	66W	Open Fracture
218.6	0.0	145	S55W	56E	Sealed Fracture
219.0	0.0	145	S55W	54E	Sealed Fracture
219.3	0.0	259	N11W	82W	Open Fracture
219.3	0.0	258	N12W	78W	Open Fracture
222.2	0.9	250	N20W	83W	Open Fracture
224.4	0.0	265	N5W	76W	Open Fracture
227.4	2.0	248	N23W	81W	Open Fracture
230.3	0.0	217	N53W	70W	Open Fracture
231.8	0.0	245	N25W	79W	Open Fracture
237.7	2.6	253	N17W	82W	Open Fracture
238.8	0.0	168	S78W	50E	Sealed Fracture
241.0	0.0	249	N21W	82W	Sealed Fracture
242.9	0.0	155	S65W	80E	Open Fracture
243.4	0.0	249	N21W	81W	Open Fracture

243.9	0.0	252	N18W	81W	Open Fracture
249.6	0.0	252	N18W	79W	Sealed Fracture
251.1	0.0	144	S54W	28E	Sealed Fracture
254.0	0.0	16	S74E	38E	Sealed Fracture
254.0	0.0	248	N22W	82W	Open Fracture
254.1	0.0	167	S77W	48E	Sealed Fracture
257.5	0.0	160	S70W	29E	Sealed Fracture
263.1	0.0	254	N16W	79W	Sealed Fracture
263.6	0.0	21	S69E	64E	Sealed Fracture
266.2	0.0	253	N17W	81W	Open Fracture
268.5	0.0	245	N25W	84W	Open Fracture
270.7	0.0	248	N22W	82W	Open Fracture
273.2	0.0	248	N22W	84W	Open Fracture
273.8	0.0	335	N65E	62W	Sealed Fracture
275.3	0.0	333	N63E	62W	Open Fracture
276.5	0.0	252	N18W	84W	Open Fracture
277.9	0.0	251	N19W	86W	Open Fracture
278.7	0.0	248	N23W	86W	Open Fracture
279.9	0.0	249	N21W	85W	Open Fracture
282.5	0.0	337	N67E	53W	Sealed Fracture
282.7	0.0	257	N13W	82W	Open Fracture
283.6	0.0	253	N17W	81W	Open Fracture
284.7	0.0	261	N9W	81W	Open Fracture
286.4	0.0	14	S76E	73E	Sealed Fracture
287.9	0.0	256	N14W	71W	Sealed Fracture
288.8	0.0	22	S68E	42E	Sealed Fracture
289.4	0.0	259	N11W	81W	Sealed Fracture
292.0	5.0	357	N87E	44W	Fracture Zone
292.2	0.0	258	N12W	82W	Open Fracture
292.7	0.0	331	N61E	50W	Sealed Fracture
294.7	10.1	129	S39W	35E	Fracture Zone

Appendix C. Laboratory Analytical Reports



Laboratory Report of Analysis

To: Matt Brennan
8540 Colonnade Center Drive
Suite 306
Raleigh, NC 27615

Report Number: 31201318

Client Project: NCDOT Pittsboro

Dear Matt Brennan,

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
Project Manager
barbara.hager@sgs.com

Date

Laboratory Qualifiers

Report Definitions

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

Qualifier Definitions

*	Recovery or RPD outside of control limits
B	Analyte was detected in the Lab Method Blank at a level above the LOQ
U	Undetected (Reported as ND or < 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

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Collected</u>	<u>Received</u>	<u>Matrix</u>
EFF-01	31201318001	04/30/2012 13:30	05/02/2012 14:23	Water
681 Mt. Gilead	31201318002	04/30/2012 13:50	05/02/2012 14:23	Water

Detectable Results Summary

Client Sample ID: **EFF-01**

Lab Sample ID: 31201318001-A

SW-846 8260B

Parameter
Trichloroethene

Result
4.17

Units
ug/L



Results of **EFF-01**

Client Sample ID: **EFF-01**
Client Project ID: **NCDOT Pittsboro**
Lab Sample ID: 31201318001-A
Lab Project ID: 31201318

Collection Date: 04/30/2012 13:30
Received Date: 05/02/2012 14:23
Matrix: Water

Results by **SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L	1	05/4/2012 13:07
1,1,1-Trichloroethane	ND		1.00	ug/L	1	05/4/2012 13:07
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L	1	05/4/2012 13:07
1,1,2-Trichloroethane	ND		1.00	ug/L	1	05/4/2012 13:07
1,1-Dichloroethane	ND		1.00	ug/L	1	05/4/2012 13:07
1,1-Dichloroethene	ND		1.00	ug/L	1	05/4/2012 13:07
1,1-Dichloropropene	ND		1.00	ug/L	1	05/4/2012 13:07
1,2,3-Trichlorobenzene	ND		1.00	ug/L	1	05/4/2012 13:07
1,2,3-Trichloropropane	ND		1.00	ug/L	1	05/4/2012 13:07
1,2,4-Trichlorobenzene	ND		1.00	ug/L	1	05/4/2012 13:07
1,2,4-Trimethylbenzene	ND		1.00	ug/L	1	05/4/2012 13:07
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1	05/4/2012 13:07
1,2-Dibromoethane	ND		1.00	ug/L	1	05/4/2012 13:07
1,2-Dichlorobenzene	ND		1.00	ug/L	1	05/4/2012 13:07
1,2-Dichloroethane	ND		1.00	ug/L	1	05/4/2012 13:07
1,2-Dichloropropane	ND		1.00	ug/L	1	05/4/2012 13:07
1,3,5-Trimethylbenzene	ND		1.00	ug/L	1	05/4/2012 13:07
1,3-Dichlorobenzene	ND		1.00	ug/L	1	05/4/2012 13:07
1,3-Dichloropropane	ND		1.00	ug/L	1	05/4/2012 13:07
1,4-Dichlorobenzene	ND		1.00	ug/L	1	05/4/2012 13:07
2,2-Dichloropropane	ND		1.00	ug/L	1	05/4/2012 13:07
2-Butanone	ND		25.0	ug/L	1	05/4/2012 13:07
2-Chlorotoluene	ND		1.00	ug/L	1	05/4/2012 13:07
2-Hexanone	ND		5.00	ug/L	1	05/4/2012 13:07
4-Chlorotoluene	ND		1.00	ug/L	1	05/4/2012 13:07
4-Isopropyltoluene	ND		1.00	ug/L	1	05/4/2012 13:07
4-Methyl-2-pentanone	ND		5.00	ug/L	1	05/4/2012 13:07
Acetone	ND		25.0	ug/L	1	05/4/2012 13:07
Benzene	ND		1.00	ug/L	1	05/4/2012 13:07
Bromobenzene	ND		1.00	ug/L	1	05/4/2012 13:07
Bromochloromethane	ND		1.00	ug/L	1	05/4/2012 13:07
Bromodichloromethane	ND		1.00	ug/L	1	05/4/2012 13:07
Bromoform	ND		1.00	ug/L	1	05/4/2012 13:07
Bromomethane	ND		1.00	ug/L	1	05/4/2012 13:07
n-Butylbenzene	ND		1.00	ug/L	1	05/4/2012 13:07
Carbon disulfide	ND		1.00	ug/L	1	05/4/2012 13:07
Carbon tetrachloride	ND		1.00	ug/L	1	05/4/2012 13:07
Chlorobenzene	ND		1.00	ug/L	1	05/4/2012 13:07
Chloroethane	ND		1.00	ug/L	1	05/4/2012 13:07
Chloroform	ND		1.00	ug/L	1	05/4/2012 13:07
Chloromethane	ND		1.00	ug/L	1	05/4/2012 13:07
Dibromochloromethane	ND		1.00	ug/L	1	05/4/2012 13:07
Dibromomethane	ND		1.00	ug/L	1	05/4/2012 13:07

Print Date: 05/04/2012

N.C. Certification # 481



Results of EFF-01

Client Sample ID: **EFF-01**
Client Project ID: **NCDOT Pittsboro**
Lab Sample ID: 31201318001-A
Lab Project ID: 31201318

Collection Date: 04/30/2012 13:30
Received Date: 05/02/2012 14:23
Matrix: Water

Results by SW-846 8260B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Dichlorodifluoromethane	ND		5.00	ug/L	1	05/4/2012 13:07
cis-1,3-Dichloropropene	ND		1.00	ug/L	1	05/4/2012 13:07
trans-1,3-Dichloropropene	ND		1.00	ug/L	1	05/4/2012 13:07
Diisopropyl Ether	ND		1.00	ug/L	1	05/4/2012 13:07
Ethyl Benzene	ND		1.00	ug/L	1	05/4/2012 13:07
Hexachlorobutadiene	ND		1.00	ug/L	1	05/4/2012 13:07
Isopropylbenzene (Cumene)	ND		1.00	ug/L	1	05/4/2012 13:07
Methyl iodide	ND		1.00	ug/L	1	05/4/2012 13:07
Methylene chloride	ND		5.00	ug/L	1	05/4/2012 13:07
Naphthalene	ND		1.00	ug/L	1	05/4/2012 13:07
Styrene	ND		1.00	ug/L	1	05/4/2012 13:07
Tetrachloroethene	ND		1.00	ug/L	1	05/4/2012 13:07
Toluene	ND		1.00	ug/L	1	05/4/2012 13:07
Trichloroethene	4.17		1.00	ug/L	1	05/4/2012 13:07
Trichlorofluoromethane	ND		1.00	ug/L	1	05/4/2012 13:07
Vinyl chloride	ND		1.00	ug/L	1	05/4/2012 13:07
Xylene (total)	ND		2.00	ug/L	1	05/4/2012 13:07
cis-1,2-Dichloroethene	ND		1.00	ug/L	1	05/4/2012 13:07
m,p-Xylene	ND		2.00	ug/L	1	05/4/2012 13:07
n-Propylbenzene	ND		1.00	ug/L	1	05/4/2012 13:07
o-Xylene	ND		1.00	ug/L	1	05/4/2012 13:07
sec-Butylbenzene	ND		1.00	ug/L	1	05/4/2012 13:07
tert-Butyl methyl ether (MTBE)	ND		1.00	ug/L	1	05/4/2012 13:07
tert-Butylbenzene	ND		1.00	ug/L	1	05/4/2012 13:07
trans-1,2-Dichloroethene	ND		1.00	ug/L	1	05/4/2012 13:07
trans-1,4-Dichloro-2-butene	ND		5.00	ug/L	1	05/4/2012 13:07

Surrogates

1,2-Dichloroethane-d4	108		64.0-140	%	1	05/4/2012 13:07
4-Bromofluorobenzene	101		85.0-115	%	1	05/4/2012 13:07
Toluene d8	99.0		82.0-117	%	1	05/4/2012 13:07

Batch Information

Analytical Batch: **VMS2185**
Analytical Method: **SW-846 8260B**
Instrument: **MSD8**
Analyst: **DVO**
Analytical Date/Time: **05/04/2012 13:07**

Prep Batch: **VXX3262**
Prep Method: **SW-846 5030B**
Prep Date/Time: **05/04/2012 10:06**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **40 mL**



Results of 681 Mt. Gilead

Client Sample ID: 681 Mt. Gilead
Client Project ID: NCDOT Pittsboro
Lab Sample ID: 31201318002-A
Lab Project ID: 31201318

Collection Date: 04/30/2012 13:50
Received Date: 05/02/2012 14:23
Matrix: Water

Results by SW-846 8260B

Table with 7 columns: Parameter, Result, Qual, LOQ/CL, Units, DF, Date Analyzed. Lists various chemical compounds and their detection results (ND) and limits.



Results of **681 Mt. Gilead**

Client Sample ID: **681 Mt. Gilead**
Client Project ID: **NCDOT Pittsboro**
Lab Sample ID: 31201318002-A
Lab Project ID: 31201318

Collection Date: 04/30/2012 13:50
Received Date: 05/02/2012 14:23
Matrix: Water

Results by **SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Dichlorodifluoromethane	ND		5.00	ug/L	1	05/4/2012 13:32
cis-1,3-Dichloropropene	ND		1.00	ug/L	1	05/4/2012 13:32
trans-1,3-Dichloropropene	ND		1.00	ug/L	1	05/4/2012 13:32
Diisopropyl Ether	ND		1.00	ug/L	1	05/4/2012 13:32
Ethyl Benzene	ND		1.00	ug/L	1	05/4/2012 13:32
Hexachlorobutadiene	ND		1.00	ug/L	1	05/4/2012 13:32
Isopropylbenzene (Cumene)	ND		1.00	ug/L	1	05/4/2012 13:32
Methyl iodide	ND		1.00	ug/L	1	05/4/2012 13:32
Methylene chloride	ND		5.00	ug/L	1	05/4/2012 13:32
Naphthalene	ND		1.00	ug/L	1	05/4/2012 13:32
Styrene	ND		1.00	ug/L	1	05/4/2012 13:32
Tetrachloroethene	ND		1.00	ug/L	1	05/4/2012 13:32
Toluene	ND		1.00	ug/L	1	05/4/2012 13:32
Trichloroethene	ND		1.00	ug/L	1	05/4/2012 13:32
Trichlorofluoromethane	ND		1.00	ug/L	1	05/4/2012 13:32
Vinyl chloride	ND		1.00	ug/L	1	05/4/2012 13:32
Xylene (total)	ND		2.00	ug/L	1	05/4/2012 13:32
cis-1,2-Dichloroethene	ND		1.00	ug/L	1	05/4/2012 13:32
m,p-Xylene	ND		2.00	ug/L	1	05/4/2012 13:32
n-Propylbenzene	ND		1.00	ug/L	1	05/4/2012 13:32
o-Xylene	ND		1.00	ug/L	1	05/4/2012 13:32
sec-Butylbenzene	ND		1.00	ug/L	1	05/4/2012 13:32
tert-Butyl methyl ether (MTBE)	ND		1.00	ug/L	1	05/4/2012 13:32
tert-Butylbenzene	ND		1.00	ug/L	1	05/4/2012 13:32
trans-1,2-Dichloroethene	ND		1.00	ug/L	1	05/4/2012 13:32
trans-1,4-Dichloro-2-butene	ND		5.00	ug/L	1	05/4/2012 13:32

Surrogates

1,2-Dichloroethane-d4	103		64.0-140	%	1	05/4/2012 13:32
4-Bromofluorobenzene	102		85.0-115	%	1	05/4/2012 13:32
Toluene d8	101		82.0-117	%	1	05/4/2012 13:32

Batch Information

Analytical Batch: **VMS2185**
Analytical Method: **SW-846 8260B**
Instrument: **MSD8**
Analyst: **DVO**
Analytical Date/Time: **05/04/2012 13:32**

Prep Batch: **VXX3262**
Prep Method: **SW-846 5030B**
Prep Date/Time: **05/04/2012 10:06**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **40 mL**

SGS North America Inc.

Sample Receipt Checklist (SRC)

Client: NCDOT-AECOM Work Order No.: 31201318

- | | | |
|-----|---|-----------------------------------|
| 1. | <input type="checkbox"/> Shipped | Notes: _____ |
| | <input checked="" type="checkbox"/> Hand Delivered | _____ |
| 2. | <input checked="" type="checkbox"/> COC Present on Receipt | _____ |
| | <input type="checkbox"/> No COC | _____ |
| | <input type="checkbox"/> Additional Transmittal Forms | _____ |
| 3. | <input type="checkbox"/> Custody Tape on Container | _____ |
| | <input checked="" type="checkbox"/> No Custody Tape | _____ |
| 4. | <input checked="" type="checkbox"/> Samples Intact | _____ |
| | <input type="checkbox"/> Samples Broken / Leaking | _____ |
| 5. | <input checked="" type="checkbox"/> Chilled on Receipt | Actual Temp.(s) in °C: <u>4.8</u> |
| | <input type="checkbox"/> Ambient on Receipt | _____ |
| | <input type="checkbox"/> Walk-in on Ice; Coming down to temp. | _____ |
| | <input type="checkbox"/> Received Outside of Temperature Specifications | _____ |
| 6. | <input checked="" type="checkbox"/> Sufficient Sample Submitted | _____ |
| | <input type="checkbox"/> Insufficient Sample Submitted | _____ |
| 7. | <input type="checkbox"/> Chlorine absent | _____ |
| | <input type="checkbox"/> HNO3 < 2 | _____ |
| | <input type="checkbox"/> HCL < 2 | _____ |
| | <input type="checkbox"/> Additional Preservatives verified (see notes) | _____ |
| 8. | <input checked="" type="checkbox"/> Received Within Holding Time | _____ |
| | <input type="checkbox"/> Not Received Within Holding Time | _____ |
| 9. | <input checked="" type="checkbox"/> No Discrepancies Noted | _____ |
| | <input type="checkbox"/> Discrepancies Noted | _____ |
| | <input type="checkbox"/> NCDENR notified of Descrepancies* | _____ |
| 10. | <input checked="" type="checkbox"/> No Headspace present in VOC vials | _____ |
| | <input type="checkbox"/> Headspace present in VOC vials >6mm | _____ |

Comments: _____

Inspected and Logged in by: MP
Date: Wed-5/2/12 00:00



Laboratory Report of Analysis

To: Matt Brennan
AECOM
8540 Colonnade Center Drive
Suite 306
Raleigh, NC 27615
US

Report Number: **31201091**

Client Project: **NCDOT/Pittsboro**

Dear Matt Brennan,

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
Project Manager
barbara.hager@sgs.com

Date

Laboratory Qualifiers

Report Definitions

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

Qualifier Definitions

*	Recovery or RPD outside of control limits
B	Analyte was detected in the Lab Method Blank at a level above the LOQ
U	Undetected (Reported as ND or < 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

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Collected</u>	<u>Received</u>	<u>Matrix</u>
INF-041012	31201091001	04/10/2012 15:00	04/13/2012 15:00	Water
Precarbon-041012	31201091002	04/10/2012 15:10	04/13/2012 15:00	Water
Midcarbon-041012	31201091003	04/10/2012 15:20	04/13/2012 15:00	Water
EFF-041012	31201091004	04/10/2012 15:30	04/13/2012 15:00	Water

Detectable Results Summary

Client Sample ID: **INF-041012**
 Lab Sample ID: 31201091001-A
SM 6200-B

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
1,1-Dichloroethene	11.7	ug/L
Tetrachloroethene	6.40	ug/L
Trichloroethene	274	ug/L

Client Sample ID: **EFF-041012**
 Lab Sample ID: 31201091004-A
SM 6200-B

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
1,1-Dichloroethene	0.790	ug/L
Trichloroethene	6.28	ug/L



Results of INF-041012

Client Sample ID: INF-041012
Client Project ID: NCDOT/Pittsboro
Lab Sample ID: 31201091001-A
Lab Project ID: 31201091

Collection Date: 04/10/2012 15:00
Received Date: 04/13/2012 15:00
Matrix: Water

Results by SM 6200-B

Table with 7 columns: Parameter, Result, Qual, LOQ/CL, Units, DF, Date Analyzed. Lists various chemical compounds and their detection results.



Results of **INF-041012**

Client Sample ID: **INF-041012**
Client Project ID: **NCDOT/Pittsboro**
Lab Sample ID: 31201091001-A
Lab Project ID: 31201091

Collection Date: 04/10/2012 15:00
Received Date: 04/13/2012 15:00
Matrix: Water

Results by **SM 6200-B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Hexachlorobutadiene	ND		5.00	ug/L	10	04/17/2012 17:21
Isopropylbenzene (Cumene)	ND		5.00	ug/L	10	04/17/2012 17:21
Methylene chloride	ND		50.0	ug/L	10	04/17/2012 17:21
Naphthalene	ND		5.00	ug/L	10	04/17/2012 17:21
Styrene	ND		5.00	ug/L	10	04/17/2012 17:21
Tetrachloroethene	6.40		5.00	ug/L	10	04/17/2012 17:21
Toluene	ND		5.00	ug/L	10	04/17/2012 17:21
Trichloroethene	274		5.00	ug/L	10	04/17/2012 17:21
Trichlorofluoromethane	ND		5.00	ug/L	10	04/17/2012 17:21
Vinyl chloride	ND		5.00	ug/L	10	04/17/2012 17:21
cis-1,2-Dichloroethene	ND		5.00	ug/L	10	04/17/2012 17:21
m,p-Xylene	ND		10.0	ug/L	10	04/17/2012 17:21
n-Propylbenzene	ND		5.00	ug/L	10	04/17/2012 17:21
o-Xylene	ND		5.00	ug/L	10	04/17/2012 17:21
sec-Butylbenzene	ND		5.00	ug/L	10	04/17/2012 17:21
tert-Butyl methyl ether (MTBE)	ND		5.00	ug/L	10	04/17/2012 17:21
tert-Butylbenzene	ND		5.00	ug/L	10	04/17/2012 17:21
trans-1,2-Dichloroethene	ND		5.00	ug/L	10	04/17/2012 17:21
Surrogates						
1,2-Dichloroethane-d4	96.1		64.0-140	%	10	04/17/2012 17:21
4-Bromofluorobenzene	99.9		85.0-115	%	10	04/17/2012 17:21
Toluene d8	102		82.0-117	%	10	04/17/2012 17:21

Batch Information

Analytical Batch: **VMS2125**
Analytical Method: **SM 6200-B**
Instrument: **MSD3**
Analyst: **BWS**
Analytical Date/Time: **04/17/2012 17:21**

Prep Batch: **VXX3159**
Prep Method: **SM 6200-B Prep**
Prep Date/Time: **04/17/2012 09:10**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **40 mL**



Results of **INF-041012**

Client Sample ID: **INF-041012**
Client Project ID: **NCDOT/Pittsboro**
Lab Sample ID: 31201091001-D
Lab Project ID: 31201091

Collection Date: 04/10/2012 15:00
Received Date: 04/13/2012 15:00
Matrix: Water

Results by **calculation (SUB)**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Total Nitrogen	ND		0.500	mg/L	1	04/26/2012 0:00

Laboratory: **EC**
Analytical Date/Time: **04/26/2012 00:00**

Prep Method:
Prep Date/Time:



Results of **INF-041012**

Client Sample ID: **INF-041012**
Client Project ID: **NCDOT/Pittsboro**
Lab Sample ID: 31201091001-E
Lab Project ID: 31201091

Collection Date: 04/10/2012 15:00
Received Date: 04/13/2012 15:00
Matrix: Water

Results by **SM 4500PF (SUB)**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Total Phosphorus as P	ND		0.0400	mg/L	1	04/24/2012 0:00

Laboratory: **EC**
Analytical Date/Time: **04/24/2012 00:00**

Prep Method:
Prep Date/Time:



Results of Precarbon-041012

Client Sample ID: Precarbon-041012
Client Project ID: NCDOT/Pittsboro
Lab Sample ID: 31201091002-A
Lab Project ID: 31201091

Collection Date: 04/10/2012 15:10
Received Date: 04/13/2012 15:00
Matrix: Water

Results by SM 6200-B

Table with 7 columns: Parameter, Result, Qual, LOQ/CL, Units, DF, Date Analyzed. Lists various chemical compounds and their detection results (ND) and limits.



Results of **Precarbon-041012**

Client Sample ID: **Precarbon-041012**
Client Project ID: **NCDOT/Pittsboro**
Lab Sample ID: 31201091002-A
Lab Project ID: 31201091

Collection Date: 04/10/2012 15:10
Received Date: 04/13/2012 15:00
Matrix: Water

Results by **SM 6200-B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Hexachlorobutadiene	ND		0.500	ug/L	1	04/18/2012 15:25
Isopropylbenzene (Cumene)	ND		0.500	ug/L	1	04/18/2012 15:25
Methylene chloride	ND		5.00	ug/L	1	04/18/2012 15:25
Naphthalene	ND		0.500	ug/L	1	04/18/2012 15:25
Styrene	ND		0.500	ug/L	1	04/18/2012 15:25
Tetrachloroethene	ND		0.500	ug/L	1	04/18/2012 15:25
Toluene	ND		0.500	ug/L	1	04/18/2012 15:25
Trichloroethene	ND		0.500	ug/L	1	04/18/2012 15:25
Trichlorofluoromethane	ND		0.500	ug/L	1	04/18/2012 15:25
Vinyl chloride	ND		0.500	ug/L	1	04/18/2012 15:25
cis-1,2-Dichloroethene	ND		0.500	ug/L	1	04/18/2012 15:25
m,p-Xylene	ND		1.00	ug/L	1	04/18/2012 15:25
n-Propylbenzene	ND		0.500	ug/L	1	04/18/2012 15:25
o-Xylene	ND		0.500	ug/L	1	04/18/2012 15:25
sec-Butylbenzene	ND		0.500	ug/L	1	04/18/2012 15:25
tert-Butyl methyl ether (MTBE)	ND		0.500	ug/L	1	04/18/2012 15:25
tert-Butylbenzene	ND		0.500	ug/L	1	04/18/2012 15:25
trans-1,2-Dichloroethene	ND		0.500	ug/L	1	04/18/2012 15:25
Surrogates						
1,2-Dichloroethane-d4	99.6		64.0-140	%	1	04/18/2012 15:25
4-Bromofluorobenzene	97.6		85.0-115	%	1	04/18/2012 15:25
Toluene d8	98.5		82.0-117	%	1	04/18/2012 15:25

Batch Information

Analytical Batch: **VMS2128**
Analytical Method: **SM 6200-B**
Instrument: **MSD4**
Analyst: **DVO**
Analytical Date/Time: **04/18/2012 15:25**

Prep Batch: **VXX3166**
Prep Method: **SM 6200-B Prep**
Prep Date/Time: **04/18/2012 08:00**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **40 mL**



Results of Midcarbon-041012

Client Sample ID: Midcarbon-041012
Client Project ID: NCDOT/Pittsboro
Lab Sample ID: 31201091003-A
Lab Project ID: 31201091

Collection Date: 04/10/2012 15:20
Received Date: 04/13/2012 15:00
Matrix: Water

Results by SM 6200-B

Table with 7 columns: Parameter, Result, Qual, LOQ/CL, Units, DF, Date Analyzed. Lists various chemical compounds and their detection results (ND) and limits.



Results of **Midcarbon-041012**

Client Sample ID: **Midcarbon-041012**
Client Project ID: **NCDOT/Pittsboro**
Lab Sample ID: 31201091003-A
Lab Project ID: 31201091

Collection Date: 04/10/2012 15:20
Received Date: 04/13/2012 15:00
Matrix: Water

Results by **SM 6200-B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Hexachlorobutadiene	ND		0.500	ug/L	1	04/17/2012 12:49
Isopropylbenzene (Cumene)	ND		0.500	ug/L	1	04/17/2012 12:49
Methylene chloride	ND		5.00	ug/L	1	04/17/2012 12:49
Naphthalene	ND		0.500	ug/L	1	04/17/2012 12:49
Styrene	ND		0.500	ug/L	1	04/17/2012 12:49
Tetrachloroethene	ND		0.500	ug/L	1	04/17/2012 12:49
Toluene	ND		0.500	ug/L	1	04/17/2012 12:49
Trichloroethene	ND		0.500	ug/L	1	04/17/2012 12:49
Trichlorofluoromethane	ND		0.500	ug/L	1	04/17/2012 12:49
Vinyl chloride	ND		0.500	ug/L	1	04/17/2012 12:49
cis-1,2-Dichloroethene	ND		0.500	ug/L	1	04/17/2012 12:49
m,p-Xylene	ND		1.00	ug/L	1	04/17/2012 12:49
n-Propylbenzene	ND		0.500	ug/L	1	04/17/2012 12:49
o-Xylene	ND		0.500	ug/L	1	04/17/2012 12:49
sec-Butylbenzene	ND		0.500	ug/L	1	04/17/2012 12:49
tert-Butyl methyl ether (MTBE)	ND		0.500	ug/L	1	04/17/2012 12:49
tert-Butylbenzene	ND		0.500	ug/L	1	04/17/2012 12:49
trans-1,2-Dichloroethene	ND		0.500	ug/L	1	04/17/2012 12:49
Surrogates						
1,2-Dichloroethane-d4	96.2		64.0-140	%	1	04/17/2012 12:49
4-Bromofluorobenzene	101		85.0-115	%	1	04/17/2012 12:49
Toluene d8	101		82.0-117	%	1	04/17/2012 12:49

Batch Information

Analytical Batch: **VMS2125**
Analytical Method: **SM 6200-B**
Instrument: **MSD3**
Analyst: **BWS**
Analytical Date/Time: **04/17/2012 12:49**

Prep Batch: **VXX3159**
Prep Method: **SM 6200-B Prep**
Prep Date/Time: **04/17/2012 09:10**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **40 mL**



Results of **EFF-041012**

Client Sample ID: **EFF-041012**
Client Project ID: **NCDOT/Pittsboro**
Lab Sample ID: 31201091004-A
Lab Project ID: 31201091

Collection Date: 04/10/2012 15:30
Received Date: 04/13/2012 15:00
Matrix: Water

Results by **SM 6200-B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1,1,2-Tetrachloroethane	ND		0.500	ug/L	1	04/17/2012 12:24
1,1,1-Trichloroethane	ND		0.500	ug/L	1	04/17/2012 12:24
1,1,2,2-Tetrachloroethane	ND		0.500	ug/L	1	04/17/2012 12:24
1,1,2-Trichloroethane	ND		0.500	ug/L	1	04/17/2012 12:24
1,1-Dichloroethane	ND		0.500	ug/L	1	04/17/2012 12:24
1,1-Dichloroethene	0.790		0.500	ug/L	1	04/17/2012 12:24
1,1-Dichloropropene	ND		0.500	ug/L	1	04/17/2012 12:24
1,2,3-Trichlorobenzene	ND		0.500	ug/L	1	04/17/2012 12:24
1,2,3-Trichloropropane	ND		0.500	ug/L	1	04/17/2012 12:24
1,2,4-Trichlorobenzene	ND		0.500	ug/L	1	04/17/2012 12:24
1,2,4-Trimethylbenzene	ND		0.500	ug/L	1	04/17/2012 12:24
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1	04/17/2012 12:24
1,2-Dibromoethane	ND		0.500	ug/L	1	04/17/2012 12:24
1,2-Dichlorobenzene	ND		0.500	ug/L	1	04/17/2012 12:24
1,2-Dichloroethane	ND		0.500	ug/L	1	04/17/2012 12:24
1,2-Dichloropropane	ND		0.500	ug/L	1	04/17/2012 12:24
1,3,5-Trimethylbenzene	ND		0.500	ug/L	1	04/17/2012 12:24
1,3-Dichlorobenzene	ND		0.500	ug/L	1	04/17/2012 12:24
1,3-Dichloropropane	ND		0.500	ug/L	1	04/17/2012 12:24
1,4-Dichlorobenzene	ND		0.500	ug/L	1	04/17/2012 12:24
2,2-Dichloropropane	ND		0.500	ug/L	1	04/17/2012 12:24
2-Chlorotoluene	ND		0.500	ug/L	1	04/17/2012 12:24
4-Chlorotoluene	ND		0.500	ug/L	1	04/17/2012 12:24
4-Isopropyltoluene	ND		0.500	ug/L	1	04/17/2012 12:24
Benzene	ND		0.500	ug/L	1	04/17/2012 12:24
Bromobenzene	ND		0.500	ug/L	1	04/17/2012 12:24
Bromochloromethane	ND		0.500	ug/L	1	04/17/2012 12:24
Bromodichloromethane	ND		0.500	ug/L	1	04/17/2012 12:24
Bromoform	ND		0.500	ug/L	1	04/17/2012 12:24
Bromomethane	ND		0.500	ug/L	1	04/17/2012 12:24
n-Butylbenzene	ND		0.500	ug/L	1	04/17/2012 12:24
Carbon tetrachloride	ND		0.500	ug/L	1	04/17/2012 12:24
Chlorobenzene	ND		0.500	ug/L	1	04/17/2012 12:24
Chloroethane	ND		0.500	ug/L	1	04/17/2012 12:24
Chloroform	ND		0.500	ug/L	1	04/17/2012 12:24
Chloromethane	ND		0.500	ug/L	1	04/17/2012 12:24
Dibromochloromethane	ND		0.500	ug/L	1	04/17/2012 12:24
Dibromomethane	ND		0.500	ug/L	1	04/17/2012 12:24
Dichlorodifluoromethane	ND		5.00	ug/L	1	04/17/2012 12:24
cis-1,3-Dichloropropene	ND		0.500	ug/L	1	04/17/2012 12:24
trans-1,3-Dichloropropene	ND		0.500	ug/L	1	04/17/2012 12:24
Diisopropyl Ether	ND		0.500	ug/L	1	04/17/2012 12:24
Ethyl Benzene	ND		0.500	ug/L	1	04/17/2012 12:24



Results of **EFF-041012**

Client Sample ID: **EFF-041012**
Client Project ID: **NCDOT/Pittsboro**
Lab Sample ID: 31201091004-A
Lab Project ID: 31201091

Collection Date: 04/10/2012 15:30
Received Date: 04/13/2012 15:00
Matrix: Water

Results by **SM 6200-B**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Hexachlorobutadiene	ND		0.500	ug/L	1	04/17/2012 12:24
Isopropylbenzene (Cumene)	ND		0.500	ug/L	1	04/17/2012 12:24
Methylene chloride	ND		5.00	ug/L	1	04/17/2012 12:24
Naphthalene	ND		0.500	ug/L	1	04/17/2012 12:24
Styrene	ND		0.500	ug/L	1	04/17/2012 12:24
Tetrachloroethene	ND		0.500	ug/L	1	04/17/2012 12:24
Toluene	ND		0.500	ug/L	1	04/17/2012 12:24
Trichloroethene	6.28		0.500	ug/L	1	04/17/2012 12:24
Trichlorofluoromethane	ND		0.500	ug/L	1	04/17/2012 12:24
Vinyl chloride	ND		0.500	ug/L	1	04/17/2012 12:24
cis-1,2-Dichloroethene	ND		0.500	ug/L	1	04/17/2012 12:24
m,p-Xylene	ND		1.00	ug/L	1	04/17/2012 12:24
n-Propylbenzene	ND		0.500	ug/L	1	04/17/2012 12:24
o-Xylene	ND		0.500	ug/L	1	04/17/2012 12:24
sec-Butylbenzene	ND		0.500	ug/L	1	04/17/2012 12:24
tert-Butyl methyl ether (MTBE)	ND		0.500	ug/L	1	04/17/2012 12:24
tert-Butylbenzene	ND		0.500	ug/L	1	04/17/2012 12:24
trans-1,2-Dichloroethene	ND		0.500	ug/L	1	04/17/2012 12:24
Surrogates						
1,2-Dichloroethane-d4	97.2		64.0-140	%	1	04/17/2012 12:24
4-Bromofluorobenzene	103		85.0-115	%	1	04/17/2012 12:24
Toluene d8	101		82.0-117	%	1	04/17/2012 12:24

Batch Information

Analytical Batch: **VMS2125**
Analytical Method: **SM 6200-B**
Instrument: **MSD3**
Analyst: **BWS**
Analytical Date/Time: **04/17/2012 12:24**

Prep Batch: **VXX3159**
Prep Method: **SM 6200-B Prep**
Prep Date/Time: **04/17/2012 09:10**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **40 mL**



Results of **EFF-041012**

Client Sample ID: **EFF-041012**
Client Project ID: **NCDOT/Pittsboro**
Lab Sample ID: 31201091004-D
Lab Project ID: 31201091

Collection Date: 04/10/2012 15:30
Received Date: 04/13/2012 15:00
Matrix: Water

Results by **Calculation (SUB)**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Total Nitrogen	ND		0.500	mg/L	1	04/26/2012 0:00

Laboratory: **EC**
Analytical Date/Time: **04/26/2012 00:00**

Prep Method:
Prep Date/Time:



Results of **EFF-041012**

Client Sample ID: **EFF-041012**
Client Project ID: **NCDOT/Pittsboro**
Lab Sample ID: 31201091004-E
Lab Project ID: 31201091

Collection Date: 04/10/2012 15:30
Received Date: 04/13/2012 15:00
Matrix: Water

Results by **SM 4500PF (SUB)**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Total Phosphorus as P	ND		0.0400	mg/L	1	04/24/2012 0:00

Laboratory: **EC**
Analytical Date/Time: **04/24/2012 00:00**

Prep Method:
Prep Date/Time:

Batch Summary

Analytical Method: SM 6200-B

Prep Method: SW-846 5030B

Prep Batch: VXX3159

Prep Date: 04/17/2012 07:34

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Analysis Date</u>	<u>Analytical Batch</u>	<u>Instrument</u>	<u>Analyst</u>
LCS for HBN 22374 [VXX/3159]	66998	04/17/2012 08:41	VMS2125	MSD3	BWS
LCSD for HBN 22374 [VXX/3159]	66999	04/17/2012 09:06	VMS2125	MSD3	BWS
MB for HBN 22374 [VXX/3159]	67000	04/17/2012 10:20	VMS2125	MSD3	BWS
EFF-041012	31201091004	04/17/2012 12:24	VMS2125	MSD3	BWS
Midcarbon-041012	31201091003	04/17/2012 12:49	VMS2125	MSD3	BWS
INF-041012	31201091001	04/17/2012 17:21	VMS2125	MSD3	BWS
MW-6(66354MS)	67267	04/17/2012 18:59	VMS2125	MSD3	BWS
MW-6(66354MSD)	67268	04/17/2012 19:24	VMS2125	MSD3	BWS



Method Blank

Blank ID: MB for HBN 22374 [VXX/3159]
Blank Lab ID: 67000
QC for Samples:
31201091001, 31201091003, 31201091004

Matrix: Water

Results by SM 6200-B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>
Dichlorodifluoromethane	ND		5.00	ug/L	1
Chloromethane	ND		0.500	ug/L	1
Vinyl chloride	ND		0.500	ug/L	1
Bromomethane	ND		0.500	ug/L	1
Chloroethane	ND		0.500	ug/L	1
Trichlorofluoromethane	ND		0.500	ug/L	1
1,1-Dichloroethene	ND		0.500	ug/L	1
Methylene chloride	ND		5.00	ug/L	1
trans-1,2-Dichloroethene	ND		0.500	ug/L	1
tert-Butyl methyl ether (MTBE)	ND		0.500	ug/L	1
1,1-Dichloroethane	ND		0.500	ug/L	1
Diisopropyl Ether	ND		0.500	ug/L	1
2,2-Dichloropropane	ND		0.500	ug/L	1
cis-1,2-Dichloroethene	ND		0.500	ug/L	1
Bromochloromethane	ND		0.500	ug/L	1
Chloroform	ND		0.500	ug/L	1
1,1,1-Trichloroethane	ND		0.500	ug/L	1
Carbon tetrachloride	ND		0.500	ug/L	1
1,1-Dichloropropene	ND		0.500	ug/L	1
Benzene	ND		0.500	ug/L	1
1,2-Dichloroethane	ND		0.500	ug/L	1
Trichloroethene	ND		0.500	ug/L	1
1,2-Dichloropropane	ND		0.500	ug/L	1
Dibromomethane	ND		0.500	ug/L	1
Bromodichloromethane	ND		0.500	ug/L	1
cis-1,3-Dichloropropene	ND		0.500	ug/L	1
Toluene	ND		0.500	ug/L	1
trans-1,3-Dichloropropene	ND		0.500	ug/L	1
1,1,2-Trichloroethane	ND		0.500	ug/L	1
Tetrachloroethene	ND		0.500	ug/L	1
1,3-Dichloropropane	ND		0.500	ug/L	1
Dibromochloromethane	ND		0.500	ug/L	1
1,2-Dibromoethane	ND		0.500	ug/L	1
Chlorobenzene	ND		0.500	ug/L	1
1,1,1,2-Tetrachloroethane	ND		0.500	ug/L	1
Bromoform	ND		0.500	ug/L	1
Bromobenzene	ND		0.500	ug/L	1
1,1,2,2-Tetrachloroethane	ND		0.500	ug/L	1
1,2,3-Trichloropropane	ND		0.500	ug/L	1
Ethyl Benzene	ND		0.500	ug/L	1
m,p-Xylene	ND		1.00	ug/L	1

Print Date: 04/26/2012

N.C. Certification # 481

Method Blank

Blank ID: MB for HBN 22374 [VXX/3159]

Matrix: Water

Blank Lab ID: 67000

QC for Samples:

31201091001, 31201091003, 31201091004

Results by SM 6200-B

Parameter	Result	Qual	LOQ/CL	Units	DF
Styrene	ND		0.500	ug/L	1
o-Xylene	ND		0.500	ug/L	1
Isopropylbenzene (Cumene)	ND		0.500	ug/L	1
n-Propylbenzene	ND		0.500	ug/L	1
2-Chlorotoluene	ND		0.500	ug/L	1
4-Chlorotoluene	ND		0.500	ug/L	1
1,3,5-Trimethylbenzene	ND		0.500	ug/L	1
tert-Butylbenzene	ND		0.500	ug/L	1
1,2,4-Trimethylbenzene	ND		0.500	ug/L	1
sec-Butylbenzene	ND		0.500	ug/L	1
1,3-Dichlorobenzene	ND		0.500	ug/L	1
4-Isopropyltoluene	ND		0.500	ug/L	1
1,4-Dichlorobenzene	ND		0.500	ug/L	1
1,2-Dichlorobenzene	ND		0.500	ug/L	1
n-Butylbenzene	ND		0.500	ug/L	1
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1
1,2,4-Trichlorobenzene	ND		0.500	ug/L	1
Hexachlorobutadiene	ND		0.500	ug/L	1
Naphthalene	ND		0.500	ug/L	1
1,2,3-Trichlorobenzene	ND		0.500	ug/L	1
Surrogates					
1,2-Dichloroethane-d4	95.4		64.0-140	%	1
Toluene d8	100		82.0-117	%	1
4-Bromofluorobenzene	99.5		85.0-115	%	1

Batch Information

Analytical Batch: VMS2125

Prep Batch: VXX3159

Analytical Method: SM 6200-B

Prep Method: SW-846 5030B

Instrument: MSD3

Prep Date/Time: 4/17/2012 7:34:18AM

Analyst: BWS

Prep Initial Wt./Vol.: 40 mL

Analytical Date/Time: 4/17/2012 10:20:00AM

Prep Extract Vol: 40 mL



Blank Spike Summary

Blank Spike ID: LCS for HBN 22374 [VXX/3159]
 Blank Spike Lab ID: 66998
 Date Analyzed: 04/17/2012 08:41

Spike Duplicate ID: LCSD for HBN 22374 [VXX/3159]
 Spike Duplicate Lab ID: 66999
 Date Analyzed: 04/17/2012 09:06
 Matrix: Water

QC for Samples: 31201091001, 31201091003, 31201091004

Results by SM 6200-B

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Dichlorodifluoromethane	5.00	ND	98	5.00	5.05	101	33.0-170	3.4	30.00
Chloromethane	5.00	4.63	93	5.00	4.84	97	57.0-132	4.4	30.00
Vinyl chloride	5.00	4.34	87	5.00	4.18	84	59.0-138	3.8	30.00
Bromomethane	5.00	4.78	96	5.00	6.12	122	51.0-134	25	30.00
Chloroethane	5.00	4.73	95	5.00	5.34	107	64.0-145	12	30.00
Trichlorofluoromethane	5.00	4.41	88	5.00	4.54	91	64.0-133	2.9	30.00
1,1-Dichloroethene	5.00	4.45	89	5.00	4.64	93	71.0-128	4.2	30.00
Methylene chloride	5.00	ND	94	5.00	ND	98	70.0-113	4.4	30.00
trans-1,2-Dichloroethene	5.00	4.72	94	5.00	5.00	100	57.0-138	5.8	30.00
tert-Butyl methyl ether (MTBE)	5.00	4.91	98	5.00	4.88	98	47.0-142	0.61	30.00
1,1-Dichloroethane	5.00	4.68	94	5.00	4.77	95	68.0-133	1.9	30.00
Diisopropyl Ether	5.00	4.62	92	5.00	4.87	97	66.0-132	5.3	30.00
2,2-Dichloropropane	5.00	5.18	104	5.00	5.51	110	74.0-125	6.2	30.00
cis-1,2-Dichloroethene	5.00	4.94	99	5.00	5.02	100	73.0-128	1.6	30.00
Bromochloromethane	5.00	4.92	98	5.00	5.37	107	73.0-128	8.7	30.00
Chloroform	5.00	4.82	96	5.00	5.03	101	74.0-124	4.3	30.00
1,1,1-Trichloroethane	5.00	4.94	99	5.00	5.03	101	76.0-119	1.8	30.00
Carbon tetrachloride	5.00	5.00	100	5.00	5.23	105	75.0-120	4.5	30.00
1,1-Dichloropropene	5.00	4.75	95	5.00	5.14	103	76.0-124	7.9	30.00
Benzene	5.00	4.79	96	5.00	5.09	102	76.0-124	6.1	30.00
1,2-Dichloroethane	5.00	4.98	100	5.00	4.96	99	76.0-119	0.40	30.00
Trichloroethene	5.00	4.60	92	5.00	5.16	103	74.0-121	11	30.00
1,2-Dichloropropane	5.00	4.70	94	5.00	5.00	100	74.0-124	6.2	30.00
Dibromomethane	5.00	4.97	99	5.00	5.02	100	71.0-128	1.0	30.00
Bromodichloromethane	5.00	4.89	98	5.00	5.31	106	72.0-120	8.2	30.00
cis-1,3-Dichloropropene	5.00	5.30	106	5.00	5.40	108	73.0-122	1.9	30.00
Toluene	5.00	5.01	100	5.00	5.21	104	75.0-123	3.9	30.00
trans-1,3-Dichloropropene	5.00	4.99	100	5.00	5.09	102	70.0-125	2.0	30.00
1,1,2-Trichloroethane	5.00	5.26	105	5.00	5.42	108	76.0-121	3.0	30.00
Tetrachloroethene	5.00	4.98	100	5.00	4.96	99	59.0-112	0.40	30.00
1,3-Dichloropropane	5.00	4.62	92	5.00	5.12	102	74.0-120	10	30.00
Dibromochloromethane	5.00	5.43	109	5.00	5.18	104	67.0-122	4.7	30.00
1,2-Dibromoethane	5.00	4.91	98	5.00	5.26	105	74.0-119	6.9	30.00
Chlorobenzene	5.00	4.82	96	5.00	5.20	104	74.0-120	7.6	30.00



Blank Spike Summary

Blank Spike ID: LCS for HBN 22374 [VXX/3159]
 Blank Spike Lab ID: 66998
 Date Analyzed: 04/17/2012 08:41

Spike Duplicate ID: LCSD for HBN 22374 [VXX/3159]
 Spike Duplicate Lab ID: 66999
 Date Analyzed: 04/17/2012 09:06
 Matrix: Water

QC for Samples: 31201091001, 31201091003, 31201091004

Results by SM 6200-B

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
1,1,1,2-Tetrachloroethane	5.00	4.80	96	5.00	5.28	106	73.0-119	9.5	30.00
Bromoform	5.00	5.44	109	5.00	5.48	110	62.0-127	0.73	30.00
Bromobenzene	5.00	4.57	91	5.00	4.93	99	75.0-120	7.6	30.00
1,1,2,2-Tetrachloroethane	5.00	5.01	100	5.00	5.07	101	68.0-129	1.2	30.00
1,2,3-Trichloropropane	5.00	4.92	98	5.00	4.73	95	67.0-126	3.9	30.00
Ethyl Benzene	5.00	4.75	95	5.00	4.99	100	76.0-123	4.9	30.00
m,p-Xylene	10.0	9.69	97	10.0	10.1	101	76.0-124	4.1	30.00
Styrene	5.00	4.81	96	5.00	5.16	103	76.0-121	7.0	30.00
o-Xylene	5.00	4.93	99	5.00	5.23	105	75.0-124	5.9	30.00
Isopropylbenzene (Cumene)	5.00	5.02	100	5.00	5.25	105	77.0-120	4.5	30.00
n-Propylbenzene	5.00	4.70	94	5.00	4.93	99	77.0-123	4.8	30.00
2-Chlorotoluene	5.00	5.02	100	5.00	5.15	103	74.0-127	2.6	30.00
4-Chlorotoluene	5.00	4.95	99	5.00	5.24	105	77.0-123	5.7	30.00
1,3,5-Trimethylbenzene	5.00	4.83	97	5.00	5.03	101	76.0-122	4.1	30.00
tert-Butylbenzene	5.00	5.01	100	5.00	5.20	104	67.0-122	3.7	30.00
1,2,4-Trimethylbenzene	5.00	5.01	100	5.00	5.15	103	76.0-124	2.8	30.00
sec-Butylbenzene	5.00	4.88	98	5.00	5.09	102	78.0-121	4.2	30.00
1,3-Dichlorobenzene	5.00	4.85	97	5.00	5.00	100	75.0-120	3.0	30.00
4-Isopropyltoluene	5.00	4.87	97	5.00	5.10	102	77.0-120	4.6	30.00
1,4-Dichlorobenzene	5.00	5.06	101	5.00	5.12	102	70.0-125	1.2	30.00
1,2-Dichlorobenzene	5.00	4.73	95	5.00	4.86	97	76.0-118	2.7	30.00
n-Butylbenzene	5.00	4.74	95	5.00	5.00	100	78.0-118	5.3	30.00
1,2-Dibromo-3-chloropropane	30.0	31.1	104	30.0	29.5	98	62.0-130	5.3	30.00
1,2,4-Trichlorobenzene	5.00	4.85	97	5.00	4.83	97	72.0-119	0.41	30.00
Hexachlorobutadiene	5.00	5.42	108	5.00	5.36	107	69.0-121	1.1	30.00
Naphthalene	5.00	5.12	102	5.00	4.99	100	67.0-122	2.6	30.00
1,2,3-Trichlorobenzene	5.00	4.96	99	5.00	5.04	101	21.0-193	1.6	30.00
Surrogates									
1,2-Dichloroethane-d4			95.4			97.4	64.0-140		
Toluene d8			101			102	82.0-117		
4-Bromofluorobenzene			102			102	85.0-115		

Blank Spike Summary

Blank Spike ID: LCS for HBN 22374 [VXX/3159]
 Blank Spike Lab ID: 66998
 Date Analyzed: 04/17/2012 08:41

Spike Duplicate ID: LCSD for HBN 22374 [VXX/3159]
 Spike Duplicate Lab ID: 66999
 Date Analyzed: 04/17/2012 09:06
 Matrix: Water

QC for Samples: 31201091001, 31201091003, 31201091004

Results by SM 6200-B

Parameter	Blank Spike (%)			Spike Duplicate (%)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			

Batch Information

Analytical Batch: **VMS2125**
 Analytical Method: **SM 6200-B**
 Instrument: **MSD3**
 Analyst: **BWS**

Prep Batch: **VXX3159**
 Prep Method: **SW-846 5030B**
 Prep Date/Time: **04/17/2012 07:34**
 Spike Init Wt./Vol.: **40 mL** Extract Vol: **40 mL**
 Dupe Init Wt./Vol.: **40 mL** Extract Vol: **40 mL**

Batch Summary

Analytical Method: SM 6200-B

Prep Method: SW-846 5030B

Prep Batch: VXX3166

Prep Date: 04/18/2012 08:08

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Analysis Date</u>	<u>Analytical Batch</u>	<u>Instrument</u>	<u>Analyst</u>
LCS for HBN 22417 [VXX/3166]	67220	04/18/2012 11:48	VMS2128	MSD4	DVO
LCSD for HBN 22417 [VXX/3166]	67221	04/18/2012 12:12	VMS2128	MSD4	DVO
MB for HBN 22417 [VXX/3166]	67222	04/18/2012 13:00	VMS2128	MSD4	DVO
Precarbon-041012	31201091002	04/18/2012 15:25	VMS2128	MSD4	DVO
Precarbon-041012(66663MS)	67511	04/18/2012 21:27	VMS2128	MSD4	DVO
Precarbon-041012(66663MSD)	67512	04/18/2012 21:52	VMS2128	MSD4	DVO

**Method Blank**

Blank ID: MB for HBN 22417 [VXX/3166]

Blank Lab ID: 67222

QC for Samples:

31201091002

Matrix: Water

Results by SM 6200-B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>
Dichlorodifluoromethane	ND		5.00	ug/L	1
Chloromethane	ND		0.500	ug/L	1
Vinyl chloride	ND		0.500	ug/L	1
Bromomethane	ND		0.500	ug/L	1
Chloroethane	ND		0.500	ug/L	1
Trichlorofluoromethane	ND		0.500	ug/L	1
1,1-Dichloroethene	ND		0.500	ug/L	1
Methylene chloride	ND		5.00	ug/L	1
trans-1,2-Dichloroethene	ND		0.500	ug/L	1
tert-Butyl methyl ether (MTBE)	ND		0.500	ug/L	1
1,1-Dichloroethane	ND		0.500	ug/L	1
Diisopropyl Ether	ND		0.500	ug/L	1
2,2-Dichloropropane	ND		0.500	ug/L	1
cis-1,2-Dichloroethene	ND		0.500	ug/L	1
Bromochloromethane	ND		0.500	ug/L	1
Chloroform	ND		0.500	ug/L	1
1,1,1-Trichloroethane	ND		0.500	ug/L	1
Carbon tetrachloride	ND		0.500	ug/L	1
1,1-Dichloropropene	ND		0.500	ug/L	1
Benzene	ND		0.500	ug/L	1
1,2-Dichloroethane	ND		0.500	ug/L	1
Trichloroethene	ND		0.500	ug/L	1
1,2-Dichloropropane	ND		0.500	ug/L	1
Dibromomethane	ND		0.500	ug/L	1
Bromodichloromethane	ND		0.500	ug/L	1
cis-1,3-Dichloropropene	ND		0.500	ug/L	1
Toluene	ND		0.500	ug/L	1
trans-1,3-Dichloropropene	ND		0.500	ug/L	1
1,1,2-Trichloroethane	ND		0.500	ug/L	1
Tetrachloroethene	ND		0.500	ug/L	1
1,3-Dichloropropane	ND		0.500	ug/L	1
Dibromochloromethane	ND		0.500	ug/L	1
1,2-Dibromoethane	ND		0.500	ug/L	1
Chlorobenzene	ND		0.500	ug/L	1
1,1,1,2-Tetrachloroethane	ND		0.500	ug/L	1
Bromoform	ND		0.500	ug/L	1
Bromobenzene	ND		0.500	ug/L	1
1,1,2,2-Tetrachloroethane	ND		0.500	ug/L	1
1,2,3-Trichloropropane	ND		0.500	ug/L	1
Ethyl Benzene	ND		0.500	ug/L	1
m,p-Xylene	ND		1.00	ug/L	1

Print Date: 04/26/2012

N.C. Certification # 481

Method Blank

Blank ID: MB for HBN 22417 [VXX/3166]
 Blank Lab ID: 67222
 QC for Samples:
 31201091002

Matrix: Water

Results by SM 6200-B

Parameter	Result	Qual	LOQ/CL	Units	DF
Styrene	ND		0.500	ug/L	1
o-Xylene	ND		0.500	ug/L	1
Isopropylbenzene (Cumene)	ND		0.500	ug/L	1
n-Propylbenzene	ND		0.500	ug/L	1
2-Chlorotoluene	ND		0.500	ug/L	1
4-Chlorotoluene	ND		0.500	ug/L	1
1,3,5-Trimethylbenzene	ND		0.500	ug/L	1
tert-Butylbenzene	ND		0.500	ug/L	1
1,2,4-Trimethylbenzene	ND		0.500	ug/L	1
sec-Butylbenzene	ND		0.500	ug/L	1
1,3-Dichlorobenzene	ND		0.500	ug/L	1
4-Isopropyltoluene	ND		0.500	ug/L	1
1,4-Dichlorobenzene	ND		0.500	ug/L	1
1,2-Dichlorobenzene	ND		0.500	ug/L	1
n-Butylbenzene	ND		0.500	ug/L	1
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1
1,2,4-Trichlorobenzene	ND		0.500	ug/L	1
Hexachlorobutadiene	ND		0.500	ug/L	1
Naphthalene	ND		0.500	ug/L	1
1,2,3-Trichlorobenzene	ND		0.500	ug/L	1
Surrogates					
1,2-Dichloroethane-d4	99.7		64.0-140	%	1
Toluene d8	97.9		82.0-117	%	1
4-Bromofluorobenzene	97.7		85.0-115	%	1

Batch Information

Analytical Batch: VMS2128
 Analytical Method: SM 6200-B
 Instrument: MSD4
 Analyst: DVO
 Analytical Date/Time: 4/18/2012 1:00:00PM

Prep Batch: VXX3166
 Prep Method: SW-846 5030B
 Prep Date/Time: 4/18/2012 8:08:21AM
 Prep Initial Wt./Vol.: 40 mL
 Prep Extract Vol: 40 mL



Blank Spike Summary

Blank Spike ID: LCS for HBN 22417 [VXX/3166]
 Blank Spike Lab ID: 67220
 Date Analyzed: 04/18/2012 11:48

Spike Duplicate ID: LCSD for HBN 22417 [VXX/3166]
 Spike Duplicate Lab ID: 67221
 Date Analyzed: 04/18/2012 12:12
 Matrix: Water

QC for Samples: 31201091002

Results by SM 6200-B

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Dichlorodifluoromethane	5.00	ND	94	5.00	ND	86	33.0-170	9.6	30.00
Chloromethane	5.00	4.27	85	5.00	4.27	85	57.0-132	0.0	30.00
Vinyl chloride	5.00	4.23	85	5.00	3.87	77	59.0-138	8.9	30.00
Bromomethane	5.00	6.09	122	5.00	5.57	111	51.0-134	8.9	30.00
Chloroethane	5.00	4.88	98	5.00	4.40	88	64.0-145	10	30.00
Trichlorofluoromethane	5.00	4.18	84	5.00	3.74	75	64.0-133	11	30.00
1,1-Dichloroethene	5.00	4.68	94	5.00	4.50	90	71.0-128	3.9	30.00
Methylene chloride	5.00	ND	93	5.00	ND	88	70.0-113	6.2	30.00
trans-1,2-Dichloroethene	5.00	4.76	95	5.00	4.61	92	57.0-138	3.2	30.00
tert-Butyl methyl ether (MTBE)	5.00	4.56	91	5.00	4.34	87	47.0-142	4.9	30.00
1,1-Dichloroethane	5.00	4.63	93	5.00	4.43	89	68.0-133	4.4	30.00
Diisopropyl Ether	5.00	4.62	92	5.00	4.28	86	66.0-132	7.6	30.00
2,2-Dichloropropane	5.00	4.96	99	5.00	4.63	93	74.0-125	6.9	30.00
cis-1,2-Dichloroethene	5.00	5.04	101	5.00	4.80	96	73.0-128	4.9	30.00
Bromochloromethane	5.00	5.16	103	5.00	5.08	102	73.0-128	1.6	30.00
Chloroform	5.00	4.63	93	5.00	4.39	88	74.0-124	5.3	30.00
1,1,1-Trichloroethane	5.00	4.86	97	5.00	4.58	92	76.0-119	5.9	30.00
Carbon tetrachloride	5.00	5.18	104	5.00	5.03	101	75.0-120	2.9	30.00
1,1-Dichloropropene	5.00	4.88	98	5.00	4.63	93	76.0-124	5.3	30.00
Benzene	5.00	4.86	97	5.00	4.63	93	76.0-124	4.8	30.00
1,2-Dichloroethane	5.00	4.78	96	5.00	4.50	90	76.0-119	6.0	30.00
Trichloroethene	5.00	4.86	97	5.00	4.51	90	74.0-121	7.5	30.00
1,2-Dichloropropane	5.00	4.71	94	5.00	4.44	89	74.0-124	5.9	30.00
Dibromomethane	5.00	4.77	95	5.00	4.56	91	71.0-128	4.5	30.00
Bromodichloromethane	5.00	4.75	95	5.00	4.53	91	72.0-120	4.7	30.00
cis-1,3-Dichloropropene	5.00	5.17	103	5.00	4.89	98	73.0-122	5.6	30.00
Toluene	5.00	5.06	101	5.00	4.77	95	75.0-123	5.9	30.00
trans-1,3-Dichloropropene	5.00	4.78	96	5.00	4.50	90	70.0-125	6.0	30.00
1,1,2-Trichloroethane	5.00	5.42	108	5.00	5.08	102	76.0-121	6.5	30.00
Tetrachloroethene	5.00	5.45	109	5.00	5.16	103	59.0-112	5.5	30.00
1,3-Dichloropropane	5.00	5.31	106	5.00	4.99	100	74.0-120	6.2	30.00
Dibromochloromethane	5.00	5.44	109	5.00	5.06	101	67.0-122	7.2	30.00
1,2-Dibromoethane	5.00	5.36	107	5.00	5.05	101	74.0-119	6.0	30.00
Chlorobenzene	5.00	5.49	110	5.00	5.07	101	74.0-120	8.0	30.00



Blank Spike Summary

Blank Spike ID: LCS for HBN 22417 [VXX/3166]
 Blank Spike Lab ID: 67220
 Date Analyzed: 04/18/2012 11:48

Spike Duplicate ID: LCSD for HBN 22417 [VXX/3166]
 Spike Duplicate Lab ID: 67221
 Date Analyzed: 04/18/2012 12:12
 Matrix: Water

QC for Samples: 31201091002

Results by SM 6200-B

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
1,1,1,2-Tetrachloroethane	5.00	5.36	107	5.00	4.96	99	73.0-119	7.8	30.00
Bromoform	5.00	5.44	109	5.00	4.95	99	62.0-127	9.4	30.00
Bromobenzene	5.00	5.56	111	5.00	5.22	104	75.0-120	6.3	30.00
1,1,2,2-Tetrachloroethane	5.00	5.55	111	5.00	5.18	104	68.0-129	6.9	30.00
1,2,3-Trichloropropane	5.00	5.74	115	5.00	5.21	104	67.0-126	9.7	30.00
Ethyl Benzene	5.00	5.45	109	5.00	4.96	99	76.0-123	9.4	30.00
m,p-Xylene	10.0	11.0	110	10.0	10.3	103	76.0-124	6.6	30.00
Styrene	5.00	5.50	110	5.00	5.05	101	76.0-121	8.5	30.00
o-Xylene	5.00	5.64	113	5.00	5.22	104	75.0-124	7.7	30.00
Isopropylbenzene (Cumene)	5.00	5.65	113	5.00	5.29	106	77.0-120	6.6	30.00
n-Propylbenzene	5.00	5.56	111	5.00	5.16	103	77.0-123	7.5	30.00
2-Chlorotoluene	5.00	5.75	115	5.00	5.28	106	74.0-127	8.5	30.00
4-Chlorotoluene	5.00	5.59	112	5.00	5.14	103	77.0-123	8.4	30.00
1,3,5-Trimethylbenzene	5.00	5.56	111	5.00	5.20	104	76.0-122	6.7	30.00
tert-Butylbenzene	5.00	5.54	111	5.00	5.20	104	67.0-122	6.3	30.00
1,2,4-Trimethylbenzene	5.00	5.55	111	5.00	5.17	103	76.0-124	7.1	30.00
sec-Butylbenzene	5.00	5.58	112	5.00	5.12	102	78.0-121	8.6	30.00
1,3-Dichlorobenzene	5.00	5.71	114	5.00	5.29	106	75.0-120	7.6	30.00
4-Isopropyltoluene	5.00	5.68	114	5.00	5.23	105	77.0-120	8.2	30.00
1,4-Dichlorobenzene	5.00	5.66	113	5.00	5.32	106	70.0-125	6.2	30.00
1,2-Dichlorobenzene	5.00	5.64	113	5.00	5.20	104	76.0-118	8.1	30.00
n-Butylbenzene	5.00	5.58	112	5.00	5.16	103	78.0-118	7.8	30.00
1,2-Dibromo-3-chloropropane	30.0	32.9	110	30.0	30.6	102	62.0-130	7.2	30.00
1,2,4-Trichlorobenzene	5.00	5.37	107	5.00	5.09	102	72.0-119	5.4	30.00
Hexachlorobutadiene	5.00	5.71	114	5.00	5.44	109	69.0-121	4.8	30.00
Naphthalene	5.00	5.68	114	5.00	5.31	106	67.0-122	6.7	30.00
1,2,3-Trichlorobenzene	5.00	5.61	112	5.00	5.37	107	21.0-193	4.4	30.00
Surrogates									
1,2-Dichloroethane-d4			99.4			101	64.0-140		
Toluene d8			99			99.9	82.0-117		
4-Bromofluorobenzene			97.7			97.8	85.0-115		



Blank Spike Summary

Blank Spike ID: LCS for HBN 22417 [VXX/3166]
Blank Spike Lab ID: 67220
Date Analyzed: 04/18/2012 11:48

Spike Duplicate ID: LCSD for HBN 22417 [VXX/3166]
Spike Duplicate Lab ID: 67221
Date Analyzed: 04/18/2012 12:12
Matrix: Water

QC for Samples: 31201091002

Results by SM 6200-B

Parameter	Blank Spike (%)			Spike Duplicate (%)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			

Batch Information

Analytical Batch: **VMS2128**
Analytical Method: **SM 6200-B**
Instrument: **MSD4**
Analyst: **DVO**

Prep Batch: **VXX3166**
Prep Method: **SW-846 5030B**
Prep Date/Time: **04/18/2012 08:08**
Spike Init Wt./Vol.: **40 mL** Extract Vol: **40 mL**
Dupe Init Wt./Vol.: **40 mL** Extract Vol: **40 mL**



Matrix Spike Summary

Original Sample ID: 31201091002 (Precarbon-041012)
 MS Sample ID: 67511
 MSD Sample ID: 67512

Analysis Date: 04/18/2012 15:25
 Analysis Date: 04/18/2012 21:27
 Analysis Date: 04/18/2012 21:52
 Matrix: Water

QC for Samples: 31201091002

Results by SM 6200-B

Parameter	Sample	Matrix Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
1,1,1,2-Tetrachloroethane	ND	5.00	4.88	98	5.00	5.06	101	69.0-120	3.6	30.00
1,1,1-Trichloroethane	ND	5.00	4.59	92	5.00	4.72	94	78.0-121	2.8	30.00
1,1,2,2-Tetrachloroethane	ND	5.00	5.42	108	5.00	5.34	107	76.0-136	1.5	30.00
1,1,2-Trichloroethane	ND	5.00	5.27	105	5.00	5.22	104	65.0-128	0.95	30.00
1,1-Dichloroethane	ND	5.00	4.98	100	5.00	5.06	101	76.0-128	1.6	30.00
1,1-Dichloroethene	ND	5.00	4.69	94	5.00	4.69	94	64.0-130	0.0	30.00
1,1-Dichloropropene	ND	5.00	4.73	95	5.00	4.79	96	73.0-120	1.3	30.00
1,2,3-Trichlorobenzene	ND	5.00	5.76	115	5.00	5.76	115	61.0-126	0.0	30.00
1,2,3-Trichloropropane	ND	5.00	5.51	110	5.00	5.47	109	10.0-218	0.73	30.00
1,2,4-Trichlorobenzene	ND	5.00	5.23	105	5.00	5.44	109	61.0-125	3.9	30.00
1,2,4-Trimethylbenzene	ND	5.00	5.45	109	5.00	5.54	111	31.0-172	1.6	30.00
1,2-Dibromo-3-chloropropane	ND	30.0	29.8	99	30.0	30.1	100	20.0-171	1.0	30.00
1,2-Dibromoethane	ND	5.00	5.21	104	5.00	5.27	105	79.0-123	1.1	30.00
1,2-Dichlorobenzene	ND	5.00	5.46	109	5.00	5.59	112	75.0-120	2.4	30.00
1,2-Dichloroethane	ND	5.00	4.74	95	5.00	4.72	94	71.0-127	0.42	30.00
1,2-Dichloropropane	ND	5.00	4.76	95	5.00	4.83	97	77.0-129	1.5	30.00
1,3,5-Trimethylbenzene	ND	5.00	5.49	110	5.00	5.55	111	68.0-132	1.1	30.00
1,3-Dichlorobenzene	ND	5.00	5.58	112	5.00	5.64	113	73.0-121	1.1	30.00
1,3-Dichloropropane	ND	5.00	5.17	103	5.00	5.22	104	79.0-121	0.96	30.00
1,4-Dichlorobenzene	ND	5.00	5.50	110	5.00	5.59	112	75.0-118	1.6	30.00
2,2-Dichloropropane	ND	5.00	4.42	88	5.00	4.51	90	32.0-157	2.0	30.00
2-Chlorotoluene	ND	5.00	5.57	111	5.00	5.61	112	79.0-118	0.72	30.00
4-Chlorotoluene	ND	5.00	5.34	107	5.00	5.31	106	77.0-120	0.56	30.00
4-Isopropyltoluene	ND	5.00	5.48	110	5.00	5.59	112	75.0-122	2.0	30.00
Benzene	ND	5.00	4.83	97	5.00	4.95	99	62.0-135	2.5	30.00
Bromobenzene	ND	5.00	5.49	110	5.00	5.40	108	65.0-125	1.7	30.00
Bromochloromethane	ND	5.00	5.20	104	5.00	5.36	107	76.0-126	3.0	30.00
Bromodichloromethane	ND	5.00	4.64	93	5.00	4.73	95	74.0-123	1.9	30.00
Bromoform	ND	5.00	4.81	96	5.00	4.85	97	52.0-122	0.83	30.00
Bromomethane	ND	5.00	1.87	37	5.00	3.08	62	10.0-284	49*	30.00
n-Butylbenzene	ND	5.00	5.40	108	5.00	5.50	110	70.0-124	1.8	30.00
Carbon tetrachloride	ND	5.00	4.88	98	5.00	4.99	100	72.0-122	2.2	30.00
Chlorobenzene	ND	5.00	5.33	107	5.00	5.39	108	77.0-118	1.1	30.00
Chloroethane	ND	5.00	5.26	105	5.00	5.69	114	10.0-233	7.9	30.00
Chloroform	ND	5.00	4.64	93	5.00	4.72	94	74.0-128	1.7	30.00
Chloromethane	ND	5.00	4.69	94	5.00	4.69	94	72.0-138	0.0	30.00
Dibromochloromethane	ND	5.00	5.06	101	5.00	5.06	101	69.0-117	0.0	30.00
Dibromomethane	ND	5.00	4.70	94	5.00	4.79	96	72.0-137	1.9	30.00

Matrix Spike Summary

Original Sample ID: 31201091002 (Precarbon-041012)
 MS Sample ID: 67511
 MSD Sample ID: 67512

Analysis Date: 04/18/2012 15:25
 Analysis Date: 04/18/2012 21:27
 Analysis Date: 04/18/2012 21:52
 Matrix: Water

QC for Samples: 31201091002

Results by SM 6200-B

Parameter	Sample	Matrix Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Dichlorodifluoromethane	ND	5.00	ND	95	5.00	ND	90	42.0-166		30.00
cis-1,3-Dichloropropene	ND	5.00	4.68	94	5.00	4.82	96	67.0-132	2.9	30.00
trans-1,3-Dichloropropene	ND	5.00	4.33	87	5.00	4.42	88	45.0-144	2.1	30.00
Diisopropyl Ether	ND	5.00	5.36	107	5.00	5.47	109	79.0-122	2.0	30.00
Ethyl Benzene	ND	5.00	5.31	106	5.00	5.42	108	74.0-126	2.1	30.00
Hexachlorobutadiene	ND	5.00	5.53	111	5.00	5.59	112	52.0-134	1.1	30.00
Isopropylbenzene (Cumene)	ND	5.00	5.52	110	5.00	5.61	112	74.0-123	1.6	30.00
Methylene chloride	ND	5.00	ND	93	5.00	ND	93	49.0-155		30.00
Naphthalene	ND	5.00	5.58	112	5.00	5.66	113	55.0-140	1.4	30.00
Styrene	ND	5.00	4.97	99	5.00	5.23	105	73.0-123	5.1	30.00
Tetrachloroethene	ND	5.00	5.27	105	5.00	5.34	107	46.0-153	1.3	30.00
Toluene	ND	5.00	5.04	101	5.00	5.13	103	66.0-128	1.8	30.00
Trichloroethene	ND	5.00	4.80	96	5.00	4.82	96	35.0-136	0.42	30.00
Trichlorofluoromethane	ND	5.00	4.34	87	5.00	4.34	87	77.0-132	0.0	30.00
Vinyl chloride	ND	5.00	4.10	82	5.00	4.26	85	68.0-137	3.8	30.00
cis-1,2-Dichloroethene	ND	5.00	5.07	101	5.00	5.07	101	73.0-134	0.0	30.00
m,p-Xylene	ND	10.0	10.8	108	10.0	11.1	111	80.0-118	2.7	30.00
n-Propylbenzene	ND	5.00	5.41	108	5.00	5.51	110	72.0-128	1.8	30.00
o-Xylene	ND	5.00	5.38	108	5.00	5.70	114	80.0-121	5.8	30.00
sec-Butylbenzene	ND	5.00	5.42	108	5.00	5.49	110	62.0-133	1.3	30.00
tert-Butyl methyl ether (MTBE)	ND	5.00	4.49	90	5.00	4.48	90	67.0-136	0.22	30.00
tert-Butylbenzene	ND	5.00	5.47	109	5.00	5.54	111	74.0-121	1.3	30.00
trans-1,2-Dichloroethene	ND	5.00	4.83	97	5.00	4.86	97	75.0-124	0.62	30.00

Surrogates

1,2-Dichloroethane-d4				101			98.2	64.0-140
4-Bromofluorobenzene				97.5			95.8	85.0-115
Toluene d8				98.6			98.8	82.0-117

Batch Information

Analytical Batch: **VMS2128**
 Analytical Method: **SM 6200-B**
 Instrument: **MSD4**
 Analyst: **DVO**

Prep Batch: **VXX3166**
 Prep Method: **SM 6200-B Prep**
 Prep Date/Time: **04/18/2012 08:00**
 MS Init Wt./Vol.: **40 mL** Extract Vol.: **40 mL**
 MSD Init Wt./Vol.: **40 mL** Extract Vol.: **40 mL**



Laboratory Report of Analysis

To: Matt Brennan
AECOM
8540 Colonnade Center Drive
Suite 306
Raleigh, NC 27615
US

Report Number: 31201090

Client Project: NCDOT Pittsboro

Dear Matt Brennan,

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
Project Manager
barbara.hager@sgs.com

Date

Laboratory Qualifiers

Report Definitions

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

Qualifier Definitions

*	Recovery or RPD outside of control limits
B	Analyte was detected in the Lab Method Blank at a level above the LOQ
U	Undetected (Reported as ND or < 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

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Collected</u>	<u>Received</u>	<u>Matrix</u>
48MW-17	31201090001	04/11/2012 10:05	04/13/2012 15:00	Water
48MW-4R	31201090002	04/11/2012 10:45	04/13/2012 15:00	Water
48DW-1	31201090003	04/11/2012 11:00	04/13/2012 15:00	Water
48MW-15	31201090004	04/11/2012 12:05	04/13/2012 15:00	Water
48DW-4	31201090005	04/11/2012 12:30	04/13/2012 15:00	Water
48MW-12	31201090006	04/11/2012 12:40	04/13/2012 15:00	Water
48MW-14	31201090007	04/11/2012 13:57	04/13/2012 15:00	Water
48MW-3	31201090008	04/11/2012 14:05	04/13/2012 15:00	Water
48DW-3	31201090009	04/11/2012 15:10	04/13/2012 15:00	Water
48MW-2	31201090010	04/11/2012 15:30	04/13/2012 15:00	Water
48EB-1	31201090011	04/11/2012 15:30	04/13/2012 15:00	Water
48PW-2	31201090012	04/11/2012 16:00	04/13/2012 15:00	Water
48RW-1	31201090013	04/11/2012 16:10	04/13/2012 15:00	Water
48RW-2	31201090014	04/11/2012 16:15	04/13/2012 15:00	Water
48MW-13	31201090015	04/12/2012 08:30	04/13/2012 15:00	Water
48MW-10	31201090016	04/12/2012 08:55	04/13/2012 15:00	Water
48MW-5	31201090017	04/12/2012 09:18	04/13/2012 15:00	Water
48SW-1	31201090018	04/12/2012 10:00	04/13/2012 15:00	Water
48MW-11R	31201090019	04/12/2012 11:10	04/13/2012 15:00	Water
48MW-16	31201090020	04/12/2012 11:15	04/13/2012 15:00	Water
48MW-1	31201090021	04/12/2012 13:10	04/13/2012 15:00	Water
48DW-6	31201090022	04/12/2012 13:25	04/13/2012 15:00	Water
48DUP-1	31201090023	04/12/2012 00:00	04/13/2012 15:00	Water
48DW-7	31201090024	04/12/2012 14:50	04/13/2012 15:00	Water
48DW-8	31201090025	04/12/2012 15:15	04/13/2012 15:00	Water
48DW-2	31201090026	04/12/2012 16:00	04/13/2012 15:00	Water
48DW-5	31201090027	04/12/2012 16:25	04/13/2012 15:00	Water
48SVE-01	31201090028	04/12/2012 16:55	04/13/2012 15:00	Water
48EB-02	31201090029	04/12/2012 17:30	04/13/2012 15:00	Water
Trip Blank	31201090030	04/12/2012 00:00	04/13/2012 15:00	Water

Print Date: 04/25/2012

N.C. Certification # 481



Detectable Results Summary

Client Sample ID: **48DW-4**

Lab Sample ID: 31201090005-A

SW-846 8260B

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Ethyl Benzene	1.46	ug/L
Trichloroethene	3.30	ug/L
o-Xylene	5.77	ug/L

Client Sample ID: **48MW-3**

Lab Sample ID: 31201090008-A

SW-846 8260B

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
1,1-Dichloroethane	3.42	ug/L
1,1-Dichloroethene	2.51	ug/L
Tetrachloroethene	2.78	ug/L

Client Sample ID: **48RW-1**

Lab Sample ID: 31201090013-C

SW-846 8260B

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
1,1-Dichloroethene	15.0	ug/L
Tetrachloroethene	10.4	ug/L
Trichloroethene	324	ug/L

Client Sample ID: **48RW-2**

Lab Sample ID: 31201090014-A

SW-846 8260B

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
1,1-Dichloroethene	6.35	ug/L
Trichloroethene	86.1	ug/L

Client Sample ID: **48MW-11R**

Lab Sample ID: 31201090019-A

SW-846 8260B

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Trichloroethene	4.52	ug/L
cis-1,2-Dichloroethene	1.89	ug/L

Client Sample ID: **48MW-16**

Lab Sample ID: 31201090020-A

SW-846 8260B

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
1,1-Dichloroethene	46.8	ug/L
Trichloroethene	478	ug/L

Client Sample ID: **48MW-1**

Lab Sample ID: 31201090021-A

SW-846 8260B

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
1,1-Dichloroethene	2.22	ug/L
Tetrachloroethene	1.61	ug/L
Trichloroethene	16.2	ug/L

Client Sample ID: **48DW-6**

Lab Sample ID: 31201090022-A

SW-846 8260B

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Toluene	1.57	ug/L
Trichloroethene	1.58	ug/L

Client Sample ID: **48DUP-1**

Lab Sample ID: 31201090023-A

SW-846 8260B

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
1,1-Dichloroethene	2.22	ug/L
Tetrachloroethene	1.48	ug/L
Trichloroethene	16.1	ug/L

Client Sample ID: **48DW-7**

Lab Sample ID: 31201090024-A

SW-846 8260B

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Trichloroethene	1.61	ug/L

Detectable Results Summary

Client Sample ID: **48DW-8**

Lab Sample ID: 31201090025-A

SW-846 8260B

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
1,1-Dichloroethene	13.6	ug/L
Trichloroethene	178	ug/L

Client Sample ID: **48DW-2**

Lab Sample ID: 31201090026-A

SW-846 8260B

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
1,1-Dichloroethane	2.38	ug/L
1,1-Dichloroethene	5.82	ug/L
Trichloroethene	15.7	ug/L
cis-1,2-Dichloroethene	4.98	ug/L

Client Sample ID: **48DW-5**

Lab Sample ID: 31201090027-A

SW-846 8260B

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
1,1-Dichloroethene	39.4	ug/L
Trichloroethene	413	ug/L

Client Sample ID: **48SVE-01**

Lab Sample ID: 31201090028-A

SW-846 8260B

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Trichloroethene	48600	ug/L



Results of **48MW-17**

Client Sample ID: **48MW-17**
Client Project ID: **NCDOT Pittsboro**
Lab Sample ID: 31201090001-A
Lab Project ID: 31201090

Collection Date: 04/11/2012 10:05
Received Date: 04/13/2012 15:00
Matrix: Water

Results by **SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L	1	04/18/2012 16:49
1,1,1-Trichloroethane	ND		1.00	ug/L	1	04/18/2012 16:49
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L	1	04/18/2012 16:49
1,1,2-Trichloroethane	ND		1.00	ug/L	1	04/18/2012 16:49
1,1-Dichloroethane	ND		1.00	ug/L	1	04/18/2012 16:49
1,1-Dichloroethene	ND		1.00	ug/L	1	04/18/2012 16:49
1,1-Dichloropropene	ND		1.00	ug/L	1	04/18/2012 16:49
1,2,3-Trichlorobenzene	ND		1.00	ug/L	1	04/18/2012 16:49
1,2,3-Trichloropropane	ND		1.00	ug/L	1	04/18/2012 16:49
1,2,4-Trichlorobenzene	ND		1.00	ug/L	1	04/18/2012 16:49
1,2,4-Trimethylbenzene	ND		1.00	ug/L	1	04/18/2012 16:49
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1	04/18/2012 16:49
1,2-Dibromoethane	ND		1.00	ug/L	1	04/18/2012 16:49
1,2-Dichlorobenzene	ND		1.00	ug/L	1	04/18/2012 16:49
1,2-Dichloroethane	ND		1.00	ug/L	1	04/18/2012 16:49
1,2-Dichloropropane	ND		1.00	ug/L	1	04/18/2012 16:49
1,3,5-Trimethylbenzene	ND		1.00	ug/L	1	04/18/2012 16:49
1,3-Dichlorobenzene	ND		1.00	ug/L	1	04/18/2012 16:49
1,3-Dichloropropane	ND		1.00	ug/L	1	04/18/2012 16:49
1,4-Dichlorobenzene	ND		1.00	ug/L	1	04/18/2012 16:49
2,2-Dichloropropane	ND		1.00	ug/L	1	04/18/2012 16:49
2-Butanone	ND		25.0	ug/L	1	04/18/2012 16:49
2-Chlorotoluene	ND		1.00	ug/L	1	04/18/2012 16:49
2-Hexanone	ND		5.00	ug/L	1	04/18/2012 16:49
4-Chlorotoluene	ND		1.00	ug/L	1	04/18/2012 16:49
4-Isopropyltoluene	ND		1.00	ug/L	1	04/18/2012 16:49
4-Methyl-2-pentanone	ND		5.00	ug/L	1	04/18/2012 16:49
Acetone	ND		25.0	ug/L	1	04/18/2012 16:49
Benzene	ND		1.00	ug/L	1	04/18/2012 16:49
Bromobenzene	ND		1.00	ug/L	1	04/18/2012 16:49
Bromochloromethane	ND		1.00	ug/L	1	04/18/2012 16:49
Bromodichloromethane	ND		1.00	ug/L	1	04/18/2012 16:49
Bromoform	ND		1.00	ug/L	1	04/18/2012 16:49
Bromomethane	ND		1.00	ug/L	1	04/18/2012 16:49
n-Butylbenzene	ND		1.00	ug/L	1	04/18/2012 16:49
Carbon disulfide	ND		1.00	ug/L	1	04/18/2012 16:49
Carbon tetrachloride	ND		1.00	ug/L	1	04/18/2012 16:49
Chlorobenzene	ND		1.00	ug/L	1	04/18/2012 16:49
Chloroethane	ND		1.00	ug/L	1	04/18/2012 16:49
Chloroform	ND		1.00	ug/L	1	04/18/2012 16:49
Chloromethane	ND		1.00	ug/L	1	04/18/2012 16:49
Dibromochloromethane	ND		1.00	ug/L	1	04/18/2012 16:49
Dibromomethane	ND		1.00	ug/L	1	04/18/2012 16:49

Print Date: 04/25/2012

N.C. Certification # 481



Results of **48MW-17**

Client Sample ID: **48MW-17**
Client Project ID: **NCDOT Pittsboro**
Lab Sample ID: 31201090001-A
Lab Project ID: 31201090

Collection Date: 04/11/2012 10:05
Received Date: 04/13/2012 15:00
Matrix: Water

Results by **SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Dichlorodifluoromethane	ND		5.00	ug/L	1	04/18/2012 16:49
cis-1,3-Dichloropropene	ND		1.00	ug/L	1	04/18/2012 16:49
trans-1,3-Dichloropropene	ND		1.00	ug/L	1	04/18/2012 16:49
Diisopropyl Ether	ND		1.00	ug/L	1	04/18/2012 16:49
Ethyl Benzene	ND		1.00	ug/L	1	04/18/2012 16:49
Hexachlorobutadiene	ND		1.00	ug/L	1	04/18/2012 16:49
Isopropylbenzene (Cumene)	ND		1.00	ug/L	1	04/18/2012 16:49
Methyl iodide	ND		1.00	ug/L	1	04/18/2012 16:49
Methylene chloride	ND		5.00	ug/L	1	04/18/2012 16:49
Naphthalene	ND		1.00	ug/L	1	04/18/2012 16:49
Styrene	ND		1.00	ug/L	1	04/18/2012 16:49
Tetrachloroethene	ND		1.00	ug/L	1	04/18/2012 16:49
Toluene	ND		1.00	ug/L	1	04/18/2012 16:49
Trichloroethene	ND		1.00	ug/L	1	04/18/2012 16:49
Trichlorofluoromethane	ND		1.00	ug/L	1	04/18/2012 16:49
Vinyl chloride	ND		1.00	ug/L	1	04/18/2012 16:49
cis-1,2-Dichloroethene	ND		1.00	ug/L	1	04/18/2012 16:49
m,p-Xylene	ND		2.00	ug/L	1	04/18/2012 16:49
n-Propylbenzene	ND		1.00	ug/L	1	04/18/2012 16:49
o-Xylene	ND		1.00	ug/L	1	04/18/2012 16:49
sec-Butylbenzene	ND		1.00	ug/L	1	04/18/2012 16:49
tert-Butyl methyl ether (MTBE)	ND		1.00	ug/L	1	04/18/2012 16:49
tert-Butylbenzene	ND		1.00	ug/L	1	04/18/2012 16:49
trans-1,2-Dichloroethene	ND		1.00	ug/L	1	04/18/2012 16:49
trans-1,4-Dichloro-2-butene	ND		5.00	ug/L	1	04/18/2012 16:49

Surrogates

1,2-Dichloroethane-d4	105		64.0-140	%	1	04/18/2012 16:49
4-Bromofluorobenzene	105		85.0-115	%	1	04/18/2012 16:49
Toluene d8	103		82.0-117	%	1	04/18/2012 16:49

Batch Information

Analytical Batch: **VMS2129**
Analytical Method: **SW-846 8260B**
Instrument: **MSD8**
Analyst: **DVO**
Analytical Date/Time: **04/18/2012 16:49**

Prep Batch: **VXX3167**
Prep Method: **SW-846 5030B**
Prep Date/Time: **04/18/2012 08:00**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **40 mL**



Results of **48MW-4R**

Client Sample ID: **48MW-4R**
Client Project ID: **NCDOT Pittsboro**
Lab Sample ID: 31201090002-A
Lab Project ID: 31201090

Collection Date: 04/11/2002 10:45
Received Date: 04/13/2012 15:00
Matrix: Water

Results by **SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L	1	04/17/2012 19:08
1,1,1-Trichloroethane	ND		1.00	ug/L	1	04/17/2012 19:08
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L	1	04/17/2012 19:08
1,1,2-Trichloroethane	ND		1.00	ug/L	1	04/17/2012 19:08
1,1-Dichloroethane	ND		1.00	ug/L	1	04/17/2012 19:08
1,1-Dichloroethene	ND		1.00	ug/L	1	04/17/2012 19:08
1,1-Dichloropropene	ND		1.00	ug/L	1	04/17/2012 19:08
1,2,3-Trichlorobenzene	ND		1.00	ug/L	1	04/17/2012 19:08
1,2,3-Trichloropropane	ND		1.00	ug/L	1	04/17/2012 19:08
1,2,4-Trichlorobenzene	ND		1.00	ug/L	1	04/17/2012 19:08
1,2,4-Trimethylbenzene	ND		1.00	ug/L	1	04/17/2012 19:08
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1	04/17/2012 19:08
1,2-Dibromoethane	ND		1.00	ug/L	1	04/17/2012 19:08
1,2-Dichlorobenzene	ND		1.00	ug/L	1	04/17/2012 19:08
1,2-Dichloroethane	ND		1.00	ug/L	1	04/17/2012 19:08
1,2-Dichloropropane	ND		1.00	ug/L	1	04/17/2012 19:08
1,3,5-Trimethylbenzene	ND		1.00	ug/L	1	04/17/2012 19:08
1,3-Dichlorobenzene	ND		1.00	ug/L	1	04/17/2012 19:08
1,3-Dichloropropane	ND		1.00	ug/L	1	04/17/2012 19:08
1,4-Dichlorobenzene	ND		1.00	ug/L	1	04/17/2012 19:08
2,2-Dichloropropane	ND		1.00	ug/L	1	04/17/2012 19:08
2-Butanone	ND		25.0	ug/L	1	04/17/2012 19:08
2-Chlorotoluene	ND		1.00	ug/L	1	04/17/2012 19:08
2-Hexanone	ND		5.00	ug/L	1	04/17/2012 19:08
4-Chlorotoluene	ND		1.00	ug/L	1	04/17/2012 19:08
4-Isopropyltoluene	ND		1.00	ug/L	1	04/17/2012 19:08
4-Methyl-2-pentanone	ND		5.00	ug/L	1	04/17/2012 19:08
Acetone	ND		25.0	ug/L	1	04/17/2012 19:08
Benzene	ND		1.00	ug/L	1	04/17/2012 19:08
Bromobenzene	ND		1.00	ug/L	1	04/17/2012 19:08
Bromochloromethane	ND		1.00	ug/L	1	04/17/2012 19:08
Bromodichloromethane	ND		1.00	ug/L	1	04/17/2012 19:08
Bromoform	ND		1.00	ug/L	1	04/17/2012 19:08
Bromomethane	ND		1.00	ug/L	1	04/17/2012 19:08
n-Butylbenzene	ND		1.00	ug/L	1	04/17/2012 19:08
Carbon disulfide	ND		1.00	ug/L	1	04/17/2012 19:08
Carbon tetrachloride	ND		1.00	ug/L	1	04/17/2012 19:08
Chlorobenzene	ND		1.00	ug/L	1	04/17/2012 19:08
Chloroethane	ND		1.00	ug/L	1	04/17/2012 19:08
Chloroform	ND		1.00	ug/L	1	04/17/2012 19:08
Chloromethane	ND		1.00	ug/L	1	04/17/2012 19:08
Dibromochloromethane	ND		1.00	ug/L	1	04/17/2012 19:08
Dibromomethane	ND		1.00	ug/L	1	04/17/2012 19:08

Print Date: 04/25/2012

N.C. Certification # 481



Results of **48MW-4R**

Client Sample ID: **48MW-4R**
Client Project ID: **NCDOT Pittsboro**
Lab Sample ID: 31201090002-A
Lab Project ID: 31201090

Collection Date: 04/11/2002 10:45
Received Date: 04/13/2012 15:00
Matrix: Water

Results by **SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Dichlorodifluoromethane	ND		5.00	ug/L	1	04/17/2012 19:08
cis-1,3-Dichloropropene	ND		1.00	ug/L	1	04/17/2012 19:08
trans-1,3-Dichloropropene	ND		1.00	ug/L	1	04/17/2012 19:08
Diisopropyl Ether	ND		1.00	ug/L	1	04/17/2012 19:08
Ethyl Benzene	ND		1.00	ug/L	1	04/17/2012 19:08
Hexachlorobutadiene	ND		1.00	ug/L	1	04/17/2012 19:08
Isopropylbenzene (Cumene)	ND		1.00	ug/L	1	04/17/2012 19:08
Methyl iodide	ND		1.00	ug/L	1	04/17/2012 19:08
Methylene chloride	ND		5.00	ug/L	1	04/17/2012 19:08
Naphthalene	ND		1.00	ug/L	1	04/17/2012 19:08
Styrene	ND		1.00	ug/L	1	04/17/2012 19:08
Tetrachloroethene	ND		1.00	ug/L	1	04/17/2012 19:08
Toluene	ND		1.00	ug/L	1	04/17/2012 19:08
Trichloroethene	ND		1.00	ug/L	1	04/17/2012 19:08
Trichlorofluoromethane	ND		1.00	ug/L	1	04/17/2012 19:08
Vinyl chloride	ND		1.00	ug/L	1	04/17/2012 19:08
cis-1,2-Dichloroethene	ND		1.00	ug/L	1	04/17/2012 19:08
m,p-Xylene	ND		2.00	ug/L	1	04/17/2012 19:08
n-Propylbenzene	ND		1.00	ug/L	1	04/17/2012 19:08
o-Xylene	ND		1.00	ug/L	1	04/17/2012 19:08
sec-Butylbenzene	ND		1.00	ug/L	1	04/17/2012 19:08
tert-Butyl methyl ether (MTBE)	ND		1.00	ug/L	1	04/17/2012 19:08
tert-Butylbenzene	ND		1.00	ug/L	1	04/17/2012 19:08
trans-1,2-Dichloroethene	ND		1.00	ug/L	1	04/17/2012 19:08
trans-1,4-Dichloro-2-butene	ND		5.00	ug/L	1	04/17/2012 19:08
Surrogates						
1,2-Dichloroethane-d4	109		64.0-140	%	1	04/17/2012 19:08
4-Bromofluorobenzene	102		85.0-115	%	1	04/17/2012 19:08
Toluene d8	103		82.0-117	%	1	04/17/2012 19:08

Batch Information

Analytical Batch: **VMS2124**
Analytical Method: **SW-846 8260B**
Instrument: **MSD8**
Analyst: **BWS**
Analytical Date/Time: **04/17/2012 19:08**

Prep Batch: **VXX3158**
Prep Method: **SW-846 5030B**
Prep Date/Time: **04/17/2012 09:37**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **40 mL**



Results of 48DW-1

Client Sample ID: 48DW-1
Client Project ID: NCDOT Pittsboro
Lab Sample ID: 31201090003-A
Lab Project ID: 31201090

Collection Date: 04/11/2012 11:00
Received Date: 04/13/2012 15:00
Matrix: Water

Results by SW-846 8260B

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L	1	04/18/2012 17:13
1,1,1-Trichloroethane	ND		1.00	ug/L	1	04/18/2012 17:13
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L	1	04/18/2012 17:13
1,1,2-Trichloroethane	ND		1.00	ug/L	1	04/18/2012 17:13
1,1-Dichloroethane	ND		1.00	ug/L	1	04/18/2012 17:13
1,1-Dichloroethene	ND		1.00	ug/L	1	04/18/2012 17:13
1,1-Dichloropropene	ND		1.00	ug/L	1	04/18/2012 17:13
1,2,3-Trichlorobenzene	ND		1.00	ug/L	1	04/18/2012 17:13
1,2,3-Trichloropropane	ND		1.00	ug/L	1	04/18/2012 17:13
1,2,4-Trichlorobenzene	ND		1.00	ug/L	1	04/18/2012 17:13
1,2,4-Trimethylbenzene	ND		1.00	ug/L	1	04/18/2012 17:13
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1	04/18/2012 17:13
1,2-Dibromoethane	ND		1.00	ug/L	1	04/18/2012 17:13
1,2-Dichlorobenzene	ND		1.00	ug/L	1	04/18/2012 17:13
1,2-Dichloroethane	ND		1.00	ug/L	1	04/18/2012 17:13
1,2-Dichloropropane	ND		1.00	ug/L	1	04/18/2012 17:13
1,3,5-Trimethylbenzene	ND		1.00	ug/L	1	04/18/2012 17:13
1,3-Dichlorobenzene	ND		1.00	ug/L	1	04/18/2012 17:13
1,3-Dichloropropane	ND		1.00	ug/L	1	04/18/2012 17:13
1,4-Dichlorobenzene	ND		1.00	ug/L	1	04/18/2012 17:13
2,2-Dichloropropane	ND		1.00	ug/L	1	04/18/2012 17:13
2-Butanone	ND		25.0	ug/L	1	04/18/2012 17:13
2-Chlorotoluene	ND		1.00	ug/L	1	04/18/2012 17:13
2-Hexanone	ND		5.00	ug/L	1	04/18/2012 17:13
4-Chlorotoluene	ND		1.00	ug/L	1	04/18/2012 17:13
4-Isopropyltoluene	ND		1.00	ug/L	1	04/18/2012 17:13
4-Methyl-2-pentanone	ND		5.00	ug/L	1	04/18/2012 17:13
Acetone	ND		25.0	ug/L	1	04/18/2012 17:13
Benzene	ND		1.00	ug/L	1	04/18/2012 17:13
Bromobenzene	ND		1.00	ug/L	1	04/18/2012 17:13
Bromochloromethane	ND		1.00	ug/L	1	04/18/2012 17:13
Bromodichloromethane	ND		1.00	ug/L	1	04/18/2012 17:13
Bromoform	ND		1.00	ug/L	1	04/18/2012 17:13
Bromomethane	ND		1.00	ug/L	1	04/18/2012 17:13
n-Butylbenzene	ND		1.00	ug/L	1	04/18/2012 17:13
Carbon disulfide	ND		1.00	ug/L	1	04/18/2012 17:13
Carbon tetrachloride	ND		1.00	ug/L	1	04/18/2012 17:13
Chlorobenzene	ND		1.00	ug/L	1	04/18/2012 17:13
Chloroethane	ND		1.00	ug/L	1	04/18/2012 17:13
Chloroform	ND		1.00	ug/L	1	04/18/2012 17:13
Chloromethane	ND		1.00	ug/L	1	04/18/2012 17:13
Dibromochloromethane	ND		1.00	ug/L	1	04/18/2012 17:13
Dibromomethane	ND		1.00	ug/L	1	04/18/2012 17:13

Print Date: 04/25/2012

N.C. Certification # 481



Results of **48DW-1**

Client Sample ID: **48DW-1**
Client Project ID: **NCDOT Pittsboro**
Lab Sample ID: 31201090003-A
Lab Project ID: 31201090

Collection Date: 04/11/2012 11:00
Received Date: 04/13/2012 15:00
Matrix: Water

Results by **SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Dichlorodifluoromethane	ND		5.00	ug/L	1	04/18/2012 17:13
cis-1,3-Dichloropropene	ND		1.00	ug/L	1	04/18/2012 17:13
trans-1,3-Dichloropropene	ND		1.00	ug/L	1	04/18/2012 17:13
Diisopropyl Ether	ND		1.00	ug/L	1	04/18/2012 17:13
Ethyl Benzene	ND		1.00	ug/L	1	04/18/2012 17:13
Hexachlorobutadiene	ND		1.00	ug/L	1	04/18/2012 17:13
Isopropylbenzene (Cumene)	ND		1.00	ug/L	1	04/18/2012 17:13
Methyl iodide	ND		1.00	ug/L	1	04/18/2012 17:13
Methylene chloride	ND		5.00	ug/L	1	04/18/2012 17:13
Naphthalene	ND		1.00	ug/L	1	04/18/2012 17:13
Styrene	ND		1.00	ug/L	1	04/18/2012 17:13
Tetrachloroethene	ND		1.00	ug/L	1	04/18/2012 17:13
Toluene	ND		1.00	ug/L	1	04/18/2012 17:13
Trichloroethene	ND		1.00	ug/L	1	04/18/2012 17:13
Trichlorofluoromethane	ND		1.00	ug/L	1	04/18/2012 17:13
Vinyl chloride	ND		1.00	ug/L	1	04/18/2012 17:13
cis-1,2-Dichloroethene	ND		1.00	ug/L	1	04/18/2012 17:13
m,p-Xylene	ND		2.00	ug/L	1	04/18/2012 17:13
n-Propylbenzene	ND		1.00	ug/L	1	04/18/2012 17:13
o-Xylene	ND		1.00	ug/L	1	04/18/2012 17:13
sec-Butylbenzene	ND		1.00	ug/L	1	04/18/2012 17:13
tert-Butyl methyl ether (MTBE)	ND		1.00	ug/L	1	04/18/2012 17:13
tert-Butylbenzene	ND		1.00	ug/L	1	04/18/2012 17:13
trans-1,2-Dichloroethene	ND		1.00	ug/L	1	04/18/2012 17:13
trans-1,4-Dichloro-2-butene	ND		5.00	ug/L	1	04/18/2012 17:13

Surrogates

1,2-Dichloroethane-d4	106		64.0-140	%	1	04/18/2012 17:13
4-Bromofluorobenzene	93.0		85.0-115	%	1	04/18/2012 17:13
Toluene d8	102		82.0-117	%	1	04/18/2012 17:13

Batch Information

Analytical Batch: **VMS2129**
Analytical Method: **SW-846 8260B**
Instrument: **MSD8**
Analyst: **DVO**
Analytical Date/Time: **04/18/2012 17:13**

Prep Batch: **VXX3167**
Prep Method: **SW-846 5030B**
Prep Date/Time: **04/18/2012 08:00**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **40 mL**



Results of **48MW-15**

Client Sample ID: **48MW-15**
Client Project ID: **NCDOT Pittsboro**
Lab Sample ID: 31201090004-A
Lab Project ID: 31201090

Collection Date: 04/11/2012 12:05
Received Date: 04/13/2012 15:00
Matrix: Water

Results by **SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L	1	04/18/2012 17:38
1,1,1-Trichloroethane	ND		1.00	ug/L	1	04/18/2012 17:38
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L	1	04/18/2012 17:38
1,1,2-Trichloroethane	ND		1.00	ug/L	1	04/18/2012 17:38
1,1-Dichloroethane	ND		1.00	ug/L	1	04/18/2012 17:38
1,1-Dichloroethene	ND		1.00	ug/L	1	04/18/2012 17:38
1,1-Dichloropropene	ND		1.00	ug/L	1	04/18/2012 17:38
1,2,3-Trichlorobenzene	ND		1.00	ug/L	1	04/18/2012 17:38
1,2,3-Trichloropropane	ND		1.00	ug/L	1	04/18/2012 17:38
1,2,4-Trichlorobenzene	ND		1.00	ug/L	1	04/18/2012 17:38
1,2,4-Trimethylbenzene	ND		1.00	ug/L	1	04/18/2012 17:38
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1	04/18/2012 17:38
1,2-Dibromoethane	ND		1.00	ug/L	1	04/18/2012 17:38
1,2-Dichlorobenzene	ND		1.00	ug/L	1	04/18/2012 17:38
1,2-Dichloroethane	ND		1.00	ug/L	1	04/18/2012 17:38
1,2-Dichloropropane	ND		1.00	ug/L	1	04/18/2012 17:38
1,3,5-Trimethylbenzene	ND		1.00	ug/L	1	04/18/2012 17:38
1,3-Dichlorobenzene	ND		1.00	ug/L	1	04/18/2012 17:38
1,3-Dichloropropane	ND		1.00	ug/L	1	04/18/2012 17:38
1,4-Dichlorobenzene	ND		1.00	ug/L	1	04/18/2012 17:38
2,2-Dichloropropane	ND		1.00	ug/L	1	04/18/2012 17:38
2-Butanone	ND		25.0	ug/L	1	04/18/2012 17:38
2-Chlorotoluene	ND		1.00	ug/L	1	04/18/2012 17:38
2-Hexanone	ND		5.00	ug/L	1	04/18/2012 17:38
4-Chlorotoluene	ND		1.00	ug/L	1	04/18/2012 17:38
4-Isopropyltoluene	ND		1.00	ug/L	1	04/18/2012 17:38
4-Methyl-2-pentanone	ND		5.00	ug/L	1	04/18/2012 17:38
Acetone	ND		25.0	ug/L	1	04/18/2012 17:38
Benzene	ND		1.00	ug/L	1	04/18/2012 17:38
Bromobenzene	ND		1.00	ug/L	1	04/18/2012 17:38
Bromochloromethane	ND		1.00	ug/L	1	04/18/2012 17:38
Bromodichloromethane	ND		1.00	ug/L	1	04/18/2012 17:38
Bromoform	ND		1.00	ug/L	1	04/18/2012 17:38
Bromomethane	ND		1.00	ug/L	1	04/18/2012 17:38
n-Butylbenzene	ND		1.00	ug/L	1	04/18/2012 17:38
Carbon disulfide	ND		1.00	ug/L	1	04/18/2012 17:38
Carbon tetrachloride	ND		1.00	ug/L	1	04/18/2012 17:38
Chlorobenzene	ND		1.00	ug/L	1	04/18/2012 17:38
Chloroethane	ND		1.00	ug/L	1	04/18/2012 17:38
Chloroform	ND		1.00	ug/L	1	04/18/2012 17:38
Chloromethane	ND		1.00	ug/L	1	04/18/2012 17:38
Dibromochloromethane	ND		1.00	ug/L	1	04/18/2012 17:38
Dibromomethane	ND		1.00	ug/L	1	04/18/2012 17:38

Print Date: 04/25/2012

N.C. Certification # 481



Results of **48MW-15**

Client Sample ID: **48MW-15**
Client Project ID: **NCDOT Pittsboro**
Lab Sample ID: 31201090004-A
Lab Project ID: 31201090

Collection Date: 04/11/2012 12:05
Received Date: 04/13/2012 15:00
Matrix: Water

Results by **SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Dichlorodifluoromethane	ND		5.00	ug/L	1	04/18/2012 17:38
cis-1,3-Dichloropropene	ND		1.00	ug/L	1	04/18/2012 17:38
trans-1,3-Dichloropropene	ND		1.00	ug/L	1	04/18/2012 17:38
Diisopropyl Ether	ND		1.00	ug/L	1	04/18/2012 17:38
Ethyl Benzene	ND		1.00	ug/L	1	04/18/2012 17:38
Hexachlorobutadiene	ND		1.00	ug/L	1	04/18/2012 17:38
Isopropylbenzene (Cumene)	ND		1.00	ug/L	1	04/18/2012 17:38
Methyl iodide	ND		1.00	ug/L	1	04/18/2012 17:38
Methylene chloride	ND		5.00	ug/L	1	04/18/2012 17:38
Naphthalene	ND		1.00	ug/L	1	04/18/2012 17:38
Styrene	ND		1.00	ug/L	1	04/18/2012 17:38
Tetrachloroethene	ND		1.00	ug/L	1	04/18/2012 17:38
Toluene	ND		1.00	ug/L	1	04/18/2012 17:38
Trichloroethene	ND		1.00	ug/L	1	04/18/2012 17:38
Trichlorofluoromethane	ND		1.00	ug/L	1	04/18/2012 17:38
Vinyl chloride	ND		1.00	ug/L	1	04/18/2012 17:38
cis-1,2-Dichloroethene	ND		1.00	ug/L	1	04/18/2012 17:38
m,p-Xylene	ND		2.00	ug/L	1	04/18/2012 17:38
n-Propylbenzene	ND		1.00	ug/L	1	04/18/2012 17:38
o-Xylene	ND		1.00	ug/L	1	04/18/2012 17:38
sec-Butylbenzene	ND		1.00	ug/L	1	04/18/2012 17:38
tert-Butyl methyl ether (MTBE)	ND		1.00	ug/L	1	04/18/2012 17:38
tert-Butylbenzene	ND		1.00	ug/L	1	04/18/2012 17:38
trans-1,2-Dichloroethene	ND		1.00	ug/L	1	04/18/2012 17:38
trans-1,4-Dichloro-2-butene	ND		5.00	ug/L	1	04/18/2012 17:38

Surrogates

1,2-Dichloroethane-d4	109		64.0-140	%	1	04/18/2012 17:38
4-Bromofluorobenzene	101		85.0-115	%	1	04/18/2012 17:38
Toluene d8	103		82.0-117	%	1	04/18/2012 17:38

Batch Information

Analytical Batch: **VMS2129**
Analytical Method: **SW-846 8260B**
Instrument: **MSD8**
Analyst: **DVO**
Analytical Date/Time: **04/18/2012 17:38**

Prep Batch: **VXX3167**
Prep Method: **SW-846 5030B**
Prep Date/Time: **04/18/2012 08:00**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **40 mL**



Results of **48DW-4**

Client Sample ID: **48DW-4**
Client Project ID: **NCDOT Pittsboro**
Lab Sample ID: 31201090005-A
Lab Project ID: 31201090

Collection Date: 04/11/2012 12:30
Received Date: 04/13/2012 15:00
Matrix: Water

Results by **SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L	1	04/18/2012 18:02
1,1,1-Trichloroethane	ND		1.00	ug/L	1	04/18/2012 18:02
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L	1	04/18/2012 18:02
1,1,2-Trichloroethane	ND		1.00	ug/L	1	04/18/2012 18:02
1,1-Dichloroethane	ND		1.00	ug/L	1	04/18/2012 18:02
1,1-Dichloroethene	ND		1.00	ug/L	1	04/18/2012 18:02
1,1-Dichloropropene	ND		1.00	ug/L	1	04/18/2012 18:02
1,2,3-Trichlorobenzene	ND		1.00	ug/L	1	04/18/2012 18:02
1,2,3-Trichloropropane	ND		1.00	ug/L	1	04/18/2012 18:02
1,2,4-Trichlorobenzene	ND		1.00	ug/L	1	04/18/2012 18:02
1,2,4-Trimethylbenzene	ND		1.00	ug/L	1	04/18/2012 18:02
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1	04/18/2012 18:02
1,2-Dibromoethane	ND		1.00	ug/L	1	04/18/2012 18:02
1,2-Dichlorobenzene	ND		1.00	ug/L	1	04/18/2012 18:02
1,2-Dichloroethane	ND		1.00	ug/L	1	04/18/2012 18:02
1,2-Dichloropropane	ND		1.00	ug/L	1	04/18/2012 18:02
1,3,5-Trimethylbenzene	ND		1.00	ug/L	1	04/18/2012 18:02
1,3-Dichlorobenzene	ND		1.00	ug/L	1	04/18/2012 18:02
1,3-Dichloropropane	ND		1.00	ug/L	1	04/18/2012 18:02
1,4-Dichlorobenzene	ND		1.00	ug/L	1	04/18/2012 18:02
2,2-Dichloropropane	ND		1.00	ug/L	1	04/18/2012 18:02
2-Butanone	ND		25.0	ug/L	1	04/18/2012 18:02
2-Chlorotoluene	ND		1.00	ug/L	1	04/18/2012 18:02
2-Hexanone	ND		5.00	ug/L	1	04/18/2012 18:02
4-Chlorotoluene	ND		1.00	ug/L	1	04/18/2012 18:02
4-Isopropyltoluene	ND		1.00	ug/L	1	04/18/2012 18:02
4-Methyl-2-pentanone	ND		5.00	ug/L	1	04/18/2012 18:02
Acetone	ND		25.0	ug/L	1	04/18/2012 18:02
Benzene	ND		1.00	ug/L	1	04/18/2012 18:02
Bromobenzene	ND		1.00	ug/L	1	04/18/2012 18:02
Bromochloromethane	ND		1.00	ug/L	1	04/18/2012 18:02
Bromodichloromethane	ND		1.00	ug/L	1	04/18/2012 18:02
Bromoform	ND		1.00	ug/L	1	04/18/2012 18:02
Bromomethane	ND		1.00	ug/L	1	04/18/2012 18:02
n-Butylbenzene	ND		1.00	ug/L	1	04/18/2012 18:02
Carbon disulfide	ND		1.00	ug/L	1	04/18/2012 18:02
Carbon tetrachloride	ND		1.00	ug/L	1	04/18/2012 18:02
Chlorobenzene	ND		1.00	ug/L	1	04/18/2012 18:02
Chloroethane	ND		1.00	ug/L	1	04/18/2012 18:02
Chloroform	ND		1.00	ug/L	1	04/18/2012 18:02
Chloromethane	ND		1.00	ug/L	1	04/18/2012 18:02
Dibromochloromethane	ND		1.00	ug/L	1	04/18/2012 18:02
Dibromomethane	ND		1.00	ug/L	1	04/18/2012 18:02

Print Date: 04/25/2012

N.C. Certification # 481



Results of **48DW-4**

Client Sample ID: **48DW-4**
Client Project ID: **NCDOT Pittsboro**
Lab Sample ID: 31201090005-A
Lab Project ID: 31201090

Collection Date: 04/11/2012 12:30
Received Date: 04/13/2012 15:00
Matrix: Water

Results by **SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Dichlorodifluoromethane	ND		5.00	ug/L	1	04/18/2012 18:02
cis-1,3-Dichloropropene	ND		1.00	ug/L	1	04/18/2012 18:02
trans-1,3-Dichloropropene	ND		1.00	ug/L	1	04/18/2012 18:02
Diisopropyl Ether	ND		1.00	ug/L	1	04/18/2012 18:02
Ethyl Benzene	1.46		1.00	ug/L	1	04/18/2012 18:02
Hexachlorobutadiene	ND		1.00	ug/L	1	04/18/2012 18:02
Isopropylbenzene (Cumene)	ND		1.00	ug/L	1	04/18/2012 18:02
Methyl iodide	ND		1.00	ug/L	1	04/18/2012 18:02
Methylene chloride	ND		5.00	ug/L	1	04/18/2012 18:02
Naphthalene	ND		1.00	ug/L	1	04/18/2012 18:02
Styrene	ND		1.00	ug/L	1	04/18/2012 18:02
Tetrachloroethene	ND		1.00	ug/L	1	04/18/2012 18:02
Toluene	ND		1.00	ug/L	1	04/18/2012 18:02
Trichloroethene	3.30		1.00	ug/L	1	04/18/2012 18:02
Trichlorofluoromethane	ND		1.00	ug/L	1	04/18/2012 18:02
Vinyl chloride	ND		1.00	ug/L	1	04/18/2012 18:02
cis-1,2-Dichloroethene	ND		1.00	ug/L	1	04/18/2012 18:02
m,p-Xylene	ND		2.00	ug/L	1	04/18/2012 18:02
n-Propylbenzene	ND		1.00	ug/L	1	04/18/2012 18:02
o-Xylene	5.77		1.00	ug/L	1	04/18/2012 18:02
sec-Butylbenzene	ND		1.00	ug/L	1	04/18/2012 18:02
tert-Butyl methyl ether (MTBE)	ND		1.00	ug/L	1	04/18/2012 18:02
tert-Butylbenzene	ND		1.00	ug/L	1	04/18/2012 18:02
trans-1,2-Dichloroethene	ND		1.00	ug/L	1	04/18/2012 18:02
trans-1,4-Dichloro-2-butene	ND		5.00	ug/L	1	04/18/2012 18:02
Surrogates						
1,2-Dichloroethane-d4	109		64.0-140	%	1	04/18/2012 18:02
4-Bromofluorobenzene	104		85.0-115	%	1	04/18/2012 18:02
Toluene d8	103		82.0-117	%	1	04/18/2012 18:02

Batch Information

Analytical Batch: **VMS2129**
Analytical Method: **SW-846 8260B**
Instrument: **MSD8**
Analyst: **DVO**
Analytical Date/Time: **04/18/2012 18:02**

Prep Batch: **VXX3167**
Prep Method: **SW-846 5030B**
Prep Date/Time: **04/18/2012 08:00**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **40 mL**



Results of **48MW-12**

Client Sample ID: **48MW-12**
Client Project ID: **NCDOT Pittsboro**
Lab Sample ID: 31201090006-A
Lab Project ID: 31201090

Collection Date: 04/11/2012 12:40
Received Date: 04/13/2012 15:00
Matrix: Water

Results by **SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L	1	04/18/2012 18:27
1,1,1-Trichloroethane	ND		1.00	ug/L	1	04/18/2012 18:27
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L	1	04/18/2012 18:27
1,1,2-Trichloroethane	ND		1.00	ug/L	1	04/18/2012 18:27
1,1-Dichloroethane	ND		1.00	ug/L	1	04/18/2012 18:27
1,1-Dichloroethene	ND		1.00	ug/L	1	04/18/2012 18:27
1,1-Dichloropropene	ND		1.00	ug/L	1	04/18/2012 18:27
1,2,3-Trichlorobenzene	ND		1.00	ug/L	1	04/18/2012 18:27
1,2,3-Trichloropropane	ND		1.00	ug/L	1	04/18/2012 18:27
1,2,4-Trichlorobenzene	ND		1.00	ug/L	1	04/18/2012 18:27
1,2,4-Trimethylbenzene	ND		1.00	ug/L	1	04/18/2012 18:27
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1	04/18/2012 18:27
1,2-Dibromoethane	ND		1.00	ug/L	1	04/18/2012 18:27
1,2-Dichlorobenzene	ND		1.00	ug/L	1	04/18/2012 18:27
1,2-Dichloroethane	ND		1.00	ug/L	1	04/18/2012 18:27
1,2-Dichloropropane	ND		1.00	ug/L	1	04/18/2012 18:27
1,3,5-Trimethylbenzene	ND		1.00	ug/L	1	04/18/2012 18:27
1,3-Dichlorobenzene	ND		1.00	ug/L	1	04/18/2012 18:27
1,3-Dichloropropane	ND		1.00	ug/L	1	04/18/2012 18:27
1,4-Dichlorobenzene	ND		1.00	ug/L	1	04/18/2012 18:27
2,2-Dichloropropane	ND		1.00	ug/L	1	04/18/2012 18:27
2-Butanone	ND		25.0	ug/L	1	04/18/2012 18:27
2-Chlorotoluene	ND		1.00	ug/L	1	04/18/2012 18:27
2-Hexanone	ND		5.00	ug/L	1	04/18/2012 18:27
4-Chlorotoluene	ND		1.00	ug/L	1	04/18/2012 18:27
4-Isopropyltoluene	ND		1.00	ug/L	1	04/18/2012 18:27
4-Methyl-2-pentanone	ND		5.00	ug/L	1	04/18/2012 18:27
Acetone	ND		25.0	ug/L	1	04/18/2012 18:27
Benzene	ND		1.00	ug/L	1	04/18/2012 18:27
Bromobenzene	ND		1.00	ug/L	1	04/18/2012 18:27
Bromochloromethane	ND		1.00	ug/L	1	04/18/2012 18:27
Bromodichloromethane	ND		1.00	ug/L	1	04/18/2012 18:27
Bromoform	ND		1.00	ug/L	1	04/18/2012 18:27
Bromomethane	ND		1.00	ug/L	1	04/18/2012 18:27
n-Butylbenzene	ND		1.00	ug/L	1	04/18/2012 18:27
Carbon disulfide	ND		1.00	ug/L	1	04/18/2012 18:27
Carbon tetrachloride	ND		1.00	ug/L	1	04/18/2012 18:27
Chlorobenzene	ND		1.00	ug/L	1	04/18/2012 18:27
Chloroethane	ND		1.00	ug/L	1	04/18/2012 18:27
Chloroform	ND		1.00	ug/L	1	04/18/2012 18:27
Chloromethane	ND		1.00	ug/L	1	04/18/2012 18:27
Dibromochloromethane	ND		1.00	ug/L	1	04/18/2012 18:27
Dibromomethane	ND		1.00	ug/L	1	04/18/2012 18:27

Print Date: 04/25/2012

N.C. Certification # 481

Results of 48MW-12

Client Sample ID: **48MW-12**
 Client Project ID: **NCDOT Pittsboro**
 Lab Sample ID: 31201090006-A
 Lab Project ID: 31201090

Collection Date: 04/11/2012 12:40
 Received Date: 04/13/2012 15:00
 Matrix: Water

Results by SW-846 8260B

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Dichlorodifluoromethane	ND		5.00	ug/L	1	04/18/2012 18:27
cis-1,3-Dichloropropene	ND		1.00	ug/L	1	04/18/2012 18:27
trans-1,3-Dichloropropene	ND		1.00	ug/L	1	04/18/2012 18:27
Diisopropyl Ether	ND		1.00	ug/L	1	04/18/2012 18:27
Ethyl Benzene	ND		1.00	ug/L	1	04/18/2012 18:27
Hexachlorobutadiene	ND		1.00	ug/L	1	04/18/2012 18:27
Isopropylbenzene (Cumene)	ND		1.00	ug/L	1	04/18/2012 18:27
Methyl iodide	ND		1.00	ug/L	1	04/18/2012 18:27
Methylene chloride	ND		5.00	ug/L	1	04/18/2012 18:27
Naphthalene	ND		1.00	ug/L	1	04/18/2012 18:27
Styrene	ND		1.00	ug/L	1	04/18/2012 18:27
Tetrachloroethene	ND		1.00	ug/L	1	04/18/2012 18:27
Toluene	ND		1.00	ug/L	1	04/18/2012 18:27
Trichloroethene	ND		1.00	ug/L	1	04/18/2012 18:27
Trichlorofluoromethane	ND		1.00	ug/L	1	04/18/2012 18:27
Vinyl chloride	ND		1.00	ug/L	1	04/18/2012 18:27
cis-1,2-Dichloroethene	ND		1.00	ug/L	1	04/18/2012 18:27
m,p-Xylene	ND		2.00	ug/L	1	04/18/2012 18:27
n-Propylbenzene	ND		1.00	ug/L	1	04/18/2012 18:27
o-Xylene	ND		1.00	ug/L	1	04/18/2012 18:27
sec-Butylbenzene	ND		1.00	ug/L	1	04/18/2012 18:27
tert-Butyl methyl ether (MTBE)	ND		1.00	ug/L	1	04/18/2012 18:27
tert-Butylbenzene	ND		1.00	ug/L	1	04/18/2012 18:27
trans-1,2-Dichloroethene	ND		1.00	ug/L	1	04/18/2012 18:27
trans-1,4-Dichloro-2-butene	ND		5.00	ug/L	1	04/18/2012 18:27

Surrogates

1,2-Dichloroethane-d4	99.0		64.0-140	%	1	04/18/2012 18:27
4-Bromofluorobenzene	107		85.0-115	%	1	04/18/2012 18:27
Toluene d8	97.0		82.0-117	%	1	04/18/2012 18:27

Batch Information

Analytical Batch: **VMS2129**
 Analytical Method: **SW-846 8260B**
 Instrument: **MSD8**
 Analyst: **DVO**
 Analytical Date/Time: **04/18/2012 18:27**

Prep Batch: **VXX3167**
 Prep Method: **SW-846 5030B**
 Prep Date/Time: **04/18/2012 08:00**
 Prep Initial Wt./Vol.: **40 mL**
 Prep Extract Vol: **40 mL**



Results of **48MW-14**

Client Sample ID: **48MW-14**
Client Project ID: **NCDOT Pittsboro**
Lab Sample ID: 31201090007-A
Lab Project ID: 31201090

Collection Date: 04/11/2012 13:57
Received Date: 04/13/2012 15:00
Matrix: Water

Results by **SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L	1	04/18/2012 18:51
1,1,1-Trichloroethane	ND		1.00	ug/L	1	04/18/2012 18:51
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L	1	04/18/2012 18:51
1,1,2-Trichloroethane	ND		1.00	ug/L	1	04/18/2012 18:51
1,1-Dichloroethane	ND		1.00	ug/L	1	04/18/2012 18:51
1,1-Dichloroethene	ND		1.00	ug/L	1	04/18/2012 18:51
1,1-Dichloropropene	ND		1.00	ug/L	1	04/18/2012 18:51
1,2,3-Trichlorobenzene	ND		1.00	ug/L	1	04/18/2012 18:51
1,2,3-Trichloropropane	ND		1.00	ug/L	1	04/18/2012 18:51
1,2,4-Trichlorobenzene	ND		1.00	ug/L	1	04/18/2012 18:51
1,2,4-Trimethylbenzene	ND		1.00	ug/L	1	04/18/2012 18:51
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1	04/18/2012 18:51
1,2-Dibromoethane	ND		1.00	ug/L	1	04/18/2012 18:51
1,2-Dichlorobenzene	ND		1.00	ug/L	1	04/18/2012 18:51
1,2-Dichloroethane	ND		1.00	ug/L	1	04/18/2012 18:51
1,2-Dichloropropane	ND		1.00	ug/L	1	04/18/2012 18:51
1,3,5-Trimethylbenzene	ND		1.00	ug/L	1	04/18/2012 18:51
1,3-Dichlorobenzene	ND		1.00	ug/L	1	04/18/2012 18:51
1,3-Dichloropropane	ND		1.00	ug/L	1	04/18/2012 18:51
1,4-Dichlorobenzene	ND		1.00	ug/L	1	04/18/2012 18:51
2,2-Dichloropropane	ND		1.00	ug/L	1	04/18/2012 18:51
2-Butanone	ND		25.0	ug/L	1	04/18/2012 18:51
2-Chlorotoluene	ND		1.00	ug/L	1	04/18/2012 18:51
2-Hexanone	ND		5.00	ug/L	1	04/18/2012 18:51
4-Chlorotoluene	ND		1.00	ug/L	1	04/18/2012 18:51
4-Isopropyltoluene	ND		1.00	ug/L	1	04/18/2012 18:51
4-Methyl-2-pentanone	ND		5.00	ug/L	1	04/18/2012 18:51
Acetone	ND		25.0	ug/L	1	04/18/2012 18:51
Benzene	ND		1.00	ug/L	1	04/18/2012 18:51
Bromobenzene	ND		1.00	ug/L	1	04/18/2012 18:51
Bromochloromethane	ND		1.00	ug/L	1	04/18/2012 18:51
Bromodichloromethane	ND		1.00	ug/L	1	04/18/2012 18:51
Bromoform	ND		1.00	ug/L	1	04/18/2012 18:51
Bromomethane	ND		1.00	ug/L	1	04/18/2012 18:51
n-Butylbenzene	ND		1.00	ug/L	1	04/18/2012 18:51
Carbon disulfide	ND		1.00	ug/L	1	04/18/2012 18:51
Carbon tetrachloride	ND		1.00	ug/L	1	04/18/2012 18:51
Chlorobenzene	ND		1.00	ug/L	1	04/18/2012 18:51
Chloroethane	ND		1.00	ug/L	1	04/18/2012 18:51
Chloroform	ND		1.00	ug/L	1	04/18/2012 18:51
Chloromethane	ND		1.00	ug/L	1	04/18/2012 18:51
Dibromochloromethane	ND		1.00	ug/L	1	04/18/2012 18:51
Dibromomethane	ND		1.00	ug/L	1	04/18/2012 18:51

Print Date: 04/25/2012

N.C. Certification # 481



Results of **48MW-14**

Client Sample ID: **48MW-14**
Client Project ID: **NCDOT Pittsboro**
Lab Sample ID: 31201090007-A
Lab Project ID: 31201090

Collection Date: 04/11/2012 13:57
Received Date: 04/13/2012 15:00
Matrix: Water

Results by **SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Dichlorodifluoromethane	ND		5.00	ug/L	1	04/18/2012 18:51
cis-1,3-Dichloropropene	ND		1.00	ug/L	1	04/18/2012 18:51
trans-1,3-Dichloropropene	ND		1.00	ug/L	1	04/18/2012 18:51
Diisopropyl Ether	ND		1.00	ug/L	1	04/18/2012 18:51
Ethyl Benzene	ND		1.00	ug/L	1	04/18/2012 18:51
Hexachlorobutadiene	ND		1.00	ug/L	1	04/18/2012 18:51
Isopropylbenzene (Cumene)	ND		1.00	ug/L	1	04/18/2012 18:51
Methyl iodide	ND		1.00	ug/L	1	04/18/2012 18:51
Methylene chloride	ND		5.00	ug/L	1	04/18/2012 18:51
Naphthalene	ND		1.00	ug/L	1	04/18/2012 18:51
Styrene	ND		1.00	ug/L	1	04/18/2012 18:51
Tetrachloroethene	ND		1.00	ug/L	1	04/18/2012 18:51
Toluene	ND		1.00	ug/L	1	04/18/2012 18:51
Trichloroethene	ND		1.00	ug/L	1	04/18/2012 18:51
Trichlorofluoromethane	ND		1.00	ug/L	1	04/18/2012 18:51
Vinyl chloride	ND		1.00	ug/L	1	04/18/2012 18:51
cis-1,2-Dichloroethene	ND		1.00	ug/L	1	04/18/2012 18:51
m,p-Xylene	ND		2.00	ug/L	1	04/18/2012 18:51
n-Propylbenzene	ND		1.00	ug/L	1	04/18/2012 18:51
o-Xylene	ND		1.00	ug/L	1	04/18/2012 18:51
sec-Butylbenzene	ND		1.00	ug/L	1	04/18/2012 18:51
tert-Butyl methyl ether (MTBE)	ND		1.00	ug/L	1	04/18/2012 18:51
tert-Butylbenzene	ND		1.00	ug/L	1	04/18/2012 18:51
trans-1,2-Dichloroethene	ND		1.00	ug/L	1	04/18/2012 18:51
trans-1,4-Dichloro-2-butene	ND		5.00	ug/L	1	04/18/2012 18:51

Surrogates

1,2-Dichloroethane-d4	111		64.0-140	%	1	04/18/2012 18:51
4-Bromofluorobenzene	105		85.0-115	%	1	04/18/2012 18:51
Toluene d8	105		82.0-117	%	1	04/18/2012 18:51

Batch Information

Analytical Batch: **VMS2129**
Analytical Method: **SW-846 8260B**
Instrument: **MSD8**
Analyst: **DVO**
Analytical Date/Time: **04/18/2012 18:51**

Prep Batch: **VXX3167**
Prep Method: **SW-846 5030B**
Prep Date/Time: **04/18/2012 08:00**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **40 mL**



Results of **48MW-3**

Client Sample ID: **48MW-3**
Client Project ID: **NCDOT Pittsboro**
Lab Sample ID: 31201090008-A
Lab Project ID: 31201090

Collection Date: 04/11/2012 14:05
Received Date: 04/13/2012 15:00
Matrix: Water

Results by **SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L	1	04/18/2012 19:16
1,1,1-Trichloroethane	ND		1.00	ug/L	1	04/18/2012 19:16
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L	1	04/18/2012 19:16
1,1,2-Trichloroethane	ND		1.00	ug/L	1	04/18/2012 19:16
1,1-Dichloroethane	3.42		1.00	ug/L	1	04/18/2012 19:16
1,1-Dichloroethene	2.51		1.00	ug/L	1	04/18/2012 19:16
1,1-Dichloropropene	ND		1.00	ug/L	1	04/18/2012 19:16
1,2,3-Trichlorobenzene	ND		1.00	ug/L	1	04/18/2012 19:16
1,2,3-Trichloropropane	ND		1.00	ug/L	1	04/18/2012 19:16
1,2,4-Trichlorobenzene	ND		1.00	ug/L	1	04/18/2012 19:16
1,2,4-Trimethylbenzene	ND		1.00	ug/L	1	04/18/2012 19:16
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1	04/18/2012 19:16
1,2-Dibromoethane	ND		1.00	ug/L	1	04/18/2012 19:16
1,2-Dichlorobenzene	ND		1.00	ug/L	1	04/18/2012 19:16
1,2-Dichloroethane	ND		1.00	ug/L	1	04/18/2012 19:16
1,2-Dichloropropane	ND		1.00	ug/L	1	04/18/2012 19:16
1,3,5-Trimethylbenzene	ND		1.00	ug/L	1	04/18/2012 19:16
1,3-Dichlorobenzene	ND		1.00	ug/L	1	04/18/2012 19:16
1,3-Dichloropropane	ND		1.00	ug/L	1	04/18/2012 19:16
1,4-Dichlorobenzene	ND		1.00	ug/L	1	04/18/2012 19:16
2,2-Dichloropropane	ND		1.00	ug/L	1	04/18/2012 19:16
2-Butanone	ND		25.0	ug/L	1	04/18/2012 19:16
2-Chlorotoluene	ND		1.00	ug/L	1	04/18/2012 19:16
2-Hexanone	ND		5.00	ug/L	1	04/18/2012 19:16
4-Chlorotoluene	ND		1.00	ug/L	1	04/18/2012 19:16
4-Isopropyltoluene	ND		1.00	ug/L	1	04/18/2012 19:16
4-Methyl-2-pentanone	ND		5.00	ug/L	1	04/18/2012 19:16
Acetone	ND		25.0	ug/L	1	04/18/2012 19:16
Benzene	ND		1.00	ug/L	1	04/18/2012 19:16
Bromobenzene	ND		1.00	ug/L	1	04/18/2012 19:16
Bromochloromethane	ND		1.00	ug/L	1	04/18/2012 19:16
Bromodichloromethane	ND		1.00	ug/L	1	04/18/2012 19:16
Bromoform	ND		1.00	ug/L	1	04/18/2012 19:16
Bromomethane	ND		1.00	ug/L	1	04/18/2012 19:16
n-Butylbenzene	ND		1.00	ug/L	1	04/18/2012 19:16
Carbon disulfide	ND		1.00	ug/L	1	04/18/2012 19:16
Carbon tetrachloride	ND		1.00	ug/L	1	04/18/2012 19:16
Chlorobenzene	ND		1.00	ug/L	1	04/18/2012 19:16
Chloroethane	ND		1.00	ug/L	1	04/18/2012 19:16
Chloroform	ND		1.00	ug/L	1	04/18/2012 19:16
Chloromethane	ND		1.00	ug/L	1	04/18/2012 19:16
Dibromochloromethane	ND		1.00	ug/L	1	04/18/2012 19:16
Dibromomethane	ND		1.00	ug/L	1	04/18/2012 19:16



Results of **48MW-3**

Client Sample ID: **48MW-3**
Client Project ID: **NCDOT Pittsboro**
Lab Sample ID: 31201090008-A
Lab Project ID: 31201090

Collection Date: 04/11/2012 14:05
Received Date: 04/13/2012 15:00
Matrix: Water

Results by **SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Dichlorodifluoromethane	ND		5.00	ug/L	1	04/18/2012 19:16
cis-1,3-Dichloropropene	ND		1.00	ug/L	1	04/18/2012 19:16
trans-1,3-Dichloropropene	ND		1.00	ug/L	1	04/18/2012 19:16
Diisopropyl Ether	ND		1.00	ug/L	1	04/18/2012 19:16
Ethyl Benzene	ND		1.00	ug/L	1	04/18/2012 19:16
Hexachlorobutadiene	ND		1.00	ug/L	1	04/18/2012 19:16
Isopropylbenzene (Cumene)	ND		1.00	ug/L	1	04/18/2012 19:16
Methyl iodide	ND		1.00	ug/L	1	04/18/2012 19:16
Methylene chloride	ND		5.00	ug/L	1	04/18/2012 19:16
Naphthalene	ND		1.00	ug/L	1	04/18/2012 19:16
Styrene	ND		1.00	ug/L	1	04/18/2012 19:16
Tetrachloroethene	2.78		1.00	ug/L	1	04/18/2012 19:16
Toluene	ND		1.00	ug/L	1	04/18/2012 19:16
Trichloroethene	ND		1.00	ug/L	1	04/18/2012 19:16
Trichlorofluoromethane	ND		1.00	ug/L	1	04/18/2012 19:16
Vinyl chloride	ND		1.00	ug/L	1	04/18/2012 19:16
cis-1,2-Dichloroethene	ND		1.00	ug/L	1	04/18/2012 19:16
m,p-Xylene	ND		2.00	ug/L	1	04/18/2012 19:16
n-Propylbenzene	ND		1.00	ug/L	1	04/18/2012 19:16
o-Xylene	ND		1.00	ug/L	1	04/18/2012 19:16
sec-Butylbenzene	ND		1.00	ug/L	1	04/18/2012 19:16
tert-Butyl methyl ether (MTBE)	ND		1.00	ug/L	1	04/18/2012 19:16
tert-Butylbenzene	ND		1.00	ug/L	1	04/18/2012 19:16
trans-1,2-Dichloroethene	ND		1.00	ug/L	1	04/18/2012 19:16
trans-1,4-Dichloro-2-butene	ND		5.00	ug/L	1	04/18/2012 19:16
Surrogates						
1,2-Dichloroethane-d4	105		64.0-140	%	1	04/18/2012 19:16
4-Bromofluorobenzene	101		85.0-115	%	1	04/18/2012 19:16
Toluene d8	102		82.0-117	%	1	04/18/2012 19:16

Batch Information

Analytical Batch: **VMS2129**
Analytical Method: **SW-846 8260B**
Instrument: **MSD8**
Analyst: **DVO**
Analytical Date/Time: **04/18/2012 19:16**

Prep Batch: **VXX3167**
Prep Method: **SW-846 5030B**
Prep Date/Time: **04/18/2012 08:00**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **40 mL**



Results of **48DW-3**

Client Sample ID: **48DW-3**
Client Project ID: **NCDOT Pittsboro**
Lab Sample ID: 31201090009-A
Lab Project ID: 31201090

Collection Date: 04/11/2012 15:10
Received Date: 04/13/2012 15:00
Matrix: Water

Results by **SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L	1	04/18/2012 19:27
1,1,1-Trichloroethane	ND		1.00	ug/L	1	04/18/2012 19:27
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L	1	04/18/2012 19:27
1,1,2-Trichloroethane	ND		1.00	ug/L	1	04/18/2012 19:27
1,1-Dichloroethane	ND		1.00	ug/L	1	04/18/2012 19:27
1,1-Dichloroethene	ND		1.00	ug/L	1	04/18/2012 19:27
1,1-Dichloropropene	ND		1.00	ug/L	1	04/18/2012 19:27
1,2,3-Trichlorobenzene	ND		1.00	ug/L	1	04/18/2012 19:27
1,2,3-Trichloropropane	ND		1.00	ug/L	1	04/18/2012 19:27
1,2,4-Trichlorobenzene	ND		1.00	ug/L	1	04/18/2012 19:27
1,2,4-Trimethylbenzene	ND		1.00	ug/L	1	04/18/2012 19:27
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1	04/18/2012 19:27
1,2-Dibromoethane	ND		1.00	ug/L	1	04/18/2012 19:27
1,2-Dichlorobenzene	ND		1.00	ug/L	1	04/18/2012 19:27
1,2-Dichloroethane	ND		1.00	ug/L	1	04/18/2012 19:27
1,2-Dichloropropane	ND		1.00	ug/L	1	04/18/2012 19:27
1,3,5-Trimethylbenzene	ND		1.00	ug/L	1	04/18/2012 19:27
1,3-Dichlorobenzene	ND		1.00	ug/L	1	04/18/2012 19:27
1,3-Dichloropropane	ND		1.00	ug/L	1	04/18/2012 19:27
1,4-Dichlorobenzene	ND		1.00	ug/L	1	04/18/2012 19:27
2,2-Dichloropropane	ND		1.00	ug/L	1	04/18/2012 19:27
2-Butanone	ND		25.0	ug/L	1	04/18/2012 19:27
2-Chlorotoluene	ND		1.00	ug/L	1	04/18/2012 19:27
2-Hexanone	ND		5.00	ug/L	1	04/18/2012 19:27
4-Chlorotoluene	ND		1.00	ug/L	1	04/18/2012 19:27
4-Isopropyltoluene	ND		1.00	ug/L	1	04/18/2012 19:27
4-Methyl-2-pentanone	ND		5.00	ug/L	1	04/18/2012 19:27
Acetone	ND		25.0	ug/L	1	04/18/2012 19:27
Benzene	ND		1.00	ug/L	1	04/18/2012 19:27
Bromobenzene	ND		1.00	ug/L	1	04/18/2012 19:27
Bromochloromethane	ND		1.00	ug/L	1	04/18/2012 19:27
Bromodichloromethane	ND		1.00	ug/L	1	04/18/2012 19:27
Bromoform	ND		1.00	ug/L	1	04/18/2012 19:27
Bromomethane	ND		1.00	ug/L	1	04/18/2012 19:27
n-Butylbenzene	ND		1.00	ug/L	1	04/18/2012 19:27
Carbon disulfide	ND		1.00	ug/L	1	04/18/2012 19:27
Carbon tetrachloride	ND		1.00	ug/L	1	04/18/2012 19:27
Chlorobenzene	ND		1.00	ug/L	1	04/18/2012 19:27
Chloroethane	ND		1.00	ug/L	1	04/18/2012 19:27
Chloroform	ND		1.00	ug/L	1	04/18/2012 19:27
Chloromethane	ND		1.00	ug/L	1	04/18/2012 19:27
Dibromochloromethane	ND		1.00	ug/L	1	04/18/2012 19:27
Dibromomethane	ND		1.00	ug/L	1	04/18/2012 19:27

Print Date: 04/25/2012

N.C. Certification # 481



Results of **48DW-3**

Client Sample ID: **48DW-3**
Client Project ID: **NCDOT Pittsboro**
Lab Sample ID: 31201090009-A
Lab Project ID: 31201090

Collection Date: 04/11/2012 15:10
Received Date: 04/13/2012 15:00
Matrix: Water

Results by **SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Dichlorodifluoromethane	ND		5.00	ug/L	1	04/18/2012 19:27
cis-1,3-Dichloropropene	ND		1.00	ug/L	1	04/18/2012 19:27
trans-1,3-Dichloropropene	ND		1.00	ug/L	1	04/18/2012 19:27
Diisopropyl Ether	ND		1.00	ug/L	1	04/18/2012 19:27
Ethyl Benzene	ND		1.00	ug/L	1	04/18/2012 19:27
Hexachlorobutadiene	ND		1.00	ug/L	1	04/18/2012 19:27
Isopropylbenzene (Cumene)	ND		1.00	ug/L	1	04/18/2012 19:27
Methyl iodide	ND		1.00	ug/L	1	04/18/2012 19:27
Methylene chloride	ND		5.00	ug/L	1	04/18/2012 19:27
Naphthalene	ND		1.00	ug/L	1	04/18/2012 19:27
Styrene	ND		1.00	ug/L	1	04/18/2012 19:27
Tetrachloroethene	ND		1.00	ug/L	1	04/18/2012 19:27
Toluene	ND		1.00	ug/L	1	04/18/2012 19:27
Trichloroethene	ND		1.00	ug/L	1	04/18/2012 19:27
Trichlorofluoromethane	ND		1.00	ug/L	1	04/18/2012 19:27
Vinyl chloride	ND		1.00	ug/L	1	04/18/2012 19:27
cis-1,2-Dichloroethene	ND		1.00	ug/L	1	04/18/2012 19:27
m,p-Xylene	ND		2.00	ug/L	1	04/18/2012 19:27
n-Propylbenzene	ND		1.00	ug/L	1	04/18/2012 19:27
o-Xylene	ND		1.00	ug/L	1	04/18/2012 19:27
sec-Butylbenzene	ND		1.00	ug/L	1	04/18/2012 19:27
tert-Butyl methyl ether (MTBE)	ND		1.00	ug/L	1	04/18/2012 19:27
tert-Butylbenzene	ND		1.00	ug/L	1	04/18/2012 19:27
trans-1,2-Dichloroethene	ND		1.00	ug/L	1	04/18/2012 19:27
trans-1,4-Dichloro-2-butene	ND		5.00	ug/L	1	04/18/2012 19:27

Surrogates

1,2-Dichloroethane-d4	99.0		64.0-140	%	1	04/18/2012 19:27
4-Bromofluorobenzene	97.0		85.0-115	%	1	04/18/2012 19:27
Toluene d8	99.0		82.0-117	%	1	04/18/2012 19:27

Batch Information

Analytical Batch: **VMS2128**
Analytical Method: **SW-846 8260B**
Instrument: **MSD4**
Analyst: **DVO**
Analytical Date/Time: **04/18/2012 19:27**

Prep Batch: **VXX3166**
Prep Method: **SW-846 5030B**
Prep Date/Time: **04/18/2012 08:00**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **40 mL**



Results of **48MW-2**

Client Sample ID: **48MW-2**
Client Project ID: **NCDOT Pittsboro**
Lab Sample ID: 31201090010-A
Lab Project ID: 31201090

Collection Date: 04/11/2012 15:30
Received Date: 04/13/2012 15:00
Matrix: Water

Results by **SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L	1	04/18/2012 19:51
1,1,1-Trichloroethane	ND		1.00	ug/L	1	04/18/2012 19:51
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L	1	04/18/2012 19:51
1,1,2-Trichloroethane	ND		1.00	ug/L	1	04/18/2012 19:51
1,1-Dichloroethane	ND		1.00	ug/L	1	04/18/2012 19:51
1,1-Dichloroethene	ND		1.00	ug/L	1	04/18/2012 19:51
1,1-Dichloropropene	ND		1.00	ug/L	1	04/18/2012 19:51
1,2,3-Trichlorobenzene	ND		1.00	ug/L	1	04/18/2012 19:51
1,2,3-Trichloropropane	ND		1.00	ug/L	1	04/18/2012 19:51
1,2,4-Trichlorobenzene	ND		1.00	ug/L	1	04/18/2012 19:51
1,2,4-Trimethylbenzene	ND		1.00	ug/L	1	04/18/2012 19:51
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1	04/18/2012 19:51
1,2-Dibromoethane	ND		1.00	ug/L	1	04/18/2012 19:51
1,2-Dichlorobenzene	ND		1.00	ug/L	1	04/18/2012 19:51
1,2-Dichloroethane	ND		1.00	ug/L	1	04/18/2012 19:51
1,2-Dichloropropane	ND		1.00	ug/L	1	04/18/2012 19:51
1,3,5-Trimethylbenzene	ND		1.00	ug/L	1	04/18/2012 19:51
1,3-Dichlorobenzene	ND		1.00	ug/L	1	04/18/2012 19:51
1,3-Dichloropropane	ND		1.00	ug/L	1	04/18/2012 19:51
1,4-Dichlorobenzene	ND		1.00	ug/L	1	04/18/2012 19:51
2,2-Dichloropropane	ND		1.00	ug/L	1	04/18/2012 19:51
2-Butanone	ND		25.0	ug/L	1	04/18/2012 19:51
2-Chlorotoluene	ND		1.00	ug/L	1	04/18/2012 19:51
2-Hexanone	ND		5.00	ug/L	1	04/18/2012 19:51
4-Chlorotoluene	ND		1.00	ug/L	1	04/18/2012 19:51
4-Isopropyltoluene	ND		1.00	ug/L	1	04/18/2012 19:51
4-Methyl-2-pentanone	ND		5.00	ug/L	1	04/18/2012 19:51
Acetone	ND		25.0	ug/L	1	04/18/2012 19:51
Benzene	ND		1.00	ug/L	1	04/18/2012 19:51
Bromobenzene	ND		1.00	ug/L	1	04/18/2012 19:51
Bromochloromethane	ND		1.00	ug/L	1	04/18/2012 19:51
Bromodichloromethane	ND		1.00	ug/L	1	04/18/2012 19:51
Bromoform	ND		1.00	ug/L	1	04/18/2012 19:51
Bromomethane	ND		1.00	ug/L	1	04/18/2012 19:51
n-Butylbenzene	ND		1.00	ug/L	1	04/18/2012 19:51
Carbon disulfide	ND		1.00	ug/L	1	04/18/2012 19:51
Carbon tetrachloride	ND		1.00	ug/L	1	04/18/2012 19:51
Chlorobenzene	ND		1.00	ug/L	1	04/18/2012 19:51
Chloroethane	ND		1.00	ug/L	1	04/18/2012 19:51
Chloroform	ND		1.00	ug/L	1	04/18/2012 19:51
Chloromethane	ND		1.00	ug/L	1	04/18/2012 19:51
Dibromochloromethane	ND		1.00	ug/L	1	04/18/2012 19:51
Dibromomethane	ND		1.00	ug/L	1	04/18/2012 19:51



Results of **48MW-2**

Client Sample ID: **48MW-2**
Client Project ID: **NCDOT Pittsboro**
Lab Sample ID: 31201090010-A
Lab Project ID: 31201090

Collection Date: 04/11/2012 15:30
Received Date: 04/13/2012 15:00
Matrix: Water

Results by **SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Dichlorodifluoromethane	ND		5.00	ug/L	1	04/18/2012 19:51
cis-1,3-Dichloropropene	ND		1.00	ug/L	1	04/18/2012 19:51
trans-1,3-Dichloropropene	ND		1.00	ug/L	1	04/18/2012 19:51
Diisopropyl Ether	ND		1.00	ug/L	1	04/18/2012 19:51
Ethyl Benzene	ND		1.00	ug/L	1	04/18/2012 19:51
Hexachlorobutadiene	ND		1.00	ug/L	1	04/18/2012 19:51
Isopropylbenzene (Cumene)	ND		1.00	ug/L	1	04/18/2012 19:51
Methyl iodide	ND		1.00	ug/L	1	04/18/2012 19:51
Methylene chloride	ND		5.00	ug/L	1	04/18/2012 19:51
Naphthalene	ND		1.00	ug/L	1	04/18/2012 19:51
Styrene	ND		1.00	ug/L	1	04/18/2012 19:51
Tetrachloroethene	ND		1.00	ug/L	1	04/18/2012 19:51
Toluene	ND		1.00	ug/L	1	04/18/2012 19:51
Trichloroethene	ND		1.00	ug/L	1	04/18/2012 19:51
Trichlorofluoromethane	ND		1.00	ug/L	1	04/18/2012 19:51
Vinyl chloride	ND		1.00	ug/L	1	04/18/2012 19:51
cis-1,2-Dichloroethene	ND		1.00	ug/L	1	04/18/2012 19:51
m,p-Xylene	ND		2.00	ug/L	1	04/18/2012 19:51
n-Propylbenzene	ND		1.00	ug/L	1	04/18/2012 19:51
o-Xylene	ND		1.00	ug/L	1	04/18/2012 19:51
sec-Butylbenzene	ND		1.00	ug/L	1	04/18/2012 19:51
tert-Butyl methyl ether (MTBE)	ND		1.00	ug/L	1	04/18/2012 19:51
tert-Butylbenzene	ND		1.00	ug/L	1	04/18/2012 19:51
trans-1,2-Dichloroethene	ND		1.00	ug/L	1	04/18/2012 19:51
trans-1,4-Dichloro-2-butene	ND		5.00	ug/L	1	04/18/2012 19:51

Surrogates

1,2-Dichloroethane-d4	99.0		64.0-140	%	1	04/18/2012 19:51
4-Bromofluorobenzene	96.0		85.0-115	%	1	04/18/2012 19:51
Toluene d8	98.0		82.0-117	%	1	04/18/2012 19:51

Batch Information

Analytical Batch: **VMS2128**
Analytical Method: **SW-846 8260B**
Instrument: **MSD4**
Analyst: **DVO**
Analytical Date/Time: **04/18/2012 19:51**

Prep Batch: **VXX3166**
Prep Method: **SW-846 5030B**
Prep Date/Time: **04/18/2012 08:00**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **40 mL**



Results of **48EB-1**

Client Sample ID: **48EB-1**
Client Project ID: **NCDOT Pittsboro**
Lab Sample ID: 31201090011-A
Lab Project ID: 31201090

Collection Date: 04/11/2012 15:30
Received Date: 04/13/2012 15:00
Matrix: Water

Results by **SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L	1	04/18/2012 20:15
1,1,1-Trichloroethane	ND		1.00	ug/L	1	04/18/2012 20:15
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L	1	04/18/2012 20:15
1,1,2-Trichloroethane	ND		1.00	ug/L	1	04/18/2012 20:15
1,1-Dichloroethane	ND		1.00	ug/L	1	04/18/2012 20:15
1,1-Dichloroethene	ND		1.00	ug/L	1	04/18/2012 20:15
1,1-Dichloropropene	ND		1.00	ug/L	1	04/18/2012 20:15
1,2,3-Trichlorobenzene	ND		1.00	ug/L	1	04/18/2012 20:15
1,2,3-Trichloropropane	ND		1.00	ug/L	1	04/18/2012 20:15
1,2,4-Trichlorobenzene	ND		1.00	ug/L	1	04/18/2012 20:15
1,2,4-Trimethylbenzene	ND		1.00	ug/L	1	04/18/2012 20:15
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1	04/18/2012 20:15
1,2-Dibromoethane	ND		1.00	ug/L	1	04/18/2012 20:15
1,2-Dichlorobenzene	ND		1.00	ug/L	1	04/18/2012 20:15
1,2-Dichloroethane	ND		1.00	ug/L	1	04/18/2012 20:15
1,2-Dichloropropane	ND		1.00	ug/L	1	04/18/2012 20:15
1,3,5-Trimethylbenzene	ND		1.00	ug/L	1	04/18/2012 20:15
1,3-Dichlorobenzene	ND		1.00	ug/L	1	04/18/2012 20:15
1,3-Dichloropropane	ND		1.00	ug/L	1	04/18/2012 20:15
1,4-Dichlorobenzene	ND		1.00	ug/L	1	04/18/2012 20:15
2,2-Dichloropropane	ND		1.00	ug/L	1	04/18/2012 20:15
2-Butanone	ND		25.0	ug/L	1	04/18/2012 20:15
2-Chlorotoluene	ND		1.00	ug/L	1	04/18/2012 20:15
2-Hexanone	ND		5.00	ug/L	1	04/18/2012 20:15
4-Chlorotoluene	ND		1.00	ug/L	1	04/18/2012 20:15
4-Isopropyltoluene	ND		1.00	ug/L	1	04/18/2012 20:15
4-Methyl-2-pentanone	ND		5.00	ug/L	1	04/18/2012 20:15
Acetone	ND		25.0	ug/L	1	04/18/2012 20:15
Benzene	ND		1.00	ug/L	1	04/18/2012 20:15
Bromobenzene	ND		1.00	ug/L	1	04/18/2012 20:15
Bromochloromethane	ND		1.00	ug/L	1	04/18/2012 20:15
Bromodichloromethane	ND		1.00	ug/L	1	04/18/2012 20:15
Bromoform	ND		1.00	ug/L	1	04/18/2012 20:15
Bromomethane	ND		1.00	ug/L	1	04/18/2012 20:15
n-Butylbenzene	ND		1.00	ug/L	1	04/18/2012 20:15
Carbon disulfide	ND		1.00	ug/L	1	04/18/2012 20:15
Carbon tetrachloride	ND		1.00	ug/L	1	04/18/2012 20:15
Chlorobenzene	ND		1.00	ug/L	1	04/18/2012 20:15
Chloroethane	ND		1.00	ug/L	1	04/18/2012 20:15
Chloroform	ND		1.00	ug/L	1	04/18/2012 20:15
Chloromethane	ND		1.00	ug/L	1	04/18/2012 20:15
Dibromochloromethane	ND		1.00	ug/L	1	04/18/2012 20:15
Dibromomethane	ND		1.00	ug/L	1	04/18/2012 20:15

Print Date: 04/25/2012

N.C. Certification # 481



Results of **48EB-1**

Client Sample ID: **48EB-1**
Client Project ID: **NCDOT Pittsboro**
Lab Sample ID: 31201090011-A
Lab Project ID: 31201090

Collection Date: 04/11/2012 15:30
Received Date: 04/13/2012 15:00
Matrix: Water

Results by **SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Dichlorodifluoromethane	ND		5.00	ug/L	1	04/18/2012 20:15
cis-1,3-Dichloropropene	ND		1.00	ug/L	1	04/18/2012 20:15
trans-1,3-Dichloropropene	ND		1.00	ug/L	1	04/18/2012 20:15
Diisopropyl Ether	ND		1.00	ug/L	1	04/18/2012 20:15
Ethyl Benzene	ND		1.00	ug/L	1	04/18/2012 20:15
Hexachlorobutadiene	ND		1.00	ug/L	1	04/18/2012 20:15
Isopropylbenzene (Cumene)	ND		1.00	ug/L	1	04/18/2012 20:15
Methyl iodide	ND		1.00	ug/L	1	04/18/2012 20:15
Methylene chloride	ND		5.00	ug/L	1	04/18/2012 20:15
Naphthalene	ND		1.00	ug/L	1	04/18/2012 20:15
Styrene	ND		1.00	ug/L	1	04/18/2012 20:15
Tetrachloroethene	ND		1.00	ug/L	1	04/18/2012 20:15
Toluene	ND		1.00	ug/L	1	04/18/2012 20:15
Trichloroethene	ND		1.00	ug/L	1	04/18/2012 20:15
Trichlorofluoromethane	ND		1.00	ug/L	1	04/18/2012 20:15
Vinyl chloride	ND		1.00	ug/L	1	04/18/2012 20:15
cis-1,2-Dichloroethene	ND		1.00	ug/L	1	04/18/2012 20:15
m,p-Xylene	ND		2.00	ug/L	1	04/18/2012 20:15
n-Propylbenzene	ND		1.00	ug/L	1	04/18/2012 20:15
o-Xylene	ND		1.00	ug/L	1	04/18/2012 20:15
sec-Butylbenzene	ND		1.00	ug/L	1	04/18/2012 20:15
tert-Butyl methyl ether (MTBE)	ND		1.00	ug/L	1	04/18/2012 20:15
tert-Butylbenzene	ND		1.00	ug/L	1	04/18/2012 20:15
trans-1,2-Dichloroethene	ND		1.00	ug/L	1	04/18/2012 20:15
trans-1,4-Dichloro-2-butene	ND		5.00	ug/L	1	04/18/2012 20:15
Surrogates						
1,2-Dichloroethane-d4	99.0		64.0-140	%	1	04/18/2012 20:15
4-Bromofluorobenzene	96.0		85.0-115	%	1	04/18/2012 20:15
Toluene d8	99.0		82.0-117	%	1	04/18/2012 20:15

Batch Information

Analytical Batch: **VMS2128**
Analytical Method: **SW-846 8260B**
Instrument: **MSD4**
Analyst: **DVO**
Analytical Date/Time: **04/18/2012 20:15**

Prep Batch: **VXX3166**
Prep Method: **SW-846 5030B**
Prep Date/Time: **04/18/2012 08:00**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **40 mL**



Results of **48PW-2**

Client Sample ID: **48PW-2**
Client Project ID: **NCDOT Pittsboro**
Lab Sample ID: 31201090012-A
Lab Project ID: 31201090

Collection Date: 04/11/2012 16:00
Received Date: 04/13/2012 15:00
Matrix: Water

Results by **SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L	1	04/18/2012 20:39
1,1,1-Trichloroethane	ND		1.00	ug/L	1	04/18/2012 20:39
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L	1	04/18/2012 20:39
1,1,2-Trichloroethane	ND		1.00	ug/L	1	04/18/2012 20:39
1,1-Dichloroethane	ND		1.00	ug/L	1	04/18/2012 20:39
1,1-Dichloroethene	ND		1.00	ug/L	1	04/18/2012 20:39
1,1-Dichloropropene	ND		1.00	ug/L	1	04/18/2012 20:39
1,2,3-Trichlorobenzene	ND		1.00	ug/L	1	04/18/2012 20:39
1,2,3-Trichloropropane	ND		1.00	ug/L	1	04/18/2012 20:39
1,2,4-Trichlorobenzene	ND		1.00	ug/L	1	04/18/2012 20:39
1,2,4-Trimethylbenzene	ND		1.00	ug/L	1	04/18/2012 20:39
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1	04/18/2012 20:39
1,2-Dibromoethane	ND		1.00	ug/L	1	04/18/2012 20:39
1,2-Dichlorobenzene	ND		1.00	ug/L	1	04/18/2012 20:39
1,2-Dichloroethane	ND		1.00	ug/L	1	04/18/2012 20:39
1,2-Dichloropropane	ND		1.00	ug/L	1	04/18/2012 20:39
1,3,5-Trimethylbenzene	ND		1.00	ug/L	1	04/18/2012 20:39
1,3-Dichlorobenzene	ND		1.00	ug/L	1	04/18/2012 20:39
1,3-Dichloropropane	ND		1.00	ug/L	1	04/18/2012 20:39
1,4-Dichlorobenzene	ND		1.00	ug/L	1	04/18/2012 20:39
2,2-Dichloropropane	ND		1.00	ug/L	1	04/18/2012 20:39
2-Butanone	ND		25.0	ug/L	1	04/18/2012 20:39
2-Chlorotoluene	ND		1.00	ug/L	1	04/18/2012 20:39
2-Hexanone	ND		5.00	ug/L	1	04/18/2012 20:39
4-Chlorotoluene	ND		1.00	ug/L	1	04/18/2012 20:39
4-Isopropyltoluene	ND		1.00	ug/L	1	04/18/2012 20:39
4-Methyl-2-pentanone	ND		5.00	ug/L	1	04/18/2012 20:39
Acetone	ND		25.0	ug/L	1	04/18/2012 20:39
Benzene	ND		1.00	ug/L	1	04/18/2012 20:39
Bromobenzene	ND		1.00	ug/L	1	04/18/2012 20:39
Bromochloromethane	ND		1.00	ug/L	1	04/18/2012 20:39
Bromodichloromethane	ND		1.00	ug/L	1	04/18/2012 20:39
Bromoform	ND		1.00	ug/L	1	04/18/2012 20:39
Bromomethane	ND		1.00	ug/L	1	04/18/2012 20:39
n-Butylbenzene	ND		1.00	ug/L	1	04/18/2012 20:39
Carbon disulfide	ND		1.00	ug/L	1	04/18/2012 20:39
Carbon tetrachloride	ND		1.00	ug/L	1	04/18/2012 20:39
Chlorobenzene	ND		1.00	ug/L	1	04/18/2012 20:39
Chloroethane	ND		1.00	ug/L	1	04/18/2012 20:39
Chloroform	ND		1.00	ug/L	1	04/18/2012 20:39
Chloromethane	ND		1.00	ug/L	1	04/18/2012 20:39
Dibromochloromethane	ND		1.00	ug/L	1	04/18/2012 20:39
Dibromomethane	ND		1.00	ug/L	1	04/18/2012 20:39

Print Date: 04/25/2012

N.C. Certification # 481



Results of **48PW-2**

Client Sample ID: **48PW-2**
Client Project ID: **NCDOT Pittsboro**
Lab Sample ID: 31201090012-A
Lab Project ID: 31201090

Collection Date: 04/11/2012 16:00
Received Date: 04/13/2012 15:00
Matrix: Water

Results by **SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Dichlorodifluoromethane	ND		5.00	ug/L	1	04/18/2012 20:39
cis-1,3-Dichloropropene	ND		1.00	ug/L	1	04/18/2012 20:39
trans-1,3-Dichloropropene	ND		1.00	ug/L	1	04/18/2012 20:39
Diisopropyl Ether	ND		1.00	ug/L	1	04/18/2012 20:39
Ethyl Benzene	ND		1.00	ug/L	1	04/18/2012 20:39
Hexachlorobutadiene	ND		1.00	ug/L	1	04/18/2012 20:39
Isopropylbenzene (Cumene)	ND		1.00	ug/L	1	04/18/2012 20:39
Methyl iodide	ND		1.00	ug/L	1	04/18/2012 20:39
Methylene chloride	ND		5.00	ug/L	1	04/18/2012 20:39
Naphthalene	ND		1.00	ug/L	1	04/18/2012 20:39
Styrene	ND		1.00	ug/L	1	04/18/2012 20:39
Tetrachloroethene	ND		1.00	ug/L	1	04/18/2012 20:39
Toluene	ND		1.00	ug/L	1	04/18/2012 20:39
Trichloroethene	ND		1.00	ug/L	1	04/18/2012 20:39
Trichlorofluoromethane	ND		1.00	ug/L	1	04/18/2012 20:39
Vinyl chloride	ND		1.00	ug/L	1	04/18/2012 20:39
cis-1,2-Dichloroethene	ND		1.00	ug/L	1	04/18/2012 20:39
m,p-Xylene	ND		2.00	ug/L	1	04/18/2012 20:39
n-Propylbenzene	ND		1.00	ug/L	1	04/18/2012 20:39
o-Xylene	ND		1.00	ug/L	1	04/18/2012 20:39
sec-Butylbenzene	ND		1.00	ug/L	1	04/18/2012 20:39
tert-Butyl methyl ether (MTBE)	ND		1.00	ug/L	1	04/18/2012 20:39
tert-Butylbenzene	ND		1.00	ug/L	1	04/18/2012 20:39
trans-1,2-Dichloroethene	ND		1.00	ug/L	1	04/18/2012 20:39
trans-1,4-Dichloro-2-butene	ND		5.00	ug/L	1	04/18/2012 20:39

Surrogates

1,2-Dichloroethane-d4	100		64.0-140	%	1	04/18/2012 20:39
4-Bromofluorobenzene	96.0		85.0-115	%	1	04/18/2012 20:39
Toluene d8	99.0		82.0-117	%	1	04/18/2012 20:39

Batch Information

Analytical Batch: **VMS2128**
Analytical Method: **SW-846 8260B**
Instrument: **MSD4**
Analyst: **DVO**
Analytical Date/Time: **04/18/2012 20:39**

Prep Batch: **VXX3166**
Prep Method: **SW-846 5030B**
Prep Date/Time: **04/18/2012 08:00**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **40 mL**



Results of 48RW-1

Client Sample ID: 48RW-1
Client Project ID: NCDOT Pittsboro
Lab Sample ID: 31201090013-C
Lab Project ID: 31201090

Collection Date: 04/11/2012 16:10
Received Date: 04/13/2012 15:00
Matrix: Water

Results by SW-846 8260B

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
1,1,1,2-Tetrachloroethane	ND		10.0	ug/L	10	04/20/2012 17:00
1,1,1-Trichloroethane	ND		10.0	ug/L	10	04/20/2012 17:00
1,1,2,2-Tetrachloroethane	ND		10.0	ug/L	10	04/20/2012 17:00
1,1,2-Trichloroethane	ND		10.0	ug/L	10	04/20/2012 17:00
1,1-Dichloroethane	ND		10.0	ug/L	10	04/20/2012 17:00
1,1-Dichloroethene	15.0		10.0	ug/L	10	04/20/2012 17:00
1,1-Dichloropropene	ND		10.0	ug/L	10	04/20/2012 17:00
1,2,3-Trichlorobenzene	ND		10.0	ug/L	10	04/20/2012 17:00
1,2,3-Trichloropropane	ND		10.0	ug/L	10	04/20/2012 17:00
1,2,4-Trichlorobenzene	ND		10.0	ug/L	10	04/20/2012 17:00
1,2,4-Trimethylbenzene	ND		10.0	ug/L	10	04/20/2012 17:00
1,2-Dibromo-3-chloropropane	ND		50.0	ug/L	10	04/20/2012 17:00
1,2-Dibromoethane	ND		10.0	ug/L	10	04/20/2012 17:00
1,2-Dichlorobenzene	ND		10.0	ug/L	10	04/20/2012 17:00
1,2-Dichloroethane	ND		10.0	ug/L	10	04/20/2012 17:00
1,2-Dichloropropane	ND		10.0	ug/L	10	04/20/2012 17:00
1,3,5-Trimethylbenzene	ND		10.0	ug/L	10	04/20/2012 17:00
1,3-Dichlorobenzene	ND		10.0	ug/L	10	04/20/2012 17:00
1,3-Dichloropropane	ND		10.0	ug/L	10	04/20/2012 17:00
1,4-Dichlorobenzene	ND		10.0	ug/L	10	04/20/2012 17:00
2,2-Dichloropropane	ND		10.0	ug/L	10	04/20/2012 17:00
2-Butanone	ND		250	ug/L	10	04/20/2012 17:00
2-Chlorotoluene	ND		10.0	ug/L	10	04/20/2012 17:00
2-Hexanone	ND		50.0	ug/L	10	04/20/2012 17:00
4-Chlorotoluene	ND		10.0	ug/L	10	04/20/2012 17:00
4-Isopropyltoluene	ND		10.0	ug/L	10	04/20/2012 17:00
4-Methyl-2-pentanone	ND		50.0	ug/L	10	04/20/2012 17:00
Acetone	ND		250	ug/L	10	04/20/2012 17:00
Benzene	ND		10.0	ug/L	10	04/20/2012 17:00
Bromobenzene	ND		10.0	ug/L	10	04/20/2012 17:00
Bromochloromethane	ND		10.0	ug/L	10	04/20/2012 17:00
Bromodichloromethane	ND		10.0	ug/L	10	04/20/2012 17:00
Bromoform	ND		10.0	ug/L	10	04/20/2012 17:00
Bromomethane	ND		10.0	ug/L	10	04/20/2012 17:00
n-Butylbenzene	ND		10.0	ug/L	10	04/20/2012 17:00
Carbon disulfide	ND		10.0	ug/L	10	04/20/2012 17:00
Carbon tetrachloride	ND		10.0	ug/L	10	04/20/2012 17:00
Chlorobenzene	ND		10.0	ug/L	10	04/20/2012 17:00
Chloroethane	ND		10.0	ug/L	10	04/20/2012 17:00
Chloroform	ND		10.0	ug/L	10	04/20/2012 17:00
Chloromethane	ND		10.0	ug/L	10	04/20/2012 17:00
Dibromochloromethane	ND		10.0	ug/L	10	04/20/2012 17:00
Dibromomethane	ND		10.0	ug/L	10	04/20/2012 17:00



Results of **48RW-1**

Client Sample ID: **48RW-1**
Client Project ID: **NCDOT Pittsboro**
Lab Sample ID: 31201090013-C
Lab Project ID: 31201090

Collection Date: 04/11/2012 16:10
Received Date: 04/13/2012 15:00
Matrix: Water

Results by **SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Dichlorodifluoromethane	ND		50.0	ug/L	10	04/20/2012 17:00
cis-1,3-Dichloropropene	ND		10.0	ug/L	10	04/20/2012 17:00
trans-1,3-Dichloropropene	ND		10.0	ug/L	10	04/20/2012 17:00
Diisopropyl Ether	ND		10.0	ug/L	10	04/20/2012 17:00
Ethyl Benzene	ND		10.0	ug/L	10	04/20/2012 17:00
Hexachlorobutadiene	ND		10.0	ug/L	10	04/20/2012 17:00
Isopropylbenzene (Cumene)	ND		10.0	ug/L	10	04/20/2012 17:00
Methyl iodide	ND		10.0	ug/L	10	04/20/2012 17:00
Methylene chloride	ND		50.0	ug/L	10	04/20/2012 17:00
Naphthalene	ND		10.0	ug/L	10	04/20/2012 17:00
Styrene	ND		10.0	ug/L	10	04/20/2012 17:00
Tetrachloroethene	10.4		10.0	ug/L	10	04/20/2012 17:00
Toluene	ND		10.0	ug/L	10	04/20/2012 17:00
Trichloroethene	324		10.0	ug/L	10	04/20/2012 17:00
Trichlorofluoromethane	ND		10.0	ug/L	10	04/20/2012 17:00
Vinyl chloride	ND		10.0	ug/L	10	04/20/2012 17:00
cis-1,2-Dichloroethene	ND		10.0	ug/L	10	04/20/2012 17:00
m,p-Xylene	ND		20.0	ug/L	10	04/20/2012 17:00
n-Propylbenzene	ND		10.0	ug/L	10	04/20/2012 17:00
o-Xylene	ND		10.0	ug/L	10	04/20/2012 17:00
sec-Butylbenzene	ND		10.0	ug/L	10	04/20/2012 17:00
tert-Butyl methyl ether (MTBE)	ND		10.0	ug/L	10	04/20/2012 17:00
tert-Butylbenzene	ND		10.0	ug/L	10	04/20/2012 17:00
trans-1,2-Dichloroethene	ND		10.0	ug/L	10	04/20/2012 17:00
trans-1,4-Dichloro-2-butene	ND		50.0	ug/L	10	04/20/2012 17:00

Surrogates

1,2-Dichloroethane-d4	101		64.0-140	%	10	04/20/2012 17:00
4-Bromofluorobenzene	96.0		85.0-115	%	10	04/20/2012 17:00
Toluene d8	100		82.0-117	%	10	04/20/2012 17:00

Batch Information

Analytical Batch: **VMS2139**
Analytical Method: **SW-846 8260B**
Instrument: **MSD4**
Analyst: **DVO**
Analytical Date/Time: **04/20/2012 17:00**

Prep Batch: **VXX3189**
Prep Method: **SW-846 5030B**
Prep Date/Time: **04/20/2012 08:00**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **40 mL**



Results of **48RW-2**

Client Sample ID: **48RW-2**
Client Project ID: **NCDOT Pittsboro**
Lab Sample ID: 31201090014-A
Lab Project ID: 31201090

Collection Date: 04/11/2012 16:15
Received Date: 04/13/2012 15:00
Matrix: Water

Results by **SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1,1,2-Tetrachloroethane	ND		5.00	ug/L	5	04/19/2012 17:47
1,1,1-Trichloroethane	ND		5.00	ug/L	5	04/19/2012 17:47
1,1,2,2-Tetrachloroethane	ND		5.00	ug/L	5	04/19/2012 17:47
1,1,2-Trichloroethane	ND		5.00	ug/L	5	04/19/2012 17:47
1,1-Dichloroethane	ND		5.00	ug/L	5	04/19/2012 17:47
1,1-Dichloroethene	6.35		5.00	ug/L	5	04/19/2012 17:47
1,1-Dichloropropene	ND		5.00	ug/L	5	04/19/2012 17:47
1,2,3-Trichlorobenzene	ND		5.00	ug/L	5	04/19/2012 17:47
1,2,3-Trichloropropane	ND		5.00	ug/L	5	04/19/2012 17:47
1,2,4-Trichlorobenzene	ND		5.00	ug/L	5	04/19/2012 17:47
1,2,4-Trimethylbenzene	ND		5.00	ug/L	5	04/19/2012 17:47
1,2-Dibromo-3-chloropropane	ND		25.0	ug/L	5	04/19/2012 17:47
1,2-Dibromoethane	ND		5.00	ug/L	5	04/19/2012 17:47
1,2-Dichlorobenzene	ND		5.00	ug/L	5	04/19/2012 17:47
1,2-Dichloroethane	ND		5.00	ug/L	5	04/19/2012 17:47
1,2-Dichloropropane	ND		5.00	ug/L	5	04/19/2012 17:47
1,3,5-Trimethylbenzene	ND		5.00	ug/L	5	04/19/2012 17:47
1,3-Dichlorobenzene	ND		5.00	ug/L	5	04/19/2012 17:47
1,3-Dichloropropane	ND		5.00	ug/L	5	04/19/2012 17:47
1,4-Dichlorobenzene	ND		5.00	ug/L	5	04/19/2012 17:47
2,2-Dichloropropane	ND		5.00	ug/L	5	04/19/2012 17:47
2-Butanone	ND		125	ug/L	5	04/19/2012 17:47
2-Chlorotoluene	ND		5.00	ug/L	5	04/19/2012 17:47
2-Hexanone	ND		25.0	ug/L	5	04/19/2012 17:47
4-Chlorotoluene	ND		5.00	ug/L	5	04/19/2012 17:47
4-Isopropyltoluene	ND		5.00	ug/L	5	04/19/2012 17:47
4-Methyl-2-pentanone	ND		25.0	ug/L	5	04/19/2012 17:47
Acetone	ND		125	ug/L	5	04/19/2012 17:47
Benzene	ND		5.00	ug/L	5	04/19/2012 17:47
Bromobenzene	ND		5.00	ug/L	5	04/19/2012 17:47
Bromochloromethane	ND		5.00	ug/L	5	04/19/2012 17:47
Bromodichloromethane	ND		5.00	ug/L	5	04/19/2012 17:47
Bromoform	ND		5.00	ug/L	5	04/19/2012 17:47
Bromomethane	ND		5.00	ug/L	5	04/19/2012 17:47
n-Butylbenzene	ND		5.00	ug/L	5	04/19/2012 17:47
Carbon disulfide	ND		5.00	ug/L	5	04/19/2012 17:47
Carbon tetrachloride	ND		5.00	ug/L	5	04/19/2012 17:47
Chlorobenzene	ND		5.00	ug/L	5	04/19/2012 17:47
Chloroethane	ND		5.00	ug/L	5	04/19/2012 17:47
Chloroform	ND		5.00	ug/L	5	04/19/2012 17:47
Chloromethane	ND		5.00	ug/L	5	04/19/2012 17:47
Dibromochloromethane	ND		5.00	ug/L	5	04/19/2012 17:47
Dibromomethane	ND		5.00	ug/L	5	04/19/2012 17:47

Print Date: 04/25/2012

N.C. Certification # 481



Results of **48RW-2**

Client Sample ID: **48RW-2**
Client Project ID: **NCDOT Pittsboro**
Lab Sample ID: 31201090014-A
Lab Project ID: 31201090

Collection Date: 04/11/2012 16:15
Received Date: 04/13/2012 15:00
Matrix: Water

Results by **SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Dichlorodifluoromethane	ND		25.0	ug/L	5	04/19/2012 17:47
cis-1,3-Dichloropropene	ND		5.00	ug/L	5	04/19/2012 17:47
trans-1,3-Dichloropropene	ND		5.00	ug/L	5	04/19/2012 17:47
Diisopropyl Ether	ND		5.00	ug/L	5	04/19/2012 17:47
Ethyl Benzene	ND		5.00	ug/L	5	04/19/2012 17:47
Hexachlorobutadiene	ND		5.00	ug/L	5	04/19/2012 17:47
Isopropylbenzene (Cumene)	ND		5.00	ug/L	5	04/19/2012 17:47
Methyl iodide	ND		5.00	ug/L	5	04/19/2012 17:47
Methylene chloride	ND		25.0	ug/L	5	04/19/2012 17:47
Naphthalene	ND		5.00	ug/L	5	04/19/2012 17:47
Styrene	ND		5.00	ug/L	5	04/19/2012 17:47
Tetrachloroethene	ND		5.00	ug/L	5	04/19/2012 17:47
Toluene	ND		5.00	ug/L	5	04/19/2012 17:47
Trichloroethene	86.1		5.00	ug/L	5	04/19/2012 17:47
Trichlorofluoromethane	ND		5.00	ug/L	5	04/19/2012 17:47
Vinyl chloride	ND		5.00	ug/L	5	04/19/2012 17:47
cis-1,2-Dichloroethene	ND		5.00	ug/L	5	04/19/2012 17:47
m,p-Xylene	ND		10.0	ug/L	5	04/19/2012 17:47
n-Propylbenzene	ND		5.00	ug/L	5	04/19/2012 17:47
o-Xylene	ND		5.00	ug/L	5	04/19/2012 17:47
sec-Butylbenzene	ND		5.00	ug/L	5	04/19/2012 17:47
tert-Butyl methyl ether (MTBE)	ND		5.00	ug/L	5	04/19/2012 17:47
tert-Butylbenzene	ND		5.00	ug/L	5	04/19/2012 17:47
trans-1,2-Dichloroethene	ND		5.00	ug/L	5	04/19/2012 17:47
trans-1,4-Dichloro-2-butene	ND		25.0	ug/L	5	04/19/2012 17:47
Surrogates						
1,2-Dichloroethane-d4	103		64.0-140	%	5	04/19/2012 17:47
4-Bromofluorobenzene	99.0		85.0-115	%	5	04/19/2012 17:47
Toluene d8	102		82.0-117	%	5	04/19/2012 17:47

Batch Information

Analytical Batch: **VMS2132**
Analytical Method: **SW-846 8260B**
Instrument: **MSD8**
Analyst: **DVO**
Analytical Date/Time: **04/19/2012 17:47**

Prep Batch: **VXX3178**
Prep Method: **SW-846 5030B**
Prep Date/Time: **04/19/2012 13:54**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **40 mL**



Results of **48MW-13**

Client Sample ID: **48MW-13**
Client Project ID: **NCDOT Pittsboro**
Lab Sample ID: 31201090015-A
Lab Project ID: 31201090

Collection Date: 04/12/2012 08:30
Received Date: 04/13/2012 15:00
Matrix: Water

Results by **SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L	1	04/19/2012 13:42
1,1,1-Trichloroethane	ND		1.00	ug/L	1	04/19/2012 13:42
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L	1	04/19/2012 13:42
1,1,2-Trichloroethane	ND		1.00	ug/L	1	04/19/2012 13:42
1,1-Dichloroethane	ND		1.00	ug/L	1	04/19/2012 13:42
1,1-Dichloroethene	ND		1.00	ug/L	1	04/19/2012 13:42
1,1-Dichloropropene	ND		1.00	ug/L	1	04/19/2012 13:42
1,2,3-Trichlorobenzene	ND		1.00	ug/L	1	04/19/2012 13:42
1,2,3-Trichloropropane	ND		1.00	ug/L	1	04/19/2012 13:42
1,2,4-Trichlorobenzene	ND		1.00	ug/L	1	04/19/2012 13:42
1,2,4-Trimethylbenzene	ND		1.00	ug/L	1	04/19/2012 13:42
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1	04/19/2012 13:42
1,2-Dibromoethane	ND		1.00	ug/L	1	04/19/2012 13:42
1,2-Dichlorobenzene	ND		1.00	ug/L	1	04/19/2012 13:42
1,2-Dichloroethane	ND		1.00	ug/L	1	04/19/2012 13:42
1,2-Dichloropropane	ND		1.00	ug/L	1	04/19/2012 13:42
1,3,5-Trimethylbenzene	ND		1.00	ug/L	1	04/19/2012 13:42
1,3-Dichlorobenzene	ND		1.00	ug/L	1	04/19/2012 13:42
1,3-Dichloropropane	ND		1.00	ug/L	1	04/19/2012 13:42
1,4-Dichlorobenzene	ND		1.00	ug/L	1	04/19/2012 13:42
2,2-Dichloropropane	ND		1.00	ug/L	1	04/19/2012 13:42
2-Butanone	ND		25.0	ug/L	1	04/19/2012 13:42
2-Chlorotoluene	ND		1.00	ug/L	1	04/19/2012 13:42
2-Hexanone	ND		5.00	ug/L	1	04/19/2012 13:42
4-Chlorotoluene	ND		1.00	ug/L	1	04/19/2012 13:42
4-Isopropyltoluene	ND		1.00	ug/L	1	04/19/2012 13:42
4-Methyl-2-pentanone	ND		5.00	ug/L	1	04/19/2012 13:42
Acetone	ND		25.0	ug/L	1	04/19/2012 13:42
Benzene	ND		1.00	ug/L	1	04/19/2012 13:42
Bromobenzene	ND		1.00	ug/L	1	04/19/2012 13:42
Bromochloromethane	ND		1.00	ug/L	1	04/19/2012 13:42
Bromodichloromethane	ND		1.00	ug/L	1	04/19/2012 13:42
Bromoform	ND		1.00	ug/L	1	04/19/2012 13:42
Bromomethane	ND		1.00	ug/L	1	04/19/2012 13:42
n-Butylbenzene	ND		1.00	ug/L	1	04/19/2012 13:42
Carbon disulfide	ND		1.00	ug/L	1	04/19/2012 13:42
Carbon tetrachloride	ND		1.00	ug/L	1	04/19/2012 13:42
Chlorobenzene	ND		1.00	ug/L	1	04/19/2012 13:42
Chloroethane	ND		1.00	ug/L	1	04/19/2012 13:42
Chloroform	ND		1.00	ug/L	1	04/19/2012 13:42
Chloromethane	ND		1.00	ug/L	1	04/19/2012 13:42
Dibromochloromethane	ND		1.00	ug/L	1	04/19/2012 13:42
Dibromomethane	ND		1.00	ug/L	1	04/19/2012 13:42

Print Date: 04/25/2012

N.C. Certification # 481



Results of **48MW-13**

Client Sample ID: **48MW-13**
Client Project ID: **NCDOT Pittsboro**
Lab Sample ID: 31201090015-A
Lab Project ID: 31201090

Collection Date: 04/12/2012 08:30
Received Date: 04/13/2012 15:00
Matrix: Water

Results by **SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Dichlorodifluoromethane	ND		5.00	ug/L	1	04/19/2012 13:42
cis-1,3-Dichloropropene	ND		1.00	ug/L	1	04/19/2012 13:42
trans-1,3-Dichloropropene	ND		1.00	ug/L	1	04/19/2012 13:42
Diisopropyl Ether	ND		1.00	ug/L	1	04/19/2012 13:42
Ethyl Benzene	ND		1.00	ug/L	1	04/19/2012 13:42
Hexachlorobutadiene	ND		1.00	ug/L	1	04/19/2012 13:42
Isopropylbenzene (Cumene)	ND		1.00	ug/L	1	04/19/2012 13:42
Methyl iodide	ND		1.00	ug/L	1	04/19/2012 13:42
Methylene chloride	ND		5.00	ug/L	1	04/19/2012 13:42
Naphthalene	ND		1.00	ug/L	1	04/19/2012 13:42
Styrene	ND		1.00	ug/L	1	04/19/2012 13:42
Tetrachloroethene	ND		1.00	ug/L	1	04/19/2012 13:42
Toluene	ND		1.00	ug/L	1	04/19/2012 13:42
Trichloroethene	ND		1.00	ug/L	1	04/19/2012 13:42
Trichlorofluoromethane	ND		1.00	ug/L	1	04/19/2012 13:42
Vinyl chloride	ND		1.00	ug/L	1	04/19/2012 13:42
cis-1,2-Dichloroethene	ND		1.00	ug/L	1	04/19/2012 13:42
m,p-Xylene	ND		2.00	ug/L	1	04/19/2012 13:42
n-Propylbenzene	ND		1.00	ug/L	1	04/19/2012 13:42
o-Xylene	ND		1.00	ug/L	1	04/19/2012 13:42
sec-Butylbenzene	ND		1.00	ug/L	1	04/19/2012 13:42
tert-Butyl methyl ether (MTBE)	ND		1.00	ug/L	1	04/19/2012 13:42
tert-Butylbenzene	ND		1.00	ug/L	1	04/19/2012 13:42
trans-1,2-Dichloroethene	ND		1.00	ug/L	1	04/19/2012 13:42
trans-1,4-Dichloro-2-butene	ND		5.00	ug/L	1	04/19/2012 13:42
Surrogates						
1,2-Dichloroethane-d4	111		64.0-140	%	1	04/19/2012 13:42
4-Bromofluorobenzene	104		85.0-115	%	1	04/19/2012 13:42
Toluene d8	108		82.0-117	%	1	04/19/2012 13:42

Batch Information

Analytical Batch: **VMS2132**
Analytical Method: **SW-846 8260B**
Instrument: **MSD8**
Analyst: **DVO**
Analytical Date/Time: **04/19/2012 13:42**

Prep Batch: **VXX3178**
Prep Method: **SW-846 5030B**
Prep Date/Time: **04/19/2012 13:54**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **40 mL**



Results of **48MW-10**

Client Sample ID: **48MW-10**
Client Project ID: **NCDOT Pittsboro**
Lab Sample ID: 31201090016-A
Lab Project ID: 31201090

Collection Date: 04/12/2012 08:55
Received Date: 04/13/2012 15:00
Matrix: Water

Results by **SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L	1	04/19/2012 14:07
1,1,1-Trichloroethane	ND		1.00	ug/L	1	04/19/2012 14:07
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L	1	04/19/2012 14:07
1,1,2-Trichloroethane	ND		1.00	ug/L	1	04/19/2012 14:07
1,1-Dichloroethane	ND		1.00	ug/L	1	04/19/2012 14:07
1,1-Dichloroethene	ND		1.00	ug/L	1	04/19/2012 14:07
1,1-Dichloropropene	ND		1.00	ug/L	1	04/19/2012 14:07
1,2,3-Trichlorobenzene	ND		1.00	ug/L	1	04/19/2012 14:07
1,2,3-Trichloropropane	ND		1.00	ug/L	1	04/19/2012 14:07
1,2,4-Trichlorobenzene	ND		1.00	ug/L	1	04/19/2012 14:07
1,2,4-Trimethylbenzene	ND		1.00	ug/L	1	04/19/2012 14:07
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1	04/19/2012 14:07
1,2-Dibromoethane	ND		1.00	ug/L	1	04/19/2012 14:07
1,2-Dichlorobenzene	ND		1.00	ug/L	1	04/19/2012 14:07
1,2-Dichloroethane	ND		1.00	ug/L	1	04/19/2012 14:07
1,2-Dichloropropane	ND		1.00	ug/L	1	04/19/2012 14:07
1,3,5-Trimethylbenzene	ND		1.00	ug/L	1	04/19/2012 14:07
1,3-Dichlorobenzene	ND		1.00	ug/L	1	04/19/2012 14:07
1,3-Dichloropropane	ND		1.00	ug/L	1	04/19/2012 14:07
1,4-Dichlorobenzene	ND		1.00	ug/L	1	04/19/2012 14:07
2,2-Dichloropropane	ND		1.00	ug/L	1	04/19/2012 14:07
2-Butanone	ND		25.0	ug/L	1	04/19/2012 14:07
2-Chlorotoluene	ND		1.00	ug/L	1	04/19/2012 14:07
2-Hexanone	ND		5.00	ug/L	1	04/19/2012 14:07
4-Chlorotoluene	ND		1.00	ug/L	1	04/19/2012 14:07
4-Isopropyltoluene	ND		1.00	ug/L	1	04/19/2012 14:07
4-Methyl-2-pentanone	ND		5.00	ug/L	1	04/19/2012 14:07
Acetone	ND		25.0	ug/L	1	04/19/2012 14:07
Benzene	ND		1.00	ug/L	1	04/19/2012 14:07
Bromobenzene	ND		1.00	ug/L	1	04/19/2012 14:07
Bromochloromethane	ND		1.00	ug/L	1	04/19/2012 14:07
Bromodichloromethane	ND		1.00	ug/L	1	04/19/2012 14:07
Bromoform	ND		1.00	ug/L	1	04/19/2012 14:07
Bromomethane	ND		1.00	ug/L	1	04/19/2012 14:07
n-Butylbenzene	ND		1.00	ug/L	1	04/19/2012 14:07
Carbon disulfide	ND		1.00	ug/L	1	04/19/2012 14:07
Carbon tetrachloride	ND		1.00	ug/L	1	04/19/2012 14:07
Chlorobenzene	ND		1.00	ug/L	1	04/19/2012 14:07
Chloroethane	ND		1.00	ug/L	1	04/19/2012 14:07
Chloroform	ND		1.00	ug/L	1	04/19/2012 14:07
Chloromethane	ND		1.00	ug/L	1	04/19/2012 14:07
Dibromochloromethane	ND		1.00	ug/L	1	04/19/2012 14:07
Dibromomethane	ND		1.00	ug/L	1	04/19/2012 14:07

Print Date: 04/25/2012

N.C. Certification # 481

Results of 48MW-10

Client Sample ID: **48MW-10**
 Client Project ID: **NCDOT Pittsboro**
 Lab Sample ID: 31201090016-A
 Lab Project ID: 31201090

Collection Date: 04/12/2012 08:55
 Received Date: 04/13/2012 15:00
 Matrix: Water

Results by SW-846 8260B

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Dichlorodifluoromethane	ND		5.00	ug/L	1	04/19/2012 14:07
cis-1,3-Dichloropropene	ND		1.00	ug/L	1	04/19/2012 14:07
trans-1,3-Dichloropropene	ND		1.00	ug/L	1	04/19/2012 14:07
Diisopropyl Ether	ND		1.00	ug/L	1	04/19/2012 14:07
Ethyl Benzene	ND		1.00	ug/L	1	04/19/2012 14:07
Hexachlorobutadiene	ND		1.00	ug/L	1	04/19/2012 14:07
Isopropylbenzene (Cumene)	ND		1.00	ug/L	1	04/19/2012 14:07
Methyl iodide	ND		1.00	ug/L	1	04/19/2012 14:07
Methylene chloride	ND		5.00	ug/L	1	04/19/2012 14:07
Naphthalene	ND		1.00	ug/L	1	04/19/2012 14:07
Styrene	ND		1.00	ug/L	1	04/19/2012 14:07
Tetrachloroethene	ND		1.00	ug/L	1	04/19/2012 14:07
Toluene	ND		1.00	ug/L	1	04/19/2012 14:07
Trichloroethene	ND		1.00	ug/L	1	04/19/2012 14:07
Trichlorofluoromethane	ND		1.00	ug/L	1	04/19/2012 14:07
Vinyl chloride	ND		1.00	ug/L	1	04/19/2012 14:07
cis-1,2-Dichloroethene	ND		1.00	ug/L	1	04/19/2012 14:07
m,p-Xylene	ND		2.00	ug/L	1	04/19/2012 14:07
n-Propylbenzene	ND		1.00	ug/L	1	04/19/2012 14:07
o-Xylene	ND		1.00	ug/L	1	04/19/2012 14:07
sec-Butylbenzene	ND		1.00	ug/L	1	04/19/2012 14:07
tert-Butyl methyl ether (MTBE)	ND		1.00	ug/L	1	04/19/2012 14:07
tert-Butylbenzene	ND		1.00	ug/L	1	04/19/2012 14:07
trans-1,2-Dichloroethene	ND		1.00	ug/L	1	04/19/2012 14:07
trans-1,4-Dichloro-2-butene	ND		5.00	ug/L	1	04/19/2012 14:07
Surrogates						
1,2-Dichloroethane-d4	110		64.0-140	%	1	04/19/2012 14:07
4-Bromofluorobenzene	108		85.0-115	%	1	04/19/2012 14:07
Toluene d8	106		82.0-117	%	1	04/19/2012 14:07

Batch Information

Analytical Batch: **VMS2132**
 Analytical Method: **SW-846 8260B**
 Instrument: **MSD8**
 Analyst: **DVO**
 Analytical Date/Time: **04/19/2012 14:07**

Prep Batch: **VXX3178**
 Prep Method: **SW-846 5030B**
 Prep Date/Time: **04/19/2012 13:54**
 Prep Initial Wt./Vol.: **40 mL**
 Prep Extract Vol: **40 mL**



Results of **48MW-5**

Client Sample ID: **48MW-5**
Client Project ID: **NCDOT Pittsboro**
Lab Sample ID: 31201090017-A
Lab Project ID: 31201090

Collection Date: 04/12/2012 09:18
Received Date: 04/13/2012 15:00
Matrix: Water

Results by **SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L	1	04/19/2012 14:31
1,1,1-Trichloroethane	ND		1.00	ug/L	1	04/19/2012 14:31
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L	1	04/19/2012 14:31
1,1,2-Trichloroethane	ND		1.00	ug/L	1	04/19/2012 14:31
1,1-Dichloroethane	ND		1.00	ug/L	1	04/19/2012 14:31
1,1-Dichloroethene	ND		1.00	ug/L	1	04/19/2012 14:31
1,1-Dichloropropene	ND		1.00	ug/L	1	04/19/2012 14:31
1,2,3-Trichlorobenzene	ND		1.00	ug/L	1	04/19/2012 14:31
1,2,3-Trichloropropane	ND		1.00	ug/L	1	04/19/2012 14:31
1,2,4-Trichlorobenzene	ND		1.00	ug/L	1	04/19/2012 14:31
1,2,4-Trimethylbenzene	ND		1.00	ug/L	1	04/19/2012 14:31
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1	04/19/2012 14:31
1,2-Dibromoethane	ND		1.00	ug/L	1	04/19/2012 14:31
1,2-Dichlorobenzene	ND		1.00	ug/L	1	04/19/2012 14:31
1,2-Dichloroethane	ND		1.00	ug/L	1	04/19/2012 14:31
1,2-Dichloropropane	ND		1.00	ug/L	1	04/19/2012 14:31
1,3,5-Trimethylbenzene	ND		1.00	ug/L	1	04/19/2012 14:31
1,3-Dichlorobenzene	ND		1.00	ug/L	1	04/19/2012 14:31
1,3-Dichloropropane	ND		1.00	ug/L	1	04/19/2012 14:31
1,4-Dichlorobenzene	ND		1.00	ug/L	1	04/19/2012 14:31
2,2-Dichloropropane	ND		1.00	ug/L	1	04/19/2012 14:31
2-Butanone	ND		25.0	ug/L	1	04/19/2012 14:31
2-Chlorotoluene	ND		1.00	ug/L	1	04/19/2012 14:31
2-Hexanone	ND		5.00	ug/L	1	04/19/2012 14:31
4-Chlorotoluene	ND		1.00	ug/L	1	04/19/2012 14:31
4-Isopropyltoluene	ND		1.00	ug/L	1	04/19/2012 14:31
4-Methyl-2-pentanone	ND		5.00	ug/L	1	04/19/2012 14:31
Acetone	ND		25.0	ug/L	1	04/19/2012 14:31
Benzene	ND		1.00	ug/L	1	04/19/2012 14:31
Bromobenzene	ND		1.00	ug/L	1	04/19/2012 14:31
Bromochloromethane	ND		1.00	ug/L	1	04/19/2012 14:31
Bromodichloromethane	ND		1.00	ug/L	1	04/19/2012 14:31
Bromoform	ND		1.00	ug/L	1	04/19/2012 14:31
Bromomethane	ND		1.00	ug/L	1	04/19/2012 14:31
n-Butylbenzene	ND		1.00	ug/L	1	04/19/2012 14:31
Carbon disulfide	ND		1.00	ug/L	1	04/19/2012 14:31
Carbon tetrachloride	ND		1.00	ug/L	1	04/19/2012 14:31
Chlorobenzene	ND		1.00	ug/L	1	04/19/2012 14:31
Chloroethane	ND		1.00	ug/L	1	04/19/2012 14:31
Chloroform	ND		1.00	ug/L	1	04/19/2012 14:31
Chloromethane	ND		1.00	ug/L	1	04/19/2012 14:31
Dibromochloromethane	ND		1.00	ug/L	1	04/19/2012 14:31
Dibromomethane	ND		1.00	ug/L	1	04/19/2012 14:31

Print Date: 04/25/2012

N.C. Certification # 481



Results of **48MW-5**

Client Sample ID: **48MW-5**
Client Project ID: **NCDOT Pittsboro**
Lab Sample ID: 31201090017-A
Lab Project ID: 31201090

Collection Date: 04/12/2012 09:18
Received Date: 04/13/2012 15:00
Matrix: Water

Results by **SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Dichlorodifluoromethane	ND		5.00	ug/L	1	04/19/2012 14:31
cis-1,3-Dichloropropene	ND		1.00	ug/L	1	04/19/2012 14:31
trans-1,3-Dichloropropene	ND		1.00	ug/L	1	04/19/2012 14:31
Diisopropyl Ether	ND		1.00	ug/L	1	04/19/2012 14:31
Ethyl Benzene	ND		1.00	ug/L	1	04/19/2012 14:31
Hexachlorobutadiene	ND		1.00	ug/L	1	04/19/2012 14:31
Isopropylbenzene (Cumene)	ND		1.00	ug/L	1	04/19/2012 14:31
Methyl iodide	ND		1.00	ug/L	1	04/19/2012 14:31
Methylene chloride	ND		5.00	ug/L	1	04/19/2012 14:31
Naphthalene	ND		1.00	ug/L	1	04/19/2012 14:31
Styrene	ND		1.00	ug/L	1	04/19/2012 14:31
Tetrachloroethene	ND		1.00	ug/L	1	04/19/2012 14:31
Toluene	ND		1.00	ug/L	1	04/19/2012 14:31
Trichloroethene	ND		1.00	ug/L	1	04/19/2012 14:31
Trichlorofluoromethane	ND		1.00	ug/L	1	04/19/2012 14:31
Vinyl chloride	ND		1.00	ug/L	1	04/19/2012 14:31
cis-1,2-Dichloroethene	ND		1.00	ug/L	1	04/19/2012 14:31
m,p-Xylene	ND		2.00	ug/L	1	04/19/2012 14:31
n-Propylbenzene	ND		1.00	ug/L	1	04/19/2012 14:31
o-Xylene	ND		1.00	ug/L	1	04/19/2012 14:31
sec-Butylbenzene	ND		1.00	ug/L	1	04/19/2012 14:31
tert-Butyl methyl ether (MTBE)	ND		1.00	ug/L	1	04/19/2012 14:31
tert-Butylbenzene	ND		1.00	ug/L	1	04/19/2012 14:31
trans-1,2-Dichloroethene	ND		1.00	ug/L	1	04/19/2012 14:31
trans-1,4-Dichloro-2-butene	ND		5.00	ug/L	1	04/19/2012 14:31

Surrogates

1,2-Dichloroethane-d4	111		64.0-140	%	1	04/19/2012 14:31
4-Bromofluorobenzene	94.0		85.0-115	%	1	04/19/2012 14:31
Toluene d8	106		82.0-117	%	1	04/19/2012 14:31

Batch Information

Analytical Batch: **VMS2132**
Analytical Method: **SW-846 8260B**
Instrument: **MSD8**
Analyst: **DVO**
Analytical Date/Time: **04/19/2012 14:31**

Prep Batch: **VXX3178**
Prep Method: **SW-846 5030B**
Prep Date/Time: **04/19/2012 13:54**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **40 mL**



Results of **48SW-1**

Client Sample ID: **48SW-1**
Client Project ID: **NCDOT Pittsboro**
Lab Sample ID: 31201090018-A
Lab Project ID: 31201090

Collection Date: 04/12/2012 10:00
Received Date: 04/13/2012 15:00
Matrix: Water

Results by **SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L	1	04/19/2012 14:55
1,1,1-Trichloroethane	ND		1.00	ug/L	1	04/19/2012 14:55
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L	1	04/19/2012 14:55
1,1,2-Trichloroethane	ND		1.00	ug/L	1	04/19/2012 14:55
1,1-Dichloroethane	ND		1.00	ug/L	1	04/19/2012 14:55
1,1-Dichloroethene	ND		1.00	ug/L	1	04/19/2012 14:55
1,1-Dichloropropene	ND		1.00	ug/L	1	04/19/2012 14:55
1,2,3-Trichlorobenzene	ND		1.00	ug/L	1	04/19/2012 14:55
1,2,3-Trichloropropane	ND		1.00	ug/L	1	04/19/2012 14:55
1,2,4-Trichlorobenzene	ND		1.00	ug/L	1	04/19/2012 14:55
1,2,4-Trimethylbenzene	ND		1.00	ug/L	1	04/19/2012 14:55
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1	04/19/2012 14:55
1,2-Dibromoethane	ND		1.00	ug/L	1	04/19/2012 14:55
1,2-Dichlorobenzene	ND		1.00	ug/L	1	04/19/2012 14:55
1,2-Dichloroethane	ND		1.00	ug/L	1	04/19/2012 14:55
1,2-Dichloropropane	ND		1.00	ug/L	1	04/19/2012 14:55
1,3,5-Trimethylbenzene	ND		1.00	ug/L	1	04/19/2012 14:55
1,3-Dichlorobenzene	ND		1.00	ug/L	1	04/19/2012 14:55
1,3-Dichloropropane	ND		1.00	ug/L	1	04/19/2012 14:55
1,4-Dichlorobenzene	ND		1.00	ug/L	1	04/19/2012 14:55
2,2-Dichloropropane	ND		1.00	ug/L	1	04/19/2012 14:55
2-Butanone	ND		25.0	ug/L	1	04/19/2012 14:55
2-Chlorotoluene	ND		1.00	ug/L	1	04/19/2012 14:55
2-Hexanone	ND		5.00	ug/L	1	04/19/2012 14:55
4-Chlorotoluene	ND		1.00	ug/L	1	04/19/2012 14:55
4-Isopropyltoluene	ND		1.00	ug/L	1	04/19/2012 14:55
4-Methyl-2-pentanone	ND		5.00	ug/L	1	04/19/2012 14:55
Acetone	ND		25.0	ug/L	1	04/19/2012 14:55
Benzene	ND		1.00	ug/L	1	04/19/2012 14:55
Bromobenzene	ND		1.00	ug/L	1	04/19/2012 14:55
Bromochloromethane	ND		1.00	ug/L	1	04/19/2012 14:55
Bromodichloromethane	ND		1.00	ug/L	1	04/19/2012 14:55
Bromoform	ND		1.00	ug/L	1	04/19/2012 14:55
Bromomethane	ND		1.00	ug/L	1	04/19/2012 14:55
n-Butylbenzene	ND		1.00	ug/L	1	04/19/2012 14:55
Carbon disulfide	ND		1.00	ug/L	1	04/19/2012 14:55
Carbon tetrachloride	ND		1.00	ug/L	1	04/19/2012 14:55
Chlorobenzene	ND		1.00	ug/L	1	04/19/2012 14:55
Chloroethane	ND		1.00	ug/L	1	04/19/2012 14:55
Chloroform	ND		1.00	ug/L	1	04/19/2012 14:55
Chloromethane	ND		1.00	ug/L	1	04/19/2012 14:55
Dibromochloromethane	ND		1.00	ug/L	1	04/19/2012 14:55
Dibromomethane	ND		1.00	ug/L	1	04/19/2012 14:55

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Results of **48SW-1**

Client Sample ID: **48SW-1**
Client Project ID: **NCDOT Pittsboro**
Lab Sample ID: 31201090018-A
Lab Project ID: 31201090

Collection Date: 04/12/2012 10:00
Received Date: 04/13/2012 15:00
Matrix: Water

Results by **SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Dichlorodifluoromethane	ND		5.00	ug/L	1	04/19/2012 14:55
cis-1,3-Dichloropropene	ND		1.00	ug/L	1	04/19/2012 14:55
trans-1,3-Dichloropropene	ND		1.00	ug/L	1	04/19/2012 14:55
Diisopropyl Ether	ND		1.00	ug/L	1	04/19/2012 14:55
Ethyl Benzene	ND		1.00	ug/L	1	04/19/2012 14:55
Hexachlorobutadiene	ND		1.00	ug/L	1	04/19/2012 14:55
Isopropylbenzene (Cumene)	ND		1.00	ug/L	1	04/19/2012 14:55
Methyl iodide	ND		1.00	ug/L	1	04/19/2012 14:55
Methylene chloride	ND		5.00	ug/L	1	04/19/2012 14:55
Naphthalene	ND		1.00	ug/L	1	04/19/2012 14:55
Styrene	ND		1.00	ug/L	1	04/19/2012 14:55
Tetrachloroethene	ND		1.00	ug/L	1	04/19/2012 14:55
Toluene	ND		1.00	ug/L	1	04/19/2012 14:55
Trichloroethene	ND		1.00	ug/L	1	04/19/2012 14:55
Trichlorofluoromethane	ND		1.00	ug/L	1	04/19/2012 14:55
Vinyl chloride	ND		1.00	ug/L	1	04/19/2012 14:55
cis-1,2-Dichloroethene	ND		1.00	ug/L	1	04/19/2012 14:55
m,p-Xylene	ND		2.00	ug/L	1	04/19/2012 14:55
n-Propylbenzene	ND		1.00	ug/L	1	04/19/2012 14:55
o-Xylene	ND		1.00	ug/L	1	04/19/2012 14:55
sec-Butylbenzene	ND		1.00	ug/L	1	04/19/2012 14:55
tert-Butyl methyl ether (MTBE)	ND		1.00	ug/L	1	04/19/2012 14:55
tert-Butylbenzene	ND		1.00	ug/L	1	04/19/2012 14:55
trans-1,2-Dichloroethene	ND		1.00	ug/L	1	04/19/2012 14:55
trans-1,4-Dichloro-2-butene	ND		5.00	ug/L	1	04/19/2012 14:55
Surrogates						
1,2-Dichloroethane-d4	108		64.0-140	%	1	04/19/2012 14:55
4-Bromofluorobenzene	93.0		85.0-115	%	1	04/19/2012 14:55
Toluene d8	105		82.0-117	%	1	04/19/2012 14:55

Batch Information

Analytical Batch: **VMS2132**
Analytical Method: **SW-846 8260B**
Instrument: **MSD8**
Analyst: **DVO**
Analytical Date/Time: **04/19/2012 14:55**

Prep Batch: **VXX3178**
Prep Method: **SW-846 5030B**
Prep Date/Time: **04/19/2012 13:54**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **40 mL**



Results of **48MW-11R**

Client Sample ID: **48MW-11R**
Client Project ID: **NCDOT Pittsboro**
Lab Sample ID: 31201090019-A
Lab Project ID: 31201090

Collection Date: 04/12/2012 11:10
Received Date: 04/13/2012 15:00
Matrix: Water

Results by **SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L	1	04/19/2012 15:20
1,1,1-Trichloroethane	ND		1.00	ug/L	1	04/19/2012 15:20
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L	1	04/19/2012 15:20
1,1,2-Trichloroethane	ND		1.00	ug/L	1	04/19/2012 15:20
1,1-Dichloroethane	ND		1.00	ug/L	1	04/19/2012 15:20
1,1-Dichloroethene	ND		1.00	ug/L	1	04/19/2012 15:20
1,1-Dichloropropene	ND		1.00	ug/L	1	04/19/2012 15:20
1,2,3-Trichlorobenzene	ND		1.00	ug/L	1	04/19/2012 15:20
1,2,3-Trichloropropane	ND		1.00	ug/L	1	04/19/2012 15:20
1,2,4-Trichlorobenzene	ND		1.00	ug/L	1	04/19/2012 15:20
1,2,4-Trimethylbenzene	ND		1.00	ug/L	1	04/19/2012 15:20
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1	04/19/2012 15:20
1,2-Dibromoethane	ND		1.00	ug/L	1	04/19/2012 15:20
1,2-Dichlorobenzene	ND		1.00	ug/L	1	04/19/2012 15:20
1,2-Dichloroethane	ND		1.00	ug/L	1	04/19/2012 15:20
1,2-Dichloropropane	ND		1.00	ug/L	1	04/19/2012 15:20
1,3,5-Trimethylbenzene	ND		1.00	ug/L	1	04/19/2012 15:20
1,3-Dichlorobenzene	ND		1.00	ug/L	1	04/19/2012 15:20
1,3-Dichloropropane	ND		1.00	ug/L	1	04/19/2012 15:20
1,4-Dichlorobenzene	ND		1.00	ug/L	1	04/19/2012 15:20
2,2-Dichloropropane	ND		1.00	ug/L	1	04/19/2012 15:20
2-Butanone	ND		25.0	ug/L	1	04/19/2012 15:20
2-Chlorotoluene	ND		1.00	ug/L	1	04/19/2012 15:20
2-Hexanone	ND		5.00	ug/L	1	04/19/2012 15:20
4-Chlorotoluene	ND		1.00	ug/L	1	04/19/2012 15:20
4-Isopropyltoluene	ND		1.00	ug/L	1	04/19/2012 15:20
4-Methyl-2-pentanone	ND		5.00	ug/L	1	04/19/2012 15:20
Acetone	ND		25.0	ug/L	1	04/19/2012 15:20
Benzene	ND		1.00	ug/L	1	04/19/2012 15:20
Bromobenzene	ND		1.00	ug/L	1	04/19/2012 15:20
Bromochloromethane	ND		1.00	ug/L	1	04/19/2012 15:20
Bromodichloromethane	ND		1.00	ug/L	1	04/19/2012 15:20
Bromoform	ND		1.00	ug/L	1	04/19/2012 15:20
Bromomethane	ND		1.00	ug/L	1	04/19/2012 15:20
n-Butylbenzene	ND		1.00	ug/L	1	04/19/2012 15:20
Carbon disulfide	ND		1.00	ug/L	1	04/19/2012 15:20
Carbon tetrachloride	ND		1.00	ug/L	1	04/19/2012 15:20
Chlorobenzene	ND		1.00	ug/L	1	04/19/2012 15:20
Chloroethane	ND		1.00	ug/L	1	04/19/2012 15:20
Chloroform	ND		1.00	ug/L	1	04/19/2012 15:20
Chloromethane	ND		1.00	ug/L	1	04/19/2012 15:20
Dibromochloromethane	ND		1.00	ug/L	1	04/19/2012 15:20
Dibromomethane	ND		1.00	ug/L	1	04/19/2012 15:20

Print Date: 04/25/2012

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Results of **48MW-11R**

Client Sample ID: **48MW-11R**
Client Project ID: **NCDOT Pittsboro**
Lab Sample ID: 31201090019-A
Lab Project ID: 31201090

Collection Date: 04/12/2012 11:10
Received Date: 04/13/2012 15:00
Matrix: Water

Results by **SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Dichlorodifluoromethane	ND		5.00	ug/L	1	04/19/2012 15:20
cis-1,3-Dichloropropene	ND		1.00	ug/L	1	04/19/2012 15:20
trans-1,3-Dichloropropene	ND		1.00	ug/L	1	04/19/2012 15:20
Diisopropyl Ether	ND		1.00	ug/L	1	04/19/2012 15:20
Ethyl Benzene	ND		1.00	ug/L	1	04/19/2012 15:20
Hexachlorobutadiene	ND		1.00	ug/L	1	04/19/2012 15:20
Isopropylbenzene (Cumene)	ND		1.00	ug/L	1	04/19/2012 15:20
Methyl iodide	ND		1.00	ug/L	1	04/19/2012 15:20
Methylene chloride	ND		5.00	ug/L	1	04/19/2012 15:20
Naphthalene	ND		1.00	ug/L	1	04/19/2012 15:20
Styrene	ND		1.00	ug/L	1	04/19/2012 15:20
Tetrachloroethene	ND		1.00	ug/L	1	04/19/2012 15:20
Toluene	ND		1.00	ug/L	1	04/19/2012 15:20
Trichloroethene	4.52		1.00	ug/L	1	04/19/2012 15:20
Trichlorofluoromethane	ND		1.00	ug/L	1	04/19/2012 15:20
Vinyl chloride	ND		1.00	ug/L	1	04/19/2012 15:20
cis-1,2-Dichloroethene	1.89		1.00	ug/L	1	04/19/2012 15:20
m,p-Xylene	ND		2.00	ug/L	1	04/19/2012 15:20
n-Propylbenzene	ND		1.00	ug/L	1	04/19/2012 15:20
o-Xylene	ND		1.00	ug/L	1	04/19/2012 15:20
sec-Butylbenzene	ND		1.00	ug/L	1	04/19/2012 15:20
tert-Butyl methyl ether (MTBE)	ND		1.00	ug/L	1	04/19/2012 15:20
tert-Butylbenzene	ND		1.00	ug/L	1	04/19/2012 15:20
trans-1,2-Dichloroethene	ND		1.00	ug/L	1	04/19/2012 15:20
trans-1,4-Dichloro-2-butene	ND		5.00	ug/L	1	04/19/2012 15:20

Surrogates

1,2-Dichloroethane-d4	107		64.0-140	%	1	04/19/2012 15:20
4-Bromofluorobenzene	97.0		85.0-115	%	1	04/19/2012 15:20
Toluene d8	103		82.0-117	%	1	04/19/2012 15:20

Batch Information

Analytical Batch: **VMS2132**
Analytical Method: **SW-846 8260B**
Instrument: **MSD8**
Analyst: **DVO**
Analytical Date/Time: **04/19/2012 15:20**

Prep Batch: **VXX3178**
Prep Method: **SW-846 5030B**
Prep Date/Time: **04/19/2012 13:54**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **40 mL**



Results of **48MW-16**

Client Sample ID: **48MW-16**
Client Project ID: **NCDOT Pittsboro**
Lab Sample ID: 31201090020-A
Lab Project ID: 31201090

Collection Date: 04/12/2012 11:15
Received Date: 04/13/2012 15:00
Matrix: Water

Results by **SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1,1,2-Tetrachloroethane	ND		20.0	ug/L	20	04/20/2012 18:22
1,1,1-Trichloroethane	ND		20.0	ug/L	20	04/20/2012 18:22
1,1,2,2-Tetrachloroethane	ND		20.0	ug/L	20	04/20/2012 18:22
1,1,2-Trichloroethane	ND		20.0	ug/L	20	04/20/2012 18:22
1,1-Dichloroethane	ND		20.0	ug/L	20	04/20/2012 18:22
1,1-Dichloroethene	46.8		20.0	ug/L	20	04/20/2012 18:22
1,1-Dichloropropene	ND		20.0	ug/L	20	04/20/2012 18:22
1,2,3-Trichlorobenzene	ND		20.0	ug/L	20	04/20/2012 18:22
1,2,3-Trichloropropane	ND		20.0	ug/L	20	04/20/2012 18:22
1,2,4-Trichlorobenzene	ND		20.0	ug/L	20	04/20/2012 18:22
1,2,4-Trimethylbenzene	ND		20.0	ug/L	20	04/20/2012 18:22
1,2-Dibromo-3-chloropropane	ND		100	ug/L	20	04/20/2012 18:22
1,2-Dibromoethane	ND		20.0	ug/L	20	04/20/2012 18:22
1,2-Dichlorobenzene	ND		20.0	ug/L	20	04/20/2012 18:22
1,2-Dichloroethane	ND		20.0	ug/L	20	04/20/2012 18:22
1,2-Dichloropropane	ND		20.0	ug/L	20	04/20/2012 18:22
1,3,5-Trimethylbenzene	ND		20.0	ug/L	20	04/20/2012 18:22
1,3-Dichlorobenzene	ND		20.0	ug/L	20	04/20/2012 18:22
1,3-Dichloropropane	ND		20.0	ug/L	20	04/20/2012 18:22
1,4-Dichlorobenzene	ND		20.0	ug/L	20	04/20/2012 18:22
2,2-Dichloropropane	ND		20.0	ug/L	20	04/20/2012 18:22
2-Butanone	ND		500	ug/L	20	04/20/2012 18:22
2-Chlorotoluene	ND		20.0	ug/L	20	04/20/2012 18:22
2-Hexanone	ND		100	ug/L	20	04/20/2012 18:22
4-Chlorotoluene	ND		20.0	ug/L	20	04/20/2012 18:22
4-Isopropyltoluene	ND		20.0	ug/L	20	04/20/2012 18:22
4-Methyl-2-pentanone	ND		100	ug/L	20	04/20/2012 18:22
Acetone	ND		500	ug/L	20	04/20/2012 18:22
Benzene	ND		20.0	ug/L	20	04/20/2012 18:22
Bromobenzene	ND		20.0	ug/L	20	04/20/2012 18:22
Bromochloromethane	ND		20.0	ug/L	20	04/20/2012 18:22
Bromodichloromethane	ND		20.0	ug/L	20	04/20/2012 18:22
Bromoform	ND		20.0	ug/L	20	04/20/2012 18:22
Bromomethane	ND		20.0	ug/L	20	04/20/2012 18:22
n-Butylbenzene	ND		20.0	ug/L	20	04/20/2012 18:22
Carbon disulfide	ND		20.0	ug/L	20	04/20/2012 18:22
Carbon tetrachloride	ND		20.0	ug/L	20	04/20/2012 18:22
Chlorobenzene	ND		20.0	ug/L	20	04/20/2012 18:22
Chloroethane	ND		20.0	ug/L	20	04/20/2012 18:22
Chloroform	ND		20.0	ug/L	20	04/20/2012 18:22
Chloromethane	ND		20.0	ug/L	20	04/20/2012 18:22
Dibromochloromethane	ND		20.0	ug/L	20	04/20/2012 18:22
Dibromomethane	ND		20.0	ug/L	20	04/20/2012 18:22

Print Date: 04/25/2012

N.C. Certification # 481



Results of **48MW-16**

Client Sample ID: **48MW-16**
Client Project ID: **NCDOT Pittsboro**
Lab Sample ID: 31201090020-A
Lab Project ID: 31201090

Collection Date: 04/12/2012 11:15
Received Date: 04/13/2012 15:00
Matrix: Water

Results by **SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Dichlorodifluoromethane	ND		100	ug/L	20	04/20/2012 18:22
cis-1,3-Dichloropropene	ND		20.0	ug/L	20	04/20/2012 18:22
trans-1,3-Dichloropropene	ND		20.0	ug/L	20	04/20/2012 18:22
Diisopropyl Ether	ND		20.0	ug/L	20	04/20/2012 18:22
Ethyl Benzene	ND		20.0	ug/L	20	04/20/2012 18:22
Hexachlorobutadiene	ND		20.0	ug/L	20	04/20/2012 18:22
Isopropylbenzene (Cumene)	ND		20.0	ug/L	20	04/20/2012 18:22
Methyl iodide	ND		20.0	ug/L	20	04/20/2012 18:22
Methylene chloride	ND		100	ug/L	20	04/20/2012 18:22
Naphthalene	ND		20.0	ug/L	20	04/20/2012 18:22
Styrene	ND		20.0	ug/L	20	04/20/2012 18:22
Tetrachloroethene	ND		20.0	ug/L	20	04/20/2012 18:22
Toluene	ND		20.0	ug/L	20	04/20/2012 18:22
Trichloroethene	478		20.0	ug/L	20	04/20/2012 18:22
Trichlorofluoromethane	ND		20.0	ug/L	20	04/20/2012 18:22
Vinyl chloride	ND		20.0	ug/L	20	04/20/2012 18:22
cis-1,2-Dichloroethene	ND		20.0	ug/L	20	04/20/2012 18:22
m,p-Xylene	ND		40.0	ug/L	20	04/20/2012 18:22
n-Propylbenzene	ND		20.0	ug/L	20	04/20/2012 18:22
o-Xylene	ND		20.0	ug/L	20	04/20/2012 18:22
sec-Butylbenzene	ND		20.0	ug/L	20	04/20/2012 18:22
tert-Butyl methyl ether (MTBE)	ND		20.0	ug/L	20	04/20/2012 18:22
tert-Butylbenzene	ND		20.0	ug/L	20	04/20/2012 18:22
trans-1,2-Dichloroethene	ND		20.0	ug/L	20	04/20/2012 18:22
trans-1,4-Dichloro-2-butene	ND		100	ug/L	20	04/20/2012 18:22

Surrogates

1,2-Dichloroethane-d4	105		64.0-140	%	20	04/20/2012 18:22
4-Bromofluorobenzene	90.0		85.0-115	%	20	04/20/2012 18:22
Toluene d8	103		82.0-117	%	20	04/20/2012 18:22

Batch Information

Analytical Batch: **VMS2138**
Analytical Method: **SW-846 8260B**
Instrument: **MSD8**
Analyst: **DVO**
Analytical Date/Time: **04/20/2012 18:22**

Prep Batch: **VXX3188**
Prep Method: **SW-846 5030B**
Prep Date/Time: **04/20/2012 08:00**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **40 mL**



Results of **48MW-1**

Client Sample ID: **48MW-1**
Client Project ID: **NCDOT Pittsboro**
Lab Sample ID: 31201090021-A
Lab Project ID: 31201090

Collection Date: 04/12/2012 13:10
Received Date: 04/13/2012 15:00
Matrix: Water

Results by **SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L	1	04/19/2012 15:44
1,1,1-Trichloroethane	ND		1.00	ug/L	1	04/19/2012 15:44
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L	1	04/19/2012 15:44
1,1,2-Trichloroethane	ND		1.00	ug/L	1	04/19/2012 15:44
1,1-Dichloroethane	ND		1.00	ug/L	1	04/19/2012 15:44
1,1-Dichloroethene	2.22		1.00	ug/L	1	04/19/2012 15:44
1,1-Dichloropropene	ND		1.00	ug/L	1	04/19/2012 15:44
1,2,3-Trichlorobenzene	ND		1.00	ug/L	1	04/19/2012 15:44
1,2,3-Trichloropropane	ND		1.00	ug/L	1	04/19/2012 15:44
1,2,4-Trichlorobenzene	ND		1.00	ug/L	1	04/19/2012 15:44
1,2,4-Trimethylbenzene	ND		1.00	ug/L	1	04/19/2012 15:44
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1	04/19/2012 15:44
1,2-Dibromoethane	ND		1.00	ug/L	1	04/19/2012 15:44
1,2-Dichlorobenzene	ND		1.00	ug/L	1	04/19/2012 15:44
1,2-Dichloroethane	ND		1.00	ug/L	1	04/19/2012 15:44
1,2-Dichloropropane	ND		1.00	ug/L	1	04/19/2012 15:44
1,3,5-Trimethylbenzene	ND		1.00	ug/L	1	04/19/2012 15:44
1,3-Dichlorobenzene	ND		1.00	ug/L	1	04/19/2012 15:44
1,3-Dichloropropane	ND		1.00	ug/L	1	04/19/2012 15:44
1,4-Dichlorobenzene	ND		1.00	ug/L	1	04/19/2012 15:44
2,2-Dichloropropane	ND		1.00	ug/L	1	04/19/2012 15:44
2-Butanone	ND		25.0	ug/L	1	04/19/2012 15:44
2-Chlorotoluene	ND		1.00	ug/L	1	04/19/2012 15:44
2-Hexanone	ND		5.00	ug/L	1	04/19/2012 15:44
4-Chlorotoluene	ND		1.00	ug/L	1	04/19/2012 15:44
4-Isopropyltoluene	ND		1.00	ug/L	1	04/19/2012 15:44
4-Methyl-2-pentanone	ND		5.00	ug/L	1	04/19/2012 15:44
Acetone	ND		25.0	ug/L	1	04/19/2012 15:44
Benzene	ND		1.00	ug/L	1	04/19/2012 15:44
Bromobenzene	ND		1.00	ug/L	1	04/19/2012 15:44
Bromochloromethane	ND		1.00	ug/L	1	04/19/2012 15:44
Bromodichloromethane	ND		1.00	ug/L	1	04/19/2012 15:44
Bromoform	ND		1.00	ug/L	1	04/19/2012 15:44
Bromomethane	ND		1.00	ug/L	1	04/19/2012 15:44
n-Butylbenzene	ND		1.00	ug/L	1	04/19/2012 15:44
Carbon disulfide	ND		1.00	ug/L	1	04/19/2012 15:44
Carbon tetrachloride	ND		1.00	ug/L	1	04/19/2012 15:44
Chlorobenzene	ND		1.00	ug/L	1	04/19/2012 15:44
Chloroethane	ND		1.00	ug/L	1	04/19/2012 15:44
Chloroform	ND		1.00	ug/L	1	04/19/2012 15:44
Chloromethane	ND		1.00	ug/L	1	04/19/2012 15:44
Dibromochloromethane	ND		1.00	ug/L	1	04/19/2012 15:44
Dibromomethane	ND		1.00	ug/L	1	04/19/2012 15:44

Print Date: 04/25/2012

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Results of **48MW-1**

Client Sample ID: **48MW-1**
Client Project ID: **NCDOT Pittsboro**
Lab Sample ID: 31201090021-A
Lab Project ID: 31201090

Collection Date: 04/12/2012 13:10
Received Date: 04/13/2012 15:00
Matrix: Water

Results by **SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Dichlorodifluoromethane	ND		5.00	ug/L	1	04/19/2012 15:44
cis-1,3-Dichloropropene	ND		1.00	ug/L	1	04/19/2012 15:44
trans-1,3-Dichloropropene	ND		1.00	ug/L	1	04/19/2012 15:44
Diisopropyl Ether	ND		1.00	ug/L	1	04/19/2012 15:44
Ethyl Benzene	ND		1.00	ug/L	1	04/19/2012 15:44
Hexachlorobutadiene	ND		1.00	ug/L	1	04/19/2012 15:44
Isopropylbenzene (Cumene)	ND		1.00	ug/L	1	04/19/2012 15:44
Methyl iodide	ND		1.00	ug/L	1	04/19/2012 15:44
Methylene chloride	ND		5.00	ug/L	1	04/19/2012 15:44
Naphthalene	ND		1.00	ug/L	1	04/19/2012 15:44
Styrene	ND		1.00	ug/L	1	04/19/2012 15:44
Tetrachloroethene	1.61		1.00	ug/L	1	04/19/2012 15:44
Toluene	ND		1.00	ug/L	1	04/19/2012 15:44
Trichloroethene	16.2		1.00	ug/L	1	04/19/2012 15:44
Trichlorofluoromethane	ND		1.00	ug/L	1	04/19/2012 15:44
Vinyl chloride	ND		1.00	ug/L	1	04/19/2012 15:44
cis-1,2-Dichloroethene	ND		1.00	ug/L	1	04/19/2012 15:44
m,p-Xylene	ND		2.00	ug/L	1	04/19/2012 15:44
n-Propylbenzene	ND		1.00	ug/L	1	04/19/2012 15:44
o-Xylene	ND		1.00	ug/L	1	04/19/2012 15:44
sec-Butylbenzene	ND		1.00	ug/L	1	04/19/2012 15:44
tert-Butyl methyl ether (MTBE)	ND		1.00	ug/L	1	04/19/2012 15:44
tert-Butylbenzene	ND		1.00	ug/L	1	04/19/2012 15:44
trans-1,2-Dichloroethene	ND		1.00	ug/L	1	04/19/2012 15:44
trans-1,4-Dichloro-2-butene	ND		5.00	ug/L	1	04/19/2012 15:44

Surrogates

1,2-Dichloroethane-d4	107		64.0-140	%	1	04/19/2012 15:44
4-Bromofluorobenzene	89.0		85.0-115	%	1	04/19/2012 15:44
Toluene d8	104		82.0-117	%	1	04/19/2012 15:44

Batch Information

Analytical Batch: **VMS2132**
Analytical Method: **SW-846 8260B**
Instrument: **MSD8**
Analyst: **DVO**
Analytical Date/Time: **04/19/2012 15:44**

Prep Batch: **VXX3178**
Prep Method: **SW-846 5030B**
Prep Date/Time: **04/19/2012 13:54**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **40 mL**



Results of 48DW-6

Client Sample ID: 48DW-6
Client Project ID: NCDOT Pittsboro
Lab Sample ID: 31201090022-A
Lab Project ID: 31201090

Collection Date: 04/12/2012 13:25
Received Date: 04/13/2012 15:00
Matrix: Water

Results by SW-846 8260B

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L	1	04/19/2012 16:09
1,1,1-Trichloroethane	ND		1.00	ug/L	1	04/19/2012 16:09
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L	1	04/19/2012 16:09
1,1,2-Trichloroethane	ND		1.00	ug/L	1	04/19/2012 16:09
1,1-Dichloroethane	ND		1.00	ug/L	1	04/19/2012 16:09
1,1-Dichloroethene	ND		1.00	ug/L	1	04/19/2012 16:09
1,1-Dichloropropene	ND		1.00	ug/L	1	04/19/2012 16:09
1,2,3-Trichlorobenzene	ND		1.00	ug/L	1	04/19/2012 16:09
1,2,3-Trichloropropane	ND		1.00	ug/L	1	04/19/2012 16:09
1,2,4-Trichlorobenzene	ND		1.00	ug/L	1	04/19/2012 16:09
1,2,4-Trimethylbenzene	ND		1.00	ug/L	1	04/19/2012 16:09
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1	04/19/2012 16:09
1,2-Dibromoethane	ND		1.00	ug/L	1	04/19/2012 16:09
1,2-Dichlorobenzene	ND		1.00	ug/L	1	04/19/2012 16:09
1,2-Dichloroethane	ND		1.00	ug/L	1	04/19/2012 16:09
1,2-Dichloropropane	ND		1.00	ug/L	1	04/19/2012 16:09
1,3,5-Trimethylbenzene	ND		1.00	ug/L	1	04/19/2012 16:09
1,3-Dichlorobenzene	ND		1.00	ug/L	1	04/19/2012 16:09
1,3-Dichloropropane	ND		1.00	ug/L	1	04/19/2012 16:09
1,4-Dichlorobenzene	ND		1.00	ug/L	1	04/19/2012 16:09
2,2-Dichloropropane	ND		1.00	ug/L	1	04/19/2012 16:09
2-Butanone	ND		25.0	ug/L	1	04/19/2012 16:09
2-Chlorotoluene	ND		1.00	ug/L	1	04/19/2012 16:09
2-Hexanone	ND		5.00	ug/L	1	04/19/2012 16:09
4-Chlorotoluene	ND		1.00	ug/L	1	04/19/2012 16:09
4-Isopropyltoluene	ND		1.00	ug/L	1	04/19/2012 16:09
4-Methyl-2-pentanone	ND		5.00	ug/L	1	04/19/2012 16:09
Acetone	ND		25.0	ug/L	1	04/19/2012 16:09
Benzene	ND		1.00	ug/L	1	04/19/2012 16:09
Bromobenzene	ND		1.00	ug/L	1	04/19/2012 16:09
Bromochloromethane	ND		1.00	ug/L	1	04/19/2012 16:09
Bromodichloromethane	ND		1.00	ug/L	1	04/19/2012 16:09
Bromoform	ND		1.00	ug/L	1	04/19/2012 16:09
Bromomethane	ND		1.00	ug/L	1	04/19/2012 16:09
n-Butylbenzene	ND		1.00	ug/L	1	04/19/2012 16:09
Carbon disulfide	ND		1.00	ug/L	1	04/19/2012 16:09
Carbon tetrachloride	ND		1.00	ug/L	1	04/19/2012 16:09
Chlorobenzene	ND		1.00	ug/L	1	04/19/2012 16:09
Chloroethane	ND		1.00	ug/L	1	04/19/2012 16:09
Chloroform	ND		1.00	ug/L	1	04/19/2012 16:09
Chloromethane	ND		1.00	ug/L	1	04/19/2012 16:09
Dibromochloromethane	ND		1.00	ug/L	1	04/19/2012 16:09
Dibromomethane	ND		1.00	ug/L	1	04/19/2012 16:09

Print Date: 04/25/2012

N.C. Certification # 481



Results of **48DW-6**

Client Sample ID: **48DW-6**
Client Project ID: **NCDOT Pittsboro**
Lab Sample ID: 31201090022-A
Lab Project ID: 31201090

Collection Date: 04/12/2012 13:25
Received Date: 04/13/2012 15:00
Matrix: Water

Results by **SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Dichlorodifluoromethane	ND		5.00	ug/L	1	04/19/2012 16:09
cis-1,3-Dichloropropene	ND		1.00	ug/L	1	04/19/2012 16:09
trans-1,3-Dichloropropene	ND		1.00	ug/L	1	04/19/2012 16:09
Diisopropyl Ether	ND		1.00	ug/L	1	04/19/2012 16:09
Ethyl Benzene	ND		1.00	ug/L	1	04/19/2012 16:09
Hexachlorobutadiene	ND		1.00	ug/L	1	04/19/2012 16:09
Isopropylbenzene (Cumene)	ND		1.00	ug/L	1	04/19/2012 16:09
Methyl iodide	ND		1.00	ug/L	1	04/19/2012 16:09
Methylene chloride	ND		5.00	ug/L	1	04/19/2012 16:09
Naphthalene	ND		1.00	ug/L	1	04/19/2012 16:09
Styrene	ND		1.00	ug/L	1	04/19/2012 16:09
Tetrachloroethene	ND		1.00	ug/L	1	04/19/2012 16:09
Toluene	1.57		1.00	ug/L	1	04/19/2012 16:09
Trichloroethene	1.58		1.00	ug/L	1	04/19/2012 16:09
Trichlorofluoromethane	ND		1.00	ug/L	1	04/19/2012 16:09
Vinyl chloride	ND		1.00	ug/L	1	04/19/2012 16:09
cis-1,2-Dichloroethene	ND		1.00	ug/L	1	04/19/2012 16:09
m,p-Xylene	ND		2.00	ug/L	1	04/19/2012 16:09
n-Propylbenzene	ND		1.00	ug/L	1	04/19/2012 16:09
o-Xylene	ND		1.00	ug/L	1	04/19/2012 16:09
sec-Butylbenzene	ND		1.00	ug/L	1	04/19/2012 16:09
tert-Butyl methyl ether (MTBE)	ND		1.00	ug/L	1	04/19/2012 16:09
tert-Butylbenzene	ND		1.00	ug/L	1	04/19/2012 16:09
trans-1,2-Dichloroethene	ND		1.00	ug/L	1	04/19/2012 16:09
trans-1,4-Dichloro-2-butene	ND		5.00	ug/L	1	04/19/2012 16:09
Surrogates						
1,2-Dichloroethane-d4	112		64.0-140	%	1	04/19/2012 16:09
4-Bromofluorobenzene	90.0		85.0-115	%	1	04/19/2012 16:09
Toluene d8	106		82.0-117	%	1	04/19/2012 16:09

Batch Information

Analytical Batch: **VMS2132**
Analytical Method: **SW-846 8260B**
Instrument: **MSD8**
Analyst: **DVO**
Analytical Date/Time: **04/19/2012 16:09**

Prep Batch: **VXX3178**
Prep Method: **SW-846 5030B**
Prep Date/Time: **04/19/2012 13:54**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **40 mL**



Results of 48DUP-1

Client Sample ID: 48DUP-1
Client Project ID: NCDOT Pittsboro
Lab Sample ID: 31201090023-A
Lab Project ID: 31201090

Collection Date: 04/12/2012 00:00
Received Date: 04/13/2012 15:00
Matrix: Water

Results by SW-846 8260B

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L	1	04/19/2012 16:33
1,1,1-Trichloroethane	ND		1.00	ug/L	1	04/19/2012 16:33
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L	1	04/19/2012 16:33
1,1,2-Trichloroethane	ND		1.00	ug/L	1	04/19/2012 16:33
1,1-Dichloroethane	ND		1.00	ug/L	1	04/19/2012 16:33
1,1-Dichloroethene	2.22		1.00	ug/L	1	04/19/2012 16:33
1,1-Dichloropropene	ND		1.00	ug/L	1	04/19/2012 16:33
1,2,3-Trichlorobenzene	ND		1.00	ug/L	1	04/19/2012 16:33
1,2,3-Trichloropropane	ND		1.00	ug/L	1	04/19/2012 16:33
1,2,4-Trichlorobenzene	ND		1.00	ug/L	1	04/19/2012 16:33
1,2,4-Trimethylbenzene	ND		1.00	ug/L	1	04/19/2012 16:33
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1	04/19/2012 16:33
1,2-Dibromoethane	ND		1.00	ug/L	1	04/19/2012 16:33
1,2-Dichlorobenzene	ND		1.00	ug/L	1	04/19/2012 16:33
1,2-Dichloroethane	ND		1.00	ug/L	1	04/19/2012 16:33
1,2-Dichloropropane	ND		1.00	ug/L	1	04/19/2012 16:33
1,3,5-Trimethylbenzene	ND		1.00	ug/L	1	04/19/2012 16:33
1,3-Dichlorobenzene	ND		1.00	ug/L	1	04/19/2012 16:33
1,3-Dichloropropane	ND		1.00	ug/L	1	04/19/2012 16:33
1,4-Dichlorobenzene	ND		1.00	ug/L	1	04/19/2012 16:33
2,2-Dichloropropane	ND		1.00	ug/L	1	04/19/2012 16:33
2-Butanone	ND		25.0	ug/L	1	04/19/2012 16:33
2-Chlorotoluene	ND		1.00	ug/L	1	04/19/2012 16:33
2-Hexanone	ND		5.00	ug/L	1	04/19/2012 16:33
4-Chlorotoluene	ND		1.00	ug/L	1	04/19/2012 16:33
4-Isopropyltoluene	ND		1.00	ug/L	1	04/19/2012 16:33
4-Methyl-2-pentanone	ND		5.00	ug/L	1	04/19/2012 16:33
Acetone	ND		25.0	ug/L	1	04/19/2012 16:33
Benzene	ND		1.00	ug/L	1	04/19/2012 16:33
Bromobenzene	ND		1.00	ug/L	1	04/19/2012 16:33
Bromochloromethane	ND		1.00	ug/L	1	04/19/2012 16:33
Bromodichloromethane	ND		1.00	ug/L	1	04/19/2012 16:33
Bromoform	ND		1.00	ug/L	1	04/19/2012 16:33
Bromomethane	ND		1.00	ug/L	1	04/19/2012 16:33
n-Butylbenzene	ND		1.00	ug/L	1	04/19/2012 16:33
Carbon disulfide	ND		1.00	ug/L	1	04/19/2012 16:33
Carbon tetrachloride	ND		1.00	ug/L	1	04/19/2012 16:33
Chlorobenzene	ND		1.00	ug/L	1	04/19/2012 16:33
Chloroethane	ND		1.00	ug/L	1	04/19/2012 16:33
Chloroform	ND		1.00	ug/L	1	04/19/2012 16:33
Chloromethane	ND		1.00	ug/L	1	04/19/2012 16:33
Dibromochloromethane	ND		1.00	ug/L	1	04/19/2012 16:33
Dibromomethane	ND		1.00	ug/L	1	04/19/2012 16:33



Results of **48DUP-1**

Client Sample ID: **48DUP-1**
Client Project ID: **NCDOT Pittsboro**
Lab Sample ID: 31201090023-A
Lab Project ID: 31201090

Collection Date: 04/12/2012 00:00
Received Date: 04/13/2012 15:00
Matrix: Water

Results by **SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Dichlorodifluoromethane	ND		5.00	ug/L	1	04/19/2012 16:33
cis-1,3-Dichloropropene	ND		1.00	ug/L	1	04/19/2012 16:33
trans-1,3-Dichloropropene	ND		1.00	ug/L	1	04/19/2012 16:33
Diisopropyl Ether	ND		1.00	ug/L	1	04/19/2012 16:33
Ethyl Benzene	ND		1.00	ug/L	1	04/19/2012 16:33
Hexachlorobutadiene	ND		1.00	ug/L	1	04/19/2012 16:33
Isopropylbenzene (Cumene)	ND		1.00	ug/L	1	04/19/2012 16:33
Methyl iodide	ND		1.00	ug/L	1	04/19/2012 16:33
Methylene chloride	ND		5.00	ug/L	1	04/19/2012 16:33
Naphthalene	ND		1.00	ug/L	1	04/19/2012 16:33
Styrene	ND		1.00	ug/L	1	04/19/2012 16:33
Tetrachloroethene	1.48		1.00	ug/L	1	04/19/2012 16:33
Toluene	ND		1.00	ug/L	1	04/19/2012 16:33
Trichloroethene	16.1		1.00	ug/L	1	04/19/2012 16:33
Trichlorofluoromethane	ND		1.00	ug/L	1	04/19/2012 16:33
Vinyl chloride	ND		1.00	ug/L	1	04/19/2012 16:33
cis-1,2-Dichloroethene	ND		1.00	ug/L	1	04/19/2012 16:33
m,p-Xylene	ND		2.00	ug/L	1	04/19/2012 16:33
n-Propylbenzene	ND		1.00	ug/L	1	04/19/2012 16:33
o-Xylene	ND		1.00	ug/L	1	04/19/2012 16:33
sec-Butylbenzene	ND		1.00	ug/L	1	04/19/2012 16:33
tert-Butyl methyl ether (MTBE)	ND		1.00	ug/L	1	04/19/2012 16:33
tert-Butylbenzene	ND		1.00	ug/L	1	04/19/2012 16:33
trans-1,2-Dichloroethene	ND		1.00	ug/L	1	04/19/2012 16:33
trans-1,4-Dichloro-2-butene	ND		5.00	ug/L	1	04/19/2012 16:33
Surrogates						
1,2-Dichloroethane-d4	107		64.0-140	%	1	04/19/2012 16:33
4-Bromofluorobenzene	88.0		85.0-115	%	1	04/19/2012 16:33
Toluene d8	104		82.0-117	%	1	04/19/2012 16:33

Batch Information

Analytical Batch: **VMS2132**
Analytical Method: **SW-846 8260B**
Instrument: **MSD8**
Analyst: **DVO**
Analytical Date/Time: **04/19/2012 16:33**

Prep Batch: **VXX3178**
Prep Method: **SW-846 5030B**
Prep Date/Time: **04/19/2012 13:54**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **40 mL**



Results of 48DW-7

Client Sample ID: 48DW-7
Client Project ID: NCDOT Pittsboro
Lab Sample ID: 31201090024-A
Lab Project ID: 31201090

Collection Date: 04/12/2012 14:50
Received Date: 04/13/2012 15:00
Matrix: Water

Results by SW-846 8260B

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L	1	04/19/2012 16:58
1,1,1-Trichloroethane	ND		1.00	ug/L	1	04/19/2012 16:58
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L	1	04/19/2012 16:58
1,1,2-Trichloroethane	ND		1.00	ug/L	1	04/19/2012 16:58
1,1-Dichloroethane	ND		1.00	ug/L	1	04/19/2012 16:58
1,1-Dichloroethene	ND		1.00	ug/L	1	04/19/2012 16:58
1,1-Dichloropropene	ND		1.00	ug/L	1	04/19/2012 16:58
1,2,3-Trichlorobenzene	ND		1.00	ug/L	1	04/19/2012 16:58
1,2,3-Trichloropropane	ND		1.00	ug/L	1	04/19/2012 16:58
1,2,4-Trichlorobenzene	ND		1.00	ug/L	1	04/19/2012 16:58
1,2,4-Trimethylbenzene	ND		1.00	ug/L	1	04/19/2012 16:58
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1	04/19/2012 16:58
1,2-Dibromoethane	ND		1.00	ug/L	1	04/19/2012 16:58
1,2-Dichlorobenzene	ND		1.00	ug/L	1	04/19/2012 16:58
1,2-Dichloroethane	ND		1.00	ug/L	1	04/19/2012 16:58
1,2-Dichloropropane	ND		1.00	ug/L	1	04/19/2012 16:58
1,3,5-Trimethylbenzene	ND		1.00	ug/L	1	04/19/2012 16:58
1,3-Dichlorobenzene	ND		1.00	ug/L	1	04/19/2012 16:58
1,3-Dichloropropane	ND		1.00	ug/L	1	04/19/2012 16:58
1,4-Dichlorobenzene	ND		1.00	ug/L	1	04/19/2012 16:58
2,2-Dichloropropane	ND		1.00	ug/L	1	04/19/2012 16:58
2-Butanone	ND		25.0	ug/L	1	04/19/2012 16:58
2-Chlorotoluene	ND		1.00	ug/L	1	04/19/2012 16:58
2-Hexanone	ND		5.00	ug/L	1	04/19/2012 16:58
4-Chlorotoluene	ND		1.00	ug/L	1	04/19/2012 16:58
4-Isopropyltoluene	ND		1.00	ug/L	1	04/19/2012 16:58
4-Methyl-2-pentanone	ND		5.00	ug/L	1	04/19/2012 16:58
Acetone	ND		25.0	ug/L	1	04/19/2012 16:58
Benzene	ND		1.00	ug/L	1	04/19/2012 16:58
Bromobenzene	ND		1.00	ug/L	1	04/19/2012 16:58
Bromochloromethane	ND		1.00	ug/L	1	04/19/2012 16:58
Bromodichloromethane	ND		1.00	ug/L	1	04/19/2012 16:58
Bromoform	ND		1.00	ug/L	1	04/19/2012 16:58
Bromomethane	ND		1.00	ug/L	1	04/19/2012 16:58
n-Butylbenzene	ND		1.00	ug/L	1	04/19/2012 16:58
Carbon disulfide	ND		1.00	ug/L	1	04/19/2012 16:58
Carbon tetrachloride	ND		1.00	ug/L	1	04/19/2012 16:58
Chlorobenzene	ND		1.00	ug/L	1	04/19/2012 16:58
Chloroethane	ND		1.00	ug/L	1	04/19/2012 16:58
Chloroform	ND		1.00	ug/L	1	04/19/2012 16:58
Chloromethane	ND		1.00	ug/L	1	04/19/2012 16:58
Dibromochloromethane	ND		1.00	ug/L	1	04/19/2012 16:58
Dibromomethane	ND		1.00	ug/L	1	04/19/2012 16:58



Results of **48DW-7**

Client Sample ID: **48DW-7**
Client Project ID: **NCDOT Pittsboro**
Lab Sample ID: 31201090024-A
Lab Project ID: 31201090

Collection Date: 04/12/2012 14:50
Received Date: 04/13/2012 15:00
Matrix: Water

Results by **SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Dichlorodifluoromethane	ND		5.00	ug/L	1	04/19/2012 16:58
cis-1,3-Dichloropropene	ND		1.00	ug/L	1	04/19/2012 16:58
trans-1,3-Dichloropropene	ND		1.00	ug/L	1	04/19/2012 16:58
Diisopropyl Ether	ND		1.00	ug/L	1	04/19/2012 16:58
Ethyl Benzene	ND		1.00	ug/L	1	04/19/2012 16:58
Hexachlorobutadiene	ND		1.00	ug/L	1	04/19/2012 16:58
Isopropylbenzene (Cumene)	ND		1.00	ug/L	1	04/19/2012 16:58
Methyl iodide	ND		1.00	ug/L	1	04/19/2012 16:58
Methylene chloride	ND		5.00	ug/L	1	04/19/2012 16:58
Naphthalene	ND		1.00	ug/L	1	04/19/2012 16:58
Styrene	ND		1.00	ug/L	1	04/19/2012 16:58
Tetrachloroethene	ND		1.00	ug/L	1	04/19/2012 16:58
Toluene	ND		1.00	ug/L	1	04/19/2012 16:58
Trichloroethene	1.61		1.00	ug/L	1	04/19/2012 16:58
Trichlorofluoromethane	ND		1.00	ug/L	1	04/19/2012 16:58
Vinyl chloride	ND		1.00	ug/L	1	04/19/2012 16:58
cis-1,2-Dichloroethene	ND		1.00	ug/L	1	04/19/2012 16:58
m,p-Xylene	ND		2.00	ug/L	1	04/19/2012 16:58
n-Propylbenzene	ND		1.00	ug/L	1	04/19/2012 16:58
o-Xylene	ND		1.00	ug/L	1	04/19/2012 16:58
sec-Butylbenzene	ND		1.00	ug/L	1	04/19/2012 16:58
tert-Butyl methyl ether (MTBE)	ND		1.00	ug/L	1	04/19/2012 16:58
tert-Butylbenzene	ND		1.00	ug/L	1	04/19/2012 16:58
trans-1,2-Dichloroethene	ND		1.00	ug/L	1	04/19/2012 16:58
trans-1,4-Dichloro-2-butene	ND		5.00	ug/L	1	04/19/2012 16:58
Surrogates						
1,2-Dichloroethane-d4	116		64.0-140	%	1	04/19/2012 16:58
4-Bromofluorobenzene	89.0		85.0-115	%	1	04/19/2012 16:58
Toluene d8	110		82.0-117	%	1	04/19/2012 16:58

Batch Information

Analytical Batch: **VMS2132**
Analytical Method: **SW-846 8260B**
Instrument: **MSD8**
Analyst: **DVO**
Analytical Date/Time: **04/19/2012 16:58**

Prep Batch: **VXX3178**
Prep Method: **SW-846 5030B**
Prep Date/Time: **04/19/2012 13:54**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **40 mL**



Results of **48DW-8**

Client Sample ID: **48DW-8**
Client Project ID: **NCDOT Pittsboro**
Lab Sample ID: 31201090025-A
Lab Project ID: 31201090

Collection Date: 04/12/2012 15:15
Received Date: 04/13/2012 15:00
Matrix: Water

Results by **SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1,1,2-Tetrachloroethane	ND		5.00	ug/L	5	04/20/2012 17:33
1,1,1-Trichloroethane	ND		5.00	ug/L	5	04/20/2012 17:33
1,1,2,2-Tetrachloroethane	ND		5.00	ug/L	5	04/20/2012 17:33
1,1,2-Trichloroethane	ND		5.00	ug/L	5	04/20/2012 17:33
1,1-Dichloroethane	ND		5.00	ug/L	5	04/20/2012 17:33
1,1-Dichloroethene	13.6		5.00	ug/L	5	04/20/2012 17:33
1,1-Dichloropropene	ND		5.00	ug/L	5	04/20/2012 17:33
1,2,3-Trichlorobenzene	ND		5.00	ug/L	5	04/20/2012 17:33
1,2,3-Trichloropropane	ND		5.00	ug/L	5	04/20/2012 17:33
1,2,4-Trichlorobenzene	ND		5.00	ug/L	5	04/20/2012 17:33
1,2,4-Trimethylbenzene	ND		5.00	ug/L	5	04/20/2012 17:33
1,2-Dibromo-3-chloropropane	ND		25.0	ug/L	5	04/20/2012 17:33
1,2-Dibromoethane	ND		5.00	ug/L	5	04/20/2012 17:33
1,2-Dichlorobenzene	ND		5.00	ug/L	5	04/20/2012 17:33
1,2-Dichloroethane	ND		5.00	ug/L	5	04/20/2012 17:33
1,2-Dichloropropane	ND		5.00	ug/L	5	04/20/2012 17:33
1,3,5-Trimethylbenzene	ND		5.00	ug/L	5	04/20/2012 17:33
1,3-Dichlorobenzene	ND		5.00	ug/L	5	04/20/2012 17:33
1,3-Dichloropropane	ND		5.00	ug/L	5	04/20/2012 17:33
1,4-Dichlorobenzene	ND		5.00	ug/L	5	04/20/2012 17:33
2,2-Dichloropropane	ND		5.00	ug/L	5	04/20/2012 17:33
2-Butanone	ND		125	ug/L	5	04/20/2012 17:33
2-Chlorotoluene	ND		5.00	ug/L	5	04/20/2012 17:33
2-Hexanone	ND		25.0	ug/L	5	04/20/2012 17:33
4-Chlorotoluene	ND		5.00	ug/L	5	04/20/2012 17:33
4-Isopropyltoluene	ND		5.00	ug/L	5	04/20/2012 17:33
4-Methyl-2-pentanone	ND		25.0	ug/L	5	04/20/2012 17:33
Acetone	ND		125	ug/L	5	04/20/2012 17:33
Benzene	ND		5.00	ug/L	5	04/20/2012 17:33
Bromobenzene	ND		5.00	ug/L	5	04/20/2012 17:33
Bromochloromethane	ND		5.00	ug/L	5	04/20/2012 17:33
Bromodichloromethane	ND		5.00	ug/L	5	04/20/2012 17:33
Bromoform	ND		5.00	ug/L	5	04/20/2012 17:33
Bromomethane	ND		5.00	ug/L	5	04/20/2012 17:33
n-Butylbenzene	ND		5.00	ug/L	5	04/20/2012 17:33
Carbon disulfide	ND		5.00	ug/L	5	04/20/2012 17:33
Carbon tetrachloride	ND		5.00	ug/L	5	04/20/2012 17:33
Chlorobenzene	ND		5.00	ug/L	5	04/20/2012 17:33
Chloroethane	ND		5.00	ug/L	5	04/20/2012 17:33
Chloroform	ND		5.00	ug/L	5	04/20/2012 17:33
Chloromethane	ND		5.00	ug/L	5	04/20/2012 17:33
Dibromochloromethane	ND		5.00	ug/L	5	04/20/2012 17:33
Dibromomethane	ND		5.00	ug/L	5	04/20/2012 17:33

Print Date: 04/25/2012

N.C. Certification # 481



Results of **48DW-8**

Client Sample ID: **48DW-8**
Client Project ID: **NCDOT Pittsboro**
Lab Sample ID: 31201090025-A
Lab Project ID: 31201090

Collection Date: 04/12/2012 15:15
Received Date: 04/13/2012 15:00
Matrix: Water

Results by **SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Dichlorodifluoromethane	ND		25.0	ug/L	5	04/20/2012 17:33
cis-1,3-Dichloropropene	ND		5.00	ug/L	5	04/20/2012 17:33
trans-1,3-Dichloropropene	ND		5.00	ug/L	5	04/20/2012 17:33
Diisopropyl Ether	ND		5.00	ug/L	5	04/20/2012 17:33
Ethyl Benzene	ND		5.00	ug/L	5	04/20/2012 17:33
Hexachlorobutadiene	ND		5.00	ug/L	5	04/20/2012 17:33
Isopropylbenzene (Cumene)	ND		5.00	ug/L	5	04/20/2012 17:33
Methyl iodide	ND		5.00	ug/L	5	04/20/2012 17:33
Methylene chloride	ND		25.0	ug/L	5	04/20/2012 17:33
Naphthalene	ND		5.00	ug/L	5	04/20/2012 17:33
Styrene	ND		5.00	ug/L	5	04/20/2012 17:33
Tetrachloroethene	ND		5.00	ug/L	5	04/20/2012 17:33
Toluene	ND		5.00	ug/L	5	04/20/2012 17:33
Trichloroethene	178		5.00	ug/L	5	04/20/2012 17:33
Trichlorofluoromethane	ND		5.00	ug/L	5	04/20/2012 17:33
Vinyl chloride	ND		5.00	ug/L	5	04/20/2012 17:33
cis-1,2-Dichloroethene	ND		5.00	ug/L	5	04/20/2012 17:33
m,p-Xylene	ND		10.0	ug/L	5	04/20/2012 17:33
n-Propylbenzene	ND		5.00	ug/L	5	04/20/2012 17:33
o-Xylene	ND		5.00	ug/L	5	04/20/2012 17:33
sec-Butylbenzene	ND		5.00	ug/L	5	04/20/2012 17:33
tert-Butyl methyl ether (MTBE)	ND		5.00	ug/L	5	04/20/2012 17:33
tert-Butylbenzene	ND		5.00	ug/L	5	04/20/2012 17:33
trans-1,2-Dichloroethene	ND		5.00	ug/L	5	04/20/2012 17:33
trans-1,4-Dichloro-2-butene	ND		25.0	ug/L	5	04/20/2012 17:33
Surrogates						
1,2-Dichloroethane-d4	107		64.0-140	%	5	04/20/2012 17:33
4-Bromofluorobenzene	88.0		85.0-115	%	5	04/20/2012 17:33
Toluene d8	100		82.0-117	%	5	04/20/2012 17:33

Batch Information

Analytical Batch: **VMS2138**
Analytical Method: **SW-846 8260B**
Instrument: **MSD8**
Analyst: **DVO**
Analytical Date/Time: **04/20/2012 17:33**

Prep Batch: **VXX3188**
Prep Method: **SW-846 5030B**
Prep Date/Time: **04/20/2012 08:00**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **40 mL**



Results of **48DW-2**

Client Sample ID: **48DW-2**
Client Project ID: **NCDOT Pittsboro**
Lab Sample ID: 31201090026-A
Lab Project ID: 31201090

Collection Date: 04/12/2012 16:00
Received Date: 04/13/2012 15:00
Matrix: Water

Results by **SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L	1	04/20/2012 11:50
1,1,1-Trichloroethane	ND		1.00	ug/L	1	04/20/2012 11:50
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L	1	04/20/2012 11:50
1,1,2-Trichloroethane	ND		1.00	ug/L	1	04/20/2012 11:50
1,1-Dichloroethane	2.38		1.00	ug/L	1	04/20/2012 11:50
1,1-Dichloroethene	5.82		1.00	ug/L	1	04/20/2012 11:50
1,1-Dichloropropene	ND		1.00	ug/L	1	04/20/2012 11:50
1,2,3-Trichlorobenzene	ND		1.00	ug/L	1	04/20/2012 11:50
1,2,3-Trichloropropane	ND		1.00	ug/L	1	04/20/2012 11:50
1,2,4-Trichlorobenzene	ND		1.00	ug/L	1	04/20/2012 11:50
1,2,4-Trimethylbenzene	ND		1.00	ug/L	1	04/20/2012 11:50
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1	04/20/2012 11:50
1,2-Dibromoethane	ND		1.00	ug/L	1	04/20/2012 11:50
1,2-Dichlorobenzene	ND		1.00	ug/L	1	04/20/2012 11:50
1,2-Dichloroethane	ND		1.00	ug/L	1	04/20/2012 11:50
1,2-Dichloropropane	ND		1.00	ug/L	1	04/20/2012 11:50
1,3,5-Trimethylbenzene	ND		1.00	ug/L	1	04/20/2012 11:50
1,3-Dichlorobenzene	ND		1.00	ug/L	1	04/20/2012 11:50
1,3-Dichloropropane	ND		1.00	ug/L	1	04/20/2012 11:50
1,4-Dichlorobenzene	ND		1.00	ug/L	1	04/20/2012 11:50
2,2-Dichloropropane	ND		1.00	ug/L	1	04/20/2012 11:50
2-Butanone	ND		25.0	ug/L	1	04/20/2012 11:50
2-Chlorotoluene	ND		1.00	ug/L	1	04/20/2012 11:50
2-Hexanone	ND		5.00	ug/L	1	04/20/2012 11:50
4-Chlorotoluene	ND		1.00	ug/L	1	04/20/2012 11:50
4-Isopropyltoluene	ND		1.00	ug/L	1	04/20/2012 11:50
4-Methyl-2-pentanone	ND		5.00	ug/L	1	04/20/2012 11:50
Acetone	ND		25.0	ug/L	1	04/20/2012 11:50
Benzene	ND		1.00	ug/L	1	04/20/2012 11:50
Bromobenzene	ND		1.00	ug/L	1	04/20/2012 11:50
Bromochloromethane	ND		1.00	ug/L	1	04/20/2012 11:50
Bromodichloromethane	ND		1.00	ug/L	1	04/20/2012 11:50
Bromoform	ND		1.00	ug/L	1	04/20/2012 11:50
Bromomethane	ND		1.00	ug/L	1	04/20/2012 11:50
n-Butylbenzene	ND		1.00	ug/L	1	04/20/2012 11:50
Carbon disulfide	ND		1.00	ug/L	1	04/20/2012 11:50
Carbon tetrachloride	ND		1.00	ug/L	1	04/20/2012 11:50
Chlorobenzene	ND		1.00	ug/L	1	04/20/2012 11:50
Chloroethane	ND		1.00	ug/L	1	04/20/2012 11:50
Chloroform	ND		1.00	ug/L	1	04/20/2012 11:50
Chloromethane	ND		1.00	ug/L	1	04/20/2012 11:50
Dibromochloromethane	ND		1.00	ug/L	1	04/20/2012 11:50
Dibromomethane	ND		1.00	ug/L	1	04/20/2012 11:50

Print Date: 04/25/2012

N.C. Certification # 481



Results of **48DW-2**

Client Sample ID: **48DW-2**
Client Project ID: **NCDOT Pittsboro**
Lab Sample ID: 31201090026-A
Lab Project ID: 31201090

Collection Date: 04/12/2012 16:00
Received Date: 04/13/2012 15:00
Matrix: Water

Results by **SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Dichlorodifluoromethane	ND		5.00	ug/L	1	04/20/2012 11:50
cis-1,3-Dichloropropene	ND		1.00	ug/L	1	04/20/2012 11:50
trans-1,3-Dichloropropene	ND		1.00	ug/L	1	04/20/2012 11:50
Diisopropyl Ether	ND		1.00	ug/L	1	04/20/2012 11:50
Ethyl Benzene	ND		1.00	ug/L	1	04/20/2012 11:50
Hexachlorobutadiene	ND		1.00	ug/L	1	04/20/2012 11:50
Isopropylbenzene (Cumene)	ND		1.00	ug/L	1	04/20/2012 11:50
Methyl iodide	ND		1.00	ug/L	1	04/20/2012 11:50
Methylene chloride	ND		5.00	ug/L	1	04/20/2012 11:50
Naphthalene	ND		1.00	ug/L	1	04/20/2012 11:50
Styrene	ND		1.00	ug/L	1	04/20/2012 11:50
Tetrachloroethene	ND		1.00	ug/L	1	04/20/2012 11:50
Toluene	ND		1.00	ug/L	1	04/20/2012 11:50
Trichloroethene	15.7		1.00	ug/L	1	04/20/2012 11:50
Trichlorofluoromethane	ND		1.00	ug/L	1	04/20/2012 11:50
Vinyl chloride	ND		1.00	ug/L	1	04/20/2012 11:50
cis-1,2-Dichloroethene	4.98		1.00	ug/L	1	04/20/2012 11:50
m,p-Xylene	ND		2.00	ug/L	1	04/20/2012 11:50
n-Propylbenzene	ND		1.00	ug/L	1	04/20/2012 11:50
o-Xylene	ND		1.00	ug/L	1	04/20/2012 11:50
sec-Butylbenzene	ND		1.00	ug/L	1	04/20/2012 11:50
tert-Butyl methyl ether (MTBE)	ND		1.00	ug/L	1	04/20/2012 11:50
tert-Butylbenzene	ND		1.00	ug/L	1	04/20/2012 11:50
trans-1,2-Dichloroethene	ND		1.00	ug/L	1	04/20/2012 11:50
trans-1,4-Dichloro-2-butene	ND		5.00	ug/L	1	04/20/2012 11:50
Surrogates						
1,2-Dichloroethane-d4	111		64.0-140	%	1	04/20/2012 11:50
4-Bromofluorobenzene	105		85.0-115	%	1	04/20/2012 11:50
Toluene d8	103		82.0-117	%	1	04/20/2012 11:50

Batch Information

Analytical Batch: **VMS2138**
Analytical Method: **SW-846 8260B**
Instrument: **MSD8**
Analyst: **DVO**
Analytical Date/Time: **04/20/2012 11:50**

Prep Batch: **VXX3188**
Prep Method: **SW-846 5030B**
Prep Date/Time: **04/20/2012 08:00**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **40 mL**



Results of **48DW-5**

Client Sample ID: **48DW-5**
Client Project ID: **NCDOT Pittsboro**
Lab Sample ID: 31201090027-A
Lab Project ID: 31201090

Collection Date: 04/12/2012 16:25
Received Date: 04/13/2012 15:00
Matrix: Water

Results by **SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1,1,2-Tetrachloroethane	ND		16.0	ug/L	16	04/20/2012 17:57
1,1,1-Trichloroethane	ND		16.0	ug/L	16	04/20/2012 17:57
1,1,2,2-Tetrachloroethane	ND		16.0	ug/L	16	04/20/2012 17:57
1,1,2-Trichloroethane	ND		16.0	ug/L	16	04/20/2012 17:57
1,1-Dichloroethane	ND		16.0	ug/L	16	04/20/2012 17:57
1,1-Dichloroethene	39.4		16.0	ug/L	16	04/20/2012 17:57
1,1-Dichloropropene	ND		16.0	ug/L	16	04/20/2012 17:57
1,2,3-Trichlorobenzene	ND		16.0	ug/L	16	04/20/2012 17:57
1,2,3-Trichloropropane	ND		16.0	ug/L	16	04/20/2012 17:57
1,2,4-Trichlorobenzene	ND		16.0	ug/L	16	04/20/2012 17:57
1,2,4-Trimethylbenzene	ND		16.0	ug/L	16	04/20/2012 17:57
1,2-Dibromo-3-chloropropane	ND		80.0	ug/L	16	04/20/2012 17:57
1,2-Dibromoethane	ND		16.0	ug/L	16	04/20/2012 17:57
1,2-Dichlorobenzene	ND		16.0	ug/L	16	04/20/2012 17:57
1,2-Dichloroethane	ND		16.0	ug/L	16	04/20/2012 17:57
1,2-Dichloropropane	ND		16.0	ug/L	16	04/20/2012 17:57
1,3,5-Trimethylbenzene	ND		16.0	ug/L	16	04/20/2012 17:57
1,3-Dichlorobenzene	ND		16.0	ug/L	16	04/20/2012 17:57
1,3-Dichloropropane	ND		16.0	ug/L	16	04/20/2012 17:57
1,4-Dichlorobenzene	ND		16.0	ug/L	16	04/20/2012 17:57
2,2-Dichloropropane	ND		16.0	ug/L	16	04/20/2012 17:57
2-Butanone	ND		400	ug/L	16	04/20/2012 17:57
2-Chlorotoluene	ND		16.0	ug/L	16	04/20/2012 17:57
2-Hexanone	ND		80.0	ug/L	16	04/20/2012 17:57
4-Chlorotoluene	ND		16.0	ug/L	16	04/20/2012 17:57
4-Isopropyltoluene	ND		16.0	ug/L	16	04/20/2012 17:57
4-Methyl-2-pentanone	ND		80.0	ug/L	16	04/20/2012 17:57
Acetone	ND		400	ug/L	16	04/20/2012 17:57
Benzene	ND		16.0	ug/L	16	04/20/2012 17:57
Bromobenzene	ND		16.0	ug/L	16	04/20/2012 17:57
Bromochloromethane	ND		16.0	ug/L	16	04/20/2012 17:57
Bromodichloromethane	ND		16.0	ug/L	16	04/20/2012 17:57
Bromoform	ND		16.0	ug/L	16	04/20/2012 17:57
Bromomethane	ND		16.0	ug/L	16	04/20/2012 17:57
n-Butylbenzene	ND		16.0	ug/L	16	04/20/2012 17:57
Carbon disulfide	ND		16.0	ug/L	16	04/20/2012 17:57
Carbon tetrachloride	ND		16.0	ug/L	16	04/20/2012 17:57
Chlorobenzene	ND		16.0	ug/L	16	04/20/2012 17:57
Chloroethane	ND		16.0	ug/L	16	04/20/2012 17:57
Chloroform	ND		16.0	ug/L	16	04/20/2012 17:57
Chloromethane	ND		16.0	ug/L	16	04/20/2012 17:57
Dibromochloromethane	ND		16.0	ug/L	16	04/20/2012 17:57
Dibromomethane	ND		16.0	ug/L	16	04/20/2012 17:57

Print Date: 04/25/2012

N.C. Certification # 481



Results of **48DW-5**

Client Sample ID: **48DW-5**
Client Project ID: **NCDOT Pittsboro**
Lab Sample ID: 31201090027-A
Lab Project ID: 31201090

Collection Date: 04/12/2012 16:25
Received Date: 04/13/2012 15:00
Matrix: Water

Results by **SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Dichlorodifluoromethane	ND		80.0	ug/L	16	04/20/2012 17:57
cis-1,3-Dichloropropene	ND		16.0	ug/L	16	04/20/2012 17:57
trans-1,3-Dichloropropene	ND		16.0	ug/L	16	04/20/2012 17:57
Diisopropyl Ether	ND		16.0	ug/L	16	04/20/2012 17:57
Ethyl Benzene	ND		16.0	ug/L	16	04/20/2012 17:57
Hexachlorobutadiene	ND		16.0	ug/L	16	04/20/2012 17:57
Isopropylbenzene (Cumene)	ND		16.0	ug/L	16	04/20/2012 17:57
Methyl iodide	ND		16.0	ug/L	16	04/20/2012 17:57
Methylene chloride	ND		80.0	ug/L	16	04/20/2012 17:57
Naphthalene	ND		16.0	ug/L	16	04/20/2012 17:57
Styrene	ND		16.0	ug/L	16	04/20/2012 17:57
Tetrachloroethene	ND		16.0	ug/L	16	04/20/2012 17:57
Toluene	ND		16.0	ug/L	16	04/20/2012 17:57
Trichloroethene	413		16.0	ug/L	16	04/20/2012 17:57
Trichlorofluoromethane	ND		16.0	ug/L	16	04/20/2012 17:57
Vinyl chloride	ND		16.0	ug/L	16	04/20/2012 17:57
cis-1,2-Dichloroethene	ND		16.0	ug/L	16	04/20/2012 17:57
m,p-Xylene	ND		32.0	ug/L	16	04/20/2012 17:57
n-Propylbenzene	ND		16.0	ug/L	16	04/20/2012 17:57
o-Xylene	ND		16.0	ug/L	16	04/20/2012 17:57
sec-Butylbenzene	ND		16.0	ug/L	16	04/20/2012 17:57
tert-Butyl methyl ether (MTBE)	ND		16.0	ug/L	16	04/20/2012 17:57
tert-Butylbenzene	ND		16.0	ug/L	16	04/20/2012 17:57
trans-1,2-Dichloroethene	ND		16.0	ug/L	16	04/20/2012 17:57
trans-1,4-Dichloro-2-butene	ND		80.0	ug/L	16	04/20/2012 17:57
Surrogates						
1,2-Dichloroethane-d4	106		64.0-140	%	16	04/20/2012 17:57
4-Bromofluorobenzene	106		85.0-115	%	16	04/20/2012 17:57
Toluene d8	102		82.0-117	%	16	04/20/2012 17:57

Batch Information

Analytical Batch: **VMS2138**
Analytical Method: **SW-846 8260B**
Instrument: **MSD8**
Analyst: **DVO**
Analytical Date/Time: **04/20/2012 17:57**

Prep Batch: **VXX3188**
Prep Method: **SW-846 5030B**
Prep Date/Time: **04/20/2012 08:00**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **40 mL**



Results of **48SVE-01**

Client Sample ID: **48SVE-01**
Client Project ID: **NCDOT Pittsboro**
Lab Sample ID: 31201090028-A
Lab Project ID: 31201090

Collection Date: 04/12/2012 16:55
Received Date: 04/13/2012 15:00
Matrix: Water

Results by **SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1,1,2-Tetrachloroethane	ND		2000	ug/L	2000	04/20/2012 17:24
1,1,1-Trichloroethane	ND		2000	ug/L	2000	04/20/2012 17:24
1,1,2,2-Tetrachloroethane	ND		2000	ug/L	2000	04/20/2012 17:24
1,1,2-Trichloroethane	ND		2000	ug/L	2000	04/20/2012 17:24
1,1-Dichloroethane	ND		2000	ug/L	2000	04/20/2012 17:24
1,1-Dichloroethene	ND		2000	ug/L	2000	04/20/2012 17:24
1,1-Dichloropropene	ND		2000	ug/L	2000	04/20/2012 17:24
1,2,3-Trichlorobenzene	ND		2000	ug/L	2000	04/20/2012 17:24
1,2,3-Trichloropropane	ND		2000	ug/L	2000	04/20/2012 17:24
1,2,4-Trichlorobenzene	ND		2000	ug/L	2000	04/20/2012 17:24
1,2,4-Trimethylbenzene	ND		2000	ug/L	2000	04/20/2012 17:24
1,2-Dibromo-3-chloropropane	ND		10000	ug/L	2000	04/20/2012 17:24
1,2-Dibromoethane	ND		2000	ug/L	2000	04/20/2012 17:24
1,2-Dichlorobenzene	ND		2000	ug/L	2000	04/20/2012 17:24
1,2-Dichloroethane	ND		2000	ug/L	2000	04/20/2012 17:24
1,2-Dichloropropane	ND		2000	ug/L	2000	04/20/2012 17:24
1,3,5-Trimethylbenzene	ND		2000	ug/L	2000	04/20/2012 17:24
1,3-Dichlorobenzene	ND		2000	ug/L	2000	04/20/2012 17:24
1,3-Dichloropropane	ND		2000	ug/L	2000	04/20/2012 17:24
1,4-Dichlorobenzene	ND		2000	ug/L	2000	04/20/2012 17:24
2,2-Dichloropropane	ND		2000	ug/L	2000	04/20/2012 17:24
2-Butanone	ND		50000	ug/L	2000	04/20/2012 17:24
2-Chlorotoluene	ND		2000	ug/L	2000	04/20/2012 17:24
2-Hexanone	ND		10000	ug/L	2000	04/20/2012 17:24
4-Chlorotoluene	ND		2000	ug/L	2000	04/20/2012 17:24
4-Isopropyltoluene	ND		2000	ug/L	2000	04/20/2012 17:24
4-Methyl-2-pentanone	ND		10000	ug/L	2000	04/20/2012 17:24
Acetone	ND		50000	ug/L	2000	04/20/2012 17:24
Benzene	ND		2000	ug/L	2000	04/20/2012 17:24
Bromobenzene	ND		2000	ug/L	2000	04/20/2012 17:24
Bromochloromethane	ND		2000	ug/L	2000	04/20/2012 17:24
Bromodichloromethane	ND		2000	ug/L	2000	04/20/2012 17:24
Bromoform	ND		2000	ug/L	2000	04/20/2012 17:24
Bromomethane	ND		2000	ug/L	2000	04/20/2012 17:24
n-Butylbenzene	ND		2000	ug/L	2000	04/20/2012 17:24
Carbon disulfide	ND		2000	ug/L	2000	04/20/2012 17:24
Carbon tetrachloride	ND		2000	ug/L	2000	04/20/2012 17:24
Chlorobenzene	ND		2000	ug/L	2000	04/20/2012 17:24
Chloroethane	ND		2000	ug/L	2000	04/20/2012 17:24
Chloroform	ND		2000	ug/L	2000	04/20/2012 17:24
Chloromethane	ND		2000	ug/L	2000	04/20/2012 17:24
Dibromochloromethane	ND		2000	ug/L	2000	04/20/2012 17:24
Dibromomethane	ND		2000	ug/L	2000	04/20/2012 17:24



Results of **48SVE-01**

Client Sample ID: **48SVE-01**
Client Project ID: **NCDOT Pittsboro**
Lab Sample ID: 31201090028-A
Lab Project ID: 31201090

Collection Date: 04/12/2012 16:55
Received Date: 04/13/2012 15:00
Matrix: Water

Results by **SW-846 8260B**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Dichlorodifluoromethane	ND		10000	ug/L	2000	04/20/2012 17:24
cis-1,3-Dichloropropene	ND		2000	ug/L	2000	04/20/2012 17:24
trans-1,3-Dichloropropene	ND		2000	ug/L	2000	04/20/2012 17:24
Diisopropyl Ether	ND		2000	ug/L	2000	04/20/2012 17:24
Ethyl Benzene	ND		2000	ug/L	2000	04/20/2012 17:24
Hexachlorobutadiene	ND		2000	ug/L	2000	04/20/2012 17:24
Isopropylbenzene (Cumene)	ND		2000	ug/L	2000	04/20/2012 17:24
Methyl iodide	ND		2000	ug/L	2000	04/20/2012 17:24
Methylene chloride	ND		10000	ug/L	2000	04/20/2012 17:24
Naphthalene	ND		2000	ug/L	2000	04/20/2012 17:24
Styrene	ND		2000	ug/L	2000	04/20/2012 17:24
Tetrachloroethene	ND		2000	ug/L	2000	04/20/2012 17:24
Toluene	ND		2000	ug/L	2000	04/20/2012 17:24
Trichloroethene	48600		2000	ug/L	2000	04/20/2012 17:24
Trichlorofluoromethane	ND		2000	ug/L	2000	04/20/2012 17:24
Vinyl chloride	ND		2000	ug/L	2000	04/20/2012 17:24
cis-1,2-Dichloroethene	ND		2000	ug/L	2000	04/20/2012 17:24
m,p-Xylene	ND		4000	ug/L	2000	04/20/2012 17:24
n-Propylbenzene	ND		2000	ug/L	2000	04/20/2012 17:24
o-Xylene	ND		2000	ug/L	2000	04/20/2012 17:24
sec-Butylbenzene	ND		2000	ug/L	2000	04/20/2012 17:24
tert-Butyl methyl ether (MTBE)	ND		2000	ug/L	2000	04/20/2012 17:24
tert-Butylbenzene	ND		2000	ug/L	2000	04/20/2012 17:24
trans-1,2-Dichloroethene	ND		2000	ug/L	2000	04/20/2012 17:24
trans-1,4-Dichloro-2-butene	ND		10000	ug/L	2000	04/20/2012 17:24
Surrogates						
1,2-Dichloroethane-d4	100		64.0-140	%	2000	04/20/2012 17:24
4-Bromofluorobenzene	96.0		85.0-115	%	2000	04/20/2012 17:24
Toluene d8	99.0		82.0-117	%	2000	04/20/2012 17:24

Batch Information

Analytical Batch: **VMS2139**
Analytical Method: **SW-846 8260B**
Instrument: **MSD4**
Analyst: **DVO**
Analytical Date/Time: **04/20/2012 17:24**

Prep Batch: **VXX3189**
Prep Method: **SW-846 5030B**
Prep Date/Time: **04/20/2012 08:00**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **40 mL**



Results of **48EB-02**

Client Sample ID: **48EB-02**
Client Project ID: **NCDOT Pittsboro**
Lab Sample ID: 31201090029-A
Lab Project ID: 31201090

Collection Date: 04/12/2012 17:30
Received Date: 04/13/2012 15:00
Matrix: Water

Results by **SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L	1	04/20/2012 12:15
1,1,1-Trichloroethane	ND		1.00	ug/L	1	04/20/2012 12:15
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L	1	04/20/2012 12:15
1,1,2-Trichloroethane	ND		1.00	ug/L	1	04/20/2012 12:15
1,1-Dichloroethane	ND		1.00	ug/L	1	04/20/2012 12:15
1,1-Dichloroethene	ND		1.00	ug/L	1	04/20/2012 12:15
1,1-Dichloropropene	ND		1.00	ug/L	1	04/20/2012 12:15
1,2,3-Trichlorobenzene	ND		1.00	ug/L	1	04/20/2012 12:15
1,2,3-Trichloropropane	ND		1.00	ug/L	1	04/20/2012 12:15
1,2,4-Trichlorobenzene	ND		1.00	ug/L	1	04/20/2012 12:15
1,2,4-Trimethylbenzene	ND		1.00	ug/L	1	04/20/2012 12:15
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1	04/20/2012 12:15
1,2-Dibromoethane	ND		1.00	ug/L	1	04/20/2012 12:15
1,2-Dichlorobenzene	ND		1.00	ug/L	1	04/20/2012 12:15
1,2-Dichloroethane	ND		1.00	ug/L	1	04/20/2012 12:15
1,2-Dichloropropane	ND		1.00	ug/L	1	04/20/2012 12:15
1,3,5-Trimethylbenzene	ND		1.00	ug/L	1	04/20/2012 12:15
1,3-Dichlorobenzene	ND		1.00	ug/L	1	04/20/2012 12:15
1,3-Dichloropropane	ND		1.00	ug/L	1	04/20/2012 12:15
1,4-Dichlorobenzene	ND		1.00	ug/L	1	04/20/2012 12:15
2,2-Dichloropropane	ND		1.00	ug/L	1	04/20/2012 12:15
2-Butanone	ND		25.0	ug/L	1	04/20/2012 12:15
2-Chlorotoluene	ND		1.00	ug/L	1	04/20/2012 12:15
2-Hexanone	ND		5.00	ug/L	1	04/20/2012 12:15
4-Chlorotoluene	ND		1.00	ug/L	1	04/20/2012 12:15
4-Isopropyltoluene	ND		1.00	ug/L	1	04/20/2012 12:15
4-Methyl-2-pentanone	ND		5.00	ug/L	1	04/20/2012 12:15
Acetone	ND		25.0	ug/L	1	04/20/2012 12:15
Benzene	ND		1.00	ug/L	1	04/20/2012 12:15
Bromobenzene	ND		1.00	ug/L	1	04/20/2012 12:15
Bromochloromethane	ND		1.00	ug/L	1	04/20/2012 12:15
Bromodichloromethane	ND		1.00	ug/L	1	04/20/2012 12:15
Bromoform	ND		1.00	ug/L	1	04/20/2012 12:15
Bromomethane	ND		1.00	ug/L	1	04/20/2012 12:15
n-Butylbenzene	ND		1.00	ug/L	1	04/20/2012 12:15
Carbon disulfide	ND		1.00	ug/L	1	04/20/2012 12:15
Carbon tetrachloride	ND		1.00	ug/L	1	04/20/2012 12:15
Chlorobenzene	ND		1.00	ug/L	1	04/20/2012 12:15
Chloroethane	ND		1.00	ug/L	1	04/20/2012 12:15
Chloroform	ND		1.00	ug/L	1	04/20/2012 12:15
Chloromethane	ND		1.00	ug/L	1	04/20/2012 12:15
Dibromochloromethane	ND		1.00	ug/L	1	04/20/2012 12:15
Dibromomethane	ND		1.00	ug/L	1	04/20/2012 12:15

Print Date: 04/25/2012

N.C. Certification # 481



Results of **48EB-02**

Client Sample ID: **48EB-02**
Client Project ID: **NCDOT Pittsboro**
Lab Sample ID: 31201090029-A
Lab Project ID: 31201090

Collection Date: 04/12/2012 17:30
Received Date: 04/13/2012 15:00
Matrix: Water

Results by **SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Dichlorodifluoromethane	ND		5.00	ug/L	1	04/20/2012 12:15
cis-1,3-Dichloropropene	ND		1.00	ug/L	1	04/20/2012 12:15
trans-1,3-Dichloropropene	ND		1.00	ug/L	1	04/20/2012 12:15
Diisopropyl Ether	ND		1.00	ug/L	1	04/20/2012 12:15
Ethyl Benzene	ND		1.00	ug/L	1	04/20/2012 12:15
Hexachlorobutadiene	ND		1.00	ug/L	1	04/20/2012 12:15
Isopropylbenzene (Cumene)	ND		1.00	ug/L	1	04/20/2012 12:15
Methyl iodide	ND		1.00	ug/L	1	04/20/2012 12:15
Methylene chloride	ND		5.00	ug/L	1	04/20/2012 12:15
Naphthalene	ND		1.00	ug/L	1	04/20/2012 12:15
Styrene	ND		1.00	ug/L	1	04/20/2012 12:15
Tetrachloroethene	ND		1.00	ug/L	1	04/20/2012 12:15
Toluene	ND		1.00	ug/L	1	04/20/2012 12:15
Trichloroethene	ND		1.00	ug/L	1	04/20/2012 12:15
Trichlorofluoromethane	ND		1.00	ug/L	1	04/20/2012 12:15
Vinyl chloride	ND		1.00	ug/L	1	04/20/2012 12:15
cis-1,2-Dichloroethene	ND		1.00	ug/L	1	04/20/2012 12:15
m,p-Xylene	ND		2.00	ug/L	1	04/20/2012 12:15
n-Propylbenzene	ND		1.00	ug/L	1	04/20/2012 12:15
o-Xylene	ND		1.00	ug/L	1	04/20/2012 12:15
sec-Butylbenzene	ND		1.00	ug/L	1	04/20/2012 12:15
tert-Butyl methyl ether (MTBE)	ND		1.00	ug/L	1	04/20/2012 12:15
tert-Butylbenzene	ND		1.00	ug/L	1	04/20/2012 12:15
trans-1,2-Dichloroethene	ND		1.00	ug/L	1	04/20/2012 12:15
trans-1,4-Dichloro-2-butene	ND		5.00	ug/L	1	04/20/2012 12:15

Surrogates

1,2-Dichloroethane-d4	111		64.0-140	%	1	04/20/2012 12:15
4-Bromofluorobenzene	87.0		85.0-115	%	1	04/20/2012 12:15
Toluene d8	105		82.0-117	%	1	04/20/2012 12:15

Batch Information

Analytical Batch: **VMS2138**
Analytical Method: **SW-846 8260B**
Instrument: **MSD8**
Analyst: **DVO**
Analytical Date/Time: **04/20/2012 12:15**

Prep Batch: **VXX3188**
Prep Method: **SW-846 5030B**
Prep Date/Time: **04/20/2012 08:00**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **40 mL**



Results of Trip Blank

Client Sample ID: Trip Blank
Client Project ID: NCDOT Pittsboro
Lab Sample ID: 31201090030-A
Lab Project ID: 31201090

Collection Date: 04/12/2012 00:00
Received Date: 04/13/2012 15:00
Matrix: Water

Results by SW-846 8260B

Table with 7 columns: Parameter, Result, Qual, LOQ/CL, Units, DF, Date Analyzed. Lists various chemical compounds and their detection results (ND) and limits.



Results of Trip Blank

Client Sample ID: **Trip Blank**
Client Project ID: **NCDOT Pittsboro**
Lab Sample ID: 31201090030-A
Lab Project ID: 31201090

Collection Date: 04/12/2012 00:00
Received Date: 04/13/2012 15:00
Matrix: Water

Results by SW-846 8260B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Dichlorodifluoromethane	ND		5.00	ug/L	1	04/20/2012 11:02
cis-1,3-Dichloropropene	ND		1.00	ug/L	1	04/20/2012 11:02
trans-1,3-Dichloropropene	ND		1.00	ug/L	1	04/20/2012 11:02
Diisopropyl Ether	ND		1.00	ug/L	1	04/20/2012 11:02
Ethyl Benzene	ND		1.00	ug/L	1	04/20/2012 11:02
Hexachlorobutadiene	ND		1.00	ug/L	1	04/20/2012 11:02
Isopropylbenzene (Cumene)	ND		1.00	ug/L	1	04/20/2012 11:02
Methyl iodide	ND		1.00	ug/L	1	04/20/2012 11:02
Methylene chloride	ND		5.00	ug/L	1	04/20/2012 11:02
Naphthalene	ND		1.00	ug/L	1	04/20/2012 11:02
Styrene	ND		1.00	ug/L	1	04/20/2012 11:02
Tetrachloroethene	ND		1.00	ug/L	1	04/20/2012 11:02
Toluene	ND		1.00	ug/L	1	04/20/2012 11:02
Trichloroethene	ND		1.00	ug/L	1	04/20/2012 11:02
Trichlorofluoromethane	ND		1.00	ug/L	1	04/20/2012 11:02
Vinyl chloride	ND		1.00	ug/L	1	04/20/2012 11:02
cis-1,2-Dichloroethene	ND		1.00	ug/L	1	04/20/2012 11:02
m,p-Xylene	ND		2.00	ug/L	1	04/20/2012 11:02
n-Propylbenzene	ND		1.00	ug/L	1	04/20/2012 11:02
o-Xylene	ND		1.00	ug/L	1	04/20/2012 11:02
sec-Butylbenzene	ND		1.00	ug/L	1	04/20/2012 11:02
tert-Butyl methyl ether (MTBE)	ND		1.00	ug/L	1	04/20/2012 11:02
tert-Butylbenzene	ND		1.00	ug/L	1	04/20/2012 11:02
trans-1,2-Dichloroethene	ND		1.00	ug/L	1	04/20/2012 11:02
trans-1,4-Dichloro-2-butene	ND		5.00	ug/L	1	04/20/2012 11:02
Surrogates						
1,2-Dichloroethane-d4	94.0		64.0-140	%	1	04/20/2012 11:02
4-Bromofluorobenzene	104		85.0-115	%	1	04/20/2012 11:02
Toluene d8	100		82.0-117	%	1	04/20/2012 11:02

Batch Information

Analytical Batch: **VMS2138**
Analytical Method: **SW-846 8260B**
Instrument: **MSD8**
Analyst: **DVO**
Analytical Date/Time: **04/20/2012 11:02**

Prep Batch: **VXX3188**
Prep Method: **SW-846 5030B**
Prep Date/Time: **04/20/2012 08:00**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **40 mL**

Batch Summary

Analytical Method: SW-846 8260B

Prep Method: SW-846 5030B

Prep Batch: VXX3158

Prep Date: 04/17/2012 07:21

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Analysis Date</u>	<u>Analytical Batch</u>	<u>Instrument</u>	<u>Analyst</u>
LCS for HBN 22371 [VXX/3158]	66995	04/17/2012 09:46	VMS2124	MSD8	BWS
LCSD for HBN 22371 [VXX/3158]	66996	04/17/2012 10:11	VMS2124	MSD8	BWS
MB for HBN 22371 [VXX/3158]	66997	04/17/2012 10:59	VMS2124	MSD8	BWS
48MW-4R	31201090002	04/17/2012 19:08	VMS2124	MSD8	BWS
HP-A-11 (45-49) MS	31201075003	04/17/2012 19:33	VMS2124	MSD8	BWS
HP-A-11 (45-49) MSD	31201075004	04/17/2012 19:57	VMS2124	MSD8	BWS

Method Blank

Blank ID: MB for HBN 22371 [VXX/3158]

Blank Lab ID: 66997

QC for Samples:

31201090002

Matrix: Water

Results by SW-846 8260B

Parameter	Result	Qual	LOQ/CL	Units	DF
Dichlorodifluoromethane	ND		5.00	ug/L	1
Chloromethane	ND		1.00	ug/L	1
Vinyl chloride	ND		1.00	ug/L	1
Bromomethane	ND		1.00	ug/L	1
Chloroethane	ND		1.00	ug/L	1
Trichlorofluoromethane	ND		1.00	ug/L	1
1,1-Dichloroethene	ND		1.00	ug/L	1
Acetone	ND		25.0	ug/L	1
Methylene chloride	ND		5.00	ug/L	1
trans-1,2-Dichloroethene	ND		1.00	ug/L	1
tert-Butyl methyl ether (MTBE)	ND		1.00	ug/L	1
1,1-Dichloroethane	ND		1.00	ug/L	1
Diisopropyl Ether	ND		1.00	ug/L	1
2,2-Dichloropropane	ND		1.00	ug/L	1
cis-1,2-Dichloroethene	ND		1.00	ug/L	1
2-Butanone	ND		25.0	ug/L	1
Bromochloromethane	ND		1.00	ug/L	1
Chloroform	ND		1.00	ug/L	1
1,1,1-Trichloroethane	ND		1.00	ug/L	1
Carbon tetrachloride	ND		1.00	ug/L	1
1,1-Dichloropropene	ND		1.00	ug/L	1
Benzene	ND		1.00	ug/L	1
1,2-Dichloroethane	ND		1.00	ug/L	1
Trichloroethene	ND		1.00	ug/L	1
1,2-Dichloropropane	ND		1.00	ug/L	1
Dibromomethane	ND		1.00	ug/L	1
Bromodichloromethane	ND		1.00	ug/L	1
cis-1,3-Dichloropropene	ND		1.00	ug/L	1
4-Methyl-2-pentanone	ND		5.00	ug/L	1
Toluene	ND		1.00	ug/L	1
Methyl iodide	ND		1.00	ug/L	1
trans-1,3-Dichloropropene	ND		1.00	ug/L	1
Carbon disulfide	ND		1.00	ug/L	1
1,1,2-Trichloroethane	ND		1.00	ug/L	1
Tetrachloroethene	ND		1.00	ug/L	1
1,3-Dichloropropane	ND		1.00	ug/L	1
2-Hexanone	ND		5.00	ug/L	1
Dibromochloromethane	ND		1.00	ug/L	1
1,2-Dibromoethane	ND		1.00	ug/L	1
Chlorobenzene	ND		1.00	ug/L	1
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L	1

Method Blank

Blank ID: MB for HBN 22371 [VXX/3158]

Matrix: Water

Blank Lab ID: 66997

QC for Samples:

31201090002

Results by SW-846 8260B

Parameter	Result	Qual	LOQ/CL	Units	DF
Bromoform	ND		1.00	ug/L	1
Bromobenzene	ND		1.00	ug/L	1
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L	1
1,2,3-Trichloropropane	ND		1.00	ug/L	1
Ethyl Benzene	ND		1.00	ug/L	1
m,p-Xylene	ND		2.00	ug/L	1
Styrene	ND		1.00	ug/L	1
o-Xylene	ND		1.00	ug/L	1
Isopropylbenzene (Cumene)	ND		1.00	ug/L	1
n-Propylbenzene	ND		1.00	ug/L	1
2-Chlorotoluene	ND		1.00	ug/L	1
4-Chlorotoluene	ND		1.00	ug/L	1
1,3,5-Trimethylbenzene	ND		1.00	ug/L	1
tert-Butylbenzene	ND		1.00	ug/L	1
1,2,4-Trimethylbenzene	ND		1.00	ug/L	1
sec-Butylbenzene	ND		1.00	ug/L	1
1,3-Dichlorobenzene	ND		1.00	ug/L	1
4-Isopropyltoluene	ND		1.00	ug/L	1
1,4-Dichlorobenzene	ND		1.00	ug/L	1
1,2-Dichlorobenzene	ND		1.00	ug/L	1
n-Butylbenzene	ND		1.00	ug/L	1
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1
1,2,4-Trichlorobenzene	ND		1.00	ug/L	1
Hexachlorobutadiene	ND		1.00	ug/L	1
Naphthalene	ND		1.00	ug/L	1
trans-1,4-Dichloro-2-butene	ND		5.00	ug/L	1
1,2,3-Trichlorobenzene	ND		1.00	ug/L	1
Surrogates					
1,2-Dichloroethane-d4	110		64.0-140	%	1
Toluene d8	104		82.0-117	%	1
4-Bromofluorobenzene	108		85.0-115	%	1

Batch Information

Analytical Batch: VMS2124

Prep Batch: VXX3158

Analytical Method: SW-846 8260B

Prep Method: SW-846 5030B

Instrument: MSD8

Prep Date/Time: 4/17/2012 7:21:55AM

Analyst: BWS

Prep Initial Wt./Vol.: 40 mL

Analytical Date/Time: 4/17/2012 10:59:00AM

Prep Extract Vol: 40 mL



Blank Spike Summary

Blank Spike ID: LCS for HBN 22371 [VXX/3158]
 Blank Spike Lab ID: 66995
 Date Analyzed: 04/17/2012 09:46

Spike Duplicate ID: LCSD for HBN 22371 [VXX/3158]
 Spike Duplicate Lab ID: 66996
 Date Analyzed: 04/17/2012 10:11
 Matrix: Water

QC for Samples: 31201090002

Results by SW-846 8260B

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Dichlorodifluoromethane	5.00	5.86	117	5.00	5.87	117	33.0-170	0.17	30.00
Chloromethane	5.00	4.87	97	5.00	5.27	105	57.0-132	7.9	30.00
Vinyl chloride	5.00	4.57	91	5.00	4.71	94	59.0-138	3.0	30.00
Bromomethane	5.00	4.57	91	5.00	4.60	92	51.0-134	0.65	30.00
Chloroethane	5.00	5.15	103	5.00	5.50	110	64.0-145	6.6	30.00
Trichlorofluoromethane	5.00	5.11	102	5.00	5.10	102	64.0-133	0.20	30.00
1,1-Dichloroethene	5.00	4.77	95	5.00	4.58	92	71.0-128	4.1	30.00
Acetone	25.0	ND	63	25.0	ND	64	52.0-140	0.63	30.00
Methylene chloride	5.00	ND	96	5.00	ND	91	70.0-113	5.1	30.00
trans-1,2-Dichloroethene	5.00	5.04	101	5.00	4.78	96	57.0-138	5.3	30.00
tert-Butyl methyl ether (MTBE)	5.00	4.78	96	5.00	4.72	94	47.0-142	1.3	30.00
1,1-Dichloroethane	5.00	4.86	97	5.00	4.39	88	68.0-133	10	30.00
Diisopropyl Ether	5.00	4.51	90	5.00	4.33	87	66.0-132	4.1	30.00
2,2-Dichloropropane	5.00	5.40	108	5.00	5.22	104	74.0-125	3.4	30.00
cis-1,2-Dichloroethene	5.00	5.17	103	5.00	4.74	95	73.0-128	8.7	30.00
2-Butanone	25.0	ND	63	25.0	ND	67	58.0-134	5.5	30.00
Bromochloromethane	5.00	5.47	109	5.00	5.30	106	73.0-128	3.2	30.00
Chloroform	5.00	5.11	102	5.00	4.70	94	74.0-124	8.4	30.00
1,1,1-Trichloroethane	5.00	5.50	110	5.00	5.02	100	76.0-119	9.1	30.00
Carbon tetrachloride	5.00	5.14	103	5.00	5.07	101	75.0-120	1.4	30.00
1,1-Dichloropropene	5.00	4.85	97	5.00	4.89	98	76.0-124	0.82	30.00
Benzene	5.00	4.95	99	5.00	4.90	98	76.0-124	1.0	30.00
1,2-Dichloroethane	5.00	5.02	100	5.00	4.80	96	76.0-119	4.5	30.00
Trichloroethene	5.00	5.04	101	5.00	5.18	104	74.0-121	2.7	30.00
1,2-Dichloropropane	5.00	4.32	86	5.00	4.34	87	74.0-124	0.46	30.00
Dibromomethane	5.00	4.95	99	5.00	4.80	96	71.0-128	3.1	30.00
Bromodichloromethane	5.00	5.30	106	5.00	5.10	102	72.0-120	3.8	30.00
cis-1,3-Dichloropropene	5.00	5.32	106	5.00	5.14	103	73.0-122	3.4	30.00
4-Methyl-2-pentanone	25.0	20.6	82	25.0	20.5	82	65.0-124	0.49	30.00
Toluene	5.00	4.81	96	5.00	5.03	101	75.0-123	4.5	30.00
Methyl iodide	5.00	4.07	81	5.00	4.08	82	55.0-123	0.25	30.00
trans-1,3-Dichloropropene	5.00	4.95	99	5.00	4.79	96	70.0-125	3.3	30.00
Carbon disulfide	5.00	4.28	86	5.00	4.37	87	65.0-132	2.1	30.00
1,1,2-Trichloroethane	5.00	4.76	95	5.00	4.81	96	76.0-121	1.0	30.00



Blank Spike Summary

Blank Spike ID: LCS for HBN 22371 [VXX/3158]
 Blank Spike Lab ID: 66995
 Date Analyzed: 04/17/2012 09:46

Spike Duplicate ID: LCSD for HBN 22371 [VXX/3158]
 Spike Duplicate Lab ID: 66996
 Date Analyzed: 04/17/2012 10:11
 Matrix: Water

QC for Samples: 31201090002

Results by SW-846 8260B

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Tetrachloroethene	5.00	5.06	101	5.00	5.26	105	59.0-112	3.9	30.00
1,3-Dichloropropane	5.00	4.56	91	5.00	4.93	99	74.0-120	7.8	30.00
2-Hexanone	25.0	16.8	67	25.0	17.4	69	56.0-133	3.5	30.00
Dibromochloromethane	5.00	5.07	101	5.00	4.96	99	67.0-122	2.2	30.00
1,2-Dibromoethane	5.00	4.80	96	5.00	5.02	100	74.0-119	4.5	30.00
Chlorobenzene	5.00	4.96	99	5.00	5.04	101	74.0-120	1.6	30.00
1,1,1,2-Tetrachloroethane	5.00	4.67	93	5.00	4.61	92	73.0-119	1.3	30.00
Bromoform	5.00	5.34	107	5.00	4.85	97	62.0-127	9.6	30.00
Bromobenzene	5.00	5.20	104	5.00	5.05	101	75.0-120	2.9	30.00
1,1,2,2-Tetrachloroethane	5.00	4.75	95	5.00	4.90	98	68.0-129	3.1	30.00
1,2,3-Trichloropropane	5.00	5.23	105	5.00	5.04	101	67.0-126	3.7	30.00
Ethyl Benzene	5.00	4.60	92	5.00	4.44	89	76.0-123	3.5	30.00
m,p-Xylene	10.0	9.33	93	10.0	9.43	94	76.0-124	1.1	30.00
Styrene	5.00	4.57	91	5.00	4.32	86	76.0-121	5.6	30.00
o-Xylene	5.00	4.62	92	5.00	4.28	86	75.0-124	7.6	30.00
Isopropylbenzene (Cumene)	5.00	5.00	100	5.00	4.47	89	77.0-120	11	30.00
n-Propylbenzene	5.00	5.02	100	5.00	4.48	90	77.0-123	11	30.00
2-Chlorotoluene	5.00	5.00	100	5.00	4.95	99	74.0-127	1.0	30.00
4-Chlorotoluene	5.00	4.96	99	5.00	5.06	101	77.0-123	2.0	30.00
1,3,5-Trimethylbenzene	5.00	5.08	102	5.00	4.77	95	76.0-122	6.3	30.00
tert-Butylbenzene	5.00	5.36	107	5.00	4.76	95	67.0-122	12	30.00
1,2,4-Trimethylbenzene	5.00	4.96	99	5.00	4.80	96	76.0-124	3.3	30.00
sec-Butylbenzene	5.00	4.85	97	5.00	4.87	97	78.0-121	0.41	30.00
1,3-Dichlorobenzene	5.00	5.10	102	5.00	5.19	104	75.0-120	1.7	30.00
4-Isopropyltoluene	5.00	4.79	96	5.00	4.89	98	77.0-120	2.1	30.00
1,4-Dichlorobenzene	5.00	5.09	102	5.00	5.23	105	70.0-125	2.7	30.00
1,2-Dichlorobenzene	5.00	4.77	95	5.00	4.82	96	76.0-118	1.0	30.00
n-Butylbenzene	5.00	4.62	92	5.00	4.61	92	78.0-118	0.22	30.00
1,2-Dibromo-3-chloropropane	30.0	25.6	85	30.0	28.3	94	62.0-130	10	30.00
1,2,4-Trichlorobenzene	5.00	4.61	92	5.00	4.89	98	72.0-119	5.9	30.00
Hexachlorobutadiene	5.00	5.05	101	5.00	5.29	106	69.0-121	4.6	30.00
Naphthalene	5.00	4.05	81	5.00	4.42	88	67.0-122	8.7	30.00
trans-1,4-Dichloro-2-butene	25.0	20.7	83	25.0	22.0	88	61.0-132	6.1	30.00
1,2,3-Trichlorobenzene	5.00	4.86	97	5.00	5.16	103	68.0-123	6.0	30.00



Blank Spike Summary

Blank Spike ID: LCS for HBN 22371 [VXX/3158]
Blank Spike Lab ID: 66995
Date Analyzed: 04/17/2012 09:46

Spike Duplicate ID: LCSD for HBN 22371 [VXX/3158]
Spike Duplicate Lab ID: 66996
Date Analyzed: 04/17/2012 10:11
Matrix: Water

QC for Samples: 31201090002

Results by SW-846 8260B

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Surrogates									
1,2-Dichloroethane-d4		105			94		64.0-140		
Toluene d8		104			99		82.0-117		
4-Bromofluorobenzene		109			98		85.0-115		

Batch Information

Analytical Batch: VMS2124
Analytical Method: SW-846 8260B
Instrument: MSD8
Analyst: BWS

Prep Batch: VXX3158
Prep Method: SW-846 5030B
Prep Date/Time: 04/17/2012 07:21
Spike Init Wt./Vol.: 40 mL Extract Vol: 40 mL
Dupe Init Wt./Vol.: 40 mL Extract Vol: 40 mL

Batch Summary

Analytical Method: SW-846 8260B

Prep Method: SW-846 5030B

Prep Batch: VXX3166

Prep Date: 04/18/2012 08:08

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Analysis Date</u>	<u>Analytical Batch</u>	<u>Instrument</u>	<u>Analyst</u>
LCS for HBN 22417 [VXX/3166]	67220	04/18/2012 11:48	VMS2128	MSD4	DVO
LCSD for HBN 22417 [VXX/3166]	67221	04/18/2012 12:12	VMS2128	MSD4	DVO
MB for HBN 22417 [VXX/3166]	67222	04/18/2012 13:00	VMS2128	MSD4	DVO
48DW-3	31201090009	04/18/2012 19:27	VMS2128	MSD4	DVO
48MW-2	31201090010	04/18/2012 19:51	VMS2128	MSD4	DVO
48EB-1	31201090011	04/18/2012 20:15	VMS2128	MSD4	DVO
48PW-2	31201090012	04/18/2012 20:39	VMS2128	MSD4	DVO
Precarbon-041012(66663MS)	67511	04/18/2012 21:27	VMS2128	MSD4	DVO
Precarbon-041012(66663MSD)	67512	04/18/2012 21:52	VMS2128	MSD4	DVO



Method Blank

Blank ID: MB for HBN 22417 [VXX/3166]

Matrix: Water

Blank Lab ID: 67222

QC for Samples:

31201090009, 31201090010, 31201090011, 31201090012

Results by SW-846 8260B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>
Dichlorodifluoromethane	ND		5.00	ug/L	1
Chloromethane	ND		1.00	ug/L	1
Vinyl chloride	ND		1.00	ug/L	1
Bromomethane	ND		1.00	ug/L	1
Chloroethane	ND		1.00	ug/L	1
Trichlorofluoromethane	ND		1.00	ug/L	1
1,1-Dichloroethene	ND		1.00	ug/L	1
Acetone	ND		25.0	ug/L	1
Methylene chloride	ND		5.00	ug/L	1
trans-1,2-Dichloroethene	ND		1.00	ug/L	1
tert-Butyl methyl ether (MTBE)	ND		1.00	ug/L	1
1,1-Dichloroethane	ND		1.00	ug/L	1
Diisopropyl Ether	ND		1.00	ug/L	1
2,2-Dichloropropane	ND		1.00	ug/L	1
cis-1,2-Dichloroethene	ND		1.00	ug/L	1
2-Butanone	ND		25.0	ug/L	1
Bromochloromethane	ND		1.00	ug/L	1
Chloroform	ND		1.00	ug/L	1
1,1,1-Trichloroethane	ND		1.00	ug/L	1
Carbon tetrachloride	ND		1.00	ug/L	1
1,1-Dichloropropene	ND		1.00	ug/L	1
Benzene	ND		1.00	ug/L	1
1,2-Dichloroethane	ND		1.00	ug/L	1
Trichloroethene	ND		1.00	ug/L	1
1,2-Dichloropropane	ND		1.00	ug/L	1
Dibromomethane	ND		1.00	ug/L	1
Bromodichloromethane	ND		1.00	ug/L	1
cis-1,3-Dichloropropene	ND		1.00	ug/L	1
4-Methyl-2-pentanone	ND		5.00	ug/L	1
Toluene	ND		1.00	ug/L	1
Methyl iodide	ND		1.00	ug/L	1
trans-1,3-Dichloropropene	ND		1.00	ug/L	1
Carbon disulfide	ND		1.00	ug/L	1
1,1,2-Trichloroethane	ND		1.00	ug/L	1
Tetrachloroethene	ND		1.00	ug/L	1
1,3-Dichloropropane	ND		1.00	ug/L	1
2-Hexanone	ND		5.00	ug/L	1
Dibromochloromethane	ND		1.00	ug/L	1
1,2-Dibromoethane	ND		1.00	ug/L	1
Chlorobenzene	ND		1.00	ug/L	1
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L	1

Print Date: 04/25/2012

N.C. Certification # 481

SGS North America Inc.

5500 Business Drive, Wilmington, NC 28405
t 910.350.1903 f 910.350.1557 www.us.sgs.com

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Method Blank

Blank ID: MB for HBN 22417 [VXX/3166]

Matrix: Water

Blank Lab ID: 67222

QC for Samples:

31201090009, 31201090010, 31201090011, 31201090012

Results by SW-846 8260B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>
Bromoform	ND		1.00	ug/L	1
Bromobenzene	ND		1.00	ug/L	1
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L	1
1,2,3-Trichloropropane	ND		1.00	ug/L	1
Ethyl Benzene	ND		1.00	ug/L	1
m,p-Xylene	ND		2.00	ug/L	1
Styrene	ND		1.00	ug/L	1
o-Xylene	ND		1.00	ug/L	1
Isopropylbenzene (Cumene)	ND		1.00	ug/L	1
n-Propylbenzene	ND		1.00	ug/L	1
2-Chlorotoluene	ND		1.00	ug/L	1
4-Chlorotoluene	ND		1.00	ug/L	1
1,3,5-Trimethylbenzene	ND		1.00	ug/L	1
tert-Butylbenzene	ND		1.00	ug/L	1
1,2,4-Trimethylbenzene	ND		1.00	ug/L	1
sec-Butylbenzene	ND		1.00	ug/L	1
1,3-Dichlorobenzene	ND		1.00	ug/L	1
4-Isopropyltoluene	ND		1.00	ug/L	1
1,4-Dichlorobenzene	ND		1.00	ug/L	1
1,2-Dichlorobenzene	ND		1.00	ug/L	1
n-Butylbenzene	ND		1.00	ug/L	1
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1
1,2,4-Trichlorobenzene	ND		1.00	ug/L	1
Hexachlorobutadiene	ND		1.00	ug/L	1
Naphthalene	ND		1.00	ug/L	1
trans-1,4-Dichloro-2-butene	ND		5.00	ug/L	1
1,2,3-Trichlorobenzene	ND		1.00	ug/L	1
Surrogates					
1,2-Dichloroethane-d4	100		64.0-140	%	1
Toluene d8	98.0		82.0-117	%	1
4-Bromofluorobenzene	98.0		85.0-115	%	1

Batch Information

Analytical Batch: VMS2128
 Analytical Method: SW-846 8260B
 Instrument: MSD4
 Analyst: DVO
 Analytical Date/Time: 4/18/2012 1:00:00PM

Prep Batch: VXX3166
 Prep Method: SW-846 5030B
 Prep Date/Time: 4/18/2012 8:08:21AM
 Prep Initial Wt./Vol.: 40 mL
 Prep Extract Vol: 40 mL



Blank Spike Summary

Blank Spike ID: LCS for HBN 22417 [VXX/3166]
 Blank Spike Lab ID: 67220
 Date Analyzed: 04/18/2012 11:48

Spike Duplicate ID: LCSD for HBN 22417 [VXX/3166]
 Spike Duplicate Lab ID: 67221
 Date Analyzed: 04/18/2012 12:12
 Matrix: Water

QC for Samples: 31201090009, 31201090010, 31201090011, 31201090012

Results by SW-846 8260B

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Dichlorodifluoromethane	5.00	ND	94	5.00	ND	86	33.0-170	9.6	30.00
Chloromethane	5.00	4.27	85	5.00	4.27	85	57.0-132	0.0	30.00
Vinyl chloride	5.00	4.23	85	5.00	3.87	77	59.0-138	8.9	30.00
Bromomethane	5.00	6.09	122	5.00	5.57	111	51.0-134	8.9	30.00
Chloroethane	5.00	4.88	98	5.00	4.40	88	64.0-145	10	30.00
Trichlorofluoromethane	5.00	4.18	84	5.00	3.74	75	64.0-133	11	30.00
1,1-Dichloroethene	5.00	4.68	94	5.00	4.50	90	71.0-128	3.9	30.00
Acetone	25.0	ND	79	25.0	ND	72	52.0-140	8.5	30.00
Methylene chloride	5.00	ND	93	5.00	ND	88	70.0-113	6.2	30.00
trans-1,2-Dichloroethene	5.00	4.76	95	5.00	4.61	92	57.0-138	3.2	30.00
tert-Butyl methyl ether (MTBE)	5.00	4.56	91	5.00	4.34	87	47.0-142	4.9	30.00
1,1-Dichloroethane	5.00	4.63	93	5.00	4.43	89	68.0-133	4.4	30.00
Diisopropyl Ether	5.00	4.62	92	5.00	4.28	86	66.0-132	7.6	30.00
2,2-Dichloropropane	5.00	4.96	99	5.00	4.63	93	74.0-125	6.9	30.00
cis-1,2-Dichloroethene	5.00	5.04	101	5.00	4.80	96	73.0-128	4.9	30.00
2-Butanone	25.0	ND	80	25.0	ND	72	58.0-134	10	30.00
Bromochloromethane	5.00	5.16	103	5.00	5.08	102	73.0-128	1.6	30.00
Chloroform	5.00	4.63	93	5.00	4.39	88	74.0-124	5.3	30.00
1,1,1-Trichloroethane	5.00	4.86	97	5.00	4.58	92	76.0-119	5.9	30.00
Carbon tetrachloride	5.00	5.18	104	5.00	5.03	101	75.0-120	2.9	30.00
1,1-Dichloropropene	5.00	4.88	98	5.00	4.63	93	76.0-124	5.3	30.00
Benzene	5.00	4.86	97	5.00	4.63	93	76.0-124	4.8	30.00
1,2-Dichloroethane	5.00	4.78	96	5.00	4.50	90	76.0-119	6.0	30.00
Trichloroethene	5.00	4.86	97	5.00	4.51	90	74.0-121	7.5	30.00
1,2-Dichloropropane	5.00	4.71	94	5.00	4.44	89	74.0-124	5.9	30.00
Dibromomethane	5.00	4.77	95	5.00	4.56	91	71.0-128	4.5	30.00
Bromodichloromethane	5.00	4.75	95	5.00	4.53	91	72.0-120	4.7	30.00
cis-1,3-Dichloropropene	5.00	5.17	103	5.00	4.89	98	73.0-122	5.6	30.00
4-Methyl-2-pentanone	25.0	23.4	94	25.0	21.6	86	65.0-124	8.0	30.00
Toluene	5.00	5.06	101	5.00	4.77	95	75.0-123	5.9	30.00
Methyl iodide	5.00	4.18	84	5.00	4.25	85	55.0-123	1.7	30.00
trans-1,3-Dichloropropene	5.00	4.78	96	5.00	4.50	90	70.0-125	6.0	30.00
Carbon disulfide	5.00	4.40	88	5.00	4.21	84	65.0-132	4.4	30.00
1,1,2-Trichloroethane	5.00	5.42	108	5.00	5.08	102	76.0-121	6.5	30.00



Blank Spike Summary

Blank Spike ID: LCS for HBN 22417 [VXX/3166]
 Blank Spike Lab ID: 67220
 Date Analyzed: 04/18/2012 11:48

Spike Duplicate ID: LCSD for HBN 22417 [VXX/3166]
 Spike Duplicate Lab ID: 67221
 Date Analyzed: 04/18/2012 12:12
 Matrix: Water

QC for Samples: 31201090009, 31201090010, 31201090011, 31201090012

Results by SW-846 8260B

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Tetrachloroethene	5.00	5.45	109	5.00	5.16	103	59.0-112	5.5	30.00
1,3-Dichloropropane	5.00	5.31	106	5.00	4.99	100	74.0-120	6.2	30.00
2-Hexanone	25.0	22.7	91	25.0	20.1	80	56.0-133	12	30.00
Dibromochloromethane	5.00	5.44	109	5.00	5.06	101	67.0-122	7.2	30.00
1,2-Dibromoethane	5.00	5.36	107	5.00	5.05	101	74.0-119	6.0	30.00
Chlorobenzene	5.00	5.49	110	5.00	5.07	101	74.0-120	8.0	30.00
1,1,1,2-Tetrachloroethane	5.00	5.36	107	5.00	4.96	99	73.0-119	7.8	30.00
Bromoform	5.00	5.44	109	5.00	4.95	99	62.0-127	9.4	30.00
Bromobenzene	5.00	5.56	111	5.00	5.22	104	75.0-120	6.3	30.00
1,1,2,2-Tetrachloroethane	5.00	5.55	111	5.00	5.18	104	68.0-129	6.9	30.00
1,2,3-Trichloropropane	5.00	5.74	115	5.00	5.21	104	67.0-126	9.7	30.00
Ethyl Benzene	5.00	5.45	109	5.00	4.96	99	76.0-123	9.4	30.00
m,p-Xylene	10.0	11.0	110	10.0	10.3	103	76.0-124	6.6	30.00
Styrene	5.00	5.50	110	5.00	5.05	101	76.0-121	8.5	30.00
o-Xylene	5.00	5.64	113	5.00	5.22	104	75.0-124	7.7	30.00
Isopropylbenzene (Cumene)	5.00	5.65	113	5.00	5.29	106	77.0-120	6.6	30.00
n-Propylbenzene	5.00	5.56	111	5.00	5.16	103	77.0-123	7.5	30.00
2-Chlorotoluene	5.00	5.75	115	5.00	5.28	106	74.0-127	8.5	30.00
4-Chlorotoluene	5.00	5.59	112	5.00	5.14	103	77.0-123	8.4	30.00
1,3,5-Trimethylbenzene	5.00	5.56	111	5.00	5.20	104	76.0-122	6.7	30.00
tert-Butylbenzene	5.00	5.54	111	5.00	5.20	104	67.0-122	6.3	30.00
1,2,4-Trimethylbenzene	5.00	5.55	111	5.00	5.17	103	76.0-124	7.1	30.00
sec-Butylbenzene	5.00	5.58	112	5.00	5.12	102	78.0-121	8.6	30.00
1,3-Dichlorobenzene	5.00	5.71	114	5.00	5.29	106	75.0-120	7.6	30.00
4-Isopropyltoluene	5.00	5.68	114	5.00	5.23	105	77.0-120	8.2	30.00
1,4-Dichlorobenzene	5.00	5.66	113	5.00	5.32	106	70.0-125	6.2	30.00
1,2-Dichlorobenzene	5.00	5.64	113	5.00	5.20	104	76.0-118	8.1	30.00
n-Butylbenzene	5.00	5.58	112	5.00	5.16	103	78.0-118	7.8	30.00
1,2-Dibromo-3-chloropropane	30.0	32.9	110	30.0	30.6	102	62.0-130	7.2	30.00
1,2,4-Trichlorobenzene	5.00	5.37	107	5.00	5.09	102	72.0-119	5.4	30.00
Hexachlorobutadiene	5.00	5.71	114	5.00	5.44	109	69.0-121	4.8	30.00
Naphthalene	5.00	5.68	114	5.00	5.31	106	67.0-122	6.7	30.00
trans-1,4-Dichloro-2-butene	25.0	26.6	106	25.0	24.6	98	61.0-132	7.8	30.00
1,2,3-Trichlorobenzene	5.00	5.61	112	5.00	5.37	107	68.0-123	4.4	30.00

Print Date: 04/25/2012

N.C. Certification # 481

Blank Spike Summary

Blank Spike ID: LCS for HBN 22417 [VXX/3166]
 Blank Spike Lab ID: 67220
 Date Analyzed: 04/18/2012 11:48

Spike Duplicate ID: LCSD for HBN 22417 [VXX/3166]
 Spike Duplicate Lab ID: 67221
 Date Analyzed: 04/18/2012 12:12
 Matrix: Water

QC for Samples: 31201090009, 31201090010, 31201090011, 31201090012

Results by SW-846 8260B

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Surrogates									
1,2-Dichloroethane-d4			99			101	64.0-140		
Toluene d8			99			100	82.0-117		
4-Bromofluorobenzene			98			98	85.0-115		

Batch Information

Analytical Batch: **VMS2128**
 Analytical Method: **SW-846 8260B**
 Instrument: **MSD4**
 Analyst: **DVO**

Prep Batch: **VXX3166**
 Prep Method: **SW-846 5030B**
 Prep Date/Time: **04/18/2012 08:08**
 Spike Init Wt./Vol.: **40 mL** Extract Vol: **40 mL**
 Dupe Init Wt./Vol.: **40 mL** Extract Vol: **40 mL**

Batch Summary

Analytical Method: SW-846 8260B

Prep Method: SW-846 5030B

Prep Batch: VXX3167

Prep Date: 04/18/2012 08:09

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Analysis Date</u>	<u>Analytical Batch</u>	<u>Instrument</u>	<u>Analyst</u>
LCS for HBN 22419 [VXX/3167]	67223	04/18/2012 11:29	VMS2129	MSD8	DVO
LCSD for HBN 22419 [VXX/3167]	67224	04/18/2012 11:53	VMS2129	MSD8	DVO
MB for HBN 22419 [VXX/3167]	67225	04/18/2012 12:42	VMS2129	MSD8	DVO
48MW-17	31201090001	04/18/2012 16:49	VMS2129	MSD8	DVO
48DW-1	31201090003	04/18/2012 17:13	VMS2129	MSD8	DVO
48MW-15	31201090004	04/18/2012 17:38	VMS2129	MSD8	DVO
48DW-4	31201090005	04/18/2012 18:02	VMS2129	MSD8	DVO
48MW-12	31201090006	04/18/2012 18:27	VMS2129	MSD8	DVO
48MW-14	31201090007	04/18/2012 18:51	VMS2129	MSD8	DVO
48MW-3	31201090008	04/18/2012 19:16	VMS2129	MSD8	DVO
VE-1(66629MS)	67513	04/18/2012 21:18	VMS2129	MSD8	DVO
VE-1(66629MSD)	67514	04/18/2012 21:43	VMS2129	MSD8	DVO



Method Blank

Blank ID: MB for HBN 22419 [VXX/3167]

Matrix: Water

Blank Lab ID: 67225

QC for Samples:

31201090001, 31201090003, 31201090004, 31201090005, 31201090006, 31201090007, 31201090008

Results by SW-846 8260B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>
Dichlorodifluoromethane	ND		5.00	ug/L	1
Chloromethane	ND		1.00	ug/L	1
Vinyl chloride	ND		1.00	ug/L	1
Bromomethane	ND		1.00	ug/L	1
Chloroethane	ND		1.00	ug/L	1
Trichlorofluoromethane	ND		1.00	ug/L	1
1,1-Dichloroethene	ND		1.00	ug/L	1
Acetone	ND		25.0	ug/L	1
Methylene chloride	ND		5.00	ug/L	1
trans-1,2-Dichloroethene	ND		1.00	ug/L	1
tert-Butyl methyl ether (MTBE)	ND		1.00	ug/L	1
1,1-Dichloroethane	ND		1.00	ug/L	1
Diisopropyl Ether	ND		1.00	ug/L	1
2,2-Dichloropropane	ND		1.00	ug/L	1
cis-1,2-Dichloroethene	ND		1.00	ug/L	1
2-Butanone	ND		25.0	ug/L	1
Bromochloromethane	ND		1.00	ug/L	1
Chloroform	ND		1.00	ug/L	1
1,1,1-Trichloroethane	ND		1.00	ug/L	1
Carbon tetrachloride	ND		1.00	ug/L	1
1,1-Dichloropropene	ND		1.00	ug/L	1
Benzene	ND		1.00	ug/L	1
1,2-Dichloroethane	ND		1.00	ug/L	1
Trichloroethene	ND		1.00	ug/L	1
1,2-Dichloropropane	ND		1.00	ug/L	1
Dibromomethane	ND		1.00	ug/L	1
Bromodichloromethane	ND		1.00	ug/L	1
cis-1,3-Dichloropropene	ND		1.00	ug/L	1
4-Methyl-2-pentanone	ND		5.00	ug/L	1
Toluene	ND		1.00	ug/L	1
Methyl iodide	ND		1.00	ug/L	1
trans-1,3-Dichloropropene	ND		1.00	ug/L	1
Carbon disulfide	ND		1.00	ug/L	1
1,1,2-Trichloroethane	ND		1.00	ug/L	1
Tetrachloroethene	ND		1.00	ug/L	1
1,3-Dichloropropane	ND		1.00	ug/L	1
2-Hexanone	ND		5.00	ug/L	1
Dibromochloromethane	ND		1.00	ug/L	1
1,2-Dibromoethane	ND		1.00	ug/L	1
Chlorobenzene	ND		1.00	ug/L	1
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L	1

Print Date: 04/25/2012

N.C. Certification # 481

SGS North America Inc.

5500 Business Drive, Wilmington, NC 28405
t 910.350.1903 f 910.350.1557 www.us.sgs.com

Member of SGS Group



Method Blank

Blank ID: MB for HBN 22419 [VXX/3167]

Matrix: Water

Blank Lab ID: 67225

QC for Samples:

31201090001, 31201090003, 31201090004, 31201090005, 31201090006, 31201090007, 31201090008

Results by SW-846 8260B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>
Bromoform	ND		1.00	ug/L	1
Bromobenzene	ND		1.00	ug/L	1
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L	1
1,2,3-Trichloropropane	ND		1.00	ug/L	1
Ethyl Benzene	ND		1.00	ug/L	1
m,p-Xylene	ND		2.00	ug/L	1
Styrene	ND		1.00	ug/L	1
o-Xylene	ND		1.00	ug/L	1
Isopropylbenzene (Cumene)	ND		1.00	ug/L	1
n-Propylbenzene	ND		1.00	ug/L	1
2-Chlorotoluene	ND		1.00	ug/L	1
4-Chlorotoluene	ND		1.00	ug/L	1
1,3,5-Trimethylbenzene	ND		1.00	ug/L	1
tert-Butylbenzene	ND		1.00	ug/L	1
1,2,4-Trimethylbenzene	ND		1.00	ug/L	1
sec-Butylbenzene	ND		1.00	ug/L	1
1,3-Dichlorobenzene	ND		1.00	ug/L	1
4-Isopropyltoluene	ND		1.00	ug/L	1
1,4-Dichlorobenzene	ND		1.00	ug/L	1
1,2-Dichlorobenzene	ND		1.00	ug/L	1
n-Butylbenzene	ND		1.00	ug/L	1
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1
1,2,4-Trichlorobenzene	ND		1.00	ug/L	1
Hexachlorobutadiene	ND		1.00	ug/L	1
Naphthalene	ND		1.00	ug/L	1
trans-1,4-Dichloro-2-butene	ND		5.00	ug/L	1
1,2,3-Trichlorobenzene	ND		1.00	ug/L	1
Surrogates					
1,2-Dichloroethane-d4	105		64.0-140	%	1
Toluene d8	105		82.0-117	%	1
4-Bromofluorobenzene	98.0		85.0-115	%	1

Batch Information

Analytical Batch: VMS2129

Prep Batch: VXX3167

Analytical Method: SW-846 8260B

Prep Method: SW-846 5030B

Instrument: MSD8

Prep Date/Time: 4/18/2012 8:09:58AM

Analyst: DVO

Prep Initial Wt./Vol.: 40 mL

Analytical Date/Time: 4/18/2012 12:42:00PM

Prep Extract Vol: 40 mL



Blank Spike Summary

Blank Spike ID: LCS for HBN 22419 [VXX/3167]
 Blank Spike Lab ID: 67223
 Date Analyzed: 04/18/2012 11:29

Spike Duplicate ID: LCSD for HBN 22419 [VXX/3167]
 Spike Duplicate Lab ID: 67224
 Date Analyzed: 04/18/2012 11:53
 Matrix: Water

QC for Samples: 31201090001, 31201090003, 31201090004, 31201090005, 31201090006, 31201090007, 31201090008

Results by SW-846 8260B

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Dichlorodifluoromethane	5.00	5.73	115	5.00	5.72	114	33.0-170	0.17	30.00
Chloromethane	5.00	4.92	98	5.00	5.40	108	57.0-132	9.3	30.00
Vinyl chloride	5.00	4.52	90	5.00	4.75	95	59.0-138	5.0	30.00
Bromomethane	5.00	4.14	83	5.00	4.65	93	51.0-134	12	30.00
Chloroethane	5.00	5.28	106	5.00	5.30	106	64.0-145	0.38	30.00
Trichlorofluoromethane	5.00	4.93	99	5.00	4.89	98	64.0-133	0.81	30.00
1,1-Dichloroethene	5.00	5.28	106	5.00	5.44	109	71.0-128	3.0	30.00
Acetone	25.0	ND	63	25.0	ND	70	52.0-140	10	30.00
Methylene chloride	5.00	ND	99	5.00	5.35	107	70.0-113	8.0	30.00
trans-1,2-Dichloroethene	5.00	5.07	101	5.00	5.68	114	57.0-138	11	30.00
tert-Butyl methyl ether (MTBE)	5.00	4.84	97	5.00	5.31	106	47.0-142	9.3	30.00
1,1-Dichloroethane	5.00	4.69	94	5.00	5.43	109	68.0-133	15	30.00
Diisopropyl Ether	5.00	4.57	91	5.00	4.83	97	66.0-132	5.5	30.00
2,2-Dichloropropane	5.00	5.53	111	5.00	6.19	124	74.0-125	11	30.00
cis-1,2-Dichloroethene	5.00	5.33	107	5.00	5.64	113	73.0-128	5.7	30.00
2-Butanone	25.0	ND	67	25.0	ND	75	58.0-134	12	30.00
Bromochloromethane	5.00	5.85	117	5.00	6.22	124	73.0-128	6.1	30.00
Chloroform	5.00	5.01	100	5.00	5.83	117	74.0-124	15	30.00
1,1,1-Trichloroethane	5.00	5.45	109	5.00	5.86	117	76.0-119	7.3	30.00
Carbon tetrachloride	5.00	5.53	111	5.00	6.01	120	75.0-120	8.3	30.00
1,1-Dichloropropene	5.00	4.93	99	5.00	5.41	108	76.0-124	9.3	30.00
Benzene	5.00	5.08	102	5.00	5.23	105	76.0-124	2.9	30.00
1,2-Dichloroethane	5.00	5.24	105	5.00	5.79	116	76.0-119	10	30.00
Trichloroethene	5.00	5.19	104	5.00	5.50	110	74.0-121	5.8	30.00
1,2-Dichloropropane	5.00	4.84	97	5.00	4.94	99	74.0-124	2.0	30.00
Dibromomethane	5.00	4.76	95	5.00	5.55	111	71.0-128	15	30.00
Bromodichloromethane	5.00	5.05	101	5.00	5.92	118	72.0-120	16	30.00
cis-1,3-Dichloropropene	5.00	5.24	105	5.00	5.74	115	73.0-122	9.1	30.00
4-Methyl-2-pentanone	25.0	20.5	82	25.0	23.8	95	65.0-124	15	30.00
Toluene	5.00	5.13	103	5.00	5.54	111	75.0-123	7.7	30.00
Methyl iodide	5.00	4.83	97	5.00	5.01	100	55.0-123	3.7	30.00
trans-1,3-Dichloropropene	5.00	4.90	98	5.00	5.34	107	70.0-125	8.6	30.00
Carbon disulfide	5.00	5.05	101	5.00	5.30	106	65.0-132	4.8	30.00
1,1,2-Trichloroethane	5.00	4.68	94	5.00	4.88	98	76.0-121	4.2	30.00



Blank Spike Summary

Blank Spike ID: LCS for HBN 22419 [VXX/3167]
 Blank Spike Lab ID: 67223
 Date Analyzed: 04/18/2012 11:29

Spike Duplicate ID: LCSD for HBN 22419 [VXX/3167]
 Spike Duplicate Lab ID: 67224
 Date Analyzed: 04/18/2012 11:53
 Matrix: Water

QC for Samples: 31201090001, 31201090003, 31201090004, 31201090005, 31201090006, 31201090007, 31201090008

Results by SW-846 8260B

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Tetrachloroethene	5.00	5.31	106	5.00	5.80	116*	59.0-112	8.8	30.00
1,3-Dichloropropane	5.00	4.58	92	5.00	5.04	101	74.0-120	9.6	30.00
2-Hexanone	25.0	16.0	64	25.0	17.8	71	56.0-133	11	30.00
Dibromochloromethane	5.00	4.94	99	5.00	5.85	117	67.0-122	17	30.00
1,2-Dibromoethane	5.00	4.71	94	5.00	5.07	101	74.0-119	7.4	30.00
Chlorobenzene	5.00	5.12	102	5.00	5.16	103	74.0-120	0.78	30.00
1,1,1,2-Tetrachloroethane	5.00	5.16	103	5.00	5.37	107	73.0-119	4.0	30.00
Bromoform	5.00	5.43	109	5.00	5.81	116	62.0-127	6.8	30.00
Bromobenzene	5.00	5.24	105	5.00	5.92	118	75.0-120	12	30.00
1,1,2,2-Tetrachloroethane	5.00	4.78	96	5.00	4.83	97	68.0-129	1.0	30.00
1,2,3-Trichloropropane	5.00	4.77	95	5.00	5.69	114	67.0-126	18	30.00
Ethyl Benzene	5.00	4.52	90	5.00	4.76	95	76.0-123	5.2	30.00
m,p-Xylene	10.0	9.34	93	10.0	10.2	102	76.0-124	8.8	30.00
Styrene	5.00	4.59	92	5.00	5.02	100	76.0-121	8.9	30.00
o-Xylene	5.00	4.85	97	5.00	5.21	104	75.0-124	7.2	30.00
Isopropylbenzene (Cumene)	5.00	5.02	100	5.00	5.62	112	77.0-120	11	30.00
n-Propylbenzene	5.00	5.08	102	5.00	5.40	108	77.0-123	6.1	30.00
2-Chlorotoluene	5.00	5.53	111	5.00	5.72	114	74.0-127	3.4	30.00
4-Chlorotoluene	5.00	5.03	101	5.00	5.86	117	77.0-123	15	30.00
1,3,5-Trimethylbenzene	5.00	5.19	104	5.00	5.70	114	76.0-122	9.4	30.00
tert-Butylbenzene	5.00	5.35	107	5.00	5.69	114	67.0-122	6.2	30.00
1,2,4-Trimethylbenzene	5.00	5.08	102	5.00	5.46	109	76.0-124	7.2	30.00
sec-Butylbenzene	5.00	4.79	96	5.00	5.19	104	78.0-121	8.0	30.00
1,3-Dichlorobenzene	5.00	5.24	105	5.00	5.64	113	75.0-120	7.4	30.00
4-Isopropyltoluene	5.00	4.73	95	5.00	5.20	104	77.0-120	9.5	30.00
1,4-Dichlorobenzene	5.00	5.11	102	5.00	5.67	113	70.0-125	10	30.00
1,2-Dichlorobenzene	5.00	4.85	97	5.00	5.35	107	76.0-118	9.8	30.00
n-Butylbenzene	5.00	4.59	92	5.00	4.78	96	78.0-118	4.1	30.00
1,2-Dibromo-3-chloropropane	30.0	25.8	86	30.0	29.0	97	62.0-130	12	30.00
1,2,4-Trichlorobenzene	5.00	5.03	101	5.00	5.15	103	72.0-119	2.4	30.00
Hexachlorobutadiene	5.00	5.12	102	5.00	5.54	111	69.0-121	7.9	30.00
Naphthalene	5.00	4.26	85	5.00	4.57	91	67.0-122	7.0	30.00
trans-1,4-Dichloro-2-butene	25.0	20.4	82	25.0	23.4	94	61.0-132	14	30.00
1,2,3-Trichlorobenzene	5.00	4.98	100	5.00	5.11	102	68.0-123	2.6	30.00

Blank Spike Summary

Blank Spike ID: LCS for HBN 22419 [VXX/3167]
 Blank Spike Lab ID: 67223
 Date Analyzed: 04/18/2012 11:29

Spike Duplicate ID: LCSD for HBN 22419 [VXX/3167]
 Spike Duplicate Lab ID: 67224
 Date Analyzed: 04/18/2012 11:53
 Matrix: Water

QC for Samples: 31201090001, 31201090003, 31201090004, 31201090005, 31201090006, 31201090007, 31201090008

Results by SW-846 8260B

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Surrogates									
1,2-Dichloroethane-d4		106		108			64.0-140		
Toluene d8		104		104			82.0-117		
4-Bromofluorobenzene		113		107			85.0-115		

Batch Information

Analytical Batch: VMS2129
 Analytical Method: SW-846 8260B
 Instrument: MSD8
 Analyst: DVO

Prep Batch: VXX3167
 Prep Method: SW-846 5030B
 Prep Date/Time: 04/18/2012 08:09
 Spike Init Wt./Vol.: 40 mL Extract Vol: 40 mL
 Dupe Init Wt./Vol.: 40 mL Extract Vol: 40 mL

Batch Summary

Analytical Method: SW-846 8260B

Prep Method: SW-846 5030B

Prep Batch: VXX3178

Prep Date: 04/19/2012 08:16

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Analysis Date</u>	<u>Analytical Batch</u>	<u>Instrument</u>	<u>Analyst</u>
LCS for HBN 22463 [VXX/3178]	67427	04/19/2012 10:02	VMS2132	MSD8	DVO
LCSD for HBN 22463 [VXX/3178]	67428	04/19/2012 10:27	VMS2132	MSD8	DVO
MB for HBN 22463 [VXX/3178]	67429	04/19/2012 11:40	VMS2132	MSD8	DVO
48MW-13	31201090015	04/19/2012 13:42	VMS2132	MSD8	DVO
48MW-10	31201090016	04/19/2012 14:07	VMS2132	MSD8	DVO
48MW-5	31201090017	04/19/2012 14:31	VMS2132	MSD8	DVO
48SW-1	31201090018	04/19/2012 14:55	VMS2132	MSD8	DVO
48MW-11R	31201090019	04/19/2012 15:20	VMS2132	MSD8	DVO
48MW-1	31201090021	04/19/2012 15:44	VMS2132	MSD8	DVO
48DW-6	31201090022	04/19/2012 16:09	VMS2132	MSD8	DVO
48DUP-1	31201090023	04/19/2012 16:33	VMS2132	MSD8	DVO
48DW-7	31201090024	04/19/2012 16:58	VMS2132	MSD8	DVO
48RW-2	31201090014	04/19/2012 17:47	VMS2132	MSD8	DVO
HP-C1-5 (16-20) MS	31201121009	04/19/2012 20:13	VMS2132	MSD8	DVO
HP-C1-5 (16-20) MSD	31201121010	04/19/2012 20:38	VMS2132	MSD8	DVO



Method Blank

Blank ID: MB for HBN 22463 [VXX/3178]

Matrix: Water

Blank Lab ID: 67429

QC for Samples:

31201090014, 31201090015, 31201090016, 31201090017, 31201090018, 31201090019, 31201090021, 31201090022, 31201090023, 31201090024

Results by SW-846 8260B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>
Dichlorodifluoromethane	ND		5.00	ug/L	1
Chloromethane	ND		1.00	ug/L	1
Vinyl chloride	ND		1.00	ug/L	1
Bromomethane	ND		1.00	ug/L	1
Chloroethane	ND		1.00	ug/L	1
Trichlorofluoromethane	ND		1.00	ug/L	1
1,1-Dichloroethene	ND		1.00	ug/L	1
Acetone	ND		25.0	ug/L	1
Methylene chloride	ND		5.00	ug/L	1
trans-1,2-Dichloroethene	ND		1.00	ug/L	1
tert-Butyl methyl ether (MTBE)	ND		1.00	ug/L	1
1,1-Dichloroethane	ND		1.00	ug/L	1
Diisopropyl Ether	ND		1.00	ug/L	1
2,2-Dichloropropane	ND		1.00	ug/L	1
cis-1,2-Dichloroethene	ND		1.00	ug/L	1
2-Butanone	ND		25.0	ug/L	1
Bromochloromethane	ND		1.00	ug/L	1
Chloroform	ND		1.00	ug/L	1
1,1,1-Trichloroethane	ND		1.00	ug/L	1
Carbon tetrachloride	ND		1.00	ug/L	1
1,1-Dichloropropene	ND		1.00	ug/L	1
Benzene	ND		1.00	ug/L	1
1,2-Dichloroethane	ND		1.00	ug/L	1
Trichloroethene	ND		1.00	ug/L	1
1,2-Dichloropropane	ND		1.00	ug/L	1
Dibromomethane	ND		1.00	ug/L	1
Bromodichloromethane	ND		1.00	ug/L	1
cis-1,3-Dichloropropene	ND		1.00	ug/L	1
4-Methyl-2-pentanone	ND		5.00	ug/L	1
Toluene	ND		1.00	ug/L	1
Methyl iodide	ND		1.00	ug/L	1
trans-1,3-Dichloropropene	ND		1.00	ug/L	1
Carbon disulfide	ND		1.00	ug/L	1
1,1,2-Trichloroethane	ND		1.00	ug/L	1
Tetrachloroethene	ND		1.00	ug/L	1
1,3-Dichloropropane	ND		1.00	ug/L	1
2-Hexanone	ND		5.00	ug/L	1
Dibromochloromethane	ND		1.00	ug/L	1
1,2-Dibromoethane	ND		1.00	ug/L	1
Chlorobenzene	ND		1.00	ug/L	1
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L	1

Print Date: 04/25/2012

N.C. Certification # 481

Method Blank

Blank ID: MB for HBN 22463 [VXX/3178]

Matrix: Water

Blank Lab ID: 67429

QC for Samples:

31201090014, 31201090015, 31201090016, 31201090017, 31201090018, 31201090019, 31201090021, 31201090022, 31201090023, 31201090024

Results by SW-846 8260B

Parameter	Result	Qual	LOQ/CL	Units	DF
Bromoform	ND		1.00	ug/L	1
Bromobenzene	ND		1.00	ug/L	1
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L	1
1,2,3-Trichloropropane	ND		1.00	ug/L	1
Ethyl Benzene	ND		1.00	ug/L	1
m,p-Xylene	ND		2.00	ug/L	1
Styrene	ND		1.00	ug/L	1
o-Xylene	ND		1.00	ug/L	1
Isopropylbenzene (Cumene)	ND		1.00	ug/L	1
n-Propylbenzene	ND		1.00	ug/L	1
2-Chlorotoluene	ND		1.00	ug/L	1
4-Chlorotoluene	ND		1.00	ug/L	1
1,3,5-Trimethylbenzene	ND		1.00	ug/L	1
tert-Butylbenzene	ND		1.00	ug/L	1
1,2,4-Trimethylbenzene	ND		1.00	ug/L	1
sec-Butylbenzene	ND		1.00	ug/L	1
1,3-Dichlorobenzene	ND		1.00	ug/L	1
4-Isopropyltoluene	ND		1.00	ug/L	1
1,4-Dichlorobenzene	ND		1.00	ug/L	1
1,2-Dichlorobenzene	ND		1.00	ug/L	1
n-Butylbenzene	ND		1.00	ug/L	1
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1
1,2,4-Trichlorobenzene	ND		1.00	ug/L	1
Hexachlorobutadiene	ND		1.00	ug/L	1
Naphthalene	ND		1.00	ug/L	1
trans-1,4-Dichloro-2-butene	ND		5.00	ug/L	1
1,2,3-Trichlorobenzene	ND		1.00	ug/L	1
Surrogates					
1,2-Dichloroethane-d4	107		64.0-140	%	1
Toluene d8	104		82.0-117	%	1
4-Bromofluorobenzene	86.0		85.0-115	%	1

Batch Information

Analytical Batch: VMS2132
 Analytical Method: SW-846 8260B
 Instrument: MSD8
 Analyst: DVO
 Analytical Date/Time: 4/19/2012 11:40:00AM

Prep Batch: VXX3178
 Prep Method: SW-846 5030B
 Prep Date/Time: 4/19/2012 8:16:09AM
 Prep Initial Wt./Vol.: 40 mL
 Prep Extract Vol: 40 mL



Blank Spike Summary

Blank Spike ID: LCS for HBN 22463 [VXX/3178]
 Blank Spike Lab ID: 67427
 Date Analyzed: 04/19/2012 10:02

Spike Duplicate ID: LCSD for HBN 22463 [VXX/3178]
 Spike Duplicate Lab ID: 67428
 Date Analyzed: 04/19/2012 10:27
 Matrix: Water

QC for Samples: 31201090014, 31201090015, 31201090016, 31201090017, 31201090018, 31201090019, 31201090021,
 31201090022, 31201090023, 31201090024

Results by SW-846 8260B

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Dichlorodifluoromethane	5.00	5.76	115	5.00	6.67	133	33.0-170	15	30.00
Chloromethane	5.00	5.34	107	5.00	6.28	126	57.0-132	16	30.00
Vinyl chloride	5.00	4.60	92	5.00	5.38	108	59.0-138	16	30.00
Bromomethane	5.00	4.56	91	5.00	5.23	105	51.0-134	14	30.00
Chloroethane	5.00	5.34	107	5.00	5.79	116	64.0-145	8.1	30.00
Trichlorofluoromethane	5.00	4.94	99	5.00	5.86	117	64.0-133	17	30.00
1,1-Dichloroethene	5.00	5.43	109	5.00	5.11	102	71.0-128	6.1	30.00
Acetone	25.0	ND	59	25.0	ND	58	52.0-140	1.4	30.00
Methylene chloride	5.00	5.17	103	5.00	5.23	105	70.0-113	1.2	30.00
trans-1,2-Dichloroethene	5.00	5.40	108	5.00	4.91	98	57.0-138	9.5	30.00
tert-Butyl methyl ether (MTBE)	5.00	4.97	99	5.00	4.94	99	47.0-142	0.61	30.00
1,1-Dichloroethane	5.00	5.23	105	5.00	4.75	95	68.0-133	9.6	30.00
Diisopropyl Ether	5.00	4.60	92	5.00	4.90	98	66.0-132	6.3	30.00
2,2-Dichloropropane	5.00	5.98	120	5.00	5.68	114	74.0-125	5.1	30.00
cis-1,2-Dichloroethene	5.00	5.68	114	5.00	5.24	105	73.0-128	8.1	30.00
2-Butanone	25.0	ND	61	25.0	ND	66	58.0-134	7.5	30.00
Bromochloromethane	5.00	5.80	116	5.00	5.89	118	73.0-128	1.5	30.00
Chloroform	5.00	5.39	108	5.00	5.49	110	74.0-124	1.8	30.00
1,1,1-Trichloroethane	5.00	5.88	118	5.00	5.80	116	76.0-119	1.4	30.00
Carbon tetrachloride	5.00	5.95	119	5.00	5.91	118	75.0-120	0.67	30.00
1,1-Dichloropropene	5.00	5.17	103	5.00	5.40	108	76.0-124	4.4	30.00
Benzene	5.00	5.15	103	5.00	5.42	108	76.0-124	5.1	30.00
1,2-Dichloroethane	5.00	5.63	113	5.00	5.44	109	76.0-119	3.4	30.00
Trichloroethene	5.00	5.37	107	5.00	5.42	108	74.0-121	0.93	30.00
1,2-Dichloropropane	5.00	4.98	100	5.00	4.82	96	74.0-124	3.3	30.00
Dibromomethane	5.00	5.39	108	5.00	5.48	110	71.0-128	1.7	30.00
Bromodichloromethane	5.00	5.76	115	5.00	5.55	111	72.0-120	3.7	30.00
cis-1,3-Dichloropropene	5.00	5.53	111	5.00	5.64	113	73.0-122	2.0	30.00
4-Methyl-2-pentanone	25.0	19.6	79	25.0	21.7	87	65.0-124	10	30.00
Toluene	5.00	5.50	110	5.00	5.40	108	75.0-123	1.8	30.00
Methyl iodide	5.00	5.02	100	5.00	4.66	93	55.0-123	7.4	30.00
trans-1,3-Dichloropropene	5.00	5.09	102	5.00	5.00	100	70.0-125	1.8	30.00
Carbon disulfide	5.00	5.07	101	5.00	4.95	99	65.0-132	2.4	30.00
1,1,2-Trichloroethane	5.00	4.74	95	5.00	4.63	93	76.0-121	2.3	30.00



Blank Spike Summary

Blank Spike ID: LCS for HBN 22463 [VXX/3178]
 Blank Spike Lab ID: 67427
 Date Analyzed: 04/19/2012 10:02

Spike Duplicate ID: LCSD for HBN 22463 [VXX/3178]
 Spike Duplicate Lab ID: 67428
 Date Analyzed: 04/19/2012 10:27
 Matrix: Water

QC for Samples: 31201090014, 31201090015, 31201090016, 31201090017, 31201090018, 31201090019, 31201090021,
 31201090022, 31201090023, 31201090024

Results by SW-846 8260B

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Tetrachloroethene	5.00	5.30	106	5.00	5.53	111	59.0-112	4.2	30.00
1,3-Dichloropropane	5.00	4.64	93	5.00	4.75	95	74.0-120	2.3	30.00
2-Hexanone	25.0	15.2	61	25.0	16.5	66	56.0-133	8.2	30.00
Dibromochloromethane	5.00	5.02	100	5.00	5.20	104	67.0-122	3.5	30.00
1,2-Dibromoethane	5.00	4.91	98	5.00	4.95	99	74.0-119	0.81	30.00
Chlorobenzene	5.00	5.13	103	5.00	5.04	101	74.0-120	1.8	30.00
1,1,1,2-Tetrachloroethane	5.00	5.05	101	5.00	5.04	101	73.0-119	0.20	30.00
Bromoform	5.00	4.76	95	5.00	5.74	115	62.0-127	19	30.00
Bromobenzene	5.00	4.83	97	5.00	5.74	115	75.0-120	17	30.00
1,1,2,2-Tetrachloroethane	5.00	4.79	96	5.00	5.09	102	68.0-129	6.1	30.00
1,2,3-Trichloropropane	5.00	5.24	105	5.00	5.38	108	67.0-126	2.6	30.00
Ethyl Benzene	5.00	4.56	91	5.00	4.41	88	76.0-123	3.3	30.00
m,p-Xylene	10.0	9.18	92	10.0	9.28	93	76.0-124	1.1	30.00
Styrene	5.00	4.39	88	5.00	4.46	89	76.0-121	1.6	30.00
o-Xylene	5.00	4.51	90	5.00	4.65	93	75.0-124	3.1	30.00
Isopropylbenzene (Cumene)	5.00	4.49	90	5.00	4.97	99	77.0-120	10	30.00
n-Propylbenzene	5.00	4.52	90	5.00	4.88	98	77.0-123	7.7	30.00
2-Chlorotoluene	5.00	4.74	95	5.00	5.47	109	74.0-127	14	30.00
4-Chlorotoluene	5.00	4.63	93	5.00	5.02	100	77.0-123	8.1	30.00
1,3,5-Trimethylbenzene	5.00	4.74	95	5.00	5.22	104	76.0-122	9.6	30.00
tert-Butylbenzene	5.00	4.91	98	5.00	5.45	109	67.0-122	10	30.00
1,2,4-Trimethylbenzene	5.00	4.83	97	5.00	5.00	100	76.0-124	3.5	30.00
sec-Butylbenzene	5.00	4.71	94	5.00	4.90	98	78.0-121	4.0	30.00
1,3-Dichlorobenzene	5.00	5.43	109	5.00	5.25	105	75.0-120	3.4	30.00
4-Isopropyltoluene	5.00	4.75	95	5.00	4.90	98	77.0-120	3.1	30.00
1,4-Dichlorobenzene	5.00	5.33	107	5.00	5.25	105	70.0-125	1.5	30.00
1,2-Dichlorobenzene	5.00	4.97	99	5.00	4.95	99	76.0-118	0.40	30.00
n-Butylbenzene	5.00	4.68	94	5.00	4.70	94	78.0-118	0.43	30.00
1,2-Dibromo-3-chloropropane	30.0	26.3	88	30.0	28.0	93	62.0-130	6.3	30.00
1,2,4-Trichlorobenzene	5.00	4.96	99	5.00	4.88	98	72.0-119	1.6	30.00
Hexachlorobutadiene	5.00	5.48	110	5.00	5.16	103	69.0-121	6.0	30.00
Naphthalene	5.00	4.12	82	5.00	4.22	84	67.0-122	2.4	30.00
trans-1,4-Dichloro-2-butene	25.0	20.6	82	25.0	21.2	85	61.0-132	2.9	30.00
1,2,3-Trichlorobenzene	5.00	4.98	100	5.00	5.02	100	68.0-123	0.80	30.00

Blank Spike Summary

Blank Spike ID: LCS for HBN 22463 [VXX/3178]
 Blank Spike Lab ID: 67427
 Date Analyzed: 04/19/2012 10:02

Spike Duplicate ID: LCSD for HBN 22463 [VXX/3178]
 Spike Duplicate Lab ID: 67428
 Date Analyzed: 04/19/2012 10:27
 Matrix: Water

QC for Samples: 31201090014, 31201090015, 31201090016, 31201090017, 31201090018, 31201090019, 31201090021,
 31201090022, 31201090023, 31201090024

Results by SW-846 8260B

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Surrogates									
1,2-Dichloroethane-d4			107			105	64.0-140		
Toluene d8			104			106	82.0-117		
4-Bromofluorobenzene			94			107	85.0-115		

Batch Information

Analytical Batch: **VMS2132**
 Analytical Method: **SW-846 8260B**
 Instrument: **MSD8**
 Analyst: **DVO**

Prep Batch: **VXX3178**
 Prep Method: **SW-846 5030B**
 Prep Date/Time: **04/19/2012 08:16**
 Spike Init Wt./Vol.: **40 mL** Extract Vol: **40 mL**
 Dupe Init Wt./Vol.: **40 mL** Extract Vol: **40 mL**

Batch Summary

Analytical Method: SW-846 8260B

Prep Method: SW-846 5030B

Prep Batch: VXX3188

Prep Date: 04/20/2012 07:54

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Analysis Date</u>	<u>Analytical Batch</u>	<u>Instrument</u>	<u>Analyst</u>
LCS for HBN 22514 [VXX/3188]	67602	04/20/2012 08:59	VMS2138	MSD8	DVO
LCSD for HBN 22514 [VXX/3188]	67603	04/20/2012 09:24	VMS2138	MSD8	DVO
MB for HBN 22514 [VXX/3188]	67604	04/20/2012 10:13	VMS2138	MSD8	DVO
Trip Blank	31201090030	04/20/2012 11:02	VMS2138	MSD8	DVO
48DW-2	31201090026	04/20/2012 11:50	VMS2138	MSD8	DVO
48EB-02	31201090029	04/20/2012 12:15	VMS2138	MSD8	DVO
48DW-8	31201090025	04/20/2012 17:33	VMS2138	MSD8	DVO
48DW-5	31201090027	04/20/2012 17:57	VMS2138	MSD8	DVO
48MW-16	31201090020	04/20/2012 18:22	VMS2138	MSD8	DVO
48MW-16(66651MS)	67754	04/20/2012 18:46	VMS2138	MSD8	DVO
48MW-16(66651MSD)	67755	04/20/2012 19:10	VMS2138	MSD8	DVO



Method Blank

Blank ID: MB for HBN 22514 [VXX/3188]

Matrix: Water

Blank Lab ID: 67604

QC for Samples:

31201090020, 31201090025, 31201090026, 31201090027, 31201090029, 31201090030

Results by SW-846 8260B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>
Dichlorodifluoromethane	ND		5.00	ug/L	1
Chloromethane	ND		1.00	ug/L	1
Vinyl chloride	ND		1.00	ug/L	1
Bromomethane	ND		1.00	ug/L	1
Chloroethane	ND		1.00	ug/L	1
Trichlorofluoromethane	ND		1.00	ug/L	1
1,1-Dichloroethene	ND		1.00	ug/L	1
Acetone	ND		25.0	ug/L	1
Methylene chloride	ND		5.00	ug/L	1
trans-1,2-Dichloroethene	ND		1.00	ug/L	1
tert-Butyl methyl ether (MTBE)	ND		1.00	ug/L	1
1,1-Dichloroethane	ND		1.00	ug/L	1
Diisopropyl Ether	ND		1.00	ug/L	1
2,2-Dichloropropane	ND		1.00	ug/L	1
cis-1,2-Dichloroethene	ND		1.00	ug/L	1
2-Butanone	ND		25.0	ug/L	1
Bromochloromethane	ND		1.00	ug/L	1
Chloroform	ND		1.00	ug/L	1
1,1,1-Trichloroethane	ND		1.00	ug/L	1
Carbon tetrachloride	ND		1.00	ug/L	1
1,1-Dichloropropene	ND		1.00	ug/L	1
Benzene	ND		1.00	ug/L	1
1,2-Dichloroethane	ND		1.00	ug/L	1
Trichloroethene	ND		1.00	ug/L	1
1,2-Dichloropropane	ND		1.00	ug/L	1
Dibromomethane	ND		1.00	ug/L	1
Bromodichloromethane	ND		1.00	ug/L	1
cis-1,3-Dichloropropene	ND		1.00	ug/L	1
4-Methyl-2-pentanone	ND		5.00	ug/L	1
Toluene	ND		1.00	ug/L	1
Methyl iodide	ND		1.00	ug/L	1
trans-1,3-Dichloropropene	ND		1.00	ug/L	1
Carbon disulfide	ND		1.00	ug/L	1
1,1,2-Trichloroethane	ND		1.00	ug/L	1
Tetrachloroethene	ND		1.00	ug/L	1
1,3-Dichloropropane	ND		1.00	ug/L	1
2-Hexanone	ND		5.00	ug/L	1
Dibromochloromethane	ND		1.00	ug/L	1
1,2-Dibromoethane	ND		1.00	ug/L	1
Chlorobenzene	ND		1.00	ug/L	1
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L	1

Print Date: 04/25/2012

N.C. Certification # 481

Method Blank

Blank ID: MB for HBN 22514 [VXX/3188]

Matrix: Water

Blank Lab ID: 67604

QC for Samples:

31201090020, 31201090025, 31201090026, 31201090027, 31201090029, 31201090030

Results by SW-846 8260B

Parameter	Result	Qual	LOQ/CL	Units	DF
Bromoform	ND		1.00	ug/L	1
Bromobenzene	ND		1.00	ug/L	1
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L	1
1,2,3-Trichloropropane	ND		1.00	ug/L	1
Ethyl Benzene	ND		1.00	ug/L	1
m,p-Xylene	ND		2.00	ug/L	1
Styrene	ND		1.00	ug/L	1
o-Xylene	ND		1.00	ug/L	1
Isopropylbenzene (Cumene)	ND		1.00	ug/L	1
n-Propylbenzene	ND		1.00	ug/L	1
2-Chlorotoluene	ND		1.00	ug/L	1
4-Chlorotoluene	ND		1.00	ug/L	1
1,3,5-Trimethylbenzene	ND		1.00	ug/L	1
tert-Butylbenzene	ND		1.00	ug/L	1
1,2,4-Trimethylbenzene	ND		1.00	ug/L	1
sec-Butylbenzene	ND		1.00	ug/L	1
1,3-Dichlorobenzene	ND		1.00	ug/L	1
4-Isopropyltoluene	ND		1.00	ug/L	1
1,4-Dichlorobenzene	ND		1.00	ug/L	1
1,2-Dichlorobenzene	ND		1.00	ug/L	1
n-Butylbenzene	ND		1.00	ug/L	1
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1
1,2,4-Trichlorobenzene	ND		1.00	ug/L	1
Hexachlorobutadiene	ND		1.00	ug/L	1
Naphthalene	ND		1.00	ug/L	1
trans-1,4-Dichloro-2-butene	ND		5.00	ug/L	1
1,2,3-Trichlorobenzene	ND		1.00	ug/L	1
Surrogates					
1,2-Dichloroethane-d4	104		64.0-140	%	1
Toluene d8	106		82.0-117	%	1
4-Bromofluorobenzene	100		85.0-115	%	1

Batch Information

Analytical Batch: VMS2138

Prep Batch: VXX3188

Analytical Method: SW-846 8260B

Prep Method: SW-846 5030B

Instrument: MSD8

Prep Date/Time: 4/20/2012 7:54:42AM

Analyst: DVO

Prep Initial Wt./Vol.: 40 mL

Analytical Date/Time: 4/20/2012 10:13:00AM

Prep Extract Vol: 40 mL



Blank Spike Summary

Blank Spike ID: LCS for HBN 22514 [VXX/3188]
 Blank Spike Lab ID: 67602
 Date Analyzed: 04/20/2012 08:59

Spike Duplicate ID: LCSD for HBN 22514 [VXX/3188]
 Spike Duplicate Lab ID: 67603
 Date Analyzed: 04/20/2012 09:24
 Matrix: Water

QC for Samples: 31201090020, 31201090025, 31201090026, 31201090027, 31201090029, 31201090030

Results by SW-846 8260B

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Dichlorodifluoromethane	5.00	5.88	118	5.00	6.22	124	33.0-170	5.6	30.00
Chloromethane	5.00	4.90	98	5.00	5.45	109	57.0-132	11	30.00
Vinyl chloride	5.00	4.47	89	5.00	4.96	99	59.0-138	10	30.00
Bromomethane	5.00	4.64	93	5.00	4.85	97	51.0-134	4.4	30.00
Chloroethane	5.00	5.28	106	5.00	5.51	110	64.0-145	4.3	30.00
Trichlorofluoromethane	5.00	4.80	96	5.00	5.43	109	64.0-133	12	30.00
1,1-Dichloroethene	5.00	5.00	100	5.00	5.64	113	71.0-128	12	30.00
Acetone	25.0	ND	64	25.0	ND	66	52.0-140	2.5	30.00
Methylene chloride	5.00	ND	97	5.00	5.35	107	70.0-113	9.8	30.00
trans-1,2-Dichloroethene	5.00	5.03	101	5.00	5.50	110	57.0-138	8.9	30.00
tert-Butyl methyl ether (MTBE)	5.00	4.96	99	5.00	5.13	103	47.0-142	3.4	30.00
1,1-Dichloroethane	5.00	4.71	94	5.00	5.27	105	68.0-133	11	30.00
Diisopropyl Ether	5.00	4.56	91	5.00	4.74	95	66.0-132	3.9	30.00
2,2-Dichloropropane	5.00	5.44	109	5.00	6.03	121	74.0-125	10	30.00
cis-1,2-Dichloroethene	5.00	4.78	96	5.00	5.44	109	73.0-128	13	30.00
2-Butanone	25.0	ND	68	25.0	ND	74	58.0-134	8.5	30.00
Bromochloromethane	5.00	5.24	105	5.00	5.85	117	73.0-128	11	30.00
Chloroform	5.00	4.77	95	5.00	5.64	113	74.0-124	17	30.00
1,1,1-Trichloroethane	5.00	5.42	108	5.00	6.17	123*	76.0-119	13	30.00
Carbon tetrachloride	5.00	5.13	103	5.00	6.03	121*	75.0-120	16	30.00
1,1-Dichloropropene	5.00	4.71	94	5.00	5.41	108	76.0-124	14	30.00
Benzene	5.00	4.86	97	5.00	5.27	105	76.0-124	8.1	30.00
1,2-Dichloroethane	5.00	5.28	106	5.00	5.91	118	76.0-119	11	30.00
Trichloroethene	5.00	5.02	100	5.00	5.30	106	74.0-121	5.4	30.00
1,2-Dichloropropane	5.00	4.71	94	5.00	4.97	99	74.0-124	5.4	30.00
Dibromomethane	5.00	5.24	105	5.00	6.06	121	71.0-128	15	30.00
Bromodichloromethane	5.00	5.39	108	5.00	5.90	118	72.0-120	9.0	30.00
cis-1,3-Dichloropropene	5.00	5.15	103	5.00	5.73	115	73.0-122	11	30.00
4-Methyl-2-pentanone	25.0	20.6	83	25.0	22.8	91	65.0-124	10	30.00
Toluene	5.00	4.92	98	5.00	5.57	111	75.0-123	12	30.00
Methyl iodide	5.00	4.42	88	5.00	4.71	94	55.0-123	6.4	30.00
trans-1,3-Dichloropropene	5.00	5.07	101	5.00	5.49	110	70.0-125	8.0	30.00
Carbon disulfide	5.00	4.68	94	5.00	5.06	101	65.0-132	7.8	30.00
1,1,2-Trichloroethane	5.00	4.81	96	5.00	4.89	98	76.0-121	1.6	30.00



Blank Spike Summary

Blank Spike ID: LCS for HBN 22514 [VXX/3188]
 Blank Spike Lab ID: 67602
 Date Analyzed: 04/20/2012 08:59

Spike Duplicate ID: LCSD for HBN 22514 [VXX/3188]
 Spike Duplicate Lab ID: 67603
 Date Analyzed: 04/20/2012 09:24
 Matrix: Water

QC for Samples: 31201090020, 31201090025, 31201090026, 31201090027, 31201090029, 31201090030

Results by SW-846 8260B

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Tetrachloroethene	5.00	4.71	94	5.00	5.76	115*	59.0-112	20	30.00
1,3-Dichloropropane	5.00	4.41	88	5.00	4.91	98	74.0-120	11	30.00
2-Hexanone	25.0	16.4	66	25.0	18.3	73	56.0-133	11	30.00
Dibromochloromethane	5.00	5.42	108	5.00	5.53	111	67.0-122	2.0	30.00
1,2-Dibromoethane	5.00	4.72	94	5.00	5.33	107	74.0-119	12	30.00
Chlorobenzene	5.00	4.86	97	5.00	5.34	107	74.0-120	9.4	30.00
1,1,1,2-Tetrachloroethane	5.00	4.81	96	5.00	5.22	104	73.0-119	8.2	30.00
Bromoform	5.00	5.51	110	5.00	5.83	117	62.0-127	5.6	30.00
Bromobenzene	5.00	5.14	103	5.00	5.53	111	75.0-120	7.3	30.00
1,1,2,2-Tetrachloroethane	5.00	4.72	94	5.00	5.50	110	68.0-129	15	30.00
1,2,3-Trichloropropane	5.00	5.02	100	5.00	5.45	109	67.0-126	8.2	30.00
Ethyl Benzene	5.00	4.01	80	5.00	4.65	93	76.0-123	15	30.00
m,p-Xylene	10.0	8.70	87	10.0	9.79	98	76.0-124	12	30.00
Styrene	5.00	4.04	81	5.00	4.94	99	76.0-121	20	30.00
o-Xylene	5.00	4.33	87	5.00	4.84	97	75.0-124	11	30.00
Isopropylbenzene (Cumene)	5.00	4.58	92	5.00	5.15	103	77.0-120	12	30.00
n-Propylbenzene	5.00	4.50	90	5.00	4.71	94	77.0-123	4.6	30.00
2-Chlorotoluene	5.00	4.78	96	5.00	4.85	97	74.0-127	1.5	30.00
4-Chlorotoluene	5.00	4.05	81	5.00	5.08	102	77.0-123	23	30.00
1,3,5-Trimethylbenzene	5.00	4.68	94	5.00	4.67	93	76.0-122	0.21	30.00
tert-Butylbenzene	5.00	4.89	98	5.00	4.73	95	67.0-122	3.3	30.00
1,2,4-Trimethylbenzene	5.00	4.77	95	5.00	4.95	99	76.0-124	3.7	30.00
sec-Butylbenzene	5.00	4.61	92	5.00	4.79	96	78.0-121	3.8	30.00
1,3-Dichlorobenzene	5.00	4.79	96	5.00	5.36	107	75.0-120	11	30.00
4-Isopropyltoluene	5.00	4.69	94	5.00	4.66	93	77.0-120	0.64	30.00
1,4-Dichlorobenzene	5.00	5.05	101	5.00	5.24	105	70.0-125	3.7	30.00
1,2-Dichlorobenzene	5.00	4.67	93	5.00	5.27	105	76.0-118	12	30.00
n-Butylbenzene	5.00	4.80	96	5.00	4.53	91	78.0-118	5.8	30.00
1,2-Dibromo-3-chloropropane	30.0	25.0	83	30.0	28.3	94	62.0-130	12	30.00
1,2,4-Trichlorobenzene	5.00	4.32	86	5.00	4.80	96	72.0-119	11	30.00
Hexachlorobutadiene	5.00	4.95	99	5.00	5.63	113	69.0-121	13	30.00
Naphthalene	5.00	3.79	76	5.00	4.47	89	67.0-122	16	30.00
trans-1,4-Dichloro-2-butene	25.0	18.6	74	25.0	22.9	92	61.0-132	21	30.00
1,2,3-Trichlorobenzene	5.00	4.43	89	5.00	5.18	104	68.0-123	16	30.00



Blank Spike Summary

Blank Spike ID: LCS for HBN 22514 [VXX/3188]
Blank Spike Lab ID: 67602
Date Analyzed: 04/20/2012 08:59

Spike Duplicate ID: LCSD for HBN 22514 [VXX/3188]
Spike Duplicate Lab ID: 67603
Date Analyzed: 04/20/2012 09:24
Matrix: Water

QC for Samples: 31201090020, 31201090025, 31201090026, 31201090027, 31201090029, 31201090030

Results by SW-846 8260B

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Surrogates									
1,2-Dichloroethane-d4		106		108			64.0-140		
Toluene d8		104		106			82.0-117		
4-Bromofluorobenzene		110		101			85.0-115		

Batch Information

Analytical Batch: **VMS2138**
Analytical Method: **SW-846 8260B**
Instrument: **MSD8**
Analyst: **DVO**

Prep Batch: **VXX3188**
Prep Method: **SW-846 5030B**
Prep Date/Time: **04/20/2012 07:54**
Spike Init Wt./Vol.: **40 mL** Extract Vol: **40 mL**
Dupe Init Wt./Vol.: **40 mL** Extract Vol: **40 mL**



Matrix Spike Summary

Original Sample ID: 31201090020 (48MW-16)
 MS Sample ID: 67754
 MSD Sample ID: 67755

Analysis Date: 04/20/2012 18:22
 Analysis Date: 04/20/2012 18:46
 Analysis Date: 04/20/2012 19:10
 Matrix: Water

QC for Samples: 31201090020, 31201090025, 31201090026, 31201090027, 31201090029, 31201090030

Results by SW-846 8260B

Parameter	Sample	Matrix Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
1,1,1,2-Tetrachloroethane	ND	100	98.6	99	100	100	100	69.0-120	1.4	30.00
1,1,1-Trichloroethane	ND	100	135	135 *	100	125	125 *	78.0-121	7.7	30.00
1,1,2,2-Tetrachloroethane	ND	100	102	102	100	98.6	99	76.0-136	3.4	30.00
1,1,2-Trichloroethane	ND	100	96.0	96	100	96.8	97	65.0-128	0.83	30.00
1,1-Dichloroethane	ND	100	110	110	100	106	106	76.0-128	3.7	30.00
1,1-Dichloroethene	46.8	100	159	112	100	155	108	64.0-130	2.5	30.00
1,1-Dichloropropene	ND	100	103	103	100	105	105	73.0-120	1.9	30.00
1,2,3-Trichlorobenzene	ND	100	95.4	95	100	95.2	95	61.0-126	0.21	30.00
1,2,3-Trichloropropane	ND	100	95.2	95	100	115	115	10.0-218	19	30.00
1,2,4-Trichlorobenzene	ND	100	90.2	90	100	95.6	96	61.0-125	5.8	30.00
1,2,4-Trimethylbenzene	ND	100	94.6	95	100	98.8	99	31.0-172	4.3	30.00
1,2-Dibromo-3-chloropropane	ND	600	484	81	600	500	83	20.0-171	3.3	30.00
1,2-Dibromoethane	ND	100	90.8	91	100	97.6	98	79.0-123	7.2	30.00
1,2-Dichlorobenzene	ND	100	100	100	100	100	100	75.0-120	0.0	30.00
1,2-Dichloroethane	ND	100	115	115	100	117	117	71.0-127	1.7	30.00
1,2-Dichloropropane	ND	100	105	105	100	101	101	77.0-129	3.9	30.00
1,3,5-Trimethylbenzene	ND	100	93.6	94	100	99.6	100	68.0-132	6.2	30.00
1,3-Dichlorobenzene	ND	100	102	102	100	104	104	73.0-121	1.9	30.00
1,3-Dichloropropane	ND	100	97.8	98	100	97.8	98	79.0-121	0.0	30.00
1,4-Dichlorobenzene	ND	100	99.4	99	100	100	100	75.0-118	0.60	30.00
2,2-Dichloropropane	ND	100	109	109	100	108	108	32.0-157	0.92	30.00
2-Butanone	ND	500	ND	56	500	ND	59	36.0-107		30.00
2-Chlorotoluene	ND	100	102	102	100	96.4	96	79.0-118	5.6	30.00
2-Hexanone	ND	500	276	55	500	284	57	42.0-111	2.9	30.00
4-Chlorotoluene	ND	100	97.0	97	100	96.6	97	77.0-120	0.41	30.00
4-Isopropyltoluene	ND	100	91.8	92	100	97.0	97	75.0-122	5.5	30.00
4-Methyl-2-pentanone	ND	500	419	84	500	419	84	6.90-166	0.0	30.00
Acetone	ND	500	ND	41	500	ND	40	18.0-85.0		30.00
Benzene	ND	100	102	102	100	106	106	62.0-135	3.8	30.00
Bromobenzene	ND	100	98.8	99	100	109	109	65.0-125	9.8	30.00
Bromochloromethane	ND	100	108	108	100	116	116	76.0-126	7.1	30.00
Bromodichloromethane	ND	100	112	112	100	114	114	74.0-123	1.8	30.00
Bromoform	ND	100	93.2	93	100	108	108	52.0-122	15	30.00
Bromomethane	ND	100	77.4	77	100	99.2	99	10.0-284	25	30.00
n-Butylbenzene	ND	100	88.8	89	100	90.4	90	70.0-124	1.8	30.00
Carbon disulfide	ND	100	100	100	100	102	102	69.0-129	2.0	30.00
Carbon tetrachloride	ND	100	115	115	100	114	114	72.0-122	0.87	30.00
Chlorobenzene	ND	100	94.8	95	100	104	104	77.0-118	9.3	30.00



Matrix Spike Summary

Original Sample ID: 31201090020 (48MW-16)
 MS Sample ID: 67754
 MSD Sample ID: 67755

Analysis Date: 04/20/2012 18:22
 Analysis Date: 04/20/2012 18:46
 Analysis Date: 04/20/2012 19:10
 Matrix: Water

QC for Samples: 31201090020, 31201090025, 31201090026, 31201090027, 31201090029, 31201090030

Results by SW-846 8260B

Parameter	Sample	Matrix Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Chloroethane	ND	100	108	108	100	113	113	10.0-233	4.5	30.00
Chloroform	ND	100	114	114	100	112	112	74.0-128	1.8	30.00
Chloromethane	ND	100	101	101	100	114	114	72.0-138	12	30.00
Dibromochloromethane	ND	100	100	100	100	106	106	69.0-117	5.8	30.00
Dibromomethane	ND	100	110	110	100	104	104	71.0-137	5.6	30.00
Dichlorodifluoromethane	ND	100	135	135	100	132	132	42.0-166	2.2	30.00
cis-1,3-Dichloropropene	ND	100	99.8	100	100	104	104	67.0-132	4.1	30.00
trans-1,3-Dichloropropene	ND	100	97.0	97	100	106	106	45.0-144	8.9	30.00
Diisopropyl Ether	ND	100	99.8	100	100	94.6	95	79.0-122	5.3	30.00
Ethyl Benzene	ND	100	81.4	81	100	84.4	84	74.0-126	3.6	30.00
Hexachlorobutadiene	ND	100	94.8	95	100	108	108	52.0-134	13	30.00
Isopropylbenzene (Cumene)	ND	100	85.2	85	100	97.8	98	74.0-123	14	30.00
Methyl iodide	ND	100	77.0	77	100	90.4	90	41.0-126	16	30.00
Methylene chloride	ND	100	105	105	100	ND	100	49.0-155		30.00
Naphthalene	ND	100	74.0	74	100	78.2	78	55.0-140	5.5	30.00
Styrene	ND	100	77.0	77	100	88.0	88	73.0-123	13	30.00
Tetrachloroethene	ND	100	121	121	100	125	125	46.0-153	3.3	30.00
Toluene	ND	100	107	107	100	106	106	66.0-128	0.94	30.00
Trichloroethene	478	100	603	125	100	612	134	85.0-136	1.5	30.00
Trichlorofluoromethane	ND	100	107	107	100	114	114	77.0-132	6.3	30.00
Vinyl chloride	ND	100	93.6	94	100	101	101	68.0-137	7.6	30.00
cis-1,2-Dichloroethene	ND	100	113	113	100	114	114	73.0-134	0.88	30.00
m,p-Xylene	ND	200	168	84	200	175	87	80.0-118	4.1	30.00
n-Propylbenzene	ND	100	87.8	88	100	96.2	96	72.0-128	9.1	30.00
o-Xylene	ND	100	73.2	73 *	100	92.6	93	80.0-121	23	30.00
sec-Butylbenzene	ND	100	93.0	93	100	98.0	98	62.0-133	5.2	30.00
tert-Butyl methyl ether (MTBE)	ND	100	102	102	100	105	105	67.0-136	2.9	30.00
tert-Butylbenzene	ND	100	93.4	93	100	107	107	74.0-121	14	30.00
trans-1,2-Dichloroethene	ND	100	103	103	100	107	107	75.0-124	3.8	30.00
trans-1,4-Dichloro-2-butene	ND	500	387	77	500	392	78	26.0-149	1.3	30.00
Surrogates										
1,2-Dichloroethane-d4				114			106	64.0-140		
4-Bromofluorobenzene				101			108	85.0-115		
Toluene d8				105			101	82.0-117		



Matrix Spike Summary

Original Sample ID: 31201090020 (48MW-16)
MS Sample ID: 67754
MSD Sample ID: 67755

Analysis Date: 04/20/2012 18:22
Analysis Date: 04/20/2012 18:46
Analysis Date: 04/20/2012 19:10
Matrix: Water

QC for Samples: 31201090020, 31201090025, 31201090026, 31201090027, 31201090029, 31201090030

Results by SW-846 8260B

<u>Parameter</u>	<u>Sample</u>	<u>Spike</u>	<u>Matrix Spike (%)</u>		<u>Spike Duplicate (%)</u>		<u>CL</u>	<u>RPD (%)</u>	<u>RPD CL</u>
			<u>Result</u>	<u>Rec (%)</u>	<u>Spike</u>	<u>Result</u>			

Batch Information

Analytical Batch: **VMS2138**
Analytical Method: **SW-846 8260B**
Instrument: **MSD8**
Analyst: **DVO**

Prep Batch: **VXX3188**
Prep Method: **SW-846 5030B**
Prep Date/Time: **04/20/2012 08:00**
MS Init Wt./Vol.: **40 mL** Extract Vol.: **40 mL**
MSD Init Wt./Vol.: **40 mL** Extract Vol.: **40 mL**

Batch Summary

Analytical Method: SW-846 8260B

Prep Method: SW-846 5030B

Prep Batch: VXX3189

Prep Date: 04/20/2012 07:55

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Analysis Date</u>	<u>Analytical Batch</u>	<u>Instrument</u>	<u>Analyst</u>
LCS for HBN 22516 [VXX/3189]	67605	04/20/2012 08:57	VMS2139	MSD4	DVO
LCSD for HBN 22516 [VXX/3189]	67606	04/20/2012 09:21	VMS2139	MSD4	DVO
MB for HBN 22516 [VXX/3189]	67607	04/20/2012 11:22	VMS2139	MSD4	DVO
48RW-1	31201090013	04/20/2012 17:00	VMS2139	MSD4	DVO
48SVE-01	31201090028	04/20/2012 17:24	VMS2139	MSD4	DVO
48SVE-01(66659MS)	67752	04/20/2012 19:24	VMS2139	MSD4	DVO
48SVE-01(66659MSD)	67753	04/20/2012 19:48	VMS2139	MSD4	DVO



Method Blank

Blank ID: MB for HBN 22516 [VXX/3189]

Matrix: Water

Blank Lab ID: 67607

QC for Samples:

31201090013, 31201090028

Results by SW-846 8260B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>
Dichlorodifluoromethane	ND		5.00	ug/L	1
Chloromethane	ND		1.00	ug/L	1
Vinyl chloride	ND		1.00	ug/L	1
Bromomethane	ND		1.00	ug/L	1
Chloroethane	ND		1.00	ug/L	1
Trichlorofluoromethane	ND		1.00	ug/L	1
1,1-Dichloroethene	ND		1.00	ug/L	1
Acetone	ND		25.0	ug/L	1
Methylene chloride	ND		5.00	ug/L	1
trans-1,2-Dichloroethene	ND		1.00	ug/L	1
tert-Butyl methyl ether (MTBE)	ND		1.00	ug/L	1
1,1-Dichloroethane	ND		1.00	ug/L	1
Diisopropyl Ether	ND		1.00	ug/L	1
2,2-Dichloropropane	ND		1.00	ug/L	1
cis-1,2-Dichloroethene	ND		1.00	ug/L	1
2-Butanone	ND		25.0	ug/L	1
Bromochloromethane	ND		1.00	ug/L	1
Chloroform	ND		1.00	ug/L	1
1,1,1-Trichloroethane	ND		1.00	ug/L	1
Carbon tetrachloride	ND		1.00	ug/L	1
1,1-Dichloropropene	ND		1.00	ug/L	1
Benzene	ND		1.00	ug/L	1
1,2-Dichloroethane	ND		1.00	ug/L	1
Trichloroethene	ND		1.00	ug/L	1
1,2-Dichloropropane	ND		1.00	ug/L	1
Dibromomethane	ND		1.00	ug/L	1
Bromodichloromethane	ND		1.00	ug/L	1
cis-1,3-Dichloropropene	ND		1.00	ug/L	1
4-Methyl-2-pentanone	ND		5.00	ug/L	1
Toluene	ND		1.00	ug/L	1
Methyl iodide	ND		1.00	ug/L	1
trans-1,3-Dichloropropene	ND		1.00	ug/L	1
Carbon disulfide	ND		1.00	ug/L	1
1,1,2-Trichloroethane	ND		1.00	ug/L	1
Tetrachloroethene	ND		1.00	ug/L	1
1,3-Dichloropropane	ND		1.00	ug/L	1
2-Hexanone	ND		5.00	ug/L	1
Dibromochloromethane	ND		1.00	ug/L	1
1,2-Dibromoethane	ND		1.00	ug/L	1
Chlorobenzene	ND		1.00	ug/L	1
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L	1

Print Date: 04/25/2012

N.C. Certification # 481

SGS North America Inc.

5500 Business Drive, Wilmington, NC 28405
t 910.350.1903 f 910.350.1557 www.us.sgs.com

Member of SGS Group

Method Blank

Blank ID: MB for HBN 22516 [VXX/3189]

Matrix: Water

Blank Lab ID: 67607

QC for Samples:

31201090013, 31201090028

Results by SW-846 8260B

Parameter	Result	Qual	LOQ/CL	Units	DF
Bromoform	ND		1.00	ug/L	1
Bromobenzene	ND		1.00	ug/L	1
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L	1
1,2,3-Trichloropropane	ND		1.00	ug/L	1
Ethyl Benzene	ND		1.00	ug/L	1
m,p-Xylene	ND		2.00	ug/L	1
Styrene	ND		1.00	ug/L	1
o-Xylene	ND		1.00	ug/L	1
Isopropylbenzene (Cumene)	ND		1.00	ug/L	1
n-Propylbenzene	ND		1.00	ug/L	1
2-Chlorotoluene	ND		1.00	ug/L	1
4-Chlorotoluene	ND		1.00	ug/L	1
1,3,5-Trimethylbenzene	ND		1.00	ug/L	1
tert-Butylbenzene	ND		1.00	ug/L	1
1,2,4-Trimethylbenzene	ND		1.00	ug/L	1
sec-Butylbenzene	ND		1.00	ug/L	1
1,3-Dichlorobenzene	ND		1.00	ug/L	1
4-Isopropyltoluene	ND		1.00	ug/L	1
1,4-Dichlorobenzene	ND		1.00	ug/L	1
1,2-Dichlorobenzene	ND		1.00	ug/L	1
n-Butylbenzene	ND		1.00	ug/L	1
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1
1,2,4-Trichlorobenzene	ND		1.00	ug/L	1
Hexachlorobutadiene	ND		1.00	ug/L	1
Naphthalene	ND		1.00	ug/L	1
trans-1,4-Dichloro-2-butene	ND		5.00	ug/L	1
1,2,3-Trichlorobenzene	ND		1.00	ug/L	1
Surrogates					
1,2-Dichloroethane-d4	100		64.0-140	%	1
Toluene d8	99.0		82.0-117	%	1
4-Bromofluorobenzene	96.0		85.0-115	%	1

Batch Information

Analytical Batch: VMS2139

Prep Batch: VXX3189

Analytical Method: SW-846 8260B

Prep Method: SW-846 5030B

Instrument: MSD4

Prep Date/Time: 4/20/2012 7:55:28AM

Analyst: DVO

Prep Initial Wt./Vol.: 40 mL

Analytical Date/Time: 4/20/2012 11:22:00AM

Prep Extract Vol: 40 mL



Blank Spike Summary

Blank Spike ID: LCS for HBN 22516 [VXX/3189]
 Blank Spike Lab ID: 67605
 Date Analyzed: 04/20/2012 08:57

Spike Duplicate ID: LCSD for HBN 22516 [VXX/3189]
 Spike Duplicate Lab ID: 67606
 Date Analyzed: 04/20/2012 09:21
 Matrix: Water

QC for Samples: 31201090013, 31201090028

Results by SW-846 8260B

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Dichlorodifluoromethane	5.00	ND	96	5.00	5.16	103	33.0-170	7.0	30.00
Chloromethane	5.00	5.02	100	5.00	5.13	103	57.0-132	2.2	30.00
Vinyl chloride	5.00	4.29	86	5.00	4.64	93	59.0-138	7.8	30.00
Bromomethane	5.00	3.25	65	5.00	4.12	82	51.0-134	24	30.00
Chloroethane	5.00	5.16	103	5.00	5.79	116	64.0-145	12	30.00
Trichlorofluoromethane	5.00	4.25	85	5.00	4.52	90	64.0-133	6.2	30.00
1,1-Dichloroethene	5.00	4.55	91	5.00	4.66	93	71.0-128	2.4	30.00
Acetone	25.0	ND	73	25.0	ND	76	52.0-140	3.8	30.00
Methylene chloride	5.00	ND	91	5.00	ND	95	70.0-113	3.9	30.00
trans-1,2-Dichloroethene	5.00	4.78	96	5.00	4.84	97	57.0-138	1.2	30.00
tert-Butyl methyl ether (MTBE)	5.00	4.43	89	5.00	4.56	91	47.0-142	2.9	30.00
1,1-Dichloroethane	5.00	4.54	91	5.00	4.69	94	68.0-133	3.3	30.00
Diisopropyl Ether	5.00	4.58	92	5.00	4.70	94	66.0-132	2.6	30.00
2,2-Dichloropropane	5.00	4.97	99	5.00	5.19	104	74.0-125	4.3	30.00
cis-1,2-Dichloroethene	5.00	4.85	97	5.00	4.97	99	73.0-128	2.4	30.00
2-Butanone	25.0	ND	76	25.0	ND	76	58.0-134	0.0	30.00
Bromochloromethane	5.00	5.13	103	5.00	5.46	109	73.0-128	6.2	30.00
Chloroform	5.00	4.57	91	5.00	4.71	94	74.0-124	3.0	30.00
1,1,1-Trichloroethane	5.00	4.74	95	5.00	4.92	98	76.0-119	3.7	30.00
Carbon tetrachloride	5.00	5.19	104	5.00	5.38	108	75.0-120	3.6	30.00
1,1-Dichloropropene	5.00	4.65	93	5.00	4.79	96	76.0-124	3.0	30.00
Benzene	5.00	4.75	95	5.00	4.85	97	76.0-124	2.1	30.00
1,2-Dichloroethane	5.00	4.73	95	5.00	4.87	97	76.0-119	2.9	30.00
Trichloroethene	5.00	4.61	92	5.00	4.78	96	74.0-121	3.6	30.00
1,2-Dichloropropane	5.00	4.65	93	5.00	4.78	96	74.0-124	2.8	30.00
Dibromomethane	5.00	4.82	96	5.00	4.91	98	71.0-128	1.8	30.00
Bromodichloromethane	5.00	4.74	95	5.00	4.75	95	72.0-120	0.21	30.00
cis-1,3-Dichloropropene	5.00	5.02	100	5.00	5.12	102	73.0-122	2.0	30.00
4-Methyl-2-pentanone	25.0	22.7	91	25.0	22.5	90	65.0-124	0.88	30.00
Toluene	5.00	4.94	99	5.00	5.03	101	75.0-123	1.8	30.00
Methyl iodide	5.00	3.39	68	5.00	4.04	81	55.0-123	17	30.00
trans-1,3-Dichloropropene	5.00	4.59	92	5.00	4.52	90	70.0-125	1.5	30.00
Carbon disulfide	5.00	4.26	85	5.00	4.44	89	65.0-132	4.1	30.00
1,1,2-Trichloroethane	5.00	5.25	105	5.00	5.25	105	76.0-121	0.0	30.00



Blank Spike Summary

Blank Spike ID: LCS for HBN 22516 [VXX/3189]
 Blank Spike Lab ID: 67605
 Date Analyzed: 04/20/2012 08:57

Spike Duplicate ID: LCSD for HBN 22516 [VXX/3189]
 Spike Duplicate Lab ID: 67606
 Date Analyzed: 04/20/2012 09:21
 Matrix: Water

QC for Samples: 31201090013, 31201090028

Results by SW-846 8260B

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Tetrachloroethene	5.00	5.23	105	5.00	5.39	108	59.0-112	3.0	30.00
1,3-Dichloropropane	5.00	5.11	102	5.00	5.22	104	74.0-120	2.1	30.00
2-Hexanone	25.0	21.1	84	25.0	20.7	83	56.0-133	1.9	30.00
Dibromochloromethane	5.00	5.26	105	5.00	5.17	103	67.0-122	1.7	30.00
1,2-Dibromoethane	5.00	5.31	106	5.00	5.18	104	74.0-119	2.5	30.00
Chlorobenzene	5.00	5.27	105	5.00	5.31	106	74.0-120	0.76	30.00
1,1,1,2-Tetrachloroethane	5.00	5.12	102	5.00	5.08	102	73.0-119	0.78	30.00
Bromoform	5.00	5.19	104	5.00	5.12	102	62.0-127	1.4	30.00
Bromobenzene	5.00	5.52	110	5.00	5.41	108	75.0-120	2.0	30.00
1,1,2,2-Tetrachloroethane	5.00	5.45	109	5.00	5.38	108	68.0-129	1.3	30.00
1,2,3-Trichloropropane	5.00	5.54	111	5.00	5.40	108	67.0-126	2.6	30.00
Ethyl Benzene	5.00	5.14	103	5.00	5.23	105	76.0-123	1.7	30.00
m,p-Xylene	10.0	10.7	107	10.0	10.7	107	76.0-124	0.0	30.00
Styrene	5.00	5.33	107	5.00	5.31	106	76.0-121	0.38	30.00
o-Xylene	5.00	5.45	109	5.00	5.55	111	75.0-124	1.8	30.00
Isopropylbenzene (Cumene)	5.00	5.41	108	5.00	5.44	109	77.0-120	0.55	30.00
n-Propylbenzene	5.00	5.35	107	5.00	5.36	107	77.0-123	0.19	30.00
2-Chlorotoluene	5.00	5.57	111	5.00	5.51	110	74.0-127	1.1	30.00
4-Chlorotoluene	5.00	5.30	106	5.00	5.39	108	77.0-123	1.7	30.00
1,3,5-Trimethylbenzene	5.00	5.51	110	5.00	5.42	108	76.0-122	1.6	30.00
tert-Butylbenzene	5.00	5.50	110	5.00	5.41	108	67.0-122	1.6	30.00
1,2,4-Trimethylbenzene	5.00	5.49	110	5.00	5.46	109	76.0-124	0.55	30.00
sec-Butylbenzene	5.00	5.35	107	5.00	5.35	107	78.0-121	0.0	30.00
1,3-Dichlorobenzene	5.00	5.56	111	5.00	5.54	111	75.0-120	0.36	30.00
4-Isopropyltoluene	5.00	5.50	110	5.00	5.45	109	77.0-120	0.91	30.00
1,4-Dichlorobenzene	5.00	5.55	111	5.00	5.47	109	70.0-125	1.5	30.00
1,2-Dichlorobenzene	5.00	5.49	110	5.00	5.49	110	76.0-118	0.0	30.00
n-Butylbenzene	5.00	5.44	109	5.00	5.39	108	78.0-118	0.92	30.00
1,2-Dibromo-3-chloropropane	30.0	32.1	107	30.0	30.4	101	62.0-130	5.4	30.00
1,2,4-Trichlorobenzene	5.00	5.40	108	5.00	5.30	106	72.0-119	1.9	30.00
Hexachlorobutadiene	5.00	5.74	115	5.00	5.49	110	69.0-121	4.5	30.00
Naphthalene	5.00	5.64	113	5.00	5.46	109	67.0-122	3.2	30.00
trans-1,4-Dichloro-2-butene	25.0	25.7	103	25.0	25.0	100	61.0-132	2.8	30.00
1,2,3-Trichlorobenzene	5.00	5.73	115	5.00	5.57	111	68.0-123	2.8	30.00

Blank Spike Summary

Blank Spike ID: LCS for HBN 22516 [VXX/3189]
 Blank Spike Lab ID: 67605
 Date Analyzed: 04/20/2012 08:57

Spike Duplicate ID: LCSD for HBN 22516 [VXX/3189]
 Spike Duplicate Lab ID: 67606
 Date Analyzed: 04/20/2012 09:21
 Matrix: Water

QC for Samples: 31201090013, 31201090028

Results by SW-846 8260B

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Surrogates									
1,2-Dichloroethane-d4			102			101	64.0-140		
Toluene d8			99			99	82.0-117		
4-Bromofluorobenzene			98			97	85.0-115		

Batch Information

Analytical Batch: **VMS2139**
 Analytical Method: **SW-846 8260B**
 Instrument: **MSD4**
 Analyst: **DVO**

Prep Batch: **VXX3189**
 Prep Method: **SW-846 5030B**
 Prep Date/Time: **04/20/2012 07:55**
 Spike Init Wt./Vol.: **40 mL** Extract Vol: **40 mL**
 Dupe Init Wt./Vol.: **40 mL** Extract Vol: **40 mL**



Matrix Spike Summary

Original Sample ID: 31201090028 (48SVE-01)
 MS Sample ID: 67752
 MSD Sample ID: 67753

Analysis Date: 04/20/2012 17:24
 Analysis Date: 04/20/2012 19:24
 Analysis Date: 04/20/2012 19:48
 Matrix: Water

QC for Samples: 31201090013, 31201090028

Results by SW-846 8260B

Parameter	Sample	Matrix Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
1,1,1,2-Tetrachloroethane	ND	10000	9640	96	10000	9980	100	69.0-120	3.5	30.00
1,1,1-Trichloroethane	ND	10000	11100	111	10000	10800	108	78.0-121	2.7	30.00
1,1,2,2-Tetrachloroethane	ND	10000	10000	100	10000	10200	102	76.0-136	2.0	30.00
1,1,2-Trichloroethane	ND	10000	10100	101	10000	10300	103	65.0-128	2.0	30.00
1,1-Dichloroethane	ND	10000	10000	100	10000	9080	91	76.0-128	9.6	30.00
1,1-Dichloroethene	ND	10000	10700	107	10000	10600	106	64.0-130	0.94	30.00
1,1-Dichloropropene	ND	10000	9720	97	10000	9260	93	73.0-120	4.8	30.00
1,2,3-Trichlorobenzene	ND	10000	10800	108	10000	10800	108	61.0-126	0.0	30.00
1,2,3-Trichloropropane	ND	10000	10300	103	10000	10600	106	10.0-218	2.9	30.00
1,2,4-Trichlorobenzene	ND	10000	10200	102	10000	10100	101	61.0-125	0.99	30.00
1,2,4-Trimethylbenzene	ND	10000	10900	109	10000	10900	109	31.0-172	0.0	30.00
1,2-Dibromo-3-chloropropane	ND	60000	53300	89	60000	55200	92	20.0-171	3.5	30.00
1,2-Dibromoethane	ND	10000	10000	100	10000	10000	100	79.0-123	0.0	30.00
1,2-Dichlorobenzene	ND	10000	10700	107	10000	11100	111	75.0-120	3.7	30.00
1,2-Dichloroethane	ND	10000	9660	97	10000	9260	93	71.0-127	4.2	30.00
1,2-Dichloropropane	ND	10000	9440	94	10000	9200	92	77.0-129	2.6	30.00
1,3,5-Trimethylbenzene	ND	10000	10800	108	10000	10900	109	68.0-132	0.92	30.00
1,3-Dichlorobenzene	ND	10000	11100	111	10000	11100	111	73.0-121	0.0	30.00
1,3-Dichloropropane	ND	10000	10200	102	10000	10100	101	79.0-121	0.99	30.00
1,4-Dichlorobenzene	ND	10000	10900	109	10000	11000	110	75.0-118	0.91	30.00
2,2-Dichloropropane	ND	10000	8320	83	10000	8320	83	32.0-157	0.0	30.00
2-Butanone	ND	50000	ND	55	50000	ND	54	36.0-107		30.00
2-Chlorotoluene	ND	10000	11200	112	10000	11200	112	79.0-118	0.0	30.00
2-Hexanone	ND	50000	31700	63	50000	32900	66	42.0-111	3.7	30.00
4-Chlorotoluene	ND	10000	10300	103	10000	10600	106	77.0-120	2.9	30.00
4-Isopropyltoluene	ND	10000	10900	109	10000	11000	110	75.0-122	0.91	30.00
4-Methyl-2-pentanone	ND	50000	40500	81	50000	41000	82	6.90-166	1.2	30.00
Acetone	ND	50000	ND	38	50000	ND	38	18.0-85.0		30.00
Benzene	ND	10000	9880	99	10000	9520	95	62.0-135	3.7	30.00
Bromobenzene	ND	10000	10800	108	10000	10800	108	65.0-125	0.0	30.00
Bromochloromethane	ND	10000	10600	106	10000	10300	103	76.0-126	2.9	30.00
Bromodichloromethane	ND	10000	9340	93	10000	9120	91	74.0-123	2.4	30.00
Bromoform	ND	10000	9360	94	10000	9380	94	52.0-122	0.21	30.00
Bromomethane	ND	10000	2600	26	10000	6600	66	10.0-284	87*	30.00
n-Butylbenzene	ND	10000	10400	104	10000	10500	105	70.0-124	0.96	30.00
Carbon disulfide	ND	10000	8200	82	10000	8360	84	69.0-129	1.9	30.00
Carbon tetrachloride	ND	10000	9960	100	10000	9840	98	72.0-122	1.2	30.00
Chlorobenzene	ND	10000	10600	106	10000	10500	105	77.0-118	0.95	30.00

Matrix Spike Summary

Original Sample ID: 31201090028 (48SVE-01)
 MS Sample ID: 67752
 MSD Sample ID: 67753

Analysis Date: 04/20/2012 17:24
 Analysis Date: 04/20/2012 19:24
 Analysis Date: 04/20/2012 19:48
 Matrix: Water

QC for Samples: 31201090013, 31201090028

Results by SW-846 8260B

Parameter	Sample	Matrix Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Chloroethane	ND	10000	10800	108	10000	11800	118	10.0-233	8.8	30.00
Chloroform	ND	10000	9500	95	10000	9080	91	74.0-128	4.5	30.00
Chloromethane	ND	10000	9280	93	10000	9500	95	72.0-138	2.3	30.00
Dibromochloromethane	ND	10000	9760	98	10000	10100	101	69.0-117	3.4	30.00
Dibromomethane	ND	10000	9340	93	10000	9160	92	71.0-137	1.9	30.00
Dichlorodifluoromethane	ND	10000	ND	94	10000	ND	98	42.0-166		30.00
cis-1,3-Dichloropropene	ND	10000	9580	96	10000	9440	94	67.0-132	1.5	30.00
trans-1,3-Dichloropropene	ND	10000	8340	83	10000	8380	84	45.0-144	0.48	30.00
Diisopropyl Ether	ND	10000	10700	107	10000	8940	89	79.0-122	18	30.00
Ethyl Benzene	ND	10000	10400	104	10000	10700	107	74.0-126	2.8	30.00
Hexachlorobutadiene	ND	10000	10200	102	10000	10600	106	52.0-134	3.8	30.00
Isopropylbenzene (Cumene)	ND	10000	11100	111	10000	11100	111	74.0-123	0.0	30.00
Methyl iodide	ND	10000	4980	50	10000	7200	72	41.0-126	36*	30.00
Methylene chloride	ND	10000	ND	91	10000	ND	90	49.0-155		30.00
Naphthalene	ND	10000	10100	101	10000	10500	105	55.0-140	3.9	30.00
Styrene	ND	10000	10800	108	10000	10800	108	73.0-123	0.0	30.00
Tetrachloroethene	ND	10000	11100	111	10000	11000	110	46.0-153	0.90	30.00
Toluene	ND	10000	10200	102	10000	10000	100	66.0-128	2.0	30.00
Trichloroethene	48600	10000	59200	106	10000	58800	102	85.0-136	0.68	30.00
Trichlorofluoromethane	ND	10000	8440	84	10000	8920	89	77.0-132	5.5	30.00
Vinyl chloride	ND	10000	8460	85	10000	8780	88	68.0-137	3.7	30.00
cis-1,2-Dichloroethene	ND	10000	10700	107	10000	9900	99	73.0-134	7.8	30.00
m,p-Xylene	ND	20000	21700	108	20000	21900	110	80.0-118	0.92	30.00
n-Propylbenzene	ND	10000	10800	108	10000	11000	110	72.0-128	1.8	30.00
o-Xylene	ND	10000	10900	109	10000	11000	110	80.0-121	0.91	30.00
sec-Butylbenzene	ND	10000	10800	108	10000	10700	107	62.0-133	0.93	30.00
tert-Butyl methyl ether (MTBE)	ND	10000	8800	88	10000	8440	84	67.0-136	4.2	30.00
tert-Butylbenzene	ND	10000	10900	109	10000	11100	111	74.0-121	1.8	30.00
trans-1,2-Dichloroethene	ND	10000	9720	97	10000	9220	92	75.0-124	5.3	30.00
trans-1,4-Dichloro-2-butene	ND	50000	44200	88	50000	45100	90	26.0-149	2.0	30.00
Surrogates										
1,2-Dichloroethane-d4				101			99	64.0-140		
4-Bromofluorobenzene				97			97	85.0-115		
Toluene d8				100			99	82.0-117		



Matrix Spike Summary

Original Sample ID: 31201090028 (48SVE-01)
MS Sample ID: 67752
MSD Sample ID: 67753

Analysis Date: 04/20/2012 17:24
Analysis Date: 04/20/2012 19:24
Analysis Date: 04/20/2012 19:48
Matrix: Water

QC for Samples: 31201090013, 31201090028

Results by SW-846 8260B

<u>Parameter</u>	<u>Sample</u>	<u>Spike</u>	<u>Matrix Spike (%)</u>		<u>Spike Duplicate (%)</u>		<u>CL</u>	<u>RPD (%)</u>	<u>RPD CL</u>
			<u>Result</u>	<u>Rec (%)</u>	<u>Spike</u>	<u>Result</u>			

Batch Information

Analytical Batch: **VMS2139**
Analytical Method: **SW-846 8260B**
Instrument: **MSD4**
Analyst: **DVO**

Prep Batch: **VXX3189**
Prep Method: **SW-846 5030B**
Prep Date/Time: **04/20/2012 08:00**
MS Init Wt./Vol.: **40 mL** Extract Vol.: **40 mL**
MSD Init Wt./Vol.: **40 mL** Extract Vol.: **40 mL**



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107032

1 CLIENT: **AECOM- NCDOT** PHONE NO: (919) 239-7132

CONTACT: **Math. Brennan** SITE/PWSID#:

PROJECT: **NCDOT Pittsboro**

REPORTS TO: **Math Brennan**

Matthew. Brennan @ AECOM FAX NO: ()

INVOICE TO: **NCDOT ch-is people** QUOTE #:

WBS # 34613.3.13 P.O. NUMBER:

SGS Reference: **3201090** PAGE **1** OF **3**

No	CONTAINERS	SAMPLE TYPE	C= COMP G= GRAB	Preservatives Used	Analysis Required	REMARKS
3	G	W				
3	G	W				
3	G	W				
3	G	W				
3	G	W				
3	G	W				
3	G	W				
3	G	W				
3	G	W				
3	G	W				
3	G	W				
3	G	W				

2

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX
	48MW-17	4-11-12	1005	W
	48MW-4R	4-11-12	1045	W
	48DW-1	4-11-12	1100	W
	48MW-15	4-11-12	1205	W
	48DW-4	4-11-12	1230	W
	48MW-12	4-11-12	1240	W
	48MW-14	4-11-12	1357	W
	48MW-3	4-11-12	1405	W
	48DW-3	4-11-12	1510	W
	48MW-2	4-11-12	1530	W

5

Collected/Relinquished By: (1)	Date	Time	Received By:
<i>Chen</i>	4-13-12	0830	<i>John King</i>
Relinquished By: (2)	Date	Time	Received By:
<i>John King</i>	4/13/12	1500	<i>John King</i>
Relinquished By: (3)	Date	Time	Received By:
Relinquished By: (4)	Date	Time	Received By:

Shipping Carrier: _____

Shipping Ticket No: _____

Special Deliverable Requirements: _____

Special Instructions: _____

Requested Turnaround Time: RUSH STD _____ Date Needed

Samples Received Cold? (Circle) YES NO

Temperature °C: **5.22**

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT



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107033

1 CLIENT: **AECOM - NCDOT** PHONE NO: **(919) 239-7132** PAGE **2** OF **3**

CONTACT: **Matt Brennan** SITE/PWSID#:

PROJECT: **NCDOT Pittsboro**

REPORTS TO:

Matthew.Brennan@AECOM.COM FAX NO: ()

INVOICE TO: **NCDOT Ch-15 Peoples** QUOTE #:

WBS# 34613.3.13 P.O. NUMBER:

2

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	No CONTAINERS	SAMPLE TYPE	Analysis Required	Preservatives Used	REMARKS
	48EB-1	4-11-12	1530	W	3	G		HCL	
	48PW-2	4-11-12	1600	W	3	G			
	48RW-1	4-11-12	1610	W	3	G			
	48RW-2	4-11-12	1615	W	3	G			
	48MW-13	4-11-12	0830	W	3	G			
	48MW-10	4-11-12	0855	W	3	G			
	48MW-5	4-11-12	0918	W	3	G			
	48SW-1	4-11-12	1000	W	3	G			
	48MW-11R	4-11-12	1110	W	2	G			
	48MW-16	4-11-12	1115	W	3	G			

3

4

5

Shipping Carrier: _____
 Shipping Ticket No: _____
 Samples Received Cold? (Circle) YES/NO
 Temperature °C: **5.2°C**
 Chain of Custody Seal: (Circle) INTACT/BROKEN/ABSENT
 Special Deliverable Requirements:
 Special Instructions:

Requested Turnaround Time: RUSH STD
 Date Needed

Collected/Relinquished By: (1) *Chris* Date: 4-13-12 Time: 0830 Received By: *W. King*
 Relinquished By: (2) *W. King* Date: 4/13/12 Time: 1500 Received By: *Julgen*
 Relinquished By: (3) _____ Date: _____ Time: _____ Received By: _____
 Relinquished By: (4) _____ Date: _____ Time: _____ Received By: _____



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107034

1 CLIENT: **AECOM-NC DOT** PHONE NO: (919) 239-7132

CONTACT: **Matt Brennan** SITE/PWSID#:

PROJECT: **NC DOT Pittsboro**

REPORTS TO:

Matthew Brennan@AECOM.com FAX NO.:()

INVOICE TO: **NC DOT Chris Peoples** QUOTE #:

WBS# 34613.3.13 P.O. NUMBER:

2

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	No	SAMPLE TYPE	Preservatives Used	Analysis Required	REMARKS
	48 MW-1	4-12-12	1310	W	3	G	HCL	(3)	
	48 DW-6	4-12-12	1325	W	3	G			
	48 DUP-1	4-12-12	-	W	3	G			
	48 DW-7	4-12-12	1450	W	3	G			
	48 DW-8	4-12-12	1515	W	3	G			
	48 DW-2	4-12-12	1600	W	3	G			
	48 DW-5	4-12-12	1625	W	3	G			
	48 SUE-01	4-12-12	1655	W	3	G			
	48 EB-02	4-12-12	1730	W	3	G			
4	TRIP Blank	-	-	W	2	-			

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4

5

Shipping Carrier: _____

Samples Received Cold? (Circle) YES NO

Temperature °C: 5.29

Shipping Ticket No: _____

Chain of Custody Seal: (Circle) INTACT **BROKEN** **ABSENT**

Special Deliverable Requirements: _____

Special Instructions: _____

Requested Turnaround Time: _____ RUSH STD Date Needed _____

Received By: *[Signature]* Time: 0830 Date: 4-13-12

Relinquished By: (2) *[Signature]* Time: 1500 Date: 4/13/12

Received By: _____ Time: _____ Date: _____

Relinquished By: (3) _____ Time: _____ Date: _____

Received By: _____ Time: _____ Date: _____

Relinquished By: (4) _____ Time: _____ Date: _____

White - Retained by Lab
Pink - Retained by Client

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

SGS North America Inc.

Sample Receipt Checklist (SRC)

Client: NCDOT-AECOM

Work Order No.: 31201090

- 1. Shipped
 Hand Delivered
- 2. COC Present on Receipt
 No COC
 Additional Transmittal Forms
- 3. Custody Tape on Container
 No Custody Tape
- 4. Samples Intact
 Samples Broken / Leaking
- 5. Chilled on Receipt Actual Temp.(s) in °C: 5.2
 Ambient on Receipt
 Walk-in on Ice; Coming down to temp.
 Received Outside of Temperature Specifications
- 6. Sufficient Sample Submitted
 Insufficient Sample Submitted
- 7. Chlorine absent
 HNO3 < 2
 HCL < 2
 Additional Preservatives verified (see notes)
- 8. Received Within Holding Time
 Not Received Within Holding Time
- 9. No Discrepancies Noted
 Discrepancies Noted
 NCDENR notified of Discrepancies*
- 10. No Headspace present in VOC vials
 Headspace present in VOC vials >6mm

Notes: _____

Comments: _____

Inspected and Logged in by: JJ
Date: Sat-4/14/12 00:00

Laboratory Report of Analysis

To: Matt Brennan
AECOM
8540 Colonnade Center Drive
Suite 306
Raleigh, NC 27615
US

Report Number: **31201636**

Client Project: **NCDOT/Pittsboro**

Dear Matt Brennan,

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
Project Manager
barbara.hager@sgs.com

Date

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

Laboratory Qualifiers

Report Definitions

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

Qualifier Definitions

*	Recovery or RPD outside of control limits
B	Analyte was detected in the Lab Method Blank at a level above the LOQ
U	Undetected (Reported as ND or < DL)
V	Recovery is below quality control limit. The data has been validated based on a favorable signal-to-noise and detection limit
A	Amount detected is less than the Lower Method Calibration Limit
J	Estimated Concentration.
O	The recovery of this analyte in the OPR is above the Method QC Limits and the reported concentration in the sample may be biased high
E	Amount detected is greater than the Upper Calibration Limit
S	The amount of analyte present has saturated the detector. This situation results in an underestimation of the affected analyte(s)
Q	Indicates the presence of a quantitative interference. This situation may result in an underestimation of the affected analyte(s)
I	Indicates the presence of a qualitative interference that could cause a false positive or an overestimation of the affected analyte(s)
DPE	Indicates the presence of a peak in the polychlorinated diphenylether channel that could cause a false positive or an overestimation of the affected analyte(s)
TIC	Tentatively Identified Compound
EMPC	Estimated Maximum possible Concentration due to ion ratio failure
ND	Not Detected
K	Result is estimated due to ion ratio failure in High Resolution PCB Analysis
P	RPD > 40% between results of dual columns
D	Spike or surrogate was diluted out in order to achieve a parameter result within instrument calibration range

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

M1	Mis-identified peak
M2	Software did not integrate peak
M3	Incorrect baseline construction (i.e. not all of peak included; two peaks integrated as one)
M4	Pattern integration required (i.e. DRO, GRO, PCB, Toxaphene and Technical Chlordane)
M5	Other - Explained in case narrative

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

Sample Summary

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Collected</u>	<u>Received</u>	<u>Matrix</u>
INF-052412	31201636001	05/24/2012 08:00	05/25/2012 16:00	Water
Midcarbon-052412	31201636002	05/24/2012 08:10	05/25/2012 16:00	Water
EFF-052412	31201636003	05/24/2012 08:20	05/25/2012 16:00	Water

Detectable Results Summary

Client Sample ID: **INF-052412**

Lab Sample ID: 31201636001-A

SM 6200-B

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
1,1-Dichloroethene	9.90	ug/L
Tetrachloroethene	5.90	ug/L
Trichloroethene	240	ug/L

Results of INF-052412

Client Sample ID: **INF-052412**
 Client Project ID: **NCDOT/Pittsboro**
 Lab Sample ID: 31201636001-A
 Lab Project ID: 31201636

Collection Date: 05/24/2012 08:00
 Received Date: 05/25/2012 16:00
 Matrix: Water

Results by SM 6200-B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1,1,2-Tetrachloroethane	ND		5.00	ug/L	10	05/29/2012 18:54
1,1,1-Trichloroethane	ND		5.00	ug/L	10	05/29/2012 18:54
1,1,2,2-Tetrachloroethane	ND		5.00	ug/L	10	05/29/2012 18:54
1,1,2-Trichloroethane	ND		5.00	ug/L	10	05/29/2012 18:54
1,1-Dichloroethane	ND		5.00	ug/L	10	05/29/2012 18:54
1,1-Dichloroethene	9.90		5.00	ug/L	10	05/29/2012 18:54
1,1-Dichloropropene	ND		5.00	ug/L	10	05/29/2012 18:54
1,2,3-Trichlorobenzene	ND		5.00	ug/L	10	05/29/2012 18:54
1,2,3-Trichloropropane	ND		5.00	ug/L	10	05/29/2012 18:54
1,2,4-Trichlorobenzene	ND		5.00	ug/L	10	05/29/2012 18:54
1,2,4-Trimethylbenzene	ND		5.00	ug/L	10	05/29/2012 18:54
1,2-Dibromo-3-chloropropane	ND		50.0	ug/L	10	05/29/2012 18:54
1,2-Dibromoethane	ND		5.00	ug/L	10	05/29/2012 18:54
1,2-Dichlorobenzene	ND		5.00	ug/L	10	05/29/2012 18:54
1,2-Dichloroethane	ND		5.00	ug/L	10	05/29/2012 18:54
1,2-Dichloropropane	ND		5.00	ug/L	10	05/29/2012 18:54
1,3,5-Trimethylbenzene	ND		5.00	ug/L	10	05/29/2012 18:54
1,3-Dichlorobenzene	ND		5.00	ug/L	10	05/29/2012 18:54
1,3-Dichloropropane	ND		5.00	ug/L	10	05/29/2012 18:54
1,4-Dichlorobenzene	ND		5.00	ug/L	10	05/29/2012 18:54
2,2-Dichloropropane	ND		5.00	ug/L	10	05/29/2012 18:54
2-Chlorotoluene	ND		5.00	ug/L	10	05/29/2012 18:54
4-Chlorotoluene	ND		5.00	ug/L	10	05/29/2012 18:54
4-Isopropyltoluene	ND		5.00	ug/L	10	05/29/2012 18:54
Benzene	ND		5.00	ug/L	10	05/29/2012 18:54
Bromobenzene	ND		5.00	ug/L	10	05/29/2012 18:54
Bromochloromethane	ND		5.00	ug/L	10	05/29/2012 18:54
Bromodichloromethane	ND		5.00	ug/L	10	05/29/2012 18:54
Bromoform	ND		5.00	ug/L	10	05/29/2012 18:54
Bromomethane	ND		5.00	ug/L	10	05/29/2012 18:54
n-Butylbenzene	ND		5.00	ug/L	10	05/29/2012 18:54
Carbon tetrachloride	ND		5.00	ug/L	10	05/29/2012 18:54
Chlorobenzene	ND		5.00	ug/L	10	05/29/2012 18:54
Chloroethane	ND		5.00	ug/L	10	05/29/2012 18:54
Chloroform	ND		5.00	ug/L	10	05/29/2012 18:54
Chloromethane	ND		5.00	ug/L	10	05/29/2012 18:54
Dibromochloromethane	ND		5.00	ug/L	10	05/29/2012 18:54
Dibromomethane	ND		5.00	ug/L	10	05/29/2012 18:54
Dichlorodifluoromethane	ND		50.0	ug/L	10	05/29/2012 18:54
cis-1,3-Dichloropropene	ND		5.00	ug/L	10	05/29/2012 18:54
trans-1,3-Dichloropropene	ND		5.00	ug/L	10	05/29/2012 18:54
Diisopropyl Ether	ND		5.00	ug/L	10	05/29/2012 18:54
Ethyl Benzene	ND		5.00	ug/L	10	05/29/2012 18:54
Hexachlorobutadiene	ND		5.00	ug/L	10	05/29/2012 18:54

Results of INF-052412

Client Sample ID: **INF-052412**
 Client Project ID: **NCDOT/Pittsboro**
 Lab Sample ID: 31201636001-A
 Lab Project ID: 31201636

Collection Date: 05/24/2012 08:00
 Received Date: 05/25/2012 16:00
 Matrix: Water

Results by SM 6200-B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Isopropylbenzene (Cumene)	ND		5.00	ug/L	10	05/29/2012 18:54
Methylene chloride	ND		50.0	ug/L	10	05/29/2012 18:54
Naphthalene	ND		5.00	ug/L	10	05/29/2012 18:54
Styrene	ND		5.00	ug/L	10	05/29/2012 18:54
Tetrachloroethene	5.90		5.00	ug/L	10	05/29/2012 18:54
Toluene	ND		5.00	ug/L	10	05/29/2012 18:54
Trichloroethene	240		5.00	ug/L	10	05/29/2012 18:54
Trichlorofluoromethane	ND		5.00	ug/L	10	05/29/2012 18:54
Vinyl chloride	ND		5.00	ug/L	10	05/29/2012 18:54
Xylene (total)	ND		15.0	ug/L	10	05/29/2012 18:54
cis-1,2-Dichloroethene	ND		5.00	ug/L	10	05/29/2012 18:54
m,p-Xylene	ND		10.0	ug/L	10	05/29/2012 18:54
n-Propylbenzene	ND		5.00	ug/L	10	05/29/2012 18:54
o-Xylene	ND		5.00	ug/L	10	05/29/2012 18:54
sec-Butylbenzene	ND		5.00	ug/L	10	05/29/2012 18:54
tert-Butyl methyl ether (MTBE)	ND		5.00	ug/L	10	05/29/2012 18:54
tert-Butylbenzene	ND		5.00	ug/L	10	05/29/2012 18:54
trans-1,2-Dichloroethene	ND		5.00	ug/L	10	05/29/2012 18:54
Surrogates						
1,2-Dichloroethane-d4	99.1		64.0-140	%	10	05/29/2012 18:54
4-Bromofluorobenzene	100		85.0-115	%	10	05/29/2012 18:54
Toluene d8	99.4		82.0-117	%	10	05/29/2012 18:54

Batch Information

Analytical Batch: **VMS2245**
 Analytical Method: **SM 6200-B**
 Instrument: **MSD8**
 Analyst: **BWS**
 Analytical Date/Time: **05/29/2012 18:54**

Prep Batch: **VXX3379**
 Prep Method: **SM 6200-B Prep**
 Prep Date/Time: **05/29/2012 10:28**
 Prep Initial Wt./Vol.: **40 mL**
 Prep Extract Vol: **40 mL**

Results of **INF-052412**

Client Sample ID: **INF-052412**
 Client Project ID: **NCDOT/Pittsboro**
 Lab Sample ID: 31201636001-D
 Lab Project ID: 31201636

Collection Date: 05/24/2012 08:00
 Received Date: 05/25/2012 16:00
 Matrix: Water

Results by **Calculation (SUB)**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Total Nitrogen	ND		0.500	mg/L	1	06/11/2012 0:00

Laboratory: **EC**
 Analytical Date/Time: **06/11/2012 00:00**

Prep Method:
 Prep Date/Time:

Results of **INF-052412**

Client Sample ID: **INF-052412**
 Client Project ID: **NCDOT/Pittsboro**
 Lab Sample ID: 31201636001-E
 Lab Project ID: 31201636

Collection Date: 05/24/2012 08:00
 Received Date: 05/25/2012 16:00
 Matrix: Water

Results by **SM 4500 PF (SUB)**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Total Phosphorus as P	ND		0.0400	mg/L	1	06/6/2012 0:00

Laboratory: **EC**
 Analytical Date/Time: **06/06/2012 00:00**

Prep Method:
 Prep Date/Time:

Results of Midcarbon-052412

Client Sample ID: **Midcarbon-052412**
 Client Project ID: **NCDOT/Pittsboro**
 Lab Sample ID: 31201636002-A
 Lab Project ID: 31201636

Collection Date: 05/24/2012 08:10
 Received Date: 05/25/2012 16:00
 Matrix: Water

Results by SM 6200-B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1,1,2-Tetrachloroethane	ND		0.500	ug/L	1	05/29/2012 17:16
1,1,1-Trichloroethane	ND		0.500	ug/L	1	05/29/2012 17:16
1,1,2,2-Tetrachloroethane	ND		0.500	ug/L	1	05/29/2012 17:16
1,1,2-Trichloroethane	ND		0.500	ug/L	1	05/29/2012 17:16
1,1-Dichloroethane	ND		0.500	ug/L	1	05/29/2012 17:16
1,1-Dichloroethene	ND		0.500	ug/L	1	05/29/2012 17:16
1,1-Dichloropropene	ND		0.500	ug/L	1	05/29/2012 17:16
1,2,3-Trichlorobenzene	ND		0.500	ug/L	1	05/29/2012 17:16
1,2,3-Trichloropropane	ND		0.500	ug/L	1	05/29/2012 17:16
1,2,4-Trichlorobenzene	ND		0.500	ug/L	1	05/29/2012 17:16
1,2,4-Trimethylbenzene	ND		0.500	ug/L	1	05/29/2012 17:16
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1	05/29/2012 17:16
1,2-Dibromoethane	ND		0.500	ug/L	1	05/29/2012 17:16
1,2-Dichlorobenzene	ND		0.500	ug/L	1	05/29/2012 17:16
1,2-Dichloroethane	ND		0.500	ug/L	1	05/29/2012 17:16
1,2-Dichloropropane	ND		0.500	ug/L	1	05/29/2012 17:16
1,3,5-Trimethylbenzene	ND		0.500	ug/L	1	05/29/2012 17:16
1,3-Dichlorobenzene	ND		0.500	ug/L	1	05/29/2012 17:16
1,3-Dichloropropane	ND		0.500	ug/L	1	05/29/2012 17:16
1,4-Dichlorobenzene	ND		0.500	ug/L	1	05/29/2012 17:16
2,2-Dichloropropane	ND		0.500	ug/L	1	05/29/2012 17:16
2-Chlorotoluene	ND		0.500	ug/L	1	05/29/2012 17:16
4-Chlorotoluene	ND		0.500	ug/L	1	05/29/2012 17:16
4-Isopropyltoluene	ND		0.500	ug/L	1	05/29/2012 17:16
Benzene	ND		0.500	ug/L	1	05/29/2012 17:16
Bromobenzene	ND		0.500	ug/L	1	05/29/2012 17:16
Bromochloromethane	ND		0.500	ug/L	1	05/29/2012 17:16
Bromodichloromethane	ND		0.500	ug/L	1	05/29/2012 17:16
Bromoform	ND		0.500	ug/L	1	05/29/2012 17:16
Bromomethane	ND		0.500	ug/L	1	05/29/2012 17:16
n-Butylbenzene	ND		0.500	ug/L	1	05/29/2012 17:16
Carbon tetrachloride	ND		0.500	ug/L	1	05/29/2012 17:16
Chlorobenzene	ND		0.500	ug/L	1	05/29/2012 17:16
Chloroethane	ND		0.500	ug/L	1	05/29/2012 17:16
Chloroform	ND		0.500	ug/L	1	05/29/2012 17:16
Chloromethane	ND		0.500	ug/L	1	05/29/2012 17:16
Dibromochloromethane	ND		0.500	ug/L	1	05/29/2012 17:16
Dibromomethane	ND		0.500	ug/L	1	05/29/2012 17:16
Dichlorodifluoromethane	ND		5.00	ug/L	1	05/29/2012 17:16
cis-1,3-Dichloropropene	ND		0.500	ug/L	1	05/29/2012 17:16
trans-1,3-Dichloropropene	ND		0.500	ug/L	1	05/29/2012 17:16
Diisopropyl Ether	ND		0.500	ug/L	1	05/29/2012 17:16
Ethyl Benzene	ND		0.500	ug/L	1	05/29/2012 17:16
Hexachlorobutadiene	ND		0.500	ug/L	1	05/29/2012 17:16

Results of Midcarbon-052412

Client Sample ID: **Midcarbon-052412**
 Client Project ID: **NCDOT/Pittsboro**
 Lab Sample ID: 31201636002-A
 Lab Project ID: 31201636

Collection Date: 05/24/2012 08:10
 Received Date: 05/25/2012 16:00
 Matrix: Water

Results by SM 6200-B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Isopropylbenzene (Cumene)	ND		0.500	ug/L	1	05/29/2012 17:16
Methylene chloride	ND		5.00	ug/L	1	05/29/2012 17:16
Naphthalene	ND		0.500	ug/L	1	05/29/2012 17:16
Styrene	ND		0.500	ug/L	1	05/29/2012 17:16
Tetrachloroethene	ND		0.500	ug/L	1	05/29/2012 17:16
Toluene	ND		0.500	ug/L	1	05/29/2012 17:16
Trichloroethene	ND		0.500	ug/L	1	05/29/2012 17:16
Trichlorofluoromethane	ND		0.500	ug/L	1	05/29/2012 17:16
Vinyl chloride	ND		0.500	ug/L	1	05/29/2012 17:16
Xylene (total)	ND		1.50	ug/L	1	05/29/2012 17:16
cis-1,2-Dichloroethene	ND		0.500	ug/L	1	05/29/2012 17:16
m,p-Xylene	ND		1.00	ug/L	1	05/29/2012 17:16
n-Propylbenzene	ND		0.500	ug/L	1	05/29/2012 17:16
o-Xylene	ND		0.500	ug/L	1	05/29/2012 17:16
sec-Butylbenzene	ND		0.500	ug/L	1	05/29/2012 17:16
tert-Butyl methyl ether (MTBE)	ND		0.500	ug/L	1	05/29/2012 17:16
tert-Butylbenzene	ND		0.500	ug/L	1	05/29/2012 17:16
trans-1,2-Dichloroethene	ND		0.500	ug/L	1	05/29/2012 17:16
Surrogates						
1,2-Dichloroethane-d4	91.5		64.0-140	%	1	05/29/2012 17:16
4-Bromofluorobenzene	95.3		85.0-115	%	1	05/29/2012 17:16
Toluene d8	99.1		82.0-117	%	1	05/29/2012 17:16

Batch Information

Analytical Batch: **VMS2245**
 Analytical Method: **SM 6200-B**
 Instrument: **MSD8**
 Analyst: **BWS**
 Analytical Date/Time: **05/29/2012 17:16**

Prep Batch: **VXX3379**
 Prep Method: **SM 6200-B Prep**
 Prep Date/Time: **05/29/2012 10:17**
 Prep Initial Wt./Vol.: **40 mL**
 Prep Extract Vol: **40 mL**

Results of EFF-052412

Client Sample ID: **EFF-052412**
 Client Project ID: **NCDOT/Pittsboro**
 Lab Sample ID: 31201636003-A
 Lab Project ID: 31201636

Collection Date: 05/24/2012 08:20
 Received Date: 05/25/2012 16:00
 Matrix: Water

Results by SM 6200-B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1,1,2-Tetrachloroethane	ND		0.500	ug/L	1	05/29/2012 17:40
1,1,1-Trichloroethane	ND		0.500	ug/L	1	05/29/2012 17:40
1,1,2,2-Tetrachloroethane	ND		0.500	ug/L	1	05/29/2012 17:40
1,1,2-Trichloroethane	ND		0.500	ug/L	1	05/29/2012 17:40
1,1-Dichloroethane	ND		0.500	ug/L	1	05/29/2012 17:40
1,1-Dichloroethene	ND		0.500	ug/L	1	05/29/2012 17:40
1,1-Dichloropropene	ND		0.500	ug/L	1	05/29/2012 17:40
1,2,3-Trichlorobenzene	ND		0.500	ug/L	1	05/29/2012 17:40
1,2,3-Trichloropropane	ND		0.500	ug/L	1	05/29/2012 17:40
1,2,4-Trichlorobenzene	ND		0.500	ug/L	1	05/29/2012 17:40
1,2,4-Trimethylbenzene	ND		0.500	ug/L	1	05/29/2012 17:40
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1	05/29/2012 17:40
1,2-Dibromoethane	ND		0.500	ug/L	1	05/29/2012 17:40
1,2-Dichlorobenzene	ND		0.500	ug/L	1	05/29/2012 17:40
1,2-Dichloroethane	ND		0.500	ug/L	1	05/29/2012 17:40
1,2-Dichloropropane	ND		0.500	ug/L	1	05/29/2012 17:40
1,3,5-Trimethylbenzene	ND		0.500	ug/L	1	05/29/2012 17:40
1,3-Dichlorobenzene	ND		0.500	ug/L	1	05/29/2012 17:40
1,3-Dichloropropane	ND		0.500	ug/L	1	05/29/2012 17:40
1,4-Dichlorobenzene	ND		0.500	ug/L	1	05/29/2012 17:40
2,2-Dichloropropane	ND		0.500	ug/L	1	05/29/2012 17:40
2-Chlorotoluene	ND		0.500	ug/L	1	05/29/2012 17:40
4-Chlorotoluene	ND		0.500	ug/L	1	05/29/2012 17:40
4-Isopropyltoluene	ND		0.500	ug/L	1	05/29/2012 17:40
Benzene	ND		0.500	ug/L	1	05/29/2012 17:40
Bromobenzene	ND		0.500	ug/L	1	05/29/2012 17:40
Bromochloromethane	ND		0.500	ug/L	1	05/29/2012 17:40
Bromodichloromethane	ND		0.500	ug/L	1	05/29/2012 17:40
Bromoform	ND		0.500	ug/L	1	05/29/2012 17:40
Bromomethane	ND		0.500	ug/L	1	05/29/2012 17:40
n-Butylbenzene	ND		0.500	ug/L	1	05/29/2012 17:40
Carbon tetrachloride	ND		0.500	ug/L	1	05/29/2012 17:40
Chlorobenzene	ND		0.500	ug/L	1	05/29/2012 17:40
Chloroethane	ND		0.500	ug/L	1	05/29/2012 17:40
Chloroform	ND		0.500	ug/L	1	05/29/2012 17:40
Chloromethane	ND		0.500	ug/L	1	05/29/2012 17:40
Dibromochloromethane	ND		0.500	ug/L	1	05/29/2012 17:40
Dibromomethane	ND		0.500	ug/L	1	05/29/2012 17:40
Dichlorodifluoromethane	ND		5.00	ug/L	1	05/29/2012 17:40
cis-1,3-Dichloropropene	ND		0.500	ug/L	1	05/29/2012 17:40
trans-1,3-Dichloropropene	ND		0.500	ug/L	1	05/29/2012 17:40
Diisopropyl Ether	ND		0.500	ug/L	1	05/29/2012 17:40
Ethyl Benzene	ND		0.500	ug/L	1	05/29/2012 17:40
Hexachlorobutadiene	ND		0.500	ug/L	1	05/29/2012 17:40

Results of EFF-052412

Client Sample ID: **EFF-052412**
 Client Project ID: **NCDOT/Pittsboro**
 Lab Sample ID: 31201636003-A
 Lab Project ID: 31201636

Collection Date: 05/24/2012 08:20
 Received Date: 05/25/2012 16:00
 Matrix: Water

Results by SM 6200-B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Isopropylbenzene (Cumene)	ND		0.500	ug/L	1	05/29/2012 17:40
Methylene chloride	ND		5.00	ug/L	1	05/29/2012 17:40
Naphthalene	ND		0.500	ug/L	1	05/29/2012 17:40
Styrene	ND		0.500	ug/L	1	05/29/2012 17:40
Tetrachloroethene	ND		0.500	ug/L	1	05/29/2012 17:40
Toluene	ND		0.500	ug/L	1	05/29/2012 17:40
Trichloroethene	ND		0.500	ug/L	1	05/29/2012 17:40
Trichlorofluoromethane	ND		0.500	ug/L	1	05/29/2012 17:40
Vinyl chloride	ND		0.500	ug/L	1	05/29/2012 17:40
Xylene (total)	ND		1.50	ug/L	1	05/29/2012 17:40
cis-1,2-Dichloroethene	ND		0.500	ug/L	1	05/29/2012 17:40
m,p-Xylene	ND		1.00	ug/L	1	05/29/2012 17:40
n-Propylbenzene	ND		0.500	ug/L	1	05/29/2012 17:40
o-Xylene	ND		0.500	ug/L	1	05/29/2012 17:40
sec-Butylbenzene	ND		0.500	ug/L	1	05/29/2012 17:40
tert-Butyl methyl ether (MTBE)	ND		0.500	ug/L	1	05/29/2012 17:40
tert-Butylbenzene	ND		0.500	ug/L	1	05/29/2012 17:40
trans-1,2-Dichloroethene	ND		0.500	ug/L	1	05/29/2012 17:40
Surrogates						
1,2-Dichloroethane-d4	109		64.0-140	%	1	05/29/2012 17:40
4-Bromofluorobenzene	93.1		85.0-115	%	1	05/29/2012 17:40
Toluene d8	98.7		82.0-117	%	1	05/29/2012 17:40

Batch Information

Analytical Batch: **VMS2245**
 Analytical Method: **SM 6200-B**
 Instrument: **MSD8**
 Analyst: **BWS**
 Analytical Date/Time: **05/29/2012 17:40**

Prep Batch: **VXX3379**
 Prep Method: **SM 6200-B Prep**
 Prep Date/Time: **05/29/2012 10:17**
 Prep Initial Wt./Vol.: **40 mL**
 Prep Extract Vol: **40 mL**

Results of **EFF-052412**

Client Sample ID: **EFF-052412**
 Client Project ID: **NCDOT/Pittsboro**
 Lab Sample ID: 31201636003-D
 Lab Project ID: 31201636

Collection Date: 05/24/2012 08:20
 Received Date: 05/25/2012 16:00
 Matrix: Water

Results by **Calculation (SUB)**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Total Nitrogen	ND		0.500	mg/L	1	06/11/2012 0:00

Laboratory: **EC**
 Analytical Date/Time: **06/11/2012 00:00**

Prep Method:
 Prep Date/Time:

Results of **EFF-052412**

Client Sample ID: **EFF-052412**
 Client Project ID: **NCDOT/Pittsboro**
 Lab Sample ID: 31201636003-E
 Lab Project ID: 31201636

Collection Date: 05/24/2012 08:20
 Received Date: 05/25/2012 16:00
 Matrix: Water

Results by **SM 4500 PF (SUB)**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Total Phosphorus as P	ND		0.0400	mg/L	1	06/6/2012 0:00

Laboratory: **EC**
 Analytical Date/Time: **06/06/2012 00:00**

Prep Method:
 Prep Date/Time:

Batch Summary

Analytical Method: SM 6200-B

Prep Method: SW-846 5030B

Prep Batch: VXX3379

Prep Date: 05/29/2012 08:42

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Analysis Date</u>	<u>Analytical Batch</u>	<u>Instrument</u>	<u>Analyst</u>
LCSD for HBN 24066 [VXX/3379]	73826	05/29/2012 12:18	VMS2245	MSD8	BWS
LCS for HBN 24066 [VXX/3379]	73825	05/29/2012 12:43	VMS2245	MSD8	BWS
MB for HBN 24066 [VXX/3379]	73827	05/29/2012 13:32	VMS2245	MSD8	BWS
Midcarbon-052412	31201636002	05/29/2012 17:16	VMS2245	MSD8	BWS
EFF-052412	31201636003	05/29/2012 17:40	VMS2245	MSD8	BWS
INF-052412	31201636001	05/29/2012 18:54	VMS2245	MSD8	BWS
TAFB Ammo Sludge(73714MS)	74006	05/29/2012 22:12	VMS2245	MSD8	BWS
TAFB Ammo Sludge(73714MSD)	74007	05/29/2012 22:36	VMS2245	MSD8	BWS

Method Blank

Blank ID: MB for HBN 24066 [VXX/3379]
 Blank Lab ID: 73827
 QC for Samples:
 31201636001, 31201636002, 31201636003

Matrix: Water

Results by SM 6200-B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>
Dichlorodifluoromethane	ND		5.00	ug/L	1
Chloromethane	ND		0.500	ug/L	1
Vinyl chloride	ND		0.500	ug/L	1
Bromomethane	ND		0.500	ug/L	1
Chloroethane	ND		0.500	ug/L	1
Trichlorofluoromethane	ND		0.500	ug/L	1
1,1-Dichloroethene	ND		0.500	ug/L	1
Methylene chloride	ND		5.00	ug/L	1
trans-1,2-Dichloroethene	ND		0.500	ug/L	1
tert-Butyl methyl ether (MTBE)	ND		0.500	ug/L	1
1,1-Dichloroethane	ND		0.500	ug/L	1
Diisopropyl Ether	ND		0.500	ug/L	1
2,2-Dichloropropane	ND		0.500	ug/L	1
cis-1,2-Dichloroethene	ND		0.500	ug/L	1
Bromochloromethane	ND		0.500	ug/L	1
Chloroform	ND		0.500	ug/L	1
1,1,1-Trichloroethane	ND		0.500	ug/L	1
Carbon tetrachloride	ND		0.500	ug/L	1
1,1-Dichloropropene	ND		0.500	ug/L	1
Benzene	ND		0.500	ug/L	1
1,2-Dichloroethane	ND		0.500	ug/L	1
Trichloroethene	ND		0.500	ug/L	1
1,2-Dichloropropane	ND		0.500	ug/L	1
Dibromomethane	ND		0.500	ug/L	1
Bromodichloromethane	ND		0.500	ug/L	1
cis-1,3-Dichloropropene	ND		0.500	ug/L	1
Toluene	ND		0.500	ug/L	1
trans-1,3-Dichloropropene	ND		0.500	ug/L	1
1,1,2-Trichloroethane	ND		0.500	ug/L	1
Tetrachloroethene	ND		0.500	ug/L	1
1,3-Dichloropropane	ND		0.500	ug/L	1
Dibromochloromethane	ND		0.500	ug/L	1
1,2-Dibromoethane	ND		0.500	ug/L	1
Chlorobenzene	ND		0.500	ug/L	1
1,1,1,2-Tetrachloroethane	ND		0.500	ug/L	1
Bromoform	ND		0.500	ug/L	1
Bromobenzene	ND		0.500	ug/L	1
1,1,2,2-Tetrachloroethane	ND		0.500	ug/L	1
1,2,3-Trichloropropane	ND		0.500	ug/L	1
Ethyl Benzene	ND		0.500	ug/L	1
m,p-Xylene	ND		1.00	ug/L	1
Styrene	ND		0.500	ug/L	1

Method Blank

Blank ID: MB for HBN 24066 [VXX/3379]
 Blank Lab ID: 73827
 QC for Samples:
 31201636001, 31201636002, 31201636003

Matrix: Water

Results by SM 6200-B

Parameter	Result	Qual	LOQ/CL	Units	DF
o-Xylene	ND		0.500	ug/L	1
Xylene (total)	ND		1.50	ug/L	1
Isopropylbenzene (Cumene)	ND		0.500	ug/L	1
n-Propylbenzene	ND		0.500	ug/L	1
2-Chlorotoluene	ND		0.500	ug/L	1
4-Chlorotoluene	ND		0.500	ug/L	1
1,3,5-Trimethylbenzene	ND		0.500	ug/L	1
tert-Butylbenzene	ND		0.500	ug/L	1
1,2,4-Trimethylbenzene	ND		0.500	ug/L	1
sec-Butylbenzene	ND		0.500	ug/L	1
1,3-Dichlorobenzene	ND		0.500	ug/L	1
4-Isopropyltoluene	ND		0.500	ug/L	1
1,4-Dichlorobenzene	ND		0.500	ug/L	1
1,2-Dichlorobenzene	ND		0.500	ug/L	1
n-Butylbenzene	ND		0.500	ug/L	1
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1
1,2,4-Trichlorobenzene	ND		0.500	ug/L	1
Hexachlorobutadiene	ND		0.500	ug/L	1
Naphthalene	ND		0.500	ug/L	1
1,2,3-Trichlorobenzene	ND		0.500	ug/L	1
Surrogates					
1,2-Dichloroethane-d4	89.8		64.0-140	%	1
Toluene d8	103		82.0-117	%	1
4-Bromofluorobenzene	96.2		85.0-115	%	1

Batch Information

Analytical Batch: VMS2245
 Analytical Method: SM 6200-B
 Instrument: MSD8
 Analyst: BWS
 Analytical Date/Time: 5/29/2012 1:32:00PM

Prep Batch: VXX3379
 Prep Method: SW-846 5030B
 Prep Date/Time: 5/29/2012 8:42:24AM
 Prep Initial Wt./Vol.: 40 mL
 Prep Extract Vol: 40 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 24066 [VXX/3379]
 Blank Spike Lab ID: 73825
 Date Analyzed: 05/29/2012 12:43

Spike Duplicate ID: LCSD for HBN 24066 [VXX/3379]
 Spike Duplicate Lab ID: 73826
 Date Analyzed: 05/29/2012 12:18
 Matrix: Water

QC for Samples: 31201636001, 31201636002, 31201636003

Results by SM 6200-B

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Dichlorodifluoromethane	5.00	5.90	118	5.00	6.13	123	33.0-170	3.8	30.00
Chloromethane	5.00	6.09	122	5.00	6.05	121	57.0-132	0.66	30.00
Vinyl chloride	5.00	5.24	105	5.00	5.78	116	59.0-138	9.8	30.00
Bromomethane	5.00	5.40	108	5.00	5.72	114	51.0-134	5.8	30.00
Chloroethane	5.00	5.56	111	5.00	5.83	117	64.0-145	4.7	30.00
Trichlorofluoromethane	5.00	4.55	91	5.00	5.58	112	64.0-133	20	30.00
1,1-Dichloroethene	5.00	5.25	105	5.00	5.63	113	71.0-128	7.0	30.00
Methylene chloride	5.00	5.09	102	5.00	ND	97	70.0-113	4.4	30.00
trans-1,2-Dichloroethene	5.00	5.54	111	5.00	5.66	113	57.0-138	2.1	30.00
tert-Butyl methyl ether (MTBE)	5.00	5.22	104	5.00	5.16	103	47.0-142	1.2	30.00
1,1-Dichloroethane	5.00	5.06	101	5.00	5.51	110	68.0-133	8.5	30.00
Diisopropyl Ether	5.00	5.31	106	5.00	4.92	98	66.0-132	7.6	30.00
2,2-Dichloropropane	5.00	5.66	113	5.00	5.64	113	74.0-125	0.35	30.00
cis-1,2-Dichloroethene	5.00	4.97	99	5.00	5.33	107	73.0-128	7.0	30.00
Bromochloromethane	5.00	4.85	97	5.00	5.35	107	73.0-128	9.8	30.00
Chloroform	5.00	5.40	108	5.00	5.42	108	74.0-124	0.37	30.00
1,1,1-Trichloroethane	5.00	5.60	112	5.00	5.34	107	76.0-119	4.8	30.00
Carbon tetrachloride	5.00	6.07	121*	5.00	6.00	120	75.0-120	1.2	30.00
1,1-Dichloropropene	5.00	5.65	113	5.00	5.33	107	76.0-124	5.8	30.00
Benzene	5.00	5.58	112	5.00	4.98	100	76.0-124	11	30.00
1,2-Dichloroethane	5.00	5.13	103	5.00	5.11	102	76.0-119	0.39	30.00
Trichloroethene	5.00	5.47	109	5.00	5.29	106	74.0-121	3.3	30.00
1,2-Dichloropropane	5.00	5.17	103	5.00	5.14	103	74.0-124	0.58	30.00
Dibromomethane	5.00	5.14	103	5.00	5.89	118	71.0-128	14	30.00
Bromodichloromethane	5.00	5.58	112	5.00	5.54	111	72.0-120	0.72	30.00
cis-1,3-Dichloropropene	5.00	5.70	114	5.00	5.70	114	73.0-122	0.0	30.00
Toluene	5.00	5.68	114	5.00	5.10	102	75.0-123	11	30.00
trans-1,3-Dichloropropene	5.00	5.63	113	5.00	5.40	108	70.0-125	4.2	30.00
1,1,2-Trichloroethane	5.00	5.57	111	5.00	5.09	102	76.0-121	9.0	30.00
Tetrachloroethene	5.00	5.54	111	5.00	5.16	103	59.0-112	7.1	30.00
1,3-Dichloropropane	5.00	5.35	107	5.00	5.12	102	74.0-120	4.4	30.00
Dibromochloromethane	5.00	5.80	116	5.00	5.71	114	67.0-122	1.6	30.00
1,2-Dibromoethane	5.00	5.21	104	5.00	4.75	95	74.0-119	9.2	30.00
Chlorobenzene	5.00	5.57	111	5.00	4.99	100	74.0-120	11	30.00

Blank Spike Summary

Blank Spike ID: LCS for HBN 24066 [VXX/3379]
 Blank Spike Lab ID: 73825
 Date Analyzed: 05/29/2012 12:43

Spike Duplicate ID: LCSD for HBN 24066 [VXX/3379]
 Spike Duplicate Lab ID: 73826
 Date Analyzed: 05/29/2012 12:18
 Matrix: Water

QC for Samples: 31201636001, 31201636002, 31201636003

Results by SM 6200-B

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
1,1,1,2-Tetrachloroethane	5.00	5.92	118	5.00	5.71	114	73.0-119	3.6	30.00
Bromoform	5.00	5.45	109	5.00	5.51	110	62.0-127	1.1	30.00
Bromobenzene	5.00	5.90	118	5.00	5.27	105	75.0-120	11	30.00
1,1,2,2-Tetrachloroethane	5.00	5.60	112	5.00	4.84	97	68.0-129	15	30.00
1,2,3-Trichloropropane	5.00	5.18	104	5.00	5.04	101	67.0-126	2.7	30.00
Ethyl Benzene	5.00	4.99	100	5.00	4.84	97	76.0-123	3.1	30.00
m,p-Xylene	10.0	10.5	105	10.0	9.95	100	76.0-124	5.4	30.00
Styrene	5.00	5.09	102	5.00	5.01	100	76.0-121	1.6	30.00
o-Xylene	5.00	5.16	103	5.00	5.05	101	75.0-124	2.2	30.00
Isopropylbenzene (Cumene)	5.00	5.16	103	5.00	4.99	100	77.0-120	3.3	30.00
n-Propylbenzene	5.00	5.22	104	5.00	5.10	102	77.0-123	2.3	30.00
2-Chlorotoluene	5.00	5.27	105	5.00	4.99	100	74.0-127	5.5	30.00
4-Chlorotoluene	5.00	5.62	112	5.00	5.09	102	77.0-123	9.9	30.00
1,3,5-Trimethylbenzene	5.00	5.22	104	5.00	5.06	101	76.0-122	3.1	30.00
tert-Butylbenzene	5.00	5.07	101	5.00	4.75	95	67.0-122	6.5	30.00
1,2,4-Trimethylbenzene	5.00	5.17	103	5.00	4.89	98	76.0-124	5.6	30.00
sec-Butylbenzene	5.00	5.12	102	5.00	4.72	94	78.0-121	8.1	30.00
1,3-Dichlorobenzene	5.00	5.29	106	5.00	4.94	99	75.0-120	6.8	30.00
4-Isopropyltoluene	5.00	5.01	100	5.00	4.62	92	77.0-120	8.1	30.00
1,4-Dichlorobenzene	5.00	5.32	106	5.00	4.85	97	70.0-125	9.2	30.00
1,2-Dichlorobenzene	5.00	5.26	105	5.00	5.22	104	76.0-118	0.76	30.00
n-Butylbenzene	5.00	5.19	104	5.00	4.65	93	78.0-118	11	30.00
1,2-Dibromo-3-chloropropane	30.0	35.9	120	30.0	31.4	105	62.0-130	13	30.00
1,2,4-Trichlorobenzene	5.00	5.33	107	5.00	4.61	92	72.0-119	14	30.00
Hexachlorobutadiene	5.00	4.99	100	5.00	4.63	93	69.0-121	7.5	30.00
Naphthalene	5.00	5.25	105	5.00	4.52	90	67.0-122	15	30.00
1,2,3-Trichlorobenzene	5.00	5.72	114	5.00	4.73	95	21.0-193	19	30.00
Surrogates									
1,2-Dichloroethane-d4			98.9			110	64.0-140		
Toluene d8			102			102	82.0-117		
4-Bromofluorobenzene			103			102	85.0-115		

Blank Spike Summary

Blank Spike ID: LCS for HBN 24066 [VXX/3379]
 Blank Spike Lab ID: 73825
 Date Analyzed: 05/29/2012 12:43

Spike Duplicate ID: LCSD for HBN 24066 [VXX/3379]
 Spike Duplicate Lab ID: 73826
 Date Analyzed: 05/29/2012 12:18
 Matrix: Water

QC for Samples: 31201636001, 31201636002, 31201636003

Results by SM 6200-B

Parameter	Blank Spike (%)			Spike Duplicate (%)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			

Batch Information

Analytical Batch: **VMS2245**
 Analytical Method: **SM 6200-B**
 Instrument: **MSD8**
 Analyst: **BWS**

Prep Batch: **VXX3379**
 Prep Method: **SW-846 5030B**
 Prep Date/Time: **05/29/2012 08:42**
 Spike Init Wt./Vol.: **40 mL** Extract Vol: **40 mL**
 Dupe Init Wt./Vol.: **40 mL** Extract Vol: **40 mL**

Laboratory Report of Analysis

To: Matt Brennan
AECOM
8540 Colonnade Center Drive
Suite 306
Raleigh, NC 27615
US

Report Number: **31201715**

Client Project: **NCDOT Pittsboro**

Dear Matt Brennan,

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
Project Manager
barbara.hager@sgs.com

Date

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

Laboratory Qualifiers

Report Definitions

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

Qualifier Definitions

*	Recovery or RPD outside of control limits
B	Analyte was detected in the Lab Method Blank at a level above the LOQ
U	Undetected (Reported as ND or < DL)
V	Recovery is below quality control limit. The data has been validated based on a favorable signal-to-noise and detection limit
A	Amount detected is less than the Lower Method Calibration Limit
J	Estimated Concentration.
O	The recovery of this analyte in the OPR is above the Method QC Limits and the reported concentration in the sample may be biased high
E	Amount detected is greater than the Upper Calibration Limit
S	The amount of analyte present has saturated the detector. This situation results in an underestimation of the affected analyte(s)
Q	Indicates the presence of a quantitative interference. This situation may result in an underestimation of the affected analyte(s)
I	Indicates the presence of a qualitative interference that could cause a false positive or an overestimation of the affected analyte(s)
DPE	Indicates the presence of a peak in the polychlorinated diphenylether channel that could cause a false positive or an overestimation of the affected analyte(s)
TIC	Tentatively Identified Compound
EMPC	Estimated Maximum possible Concentration due to ion ratio failure
ND	Not Detected
K	Result is estimated due to ion ratio failure in High Resolution PCB Analysis
P	RPD > 40% between results of dual columns
D	Spike or surrogate was diluted out in order to achieve a parameter result within instrument calibration range

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

M1	Mis-identified peak
M2	Software did not integrate peak
M3	Incorrect baseline construction (i.e. not all of peak included; two peaks integrated as one)
M4	Pattern integration required (i.e. DRO, GRO, PCB, Toxaphene and Technical Chlordane)
M5	Other - Explained in case narrative

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

Sample Summary

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Collected</u>	<u>Received</u>	<u>Matrix</u>
48DW-8 (90)	31201715001	05/31/2012 08:15	06/04/2012 09:06	Water
48DW-8 (40)	31201715002	05/31/2012 08:40	06/04/2012 09:06	Water
48SVE-01 (1010)	31201715003	05/31/2012 10:10	06/04/2012 09:06	Water
48SVE-01 (1030)	31201715004	05/31/2012 10:30	06/04/2012 09:06	Water
IDW-01	31201715005	05/31/2012 11:15	06/04/2012 09:06	Water
IDW-02	31201715006	05/31/2012 11:25	06/04/2012 09:06	Water
IDW-03	31201715007	05/31/2012 11:35	06/04/2012 09:06	Water
IDW-04	31201715008	05/31/2012 12:30	06/04/2012 09:06	Soil-Solid as dry weight
TB-01	31201715009	05/31/2012 00:00	06/04/2012 09:06	Water
TB-02	31201715010	05/31/2012 00:00	06/04/2012 09:06	Soil-Solid as dry weight

Detectable Results Summary

Client Sample ID: 48DW-8 (90) Lab Sample ID: 31201715001-A SW-846 8260B	<u>Parameter</u> Trichloroethene	<u>Result</u> 125	<u>Units</u> ug/L
Client Sample ID: 48DW-8 (40) Lab Sample ID: 31201715002-B SW-846 8260B	<u>Parameter</u> 1,1-Dichloroethene Trichloroethene	<u>Result</u> 14.5 206	<u>Units</u> ug/L ug/L
Client Sample ID: 48SVE-01 (1010) Lab Sample ID: 31201715003-A SW-846 8260B	<u>Parameter</u> 1,1,1-Trichloroethane 1,1-Dichloroethene Trichloroethene	<u>Result</u> 3200 1860 70700	<u>Units</u> ug/L ug/L ug/L
Client Sample ID: 48SVE-01 (1030) Lab Sample ID: 31201715004-A SW-846 8260B	<u>Parameter</u> 1,1,1-Trichloroethane Trichloroethene	<u>Result</u> 1710 41300	<u>Units</u> ug/L ug/L
Client Sample ID: IDW-01 Lab Sample ID: 31201715005-A SW-846 8260B	<u>Parameter</u> Carbon disulfide	<u>Result</u> 1.29	<u>Units</u> ug/L
Client Sample ID: IDW-02 Lab Sample ID: 31201715006-A SW-846 8260B	<u>Parameter</u> Acetone Carbon disulfide Trichloroethene	<u>Result</u> 51.1 1.34 7.49	<u>Units</u> ug/L ug/L ug/L
Client Sample ID: IDW-03 Lab Sample ID: 31201715007-A SW-846 8260B	<u>Parameter</u> Acetone	<u>Result</u> 42.7	<u>Units</u> ug/L
Client Sample ID: IDW-04 Lab Sample ID: 31201715008-A SW-846 8260B	<u>Parameter</u> Acetone	<u>Result</u> 324	<u>Units</u> ug/Kg

Results of 48DW-8 (90)

Client Sample ID: **48DW-8 (90)**
 Client Project ID: **NCDOT Pittsboro**
 Lab Sample ID: 31201715001-A
 Lab Project ID: 31201715

Collection Date: 05/31/2012 08:15
 Received Date: 06/04/2012 09:06
 Matrix: Water

Results by SW-846 8260B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1,1,2-Tetrachloroethane	ND		8.00	ug/L	8	06/7/2012 13:06
1,1,1-Trichloroethane	ND		8.00	ug/L	8	06/7/2012 13:06
1,1,2,2-Tetrachloroethane	ND		8.00	ug/L	8	06/7/2012 13:06
1,1,2-Trichloroethane	ND		8.00	ug/L	8	06/7/2012 13:06
1,1-Dichloroethane	ND		8.00	ug/L	8	06/7/2012 13:06
1,1-Dichloroethene	ND		8.00	ug/L	8	06/7/2012 13:06
1,1-Dichloropropene	ND		8.00	ug/L	8	06/7/2012 13:06
1,2,3-Trichlorobenzene	ND		8.00	ug/L	8	06/7/2012 13:06
1,2,3-Trichloropropane	ND		8.00	ug/L	8	06/7/2012 13:06
1,2,4-Trichlorobenzene	ND		8.00	ug/L	8	06/7/2012 13:06
1,2,4-Trimethylbenzene	ND		8.00	ug/L	8	06/7/2012 13:06
1,2-Dibromo-3-chloropropane	ND		40.0	ug/L	8	06/7/2012 13:06
1,2-Dibromoethane	ND		8.00	ug/L	8	06/7/2012 13:06
1,2-Dichlorobenzene	ND		8.00	ug/L	8	06/7/2012 13:06
1,2-Dichloroethane	ND		8.00	ug/L	8	06/7/2012 13:06
1,2-Dichloropropane	ND		8.00	ug/L	8	06/7/2012 13:06
1,3,5-Trimethylbenzene	ND		8.00	ug/L	8	06/7/2012 13:06
1,3-Dichlorobenzene	ND		8.00	ug/L	8	06/7/2012 13:06
1,3-Dichloropropane	ND		8.00	ug/L	8	06/7/2012 13:06
1,4-Dichlorobenzene	ND		8.00	ug/L	8	06/7/2012 13:06
2,2-Dichloropropane	ND		8.00	ug/L	8	06/7/2012 13:06
2-Butanone	ND		200	ug/L	8	06/7/2012 13:06
2-Chlorotoluene	ND		8.00	ug/L	8	06/7/2012 13:06
2-Hexanone	ND		40.0	ug/L	8	06/7/2012 13:06
4-Chlorotoluene	ND		8.00	ug/L	8	06/7/2012 13:06
4-Isopropyltoluene	ND		8.00	ug/L	8	06/7/2012 13:06
4-Methyl-2-pentanone	ND		40.0	ug/L	8	06/7/2012 13:06
Acetone	ND		200	ug/L	8	06/7/2012 13:06
Benzene	ND		8.00	ug/L	8	06/7/2012 13:06
Bromobenzene	ND		8.00	ug/L	8	06/7/2012 13:06
Bromochloromethane	ND		8.00	ug/L	8	06/7/2012 13:06
Bromodichloromethane	ND		8.00	ug/L	8	06/7/2012 13:06
Bromoform	ND		8.00	ug/L	8	06/7/2012 13:06
Bromomethane	ND		8.00	ug/L	8	06/7/2012 13:06
n-Butylbenzene	ND		8.00	ug/L	8	06/7/2012 13:06
Carbon disulfide	ND		8.00	ug/L	8	06/7/2012 13:06
Carbon tetrachloride	ND		8.00	ug/L	8	06/7/2012 13:06
Chlorobenzene	ND		8.00	ug/L	8	06/7/2012 13:06
Chloroethane	ND		8.00	ug/L	8	06/7/2012 13:06
Chloroform	ND		8.00	ug/L	8	06/7/2012 13:06
Chloromethane	ND		8.00	ug/L	8	06/7/2012 13:06
Dibromochloromethane	ND		8.00	ug/L	8	06/7/2012 13:06
Dibromomethane	ND		8.00	ug/L	8	06/7/2012 13:06
Dichlorodifluoromethane	ND		40.0	ug/L	8	06/7/2012 13:06

Results of 48DW-8 (90)

Client Sample ID: **48DW-8 (90)**
 Client Project ID: **NCDOT Pittsboro**
 Lab Sample ID: 31201715001-A
 Lab Project ID: 31201715

Collection Date: 05/31/2012 08:15
 Received Date: 06/04/2012 09:06
 Matrix: Water

Results by SW-846 8260B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND		8.00	ug/L	8	06/7/2012 13:06
trans-1,3-Dichloropropene	ND		8.00	ug/L	8	06/7/2012 13:06
Diisopropyl Ether	ND		8.00	ug/L	8	06/7/2012 13:06
Ethyl Benzene	ND		8.00	ug/L	8	06/7/2012 13:06
Hexachlorobutadiene	ND		8.00	ug/L	8	06/7/2012 13:06
Isopropylbenzene (Cumene)	ND		8.00	ug/L	8	06/7/2012 13:06
Methyl iodide	ND		8.00	ug/L	8	06/7/2012 13:06
Methylene chloride	ND		40.0	ug/L	8	06/7/2012 13:06
Naphthalene	ND		8.00	ug/L	8	06/7/2012 13:06
Styrene	ND		8.00	ug/L	8	06/7/2012 13:06
Tetrachloroethene	ND		8.00	ug/L	8	06/7/2012 13:06
Toluene	ND		8.00	ug/L	8	06/7/2012 13:06
Trichloroethene	125		8.00	ug/L	8	06/7/2012 13:06
Trichlorofluoromethane	ND		8.00	ug/L	8	06/7/2012 13:06
Vinyl chloride	ND		8.00	ug/L	8	06/7/2012 13:06
Xylene (total)	ND		16.0	ug/L	8	06/7/2012 13:06
cis-1,2-Dichloroethene	ND		8.00	ug/L	8	06/7/2012 13:06
m,p-Xylene	ND		16.0	ug/L	8	06/7/2012 13:06
n-Propylbenzene	ND		8.00	ug/L	8	06/7/2012 13:06
o-Xylene	ND		8.00	ug/L	8	06/7/2012 13:06
sec-Butylbenzene	ND		8.00	ug/L	8	06/7/2012 13:06
tert-Butyl methyl ether (MTBE)	ND		8.00	ug/L	8	06/7/2012 13:06
tert-Butylbenzene	ND		8.00	ug/L	8	06/7/2012 13:06
trans-1,2-Dichloroethene	ND		8.00	ug/L	8	06/7/2012 13:06
trans-1,4-Dichloro-2-butene	ND		40.0	ug/L	8	06/7/2012 13:06
Surrogates						
1,2-Dichloroethane-d4	80.0		64.0-140	%	8	06/7/2012 13:06
4-Bromofluorobenzene	91.0		85.0-115	%	8	06/7/2012 13:06
Toluene d8	84.0		82.0-117	%	8	06/7/2012 13:06

Batch Information

Analytical Batch: **VMS2270**
 Analytical Method: **SW-846 8260B**
 Instrument: **MSD8**
 Analyst: **DVO**
 Analytical Date/Time: **06/07/2012 13:06**

Prep Batch: **VXX3426**
 Prep Method: **SW-846 5030B**
 Prep Date/Time: **06/07/2012 08:00**
 Prep Initial Wt./Vol.: **40 mL**
 Prep Extract Vol: **40 mL**

Results of 48DW-8 (40)

Client Sample ID: **48DW-8 (40)**
 Client Project ID: **NCDOT Pittsboro**
 Lab Sample ID: 31201715002-B
 Lab Project ID: 31201715

Collection Date: 05/31/2012 08:40
 Received Date: 06/04/2012 09:06
 Matrix: Water

Results by SW-846 8260B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1,1,2-Tetrachloroethane	ND		8.00	ug/L	8	06/6/2012 20:20
1,1,1-Trichloroethane	ND		8.00	ug/L	8	06/6/2012 20:20
1,1,2,2-Tetrachloroethane	ND		8.00	ug/L	8	06/6/2012 20:20
1,1,2-Trichloroethane	ND		8.00	ug/L	8	06/6/2012 20:20
1,1-Dichloroethane	ND		8.00	ug/L	8	06/6/2012 20:20
1,1-Dichloroethene	14.5		8.00	ug/L	8	06/6/2012 20:20
1,1-Dichloropropene	ND		8.00	ug/L	8	06/6/2012 20:20
1,2,3-Trichlorobenzene	ND		8.00	ug/L	8	06/6/2012 20:20
1,2,3-Trichloropropane	ND		8.00	ug/L	8	06/6/2012 20:20
1,2,4-Trichlorobenzene	ND		8.00	ug/L	8	06/6/2012 20:20
1,2,4-Trimethylbenzene	ND		8.00	ug/L	8	06/6/2012 20:20
1,2-Dibromo-3-chloropropane	ND		40.0	ug/L	8	06/6/2012 20:20
1,2-Dibromoethane	ND		8.00	ug/L	8	06/6/2012 20:20
1,2-Dichlorobenzene	ND		8.00	ug/L	8	06/6/2012 20:20
1,2-Dichloroethane	ND		8.00	ug/L	8	06/6/2012 20:20
1,2-Dichloropropane	ND		8.00	ug/L	8	06/6/2012 20:20
1,3,5-Trimethylbenzene	ND		8.00	ug/L	8	06/6/2012 20:20
1,3-Dichlorobenzene	ND		8.00	ug/L	8	06/6/2012 20:20
1,3-Dichloropropane	ND		8.00	ug/L	8	06/6/2012 20:20
1,4-Dichlorobenzene	ND		8.00	ug/L	8	06/6/2012 20:20
2,2-Dichloropropane	ND		8.00	ug/L	8	06/6/2012 20:20
2-Butanone	ND		200	ug/L	8	06/6/2012 20:20
2-Chlorotoluene	ND		8.00	ug/L	8	06/6/2012 20:20
2-Hexanone	ND		40.0	ug/L	8	06/6/2012 20:20
4-Chlorotoluene	ND		8.00	ug/L	8	06/6/2012 20:20
4-Isopropyltoluene	ND		8.00	ug/L	8	06/6/2012 20:20
4-Methyl-2-pentanone	ND		40.0	ug/L	8	06/6/2012 20:20
Acetone	ND		200	ug/L	8	06/6/2012 20:20
Benzene	ND		8.00	ug/L	8	06/6/2012 20:20
Bromobenzene	ND		8.00	ug/L	8	06/6/2012 20:20
Bromochloromethane	ND		8.00	ug/L	8	06/6/2012 20:20
Bromodichloromethane	ND		8.00	ug/L	8	06/6/2012 20:20
Bromoform	ND		8.00	ug/L	8	06/6/2012 20:20
Bromomethane	ND		8.00	ug/L	8	06/6/2012 20:20
n-Butylbenzene	ND		8.00	ug/L	8	06/6/2012 20:20
Carbon disulfide	ND		8.00	ug/L	8	06/6/2012 20:20
Carbon tetrachloride	ND		8.00	ug/L	8	06/6/2012 20:20
Chlorobenzene	ND		8.00	ug/L	8	06/6/2012 20:20
Chloroethane	ND		8.00	ug/L	8	06/6/2012 20:20
Chloroform	ND		8.00	ug/L	8	06/6/2012 20:20
Chloromethane	ND		8.00	ug/L	8	06/6/2012 20:20
Dibromochloromethane	ND		8.00	ug/L	8	06/6/2012 20:20
Dibromomethane	ND		8.00	ug/L	8	06/6/2012 20:20
Dichlorodifluoromethane	ND		40.0	ug/L	8	06/6/2012 20:20

Results of 48DW-8 (40)

Client Sample ID: **48DW-8 (40)**
 Client Project ID: **NCDOT Pittsboro**
 Lab Sample ID: 31201715002-B
 Lab Project ID: 31201715

Collection Date: 05/31/2012 08:40
 Received Date: 06/04/2012 09:06
 Matrix: Water

Results by SW-846 8260B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND		8.00	ug/L	8	06/6/2012 20:20
trans-1,3-Dichloropropene	ND		8.00	ug/L	8	06/6/2012 20:20
Diisopropyl Ether	ND		8.00	ug/L	8	06/6/2012 20:20
Ethyl Benzene	ND		8.00	ug/L	8	06/6/2012 20:20
Hexachlorobutadiene	ND		8.00	ug/L	8	06/6/2012 20:20
Isopropylbenzene (Cumene)	ND		8.00	ug/L	8	06/6/2012 20:20
Methyl iodide	ND		8.00	ug/L	8	06/6/2012 20:20
Methylene chloride	ND		40.0	ug/L	8	06/6/2012 20:20
Naphthalene	ND		8.00	ug/L	8	06/6/2012 20:20
Styrene	ND		8.00	ug/L	8	06/6/2012 20:20
Tetrachloroethene	ND		8.00	ug/L	8	06/6/2012 20:20
Toluene	ND		8.00	ug/L	8	06/6/2012 20:20
Trichloroethene	206		8.00	ug/L	8	06/6/2012 20:20
Trichlorofluoromethane	ND		8.00	ug/L	8	06/6/2012 20:20
Vinyl chloride	ND		8.00	ug/L	8	06/6/2012 20:20
Xylene (total)	ND		16.0	ug/L	8	06/6/2012 20:20
cis-1,2-Dichloroethene	ND		8.00	ug/L	8	06/6/2012 20:20
m,p-Xylene	ND		16.0	ug/L	8	06/6/2012 20:20
n-Propylbenzene	ND		8.00	ug/L	8	06/6/2012 20:20
o-Xylene	ND		8.00	ug/L	8	06/6/2012 20:20
sec-Butylbenzene	ND		8.00	ug/L	8	06/6/2012 20:20
tert-Butyl methyl ether (MTBE)	ND		8.00	ug/L	8	06/6/2012 20:20
tert-Butylbenzene	ND		8.00	ug/L	8	06/6/2012 20:20
trans-1,2-Dichloroethene	ND		8.00	ug/L	8	06/6/2012 20:20
trans-1,4-Dichloro-2-butene	ND		40.0	ug/L	8	06/6/2012 20:20
Surrogates						
1,2-Dichloroethane-d4	106		64.0-140	%	8	06/6/2012 20:20
4-Bromofluorobenzene	96.0		85.0-115	%	8	06/6/2012 20:20
Toluene d8	100		82.0-117	%	8	06/6/2012 20:20

Batch Information

Analytical Batch: **VMS2266**
 Analytical Method: **SW-846 8260B**
 Instrument: **MSD8**
 Analyst: **DVO**
 Analytical Date/Time: **06/06/2012 20:20**

Prep Batch: **VXX3424**
 Prep Method: **SW-846 5030B**
 Prep Date/Time: **06/06/2012 08:00**
 Prep Initial Wt./Vol.: **40 mL**
 Prep Extract Vol: **40 mL**

Results of **48SVE-01 (1010)**

Client Sample ID: **48SVE-01 (1010)**
 Client Project ID: **NCDOT Pittsboro**
 Lab Sample ID: 31201715003-A
 Lab Project ID: 31201715

Collection Date: 05/31/2012 10:10
 Received Date: 06/04/2012 09:06
 Matrix: Water

Results by **SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1,1,2-Tetrachloroethane	ND		1600	ug/L	1600	06/5/2012 20:30
1,1,1-Trichloroethane	3200		1600	ug/L	1600	06/5/2012 20:30
1,1,2,2-Tetrachloroethane	ND		1600	ug/L	1600	06/5/2012 20:30
1,1,2-Trichloroethane	ND		1600	ug/L	1600	06/5/2012 20:30
1,1-Dichloroethane	ND		1600	ug/L	1600	06/5/2012 20:30
1,1-Dichloroethene	1860		1600	ug/L	1600	06/5/2012 20:30
1,1-Dichloropropene	ND		1600	ug/L	1600	06/5/2012 20:30
1,2,3-Trichlorobenzene	ND		1600	ug/L	1600	06/5/2012 20:30
1,2,3-Trichloropropane	ND		1600	ug/L	1600	06/5/2012 20:30
1,2,4-Trichlorobenzene	ND		1600	ug/L	1600	06/5/2012 20:30
1,2,4-Trimethylbenzene	ND		1600	ug/L	1600	06/5/2012 20:30
1,2-Dibromo-3-chloropropane	ND		8000	ug/L	1600	06/5/2012 20:30
1,2-Dibromoethane	ND		1600	ug/L	1600	06/5/2012 20:30
1,2-Dichlorobenzene	ND		1600	ug/L	1600	06/5/2012 20:30
1,2-Dichloroethane	ND		1600	ug/L	1600	06/5/2012 20:30
1,2-Dichloropropane	ND		1600	ug/L	1600	06/5/2012 20:30
1,3,5-Trimethylbenzene	ND		1600	ug/L	1600	06/5/2012 20:30
1,3-Dichlorobenzene	ND		1600	ug/L	1600	06/5/2012 20:30
1,3-Dichloropropane	ND		1600	ug/L	1600	06/5/2012 20:30
1,4-Dichlorobenzene	ND		1600	ug/L	1600	06/5/2012 20:30
2,2-Dichloropropane	ND		1600	ug/L	1600	06/5/2012 20:30
2-Butanone	ND		40000	ug/L	1600	06/5/2012 20:30
2-Chlorotoluene	ND		1600	ug/L	1600	06/5/2012 20:30
2-Hexanone	ND		8000	ug/L	1600	06/5/2012 20:30
4-Chlorotoluene	ND		1600	ug/L	1600	06/5/2012 20:30
4-Isopropyltoluene	ND		1600	ug/L	1600	06/5/2012 20:30
4-Methyl-2-pentanone	ND		8000	ug/L	1600	06/5/2012 20:30
Acetone	ND		40000	ug/L	1600	06/5/2012 20:30
Benzene	ND		1600	ug/L	1600	06/5/2012 20:30
Bromobenzene	ND		1600	ug/L	1600	06/5/2012 20:30
Bromochloromethane	ND		1600	ug/L	1600	06/5/2012 20:30
Bromodichloromethane	ND		1600	ug/L	1600	06/5/2012 20:30
Bromoform	ND		1600	ug/L	1600	06/5/2012 20:30
Bromomethane	ND		1600	ug/L	1600	06/5/2012 20:30
n-Butylbenzene	ND		1600	ug/L	1600	06/5/2012 20:30
Carbon disulfide	ND		1600	ug/L	1600	06/5/2012 20:30
Carbon tetrachloride	ND		1600	ug/L	1600	06/5/2012 20:30
Chlorobenzene	ND		1600	ug/L	1600	06/5/2012 20:30
Chloroethane	ND		1600	ug/L	1600	06/5/2012 20:30
Chloroform	ND		1600	ug/L	1600	06/5/2012 20:30
Chloromethane	ND		1600	ug/L	1600	06/5/2012 20:30
Dibromochloromethane	ND		1600	ug/L	1600	06/5/2012 20:30
Dibromomethane	ND		1600	ug/L	1600	06/5/2012 20:30
Dichlorodifluoromethane	ND		8000	ug/L	1600	06/5/2012 20:30

Results of 48SVE-01 (1010)

Client Sample ID: **48SVE-01 (1010)**
 Client Project ID: **NCDOT Pittsboro**
 Lab Sample ID: 31201715003-A
 Lab Project ID: 31201715

Collection Date: 05/31/2012 10:10
 Received Date: 06/04/2012 09:06
 Matrix: Water

Results by SW-846 8260B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND		1600	ug/L	1600	06/5/2012 20:30
trans-1,3-Dichloropropene	ND		1600	ug/L	1600	06/5/2012 20:30
Diisopropyl Ether	ND		1600	ug/L	1600	06/5/2012 20:30
Ethyl Benzene	ND		1600	ug/L	1600	06/5/2012 20:30
Hexachlorobutadiene	ND		1600	ug/L	1600	06/5/2012 20:30
Isopropylbenzene (Cumene)	ND		1600	ug/L	1600	06/5/2012 20:30
Methyl iodide	ND		1600	ug/L	1600	06/5/2012 20:30
Methylene chloride	ND		8000	ug/L	1600	06/5/2012 20:30
Naphthalene	ND		1600	ug/L	1600	06/5/2012 20:30
Styrene	ND		1600	ug/L	1600	06/5/2012 20:30
Tetrachloroethene	ND		1600	ug/L	1600	06/5/2012 20:30
Toluene	ND		1600	ug/L	1600	06/5/2012 20:30
Trichloroethene	70700		1600	ug/L	1600	06/5/2012 20:30
Trichlorofluoromethane	ND		1600	ug/L	1600	06/5/2012 20:30
Vinyl chloride	ND		1600	ug/L	1600	06/5/2012 20:30
Xylene (total)	ND		3200	ug/L	1600	06/5/2012 20:30
cis-1,2-Dichloroethene	ND		1600	ug/L	1600	06/5/2012 20:30
m,p-Xylene	ND		3200	ug/L	1600	06/5/2012 20:30
n-Propylbenzene	ND		1600	ug/L	1600	06/5/2012 20:30
o-Xylene	ND		1600	ug/L	1600	06/5/2012 20:30
sec-Butylbenzene	ND		1600	ug/L	1600	06/5/2012 20:30
tert-Butyl methyl ether (MTBE)	ND		1600	ug/L	1600	06/5/2012 20:30
tert-Butylbenzene	ND		1600	ug/L	1600	06/5/2012 20:30
trans-1,2-Dichloroethene	ND		1600	ug/L	1600	06/5/2012 20:30
trans-1,4-Dichloro-2-butene	ND		8000	ug/L	1600	06/5/2012 20:30
Surrogates						
1,2-Dichloroethane-d4	99.0		64.0-140	%	1600	06/5/2012 20:30
4-Bromofluorobenzene	105		85.0-115	%	1600	06/5/2012 20:30
Toluene d8	104		82.0-117	%	1600	06/5/2012 20:30

Batch Information

Analytical Batch: **VMS2261**
 Analytical Method: **SW-846 8260B**
 Instrument: **MSD3**
 Analyst: **BWS**
 Analytical Date/Time: **06/05/2012 20:30**

Prep Batch: **VXX3412**
 Prep Method: **SW-846 5030B**
 Prep Date/Time: **06/05/2012 10:33**
 Prep Initial Wt./Vol.: **40 mL**
 Prep Extract Vol: **40 mL**

Results of **48SVE-01 (1030)**

Client Sample ID: **48SVE-01 (1030)**
 Client Project ID: **NCDOT Pittsboro**
 Lab Sample ID: 31201715004-A
 Lab Project ID: 31201715

Collection Date: 05/31/2012 10:30
 Received Date: 06/04/2012 09:06
 Matrix: Water

Results by **SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1,1,2-Tetrachloroethane	ND		1250	ug/L	1250	06/5/2012 20:05
1,1,1-Trichloroethane	1710		1250	ug/L	1250	06/5/2012 20:05
1,1,2,2-Tetrachloroethane	ND		1250	ug/L	1250	06/5/2012 20:05
1,1,2-Trichloroethane	ND		1250	ug/L	1250	06/5/2012 20:05
1,1-Dichloroethane	ND		1250	ug/L	1250	06/5/2012 20:05
1,1-Dichloroethene	ND		1250	ug/L	1250	06/5/2012 20:05
1,1-Dichloropropene	ND		1250	ug/L	1250	06/5/2012 20:05
1,2,3-Trichlorobenzene	ND		1250	ug/L	1250	06/5/2012 20:05
1,2,3-Trichloropropane	ND		1250	ug/L	1250	06/5/2012 20:05
1,2,4-Trichlorobenzene	ND		1250	ug/L	1250	06/5/2012 20:05
1,2,4-Trimethylbenzene	ND		1250	ug/L	1250	06/5/2012 20:05
1,2-Dibromo-3-chloropropane	ND		6250	ug/L	1250	06/5/2012 20:05
1,2-Dibromoethane	ND		1250	ug/L	1250	06/5/2012 20:05
1,2-Dichlorobenzene	ND		1250	ug/L	1250	06/5/2012 20:05
1,2-Dichloroethane	ND		1250	ug/L	1250	06/5/2012 20:05
1,2-Dichloropropane	ND		1250	ug/L	1250	06/5/2012 20:05
1,3,5-Trimethylbenzene	ND		1250	ug/L	1250	06/5/2012 20:05
1,3-Dichlorobenzene	ND		1250	ug/L	1250	06/5/2012 20:05
1,3-Dichloropropane	ND		1250	ug/L	1250	06/5/2012 20:05
1,4-Dichlorobenzene	ND		1250	ug/L	1250	06/5/2012 20:05
2,2-Dichloropropane	ND		1250	ug/L	1250	06/5/2012 20:05
2-Butanone	ND		31300	ug/L	1250	06/5/2012 20:05
2-Chlorotoluene	ND		1250	ug/L	1250	06/5/2012 20:05
2-Hexanone	ND		6250	ug/L	1250	06/5/2012 20:05
4-Chlorotoluene	ND		1250	ug/L	1250	06/5/2012 20:05
4-Isopropyltoluene	ND		1250	ug/L	1250	06/5/2012 20:05
4-Methyl-2-pentanone	ND		6250	ug/L	1250	06/5/2012 20:05
Acetone	ND		31300	ug/L	1250	06/5/2012 20:05
Benzene	ND		1250	ug/L	1250	06/5/2012 20:05
Bromobenzene	ND		1250	ug/L	1250	06/5/2012 20:05
Bromochloromethane	ND		1250	ug/L	1250	06/5/2012 20:05
Bromodichloromethane	ND		1250	ug/L	1250	06/5/2012 20:05
Bromoform	ND		1250	ug/L	1250	06/5/2012 20:05
Bromomethane	ND		1250	ug/L	1250	06/5/2012 20:05
n-Butylbenzene	ND		1250	ug/L	1250	06/5/2012 20:05
Carbon disulfide	ND		1250	ug/L	1250	06/5/2012 20:05
Carbon tetrachloride	ND		1250	ug/L	1250	06/5/2012 20:05
Chlorobenzene	ND		1250	ug/L	1250	06/5/2012 20:05
Chloroethane	ND		1250	ug/L	1250	06/5/2012 20:05
Chloroform	ND		1250	ug/L	1250	06/5/2012 20:05
Chloromethane	ND		1250	ug/L	1250	06/5/2012 20:05
Dibromochloromethane	ND		1250	ug/L	1250	06/5/2012 20:05
Dibromomethane	ND		1250	ug/L	1250	06/5/2012 20:05
Dichlorodifluoromethane	ND		6250	ug/L	1250	06/5/2012 20:05

Results of 48SVE-01 (1030)

Client Sample ID: **48SVE-01 (1030)**
 Client Project ID: **NCDOT Pittsboro**
 Lab Sample ID: 31201715004-A
 Lab Project ID: 31201715

Collection Date: 05/31/2012 10:30
 Received Date: 06/04/2012 09:06
 Matrix: Water

Results by SW-846 8260B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND		1250	ug/L	1250	06/5/2012 20:05
trans-1,3-Dichloropropene	ND		1250	ug/L	1250	06/5/2012 20:05
Diisopropyl Ether	ND		1250	ug/L	1250	06/5/2012 20:05
Ethyl Benzene	ND		1250	ug/L	1250	06/5/2012 20:05
Hexachlorobutadiene	ND		1250	ug/L	1250	06/5/2012 20:05
Isopropylbenzene (Cumene)	ND		1250	ug/L	1250	06/5/2012 20:05
Methyl iodide	ND		1250	ug/L	1250	06/5/2012 20:05
Methylene chloride	ND		6250	ug/L	1250	06/5/2012 20:05
Naphthalene	ND		1250	ug/L	1250	06/5/2012 20:05
Styrene	ND		1250	ug/L	1250	06/5/2012 20:05
Tetrachloroethene	ND		1250	ug/L	1250	06/5/2012 20:05
Toluene	ND		1250	ug/L	1250	06/5/2012 20:05
Trichloroethene	41300		1250	ug/L	1250	06/5/2012 20:05
Trichlorofluoromethane	ND		1250	ug/L	1250	06/5/2012 20:05
Vinyl chloride	ND		1250	ug/L	1250	06/5/2012 20:05
Xylene (total)	ND		2500	ug/L	1250	06/5/2012 20:05
cis-1,2-Dichloroethene	ND		1250	ug/L	1250	06/5/2012 20:05
m,p-Xylene	ND		2500	ug/L	1250	06/5/2012 20:05
n-Propylbenzene	ND		1250	ug/L	1250	06/5/2012 20:05
o-Xylene	ND		1250	ug/L	1250	06/5/2012 20:05
sec-Butylbenzene	ND		1250	ug/L	1250	06/5/2012 20:05
tert-Butyl methyl ether (MTBE)	ND		1250	ug/L	1250	06/5/2012 20:05
tert-Butylbenzene	ND		1250	ug/L	1250	06/5/2012 20:05
trans-1,2-Dichloroethene	ND		1250	ug/L	1250	06/5/2012 20:05
trans-1,4-Dichloro-2-butene	ND		6250	ug/L	1250	06/5/2012 20:05
Surrogates						
1,2-Dichloroethane-d4	101		64.0-140	%	1250	06/5/2012 20:05
4-Bromofluorobenzene	100		85.0-115	%	1250	06/5/2012 20:05
Toluene d8	103		82.0-117	%	1250	06/5/2012 20:05

Batch Information

Analytical Batch: **VMS2261**
 Analytical Method: **SW-846 8260B**
 Instrument: **MSD3**
 Analyst: **BWS**
 Analytical Date/Time: **06/05/2012 20:05**

Prep Batch: **VXX3412**
 Prep Method: **SW-846 5030B**
 Prep Date/Time: **06/05/2012 10:33**
 Prep Initial Wt./Vol.: **40 mL**
 Prep Extract Vol: **40 mL**

Results of **IDW-01**

Client Sample ID: **IDW-01**
 Client Project ID: **NCDOT Pittsboro**
 Lab Sample ID: 31201715005-A
 Lab Project ID: 31201715

Collection Date: 05/31/2012 11:15
 Received Date: 06/04/2012 09:06
 Matrix: Water

Results by **SW-846 8260B**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L	1	06/5/2012 13:06
1,1,1-Trichloroethane	ND		1.00	ug/L	1	06/5/2012 13:06
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L	1	06/5/2012 13:06
1,1,2-Trichloroethane	ND		1.00	ug/L	1	06/5/2012 13:06
1,1-Dichloroethane	ND		1.00	ug/L	1	06/5/2012 13:06
1,1-Dichloroethene	ND		1.00	ug/L	1	06/5/2012 13:06
1,1-Dichloropropene	ND		1.00	ug/L	1	06/5/2012 13:06
1,2,3-Trichlorobenzene	ND		1.00	ug/L	1	06/5/2012 13:06
1,2,3-Trichloropropane	ND		1.00	ug/L	1	06/5/2012 13:06
1,2,4-Trichlorobenzene	ND		1.00	ug/L	1	06/5/2012 13:06
1,2,4-Trimethylbenzene	ND		1.00	ug/L	1	06/5/2012 13:06
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1	06/5/2012 13:06
1,2-Dibromoethane	ND		1.00	ug/L	1	06/5/2012 13:06
1,2-Dichlorobenzene	ND		1.00	ug/L	1	06/5/2012 13:06
1,2-Dichloroethane	ND		1.00	ug/L	1	06/5/2012 13:06
1,2-Dichloropropane	ND		1.00	ug/L	1	06/5/2012 13:06
1,3,5-Trimethylbenzene	ND		1.00	ug/L	1	06/5/2012 13:06
1,3-Dichlorobenzene	ND		1.00	ug/L	1	06/5/2012 13:06
1,3-Dichloropropane	ND		1.00	ug/L	1	06/5/2012 13:06
1,4-Dichlorobenzene	ND		1.00	ug/L	1	06/5/2012 13:06
2,2-Dichloropropane	ND		1.00	ug/L	1	06/5/2012 13:06
2-Butanone	ND		25.0	ug/L	1	06/5/2012 13:06
2-Chlorotoluene	ND		1.00	ug/L	1	06/5/2012 13:06
2-Hexanone	ND		5.00	ug/L	1	06/5/2012 13:06
4-Chlorotoluene	ND		1.00	ug/L	1	06/5/2012 13:06
4-Isopropyltoluene	ND		1.00	ug/L	1	06/5/2012 13:06
4-Methyl-2-pentanone	ND		5.00	ug/L	1	06/5/2012 13:06
Acetone	ND		25.0	ug/L	1	06/5/2012 13:06
Benzene	ND		1.00	ug/L	1	06/5/2012 13:06
Bromobenzene	ND		1.00	ug/L	1	06/5/2012 13:06
Bromochloromethane	ND		1.00	ug/L	1	06/5/2012 13:06
Bromodichloromethane	ND		1.00	ug/L	1	06/5/2012 13:06
Bromoform	ND		1.00	ug/L	1	06/5/2012 13:06
Bromomethane	ND		1.00	ug/L	1	06/5/2012 13:06
n-Butylbenzene	ND		1.00	ug/L	1	06/5/2012 13:06
Carbon disulfide	1.29		1.00	ug/L	1	06/5/2012 13:06
Carbon tetrachloride	ND		1.00	ug/L	1	06/5/2012 13:06
Chlorobenzene	ND		1.00	ug/L	1	06/5/2012 13:06
Chloroethane	ND		1.00	ug/L	1	06/5/2012 13:06
Chloroform	ND		1.00	ug/L	1	06/5/2012 13:06
Chloromethane	ND		1.00	ug/L	1	06/5/2012 13:06
Dibromochloromethane	ND		1.00	ug/L	1	06/5/2012 13:06
Dibromomethane	ND		1.00	ug/L	1	06/5/2012 13:06
Dichlorodifluoromethane	ND		5.00	ug/L	1	06/5/2012 13:06

Results of IDW-01

Client Sample ID: **IDW-01**
 Client Project ID: **NCDOT Pittsboro**
 Lab Sample ID: 31201715005-A
 Lab Project ID: 31201715

Collection Date: 05/31/2012 11:15
 Received Date: 06/04/2012 09:06
 Matrix: Water

Results by SW-846 8260B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND		1.00	ug/L	1	06/5/2012 13:06
trans-1,3-Dichloropropene	ND		1.00	ug/L	1	06/5/2012 13:06
Diisopropyl Ether	ND		1.00	ug/L	1	06/5/2012 13:06
Ethyl Benzene	ND		1.00	ug/L	1	06/5/2012 13:06
Hexachlorobutadiene	ND		1.00	ug/L	1	06/5/2012 13:06
Isopropylbenzene (Cumene)	ND		1.00	ug/L	1	06/5/2012 13:06
Methyl iodide	ND		1.00	ug/L	1	06/5/2012 13:06
Methylene chloride	ND		5.00	ug/L	1	06/5/2012 13:06
Naphthalene	ND		1.00	ug/L	1	06/5/2012 13:06
Styrene	ND		1.00	ug/L	1	06/5/2012 13:06
Tetrachloroethene	ND		1.00	ug/L	1	06/5/2012 13:06
Toluene	ND		1.00	ug/L	1	06/5/2012 13:06
Trichloroethene	ND		1.00	ug/L	1	06/5/2012 13:06
Trichlorofluoromethane	ND		1.00	ug/L	1	06/5/2012 13:06
Vinyl chloride	ND		1.00	ug/L	1	06/5/2012 13:06
Xylene (total)	ND		2.00	ug/L	1	06/5/2012 13:06
cis-1,2-Dichloroethene	ND		1.00	ug/L	1	06/5/2012 13:06
m,p-Xylene	ND		2.00	ug/L	1	06/5/2012 13:06
n-Propylbenzene	ND		1.00	ug/L	1	06/5/2012 13:06
o-Xylene	ND		1.00	ug/L	1	06/5/2012 13:06
sec-Butylbenzene	ND		1.00	ug/L	1	06/5/2012 13:06
tert-Butyl methyl ether (MTBE)	ND		1.00	ug/L	1	06/5/2012 13:06
tert-Butylbenzene	ND		1.00	ug/L	1	06/5/2012 13:06
trans-1,2-Dichloroethene	ND		1.00	ug/L	1	06/5/2012 13:06
trans-1,4-Dichloro-2-butene	ND		5.00	ug/L	1	06/5/2012 13:06
Surrogates						
1,2-Dichloroethane-d4	98.0		64.0-140	%	1	06/5/2012 13:06
4-Bromofluorobenzene	102		85.0-115	%	1	06/5/2012 13:06
Toluene d8	103		82.0-117	%	1	06/5/2012 13:06

Batch Information

Analytical Batch: **VMS2261**
 Analytical Method: **SW-846 8260B**
 Instrument: **MSD3**
 Analyst: **BWS**
 Analytical Date/Time: **06/05/2012 13:06**

Prep Batch: **VXX3412**
 Prep Method: **SW-846 5030B**
 Prep Date/Time: **06/05/2012 10:33**
 Prep Initial Wt./Vol.: **40 mL**
 Prep Extract Vol: **40 mL**

Results of **IDW-02**

Client Sample ID: **IDW-02**
 Client Project ID: **NCDOT Pittsboro**
 Lab Sample ID: 31201715006-A
 Lab Project ID: 31201715

Collection Date: 05/31/2012 11:25
 Received Date: 06/04/2012 09:06
 Matrix: Water

Results by **SW-846 8260B**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L	1	06/5/2012 13:30
1,1,1-Trichloroethane	ND		1.00	ug/L	1	06/5/2012 13:30
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L	1	06/5/2012 13:30
1,1,2-Trichloroethane	ND		1.00	ug/L	1	06/5/2012 13:30
1,1-Dichloroethane	ND		1.00	ug/L	1	06/5/2012 13:30
1,1-Dichloroethene	ND		1.00	ug/L	1	06/5/2012 13:30
1,1-Dichloropropene	ND		1.00	ug/L	1	06/5/2012 13:30
1,2,3-Trichlorobenzene	ND		1.00	ug/L	1	06/5/2012 13:30
1,2,3-Trichloropropane	ND		1.00	ug/L	1	06/5/2012 13:30
1,2,4-Trichlorobenzene	ND		1.00	ug/L	1	06/5/2012 13:30
1,2,4-Trimethylbenzene	ND		1.00	ug/L	1	06/5/2012 13:30
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1	06/5/2012 13:30
1,2-Dibromoethane	ND		1.00	ug/L	1	06/5/2012 13:30
1,2-Dichlorobenzene	ND		1.00	ug/L	1	06/5/2012 13:30
1,2-Dichloroethane	ND		1.00	ug/L	1	06/5/2012 13:30
1,2-Dichloropropane	ND		1.00	ug/L	1	06/5/2012 13:30
1,3,5-Trimethylbenzene	ND		1.00	ug/L	1	06/5/2012 13:30
1,3-Dichlorobenzene	ND		1.00	ug/L	1	06/5/2012 13:30
1,3-Dichloropropane	ND		1.00	ug/L	1	06/5/2012 13:30
1,4-Dichlorobenzene	ND		1.00	ug/L	1	06/5/2012 13:30
2,2-Dichloropropane	ND		1.00	ug/L	1	06/5/2012 13:30
2-Butanone	ND		25.0	ug/L	1	06/5/2012 13:30
2-Chlorotoluene	ND		1.00	ug/L	1	06/5/2012 13:30
2-Hexanone	ND		5.00	ug/L	1	06/5/2012 13:30
4-Chlorotoluene	ND		1.00	ug/L	1	06/5/2012 13:30
4-Isopropyltoluene	ND		1.00	ug/L	1	06/5/2012 13:30
4-Methyl-2-pentanone	ND		5.00	ug/L	1	06/5/2012 13:30
Acetone	51.1		25.0	ug/L	1	06/5/2012 13:30
Benzene	ND		1.00	ug/L	1	06/5/2012 13:30
Bromobenzene	ND		1.00	ug/L	1	06/5/2012 13:30
Bromochloromethane	ND		1.00	ug/L	1	06/5/2012 13:30
Bromodichloromethane	ND		1.00	ug/L	1	06/5/2012 13:30
Bromoform	ND		1.00	ug/L	1	06/5/2012 13:30
Bromomethane	ND		1.00	ug/L	1	06/5/2012 13:30
n-Butylbenzene	ND		1.00	ug/L	1	06/5/2012 13:30
Carbon disulfide	1.34		1.00	ug/L	1	06/5/2012 13:30
Carbon tetrachloride	ND		1.00	ug/L	1	06/5/2012 13:30
Chlorobenzene	ND		1.00	ug/L	1	06/5/2012 13:30
Chloroethane	ND		1.00	ug/L	1	06/5/2012 13:30
Chloroform	ND		1.00	ug/L	1	06/5/2012 13:30
Chloromethane	ND		1.00	ug/L	1	06/5/2012 13:30
Dibromochloromethane	ND		1.00	ug/L	1	06/5/2012 13:30
Dibromomethane	ND		1.00	ug/L	1	06/5/2012 13:30
Dichlorodifluoromethane	ND		5.00	ug/L	1	06/5/2012 13:30

Results of IDW-02

Client Sample ID: **IDW-02**
 Client Project ID: **NCDOT Pittsboro**
 Lab Sample ID: 31201715006-A
 Lab Project ID: 31201715

Collection Date: 05/31/2012 11:25
 Received Date: 06/04/2012 09:06
 Matrix: Water

Results by SW-846 8260B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND		1.00	ug/L	1	06/5/2012 13:30
trans-1,3-Dichloropropene	ND		1.00	ug/L	1	06/5/2012 13:30
Diisopropyl Ether	ND		1.00	ug/L	1	06/5/2012 13:30
Ethyl Benzene	ND		1.00	ug/L	1	06/5/2012 13:30
Hexachlorobutadiene	ND		1.00	ug/L	1	06/5/2012 13:30
Isopropylbenzene (Cumene)	ND		1.00	ug/L	1	06/5/2012 13:30
Methyl iodide	ND		1.00	ug/L	1	06/5/2012 13:30
Methylene chloride	ND		5.00	ug/L	1	06/5/2012 13:30
Naphthalene	ND		1.00	ug/L	1	06/5/2012 13:30
Styrene	ND		1.00	ug/L	1	06/5/2012 13:30
Tetrachloroethene	ND		1.00	ug/L	1	06/5/2012 13:30
Toluene	ND		1.00	ug/L	1	06/5/2012 13:30
Trichloroethene	7.49		1.00	ug/L	1	06/5/2012 13:30
Trichlorofluoromethane	ND		1.00	ug/L	1	06/5/2012 13:30
Vinyl chloride	ND		1.00	ug/L	1	06/5/2012 13:30
Xylene (total)	ND		2.00	ug/L	1	06/5/2012 13:30
cis-1,2-Dichloroethene	ND		1.00	ug/L	1	06/5/2012 13:30
m,p-Xylene	ND		2.00	ug/L	1	06/5/2012 13:30
n-Propylbenzene	ND		1.00	ug/L	1	06/5/2012 13:30
o-Xylene	ND		1.00	ug/L	1	06/5/2012 13:30
sec-Butylbenzene	ND		1.00	ug/L	1	06/5/2012 13:30
tert-Butyl methyl ether (MTBE)	ND		1.00	ug/L	1	06/5/2012 13:30
tert-Butylbenzene	ND		1.00	ug/L	1	06/5/2012 13:30
trans-1,2-Dichloroethene	ND		1.00	ug/L	1	06/5/2012 13:30
trans-1,4-Dichloro-2-butene	ND		5.00	ug/L	1	06/5/2012 13:30
Surrogates						
1,2-Dichloroethane-d4	98.0		64.0-140	%	1	06/5/2012 13:30
4-Bromofluorobenzene	105		85.0-115	%	1	06/5/2012 13:30
Toluene d8	103		82.0-117	%	1	06/5/2012 13:30

Batch Information

Analytical Batch: **VMS2261**
 Analytical Method: **SW-846 8260B**
 Instrument: **MSD3**
 Analyst: **BWS**
 Analytical Date/Time: **06/05/2012 13:30**

Prep Batch: **VXX3412**
 Prep Method: **SW-846 5030B**
 Prep Date/Time: **06/05/2012 10:33**
 Prep Initial Wt./Vol.: **40 mL**
 Prep Extract Vol: **40 mL**

Results of IDW-03

Client Sample ID: **IDW-03**
 Client Project ID: **NCDOT Pittsboro**
 Lab Sample ID: 31201715007-A
 Lab Project ID: 31201715

Collection Date: 05/31/2012 11:35
 Received Date: 06/04/2012 09:06
 Matrix: Water

Results by SW-846 8260B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L	1	06/5/2012 13:55
1,1,1-Trichloroethane	ND		1.00	ug/L	1	06/5/2012 13:55
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L	1	06/5/2012 13:55
1,1,2-Trichloroethane	ND		1.00	ug/L	1	06/5/2012 13:55
1,1-Dichloroethane	ND		1.00	ug/L	1	06/5/2012 13:55
1,1-Dichloroethene	ND		1.00	ug/L	1	06/5/2012 13:55
1,1-Dichloropropene	ND		1.00	ug/L	1	06/5/2012 13:55
1,2,3-Trichlorobenzene	ND		1.00	ug/L	1	06/5/2012 13:55
1,2,3-Trichloropropane	ND		1.00	ug/L	1	06/5/2012 13:55
1,2,4-Trichlorobenzene	ND		1.00	ug/L	1	06/5/2012 13:55
1,2,4-Trimethylbenzene	ND		1.00	ug/L	1	06/5/2012 13:55
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1	06/5/2012 13:55
1,2-Dibromoethane	ND		1.00	ug/L	1	06/5/2012 13:55
1,2-Dichlorobenzene	ND		1.00	ug/L	1	06/5/2012 13:55
1,2-Dichloroethane	ND		1.00	ug/L	1	06/5/2012 13:55
1,2-Dichloropropane	ND		1.00	ug/L	1	06/5/2012 13:55
1,3,5-Trimethylbenzene	ND		1.00	ug/L	1	06/5/2012 13:55
1,3-Dichlorobenzene	ND		1.00	ug/L	1	06/5/2012 13:55
1,3-Dichloropropane	ND		1.00	ug/L	1	06/5/2012 13:55
1,4-Dichlorobenzene	ND		1.00	ug/L	1	06/5/2012 13:55
2,2-Dichloropropane	ND		1.00	ug/L	1	06/5/2012 13:55
2-Butanone	ND		25.0	ug/L	1	06/5/2012 13:55
2-Chlorotoluene	ND		1.00	ug/L	1	06/5/2012 13:55
2-Hexanone	ND		5.00	ug/L	1	06/5/2012 13:55
4-Chlorotoluene	ND		1.00	ug/L	1	06/5/2012 13:55
4-Isopropyltoluene	ND		1.00	ug/L	1	06/5/2012 13:55
4-Methyl-2-pentanone	ND		5.00	ug/L	1	06/5/2012 13:55
Acetone	42.7		25.0	ug/L	1	06/5/2012 13:55
Benzene	ND		1.00	ug/L	1	06/5/2012 13:55
Bromobenzene	ND		1.00	ug/L	1	06/5/2012 13:55
Bromochloromethane	ND		1.00	ug/L	1	06/5/2012 13:55
Bromodichloromethane	ND		1.00	ug/L	1	06/5/2012 13:55
Bromoform	ND		1.00	ug/L	1	06/5/2012 13:55
Bromomethane	ND		1.00	ug/L	1	06/5/2012 13:55
n-Butylbenzene	ND		1.00	ug/L	1	06/5/2012 13:55
Carbon disulfide	ND		1.00	ug/L	1	06/5/2012 13:55
Carbon tetrachloride	ND		1.00	ug/L	1	06/5/2012 13:55
Chlorobenzene	ND		1.00	ug/L	1	06/5/2012 13:55
Chloroethane	ND		1.00	ug/L	1	06/5/2012 13:55
Chloroform	ND		1.00	ug/L	1	06/5/2012 13:55
Chloromethane	ND		1.00	ug/L	1	06/5/2012 13:55
Dibromochloromethane	ND		1.00	ug/L	1	06/5/2012 13:55
Dibromomethane	ND		1.00	ug/L	1	06/5/2012 13:55
Dichlorodifluoromethane	ND		5.00	ug/L	1	06/5/2012 13:55

Results of IDW-03

Client Sample ID: **IDW-03**
 Client Project ID: **NCDOT Pittsboro**
 Lab Sample ID: 31201715007-A
 Lab Project ID: 31201715

Collection Date: 05/31/2012 11:35
 Received Date: 06/04/2012 09:06
 Matrix: Water

Results by SW-846 8260B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND		1.00	ug/L	1	06/5/2012 13:55
trans-1,3-Dichloropropene	ND		1.00	ug/L	1	06/5/2012 13:55
Diisopropyl Ether	ND		1.00	ug/L	1	06/5/2012 13:55
Ethyl Benzene	ND		1.00	ug/L	1	06/5/2012 13:55
Hexachlorobutadiene	ND		1.00	ug/L	1	06/5/2012 13:55
Isopropylbenzene (Cumene)	ND		1.00	ug/L	1	06/5/2012 13:55
Methyl iodide	ND		1.00	ug/L	1	06/5/2012 13:55
Methylene chloride	ND		5.00	ug/L	1	06/5/2012 13:55
Naphthalene	ND		1.00	ug/L	1	06/5/2012 13:55
Styrene	ND		1.00	ug/L	1	06/5/2012 13:55
Tetrachloroethene	ND		1.00	ug/L	1	06/5/2012 13:55
Toluene	ND		1.00	ug/L	1	06/5/2012 13:55
Trichloroethene	ND		1.00	ug/L	1	06/5/2012 13:55
Trichlorofluoromethane	ND		1.00	ug/L	1	06/5/2012 13:55
Vinyl chloride	ND		1.00	ug/L	1	06/5/2012 13:55
Xylene (total)	ND		2.00	ug/L	1	06/5/2012 13:55
cis-1,2-Dichloroethene	ND		1.00	ug/L	1	06/5/2012 13:55
m,p-Xylene	ND		2.00	ug/L	1	06/5/2012 13:55
n-Propylbenzene	ND		1.00	ug/L	1	06/5/2012 13:55
o-Xylene	ND		1.00	ug/L	1	06/5/2012 13:55
sec-Butylbenzene	ND		1.00	ug/L	1	06/5/2012 13:55
tert-Butyl methyl ether (MTBE)	ND		1.00	ug/L	1	06/5/2012 13:55
tert-Butylbenzene	ND		1.00	ug/L	1	06/5/2012 13:55
trans-1,2-Dichloroethene	ND		1.00	ug/L	1	06/5/2012 13:55
trans-1,4-Dichloro-2-butene	ND		5.00	ug/L	1	06/5/2012 13:55
Surrogates						
1,2-Dichloroethane-d4	99.0		64.0-140	%	1	06/5/2012 13:55
4-Bromofluorobenzene	103		85.0-115	%	1	06/5/2012 13:55
Toluene d8	104		82.0-117	%	1	06/5/2012 13:55

Batch Information

Analytical Batch: **VMS2261**
 Analytical Method: **SW-846 8260B**
 Instrument: **MSD3**
 Analyst: **BWS**
 Analytical Date/Time: **06/05/2012 13:55**

Prep Batch: **VXX3412**
 Prep Method: **SW-846 5030B**
 Prep Date/Time: **06/05/2012 10:33**
 Prep Initial Wt./Vol.: **40 mL**
 Prep Extract Vol: **40 mL**

Results of IDW-04

Client Sample ID: **IDW-04**
 Client Project ID: **NCDOT Pittsboro**
 Lab Sample ID: 31201715008-A
 Lab Project ID: 31201715

Collection Date: 05/31/2012 12:30
 Received Date: 06/04/2012 09:06
 Matrix: Soil-Solid as dry weight
 Solids (%): 18.40

Results by SW-846 8260B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1,1,2-Tetrachloroethane	ND		32.1	ug/Kg	1	06/5/2012 12:12
1,1,1-Trichloroethane	ND		32.1	ug/Kg	1	06/5/2012 12:12
1,1,2,2-Tetrachloroethane	ND		32.1	ug/Kg	1	06/5/2012 12:12
1,1,2-Trichloroethane	ND		32.1	ug/Kg	1	06/5/2012 12:12
1,1-Dichloroethane	ND		32.1	ug/Kg	1	06/5/2012 12:12
1,1-Dichloroethene	ND		32.1	ug/Kg	1	06/5/2012 12:12
1,1-Dichloropropene	ND		32.1	ug/Kg	1	06/5/2012 12:12
1,2,3-Trichlorobenzene	ND		32.1	ug/Kg	1	06/5/2012 12:12
1,2,3-Trichloropropane	ND		32.1	ug/Kg	1	06/5/2012 12:12
1,2,4-Trichlorobenzene	ND		32.1	ug/Kg	1	06/5/2012 12:12
1,2,4-Trimethylbenzene	ND		32.1	ug/Kg	1	06/5/2012 12:12
1,2-Dibromo-3-chloropropane	ND		193	ug/Kg	1	06/5/2012 12:12
1,2-Dibromoethane	ND		32.1	ug/Kg	1	06/5/2012 12:12
1,2-Dichlorobenzene	ND		32.1	ug/Kg	1	06/5/2012 12:12
1,2-Dichloroethane	ND		32.1	ug/Kg	1	06/5/2012 12:12
1,2-Dichloropropane	ND		32.1	ug/Kg	1	06/5/2012 12:12
1,3,5-Trimethylbenzene	ND		32.1	ug/Kg	1	06/5/2012 12:12
1,3-Dichlorobenzene	ND		32.1	ug/Kg	1	06/5/2012 12:12
1,3-Dichloropropane	ND		32.1	ug/Kg	1	06/5/2012 12:12
1,4-Dichlorobenzene	ND		32.1	ug/Kg	1	06/5/2012 12:12
2,2-Dichloropropane	ND		32.1	ug/Kg	1	06/5/2012 12:12
2-Butanone	ND		161	ug/Kg	1	06/5/2012 12:12
2-Chlorotoluene	ND		32.1	ug/Kg	1	06/5/2012 12:12
2-Hexanone	ND		80.3	ug/Kg	1	06/5/2012 12:12
4-Chlorotoluene	ND		32.1	ug/Kg	1	06/5/2012 12:12
4-Isopropyltoluene	ND		32.1	ug/Kg	1	06/5/2012 12:12
4-Methyl-2-pentanone	ND		80.3	ug/Kg	1	06/5/2012 12:12
Acetone	324		321	ug/Kg	1	06/5/2012 12:12
Benzene	ND		32.1	ug/Kg	1	06/5/2012 12:12
Bromobenzene	ND		32.1	ug/Kg	1	06/5/2012 12:12
Bromochloromethane	ND		32.1	ug/Kg	1	06/5/2012 12:12
Bromodichloromethane	ND		32.1	ug/Kg	1	06/5/2012 12:12
Bromoform	ND		32.1	ug/Kg	1	06/5/2012 12:12
Bromomethane	ND		32.1	ug/Kg	1	06/5/2012 12:12
n-Butylbenzene	ND		32.1	ug/Kg	1	06/5/2012 12:12
Carbon disulfide	ND		32.1	ug/Kg	1	06/5/2012 12:12
Carbon tetrachloride	ND		32.1	ug/Kg	1	06/5/2012 12:12
Chlorobenzene	ND		32.1	ug/Kg	1	06/5/2012 12:12
Chloroethane	ND		32.1	ug/Kg	1	06/5/2012 12:12
Chloroform	ND		32.1	ug/Kg	1	06/5/2012 12:12
Chloromethane	ND		32.1	ug/Kg	1	06/5/2012 12:12
Dibromochloromethane	ND		32.1	ug/Kg	1	06/5/2012 12:12
Dibromomethane	ND		32.1	ug/Kg	1	06/5/2012 12:12
Dichlorodifluoromethane	ND		32.1	ug/Kg	1	06/5/2012 12:12

Results of IDW-04

Client Sample ID: **IDW-04**
 Client Project ID: **NCDOT Pittsboro**
 Lab Sample ID: 31201715008-A
 Lab Project ID: 31201715

Collection Date: 05/31/2012 12:30
 Received Date: 06/04/2012 09:06
 Matrix: Soil-Solid as dry weight
 Solids (%): 18.40

Results by SW-846 8260B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND		32.1	ug/Kg	1	06/5/2012 12:12
trans-1,3-Dichloropropene	ND		32.1	ug/Kg	1	06/5/2012 12:12
Diisopropyl Ether	ND		32.1	ug/Kg	1	06/5/2012 12:12
Ethyl Benzene	ND		32.1	ug/Kg	1	06/5/2012 12:12
Hexachlorobutadiene	ND		32.1	ug/Kg	1	06/5/2012 12:12
Isopropylbenzene (Cumene)	ND		32.1	ug/Kg	1	06/5/2012 12:12
Methyl iodide	ND		32.1	ug/Kg	1	06/5/2012 12:12
Methylene chloride	ND		128	ug/Kg	1	06/5/2012 12:12
Naphthalene	ND		32.1	ug/Kg	1	06/5/2012 12:12
Styrene	ND		32.1	ug/Kg	1	06/5/2012 12:12
Tetrachloroethene	ND		32.1	ug/Kg	1	06/5/2012 12:12
Toluene	ND		32.1	ug/Kg	1	06/5/2012 12:12
Trichloroethene	ND		32.1	ug/Kg	1	06/5/2012 12:12
Trichlorofluoromethane	ND		32.1	ug/Kg	1	06/5/2012 12:12
Vinyl chloride	ND		32.1	ug/Kg	1	06/5/2012 12:12
Xylene (total)	ND		64.2	ug/Kg	1	06/5/2012 12:12
cis-1,2-Dichloroethene	ND		32.1	ug/Kg	1	06/5/2012 12:12
m,p-Xylene	ND		64.2	ug/Kg	1	06/5/2012 12:12
n-Propylbenzene	ND		32.1	ug/Kg	1	06/5/2012 12:12
o-Xylene	ND		32.1	ug/Kg	1	06/5/2012 12:12
sec-Butylbenzene	ND		32.1	ug/Kg	1	06/5/2012 12:12
tert-Butyl methyl ether (MTBE)	ND		32.1	ug/Kg	1	06/5/2012 12:12
tert-Butylbenzene	ND		32.1	ug/Kg	1	06/5/2012 12:12
trans-1,2-Dichloroethene	ND		32.1	ug/Kg	1	06/5/2012 12:12
trans-1,4-Dichloro-2-butene	ND		161	ug/Kg	1	06/5/2012 12:12
Surrogates						
1,2-Dichloroethane-d4	114		55.0-173	%	1	06/5/2012 12:12
4-Bromofluorobenzene	100		23.0-141	%	1	06/5/2012 12:12
Toluene d8	101		57.0-134	%	1	06/5/2012 12:12

Batch Information

Analytical Batch: **VMS2260**
 Analytical Method: **SW-846 8260B**
 Instrument: **MSD9**
 Analyst: **DVO**
 Analytical Date/Time: **06/05/2012 12:12**

Prep Batch: **VXX3410**
 Prep Method: **SW-846 5035 SL**
 Prep Date/Time: **06/04/2012 16:11**
 Prep Initial Wt./Vol.: **4.24 g**
 Prep Extract Vol: **5 mL**

Results of TB-01

Client Sample ID: **TB-01**
 Client Project ID: **NCDOT Pittsboro**
 Lab Sample ID: 31201715009-A
 Lab Project ID: 31201715

Collection Date: 05/31/2012 00:00
 Received Date: 06/04/2012 09:06
 Matrix: Water

Results by SW-846 8260B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L	1	06/5/2012 12:41
1,1,1-Trichloroethane	ND		1.00	ug/L	1	06/5/2012 12:41
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L	1	06/5/2012 12:41
1,1,2-Trichloroethane	ND		1.00	ug/L	1	06/5/2012 12:41
1,1-Dichloroethane	ND		1.00	ug/L	1	06/5/2012 12:41
1,1-Dichloroethene	ND		1.00	ug/L	1	06/5/2012 12:41
1,1-Dichloropropene	ND		1.00	ug/L	1	06/5/2012 12:41
1,2,3-Trichlorobenzene	ND		1.00	ug/L	1	06/5/2012 12:41
1,2,3-Trichloropropane	ND		1.00	ug/L	1	06/5/2012 12:41
1,2,4-Trichlorobenzene	ND		1.00	ug/L	1	06/5/2012 12:41
1,2,4-Trimethylbenzene	ND		1.00	ug/L	1	06/5/2012 12:41
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1	06/5/2012 12:41
1,2-Dibromoethane	ND		1.00	ug/L	1	06/5/2012 12:41
1,2-Dichlorobenzene	ND		1.00	ug/L	1	06/5/2012 12:41
1,2-Dichloroethane	ND		1.00	ug/L	1	06/5/2012 12:41
1,2-Dichloropropane	ND		1.00	ug/L	1	06/5/2012 12:41
1,3,5-Trimethylbenzene	ND		1.00	ug/L	1	06/5/2012 12:41
1,3-Dichlorobenzene	ND		1.00	ug/L	1	06/5/2012 12:41
1,3-Dichloropropane	ND		1.00	ug/L	1	06/5/2012 12:41
1,4-Dichlorobenzene	ND		1.00	ug/L	1	06/5/2012 12:41
2,2-Dichloropropane	ND		1.00	ug/L	1	06/5/2012 12:41
2-Butanone	ND		25.0	ug/L	1	06/5/2012 12:41
2-Chlorotoluene	ND		1.00	ug/L	1	06/5/2012 12:41
2-Hexanone	ND		5.00	ug/L	1	06/5/2012 12:41
4-Chlorotoluene	ND		1.00	ug/L	1	06/5/2012 12:41
4-Isopropyltoluene	ND		1.00	ug/L	1	06/5/2012 12:41
4-Methyl-2-pentanone	ND		5.00	ug/L	1	06/5/2012 12:41
Acetone	ND		25.0	ug/L	1	06/5/2012 12:41
Benzene	ND		1.00	ug/L	1	06/5/2012 12:41
Bromobenzene	ND		1.00	ug/L	1	06/5/2012 12:41
Bromochloromethane	ND		1.00	ug/L	1	06/5/2012 12:41
Bromodichloromethane	ND		1.00	ug/L	1	06/5/2012 12:41
Bromoform	ND		1.00	ug/L	1	06/5/2012 12:41
Bromomethane	ND		1.00	ug/L	1	06/5/2012 12:41
n-Butylbenzene	ND		1.00	ug/L	1	06/5/2012 12:41
Carbon disulfide	ND		1.00	ug/L	1	06/5/2012 12:41
Carbon tetrachloride	ND		1.00	ug/L	1	06/5/2012 12:41
Chlorobenzene	ND		1.00	ug/L	1	06/5/2012 12:41
Chloroethane	ND		1.00	ug/L	1	06/5/2012 12:41
Chloroform	ND		1.00	ug/L	1	06/5/2012 12:41
Chloromethane	ND		1.00	ug/L	1	06/5/2012 12:41
Dibromochloromethane	ND		1.00	ug/L	1	06/5/2012 12:41
Dibromomethane	ND		1.00	ug/L	1	06/5/2012 12:41
Dichlorodifluoromethane	ND		5.00	ug/L	1	06/5/2012 12:41

Results of TB-01

Client Sample ID: **TB-01**
 Client Project ID: **NCDOT Pittsboro**
 Lab Sample ID: 31201715009-A
 Lab Project ID: 31201715

Collection Date: 05/31/2012 00:00
 Received Date: 06/04/2012 09:06
 Matrix: Water

Results by SW-846 8260B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND		1.00	ug/L	1	06/5/2012 12:41
trans-1,3-Dichloropropene	ND		1.00	ug/L	1	06/5/2012 12:41
Diisopropyl Ether	ND		1.00	ug/L	1	06/5/2012 12:41
Ethyl Benzene	ND		1.00	ug/L	1	06/5/2012 12:41
Hexachlorobutadiene	ND		1.00	ug/L	1	06/5/2012 12:41
Isopropylbenzene (Cumene)	ND		1.00	ug/L	1	06/5/2012 12:41
Methyl iodide	ND		1.00	ug/L	1	06/5/2012 12:41
Methylene chloride	ND		5.00	ug/L	1	06/5/2012 12:41
Naphthalene	ND		1.00	ug/L	1	06/5/2012 12:41
Styrene	ND		1.00	ug/L	1	06/5/2012 12:41
Tetrachloroethene	ND		1.00	ug/L	1	06/5/2012 12:41
Toluene	ND		1.00	ug/L	1	06/5/2012 12:41
Trichloroethene	ND		1.00	ug/L	1	06/5/2012 12:41
Trichlorofluoromethane	ND		1.00	ug/L	1	06/5/2012 12:41
Vinyl chloride	ND		1.00	ug/L	1	06/5/2012 12:41
Xylene (total)	ND		2.00	ug/L	1	06/5/2012 12:41
cis-1,2-Dichloroethene	ND		1.00	ug/L	1	06/5/2012 12:41
m,p-Xylene	ND		2.00	ug/L	1	06/5/2012 12:41
n-Propylbenzene	ND		1.00	ug/L	1	06/5/2012 12:41
o-Xylene	ND		1.00	ug/L	1	06/5/2012 12:41
sec-Butylbenzene	ND		1.00	ug/L	1	06/5/2012 12:41
tert-Butyl methyl ether (MTBE)	ND		1.00	ug/L	1	06/5/2012 12:41
tert-Butylbenzene	ND		1.00	ug/L	1	06/5/2012 12:41
trans-1,2-Dichloroethene	ND		1.00	ug/L	1	06/5/2012 12:41
trans-1,4-Dichloro-2-butene	ND		5.00	ug/L	1	06/5/2012 12:41
Surrogates						
1,2-Dichloroethane-d4	95.0		64.0-140	%	1	06/5/2012 12:41
4-Bromofluorobenzene	100		85.0-115	%	1	06/5/2012 12:41
Toluene d8	101		82.0-117	%	1	06/5/2012 12:41

Batch Information

Analytical Batch: **VMS2261**
 Analytical Method: **SW-846 8260B**
 Instrument: **MSD3**
 Analyst: **BWS**
 Analytical Date/Time: **06/05/2012 12:41**

Prep Batch: **VXX3412**
 Prep Method: **SW-846 5030B**
 Prep Date/Time: **06/05/2012 10:33**
 Prep Initial Wt./Vol.: **40 mL**
 Prep Extract Vol: **40 mL**

Results of TB-02

Client Sample ID: **TB-02**
 Client Project ID: **NCDOT Pittsboro**
 Lab Sample ID: 31201715010-A
 Lab Project ID: 31201715

Collection Date: 05/31/2012 00:00
 Received Date: 06/04/2012 09:06
 Matrix: Soil-Solid as dry weight
 Solids (%): 100.00

Results by SW-846 8260B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1,1,2-Tetrachloroethane	ND		5.00	ug/Kg	1	06/5/2012 11:45
1,1,1-Trichloroethane	ND		5.00	ug/Kg	1	06/5/2012 11:45
1,1,2,2-Tetrachloroethane	ND		5.00	ug/Kg	1	06/5/2012 11:45
1,1,2-Trichloroethane	ND		5.00	ug/Kg	1	06/5/2012 11:45
1,1-Dichloroethane	ND		5.00	ug/Kg	1	06/5/2012 11:45
1,1-Dichloroethene	ND		5.00	ug/Kg	1	06/5/2012 11:45
1,1-Dichloropropene	ND		5.00	ug/Kg	1	06/5/2012 11:45
1,2,3-Trichlorobenzene	ND		5.00	ug/Kg	1	06/5/2012 11:45
1,2,3-Trichloropropane	ND		5.00	ug/Kg	1	06/5/2012 11:45
1,2,4-Trichlorobenzene	ND		5.00	ug/Kg	1	06/5/2012 11:45
1,2,4-Trimethylbenzene	ND		5.00	ug/Kg	1	06/5/2012 11:45
1,2-Dibromo-3-chloropropane	ND		30.0	ug/Kg	1	06/5/2012 11:45
1,2-Dibromoethane	ND		5.00	ug/Kg	1	06/5/2012 11:45
1,2-Dichlorobenzene	ND		5.00	ug/Kg	1	06/5/2012 11:45
1,2-Dichloroethane	ND		5.00	ug/Kg	1	06/5/2012 11:45
1,2-Dichloropropane	ND		5.00	ug/Kg	1	06/5/2012 11:45
1,3,5-Trimethylbenzene	ND		5.00	ug/Kg	1	06/5/2012 11:45
1,3-Dichlorobenzene	ND		5.00	ug/Kg	1	06/5/2012 11:45
1,3-Dichloropropane	ND		5.00	ug/Kg	1	06/5/2012 11:45
1,4-Dichlorobenzene	ND		5.00	ug/Kg	1	06/5/2012 11:45
2,2-Dichloropropane	ND		5.00	ug/Kg	1	06/5/2012 11:45
2-Butanone	ND		25.0	ug/Kg	1	06/5/2012 11:45
2-Chlorotoluene	ND		5.00	ug/Kg	1	06/5/2012 11:45
2-Hexanone	ND		12.5	ug/Kg	1	06/5/2012 11:45
4-Chlorotoluene	ND		5.00	ug/Kg	1	06/5/2012 11:45
4-Isopropyltoluene	ND		5.00	ug/Kg	1	06/5/2012 11:45
4-Methyl-2-pentanone	ND		12.5	ug/Kg	1	06/5/2012 11:45
Acetone	ND		50.0	ug/Kg	1	06/5/2012 11:45
Benzene	ND		5.00	ug/Kg	1	06/5/2012 11:45
Bromobenzene	ND		5.00	ug/Kg	1	06/5/2012 11:45
Bromochloromethane	ND		5.00	ug/Kg	1	06/5/2012 11:45
Bromodichloromethane	ND		5.00	ug/Kg	1	06/5/2012 11:45
Bromoform	ND		5.00	ug/Kg	1	06/5/2012 11:45
Bromomethane	ND		5.00	ug/Kg	1	06/5/2012 11:45
n-Butylbenzene	ND		5.00	ug/Kg	1	06/5/2012 11:45
Carbon disulfide	ND		5.00	ug/Kg	1	06/5/2012 11:45
Carbon tetrachloride	ND		5.00	ug/Kg	1	06/5/2012 11:45
Chlorobenzene	ND		5.00	ug/Kg	1	06/5/2012 11:45
Chloroethane	ND		5.00	ug/Kg	1	06/5/2012 11:45
Chloroform	ND		5.00	ug/Kg	1	06/5/2012 11:45
Chloromethane	ND		5.00	ug/Kg	1	06/5/2012 11:45
Dibromochloromethane	ND		5.00	ug/Kg	1	06/5/2012 11:45
Dibromomethane	ND		5.00	ug/Kg	1	06/5/2012 11:45
Dichlorodifluoromethane	ND		5.00	ug/Kg	1	06/5/2012 11:45

Results of TB-02

Client Sample ID: **TB-02**
 Client Project ID: **NCDOT Pittsboro**
 Lab Sample ID: 31201715010-A
 Lab Project ID: 31201715

Collection Date: 05/31/2012 00:00
 Received Date: 06/04/2012 09:06
 Matrix: Soil-Solid as dry weight
 Solids (%): 100.00

Results by SW-846 8260B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND		5.00	ug/Kg	1	06/5/2012 11:45
trans-1,3-Dichloropropene	ND		5.00	ug/Kg	1	06/5/2012 11:45
Diisopropyl Ether	ND		5.00	ug/Kg	1	06/5/2012 11:45
Ethyl Benzene	ND		5.00	ug/Kg	1	06/5/2012 11:45
Hexachlorobutadiene	ND		5.00	ug/Kg	1	06/5/2012 11:45
Isopropylbenzene (Cumene)	ND		5.00	ug/Kg	1	06/5/2012 11:45
Methyl iodide	ND		5.00	ug/Kg	1	06/5/2012 11:45
Methylene chloride	ND		20.0	ug/Kg	1	06/5/2012 11:45
Naphthalene	ND		5.00	ug/Kg	1	06/5/2012 11:45
Styrene	ND		5.00	ug/Kg	1	06/5/2012 11:45
Tetrachloroethene	ND		5.00	ug/Kg	1	06/5/2012 11:45
Toluene	ND		5.00	ug/Kg	1	06/5/2012 11:45
Trichloroethene	ND		5.00	ug/Kg	1	06/5/2012 11:45
Trichlorofluoromethane	ND		5.00	ug/Kg	1	06/5/2012 11:45
Vinyl chloride	ND		5.00	ug/Kg	1	06/5/2012 11:45
Xylene (total)	ND		10.0	ug/Kg	1	06/5/2012 11:45
cis-1,2-Dichloroethene	ND		5.00	ug/Kg	1	06/5/2012 11:45
m,p-Xylene	ND		10.0	ug/Kg	1	06/5/2012 11:45
n-Propylbenzene	ND		5.00	ug/Kg	1	06/5/2012 11:45
o-Xylene	ND		5.00	ug/Kg	1	06/5/2012 11:45
sec-Butylbenzene	ND		5.00	ug/Kg	1	06/5/2012 11:45
tert-Butyl methyl ether (MTBE)	ND		5.00	ug/Kg	1	06/5/2012 11:45
tert-Butylbenzene	ND		5.00	ug/Kg	1	06/5/2012 11:45
trans-1,2-Dichloroethene	ND		5.00	ug/Kg	1	06/5/2012 11:45
trans-1,4-Dichloro-2-butene	ND		25.0	ug/Kg	1	06/5/2012 11:45
Surrogates						
1,2-Dichloroethane-d4	111		55.0-173	%	1	06/5/2012 11:45
4-Bromofluorobenzene	102		23.0-141	%	1	06/5/2012 11:45
Toluene d8	101		57.0-134	%	1	06/5/2012 11:45

Batch Information

Analytical Batch: **VMS2260**
 Analytical Method: **SW-846 8260B**
 Instrument: **MSD9**
 Analyst: **DVO**
 Analytical Date/Time: **06/05/2012 11:45**

Prep Batch: **VXX3410**
 Prep Method: **SW-846 5035 SL**
 Prep Date/Time: **06/04/2012 16:09**
 Prep Initial Wt./Vol.: **5 g**
 Prep Extract Vol: **5 mL**

Batch Summary

Analytical Method: SW-846 8260B

Prep Method: SW-846 5035 SL

Prep Batch: VXX3410

Prep Date: 06/05/2012 08:41

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Analysis Date</u>	<u>Analytical Batch</u>	<u>Instrument</u>	<u>Analyst</u>
LCS-S for HBN 24306 [VXX/3410]	75021	06/05/2012 09:57	VMS2260	MSD9	DVO
LCSD-S for HBN 24306 [VXX/3410]	75022	06/05/2012 10:24	VMS2260	MSD9	DVO
MB-S for HBN 24306 [VXX/3410]	75023	06/05/2012 11:18	VMS2260	MSD9	DVO
TB-02	31201715010	06/05/2012 11:45	VMS2260	MSD9	DVO
IDW-04	31201715008	06/05/2012 12:12	VMS2260	MSD9	DVO
B-1(74844DUP)	75248	06/05/2012 16:00	VMS2260	MSD9	DVO
SW-1(74845MS)	75249	06/05/2012 16:27	VMS2260	MSD9	DVO

Method Blank

Blank ID: MB-S for HBN 24306 [VXX/3410]

Matrix: Soil-Solid as dry weight

Blank Lab ID: 75023

QC for Samples:

31201715008, 31201715010

Results by SW-846 8260B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>
Dichlorodifluoromethane	ND		5.00	ug/Kg	1
Chloromethane	ND		5.00	ug/Kg	1
Vinyl chloride	ND		5.00	ug/Kg	1
Bromomethane	ND		5.00	ug/Kg	1
Chloroethane	ND		5.00	ug/Kg	1
Trichlorofluoromethane	ND		5.00	ug/Kg	1
1,1-Dichloroethene	ND		5.00	ug/Kg	1
Acetone	ND		50.0	ug/Kg	1
Methylene chloride	ND		20.0	ug/Kg	1
trans-1,2-Dichloroethene	ND		5.00	ug/Kg	1
tert-Butyl methyl ether (MTBE)	ND		5.00	ug/Kg	1
1,1-Dichloroethane	ND		5.00	ug/Kg	1
Diisopropyl Ether	ND		5.00	ug/Kg	1
2,2-Dichloropropane	ND		5.00	ug/Kg	1
cis-1,2-Dichloroethene	ND		5.00	ug/Kg	1
2-Butanone	ND		25.0	ug/Kg	1
Bromochloromethane	ND		5.00	ug/Kg	1
Chloroform	ND		5.00	ug/Kg	1
1,1,1-Trichloroethane	ND		5.00	ug/Kg	1
Carbon tetrachloride	ND		5.00	ug/Kg	1
1,1-Dichloropropene	ND		5.00	ug/Kg	1
Benzene	ND		5.00	ug/Kg	1
1,2-Dichloroethane	ND		5.00	ug/Kg	1
Trichloroethene	ND		5.00	ug/Kg	1
1,2-Dichloropropane	ND		5.00	ug/Kg	1
Dibromomethane	ND		5.00	ug/Kg	1
Bromodichloromethane	ND		5.00	ug/Kg	1
cis-1,3-Dichloropropene	ND		5.00	ug/Kg	1
4-Methyl-2-pentanone	ND		12.5	ug/Kg	1
Toluene	ND		5.00	ug/Kg	1
Methyl iodide	ND		5.00	ug/Kg	1
trans-1,3-Dichloropropene	ND		5.00	ug/Kg	1
Carbon disulfide	ND		5.00	ug/Kg	1
1,1,2-Trichloroethane	ND		5.00	ug/Kg	1
Tetrachloroethene	ND		5.00	ug/Kg	1
1,3-Dichloropropane	ND		5.00	ug/Kg	1
2-Hexanone	ND		12.5	ug/Kg	1
Dibromochloromethane	ND		5.00	ug/Kg	1
1,2-Dibromoethane	ND		5.00	ug/Kg	1
Chlorobenzene	ND		5.00	ug/Kg	1
1,1,1,2-Tetrachloroethane	ND		5.00	ug/Kg	1
Bromoform	ND		5.00	ug/Kg	1

Method Blank

Blank ID: MB-S for HBN 24306 [VXX/3410]

Blank Lab ID: 75023

QC for Samples:

31201715008, 31201715010

Matrix: Soil-Solid as dry weight

Results by SW-846 8260B

Parameter	Result	Qual	LOQ/CL	Units	DF
Bromobenzene	ND		5.00	ug/Kg	1
1,1,2,2-Tetrachloroethane	ND		5.00	ug/Kg	1
1,2,3-Trichloropropane	ND		5.00	ug/Kg	1
Ethyl Benzene	ND		5.00	ug/Kg	1
m,p-Xylene	ND		10.0	ug/Kg	1
Styrene	ND		5.00	ug/Kg	1
o-Xylene	ND		5.00	ug/Kg	1
Xylene (total)	ND		10.0	ug/Kg	1
Isopropylbenzene (Cumene)	ND		5.00	ug/Kg	1
n-Propylbenzene	ND		5.00	ug/Kg	1
2-Chlorotoluene	ND		5.00	ug/Kg	1
4-Chlorotoluene	ND		5.00	ug/Kg	1
1,3,5-Trimethylbenzene	ND		5.00	ug/Kg	1
tert-Butylbenzene	ND		5.00	ug/Kg	1
1,2,4-Trimethylbenzene	ND		5.00	ug/Kg	1
sec-Butylbenzene	ND		5.00	ug/Kg	1
1,3-Dichlorobenzene	ND		5.00	ug/Kg	1
4-Isopropyltoluene	ND		5.00	ug/Kg	1
1,4-Dichlorobenzene	ND		5.00	ug/Kg	1
1,2-Dichlorobenzene	ND		5.00	ug/Kg	1
n-Butylbenzene	ND		5.00	ug/Kg	1
1,2-Dibromo-3-chloropropane	ND		30.0	ug/Kg	1
1,2,4-Trichlorobenzene	ND		5.00	ug/Kg	1
Hexachlorobutadiene	ND		5.00	ug/Kg	1
Naphthalene	ND		5.00	ug/Kg	1
trans-1,4-Dichloro-2-butene	ND		25.0	ug/Kg	1
1,2,3-Trichlorobenzene	ND		5.00	ug/Kg	1
Surrogates					
1,2-Dichloroethane-d4	103		55.0-173	%	1
Toluene d8	102		57.0-134	%	1
4-Bromofluorobenzene	98.0		23.0-141	%	1

Batch Information

Analytical Batch: VMS2260
 Analytical Method: SW-846 8260B
 Instrument: MSD9
 Analyst: DVO
 Analytical Date/Time: 6/5/2012 11:18:00AM

Prep Batch: VXX3410
 Prep Method: SW-846 5035 SL
 Prep Date/Time: 6/5/2012 8:41:16AM
 Prep Initial Wt./Vol.: 5 g
 Prep Extract Vol: 5 mL

Blank Spike Summary

Blank Spike ID: LCS-S for HBN 24306 [VXX/3410]
 Blank Spike Lab ID: 75021
 Date Analyzed: 06/05/2012 09:57

Spike Duplicate ID: LCSD-S for HBN 24306
 [VXX/3410]
 Spike Duplicate Lab ID: 75022
 Matrix: Soil-Solid as dry weight

QC for Samples: 31201715008, 31201715010

Results by SW-846 8260B

Parameter	Blank Spike (ug/Kg)			Spike Duplicate (ug/Kg)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Dichlorodifluoromethane	30.0	29.4	98	30.0	27.7	92	52.0-133	6.0	30.00
Chloromethane	30.0	29.4	98	30.0	28.5	95	64.0-126	3.1	30.00
Vinyl chloride	30.0	30.4	101	30.0	29.1	97	69.0-120	4.4	30.00
Bromomethane	30.0	32.8	109	30.0	32.8	109	41.0-160	0.0	30.00
Chloroethane	30.0	31.7	106	30.0	30.2	101	69.0-126	4.8	30.00
Trichlorofluoromethane	30.0	29.6	99	30.0	29.3	98	72.0-123	1.0	30.00
1,1-Dichloroethene	30.0	29.8	99	30.0	29.7	99	78.0-113	0.34	30.00
Acetone	75.0	68.0	91	75.0	67.5	90	0.00-243	0.74	30.00
Methylene chloride	30.0	26.7	89	30.0	27.0	90	40.0-156	1.1	30.00
trans-1,2-Dichloroethene	30.0	29.6	99	30.0	30.6	102	78.0-111	3.3	30.00
tert-Butyl methyl ether (MTBE)	30.0	27.0	90	30.0	29.1	97	68.0-138	7.5	30.00
1,1-Dichloroethane	30.0	26.2	87	30.0	29.4	98	71.0-121	12	30.00
Diisopropyl Ether	30.0	26.1	87	30.0	29.2	97	60.0-141	11	30.00
2,2-Dichloropropane	30.0	31.1	104	30.0	32.9	110	79.0-127	5.6	30.00
cis-1,2-Dichloroethene	30.0	29.9	100	30.0	30.0	100	80.0-114	0.33	30.00
2-Butanone	75.0	67.9	91	75.0	66.9	89	31.0-189	1.5	30.00
Bromochloromethane	30.0	30.0	100	30.0	29.9	100	81.0-115	0.33	30.00
Chloroform	30.0	30.3	101	30.0	29.9	100	76.0-114	1.3	30.00
1,1,1-Trichloroethane	30.0	30.6	102	30.0	30.8	103	79.0-117	0.65	30.00
Carbon tetrachloride	30.0	31.0	103	30.0	31.5	105	82.0-119	1.6	30.00
1,1-Dichloropropene	30.0	29.8	99	30.0	29.5	98	82.0-114	1.0	30.00
Benzene	30.0	29.6	99	30.0	29.7	99	82.0-113	0.34	30.00
1,2-Dichloroethane	30.0	29.8	99	30.0	30.2	101	72.0-126	1.3	30.00
Trichloroethene	30.0	28.5	95	30.0	29.1	97	82.0-108	2.1	30.00
1,2-Dichloropropane	30.0	29.0	97	30.0	29.4	98	78.0-116	1.4	30.00
Dibromomethane	30.0	30.0	100	30.0	30.6	102	79.0-125	2.0	30.00
Bromodichloromethane	30.0	30.8	103	30.0	30.6	102	79.0-122	0.65	30.00
cis-1,3-Dichloropropene	30.0	31.9	106	30.0	32.1	107	75.0-127	0.63	30.00
4-Methyl-2-pentanone	75.0	75.1	100	75.0	74.8	100	57.0-159	0.40	30.00
Toluene	30.0	30.4	101	30.0	30.0	100	83.0-111	1.3	30.00
Methyl iodide	30.0	29.0	97	30.0	30.2	101	63.0-137	4.1	30.00
trans-1,3-Dichloropropene	30.0	32.4	108	30.0	32.2	107	75.0-134	0.62	30.00
Carbon disulfide	30.0	28.3	94	30.0	28.7	96	72.0-116	1.4	30.00
1,1,2-Trichloroethane	30.0	30.6	102	30.0	30.3	101	73.0-121	0.99	30.00

Blank Spike Summary

Blank Spike ID: LCS-S for HBN 24306 [VXX/3410]
 Blank Spike Lab ID: 75021
 Date Analyzed: 06/05/2012 09:57

Spike Duplicate ID: LCSD-S for HBN 24306
 [VXX/3410]
 Spike Duplicate Lab ID: 75022
 Matrix: Soil-Solid as dry weight

QC for Samples: 31201715008, 31201715010

Results by SW-846 8260B

Parameter	Blank Spike (ug/Kg)			Spike Duplicate (ug/Kg)					
	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Tetrachloroethene	30.0	28.5	95	30.0	28.5	95	60.0-118	0.0	30.00
1,3-Dichloropropane	30.0	29.8	99	30.0	29.6	99	76.0-121	0.67	30.00
2-Hexanone	75.0	67.9	91	75.0	65.8	88	41.0-171	3.1	30.00
Dibromochloromethane	30.0	32.2	107	30.0	31.2	104	77.0-126	3.2	30.00
1,2-Dibromoethane	30.0	30.9	103	30.0	30.6	102	76.0-125	0.98	30.00
Chlorobenzene	30.0	29.4	98	30.0	29.3	98	78.0-109	0.34	30.00
1,1,1,2-Tetrachloroethane	30.0	31.2	104	30.0	29.9	100	81.0-117	4.3	30.00
Bromoform	30.0	33.9	113	30.0	33.3	111	72.0-134	1.8	30.00
Bromobenzene	30.0	29.8	99	30.0	29.3	98	76.0-113	1.7	30.00
1,1,2,2-Tetrachloroethane	30.0	34.0	113	30.0	31.9	106	76.0-129	6.4	30.00
1,2,3-Trichloropropane	30.0	32.8	109	30.0	31.4	105	70.0-145	4.4	30.00
Ethyl Benzene	30.0	27.1	90	30.0	27.2	91	72.0-115	0.37	30.00
m,p-Xylene	60.0	54.4	91	60.0	55.2	92	73.0-114	1.5	30.00
Styrene	30.0	27.7	92	30.0	27.7	92	74.0-114	0.0	30.00
o-Xylene	30.0	27.6	92	30.0	28.0	93	74.0-113	1.4	30.00
Isopropylbenzene (Cumene)	30.0	27.8	93	30.0	27.9	93	72.0-115	0.36	30.00
n-Propylbenzene	30.0	29.2	97	30.0	27.9	93	71.0-117	4.6	30.00
2-Chlorotoluene	30.0	28.6	95	30.0	28.1	94	76.0-111	1.8	30.00
4-Chlorotoluene	30.0	27.6	92	30.0	27.2	91	75.0-113	1.5	30.00
1,3,5-Trimethylbenzene	30.0	28.8	96	30.0	27.9	93	72.0-115	3.2	30.00
tert-Butylbenzene	30.0	27.7	92	30.0	27.7	92	74.0-112	0.0	30.00
1,2,4-Trimethylbenzene	30.0	29.3	98	30.0	28.2	94	73.0-114	3.8	30.00
sec-Butylbenzene	30.0	28.4	95	30.0	27.6	92	72.0-115	2.9	30.00
1,3-Dichlorobenzene	30.0	29.2	97	30.0	28.8	96	75.0-110	1.4	30.00
4-Isopropyltoluene	30.0	28.5	95	30.0	27.5	92	73.0-114	3.6	30.00
1,4-Dichlorobenzene	30.0	29.4	98	30.0	28.8	96	76.0-110	2.1	30.00
1,2-Dichlorobenzene	30.0	28.8	96	30.0	28.5	95	77.0-109	1.0	30.00
n-Butylbenzene	30.0	29.1	97	30.0	27.8	93	72.0-118	4.6	30.00
1,2-Dibromo-3-chloropropane	180	203	113	180	190	105	54.0-166	6.6	30.00
1,2,4-Trichlorobenzene	30.0	27.4	91	30.0	26.9	90	76.0-115	1.8	30.00
Hexachlorobutadiene	30.0	27.7	92	30.0	26.4	88	70.0-111	4.8	30.00
Naphthalene	30.0	30.3	101	30.0	28.9	96	71.0-129	4.7	30.00
trans-1,4-Dichloro-2-butene	150	150	100	150	150	100	62.0-164	0.0	30.00
1,2,3-Trichlorobenzene	30.0	28.8	96	30.0	27.6	92	78.0-115	4.3	30.00

Blank Spike Summary

Blank Spike ID: LCS-S for HBN 24306 [VXX/3410]
 Blank Spike Lab ID: 75021
 Date Analyzed: 06/05/2012 09:57

Spike Duplicate ID: LCSD-S for HBN 24306 [VXX/3410]
 Spike Duplicate Lab ID: 75022
 Matrix: Soil-Solid as dry weight

QC for Samples: 31201715008, 31201715010

Results by SW-846 8260B

Parameter	Blank Spike (%)			Spike Duplicate (%)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Surrogates									
1,2-Dichloroethane-d4			104			105	55.0-173		
Toluene d8			102			102	57.0-134		
4-Bromofluorobenzene			107			99	23.0-141		

Batch Information

Analytical Batch: **VMS2260**
 Analytical Method: **SW-846 8260B**
 Instrument: **MSD9**
 Analyst: **DVO**

Prep Batch: **VXX3410**
 Prep Method: **SW-846 5035 SL**
 Prep Date/Time: **06/05/2012 08:41**
 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 8260B

Prep Method: SW-846 5030B

Prep Batch: VXX3412

Prep Date: 06/05/2012 09:11

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Analysis Date</u>	<u>Analytical Batch</u>	<u>Instrument</u>	<u>Analyst</u>
LCS for HBN 24310 [VXX/3412]	75049	06/05/2012 10:32	VMS2261	MSD3	BWS
LCSD for HBN 24310 [VXX/3412]	75050	06/05/2012 10:56	VMS2261	MSD3	BWS
MB for HBN 24310 [VXX/3412]	75051	06/05/2012 11:46	VMS2261	MSD3	BWS
TB-01	31201715009	06/05/2012 12:41	VMS2261	MSD3	BWS
IDW-01	31201715005	06/05/2012 13:06	VMS2261	MSD3	BWS
IDW-02	31201715006	06/05/2012 13:30	VMS2261	MSD3	BWS
IDW-03	31201715007	06/05/2012 13:55	VMS2261	MSD3	BWS
48SVE-01 (1030)	31201715004	06/05/2012 20:05	VMS2261	MSD3	BWS
48SVE-01 (1010)	31201715003	06/05/2012 20:30	VMS2261	MSD3	BWS
4857 MS	31201719012	06/05/2012 20:55	VMS2261	MSD3	BWS
4857 MSD	31201719013	06/05/2012 21:19	VMS2261	MSD3	BWS

Method Blank

Blank ID: MB for HBN 24310 [VXX/3412]

Matrix: Water

Blank Lab ID: 75051

QC for Samples:

31201715003, 31201715004, 31201715005, 31201715006, 31201715007, 31201715009

Results by SW-846 8260B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>
Dichlorodifluoromethane	ND		5.00	ug/L	1
Chloromethane	ND		1.00	ug/L	1
Vinyl chloride	ND		1.00	ug/L	1
Bromomethane	ND		1.00	ug/L	1
Chloroethane	ND		1.00	ug/L	1
Trichlorofluoromethane	ND		1.00	ug/L	1
1,1-Dichloroethene	ND		1.00	ug/L	1
Acetone	ND		25.0	ug/L	1
Methylene chloride	ND		5.00	ug/L	1
trans-1,2-Dichloroethene	ND		1.00	ug/L	1
tert-Butyl methyl ether (MTBE)	ND		1.00	ug/L	1
1,1-Dichloroethane	ND		1.00	ug/L	1
Diisopropyl Ether	ND		1.00	ug/L	1
2,2-Dichloropropane	ND		1.00	ug/L	1
cis-1,2-Dichloroethene	ND		1.00	ug/L	1
2-Butanone	ND		25.0	ug/L	1
Bromochloromethane	ND		1.00	ug/L	1
Chloroform	ND		1.00	ug/L	1
1,1,1-Trichloroethane	ND		1.00	ug/L	1
Carbon tetrachloride	ND		1.00	ug/L	1
1,1-Dichloropropene	ND		1.00	ug/L	1
Benzene	ND		1.00	ug/L	1
1,2-Dichloroethane	ND		1.00	ug/L	1
Trichloroethene	ND		1.00	ug/L	1
1,2-Dichloropropane	ND		1.00	ug/L	1
Dibromomethane	ND		1.00	ug/L	1
Bromodichloromethane	ND		1.00	ug/L	1
cis-1,3-Dichloropropene	ND		1.00	ug/L	1
4-Methyl-2-pentanone	ND		5.00	ug/L	1
Toluene	ND		1.00	ug/L	1
Methyl iodide	ND		1.00	ug/L	1
trans-1,3-Dichloropropene	ND		1.00	ug/L	1
Carbon disulfide	ND		1.00	ug/L	1
1,1,2-Trichloroethane	ND		1.00	ug/L	1
Tetrachloroethene	ND		1.00	ug/L	1
1,3-Dichloropropane	ND		1.00	ug/L	1
2-Hexanone	ND		5.00	ug/L	1
Dibromochloromethane	ND		1.00	ug/L	1
1,2-Dibromoethane	ND		1.00	ug/L	1
Chlorobenzene	ND		1.00	ug/L	1
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L	1
Bromoform	ND		1.00	ug/L	1

Method Blank

Blank ID: MB for HBN 24310 [VXX/3412]

Matrix: Water

Blank Lab ID: 75051

QC for Samples:

31201715003, 31201715004, 31201715005, 31201715006, 31201715007, 31201715009

Results by SW-846 8260B

Parameter	Result	Qual	LOQ/CL	Units	DF
Bromobenzene	ND		1.00	ug/L	1
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L	1
1,2,3-Trichloropropane	ND		1.00	ug/L	1
Ethyl Benzene	ND		1.00	ug/L	1
m,p-Xylene	ND		2.00	ug/L	1
Styrene	ND		1.00	ug/L	1
o-Xylene	ND		1.00	ug/L	1
Xylene (total)	ND		2.00	ug/L	1
Isopropylbenzene (Cumene)	ND		1.00	ug/L	1
n-Propylbenzene	ND		1.00	ug/L	1
2-Chlorotoluene	ND		1.00	ug/L	1
4-Chlorotoluene	ND		1.00	ug/L	1
1,3,5-Trimethylbenzene	ND		1.00	ug/L	1
tert-Butylbenzene	ND		1.00	ug/L	1
1,2,4-Trimethylbenzene	ND		1.00	ug/L	1
sec-Butylbenzene	ND		1.00	ug/L	1
1,3-Dichlorobenzene	ND		1.00	ug/L	1
4-Isopropyltoluene	ND		1.00	ug/L	1
1,4-Dichlorobenzene	ND		1.00	ug/L	1
1,2-Dichlorobenzene	ND		1.00	ug/L	1
n-Butylbenzene	ND		1.00	ug/L	1
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1
1,2,4-Trichlorobenzene	ND		1.00	ug/L	1
Hexachlorobutadiene	ND		1.00	ug/L	1
Naphthalene	ND		1.00	ug/L	1
trans-1,4-Dichloro-2-butene	ND		5.00	ug/L	1
1,2,3-Trichlorobenzene	ND		1.00	ug/L	1
Surrogates					
1,2-Dichloroethane-d4	96.0		64.0-140	%	1
Toluene d8	104		82.0-117	%	1
4-Bromofluorobenzene	100		85.0-115	%	1

Batch Information

Analytical Batch: VMS2261
 Analytical Method: SW-846 8260B
 Instrument: MSD3
 Analyst: BWS
 Analytical Date/Time: 6/5/2012 11:46:00AM

Prep Batch: VXX3412
 Prep Method: SW-846 5030B
 Prep Date/Time: 6/5/2012 9:11:11AM
 Prep Initial Wt./Vol.: 40 mL
 Prep Extract Vol: 40 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 24310 [VXX/3412]
 Blank Spike Lab ID: 75049
 Date Analyzed: 06/05/2012 10:32

Spike Duplicate ID: LCSD for HBN 24310 [VXX/3412]
 Spike Duplicate Lab ID: 75050
 Date Analyzed: 06/05/2012 10:56
 Matrix: Water

QC for Samples: 31201715003, 31201715004, 31201715005, 31201715006, 31201715007, 31201715009

Results by SW-846 8260B

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Dichlorodifluoromethane	5.00	ND	100	5.00	5.61	112	33.0-170	12	30.00
Chloromethane	5.00	4.76	95	5.00	4.66	93	57.0-132	2.1	30.00
Vinyl chloride	5.00	4.51	90	5.00	4.70	94	59.0-138	4.1	30.00
Bromomethane	5.00	10.8	215*	5.00	8.94	179*	51.0-134	19	30.00
Chloroethane	5.00	4.88	98	5.00	4.59	92	64.0-145	6.1	30.00
Trichlorofluoromethane	5.00	5.02	100	5.00	5.22	104	64.0-133	3.9	30.00
1,1-Dichloroethene	5.00	5.13	103	5.00	5.12	102	71.0-128	0.20	30.00
Acetone	25.0	ND	90	25.0	ND	93	52.0-140	3.5	30.00
Methylene chloride	5.00	ND	77	5.00	ND	93	70.0-113	20	30.00
trans-1,2-Dichloroethene	5.00	5.67	113	5.00	4.73	95	57.0-138	18	30.00
tert-Butyl methyl ether (MTBE)	5.00	4.74	95	5.00	4.61	92	47.0-142	2.8	30.00
1,1-Dichloroethane	5.00	4.99	100	5.00	5.53	111	68.0-133	10	30.00
Diisopropyl Ether	5.00	4.66	93	5.00	5.32	106	66.0-132	13	30.00
2,2-Dichloropropane	5.00	4.84	97	5.00	5.24	105	74.0-125	7.9	30.00
cis-1,2-Dichloroethene	5.00	5.15	103	5.00	5.31	106	73.0-128	3.1	30.00
2-Butanone	25.0	ND	87	25.0	ND	92	58.0-134	5.4	30.00
Bromochloromethane	5.00	5.02	100	5.00	5.32	106	73.0-128	5.8	30.00
Chloroform	5.00	5.01	100	5.00	5.23	105	74.0-124	4.3	30.00
1,1,1-Trichloroethane	5.00	5.18	104	5.00	5.29	106	76.0-119	2.1	30.00
Carbon tetrachloride	5.00	4.90	98	5.00	5.34	107	75.0-120	8.6	30.00
1,1-Dichloropropene	5.00	4.77	95	5.00	5.22	104	76.0-124	9.0	30.00
Benzene	5.00	5.02	100	5.00	5.16	103	76.0-124	2.8	30.00
1,2-Dichloroethane	5.00	4.73	95	5.00	5.02	100	76.0-119	5.9	30.00
Trichloroethene	5.00	4.81	96	5.00	4.91	98	74.0-121	2.1	30.00
1,2-Dichloropropane	5.00	4.95	99	5.00	4.90	98	74.0-124	1.0	30.00
Dibromomethane	5.00	4.69	94	5.00	4.97	99	71.0-128	5.8	30.00
Bromodichloromethane	5.00	4.47	89	5.00	4.53	91	72.0-120	1.3	30.00
cis-1,3-Dichloropropene	5.00	4.98	100	5.00	5.02	100	73.0-122	0.80	30.00
4-Methyl-2-pentanone	25.0	21.0	84	25.0	21.7	87	65.0-124	3.3	30.00
Toluene	5.00	4.88	98	5.00	5.39	108	75.0-123	9.9	30.00
Methyl iodide	5.00	4.71	94	5.00	4.54	91	55.0-123	3.7	30.00
trans-1,3-Dichloropropene	5.00	4.33	87	5.00	4.39	88	70.0-125	1.4	30.00
Carbon disulfide	5.00	5.16	103	5.00	5.10	102	65.0-132	1.2	30.00
1,1,2-Trichloroethane	5.00	3.99	80	5.00	4.46	89	76.0-121	11	30.00

Blank Spike Summary

Blank Spike ID: LCS for HBN 24310 [VXX/3412]
 Blank Spike Lab ID: 75049
 Date Analyzed: 06/05/2012 10:32

Spike Duplicate ID: LCSD for HBN 24310 [VXX/3412]
 Spike Duplicate Lab ID: 75050
 Date Analyzed: 06/05/2012 10:56
 Matrix: Water

QC for Samples: 31201715003, 31201715004, 31201715005, 31201715006, 31201715007, 31201715009

Results by SW-846 8260B

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Tetrachloroethene	5.00	4.52	90	5.00	4.91	98	59.0-112	8.3	30.00
1,3-Dichloropropane	5.00	3.93	79	5.00	4.38	88	74.0-120	11	30.00
2-Hexanone	25.0	19.6	79	25.0	20.6	82	56.0-133	5.0	30.00
Dibromochloromethane	5.00	4.26	85	5.00	4.07	81	67.0-122	4.6	30.00
1,2-Dibromoethane	5.00	4.18	84	5.00	4.52	90	74.0-119	7.8	30.00
Chlorobenzene	5.00	4.31	86	5.00	4.24	85	74.0-120	1.6	30.00
1,1,1,2-Tetrachloroethane	5.00	4.12	82	5.00	3.96	79	73.0-119	4.0	30.00
Bromoform	5.00	3.84	77	5.00	4.05	81	62.0-127	5.3	30.00
Bromobenzene	5.00	4.00	80	5.00	4.33	87	75.0-120	7.9	30.00
1,1,2,2-Tetrachloroethane	5.00	3.96	79	5.00	4.02	80	68.0-129	1.5	30.00
1,2,3-Trichloropropane	5.00	3.56	71	5.00	3.72	74	67.0-126	4.4	30.00
Ethyl Benzene	5.00	4.09	82	5.00	4.17	83	76.0-123	1.9	30.00
m,p-Xylene	10.0	8.39	84	10.0	8.85	89	76.0-124	5.3	30.00
Styrene	5.00	4.00	80	5.00	4.18	84	76.0-121	4.4	30.00
o-Xylene	5.00	4.14	83	5.00	4.28	86	75.0-124	3.3	30.00
Isopropylbenzene (Cumene)	5.00	4.19	84	5.00	4.38	88	77.0-120	4.4	30.00
n-Propylbenzene	5.00	4.27	85	5.00	4.27	85	77.0-123	0.0	30.00
2-Chlorotoluene	5.00	4.39	88	5.00	4.36	87	74.0-127	0.69	30.00
4-Chlorotoluene	5.00	3.81	76*	5.00	4.15	83	77.0-123	8.5	30.00
1,3,5-Trimethylbenzene	5.00	4.02	80	5.00	4.31	86	76.0-122	7.0	30.00
tert-Butylbenzene	5.00	4.27	85	5.00	4.39	88	67.0-122	2.8	30.00
1,2,4-Trimethylbenzene	5.00	4.03	81	5.00	4.29	86	76.0-124	6.3	30.00
sec-Butylbenzene	5.00	4.02	80	5.00	4.30	86	78.0-121	6.7	30.00
1,3-Dichlorobenzene	5.00	4.15	83	5.00	4.23	85	75.0-120	1.9	30.00
4-Isopropyltoluene	5.00	4.01	80	5.00	4.26	85	77.0-120	6.0	30.00
1,4-Dichlorobenzene	5.00	4.07	81	5.00	4.19	84	70.0-125	2.9	30.00
1,2-Dichlorobenzene	5.00	4.05	81	5.00	4.28	86	76.0-118	5.5	30.00
n-Butylbenzene	5.00	3.91	78	5.00	4.05	81	78.0-118	3.5	30.00
1,2-Dibromo-3-chloropropane	30.0	23.9	80	30.0	23.8	79	62.0-130	0.42	30.00
1,2,4-Trichlorobenzene	5.00	3.89	78	5.00	3.86	77	72.0-119	0.77	30.00
Hexachlorobutadiene	5.00	4.43	89	5.00	4.40	88	69.0-121	0.68	30.00
Naphthalene	5.00	3.96	79	5.00	4.02	80	67.0-122	1.5	30.00
trans-1,4-Dichloro-2-butene	25.0	16.1	64	25.0	16.8	67	61.0-132	4.3	30.00
1,2,3-Trichlorobenzene	5.00	4.03	81	5.00	4.04	81	68.0-123	0.25	30.00

Blank Spike Summary

Blank Spike ID: LCS for HBN 24310 [VXX/3412]
 Blank Spike Lab ID: 75049
 Date Analyzed: 06/05/2012 10:32

Spike Duplicate ID: LCSD for HBN 24310 [VXX/3412]
 Spike Duplicate Lab ID: 75050
 Date Analyzed: 06/05/2012 10:56
 Matrix: Water

QC for Samples: 31201715003, 31201715004, 31201715005, 31201715006, 31201715007, 31201715009

Results by SW-846 8260B

Parameter	Blank Spike (%)			Spike Duplicate (%)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Surrogates									
1,2-Dichloroethane-d4			98			98	64.0-140		
Toluene d8			103			103	82.0-117		
4-Bromofluorobenzene			101			103	85.0-115		

Batch Information

Analytical Batch: **VMS2261**
 Analytical Method: **SW-846 8260B**
 Instrument: **MSD3**
 Analyst: **BWS**

Prep Batch: **VXX3412**
 Prep Method: **SW-846 5030B**
 Prep Date/Time: **06/05/2012 09:11**
 Spike Init Wt./Vol.: **40 mL** Extract Vol: **40 mL**
 Dupe Init Wt./Vol.: **40 mL** Extract Vol: **40 mL**

Batch Summary

Analytical Method: SW-846 8260B

Prep Method: SW-846 5030B

Prep Batch: VXX3424

Prep Date: 06/06/2012 10:08

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Analysis Date</u>	<u>Analytical Batch</u>	<u>Instrument</u>	<u>Analyst</u>
LCS for HBN 24378 [VXX/3424]	75283	06/06/2012 11:19	VMS2266	MSD8	DVO
LCSD for HBN 24378 [VXX/3424]	75284	06/06/2012 11:44	VMS2266	MSD8	DVO
MB for HBN 24378 [VXX/3424]	75285	06/06/2012 12:33	VMS2266	MSD8	DVO
48DW-8 (40)	31201715002	06/06/2012 20:20	VMS2266	MSD8	DVO
4870 MS	31201719027	06/06/2012 21:09	VMS2266	MSD8	DVO
4870 MSD	31201719028	06/06/2012 21:33	VMS2266	MSD8	DVO

Method Blank

Blank ID: MB for HBN 24378 [VXX/3424]

Matrix: Water

Blank Lab ID: 75285

QC for Samples:

31201715002

Results by SW-846 8260B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>
Dichlorodifluoromethane	ND		5.00	ug/L	1
Chloromethane	ND		1.00	ug/L	1
Vinyl chloride	ND		1.00	ug/L	1
Bromomethane	ND		1.00	ug/L	1
Chloroethane	ND		1.00	ug/L	1
Trichlorofluoromethane	ND		1.00	ug/L	1
1,1-Dichloroethene	ND		1.00	ug/L	1
Acetone	ND		25.0	ug/L	1
Methylene chloride	ND		5.00	ug/L	1
trans-1,2-Dichloroethene	ND		1.00	ug/L	1
tert-Butyl methyl ether (MTBE)	ND		1.00	ug/L	1
1,1-Dichloroethane	ND		1.00	ug/L	1
Diisopropyl Ether	ND		1.00	ug/L	1
2,2-Dichloropropane	ND		1.00	ug/L	1
cis-1,2-Dichloroethene	ND		1.00	ug/L	1
2-Butanone	ND		25.0	ug/L	1
Bromochloromethane	ND		1.00	ug/L	1
Chloroform	ND		1.00	ug/L	1
1,1,1-Trichloroethane	ND		1.00	ug/L	1
Carbon tetrachloride	ND		1.00	ug/L	1
1,1-Dichloropropene	ND		1.00	ug/L	1
Benzene	ND		1.00	ug/L	1
1,2-Dichloroethane	ND		1.00	ug/L	1
Trichloroethene	ND		1.00	ug/L	1
1,2-Dichloropropane	ND		1.00	ug/L	1
Dibromomethane	ND		1.00	ug/L	1
Bromodichloromethane	ND		1.00	ug/L	1
cis-1,3-Dichloropropene	ND		1.00	ug/L	1
4-Methyl-2-pentanone	ND		5.00	ug/L	1
Toluene	ND		1.00	ug/L	1
Methyl iodide	ND		1.00	ug/L	1
trans-1,3-Dichloropropene	ND		1.00	ug/L	1
Carbon disulfide	ND		1.00	ug/L	1
1,1,2-Trichloroethane	ND		1.00	ug/L	1
Tetrachloroethene	ND		1.00	ug/L	1
1,3-Dichloropropane	ND		1.00	ug/L	1
2-Hexanone	ND		5.00	ug/L	1
Dibromochloromethane	ND		1.00	ug/L	1
1,2-Dibromoethane	ND		1.00	ug/L	1
Chlorobenzene	ND		1.00	ug/L	1
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L	1
Bromoform	ND		1.00	ug/L	1

Method Blank

Blank ID: MB for HBN 24378 [VXX/3424]
 Blank Lab ID: 75285
 QC for Samples:
 31201715002

Matrix: Water

Results by SW-846 8260B

Parameter	Result	Qual	LOQ/CL	Units	DF
Bromobenzene	ND		1.00	ug/L	1
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L	1
1,2,3-Trichloropropane	ND		1.00	ug/L	1
Ethyl Benzene	ND		1.00	ug/L	1
m,p-Xylene	ND		2.00	ug/L	1
Styrene	ND		1.00	ug/L	1
o-Xylene	ND		1.00	ug/L	1
Xylene (total)	ND		2.00	ug/L	1
Isopropylbenzene (Cumene)	ND		1.00	ug/L	1
n-Propylbenzene	ND		1.00	ug/L	1
2-Chlorotoluene	ND		1.00	ug/L	1
4-Chlorotoluene	ND		1.00	ug/L	1
1,3,5-Trimethylbenzene	ND		1.00	ug/L	1
tert-Butylbenzene	ND		1.00	ug/L	1
1,2,4-Trimethylbenzene	ND		1.00	ug/L	1
sec-Butylbenzene	ND		1.00	ug/L	1
1,3-Dichlorobenzene	ND		1.00	ug/L	1
4-Isopropyltoluene	ND		1.00	ug/L	1
1,4-Dichlorobenzene	ND		1.00	ug/L	1
1,2-Dichlorobenzene	ND		1.00	ug/L	1
n-Butylbenzene	ND		1.00	ug/L	1
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1
1,2,4-Trichlorobenzene	ND		1.00	ug/L	1
Hexachlorobutadiene	ND		1.00	ug/L	1
Naphthalene	ND		1.00	ug/L	1
trans-1,4-Dichloro-2-butene	ND		5.00	ug/L	1
1,2,3-Trichlorobenzene	ND		1.00	ug/L	1
Surrogates					
1,2-Dichloroethane-d4	99.0		64.0-140	%	1
Toluene d8	104		82.0-117	%	1
4-Bromofluorobenzene	98.0		85.0-115	%	1

Batch Information

Analytical Batch: VMS2266
 Analytical Method: SW-846 8260B
 Instrument: MSD8
 Analyst: DVO
 Analytical Date/Time: 6/6/2012 12:33:00PM

Prep Batch: VXX3424
 Prep Method: SW-846 5030B
 Prep Date/Time: 6/6/2012 10:08:18AM
 Prep Initial Wt./Vol.: 40 mL
 Prep Extract Vol: 40 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 24378 [VXX/3424]
 Blank Spike Lab ID: 75283
 Date Analyzed: 06/06/2012 11:19

Spike Duplicate ID: LCSD for HBN 24378 [VXX/3424]
 Spike Duplicate Lab ID: 75284
 Date Analyzed: 06/06/2012 11:44
 Matrix: Water

QC for Samples: 31201715002

Results by SW-846 8260B

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Dichlorodifluoromethane	5.00	5.51	110	5.00	5.38	108	33.0-170	2.4	30.00
Chloromethane	5.00	5.36	107	5.00	5.18	104	57.0-132	3.4	30.00
Vinyl chloride	5.00	4.96	99	5.00	4.94	99	59.0-138	0.40	30.00
Bromomethane	5.00	5.29	106	5.00	4.63	93	51.0-134	13	30.00
Chloroethane	5.00	5.70	114	5.00	5.62	112	64.0-145	1.4	30.00
Trichlorofluoromethane	5.00	4.58	92	5.00	4.66	93	64.0-133	1.7	30.00
1,1-Dichloroethene	5.00	4.21	84	5.00	4.78	96	71.0-128	13	30.00
Acetone	25.0	ND	99	25.0	ND	96	52.0-140	3.3	30.00
Methylene chloride	5.00	5.24	105	5.00	5.10	102	70.0-113	2.7	30.00
trans-1,2-Dichloroethene	5.00	4.24	85	5.00	5.09	102	57.0-138	18	30.00
tert-Butyl methyl ether (MTBE)	5.00	4.26	85	5.00	4.46	89	47.0-142	4.6	30.00
1,1-Dichloroethane	5.00	4.19	84	5.00	4.61	92	68.0-133	9.5	30.00
Diisopropyl Ether	5.00	4.59	92	5.00	4.94	99	66.0-132	7.3	30.00
2,2-Dichloropropane	5.00	4.91	98	5.00	5.27	105	74.0-125	7.1	30.00
cis-1,2-Dichloroethene	5.00	4.36	87	5.00	4.70	94	73.0-128	7.5	30.00
2-Butanone	25.0	ND	93	25.0	ND	92	58.0-134	1.3	30.00
Bromochloromethane	5.00	4.62	92	5.00	5.32	106	73.0-128	14	30.00
Chloroform	5.00	4.27	85	5.00	4.87	97	74.0-124	13	30.00
1,1,1-Trichloroethane	5.00	4.59	92	5.00	5.26	105	76.0-119	14	30.00
Carbon tetrachloride	5.00	4.88	98	5.00	5.19	104	75.0-120	6.2	30.00
1,1-Dichloropropene	5.00	4.68	94	5.00	5.12	102	76.0-124	9.0	30.00
Benzene	5.00	4.75	95	5.00	5.17	103	76.0-124	8.5	30.00
1,2-Dichloroethane	5.00	4.55	91	5.00	4.93	99	76.0-119	8.0	30.00
Trichloroethene	5.00	4.92	98	5.00	5.10	102	74.0-121	3.6	30.00
1,2-Dichloropropane	5.00	4.60	92	5.00	4.94	99	74.0-124	7.1	30.00
Dibromomethane	5.00	4.48	90	5.00	4.74	95	71.0-128	5.6	30.00
Bromodichloromethane	5.00	4.69	94	5.00	5.03	101	72.0-120	7.0	30.00
cis-1,3-Dichloropropene	5.00	4.79	96	5.00	5.22	104	73.0-122	8.6	30.00
4-Methyl-2-pentanone	25.0	21.7	87	25.0	21.3	85	65.0-124	1.9	30.00
Toluene	5.00	5.31	106	5.00	5.22	104	75.0-123	1.7	30.00
Methyl iodide	5.00	4.78	96	5.00	5.28	106	55.0-123	9.9	30.00
trans-1,3-Dichloropropene	5.00	4.73	95	5.00	4.73	95	70.0-125	0.0	30.00
Carbon disulfide	5.00	4.19	84	5.00	4.46	89	65.0-132	6.2	30.00
1,1,2-Trichloroethane	5.00	4.48	90	5.00	4.94	99	76.0-121	9.8	30.00

Blank Spike Summary

Blank Spike ID: LCS for HBN 24378 [VXX/3424]
 Blank Spike Lab ID: 75283
 Date Analyzed: 06/06/2012 11:19

Spike Duplicate ID: LCSD for HBN 24378 [VXX/3424]
 Spike Duplicate Lab ID: 75284
 Date Analyzed: 06/06/2012 11:44
 Matrix: Water

QC for Samples: 31201715002

Results by SW-846 8260B

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Tetrachloroethene	5.00	4.64	93	5.00	5.24	105	59.0-112	12	30.00
1,3-Dichloropropane	5.00	4.60	92	5.00	4.72	94	74.0-120	2.6	30.00
2-Hexanone	25.0	21.7	87	25.0	20.7	83	56.0-133	4.7	30.00
Dibromochloromethane	5.00	4.39	88	5.00	4.74	95	67.0-122	7.7	30.00
1,2-Dibromoethane	5.00	4.54	91	5.00	5.06	101	74.0-119	11	30.00
Chlorobenzene	5.00	4.88	98	5.00	4.83	97	74.0-120	1.0	30.00
1,1,1,2-Tetrachloroethane	5.00	4.44	89	5.00	4.43	89	73.0-119	0.23	30.00
Bromoform	5.00	5.14	103	5.00	4.41	88	62.0-127	15	30.00
Bromobenzene	5.00	4.79	96	5.00	4.82	96	75.0-120	0.62	30.00
1,1,2,2-Tetrachloroethane	5.00	4.68	94	5.00	4.33	87	68.0-129	7.8	30.00
1,2,3-Trichloropropane	5.00	5.90	118	5.00	4.86	97	67.0-126	19	30.00
Ethyl Benzene	5.00	5.07	101	5.00	4.30	86	76.0-123	16	30.00
m,p-Xylene	10.0	10.5	105	10.0	9.52	95	76.0-124	9.8	30.00
Styrene	5.00	4.82	96	5.00	4.78	96	76.0-121	0.83	30.00
o-Xylene	5.00	5.30	106	5.00	4.75	95	75.0-124	11	30.00
Isopropylbenzene (Cumene)	5.00	5.37	107	5.00	4.92	98	77.0-120	8.7	30.00
n-Propylbenzene	5.00	5.11	102	5.00	5.06	101	77.0-123	0.98	30.00
2-Chlorotoluene	5.00	5.49	110	5.00	5.06	101	74.0-127	8.2	30.00
4-Chlorotoluene	5.00	4.74	95	5.00	4.88	98	77.0-123	2.9	30.00
1,3,5-Trimethylbenzene	5.00	5.06	101	5.00	5.00	100	76.0-122	1.2	30.00
tert-Butylbenzene	5.00	5.18	104	5.00	5.19	104	67.0-122	0.19	30.00
1,2,4-Trimethylbenzene	5.00	5.07	101	5.00	5.25	105	76.0-124	3.5	30.00
sec-Butylbenzene	5.00	5.26	105	5.00	5.33	107	78.0-121	1.3	30.00
1,3-Dichlorobenzene	5.00	5.31	106	5.00	5.35	107	75.0-120	0.75	30.00
4-Isopropyltoluene	5.00	5.16	103	5.00	5.27	105	77.0-120	2.1	30.00
1,4-Dichlorobenzene	5.00	5.32	106	5.00	5.51	110	70.0-125	3.5	30.00
1,2-Dichlorobenzene	5.00	5.20	104	5.00	5.05	101	76.0-118	2.9	30.00
n-Butylbenzene	5.00	5.19	104	5.00	5.50	110	78.0-118	5.8	30.00
1,2-Dibromo-3-chloropropane	30.0	30.5	102	30.0	31.0	103	62.0-130	1.6	30.00
1,2,4-Trichlorobenzene	5.00	4.85	97	5.00	5.42	108	72.0-119	11	30.00
Hexachlorobutadiene	5.00	5.45	109	5.00	5.39	108	69.0-121	1.1	30.00
Naphthalene	5.00	5.06	101	5.00	4.87	97	67.0-122	3.8	30.00
trans-1,4-Dichloro-2-butene	25.0	25.4	102	25.0	22.7	91	61.0-132	11	30.00
1,2,3-Trichlorobenzene	5.00	5.11	102	5.00	5.15	103	68.0-123	0.78	30.00

Blank Spike Summary

Blank Spike ID: LCS for HBN 24378 [VXX/3424]
 Blank Spike Lab ID: 75283
 Date Analyzed: 06/06/2012 11:19

Spike Duplicate ID: LCSD for HBN 24378 [VXX/3424]
 Spike Duplicate Lab ID: 75284
 Date Analyzed: 06/06/2012 11:44
 Matrix: Water

QC for Samples: 31201715002

Results by SW-846 8260B

Parameter	Blank Spike (%)			Spike Duplicate (%)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Surrogates									
1,2-Dichloroethane-d4			91			97	64.0-140		
Toluene d8			103			105	82.0-117		
4-Bromofluorobenzene			95			98	85.0-115		

Batch Information

Analytical Batch: VMS2266
 Analytical Method: SW-846 8260B
 Instrument: MSD8
 Analyst: DVO

Prep Batch: VXX3424
 Prep Method: SW-846 5030B
 Prep Date/Time: 06/06/2012 10:08
 Spike Init Wt./Vol.: 40 mL Extract Vol: 40 mL
 Dupe Init Wt./Vol.: 40 mL Extract Vol: 40 mL

Batch Summary

Analytical Method: SW-846 8260B

Prep Method: SW-846 5030B

Prep Batch: VXX3426

Prep Date: 06/07/2012 08:17

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Analysis Date</u>	<u>Analytical Batch</u>	<u>Instrument</u>	<u>Analyst</u>
LCS for HBN 24409 [VXX/3426]	75468	06/07/2012 09:22	VMS2270	MSD8	DVO
LCSD for HBN 24409 [VXX/3426]	75469	06/07/2012 09:47	VMS2270	MSD8	DVO
MB for HBN 24409 [VXX/3426]	75470	06/07/2012 11:01	VMS2270	MSD8	DVO
48DW-8 (90)	31201715001	06/07/2012 13:06	VMS2270	MSD8	DVO
HPFFSE-Influent(75052MS)	75786	06/07/2012 14:45	VMS2270	MSD8	DVO
HPFFSE-Influent(75052MSD)	75787	06/07/2012 15:10	VMS2270	MSD8	DVO

Method Blank

Blank ID: MB for HBN 24409 [VXX/3426]

Matrix: Water

Blank Lab ID: 75470

QC for Samples:

31201715001

Results by SW-846 8260B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>
Dichlorodifluoromethane	ND		5.00	ug/L	1
Chloromethane	ND		1.00	ug/L	1
Vinyl chloride	ND		1.00	ug/L	1
Bromomethane	ND		1.00	ug/L	1
Chloroethane	ND		1.00	ug/L	1
Trichlorofluoromethane	ND		1.00	ug/L	1
1,1-Dichloroethene	ND		1.00	ug/L	1
Acetone	ND		25.0	ug/L	1
Methylene chloride	ND		5.00	ug/L	1
trans-1,2-Dichloroethene	ND		1.00	ug/L	1
tert-Butyl methyl ether (MTBE)	ND		1.00	ug/L	1
1,1-Dichloroethane	ND		1.00	ug/L	1
Diisopropyl Ether	ND		1.00	ug/L	1
2,2-Dichloropropane	ND		1.00	ug/L	1
cis-1,2-Dichloroethene	ND		1.00	ug/L	1
2-Butanone	ND		25.0	ug/L	1
Bromochloromethane	ND		1.00	ug/L	1
Chloroform	ND		1.00	ug/L	1
1,1,1-Trichloroethane	ND		1.00	ug/L	1
Carbon tetrachloride	ND		1.00	ug/L	1
1,1-Dichloropropene	ND		1.00	ug/L	1
Benzene	ND		1.00	ug/L	1
1,2-Dichloroethane	ND		1.00	ug/L	1
Trichloroethene	ND		1.00	ug/L	1
1,2-Dichloropropane	ND		1.00	ug/L	1
Dibromomethane	ND		1.00	ug/L	1
Bromodichloromethane	ND		1.00	ug/L	1
cis-1,3-Dichloropropene	ND		1.00	ug/L	1
4-Methyl-2-pentanone	ND		5.00	ug/L	1
Toluene	ND		1.00	ug/L	1
Methyl iodide	ND		1.00	ug/L	1
trans-1,3-Dichloropropene	ND		1.00	ug/L	1
Carbon disulfide	ND		1.00	ug/L	1
1,1,2-Trichloroethane	ND		1.00	ug/L	1
Tetrachloroethene	ND		1.00	ug/L	1
1,3-Dichloropropane	ND		1.00	ug/L	1
2-Hexanone	ND		5.00	ug/L	1
Dibromochloromethane	ND		1.00	ug/L	1
1,2-Dibromoethane	ND		1.00	ug/L	1
Chlorobenzene	ND		1.00	ug/L	1
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L	1
Bromoform	ND		1.00	ug/L	1

Method Blank

Blank ID: MB for HBN 24409 [VXX/3426]
 Blank Lab ID: 75470
 QC for Samples:
 31201715001

Matrix: Water

Results by SW-846 8260B

Parameter	Result	Qual	LOQ/CL	Units	DF
Bromobenzene	ND		1.00	ug/L	1
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L	1
1,2,3-Trichloropropane	ND		1.00	ug/L	1
Ethyl Benzene	ND		1.00	ug/L	1
m,p-Xylene	ND		2.00	ug/L	1
Styrene	ND		1.00	ug/L	1
o-Xylene	ND		1.00	ug/L	1
Xylene (total)	ND		2.00	ug/L	1
Isopropylbenzene (Cumene)	ND		1.00	ug/L	1
n-Propylbenzene	ND		1.00	ug/L	1
2-Chlorotoluene	ND		1.00	ug/L	1
4-Chlorotoluene	ND		1.00	ug/L	1
1,3,5-Trimethylbenzene	ND		1.00	ug/L	1
tert-Butylbenzene	ND		1.00	ug/L	1
1,2,4-Trimethylbenzene	ND		1.00	ug/L	1
sec-Butylbenzene	ND		1.00	ug/L	1
1,3-Dichlorobenzene	ND		1.00	ug/L	1
4-Isopropyltoluene	ND		1.00	ug/L	1
1,4-Dichlorobenzene	ND		1.00	ug/L	1
1,2-Dichlorobenzene	ND		1.00	ug/L	1
n-Butylbenzene	ND		1.00	ug/L	1
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1
1,2,4-Trichlorobenzene	ND		1.00	ug/L	1
Hexachlorobutadiene	ND		1.00	ug/L	1
Naphthalene	ND		1.00	ug/L	1
trans-1,4-Dichloro-2-butene	ND		5.00	ug/L	1
1,2,3-Trichlorobenzene	ND		1.00	ug/L	1
Surrogates					
1,2-Dichloroethane-d4	93.0		64.0-140	%	1
Toluene d8	100		82.0-117	%	1
4-Bromofluorobenzene	92.0		85.0-115	%	1

Batch Information

Analytical Batch: VMS2270
 Analytical Method: SW-846 8260B
 Instrument: MSD8
 Analyst: DVO
 Analytical Date/Time: 6/7/2012 11:01:00AM

Prep Batch: VXX3426
 Prep Method: SW-846 5030B
 Prep Date/Time: 6/7/2012 8:17:50AM
 Prep Initial Wt./Vol.: 40 mL
 Prep Extract Vol: 40 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 24409 [VXX/3426]
 Blank Spike Lab ID: 75468
 Date Analyzed: 06/07/2012 09:22

Spike Duplicate ID: LCSD for HBN 24409 [VXX/3426]
 Spike Duplicate Lab ID: 75469
 Date Analyzed: 06/07/2012 09:47
 Matrix: Water

QC for Samples: 31201715001

Results by SW-846 8260B

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Dichlorodifluoromethane	5.00	5.90	118	5.00	5.25	105	33.0-170	12	30.00
Chloromethane	5.00	5.37	107	5.00	4.58	92	57.0-132	16	30.00
Vinyl chloride	5.00	5.89	118	5.00	4.68	94	59.0-138	23	30.00
Bromomethane	5.00	4.22	84	5.00	4.15	83	51.0-134	1.7	30.00
Chloroethane	5.00	5.95	119	5.00	4.91	98	64.0-145	19	30.00
Trichlorofluoromethane	5.00	5.81	116	5.00	4.35	87	64.0-133	29	30.00
1,1-Dichloroethene	5.00	5.13	103	5.00	4.57	91	71.0-128	12	30.00
Acetone	25.0	29.0	116	25.0	ND	100	52.0-140	15	30.00
Methylene chloride	5.00	5.58	112	5.00	5.23	105	70.0-113	6.5	30.00
trans-1,2-Dichloroethene	5.00	5.84	117	5.00	4.92	98	57.0-138	17	30.00
tert-Butyl methyl ether (MTBE)	5.00	5.33	107	5.00	4.68	94	47.0-142	13	30.00
1,1-Dichloroethane	5.00	5.29	106	5.00	4.26	85	68.0-133	22	30.00
Diisopropyl Ether	5.00	5.27	105	5.00	4.66	93	66.0-132	12	30.00
2,2-Dichloropropane	5.00	5.81	116	5.00	4.87	97	74.0-125	18	30.00
cis-1,2-Dichloroethene	5.00	5.28	106	5.00	4.43	89	73.0-128	18	30.00
2-Butanone	25.0	28.5	114	25.0	ND	92	58.0-134	21	30.00
Bromochloromethane	5.00	6.22	124	5.00	4.79	96	73.0-128	26	30.00
Chloroform	5.00	5.31	106	5.00	4.24	85	74.0-124	22	30.00
1,1,1-Trichloroethane	5.00	5.55	111	5.00	4.72	94	76.0-119	16	30.00
Carbon tetrachloride	5.00	5.69	114	5.00	4.80	96	75.0-120	17	30.00
1,1-Dichloropropene	5.00	5.54	111	5.00	4.50	90	76.0-124	21	30.00
Benzene	5.00	5.35	107	5.00	4.83	97	76.0-124	10	30.00
1,2-Dichloroethane	5.00	5.58	112	5.00	4.64	93	76.0-119	18	30.00
Trichloroethene	5.00	5.45	109	5.00	4.98	100	74.0-121	9.0	30.00
1,2-Dichloropropane	5.00	5.04	101	5.00	4.57	91	74.0-124	9.8	30.00
Dibromomethane	5.00	5.64	113	5.00	4.45	89	71.0-128	24	30.00
Bromodichloromethane	5.00	5.71	114	5.00	4.50	90	72.0-120	24	30.00
cis-1,3-Dichloropropene	5.00	5.49	110	5.00	4.78	96	73.0-122	14	30.00
4-Methyl-2-pentanone	25.0	27.7	111	25.0	22.8	91	65.0-124	19	30.00
Toluene	5.00	5.60	112	5.00	5.07	101	75.0-123	9.9	30.00
Methyl iodide	5.00	4.16	83	5.00	3.78	76	55.0-123	9.6	30.00
trans-1,3-Dichloropropene	5.00	5.30	106	5.00	4.78	96	70.0-125	10	30.00
Carbon disulfide	5.00	5.32	106	5.00	4.55	91	65.0-132	16	30.00
1,1,2-Trichloroethane	5.00	5.90	118	5.00	5.03	101	76.0-121	16	30.00

Blank Spike Summary

Blank Spike ID: LCS for HBN 24409 [VXX/3426]
 Blank Spike Lab ID: 75468
 Date Analyzed: 06/07/2012 09:22

Spike Duplicate ID: LCSD for HBN 24409 [VXX/3426]
 Spike Duplicate Lab ID: 75469
 Date Analyzed: 06/07/2012 09:47
 Matrix: Water

QC for Samples: 31201715001

Results by SW-846 8260B

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Tetrachloroethene	5.00	5.99	120*	5.00	5.35	107	59.0-112	11	30.00
1,3-Dichloropropane	5.00	5.81	116	5.00	4.94	99	74.0-120	16	30.00
2-Hexanone	25.0	26.9	108	25.0	24.0	96	56.0-133	11	30.00
Dibromochloromethane	5.00	5.78	116	5.00	5.05	101	67.0-122	13	30.00
1,2-Dibromoethane	5.00	5.74	115	5.00	5.21	104	74.0-119	9.7	30.00
Chlorobenzene	5.00	5.23	105	5.00	4.55	91	74.0-120	14	30.00
1,1,1,2-Tetrachloroethane	5.00	5.17	103	5.00	4.40	88	73.0-119	16	30.00
Bromoform	5.00	5.34	107	5.00	5.36	107	62.0-127	0.37	30.00
Bromobenzene	5.00	5.55	111	5.00	5.39	108	75.0-120	2.9	30.00
1,1,2,2-Tetrachloroethane	5.00	5.97	119	5.00	5.28	106	68.0-129	12	30.00
1,2,3-Trichloropropane	5.00	6.53	131*	5.00	5.66	113	67.0-126	14	30.00
Ethyl Benzene	5.00	4.91	98	5.00	4.23	85	76.0-123	15	30.00
m,p-Xylene	10.0	10.3	103	10.0	8.88	89	76.0-124	15	30.00
Styrene	5.00	5.14	103	5.00	4.44	89	76.0-121	15	30.00
o-Xylene	5.00	5.25	105	5.00	4.39	88	75.0-124	18	30.00
Isopropylbenzene (Cumene)	5.00	5.35	107	5.00	4.52	90	77.0-120	17	30.00
n-Propylbenzene	5.00	5.45	109	5.00	4.89	98	77.0-123	11	30.00
2-Chlorotoluene	5.00	5.55	111	5.00	5.09	102	74.0-127	8.6	30.00
4-Chlorotoluene	5.00	5.11	102	5.00	4.91	98	77.0-123	4.0	30.00
1,3,5-Trimethylbenzene	5.00	5.49	110	5.00	4.76	95	76.0-122	14	30.00
tert-Butylbenzene	5.00	5.53	111	5.00	4.67	93	67.0-122	17	30.00
1,2,4-Trimethylbenzene	5.00	5.45	109	5.00	4.88	98	76.0-124	11	30.00
sec-Butylbenzene	5.00	5.78	116	5.00	4.84	97	78.0-121	18	30.00
1,3-Dichlorobenzene	5.00	5.62	112	5.00	5.15	103	75.0-120	8.7	30.00
4-Isopropyltoluene	5.00	5.52	110	5.00	4.80	96	77.0-120	14	30.00
1,4-Dichlorobenzene	5.00	5.77	115	5.00	5.09	102	70.0-125	13	30.00
1,2-Dichlorobenzene	5.00	5.57	111	5.00	5.17	103	76.0-118	7.4	30.00
n-Butylbenzene	5.00	5.77	115	5.00	5.21	104	78.0-118	10	30.00
1,2-Dibromo-3-chloropropane	30.0	37.1	124	30.0	33.2	111	62.0-130	11	30.00
1,2,4-Trichlorobenzene	5.00	5.56	111	5.00	4.92	98	72.0-119	12	30.00
Hexachlorobutadiene	5.00	5.81	116	5.00	5.68	114	69.0-121	2.3	30.00
Naphthalene	5.00	5.55	111	5.00	4.98	100	67.0-122	11	30.00
trans-1,4-Dichloro-2-butene	25.0	30.1	120	25.0	25.4	101	61.0-132	17	30.00
1,2,3-Trichlorobenzene	5.00	5.46	109	5.00	5.25	105	68.0-123	3.9	30.00

Blank Spike Summary

Blank Spike ID: LCS for HBN 24409 [VXX/3426]
 Blank Spike Lab ID: 75468
 Date Analyzed: 06/07/2012 09:22

Spike Duplicate ID: LCSD for HBN 24409 [VXX/3426]
 Spike Duplicate Lab ID: 75469
 Date Analyzed: 06/07/2012 09:47
 Matrix: Water

QC for Samples: 31201715001

Results by SW-846 8260B

Parameter	Blank Spike (%)			Spike Duplicate (%)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Surrogates									
1,2-Dichloroethane-d4			103			96	64.0-140		
Toluene d8			101			101	82.0-117		
4-Bromofluorobenzene			102			103	85.0-115		

Batch Information

Analytical Batch: **VMS2270**
 Analytical Method: **SW-846 8260B**
 Instrument: **MSD8**
 Analyst: **DVO**

Prep Batch: **VXX3426**
 Prep Method: **SW-846 5030B**
 Prep Date/Time: **06/07/2012 08:17**
 Spike Init Wt./Vol.: **40 mL** Extract Vol: **40 mL**
 Dupe Init Wt./Vol.: **40 mL** Extract Vol: **40 mL**



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104303

1 CLIENT: AECOM - NCDOT PHONE NO.: (919) 239-7132 PAGE 1 OF 1

CONTACT: Matt Brennan SITE/PWSID#: _____

PROJECT: NCDOT Pittsboro

REPORTS TO: _____

2 Matt Brennan AECOM.COM FAX NO.: ()
 INVOICE TO: NCDOT Chris Peoples QUOTE #: _____
WBS# 37613.3.13 P.O. NUMBER: _____

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	No CONTAINERS	SAMPLE TYPE C= COMP G= GRAB	Preservatives Used M.S.D. HCL MESH	Analysis Required ③	REMARKS
	<u>48DW-8 (90)</u>	<u>5-31-12</u>	<u>0815</u>	<u>water</u>	<u>3</u>	<u>G</u>			
	<u>48DW-8 (40)</u>	<u>5-31-12</u>	<u>0840</u>	<u>water</u>	<u>3</u>	<u>G</u>			
	<u>48 SVE-01</u>	<u>5-31-12</u>	<u>1010</u>	<u>water</u>	<u>3</u>	<u>G</u>			
	<u>48 SVE-01</u>	<u>5-31-12</u>	<u>1030</u>	<u>water</u>	<u>3</u>	<u>G</u>			
	<u>IDW-01</u>	<u>5-31-12</u>	<u>1115</u>	<u>water</u>	<u>3</u>	<u>C</u>			
	<u>IDW-02</u>	<u>5-31-12</u>	<u>1125</u>	<u>water</u>	<u>3</u>	<u>C</u>			
	<u>IDW-03</u>	<u>5-31-12</u>	<u>1135</u>	<u>water</u>	<u>3</u>	<u>C</u>			
	<u>IDW-04</u>	<u>5-31-12</u>	<u>1230</u>	<u>water</u>	<u>5</u>	<u>G</u>			
	<u>TB-01</u>	<u>5-31-12</u>	<u>-</u>	<u>water</u>	<u>2</u>	<u>G</u>			
	<u>TB-02</u>	<u>5-31-12</u>	<u>-</u>	<u>Soil</u>	<u>2</u>	<u>G</u>			

3 31201715

4 Shipping Carrier: _____
 Shipping Ticket No: _____
 Special Deliverable Requirements: _____
 Special Instructions: _____

5 Collected/Relinquished By: (1) [Signature] Date: 6-1-12 Time: 1500
 Received By: [Signature]
 Relinquished By: (2) [Signature] Date: 6/2/12 Time: 1500
 Received By: [Signature]
 Relinquished By: (3) [Signature] Date: 6/4/12 Time: 0906
 Received By: [Signature]
 Relinquished By: (4) _____ Date: _____

Samples Received Cold? (Circle) YES NO
 Temperature °C: 0, 2 °C
 Chain of Custody Seal: (Circle) INTACT BROKEN
 RUSH STD Date Needed _____



Laboratory Report of Analysis

To: Matt Brennan
AECOM
8540 Colonnade Center Drive
Suite 306
Raleigh, NC 27615
US

Report Number: 31201635

Client Project: NCDOT/Pittsboro

Dear Matt Brennan,

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
Project Manager
barbara.hager@sgs.com

Date

Laboratory Qualifiers

Report Definitions

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

Qualifier Definitions

*	Recovery or RPD outside of control limits
B	Analyte was detected in the Lab Method Blank at a level above the LOQ
U	Undetected (Reported as ND or < 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

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Collected</u>	<u>Received</u>	<u>Matrix</u>
Spent Carbon-01	31201635001	05/24/2012 08:40	05/25/2012 16:00	Soil-Solid as dry weight
Spent Carbon-02	31201635002	05/24/2012 09:00	05/25/2012 16:00	Soil-Solid as dry weight

Detectable Results Summary

Client Sample ID: **Spent Carbon-01**

Lab Sample ID: 31201635001-D

SW-846 8260B

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
1,1,1-Trichloroethane	183	ug/Kg
1,1-Dichloroethene	298	ug/Kg
Trichloroethene	5090	ug/Kg

Client Sample ID: **Spent Carbon-02**

Lab Sample ID: 31201635002-D

SW-846 8260B

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
1,1,1-Trichloroethane	282	ug/Kg
1,1-Dichloroethane	197	ug/Kg
1,1-Dichloroethene	582	ug/Kg
Chloromethane	142	ug/Kg
Trichloroethene	4900	ug/Kg
cis-1,2-Dichloroethene	228	ug/Kg



Results of Spent Carbon-01

Client Sample ID: Spent Carbon-01
Client Project ID: NCDOT/Pittsboro
Lab Sample ID: 31201635001-D
Lab Project ID: 31201635

Collection Date: 05/24/2012 08:40
Received Date: 05/25/2012 16:00
Matrix: Soil-Solid as dry weight
Solids (%): 59.90

Results by SW-846 8260B

Table with 7 columns: Parameter, Result, Qual, LOQ/CL, Units, DF, Date Analyzed. Lists various chemical compounds and their detection results.



Results of Spent Carbon-01

Client Sample ID: **Spent Carbon-01**
Client Project ID: **NCDOT/Pittsboro**
Lab Sample ID: 31201635001-D
Lab Project ID: 31201635

Collection Date: 05/24/2012 08:40
Received Date: 05/25/2012 16:00
Matrix: Soil-Solid as dry weight
Solids (%): 59.90

Results by SW-846 8260B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Dichlorodifluoromethane	ND		726	ug/Kg	50	05/29/2012 20:58
cis-1,3-Dichloropropene	ND		145	ug/Kg	50	05/29/2012 20:58
trans-1,3-Dichloropropene	ND		145	ug/Kg	50	05/29/2012 20:58
Diisopropyl Ether	ND		145	ug/Kg	50	05/29/2012 20:58
Ethyl Benzene	ND		145	ug/Kg	50	05/29/2012 20:58
Hexachlorobutadiene	ND		145	ug/Kg	50	05/29/2012 20:58
Isopropylbenzene (Cumene)	ND		145	ug/Kg	50	05/29/2012 20:58
Methyl iodide	ND		145	ug/Kg	50	05/29/2012 20:58
Methylene chloride	ND		726	ug/Kg	50	05/29/2012 20:58
Naphthalene	ND		145	ug/Kg	50	05/29/2012 20:58
Styrene	ND		145	ug/Kg	50	05/29/2012 20:58
Tetrachloroethene	ND		145	ug/Kg	50	05/29/2012 20:58
Toluene	ND		145	ug/Kg	50	05/29/2012 20:58
Trichloroethene	5090		145	ug/Kg	50	05/29/2012 20:58
Trichlorofluoromethane	ND		145	ug/Kg	50	05/29/2012 20:58
Vinyl chloride	ND		145	ug/Kg	50	05/29/2012 20:58
Xylene (total)	ND		290	ug/Kg	50	05/29/2012 20:58
cis-1,2-Dichloroethene	ND		145	ug/Kg	50	05/29/2012 20:58
m,p-Xylene	ND		290	ug/Kg	50	05/29/2012 20:58
n-Propylbenzene	ND		145	ug/Kg	50	05/29/2012 20:58
o-Xylene	ND		145	ug/Kg	50	05/29/2012 20:58
sec-Butylbenzene	ND		145	ug/Kg	50	05/29/2012 20:58
tert-Butyl methyl ether (MTBE)	ND		145	ug/Kg	50	05/29/2012 20:58
tert-Butylbenzene	ND		145	ug/Kg	50	05/29/2012 20:58
trans-1,2-Dichloroethene	ND		145	ug/Kg	50	05/29/2012 20:58
trans-1,4-Dichloro-2-butene	ND		726	ug/Kg	50	05/29/2012 20:58

Surrogates

1,2-Dichloroethane-d4	107		55.0-173	%	50	05/29/2012 20:58
4-Bromofluorobenzene	101		23.0-141	%	50	05/29/2012 20:58
Toluene d8	97.0		57.0-134	%	50	05/29/2012 20:58

Batch Information

Analytical Batch: **VMS2245**
Analytical Method: **SW-846 8260B**
Instrument: **MSD8**
Analyst: **BWS**
Analytical Date/Time: **05/29/2012 20:58**

Prep Batch: **VXX3386**
Prep Method: **SW-846 5035 SM**
Prep Date/Time: **05/29/2012 10:21**
Prep Initial Wt./Vol.: **2.875 g**
Prep Extract Vol: **5 mL**



Results of Spent Carbon-02

Client Sample ID: Spent Carbon-02
Client Project ID: NCDOT/Pittsboro
Lab Sample ID: 31201635002-D
Lab Project ID: 31201635

Collection Date: 05/24/2012 09:00
Received Date: 05/25/2012 16:00
Matrix: Soil-Solid as dry weight
Solids (%): 61.30

Results by SW-846 8260B

Table with 7 columns: Parameter, Result, Qual, LOQ/CL, Units, DF, Date Analyzed. Lists various chemical compounds and their detection results.



Results of Spent Carbon-02

Client Sample ID: **Spent Carbon-02**
Client Project ID: **NCDOT/Pittsboro**
Lab Sample ID: 31201635002-D
Lab Project ID: 31201635

Collection Date: 05/24/2012 09:00
Received Date: 05/25/2012 16:00
Matrix: Soil-Solid as dry weight
Solids (%): 61.30

Results by SW-846 8260B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Dichlorodifluoromethane	ND		670	ug/Kg	50	05/29/2012 21:22
cis-1,3-Dichloropropene	ND		134	ug/Kg	50	05/29/2012 21:22
trans-1,3-Dichloropropene	ND		134	ug/Kg	50	05/29/2012 21:22
Diisopropyl Ether	ND		134	ug/Kg	50	05/29/2012 21:22
Ethyl Benzene	ND		134	ug/Kg	50	05/29/2012 21:22
Hexachlorobutadiene	ND		134	ug/Kg	50	05/29/2012 21:22
Isopropylbenzene (Cumene)	ND		134	ug/Kg	50	05/29/2012 21:22
Methyl iodide	ND		134	ug/Kg	50	05/29/2012 21:22
Methylene chloride	ND		670	ug/Kg	50	05/29/2012 21:22
Naphthalene	ND		134	ug/Kg	50	05/29/2012 21:22
Styrene	ND		134	ug/Kg	50	05/29/2012 21:22
Tetrachloroethene	ND		134	ug/Kg	50	05/29/2012 21:22
Toluene	ND		134	ug/Kg	50	05/29/2012 21:22
Trichloroethene	4900		134	ug/Kg	50	05/29/2012 21:22
Trichlorofluoromethane	ND		134	ug/Kg	50	05/29/2012 21:22
Vinyl chloride	ND		134	ug/Kg	50	05/29/2012 21:22
Xylene (total)	ND		268	ug/Kg	50	05/29/2012 21:22
cis-1,2-Dichloroethene	228		134	ug/Kg	50	05/29/2012 21:22
m,p-Xylene	ND		268	ug/Kg	50	05/29/2012 21:22
n-Propylbenzene	ND		134	ug/Kg	50	05/29/2012 21:22
o-Xylene	ND		134	ug/Kg	50	05/29/2012 21:22
sec-Butylbenzene	ND		134	ug/Kg	50	05/29/2012 21:22
tert-Butyl methyl ether (MTBE)	ND		134	ug/Kg	50	05/29/2012 21:22
tert-Butylbenzene	ND		134	ug/Kg	50	05/29/2012 21:22
trans-1,2-Dichloroethene	ND		134	ug/Kg	50	05/29/2012 21:22
trans-1,4-Dichloro-2-butene	ND		670	ug/Kg	50	05/29/2012 21:22
Surrogates						
1,2-Dichloroethane-d4	113		55.0-173	%	50	05/29/2012 21:22
4-Bromofluorobenzene	101		23.0-141	%	50	05/29/2012 21:22
Toluene d8	98.0		57.0-134	%	50	05/29/2012 21:22

Batch Information

Analytical Batch: **VMS2245**
Analytical Method: **SW-846 8260B**
Instrument: **MSD8**
Analyst: **BWS**
Analytical Date/Time: **05/29/2012 21:22**

Prep Batch: **VXX3386**
Prep Method: **SW-846 5035 SM**
Prep Date/Time: **05/29/2012 10:21**
Prep Initial Wt./Vol.: **3.044 g**
Prep Extract Vol: **5 mL**

Batch Summary

Analytical Method: SW-846 8260B

Prep Method: SW-846 5035 SM

Prep Batch: VXX3386

Prep Date: 05/29/2012 10:21

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Analysis Date</u>	<u>Analytical Batch</u>	<u>Instrument</u>	<u>Analyst</u>
LCSD-S for HBN 24102 [VXX/3386]	74011	05/29/2012 12:18	VMS2245	MSD8	BWS
LCS-S for HBN 24102 [VXX/3386]	74010	05/29/2012 12:43	VMS2245	MSD8	BWS
MB-S for HBN 24102 [VXX/3386]	74009	05/29/2012 13:57	VMS2245	MSD8	BWS
Spent Carbon-01	31201635001	05/29/2012 20:58	VMS2245	MSD8	BWS
Spent Carbon-02	31201635002	05/29/2012 21:22	VMS2245	MSD8	BWS



Method Blank

Blank ID: MB-S for HBN 24102 [VXX/3386]

Blank Lab ID: 74009

QC for Samples:

31201635001, 31201635002

Matrix: Soil-Solid as dry weight

Results by SW-846 8260B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>
Dichlorodifluoromethane	ND		250	ug/Kg	50
Chloromethane	ND		50.0	ug/Kg	50
Vinyl chloride	ND		50.0	ug/Kg	50
Bromomethane	ND		50.0	ug/Kg	50
Chloroethane	ND		50.0	ug/Kg	50
Trichlorofluoromethane	ND		50.0	ug/Kg	50
1,1-Dichloroethene	ND		50.0	ug/Kg	50
Acetone	ND		1250	ug/Kg	50
Methylene chloride	ND		250	ug/Kg	50
trans-1,2-Dichloroethene	ND		50.0	ug/Kg	50
tert-Butyl methyl ether (MTBE)	ND		50.0	ug/Kg	50
1,1-Dichloroethane	ND		50.0	ug/Kg	50
Diisopropyl Ether	ND		50.0	ug/Kg	50
2,2-Dichloropropane	ND		50.0	ug/Kg	50
cis-1,2-Dichloroethene	ND		50.0	ug/Kg	50
2-Butanone	ND		1250	ug/Kg	50
Bromochloromethane	ND		50.0	ug/Kg	50
Chloroform	ND		50.0	ug/Kg	50
1,1,1-Trichloroethane	ND		50.0	ug/Kg	50
Carbon tetrachloride	ND		50.0	ug/Kg	50
1,1-Dichloropropene	ND		50.0	ug/Kg	50
Benzene	ND		50.0	ug/Kg	50
1,2-Dichloroethane	ND		50.0	ug/Kg	50
Trichloroethene	ND		50.0	ug/Kg	50
1,2-Dichloropropane	ND		50.0	ug/Kg	50
Dibromomethane	ND		50.0	ug/Kg	50
Bromodichloromethane	ND		50.0	ug/Kg	50
cis-1,3-Dichloropropene	ND		50.0	ug/Kg	50
4-Methyl-2-pentanone	ND		250	ug/Kg	50
Toluene	ND		50.0	ug/Kg	50
Methyl iodide	ND		50.0	ug/Kg	50
trans-1,3-Dichloropropene	ND		50.0	ug/Kg	50
Carbon disulfide	ND		50.0	ug/Kg	50
1,1,2-Trichloroethane	ND		50.0	ug/Kg	50
Tetrachloroethene	ND		50.0	ug/Kg	50
1,3-Dichloropropane	ND		50.0	ug/Kg	50
2-Hexanone	ND		250	ug/Kg	50
Dibromochloromethane	ND		50.0	ug/Kg	50
1,2-Dibromoethane	ND		50.0	ug/Kg	50
Chlorobenzene	ND		50.0	ug/Kg	50
1,1,1,2-Tetrachloroethane	ND		50.0	ug/Kg	50

Print Date: 05/31/2012

N.C. Certification # 481

SGS North America Inc.

5500 Business Drive, Wilmington, NC 28405
t 910.350.1903 f 910.350.1557 www.us.sgs.com

Member of SGS Group



Method Blank

Blank ID: MB-S for HBN 24102 [VXX/3386]
Blank Lab ID: 74009
QC for Samples:
31201635001, 31201635002

Matrix: Soil-Solid as dry weight

Results by SW-846 8260B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>
Bromoform	ND		50.0	ug/Kg	50
Bromobenzene	ND		50.0	ug/Kg	50
1,1,2,2-Tetrachloroethane	ND		50.0	ug/Kg	50
1,2,3-Trichloropropane	ND		50.0	ug/Kg	50
Ethyl Benzene	ND		50.0	ug/Kg	50
m,p-Xylene	ND		100	ug/Kg	50
Styrene	ND		50.0	ug/Kg	50
o-Xylene	ND		50.0	ug/Kg	50
Xylene (total)	ND		100	ug/Kg	50
Isopropylbenzene (Cumene)	ND		50.0	ug/Kg	50
n-Propylbenzene	ND		50.0	ug/Kg	50
2-Chlorotoluene	ND		50.0	ug/Kg	50
4-Chlorotoluene	ND		50.0	ug/Kg	50
1,3,5-Trimethylbenzene	ND		50.0	ug/Kg	50
tert-Butylbenzene	ND		50.0	ug/Kg	50
1,2,4-Trimethylbenzene	ND		50.0	ug/Kg	50
sec-Butylbenzene	ND		50.0	ug/Kg	50
1,3-Dichlorobenzene	ND		50.0	ug/Kg	50
4-Isopropyltoluene	ND		50.0	ug/Kg	50
1,4-Dichlorobenzene	ND		50.0	ug/Kg	50
1,2-Dichlorobenzene	ND		50.0	ug/Kg	50
n-Butylbenzene	ND		50.0	ug/Kg	50
1,2-Dibromo-3-chloropropane	ND		250	ug/Kg	50
1,2,4-Trichlorobenzene	ND		50.0	ug/Kg	50
Hexachlorobutadiene	ND		50.0	ug/Kg	50
Naphthalene	ND		50.0	ug/Kg	50
trans-1,4-Dichloro-2-butene	ND		250	ug/Kg	50
1,2,3-Trichlorobenzene	ND		50.0	ug/Kg	50
Surrogates					
1,2-Dichloroethane-d4	106		55.0-173	%	50
Toluene d8	99.0		57.0-134	%	50
4-Bromofluorobenzene	96.0		23.0-141	%	50

Batch Information

Analytical Batch: VMS2245
Analytical Method: SW-846 8260B
Instrument: MSD8
Analyst: BWS
Analytical Date/Time: 5/29/2012 1:57:00PM

Prep Batch: VXX3386
Prep Method: SW-846 5035 SM
Prep Date/Time: 5/29/2012 10:21:06AM
Prep Initial Wt./Vol.: 5 g
Prep Extract Vol: 5 mL



Blank Spike Summary

Blank Spike ID: LCS-S for HBN 24102 [VXX/3386]
 Blank Spike Lab ID: 74010
 Date Analyzed: 05/29/2012 12:43

Spike Duplicate ID: LCSD-S for HBN 24102
 [VXX/3386]
 Spike Duplicate Lab ID: 74011
 Matrix: Soil-Solid as dry weight

QC for Samples: 31201635001, 31201635002

Results by SW-846 8260B

Parameter	Blank Spike (ug/Kg)			Spike Duplicate (ug/Kg)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Dichlorodifluoromethane	250	295	118	250	307	123	70.0-130	4.0	30.00
Chloromethane	250	305	122	250	303	121	70.0-130	0.66	30.00
Vinyl chloride	250	262	105	250	289	116	70.0-130	9.8	30.00
Bromomethane	250	270	108	250	286	114	70.0-130	5.8	30.00
Chloroethane	250	278	111	250	292	117	70.0-130	4.9	30.00
Trichlorofluoromethane	250	228	91	250	279	112	70.0-130	20	30.00
1,1-Dichloroethene	250	263	105	250	282	113	70.0-130	7.0	30.00
Acetone	1250	ND	91	1250	ND	89	70.0-130	2.7	30.00
Methylene chloride	250	255	102	250	ND	97	70.0-130	4.4	30.00
trans-1,2-Dichloroethene	250	277	111	250	283	113	70.0-130	2.1	30.00
tert-Butyl methyl ether (MTBE)	250	261	104	250	258	103	70.0-130	1.2	30.00
1,1-Dichloroethane	250	253	101	250	276	110	70.0-130	8.7	30.00
Diisopropyl Ether	250	266	106	250	246	98	70.0-130	7.8	30.00
2,2-Dichloropropane	250	283	113	250	282	113	70.0-130	0.35	30.00
cis-1,2-Dichloroethene	250	249	99	250	267	107	70.0-130	7.0	30.00
2-Butanone	1250	ND	87	1250	ND	86	70.0-130	0.92	30.00
Bromochloromethane	250	243	97	250	268	107	70.0-130	9.8	30.00
Chloroform	250	270	108	250	271	108	70.0-130	0.37	30.00
1,1,1-Trichloroethane	250	280	112	250	267	107	70.0-130	4.8	30.00
Carbon tetrachloride	250	304	121	250	300	120	70.0-130	1.3	30.00
1,1-Dichloropropene	250	283	113	250	267	107	70.0-130	5.8	30.00
Benzene	250	279	112	250	249	100	70.0-130	11	30.00
1,2-Dichloroethane	250	257	103	250	256	102	70.0-130	0.39	30.00
Trichloroethene	250	274	109	250	265	106	70.0-130	3.3	30.00
1,2-Dichloropropane	250	259	103	250	257	103	70.0-130	0.78	30.00
Dibromomethane	250	257	103	250	295	118	70.0-130	14	30.00
Bromodichloromethane	250	279	112	250	277	111	70.0-130	0.72	30.00
cis-1,3-Dichloropropene	250	285	114	250	285	114	70.0-130	0.0	30.00
4-Methyl-2-pentanone	1250	1420	114	1250	1250	100	70.0-130	13	30.00
Toluene	250	284	114	250	255	102	70.0-130	11	30.00
Methyl iodide	250	261	104	250	217	87	70.0-130	18	30.00
trans-1,3-Dichloropropene	250	282	113	250	270	108	70.0-130	4.3	30.00
Carbon disulfide	250	244	98	250	236	94	70.0-130	3.3	30.00
1,1,2-Trichloroethane	250	279	111	250	255	102	70.0-130	9.0	30.00



Blank Spike Summary

Blank Spike ID: LCS-S for HBN 24102 [VXX/3386]
 Blank Spike Lab ID: 74010
 Date Analyzed: 05/29/2012 12:43

Spike Duplicate ID: LCSD-S for HBN 24102
 [VXX/3386]
 Spike Duplicate Lab ID: 74011
 Matrix: Soil-Solid as dry weight

QC for Samples: 31201635001, 31201635002

Results by SW-846 8260B

Parameter	Blank Spike (ug/Kg)			Spike Duplicate (ug/Kg)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Tetrachloroethene	250	277	111	250	258	103	70.0-130	7.1	30.00
1,3-Dichloropropane	250	268	107	250	256	102	70.0-130	4.6	30.00
2-Hexanone	1250	1190	95	1250	1110	88	70.0-130	7.0	30.00
Dibromochloromethane	250	290	116	250	286	114	70.0-130	1.4	30.00
1,2-Dibromoethane	250	261	104	250	238	95	70.0-130	9.2	30.00
Chlorobenzene	250	279	111	250	250	100	70.0-130	11	30.00
1,1,1,2-Tetrachloroethane	250	296	118	250	286	114	70.0-130	3.4	30.00
Bromoform	250	273	109	250	276	110	70.0-130	1.1	30.00
Bromobenzene	250	295	118	250	264	105	70.0-130	11	30.00
1,1,2,2-Tetrachloroethane	250	280	112	250	242	97	70.0-130	15	30.00
1,2,3-Trichloropropane	250	259	104	250	252	101	70.0-130	2.7	30.00
Ethyl Benzene	250	250	100	250	242	97	70.0-130	3.3	30.00
m,p-Xylene	500	527	105	500	498	100	70.0-130	5.7	30.00
Styrene	250	255	102	250	251	100	70.0-130	1.6	30.00
o-Xylene	250	258	103	250	253	101	70.0-130	2.0	30.00
Isopropylbenzene (Cumene)	250	258	103	250	250	100	70.0-130	3.1	30.00
n-Propylbenzene	250	261	104	250	255	102	70.0-130	2.3	30.00
2-Chlorotoluene	250	264	105	250	250	100	70.0-130	5.4	30.00
4-Chlorotoluene	250	281	112	250	255	102	70.0-130	9.7	30.00
1,3,5-Trimethylbenzene	250	261	104	250	253	101	70.0-130	3.1	30.00
tert-Butylbenzene	250	254	101	250	238	95	70.0-130	6.5	30.00
1,2,4-Trimethylbenzene	250	259	103	250	245	98	70.0-130	5.6	30.00
sec-Butylbenzene	250	256	102	250	236	94	70.0-130	8.1	30.00
1,3-Dichlorobenzene	250	265	106	250	247	99	70.0-130	7.0	30.00
4-Isopropyltoluene	250	251	100	250	231	92	70.0-130	8.3	30.00
1,4-Dichlorobenzene	250	266	106	250	243	97	70.0-130	9.0	30.00
1,2-Dichlorobenzene	250	263	105	250	261	104	70.0-130	0.76	30.00
n-Butylbenzene	250	260	104	250	233	93	70.0-130	11	30.00
1,2-Dibromo-3-chloropropane	1500	1790	120	1500	1570	105	70.0-130	13	30.00
1,2,4-Trichlorobenzene	250	267	107	250	231	92	70.0-130	14	30.00
Hexachlorobutadiene	250	250	100	250	232	93	70.0-130	7.5	30.00
Naphthalene	250	263	105	250	226	90	70.0-130	15	30.00
trans-1,4-Dichloro-2-butene	1250	1390	111	1250	1390	111	70.0-130	0.0	30.00
1,2,3-Trichlorobenzene	250	286	114	250	237	95	70.0-130	19	30.00

Blank Spike Summary

Blank Spike ID: LCS-S for HBN 24102 [VXX/3386]
 Blank Spike Lab ID: 74010
 Date Analyzed: 05/29/2012 12:43

Spike Duplicate ID: LCSD-S for HBN 24102 [VXX/3386]
 Spike Duplicate Lab ID: 74011
 Matrix: Soil-Solid as dry weight

QC for Samples: 31201635001, 31201635002

Results by SW-846 8260B

Parameter	Blank Spike (ug/Kg)			Spike Duplicate (ug/Kg)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Surrogates									
1,2-Dichloroethane-d4		99		110			55.0-173		
Toluene d8		102		102			57.0-134		
4-Bromofluorobenzene		103		102			23.0-141		

Batch Information

Analytical Batch: VMS2245
 Analytical Method: SW-846 8260B
 Instrument: MSD8
 Analyst: BWS

Prep Batch: VXX3386
 Prep Method: SW-846 5035 SM
 Prep Date/Time: 05/29/2012 10:21
 Spike Init Wt./Vol.: 5 g Extract Vol: 5 mL
 Dupe Init Wt./Vol.: 5 g Extract Vol: 5 mL

Laboratory Report of Analysis

To: Matt Brennan
8540 Colonnade Center Drive
Suite 306
Raleigh, NC 27615

Report Number: **31201985**

Client Project: **NCDOT Pittsboro**

Dear Matt Brennan,

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
Project Manager
barbara.hager@sgs.com

Date

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

Laboratory Qualifiers

Report Definitions

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

Qualifier Definitions

*	Recovery or RPD outside of control limits
B	Analyte was detected in the Lab Method Blank at a level above the LOQ
U	Undetected (Reported as ND or < DL)
V	Recovery is below quality control limit. The data has been validated based on a favorable signal-to-noise and detection limit
A	Amount detected is less than the Lower Method Calibration Limit
J	Estimated Concentration.
O	The recovery of this analyte in the OPR is above the Method QC Limits and the reported concentration in the sample may be biased high
E	Amount detected is greater than the Upper Calibration Limit
S	The amount of analyte present has saturated the detector. This situation results in an underestimation of the affected analyte(s)
Q	Indicates the presence of a quantitative interference. This situation may result in an underestimation of the affected analyte(s)
I	Indicates the presence of a qualitative interference that could cause a false positive or an overestimation of the affected analyte(s)
DPE	Indicates the presence of a peak in the polychlorinated diphenylether channel that could cause a false positive or an overestimation of the affected analyte(s)
TIC	Tentatively Identified Compound
EMPC	Estimated Maximum possible Concentration due to ion ratio failure
ND	Not Detected
K	Result is estimated due to ion ratio failure in High Resolution PCB Analysis
P	RPD > 40% between results of dual columns
D	Spike or surrogate was diluted out in order to achieve a parameter result within instrument calibration range

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

M1	Mis-identified peak
M2	Software did not integrate peak
M3	Incorrect baseline construction (i.e. not all of peak included; two peaks integrated as one)
M4	Pattern integration required (i.e. DRO, GRO, PCB, Toxaphene and Technical Chlordane)
M5	Other - Explained in case narrative

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

Sample Summary

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Collected</u>	<u>Received</u>	<u>Matrix</u>
SVE-1-SB1	31201985001	06/21/2012 11:00	06/22/2012 14:30	Soil-Solid as dry weight
Effluent	31201985002	06/21/2012 11:55	06/22/2012 14:30	Water
SVE-1	31201985003	06/21/2012 13:25	06/22/2012 14:30	Water

Detectable Results Summary

Client Sample ID: **SVE-1**

Lab Sample ID: 31201985003-A

SW-846 8270D

<u>Parameter</u>
1,4 Dioxane

<u>Result</u>
92.5

<u>Units</u>
ug/L

Results of SVE-1-SB1

Client Sample ID: **SVE-1-SB1**
 Client Project ID: **NCDOT Pittsboro**
 Lab Sample ID: 31201985001-A
 Lab Project ID: 31201985

Collection Date: 06/21/2012 11:00
 Received Date: 06/22/2012 14:30
 Matrix: Soil-Solid as dry weight
 Solids (%): 76.30

Results by SW-846 9060A

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Total Organic Carbon	ND		1410	mg/kg	1	06/25/2012 14:55

Batch Information

Analytical Batch: **INO1759**
 Analytical Method: **SW-846 9060A**
 Instrument: **TOC1**
 Analyst: **NTM**
 Analytical Date/Time: **06/25/2012 14:55**

Prep Batch: **IXX1106**
 Prep Method: **SW-846 9060 TOC PREP**
 Prep Date/Time: **06/25/2012 09:40**
 Prep Initial Wt./Vol.: **.1856 g**
 Prep Extract Vol: **1 g**

Results of Effluent

Client Sample ID: **Effluent**
 Client Project ID: **NCDOT Pittsboro**
 Lab Sample ID: 31201985002-A
 Lab Project ID: 31201985

Collection Date: 06/21/2012 11:55
 Received Date: 06/22/2012 14:30
 Matrix: Water

Results by SW-846 8270D

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,4 Dioxane	ND		2.16	ug/L	1	06/25/2012 17:28
Surrogates						
2,4,6-Tribromophenol	108		29.3-152	%	1	06/25/2012 17:28
2-Fluorobiphenyl	91.9		50.0-107	%	1	06/25/2012 17:28
2-Fluorophenol	70.6		33.1-118	%	1	06/25/2012 17:28
Nitrobenzene-d5	94.2		46.0-118	%	1	06/25/2012 17:28
Phenol-d6	93.2		49.0-120	%	1	06/25/2012 17:28
Terphenyl-d14	94.9		22.1-142	%	1	06/25/2012 17:28

Batch Information

Analytical Batch: **XMS1576**
 Analytical Method: **SW-846 8270D**
 Instrument: **MSD6**
 Analyst: **CMP**
 Analytical Date/Time: **06/25/2012 17:28**

Prep Batch: **XXX2744**
 Prep Method: **SW-846 3520C**
 Prep Date/Time: **06/24/2012 09:04**
 Prep Initial Wt./Vol.: **926 mL**
 Prep Extract Vol: **1 mL**

Results of SVE-1

Client Sample ID: **SVE-1**
 Client Project ID: **NCDOT Pittsboro**
 Lab Sample ID: 31201985003-A
 Lab Project ID: 31201985

Collection Date: 06/21/2012 13:25
 Received Date: 06/22/2012 14:30
 Matrix: Water

Results by SW-846 8270D

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,4 Dioxane	92.5		10.1	ug/L	5	06/26/2012 11:57
Surrogates						
2,4,6-Tribromophenol	99.0		29.3-152	%	5	06/26/2012 11:57
2-Fluorobiphenyl	87.5		50.0-107	%	5	06/26/2012 11:57
2-Fluorophenol	56.5		33.1-118	%	5	06/26/2012 11:57
Nitrobenzene-d5	79.0		46.0-118	%	5	06/26/2012 11:57
Phenol-d6	74.0		49.0-120	%	5	06/26/2012 11:57
Terphenyl-d14	100		22.1-142	%	5	06/26/2012 11:57

Batch Information

Analytical Batch: **XMS1578**
 Analytical Method: **SW-846 8270D**
 Instrument: **MSD6**
 Analyst: **CMP**
 Analytical Date/Time: **06/26/2012 11:57**

Prep Batch: **XXX2744**
 Prep Method: **SW-846 3520C**
 Prep Date/Time: **06/24/2012 09:04**
 Prep Initial Wt./Vol.: **993 mL**
 Prep Extract Vol: **1 mL**

Batch Summary

Analytical Method: SW-846 8270D

Prep Method: SW-846 3520C

Prep Batch: XXX2744

Prep Date: 06/24/2012 09:04

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Analysis Date</u>	<u>Analytical Batch</u>	<u>Instrument</u>	<u>Analyst</u>
MB for HBN 24965 [XXX/2744]	78020	06/25/2012 16:18	XMS1576	MSD6	CMP
LCS for HBN 24965 [XXX/2744]	78021	06/25/2012 16:41	XMS1576	MSD6	CMP
LCSD for HBN 24965 [XXX/2744]	78022	06/25/2012 17:04	XMS1576	MSD6	CMP
Effluent	31201985002	06/25/2012 17:28	XMS1576	MSD6	CMP
SVE-1	31201985003	06/26/2012 11:57	XMS1578	MSD6	CMP

Method Blank

Blank ID: MB for HBN 24965 [XXX/2744]
 Blank Lab ID: 78020
 QC for Samples:
 31201985002, 31201985003

Matrix: Water

Results by SW-846 8270D

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>
1,4 Dioxane	ND		2.00	ug/L	1
Surrogates					
2-Fluorophenol	51.2		33.1-118	%	1
Phenol-d6	66.4		49.0-120	%	1
Nitrobenzene-d5	65.3		46.0-118	%	1
2-Fluorobiphenyl	62.8		50.0-107	%	1
2,4,6-Tribromophenol	70.5		29.3-152	%	1
Terphenyl-d14	68.3		22.1-142	%	1

Batch Information

Analytical Batch: XMS1576
 Analytical Method: SW-846 8270D
 Instrument: MSD6
 Analyst: CMP
 Analytical Date/Time: 6/25/2012 4:18:00PM

Prep Batch: XXX2744
 Prep Method: SW-846 3520C
 Prep Date/Time: 6/24/2012 9:04:43AM
 Prep Initial Wt./Vol.: 1000 mL
 Prep Extract Vol: 1 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 24965 [XXX/2744]
 Blank Spike Lab ID: 78021
 Date Analyzed: 06/25/2012 16:41

Spike Duplicate ID: LCSD for HBN 24965 [XXX/2744]
 Spike Duplicate Lab ID: 78022
 Date Analyzed: 06/25/2012 17:04
 Matrix: Water

QC for Samples: 31201985002, 31201985003

Results by SW-846 8270D

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
1,4 Dioxane	10.0	4.15	42	10.0	3.40	34*	35.0-100	20	30.00
Surrogates									
2-Fluorophenol			54.5			53.2	33.1-118		
Phenol-d6			68.8			77.3	49.0-120		
Nitrobenzene-d5			69.9			81.3	46.0-118		
2-Fluorobiphenyl			71.4			78.6	50.0-107		
2,4,6-Tribromophenol			74			93.4	29.3-152		
Terphenyl-d14			69.1			92.7	22.1-142		

Batch Information

Analytical Batch: XMS1576
 Analytical Method: SW-846 8270D
 Instrument: MSD6
 Analyst: CMP

Prep Batch: XXX2744
 Prep Method: SW-846 3520C
 Prep Date/Time: 06/24/2012 09:04
 Spike Init Wt./Vol.: 1000 mL Extract Vol: 1 mL
 Dupe Init Wt./Vol.: 1000 mL Extract Vol: 1 mL

Batch Summary

Analytical Method: SW-846 9060A

Prep Method: SW-846 9060 TOC PREP

Prep Batch: IXX1106

Prep Date: 06/25/2012 09:40

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Analysis Date</u>	<u>Analytical Batch</u>	<u>Instrument</u>	<u>Analyst</u>
MB for HBN 24962 [IXX/1106]	78010	06/25/2012 11:08	INO1759	TOC1	NTM
LCS for HBN 24962 [IXX/1106]	78011	06/25/2012 11:17	INO1759	TOC1	NTM
PP-12-UM-3A #1(77943MS)	78012	06/25/2012 11:44	INO1759	TOC1	NTM
PP-12-UM-3A #1(77943MSD)	78013	06/25/2012 11:52	INO1759	TOC1	NTM
SVE-1-SB1	31201985001	06/25/2012 14:55	INO1759	TOC1	NTM

Method Blank

Blank ID: MB for HBN 24962 [IXX/1106]
 Blank Lab ID: 78010
 QC for Samples:
 31201985001

Matrix: Soil-Solid as dry weight

Results by SW-846 9060A

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>
Total Organic Carbon	ND		400	mg/kg	1

Batch Information

Analytical Batch: INO1759
 Analytical Method: SW-846 9060A
 Instrument: TOC1
 Analyst: NTM
 Analytical Date/Time: 6/25/2012 11:08:54AM

Prep Batch: IXX1106
 Prep Method: SW-846 9060 TOC PREP
 Prep Date/Time: 6/25/2012 9:40:07AM
 Prep Initial Wt./Vol.: .5 g
 Prep Extract Vol: 1 g

Blank Spike Summary

Blank Spike ID: LCS for HBN 24962 [IXX/1106]
 Blank Spike Lab ID: 78011
 Date Analyzed: 06/25/2012 11:17

Matrix: Soil-Solid as dry weight

QC for Samples: 31201985001

Results by SW-846 9060A

Parameter	Blank Spike (mg/kg)			CL
	Spike	Result	Rec (%)	
Total Organic Carbon	5000	5100	102	80.0-120

Batch Information

Analytical Batch: **INO1759**
 Analytical Method: **SW-846 9060A**
 Instrument: **TOC1**
 Analyst: **NTM**

Prep Batch: **IXX1106**
 Prep Method: **SW-846 9060 TOC PREP**
 Prep Date/Time: **06/25/2012 09:40**
 Spike Init Wt./Vol.: **.5 g** Extract Vol: **1 g**
 Dupe Init Wt./Vol.: Extract Vol:



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104996

1 CLIENT: Acron PHONE NO: (919) 872, 6600 SITE/PWSID#: _____
 CONTACT: Matt Brennan FAX NO.: (919) 872, 7996
 PROJECT: MCROT Pittboro QUOTE #: _____
 REPORTS TO: Math Brennan Acron.com P.O. NUMBER: _____

2

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	No CONTAINERS	SAMPLE TYPE	Preservatives Used	Analysis Required	REMARKS
	<u>SVE-01</u>								
	<u>SVE-1-SB1</u>	<u>6-21-12</u>	<u>1100</u>	<u>soil</u>	<u>2</u>	<u>G</u>			<u>X</u>
	<u>Effluent</u>	<u>6-21-12</u>	<u>1115</u>	<u>water</u>	<u>2</u>	<u>G</u>			<u>X</u>
	<u>SVE-1</u>	<u>6-21-12</u>	<u>1325</u>	<u>water</u>	<u>2</u>	<u>G</u>			<u>X</u>

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Shipping Carrier: _____
 Shipping Ticket No: _____
 Special Deliverable Requirements: _____
 Samples Received Cold? (Circle) YES NO
 Temperature °C: 0-2°C
 Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

5

Collected/Relinquished By: (1) [Signature] Received By: [Signature] 6/22/12 1500
 Relinquished By: (2) [Signature] Received By: [Signature] 6/22/12 1430
 Relinquished By: (3) [Signature] Received By: _____
 Relinquished By: (4) _____ Received By: _____

Requested Turnaround Time: RUSH _____ STD _____
 Date Needed: _____

White - Retained by Lab
Pink - Retained by Client

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

Laboratory Report of Analysis

To: Matt Brennan
AECOM
8540 Colonnade Center Drive
Suite 306
Raleigh, NC 27615
US

Report Number: **31202399**

Client Project: **Pittsboro**

Dear Matt Brennan,

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
Project Manager
barbara.hager@sgs.com

Date

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

Laboratory Qualifiers

Report Definitions

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

Qualifier Definitions

*	Recovery or RPD outside of control limits
B	Analyte was detected in the Lab Method Blank at a level above the LOQ
U	Undetected (Reported as ND or < DL)
V	Recovery is below quality control limit. The data has been validated based on a favorable signal-to-noise and detection limit
A	Amount detected is less than the Lower Method Calibration Limit
J	Estimated Concentration.
O	The recovery of this analyte in the OPR is above the Method QC Limits and the reported concentration in the sample may be biased high
E	Amount detected is greater than the Upper Calibration Limit
S	The amount of analyte present has saturated the detector. This situation results in an underestimation of the affected analyte(s)
Q	Indicates the presence of a quantitative interference. This situation may result in an underestimation of the affected analyte(s)
I	Indicates the presence of a qualitative interference that could cause a false positive or an overestimation of the affected analyte(s)
DPE	Indicates the presence of a peak in the polychlorinated diphenylether channel that could cause a false positive or an overestimation of the affected analyte(s)
TIC	Tentatively Identified Compound
EMPC	Estimated Maximum possible Concentration due to ion ratio failure
ND	Not Detected
K	Result is estimated due to ion ratio failure in High Resolution PCB Analysis
P	RPD > 40% between results of dual columns
D	Spike or surrogate was diluted out in order to achieve a parameter result within instrument calibration range

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

M1	Mis-identified peak
M2	Software did not integrate peak
M3	Incorrect baseline construction (i.e. not all of peak included; two peaks integrated as one)
M4	Pattern integration required (i.e. DRO, GRO, PCB, Toxaphene and Technical Chlordane)
M5	Other - Explained in case narrative

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

Sample Summary

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Collected</u>	<u>Received</u>	<u>Matrix</u>
Sanders-072712	31202399001	07/27/2012 17:45	07/30/2012 15:41	Water
Trip Blank (Not on COC)	31202399002	07/27/2012 00:00	07/30/2012 15:41	Water

Case Narrative

LCS for HBN 26311 [VXX/3740]

8260 - The reported recoveries for Bromomethane and Methylene Chloride are above the QC limits.

LCSD for HBN 26311 [VXX/3740]

8260 - The reported recoveries for Bromomethane and Methylene Chloride are above the QC limits.

Trip Blank (Not on COC)

8260 - This Trip Blank has a reported 'J' concentration for Methylene Chloride.

Detectable Results Summary

*** No Detectable Results ***

Results of Sanders-072712

Client Sample ID: **Sanders-072712**
 Client Project ID: **Pittsboro**
 Lab Sample ID: 31202399001-A
 Lab Project ID: 31202399

Collection Date: 07/27/2012 17:45
 Received Date: 07/30/2012 15:41
 Matrix: Water

Results by SW-846 8260B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L	1	07/31/2012 13:18
1,1,1-Trichloroethane	ND		1.00	ug/L	1	07/31/2012 13:18
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L	1	07/31/2012 13:18
1,1,2-Trichloroethane	ND		1.00	ug/L	1	07/31/2012 13:18
1,1-Dichloroethane	ND		1.00	ug/L	1	07/31/2012 13:18
1,1-Dichloroethene	ND		1.00	ug/L	1	07/31/2012 13:18
1,1-Dichloropropene	ND		1.00	ug/L	1	07/31/2012 13:18
1,2,3-Trichlorobenzene	ND		1.00	ug/L	1	07/31/2012 13:18
1,2,3-Trichloropropane	ND		1.00	ug/L	1	07/31/2012 13:18
1,2,4-Trichlorobenzene	ND		1.00	ug/L	1	07/31/2012 13:18
1,2,4-Trimethylbenzene	ND		1.00	ug/L	1	07/31/2012 13:18
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1	07/31/2012 13:18
1,2-Dibromoethane	ND		1.00	ug/L	1	07/31/2012 13:18
1,2-Dichlorobenzene	ND		1.00	ug/L	1	07/31/2012 13:18
1,2-Dichloroethane	ND		1.00	ug/L	1	07/31/2012 13:18
1,2-Dichloropropane	ND		1.00	ug/L	1	07/31/2012 13:18
1,3,5-Trimethylbenzene	ND		1.00	ug/L	1	07/31/2012 13:18
1,3-Dichlorobenzene	ND		1.00	ug/L	1	07/31/2012 13:18
1,3-Dichloropropane	ND		1.00	ug/L	1	07/31/2012 13:18
1,4-Dichlorobenzene	ND		1.00	ug/L	1	07/31/2012 13:18
2,2-Dichloropropane	ND		1.00	ug/L	1	07/31/2012 13:18
2-Butanone	ND		25.0	ug/L	1	07/31/2012 13:18
2-Chlorotoluene	ND		1.00	ug/L	1	07/31/2012 13:18
2-Hexanone	ND		5.00	ug/L	1	07/31/2012 13:18
4-Chlorotoluene	ND		1.00	ug/L	1	07/31/2012 13:18
4-Isopropyltoluene	ND		1.00	ug/L	1	07/31/2012 13:18
4-Methyl-2-pentanone	ND		5.00	ug/L	1	07/31/2012 13:18
Acetone	ND		25.0	ug/L	1	07/31/2012 13:18
Benzene	ND		1.00	ug/L	1	07/31/2012 13:18
Bromobenzene	ND		1.00	ug/L	1	07/31/2012 13:18
Bromochloromethane	ND		1.00	ug/L	1	07/31/2012 13:18
Bromodichloromethane	ND		1.00	ug/L	1	07/31/2012 13:18
Bromoform	ND		1.00	ug/L	1	07/31/2012 13:18
Bromomethane	ND		1.00	ug/L	1	07/31/2012 13:18
n-Butylbenzene	ND		1.00	ug/L	1	07/31/2012 13:18
Carbon disulfide	ND		1.00	ug/L	1	07/31/2012 13:18
Carbon tetrachloride	ND		1.00	ug/L	1	07/31/2012 13:18
Chlorobenzene	ND		1.00	ug/L	1	07/31/2012 13:18
Chloroethane	ND		1.00	ug/L	1	07/31/2012 13:18
Chloroform	ND		1.00	ug/L	1	07/31/2012 13:18
Chloromethane	ND		1.00	ug/L	1	07/31/2012 13:18
Dibromochloromethane	ND		1.00	ug/L	1	07/31/2012 13:18
Dibromomethane	ND		1.00	ug/L	1	07/31/2012 13:18
Dichlorodifluoromethane	ND		5.00	ug/L	1	07/31/2012 13:18

Results of Sanders-072712

Client Sample ID: **Sanders-072712**
 Client Project ID: **Pittsboro**
 Lab Sample ID: 31202399001-A
 Lab Project ID: 31202399

Collection Date: 07/27/2012 17:45
 Received Date: 07/30/2012 15:41
 Matrix: Water

Results by SW-846 8260B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND		1.00	ug/L	1	07/31/2012 13:18
trans-1,3-Dichloropropene	ND		1.00	ug/L	1	07/31/2012 13:18
Diisopropyl Ether	ND		1.00	ug/L	1	07/31/2012 13:18
Ethyl Benzene	ND		1.00	ug/L	1	07/31/2012 13:18
Hexachlorobutadiene	ND		1.00	ug/L	1	07/31/2012 13:18
Isopropylbenzene (Cumene)	ND		1.00	ug/L	1	07/31/2012 13:18
Methyl iodide	ND		1.00	ug/L	1	07/31/2012 13:18
Methylene chloride	ND		5.00	ug/L	1	07/31/2012 13:18
Naphthalene	ND		1.00	ug/L	1	07/31/2012 13:18
Styrene	ND		1.00	ug/L	1	07/31/2012 13:18
Tetrachloroethene	ND		1.00	ug/L	1	07/31/2012 13:18
Toluene	ND		1.00	ug/L	1	07/31/2012 13:18
Trichloroethene	ND		1.00	ug/L	1	07/31/2012 13:18
Trichlorofluoromethane	ND		1.00	ug/L	1	07/31/2012 13:18
Vinyl chloride	ND		1.00	ug/L	1	07/31/2012 13:18
Xylene (total)	ND		2.00	ug/L	1	07/31/2012 13:18
cis-1,2-Dichloroethene	ND		1.00	ug/L	1	07/31/2012 13:18
m,p-Xylene	ND		2.00	ug/L	1	07/31/2012 13:18
n-Propylbenzene	ND		1.00	ug/L	1	07/31/2012 13:18
o-Xylene	ND		1.00	ug/L	1	07/31/2012 13:18
sec-Butylbenzene	ND		1.00	ug/L	1	07/31/2012 13:18
tert-Butyl methyl ether (MTBE)	ND		1.00	ug/L	1	07/31/2012 13:18
tert-Butylbenzene	ND		1.00	ug/L	1	07/31/2012 13:18
trans-1,2-Dichloroethene	ND		1.00	ug/L	1	07/31/2012 13:18
trans-1,4-Dichloro-2-butene	ND		5.00	ug/L	1	07/31/2012 13:18
Surrogates						
1,2-Dichloroethane-d4	101		64.0-140	%	1	07/31/2012 13:18
4-Bromofluorobenzene	101		85.0-115	%	1	07/31/2012 13:18
Toluene d8	100		82.0-117	%	1	07/31/2012 13:18

Batch Information

Analytical Batch: **VMS2428**
 Analytical Method: **SW-846 8260B**
 Instrument: **MSD3**
 Analyst: **BWS**
 Analytical Date/Time: **07/31/2012 13:18**

Prep Batch: **VXX3740**
 Prep Method: **SW-846 5030B**
 Prep Date/Time: **07/31/2012 09:33**
 Prep Initial Wt./Vol.: **40 mL**
 Prep Extract Vol: **40 mL**

Results of Sanders-072712

Client Sample ID: **Sanders-072712**
 Client Project ID: **Pittsboro**
 Lab Sample ID: 31202399001-D
 Lab Project ID: 31202399

Collection Date: 07/27/2012 17:45
 Received Date: 07/30/2012 15:41
 Matrix: Water

Results by SW-846 8270D

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,4 Dioxane	ND		2.03	ug/L	1	08/1/2012 11:00
Surrogates						
Nitrobenzene-d5	100		46.0-118	%	1	08/1/2012 11:00

Batch Information

Analytical Batch: **XMS1618**
 Analytical Method: **SW-846 8270D**
 Instrument: **MSD10**
 Analyst: **CMP**
 Analytical Date/Time: **08/01/2012 11:00**

Prep Batch: **XXX2871**
 Prep Method: **SW-846 3520C**
 Prep Date/Time: **07/31/2012 09:03**
 Prep Initial Wt./Vol.: **983 mL**
 Prep Extract Vol: **1 mL**

Results of Trip Blank (Not on COC)

Client Sample ID: **Trip Blank (Not on COC)**
 Client Project ID: **Pittsboro**
 Lab Sample ID: 31202399002-A
 Lab Project ID: 31202399

Collection Date: 07/27/2012 00:00
 Received Date: 07/30/2012 15:41
 Matrix: Water

Results by SW-846 8260B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L	1	07/31/2012 12:53
1,1,1-Trichloroethane	ND		1.00	ug/L	1	07/31/2012 12:53
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L	1	07/31/2012 12:53
1,1,2-Trichloroethane	ND		1.00	ug/L	1	07/31/2012 12:53
1,1-Dichloroethane	ND		1.00	ug/L	1	07/31/2012 12:53
1,1-Dichloroethene	ND		1.00	ug/L	1	07/31/2012 12:53
1,1-Dichloropropene	ND		1.00	ug/L	1	07/31/2012 12:53
1,2,3-Trichlorobenzene	ND		1.00	ug/L	1	07/31/2012 12:53
1,2,3-Trichloropropane	ND		1.00	ug/L	1	07/31/2012 12:53
1,2,4-Trichlorobenzene	ND		1.00	ug/L	1	07/31/2012 12:53
1,2,4-Trimethylbenzene	ND		1.00	ug/L	1	07/31/2012 12:53
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1	07/31/2012 12:53
1,2-Dibromoethane	ND		1.00	ug/L	1	07/31/2012 12:53
1,2-Dichlorobenzene	ND		1.00	ug/L	1	07/31/2012 12:53
1,2-Dichloroethane	ND		1.00	ug/L	1	07/31/2012 12:53
1,2-Dichloropropane	ND		1.00	ug/L	1	07/31/2012 12:53
1,3,5-Trimethylbenzene	ND		1.00	ug/L	1	07/31/2012 12:53
1,3-Dichlorobenzene	ND		1.00	ug/L	1	07/31/2012 12:53
1,3-Dichloropropane	ND		1.00	ug/L	1	07/31/2012 12:53
1,4-Dichlorobenzene	ND		1.00	ug/L	1	07/31/2012 12:53
2,2-Dichloropropane	ND		1.00	ug/L	1	07/31/2012 12:53
2-Butanone	ND		25.0	ug/L	1	07/31/2012 12:53
2-Chlorotoluene	ND		1.00	ug/L	1	07/31/2012 12:53
2-Hexanone	ND		5.00	ug/L	1	07/31/2012 12:53
4-Chlorotoluene	ND		1.00	ug/L	1	07/31/2012 12:53
4-Isopropyltoluene	ND		1.00	ug/L	1	07/31/2012 12:53
4-Methyl-2-pentanone	ND		5.00	ug/L	1	07/31/2012 12:53
Acetone	ND		25.0	ug/L	1	07/31/2012 12:53
Benzene	ND		1.00	ug/L	1	07/31/2012 12:53
Bromobenzene	ND		1.00	ug/L	1	07/31/2012 12:53
Bromochloromethane	ND		1.00	ug/L	1	07/31/2012 12:53
Bromodichloromethane	ND		1.00	ug/L	1	07/31/2012 12:53
Bromoform	ND		1.00	ug/L	1	07/31/2012 12:53
Bromomethane	ND		1.00	ug/L	1	07/31/2012 12:53
n-Butylbenzene	ND		1.00	ug/L	1	07/31/2012 12:53
Carbon disulfide	ND		1.00	ug/L	1	07/31/2012 12:53
Carbon tetrachloride	ND		1.00	ug/L	1	07/31/2012 12:53
Chlorobenzene	ND		1.00	ug/L	1	07/31/2012 12:53
Chloroethane	ND		1.00	ug/L	1	07/31/2012 12:53
Chloroform	ND		1.00	ug/L	1	07/31/2012 12:53
Chloromethane	ND		1.00	ug/L	1	07/31/2012 12:53
Dibromochloromethane	ND		1.00	ug/L	1	07/31/2012 12:53
Dibromomethane	ND		1.00	ug/L	1	07/31/2012 12:53
Dichlorodifluoromethane	ND		5.00	ug/L	1	07/31/2012 12:53

Results of Trip Blank (Not on COC)

Client Sample ID: **Trip Blank (Not on COC)**
 Client Project ID: **Pittsboro**
 Lab Sample ID: 31202399002-A
 Lab Project ID: 31202399

Collection Date: 07/27/2012 00:00
 Received Date: 07/30/2012 15:41
 Matrix: Water

Results by SW-846 8260B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND		1.00	ug/L	1	07/31/2012 12:53
trans-1,3-Dichloropropene	ND		1.00	ug/L	1	07/31/2012 12:53
Diisopropyl Ether	ND		1.00	ug/L	1	07/31/2012 12:53
Ethyl Benzene	ND		1.00	ug/L	1	07/31/2012 12:53
Hexachlorobutadiene	ND		1.00	ug/L	1	07/31/2012 12:53
Isopropylbenzene (Cumene)	ND		1.00	ug/L	1	07/31/2012 12:53
Methyl iodide	ND		1.00	ug/L	1	07/31/2012 12:53
Methylene chloride	ND		5.00	ug/L	1	07/31/2012 12:53
Naphthalene	ND		1.00	ug/L	1	07/31/2012 12:53
Styrene	ND		1.00	ug/L	1	07/31/2012 12:53
Tetrachloroethene	ND		1.00	ug/L	1	07/31/2012 12:53
Toluene	ND		1.00	ug/L	1	07/31/2012 12:53
Trichloroethene	ND		1.00	ug/L	1	07/31/2012 12:53
Trichlorofluoromethane	ND		1.00	ug/L	1	07/31/2012 12:53
Vinyl chloride	ND		1.00	ug/L	1	07/31/2012 12:53
Xylene (total)	ND		2.00	ug/L	1	07/31/2012 12:53
cis-1,2-Dichloroethene	ND		1.00	ug/L	1	07/31/2012 12:53
m,p-Xylene	ND		2.00	ug/L	1	07/31/2012 12:53
n-Propylbenzene	ND		1.00	ug/L	1	07/31/2012 12:53
o-Xylene	ND		1.00	ug/L	1	07/31/2012 12:53
sec-Butylbenzene	ND		1.00	ug/L	1	07/31/2012 12:53
tert-Butyl methyl ether (MTBE)	ND		1.00	ug/L	1	07/31/2012 12:53
tert-Butylbenzene	ND		1.00	ug/L	1	07/31/2012 12:53
trans-1,2-Dichloroethene	ND		1.00	ug/L	1	07/31/2012 12:53
trans-1,4-Dichloro-2-butene	ND		5.00	ug/L	1	07/31/2012 12:53
Surrogates						
1,2-Dichloroethane-d4	102		64.0-140	%	1	07/31/2012 12:53
4-Bromofluorobenzene	105		85.0-115	%	1	07/31/2012 12:53
Toluene d8	104		82.0-117	%	1	07/31/2012 12:53

Batch Information

Analytical Batch: **VMS2428**
 Analytical Method: **SW-846 8260B**
 Instrument: **MSD3**
 Analyst: **BWS**
 Analytical Date/Time: **07/31/2012 12:53**

Prep Batch: **VXX3740**
 Prep Method: **SW-846 5030B**
 Prep Date/Time: **07/31/2012 09:33**
 Prep Initial Wt./Vol.: **40 mL**
 Prep Extract Vol: **40 mL**

Batch Summary

Analytical Method: SW-846 8260B

Prep Method: SW-846 5030B

Prep Batch: VXX3740

Prep Date: 07/31/2012 09:07

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Analysis Date</u>	<u>Analytical Batch</u>	<u>Instrument</u>	<u>Analyst</u>
LCS for HBN 26311 [VXX/3740]	82785	07/31/2012 10:22	VMS2428	MSD3	BWS
LCSD for HBN 26311 [VXX/3740]	82786	07/31/2012 10:47	VMS2428	MSD3	BWS
MB for HBN 26311 [VXX/3740]	82787	07/31/2012 12:28	VMS2428	MSD3	BWS
Trip Blank (Not on COC)	31202399002	07/31/2012 12:53	VMS2428	MSD3	BWS
Sanders-072712	31202399001	07/31/2012 13:18	VMS2428	MSD3	BWS
USTHPFFC-MW91(82642MS)	82886	07/31/2012 20:53	VMS2428	MSD3	BWS
USTHPFFC-MW91(82642MSD)	82887	07/31/2012 21:18	VMS2428	MSD3	BWS

Method Blank

Blank ID: MB for HBN 26311 [VXX/3740]

Matrix: Water

Blank Lab ID: 82787

QC for Samples:

31202399001, 31202399002

Results by SW-846 8260B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>
Dichlorodifluoromethane	ND		5.00	ug/L	1
Chloromethane	ND		1.00	ug/L	1
Vinyl chloride	ND		1.00	ug/L	1
Bromomethane	ND		1.00	ug/L	1
Chloroethane	ND		1.00	ug/L	1
Trichlorofluoromethane	ND		1.00	ug/L	1
1,1-Dichloroethene	ND		1.00	ug/L	1
Acetone	ND		25.0	ug/L	1
Methylene chloride	ND		5.00	ug/L	1
trans-1,2-Dichloroethene	ND		1.00	ug/L	1
tert-Butyl methyl ether (MTBE)	ND		1.00	ug/L	1
1,1-Dichloroethane	ND		1.00	ug/L	1
Diisopropyl Ether	ND		1.00	ug/L	1
2,2-Dichloropropane	ND		1.00	ug/L	1
cis-1,2-Dichloroethene	ND		1.00	ug/L	1
2-Butanone	ND		25.0	ug/L	1
Bromochloromethane	ND		1.00	ug/L	1
Chloroform	ND		1.00	ug/L	1
1,1,1-Trichloroethane	ND		1.00	ug/L	1
Carbon tetrachloride	ND		1.00	ug/L	1
1,1-Dichloropropene	ND		1.00	ug/L	1
Benzene	ND		1.00	ug/L	1
1,2-Dichloroethane	ND		1.00	ug/L	1
Trichloroethene	ND		1.00	ug/L	1
1,2-Dichloropropane	ND		1.00	ug/L	1
Dibromomethane	ND		1.00	ug/L	1
Bromodichloromethane	ND		1.00	ug/L	1
cis-1,3-Dichloropropene	ND		1.00	ug/L	1
4-Methyl-2-pentanone	ND		5.00	ug/L	1
Toluene	ND		1.00	ug/L	1
Methyl iodide	ND		1.00	ug/L	1
trans-1,3-Dichloropropene	ND		1.00	ug/L	1
Carbon disulfide	ND		1.00	ug/L	1
1,1,2-Trichloroethane	ND		1.00	ug/L	1
Tetrachloroethene	ND		1.00	ug/L	1
1,3-Dichloropropane	ND		1.00	ug/L	1
2-Hexanone	ND		5.00	ug/L	1
Dibromochloromethane	ND		1.00	ug/L	1
1,2-Dibromoethane	ND		1.00	ug/L	1
Chlorobenzene	ND		1.00	ug/L	1
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L	1
Bromoform	ND		1.00	ug/L	1

Method Blank

Blank ID: MB for HBN 26311 [VXX/3740]
 Blank Lab ID: 82787
 QC for Samples:
 31202399001, 31202399002

Matrix: Water

Results by SW-846 8260B

Parameter	Result	Qual	LOQ/CL	Units	DF
Bromobenzene	ND		1.00	ug/L	1
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L	1
1,2,3-Trichloropropane	ND		1.00	ug/L	1
Ethyl Benzene	ND		1.00	ug/L	1
m,p-Xylene	ND		2.00	ug/L	1
Styrene	ND		1.00	ug/L	1
o-Xylene	ND		1.00	ug/L	1
Xylene (total)	ND		2.00	ug/L	1
Isopropylbenzene (Cumene)	ND		1.00	ug/L	1
n-Propylbenzene	ND		1.00	ug/L	1
2-Chlorotoluene	ND		1.00	ug/L	1
4-Chlorotoluene	ND		1.00	ug/L	1
1,3,5-Trimethylbenzene	ND		1.00	ug/L	1
tert-Butylbenzene	ND		1.00	ug/L	1
1,2,4-Trimethylbenzene	ND		1.00	ug/L	1
sec-Butylbenzene	ND		1.00	ug/L	1
1,3-Dichlorobenzene	ND		1.00	ug/L	1
4-Isopropyltoluene	ND		1.00	ug/L	1
1,4-Dichlorobenzene	ND		1.00	ug/L	1
1,2-Dichlorobenzene	ND		1.00	ug/L	1
n-Butylbenzene	ND		1.00	ug/L	1
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1
1,2,4-Trichlorobenzene	ND		1.00	ug/L	1
Hexachlorobutadiene	ND		1.00	ug/L	1
Naphthalene	ND		1.00	ug/L	1
trans-1,4-Dichloro-2-butene	ND		5.00	ug/L	1
1,2,3-Trichlorobenzene	ND		1.00	ug/L	1
Surrogates					
1,2-Dichloroethane-d4	101		64.0-140	%	1
Toluene d8	104		82.0-117	%	1
4-Bromofluorobenzene	98.0		85.0-115	%	1

Batch Information

Analytical Batch: VMS2428
 Analytical Method: SW-846 8260B
 Instrument: MSD3
 Analyst: BWS
 Analytical Date/Time: 7/31/2012 12:28:00PM

Prep Batch: VXX3740
 Prep Method: SW-846 5030B
 Prep Date/Time: 7/31/2012 9:07:07AM
 Prep Initial Wt./Vol.: 40 mL
 Prep Extract Vol: 40 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 26311 [VXX/3740]
 Blank Spike Lab ID: 82785
 Date Analyzed: 07/31/2012 10:22

Spike Duplicate ID: LCSD for HBN 26311 [VXX/3740]
 Spike Duplicate Lab ID: 82786
 Date Analyzed: 07/31/2012 10:47
 Matrix: Water

QC for Samples: 31202399001, 31202399002

Results by SW-846 8260B

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Dichlorodifluoromethane	5.00	6.09	122	5.00	6.07	121	33.0-170	0.33	30.00
Chloromethane	5.00	6.10	122	5.00	5.96	119	57.0-132	2.3	30.00
Vinyl chloride	5.00	5.88	118	5.00	6.04	121	59.0-138	2.7	30.00
Bromomethane	5.00	11.4	229*	5.00	11.3	225*	51.0-134	0.88	30.00
Chloroethane	5.00	6.44	129	5.00	6.54	131	64.0-145	1.5	30.00
Trichlorofluoromethane	5.00	5.70	114	5.00	5.64	113	64.0-133	1.1	30.00
1,1-Dichloroethene	5.00	5.94	119	5.00	5.54	111	71.0-128	7.0	30.00
Acetone	25.0	27.5	110	25.0	ND	99	52.0-140	10	30.00
Methylene chloride	5.00	5.69	114*	5.00	5.80	116*	70.0-113	1.9	30.00
trans-1,2-Dichloroethene	5.00	5.72	114	5.00	5.82	116	57.0-138	1.7	30.00
tert-Butyl methyl ether (MTBE)	5.00	5.49	110	5.00	5.35	107	47.0-142	2.6	30.00
1,1-Dichloroethane	5.00	5.30	106	5.00	5.39	108	68.0-133	1.7	30.00
Diisopropyl Ether	5.00	5.33	107	5.00	5.04	101	66.0-132	5.6	30.00
2,2-Dichloropropane	5.00	5.80	116	5.00	5.74	115	74.0-125	1.0	30.00
cis-1,2-Dichloroethene	5.00	5.94	119	5.00	5.70	114	73.0-128	4.1	30.00
2-Butanone	25.0	ND	95	25.0	25.2	101	58.0-134	6.1	30.00
Bromochloromethane	5.00	6.22	124	5.00	5.78	116	73.0-128	7.3	30.00
Chloroform	5.00	5.52	110	5.00	5.62	112	74.0-124	1.8	30.00
1,1,1-Trichloroethane	5.00	5.60	112	5.00	5.64	113	76.0-119	0.71	30.00
Carbon tetrachloride	5.00	5.73	115	5.00	5.78	116	75.0-120	0.87	30.00
1,1-Dichloropropene	5.00	5.37	107	5.00	5.50	110	76.0-124	2.4	30.00
Benzene	5.00	5.38	108	5.00	5.41	108	76.0-124	0.56	30.00
1,2-Dichloroethane	5.00	5.59	112	5.00	5.33	107	76.0-119	4.8	30.00
Trichloroethene	5.00	5.49	110	5.00	5.48	110	74.0-121	0.18	30.00
1,2-Dichloropropane	5.00	5.02	100	5.00	5.07	101	74.0-124	0.99	30.00
Dibromomethane	5.00	5.60	112	5.00	5.38	108	71.0-128	4.0	30.00
Bromodichloromethane	5.00	5.27	105	5.00	5.37	107	72.0-120	1.9	30.00
cis-1,3-Dichloropropene	5.00	5.77	115	5.00	5.49	110	73.0-122	5.0	30.00
4-Methyl-2-pentanone	25.0	24.5	98	25.0	25.0	100	65.0-124	2.0	30.00
Toluene	5.00	5.63	113	5.00	5.57	111	75.0-123	1.1	30.00
Methyl iodide	5.00	5.42	108	5.00	5.25	105	55.0-123	3.2	30.00
trans-1,3-Dichloropropene	5.00	5.23	105	5.00	5.10	102	70.0-125	2.5	30.00
Carbon disulfide	5.00	5.04	101	5.00	5.14	103	65.0-132	2.0	30.00
1,1,2-Trichloroethane	5.00	5.24	105	5.00	5.22	104	76.0-121	0.38	30.00

Blank Spike Summary

Blank Spike ID: LCS for HBN 26311 [VXX/3740]
 Blank Spike Lab ID: 82785
 Date Analyzed: 07/31/2012 10:22

Spike Duplicate ID: LCSD for HBN 26311 [VXX/3740]
 Spike Duplicate Lab ID: 82786
 Date Analyzed: 07/31/2012 10:47
 Matrix: Water

QC for Samples: 31202399001, 31202399002

Results by SW-846 8260B

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Tetrachloroethene	5.00	5.44	109	5.00	5.41	108	59.0-112	0.55	30.00
1,3-Dichloropropane	5.00	5.04	101	5.00	5.01	100	74.0-120	0.60	30.00
2-Hexanone	25.0	22.3	89	25.0	23.3	93	56.0-133	4.4	30.00
Dibromochloromethane	5.00	5.41	108	5.00	5.31	106	67.0-122	1.9	30.00
1,2-Dibromoethane	5.00	5.11	102	5.00	5.01	100	74.0-119	2.0	30.00
Chlorobenzene	5.00	5.17	103	5.00	5.11	102	74.0-120	1.2	30.00
1,1,1,2-Tetrachloroethane	5.00	5.31	106	5.00	5.07	101	73.0-119	4.6	30.00
Bromoform	5.00	5.43	109	5.00	5.21	104	62.0-127	4.1	30.00
Bromobenzene	5.00	5.01	100	5.00	5.12	102	75.0-120	2.2	30.00
1,1,2,2-Tetrachloroethane	5.00	4.76	95	5.00	4.92	98	68.0-129	3.3	30.00
1,2,3-Trichloropropane	5.00	5.02	100	5.00	4.99	100	67.0-126	0.60	30.00
Ethyl Benzene	5.00	4.89	98	5.00	4.82	96	76.0-123	1.4	30.00
m,p-Xylene	10.0	10.3	103	10.0	9.98	100	76.0-124	3.2	30.00
Styrene	5.00	4.95	99	5.00	4.89	98	76.0-121	1.2	30.00
o-Xylene	5.00	5.04	101	5.00	5.03	101	75.0-124	0.20	30.00
Isopropylbenzene (Cumene)	5.00	5.12	102	5.00	5.13	103	77.0-120	0.20	30.00
n-Propylbenzene	5.00	4.85	97	5.00	4.91	98	77.0-123	1.2	30.00
2-Chlorotoluene	5.00	5.21	104	5.00	5.31	106	74.0-127	1.9	30.00
4-Chlorotoluene	5.00	5.20	104	5.00	5.10	102	77.0-123	1.9	30.00
1,3,5-Trimethylbenzene	5.00	5.11	102	5.00	5.23	105	76.0-122	2.3	30.00
tert-Butylbenzene	5.00	4.59	92	5.00	5.11	102	67.0-122	11	30.00
1,2,4-Trimethylbenzene	5.00	5.23	105	5.00	5.17	103	76.0-124	1.2	30.00
sec-Butylbenzene	5.00	5.13	103	5.00	5.12	102	78.0-121	0.20	30.00
1,3-Dichlorobenzene	5.00	5.14	103	5.00	4.96	99	75.0-120	3.6	30.00
4-Isopropyltoluene	5.00	5.13	103	5.00	5.15	103	77.0-120	0.39	30.00
1,4-Dichlorobenzene	5.00	4.94	99	5.00	4.94	99	70.0-125	0.0	30.00
1,2-Dichlorobenzene	5.00	4.90	98	5.00	5.12	102	76.0-118	4.4	30.00
n-Butylbenzene	5.00	5.09	102	5.00	5.04	101	78.0-118	0.99	30.00
1,2-Dibromo-3-chloropropane	30.0	26.1	87	30.0	26.6	89	62.0-130	1.9	30.00
1,2,4-Trichlorobenzene	5.00	5.17	103	5.00	5.07	101	72.0-119	2.0	30.00
Hexachlorobutadiene	5.00	5.23	105	5.00	5.30	106	69.0-121	1.3	30.00
Naphthalene	5.00	5.04	101	5.00	5.07	101	67.0-122	0.59	30.00
trans-1,4-Dichloro-2-butene	25.0	24.1	96	25.0	24.1	96	61.0-132	0.0	30.00
1,2,3-Trichlorobenzene	5.00	5.17	103	5.00	5.01	100	68.0-123	3.1	30.00

Blank Spike Summary

Blank Spike ID: LCS for HBN 26311 [VXX/3740]
 Blank Spike Lab ID: 82785
 Date Analyzed: 07/31/2012 10:22

Spike Duplicate ID: LCSD for HBN 26311 [VXX/3740]
 Spike Duplicate Lab ID: 82786
 Date Analyzed: 07/31/2012 10:47
 Matrix: Water

QC for Samples: 31202399001, 31202399002

Results by SW-846 8260B

Parameter	Blank Spike (%)			Spike Duplicate (%)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Surrogates									
1,2-Dichloroethane-d4			106			101	64.0-140		
Toluene d8			103			102	82.0-117		
4-Bromofluorobenzene			104			98	85.0-115		

Batch Information

Analytical Batch: **VMS2428**
 Analytical Method: **SW-846 8260B**
 Instrument: **MSD3**
 Analyst: **BWS**

Prep Batch: **VXX3740**
 Prep Method: **SW-846 5030B**
 Prep Date/Time: **07/31/2012 09:07**
 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: XXX2871

Prep Date: 07/31/2012 09:03

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Analysis Date</u>	<u>Analytical Batch</u>	<u>Instrument</u>	<u>Analyst</u>
MB for HBN 26309 [XXX/2871]	82780	08/01/2012 09:51	XMS1618	MSD10	CMP
LCS for HBN 26309 [XXX/2871]	82781	08/01/2012 10:14	XMS1618	MSD10	CMP
LCSD for HBN 26309 [XXX/2871]	82782	08/01/2012 10:37	XMS1618	MSD10	CMP
Sanders-072712	31202399001	08/01/2012 11:00	XMS1618	MSD10	CMP

Method Blank

Blank ID: MB for HBN 26309 [XXX/2871]
 Blank Lab ID: 82780
 QC for Samples:
 31202399001

Matrix: Water

Results by SW-846 8270D

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>
1,4 Dioxane	ND		2.00	ug/L	1
Surrogates					
Nitrobenzene-d5	68.1		46.0-118	%	1

Batch Information

Analytical Batch: XMS1618
 Analytical Method: SW-846 8270D
 Instrument: MSD10
 Analyst: CMP
 Analytical Date/Time: 8/1/2012 9:51:00AM

Prep Batch: XXX2871
 Prep Method: SW-846 3520C
 Prep Date/Time: 7/31/2012 9:03:00AM
 Prep Initial Wt./Vol.: 1000 mL
 Prep Extract Vol: 1 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 26309 [XXX/2871]
 Blank Spike Lab ID: 82781
 Date Analyzed: 08/01/2012 10:14

Spike Duplicate ID: LCSD for HBN 26309 [XXX/2871]
 Spike Duplicate Lab ID: 82782
 Date Analyzed: 08/01/2012 10:37
 Matrix: Water

QC for Samples: 31202399001

Results by SW-846 8270D

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
1,4 Dioxane	10.0	6.10	61	10.0	7.91	79	35.0-100	26	30.00
Surrogates									
Nitrobenzene-d5			92.5			102	46.0-118		

Batch Information

Analytical Batch: XMS1618
 Analytical Method: SW-846 8270D
 Instrument: MSD10
 Analyst: CMP

Prep Batch: XXX2871
 Prep Method: SW-846 3520C
 Prep Date/Time: 07/31/2012 09:03
 Spike Init Wt./Vol.: 1000 mL Extract Vol: 1 mL
 Dupe Init Wt./Vol.: 1000 mL Extract Vol: 1 mL

Laboratory Report of Analysis

To: Matt Brennan
AECOM
8540 Colonnade Center Drive
Suite 306
Raleigh, NC 27615
US

Report Number: **31202456**

Client Project: **NCDOT Pittsboro**

Dear Matt Brennan,

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
Project Manager
barbara.hager@sgs.com

Date

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

Laboratory Qualifiers

Report Definitions

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

Qualifier Definitions

*	Recovery or RPD outside of control limits
B	Analyte was detected in the Lab Method Blank at a level above the LOQ
U	Undetected (Reported as ND or < DL)
V	Recovery is below quality control limit. The data has been validated based on a favorable signal-to-noise and detection limit
A	Amount detected is less than the Lower Method Calibration Limit
J	Estimated Concentration.
O	The recovery of this analyte in the OPR is above the Method QC Limits and the reported concentration in the sample may be biased high
E	Amount detected is greater than the Upper Calibration Limit
S	The amount of analyte present has saturated the detector. This situation results in an underestimation of the affected analyte(s)
Q	Indicates the presence of a quantitative interference. This situation may result in an underestimation of the affected analyte(s)
I	Indicates the presence of a qualitative interference that could cause a false positive or an overestimation of the affected analyte(s)
DPE	Indicates the presence of a peak in the polychlorinated diphenylether channel that could cause a false positive or an overestimation of the affected analyte(s)
TIC	Tentatively Identified Compound
EMPC	Estimated Maximum possible Concentration due to ion ratio failure
ND	Not Detected
K	Result is estimated due to ion ratio failure in High Resolution PCB Analysis
P	RPD > 40% between results of dual columns
D	Spike or surrogate was diluted out in order to achieve a parameter result within instrument calibration range

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

M1	Mis-identified peak
M2	Software did not integrate peak
M3	Incorrect baseline construction (i.e. not all of peak included; two peaks integrated as one)
M4	Pattern integration required (i.e. DRO, GRO, PCB, Toxaphene and Technical Chlordane)
M5	Other - Explained in case narrative

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

Sample Summary

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Collected</u>	<u>Received</u>	<u>Matrix</u>
Mitchell-080112	31202456001	08/01/2012 12:30	08/03/2012 09:50	Water
Trip Blank	31202456002	08/01/2012 00:00	08/03/2012 09:50	Water

Case Narrative**LCS for HBN 26417 [VXX/3757]**

8260 - The method blank associated with batch VMS2440 has a reported 'J' concentration for Methylene Chloride.

LCSD for HBN 26417 [VXX/3757]

8260 - The method blank associated with batch VMS2440 has a reported 'J' concentration for Methylene Chloride.

MB for HBN 26417 [VXX/3757]

8260 - The method blank associated with batch VMS2440 has a reported 'J' concentration for Methylene Chloride.

Mitchell-080112

8260 - The method blank associated with batch VMS2440 has a reported 'J' concentration for Methylene Chloride.

TCLP-B for HBN 26376 [LCH/1274]

8260 - The method blank associated with batch VMS2440 has a reported 'J' concentration for Methylene Chloride.

Trip Blank

8260 - The method blank associated with batch VMS2440 has a reported 'J' concentration for Methylene Chloride.

UST1115-MW07(82633MS)

8260 - The method blank associated with batch VMS2440 has a reported 'J' concentration for Methylene Chloride.

UST1115-MW07(82633MSD)

8260 - The method blank associated with batch VMS2440 has a reported 'J' concentration for Methylene Chloride.

Detectable Results Summary

*** No Detectable Results ***

Results of Mitchell-080112

Client Sample ID: **Mitchell-080112**
 Client Project ID: **NCDOT Pittsboro**
 Lab Sample ID: 31202456001-A
 Lab Project ID: 31202456

Collection Date: 08/01/2012 12:30
 Received Date: 08/03/2012 09:50
 Matrix: Water

Results by SW-846 8260B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L	1	08/3/2012 12:30
1,1,1-Trichloroethane	ND		1.00	ug/L	1	08/3/2012 12:30
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L	1	08/3/2012 12:30
1,1,2-Trichloroethane	ND		1.00	ug/L	1	08/3/2012 12:30
1,1-Dichloroethane	ND		1.00	ug/L	1	08/3/2012 12:30
1,1-Dichloroethene	ND		1.00	ug/L	1	08/3/2012 12:30
1,1-Dichloropropene	ND		1.00	ug/L	1	08/3/2012 12:30
1,2,3-Trichlorobenzene	ND		1.00	ug/L	1	08/3/2012 12:30
1,2,3-Trichloropropane	ND		1.00	ug/L	1	08/3/2012 12:30
1,2,4-Trichlorobenzene	ND		1.00	ug/L	1	08/3/2012 12:30
1,2,4-Trimethylbenzene	ND		1.00	ug/L	1	08/3/2012 12:30
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1	08/3/2012 12:30
1,2-Dibromoethane	ND		1.00	ug/L	1	08/3/2012 12:30
1,2-Dichlorobenzene	ND		1.00	ug/L	1	08/3/2012 12:30
1,2-Dichloroethane	ND		1.00	ug/L	1	08/3/2012 12:30
1,2-Dichloropropane	ND		1.00	ug/L	1	08/3/2012 12:30
1,3,5-Trimethylbenzene	ND		1.00	ug/L	1	08/3/2012 12:30
1,3-Dichlorobenzene	ND		1.00	ug/L	1	08/3/2012 12:30
1,3-Dichloropropane	ND		1.00	ug/L	1	08/3/2012 12:30
1,4-Dichlorobenzene	ND		1.00	ug/L	1	08/3/2012 12:30
2,2-Dichloropropane	ND		1.00	ug/L	1	08/3/2012 12:30
2-Butanone	ND		25.0	ug/L	1	08/3/2012 12:30
2-Chlorotoluene	ND		1.00	ug/L	1	08/3/2012 12:30
2-Hexanone	ND		5.00	ug/L	1	08/3/2012 12:30
4-Chlorotoluene	ND		1.00	ug/L	1	08/3/2012 12:30
4-Isopropyltoluene	ND		1.00	ug/L	1	08/3/2012 12:30
4-Methyl-2-pentanone	ND		5.00	ug/L	1	08/3/2012 12:30
Acetone	ND		25.0	ug/L	1	08/3/2012 12:30
Benzene	ND		1.00	ug/L	1	08/3/2012 12:30
Bromobenzene	ND		1.00	ug/L	1	08/3/2012 12:30
Bromochloromethane	ND		1.00	ug/L	1	08/3/2012 12:30
Bromodichloromethane	ND		1.00	ug/L	1	08/3/2012 12:30
Bromoform	ND		1.00	ug/L	1	08/3/2012 12:30
Bromomethane	ND		1.00	ug/L	1	08/3/2012 12:30
n-Butylbenzene	ND		1.00	ug/L	1	08/3/2012 12:30
Carbon disulfide	ND		1.00	ug/L	1	08/3/2012 12:30
Carbon tetrachloride	ND		1.00	ug/L	1	08/3/2012 12:30
Chlorobenzene	ND		1.00	ug/L	1	08/3/2012 12:30
Chloroethane	ND		1.00	ug/L	1	08/3/2012 12:30
Chloroform	ND		1.00	ug/L	1	08/3/2012 12:30
Chloromethane	ND		1.00	ug/L	1	08/3/2012 12:30
Dibromochloromethane	ND		1.00	ug/L	1	08/3/2012 12:30
Dibromomethane	ND		1.00	ug/L	1	08/3/2012 12:30
Dichlorodifluoromethane	ND		5.00	ug/L	1	08/3/2012 12:30

Results of Mitchell-080112

Client Sample ID: **Mitchell-080112**
 Client Project ID: **NCDOT Pittsboro**
 Lab Sample ID: 31202456001-A
 Lab Project ID: 31202456

Collection Date: 08/01/2012 12:30
 Received Date: 08/03/2012 09:50
 Matrix: Water

Results by SW-846 8260B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND		1.00	ug/L	1	08/3/2012 12:30
trans-1,3-Dichloropropene	ND		1.00	ug/L	1	08/3/2012 12:30
Diisopropyl Ether	ND		1.00	ug/L	1	08/3/2012 12:30
Ethyl Benzene	ND		1.00	ug/L	1	08/3/2012 12:30
Hexachlorobutadiene	ND		1.00	ug/L	1	08/3/2012 12:30
Isopropylbenzene (Cumene)	ND		1.00	ug/L	1	08/3/2012 12:30
Methyl iodide	ND		1.00	ug/L	1	08/3/2012 12:30
Methylene chloride	ND		5.00	ug/L	1	08/3/2012 12:30
Naphthalene	ND		1.00	ug/L	1	08/3/2012 12:30
Styrene	ND		1.00	ug/L	1	08/3/2012 12:30
Tetrachloroethene	ND		1.00	ug/L	1	08/3/2012 12:30
Toluene	ND		1.00	ug/L	1	08/3/2012 12:30
Trichloroethene	ND		1.00	ug/L	1	08/3/2012 12:30
Trichlorofluoromethane	ND		1.00	ug/L	1	08/3/2012 12:30
Vinyl chloride	ND		1.00	ug/L	1	08/3/2012 12:30
Xylene (total)	ND		2.00	ug/L	1	08/3/2012 12:30
cis-1,2-Dichloroethene	ND		1.00	ug/L	1	08/3/2012 12:30
m,p-Xylene	ND		2.00	ug/L	1	08/3/2012 12:30
n-Propylbenzene	ND		1.00	ug/L	1	08/3/2012 12:30
o-Xylene	ND		1.00	ug/L	1	08/3/2012 12:30
sec-Butylbenzene	ND		1.00	ug/L	1	08/3/2012 12:30
tert-Butyl methyl ether (MTBE)	ND		1.00	ug/L	1	08/3/2012 12:30
tert-Butylbenzene	ND		1.00	ug/L	1	08/3/2012 12:30
trans-1,2-Dichloroethene	ND		1.00	ug/L	1	08/3/2012 12:30
trans-1,4-Dichloro-2-butene	ND		5.00	ug/L	1	08/3/2012 12:30
Surrogates						
1,2-Dichloroethane-d4	100		64.0-140	%	1	08/3/2012 12:30
4-Bromofluorobenzene	102		85.0-115	%	1	08/3/2012 12:30
Toluene d8	99.0		82.0-117	%	1	08/3/2012 12:30

Batch Information

Analytical Batch: **VMS2440**
 Analytical Method: **SW-846 8260B**
 Instrument: **MSD8**
 Analyst: **DVO**
 Analytical Date/Time: **08/03/2012 12:30**

Prep Batch: **VXX3757**
 Prep Method: **SW-846 5030B**
 Prep Date/Time: **08/03/2012 08:00**
 Prep Initial Wt./Vol.: **40 mL**
 Prep Extract Vol: **40 mL**

Results of Mitchell-080112

Client Sample ID: **Mitchell-080112**
 Client Project ID: **NCDOT Pittsboro**
 Lab Sample ID: 31202456001-D
 Lab Project ID: 31202456

Collection Date: 08/01/2012 12:30
 Received Date: 08/03/2012 09:50
 Matrix: Water

Results by SW-846 8270D

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,4 Dioxane	ND		2.02	ug/L	1	08/7/2012 10:47
Surrogates						
Nitrobenzene-d5	100		46.0-118	%	1	08/7/2012 10:47

Batch Information

Analytical Batch: **XMS1627**
 Analytical Method: **SW-846 8270D**
 Instrument: **MSD10**
 Analyst: **CMP**
 Analytical Date/Time: **08/07/2012 10:47**

Prep Batch: **XXX2889**
 Prep Method: **SW-846 3520C**
 Prep Date/Time: **08/06/2012 09:06**
 Prep Initial Wt./Vol.: **989 mL**
 Prep Extract Vol: **1 mL**

Results of Trip Blank

Client Sample ID: **Trip Blank**
 Client Project ID: **NCDOT Pittsboro**
 Lab Sample ID: 31202456002-A
 Lab Project ID: 31202456

Collection Date: 08/01/2012 00:00
 Received Date: 08/03/2012 09:50
 Matrix: Water

Results by SW-846 8260B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L	1	08/3/2012 11:16
1,1,1-Trichloroethane	ND		1.00	ug/L	1	08/3/2012 11:16
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L	1	08/3/2012 11:16
1,1,2-Trichloroethane	ND		1.00	ug/L	1	08/3/2012 11:16
1,1-Dichloroethane	ND		1.00	ug/L	1	08/3/2012 11:16
1,1-Dichloroethene	ND		1.00	ug/L	1	08/3/2012 11:16
1,1-Dichloropropene	ND		1.00	ug/L	1	08/3/2012 11:16
1,2,3-Trichlorobenzene	ND		1.00	ug/L	1	08/3/2012 11:16
1,2,3-Trichloropropane	ND		1.00	ug/L	1	08/3/2012 11:16
1,2,4-Trichlorobenzene	ND		1.00	ug/L	1	08/3/2012 11:16
1,2,4-Trimethylbenzene	ND		1.00	ug/L	1	08/3/2012 11:16
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1	08/3/2012 11:16
1,2-Dibromoethane	ND		1.00	ug/L	1	08/3/2012 11:16
1,2-Dichlorobenzene	ND		1.00	ug/L	1	08/3/2012 11:16
1,2-Dichloroethane	ND		1.00	ug/L	1	08/3/2012 11:16
1,2-Dichloropropane	ND		1.00	ug/L	1	08/3/2012 11:16
1,3,5-Trimethylbenzene	ND		1.00	ug/L	1	08/3/2012 11:16
1,3-Dichlorobenzene	ND		1.00	ug/L	1	08/3/2012 11:16
1,3-Dichloropropane	ND		1.00	ug/L	1	08/3/2012 11:16
1,4-Dichlorobenzene	ND		1.00	ug/L	1	08/3/2012 11:16
2,2-Dichloropropane	ND		1.00	ug/L	1	08/3/2012 11:16
2-Butanone	ND		25.0	ug/L	1	08/3/2012 11:16
2-Chlorotoluene	ND		1.00	ug/L	1	08/3/2012 11:16
2-Hexanone	ND		5.00	ug/L	1	08/3/2012 11:16
4-Chlorotoluene	ND		1.00	ug/L	1	08/3/2012 11:16
4-Isopropyltoluene	ND		1.00	ug/L	1	08/3/2012 11:16
4-Methyl-2-pentanone	ND		5.00	ug/L	1	08/3/2012 11:16
Acetone	ND		25.0	ug/L	1	08/3/2012 11:16
Benzene	ND		1.00	ug/L	1	08/3/2012 11:16
Bromobenzene	ND		1.00	ug/L	1	08/3/2012 11:16
Bromochloromethane	ND		1.00	ug/L	1	08/3/2012 11:16
Bromodichloromethane	ND		1.00	ug/L	1	08/3/2012 11:16
Bromoform	ND		1.00	ug/L	1	08/3/2012 11:16
Bromomethane	ND		1.00	ug/L	1	08/3/2012 11:16
n-Butylbenzene	ND		1.00	ug/L	1	08/3/2012 11:16
Carbon disulfide	ND		1.00	ug/L	1	08/3/2012 11:16
Carbon tetrachloride	ND		1.00	ug/L	1	08/3/2012 11:16
Chlorobenzene	ND		1.00	ug/L	1	08/3/2012 11:16
Chloroethane	ND		1.00	ug/L	1	08/3/2012 11:16
Chloroform	ND		1.00	ug/L	1	08/3/2012 11:16
Chloromethane	ND		1.00	ug/L	1	08/3/2012 11:16
Dibromochloromethane	ND		1.00	ug/L	1	08/3/2012 11:16
Dibromomethane	ND		1.00	ug/L	1	08/3/2012 11:16
Dichlorodifluoromethane	ND		5.00	ug/L	1	08/3/2012 11:16

Results of Trip Blank

Client Sample ID: **Trip Blank**
 Client Project ID: **NCDOT Pittsboro**
 Lab Sample ID: 31202456002-A
 Lab Project ID: 31202456

Collection Date: 08/01/2012 00:00
 Received Date: 08/03/2012 09:50
 Matrix: Water

Results by SW-846 8260B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND		1.00	ug/L	1	08/3/2012 11:16
trans-1,3-Dichloropropene	ND		1.00	ug/L	1	08/3/2012 11:16
Diisopropyl Ether	ND		1.00	ug/L	1	08/3/2012 11:16
Ethyl Benzene	ND		1.00	ug/L	1	08/3/2012 11:16
Hexachlorobutadiene	ND		1.00	ug/L	1	08/3/2012 11:16
Isopropylbenzene (Cumene)	ND		1.00	ug/L	1	08/3/2012 11:16
Methyl iodide	ND		1.00	ug/L	1	08/3/2012 11:16
Methylene chloride	ND		5.00	ug/L	1	08/3/2012 11:16
Naphthalene	ND		1.00	ug/L	1	08/3/2012 11:16
Styrene	ND		1.00	ug/L	1	08/3/2012 11:16
Tetrachloroethene	ND		1.00	ug/L	1	08/3/2012 11:16
Toluene	ND		1.00	ug/L	1	08/3/2012 11:16
Trichloroethene	ND		1.00	ug/L	1	08/3/2012 11:16
Trichlorofluoromethane	ND		1.00	ug/L	1	08/3/2012 11:16
Vinyl chloride	ND		1.00	ug/L	1	08/3/2012 11:16
Xylene (total)	ND		2.00	ug/L	1	08/3/2012 11:16
cis-1,2-Dichloroethene	ND		1.00	ug/L	1	08/3/2012 11:16
m,p-Xylene	ND		2.00	ug/L	1	08/3/2012 11:16
n-Propylbenzene	ND		1.00	ug/L	1	08/3/2012 11:16
o-Xylene	ND		1.00	ug/L	1	08/3/2012 11:16
sec-Butylbenzene	ND		1.00	ug/L	1	08/3/2012 11:16
tert-Butyl methyl ether (MTBE)	ND		1.00	ug/L	1	08/3/2012 11:16
tert-Butylbenzene	ND		1.00	ug/L	1	08/3/2012 11:16
trans-1,2-Dichloroethene	ND		1.00	ug/L	1	08/3/2012 11:16
trans-1,4-Dichloro-2-butene	ND		5.00	ug/L	1	08/3/2012 11:16
Surrogates						
1,2-Dichloroethane-d4	102		64.0-140	%	1	08/3/2012 11:16
4-Bromofluorobenzene	98.0		85.0-115	%	1	08/3/2012 11:16
Toluene d8	99.0		82.0-117	%	1	08/3/2012 11:16

Batch Information

Analytical Batch: **VMS2440**
 Analytical Method: **SW-846 8260B**
 Instrument: **MSD8**
 Analyst: **DVO**
 Analytical Date/Time: **08/03/2012 11:16**

Prep Batch: **VXX3757**
 Prep Method: **SW-846 5030B**
 Prep Date/Time: **08/03/2012 08:00**
 Prep Initial Wt./Vol.: **40 mL**
 Prep Extract Vol: **40 mL**

Batch Summary

Analytical Method: SW-846 8260B

Prep Method: SW-846 5030B

Prep Batch: VXX3757

Prep Date: 08/03/2012 08:21

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Analysis Date</u>	<u>Analytical Batch</u>	<u>Instrument</u>	<u>Analyst</u>
LCS for HBN 26417 [VXX/3757]	83400	08/03/2012 09:13	VMS2440	MSD8	DVO
LCSD for HBN 26417 [VXX/3757]	83401	08/03/2012 09:38	VMS2440	MSD8	DVO
MB for HBN 26417 [VXX/3757]	83402	08/03/2012 10:27	VMS2440	MSD8	DVO
Trip Blank	31202456002	08/03/2012 11:16	VMS2440	MSD8	DVO
Mitchell-080112	31202456001	08/03/2012 12:30	VMS2440	MSD8	DVO
UST1115-MW07(82633MS)	83519	08/03/2012 19:02	VMS2440	MSD8	DVO
UST1115-MW07(82633MSD)	83520	08/03/2012 19:27	VMS2440	MSD8	DVO

Method Blank

Blank ID: MB for HBN 26417 [VXX/3757]

Matrix: Water

Blank Lab ID: 83402

QC for Samples:

31202456001, 31202456002

Results by SW-846 8260B

Parameter	Result	Qual	LOQ/CL	Units	DF
Dichlorodifluoromethane	ND		5.00	ug/L	1
Chloromethane	ND		1.00	ug/L	1
Vinyl chloride	ND		1.00	ug/L	1
Bromomethane	ND		1.00	ug/L	1
Chloroethane	ND		1.00	ug/L	1
Trichlorofluoromethane	ND		1.00	ug/L	1
1,1-Dichloroethene	ND		1.00	ug/L	1
Acetone	ND		25.0	ug/L	1
Methylene chloride	ND		5.00	ug/L	1
trans-1,2-Dichloroethene	ND		1.00	ug/L	1
tert-Butyl methyl ether (MTBE)	ND		1.00	ug/L	1
1,1-Dichloroethane	ND		1.00	ug/L	1
Diisopropyl Ether	ND		1.00	ug/L	1
2,2-Dichloropropane	ND		1.00	ug/L	1
cis-1,2-Dichloroethene	ND		1.00	ug/L	1
2-Butanone	ND		25.0	ug/L	1
Bromochloromethane	ND		1.00	ug/L	1
Chloroform	ND		1.00	ug/L	1
1,1,1-Trichloroethane	ND		1.00	ug/L	1
Carbon tetrachloride	ND		1.00	ug/L	1
1,1-Dichloropropene	ND		1.00	ug/L	1
Benzene	ND		1.00	ug/L	1
1,2-Dichloroethane	ND		1.00	ug/L	1
Trichloroethene	ND		1.00	ug/L	1
1,2-Dichloropropane	ND		1.00	ug/L	1
Dibromomethane	ND		1.00	ug/L	1
Bromodichloromethane	ND		1.00	ug/L	1
cis-1,3-Dichloropropene	ND		1.00	ug/L	1
4-Methyl-2-pentanone	ND		5.00	ug/L	1
Toluene	ND		1.00	ug/L	1
Methyl iodide	ND		1.00	ug/L	1
trans-1,3-Dichloropropene	ND		1.00	ug/L	1
Carbon disulfide	ND		1.00	ug/L	1
1,1,2-Trichloroethane	ND		1.00	ug/L	1
Tetrachloroethene	ND		1.00	ug/L	1
1,3-Dichloropropane	ND		1.00	ug/L	1
2-Hexanone	ND		5.00	ug/L	1
Dibromochloromethane	ND		1.00	ug/L	1
1,2-Dibromoethane	ND		1.00	ug/L	1
Chlorobenzene	ND		1.00	ug/L	1
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L	1
Bromoform	ND		1.00	ug/L	1

Method Blank

Blank ID: MB for HBN 26417 [VXX/3757]
 Blank Lab ID: 83402
 QC for Samples:
 31202456001, 31202456002

Matrix: Water

Results by SW-846 8260B

Parameter	Result	Qual	LOQ/CL	Units	DF
Bromobenzene	ND		1.00	ug/L	1
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L	1
1,2,3-Trichloropropane	ND		1.00	ug/L	1
Ethyl Benzene	ND		1.00	ug/L	1
m,p-Xylene	ND		2.00	ug/L	1
Styrene	ND		1.00	ug/L	1
o-Xylene	ND		1.00	ug/L	1
Xylene (total)	ND		2.00	ug/L	1
Isopropylbenzene (Cumene)	ND		1.00	ug/L	1
n-Propylbenzene	ND		1.00	ug/L	1
2-Chlorotoluene	ND		1.00	ug/L	1
4-Chlorotoluene	ND		1.00	ug/L	1
1,3,5-Trimethylbenzene	ND		1.00	ug/L	1
tert-Butylbenzene	ND		1.00	ug/L	1
1,2,4-Trimethylbenzene	ND		1.00	ug/L	1
sec-Butylbenzene	ND		1.00	ug/L	1
1,3-Dichlorobenzene	ND		1.00	ug/L	1
4-Isopropyltoluene	ND		1.00	ug/L	1
1,4-Dichlorobenzene	ND		1.00	ug/L	1
1,2-Dichlorobenzene	ND		1.00	ug/L	1
n-Butylbenzene	ND		1.00	ug/L	1
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1
1,2,4-Trichlorobenzene	ND		1.00	ug/L	1
Hexachlorobutadiene	ND		1.00	ug/L	1
Naphthalene	ND		1.00	ug/L	1
trans-1,4-Dichloro-2-butene	ND		5.00	ug/L	1
1,2,3-Trichlorobenzene	ND		1.00	ug/L	1
Surrogates					
1,2-Dichloroethane-d4	98.0		64.0-140	%	1
Toluene d8	97.0		82.0-117	%	1
4-Bromofluorobenzene	102		85.0-115	%	1

Batch Information

Analytical Batch: VMS2440
 Analytical Method: SW-846 8260B
 Instrument: MSD8
 Analyst: DVO
 Analytical Date/Time: 8/3/2012 10:27:00AM

Prep Batch: VXX3757
 Prep Method: SW-846 5030B
 Prep Date/Time: 8/3/2012 8:21:06AM
 Prep Initial Wt./Vol.: 40 mL
 Prep Extract Vol: 40 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 26417 [VXX/3757]
 Blank Spike Lab ID: 83400
 Date Analyzed: 08/03/2012 09:13

Spike Duplicate ID: LCSD for HBN 26417 [VXX/3757]
 Spike Duplicate Lab ID: 83401
 Date Analyzed: 08/03/2012 09:38
 Matrix: Water

QC for Samples: 31202456001, 31202456002

Results by SW-846 8260B

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Dichlorodifluoromethane	5.00	6.02	120	5.00	5.15	103	33.0-170	16	30.00
Chloromethane	5.00	5.13	103	5.00	4.83	97	57.0-132	6.0	30.00
Vinyl chloride	5.00	5.81	116	5.00	4.80	96	59.0-138	19	30.00
Bromomethane	5.00	6.38	128	5.00	5.74	115	51.0-134	11	30.00
Chloroethane	5.00	6.66	133	5.00	5.65	113	64.0-145	16	30.00
Trichlorofluoromethane	5.00	5.45	109	5.00	4.99	100	64.0-133	8.8	30.00
1,1-Dichloroethene	5.00	5.75	115	5.00	4.65	93	71.0-128	21	30.00
Acetone	25.0	29.0	116	25.0	ND	100	52.0-140	15	30.00
Methylene chloride	5.00	5.46	109	5.00	ND	95	70.0-113	14	30.00
trans-1,2-Dichloroethene	5.00	5.81	116	5.00	5.06	101	57.0-138	14	30.00
tert-Butyl methyl ether (MTBE)	5.00	5.45	109	5.00	4.44	89	47.0-142	20	30.00
1,1-Dichloroethane	5.00	5.42	108	5.00	4.82	96	68.0-133	12	30.00
Diisopropyl Ether	5.00	5.53	111	5.00	4.70	94	66.0-132	16	30.00
2,2-Dichloropropane	5.00	5.98	120	5.00	5.23	105	74.0-125	13	30.00
cis-1,2-Dichloroethene	5.00	5.75	115	5.00	4.81	96	73.0-128	18	30.00
2-Butanone	25.0	26.4	106	25.0	ND	93	58.0-134	13	30.00
Bromochloromethane	5.00	5.42	108	5.00	4.54	91	73.0-128	18	30.00
Chloroform	5.00	5.50	110	5.00	4.65	93	74.0-124	17	30.00
1,1,1-Trichloroethane	5.00	5.57	111	5.00	4.75	95	76.0-119	16	30.00
Carbon tetrachloride	5.00	5.78	116	5.00	4.86	97	75.0-120	17	30.00
1,1-Dichloropropene	5.00	5.70	114	5.00	4.74	95	76.0-124	18	30.00
Benzene	5.00	5.70	114	5.00	4.73	95	76.0-124	19	30.00
1,2-Dichloroethane	5.00	5.60	112	5.00	4.72	94	76.0-119	17	30.00
Trichloroethene	5.00	5.55	111	5.00	4.66	93	74.0-121	17	30.00
1,2-Dichloropropane	5.00	5.50	110	5.00	4.67	93	74.0-124	16	30.00
Dibromomethane	5.00	5.25	105	5.00	4.31	86	71.0-128	20	30.00
Bromodichloromethane	5.00	5.05	101	5.00	4.69	94	72.0-120	7.4	30.00
cis-1,3-Dichloropropene	5.00	5.34	107	5.00	4.64	93	73.0-122	14	30.00
4-Methyl-2-pentanone	25.0	28.0	112	25.0	22.5	90	65.0-124	22	30.00
Toluene	5.00	5.22	104	5.00	4.60	92	75.0-123	13	30.00
Methyl iodide	5.00	5.21	104	5.00	4.72	94	55.0-123	9.9	30.00
trans-1,3-Dichloropropene	5.00	5.47	109	5.00	4.88	98	70.0-125	11	30.00
Carbon disulfide	5.00	5.52	110	5.00	4.71	94	65.0-132	16	30.00
1,1,2-Trichloroethane	5.00	5.26	105	5.00	4.66	93	76.0-121	12	30.00

Blank Spike Summary

Blank Spike ID: LCS for HBN 26417 [VXX/3757]
 Blank Spike Lab ID: 83400
 Date Analyzed: 08/03/2012 09:13

Spike Duplicate ID: LCSD for HBN 26417 [VXX/3757]
 Spike Duplicate Lab ID: 83401
 Date Analyzed: 08/03/2012 09:38
 Matrix: Water

QC for Samples: 31202456001, 31202456002

Results by SW-846 8260B

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Tetrachloroethene	5.00	5.17	103	5.00	4.94	99	59.0-112	4.5	30.00
1,3-Dichloropropane	5.00	5.51	110	5.00	4.62	92	74.0-120	18	30.00
2-Hexanone	25.0	27.5	110	25.0	23.9	96	56.0-133	14	30.00
Dibromochloromethane	5.00	5.23	105	5.00	4.93	99	67.0-122	5.9	30.00
1,2-Dibromoethane	5.00	5.41	108	5.00	4.86	97	74.0-119	11	30.00
Chlorobenzene	5.00	5.36	107	5.00	4.61	92	74.0-120	15	30.00
1,1,1,2-Tetrachloroethane	5.00	5.73	115	5.00	4.99	100	73.0-119	14	30.00
Bromoform	5.00	4.90	98	5.00	4.78	96	62.0-127	2.5	30.00
Bromobenzene	5.00	5.17	103	5.00	4.79	96	75.0-120	7.6	30.00
1,1,2,2-Tetrachloroethane	5.00	5.25	105	5.00	4.57	91	68.0-129	14	30.00
1,2,3-Trichloropropane	5.00	5.09	102	5.00	4.33	87	67.0-126	16	30.00
Ethyl Benzene	5.00	5.23	105	5.00	4.35	87	76.0-123	18	30.00
m,p-Xylene	10.0	10.6	106	10.0	8.77	88	76.0-124	19	30.00
Styrene	5.00	5.15	103	5.00	4.35	87	76.0-121	17	30.00
o-Xylene	5.00	5.23	105	5.00	4.29	86	75.0-124	20	30.00
Isopropylbenzene (Cumene)	5.00	5.19	104	5.00	4.42	88	77.0-120	16	30.00
n-Propylbenzene	5.00	5.46	109	5.00	4.41	88	77.0-123	21	30.00
2-Chlorotoluene	5.00	5.28	106	5.00	4.43	89	74.0-127	18	30.00
4-Chlorotoluene	5.00	5.04	101	5.00	4.48	90	77.0-123	12	30.00
1,3,5-Trimethylbenzene	5.00	5.14	103	5.00	4.52	90	76.0-122	13	30.00
tert-Butylbenzene	5.00	5.31	106	5.00	4.32	86	67.0-122	21	30.00
1,2,4-Trimethylbenzene	5.00	5.23	105	5.00	4.52	90	76.0-124	15	30.00
sec-Butylbenzene	5.00	5.09	102	5.00	4.58	92	78.0-121	11	30.00
1,3-Dichlorobenzene	5.00	5.27	105	5.00	4.71	94	75.0-120	11	30.00
4-Isopropyltoluene	5.00	5.46	109	5.00	4.45	89	77.0-120	20	30.00
1,4-Dichlorobenzene	5.00	5.39	108	5.00	4.72	94	70.0-125	13	30.00
1,2-Dichlorobenzene	5.00	5.50	110	5.00	4.79	96	76.0-118	14	30.00
n-Butylbenzene	5.00	5.72	114	5.00	4.82	96	78.0-118	17	30.00
1,2-Dibromo-3-chloropropane	30.0	32.9	110	30.0	27.2	91	62.0-130	19	30.00
1,2,4-Trichlorobenzene	5.00	5.35	107	5.00	4.71	94	72.0-119	13	30.00
Hexachlorobutadiene	5.00	5.04	101	5.00	4.28	86	69.0-121	16	30.00
Naphthalene	5.00	5.40	108	5.00	4.49	90	67.0-122	18	30.00
trans-1,4-Dichloro-2-butene	25.0	27.6	110	25.0	23.2	93	61.0-132	17	30.00
1,2,3-Trichlorobenzene	5.00	4.83	97	5.00	4.07	81	68.0-123	17	30.00

Blank Spike Summary

Blank Spike ID: LCS for HBN 26417 [VXX/3757]
 Blank Spike Lab ID: 83400
 Date Analyzed: 08/03/2012 09:13

Spike Duplicate ID: LCSD for HBN 26417 [VXX/3757]
 Spike Duplicate Lab ID: 83401
 Date Analyzed: 08/03/2012 09:38
 Matrix: Water

QC for Samples: 31202456001, 31202456002

Results by SW-846 8260B

Parameter	Blank Spike (%)			Spike Duplicate (%)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Surrogates									
1,2-Dichloroethane-d4			99			103	64.0-140		
Toluene d8			101			98	82.0-117		
4-Bromofluorobenzene			100			105	85.0-115		

Batch Information

Analytical Batch: **VMS2440**
 Analytical Method: **SW-846 8260B**
 Instrument: **MSD8**
 Analyst: **DVO**

Prep Batch: **VXX3757**
 Prep Method: **SW-846 5030B**
 Prep Date/Time: **08/03/2012 08:21**
 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: XXX2889

Prep Date: 08/06/2012 09:06

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Analysis Date</u>	<u>Analytical Batch</u>	<u>Instrument</u>	<u>Analyst</u>
MB for HBN 26753 [XXX/2889]	83763	08/07/2012 09:38	XMS1627	MSD10	CMP
LCS for HBN 26753 [XXX/2889]	83764	08/07/2012 10:01	XMS1627	MSD10	CMP
LCSD for HBN 26753 [XXX/2889]	83765	08/07/2012 10:24	XMS1627	MSD10	CMP
Mitchell-080112	31202456001	08/07/2012 10:47	XMS1627	MSD10	CMP

Method Blank

Blank ID: MB for HBN 26753 [XXX/2889]
 Blank Lab ID: 83763
 QC for Samples:
 31202456001

Matrix: Water

Results by SW-846 8270D

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>
1,4 Dioxane	ND		2.00	ug/L	1
Surrogates					
Nitrobenzene-d5	72.6		46.0-118	%	1

Batch Information

Analytical Batch: XMS1627
 Analytical Method: SW-846 8270D
 Instrument: MSD10
 Analyst: CMP
 Analytical Date/Time: 8/7/2012 9:38:00AM

Prep Batch: XXX2889
 Prep Method: SW-846 3520C
 Prep Date/Time: 8/6/2012 9:06:22AM
 Prep Initial Wt./Vol.: 1000 mL
 Prep Extract Vol: 1 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 26753 [XXX/2889]
 Blank Spike Lab ID: 83764
 Date Analyzed: 08/07/2012 10:01

Spike Duplicate ID: LCSD for HBN 26753 [XXX/2889]
 Spike Duplicate Lab ID: 83765
 Date Analyzed: 08/07/2012 10:24
 Matrix: Water

QC for Samples: 31202456001

Results by SW-846 8270D

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
1,4 Dioxane	10.0	5.87	59	10.0	6.49	65	35.0-100	10	30.00
Surrogates									
Nitrobenzene-d5			101			97.6	46.0-118		

Batch Information

Analytical Batch: XMS1627
 Analytical Method: SW-846 8270D
 Instrument: MSD10
 Analyst: CMP

Prep Batch: XXX2889
 Prep Method: SW-846 3520C
 Prep Date/Time: 08/06/2012 09:06
 Spike Init Wt./Vol.: 1000 mL Extract Vol: 1 mL
 Dupe Init Wt./Vol.: 1000 mL Extract Vol: 1 mL



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1 CLIENT: Aecom PHONE NO: (919) 239-7140 PAGE 1 OF 1

CONTACT: Matt Brennan SITE/PWSID#: B-11 TO MCNT PITSBORO

PROJECT: MCNT PITSBORO REPORTS TO: Matt.Brennan@Aecom.com FAX NO.:()

INVOICE TO: MCNT QUOTE #: 60246616.1 P.O. NUMBER:

SGS Reference: 60246616.1 31202456

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	No CONTAINERS	SAMPLE TYPE	C= COMP G= GRAB	Preservatives Used	Analysis Required	REMARKS
	<u>Mitchell-08011a</u>	<u>8/11/12</u>	<u>1230</u>	<u>GW</u>	<u>3</u>	<u>G</u>		<u>ML</u>	<u>(3)</u>	
	<u>Mitchell-08011a</u>	<u>8/11/12</u>	<u>1230</u>	<u>GW</u>	<u>2</u>	<u>G</u>				
	<u>Trip Blank</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>1</u>	<u>-</u>				

2

3

4

5

Shipping Carrier: _____
 Shipping Ticket No: _____
 Samples Received Cold? (Circle) YES NO
 Temperature °C: 5.1
 Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Special Deliverable Requirements: _____
 Special Instructions: Bill to MCNT
RUSH 48 hour turn around
 Requested Turnaround Time: _____
 Date Needed: _____

Collected/Relinquished By: (1) A. Blumberg Date 8/11/12 Time 1530
 Received By: A. Blumberg
 Relinquished By: (2) A. Blumberg Date 8/11/12 Time 0950
 Received By: Bill Brennan
 Relinquished By: (3) _____ Date _____ Time _____
 Received By: _____
 Relinquished By: (4) _____ Date _____ Time _____

Memorandum

To Chris Mason – AECOM Raleigh Page 1

CC

Subject Level 2 Data Validation for NCDOT-Pittsboro Groundwater Samples

From Robert Davis – AECOM Atlanta

Date May 1, 2012

Limited validation was performed on one data package from SGS Environmental Services in Wilmington, North Carolina for groundwater samples. The samples were collected at the NCDOT site in Pittsboro, North Carolina on April 11-12, 2012.

The data were reviewed for conformance to method specifications and the validation criteria set forth in the *USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Superfund Organic Methods Data Review*, USEPA-540-R-07-003, July 2008, with additional reference to *USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Organic Data Review*, EPA 540/R-99-008, May 1999 as they applied to the methodology used. Inorganic data were evaluated based on method specifications and the validation criteria set forth in the *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, EPA-540-R-04-004, January 2010, as they applied to the analytical methods employed. Field duplicate RPD control limits were taken from the *USEPA Region I Laboratory Data Validation Functional Guidelines for Evaluating Organics Analyses*, February 1988, upheld in DRAFT 1993.

The following analytical methods were requested on the chain-of-custody records (COCs):

- Method 8260B – Volatile Organic Compounds (VOC) by Gas Chromatography/Mass Spectrometry (GC/MS).

Review Elements

Sample data were reviewed for the following parameters:

- Agreement of analyses conducted with chain-of-custody (COC) requests
- Holding times/sample preservation
- Method blanks/trip blanks
- Surrogate results

- Laboratory control sample (LCS) results
- Matrix spike/matrix spike duplicate (MS/MSD) results
- Field precision results

Samples

AECOM Environment collected the following groundwater samples from the NCDOT site in Pittsboro, North Carolina.

31201090

Lab ID	Sample ID	Lab ID	Sample ID
31201090001	48MW-17	31201090016	48MW-10
31201090002	48MW-4R	31201090017	48MW-5
31201090003	48DW-1	31201090018	48SW-1
31201090004	48MW-15	31201090019	48MW-11R
31201090005	48DW-4	31201090020	48MW-16
31201090006	48MW-12	31201090021	48MW-1
31201090007	48MW-14	31201090022	48DW-6
31201090008	48MW-3	31201090023	48DUP-1
31201090009	48DW-3	31201090024	48DW-7
31201090010	48MW-2	31201090025	48DW-8
31201090011	48EB-1	31201090026	48DW-2
31201090012	48PW-2	31201090027	48DW-5
31201090013	48RW-1	31201090028	48SVE-01
31201090014	48RW-2	31201090029	48EB-02
31201090015	48MW-13	31201090030	Trip Blank

Analytical Results

In general, the data are valid as reported and may be used for decision making purposes. Sample data are qualified with "UJ" (The analyte was not detected; however, the reported quantitation limit is approximated and may be inaccurate or imprecise). See Table 1.

Method 8260B: Samples 48RW-1, 48RW-2, 48MW-16, 48DW-8, 48DW-5, and 38SVE-01 required analysis at a dilution in order to bring several of the compound concentrations into the calibration range, resulting in elevated detection limits.

Discussion

Agreement of Analyses Conducted with COC Requests

Laboratory sample reports were checked to verify that the results corresponded to analytical requests as designated on the COC. No discrepancies were noted.

Holding Times and Preservation

All samples were analyzed within the holding times required by the methods.

The sample cooler temperature upon receipt was within the acceptable range of 4 ± 2 °C.

All samples that required chemical preservation were chemically preserved to the proper pH.

Method Blanks/Trip Blanks

No analytes were detected at concentrations exceeding the reporting limits for the method blanks or trip blanks.

Surrogate Results

The surrogate recoveries were acceptable for all organic analyses.

Laboratory Control Sample Results

Laboratory control standards (LCS) for all of the analyses were within the quality control limits with the following exceptions:

HBN 22514 Method 8260B: The LCSD recoveries were outside of the quality control limits biased high for 1,1,1-Trichloroethane and Carbon tetrachloride. All of the associated samples were non-detect for 1,1,1-Trichloroethane and Carbon tetrachloride; therefore, data qualification was not required.

Matrix Spike/Matrix Spike Duplicate Results

Matrix spike and matrix spike duplicates that were performed on non-project samples were not evaluated because matrix similarity to project samples could not be assumed.

The matrix spike/matrix spike duplicate (MS/MSD) recoveries and precision on client samples were all within the advisory limits with the following exceptions:

Method 8260B: The MS/MSD recoveries for 1,1,1-Trichloroethane in sample 48MW-16 were outside of the quality control limit biased high. Sample 48MW-16 was non-detect for 1,1,1-Trichloroethane; therefore, data qualification was not required.

Method 8260B: The MS recovery for o-Xylene in sample 48MW-16 was outside of the quality control limits biased low. The o-Xylene result for sample 48MW-16 was qualified. See Table 1.

Field Precision Results

A field duplicate was collected on sample 48MW-1. See Table 2 for the Relative Percent Differences (RPDs) for all compounds for which there were detections. The RPDs between the original and field duplicates were all within the acceptance criteria of 30%.

Table 1
Qualified Analytical Data

Sample ID	Method	Analyte	Lab Result	Lab Qualifier	Validated Result	Validation Qualifier ¹	Units	Reason Codes ²
48MW-16	8260B	o-Xylene	ND		20	UJ	µg/L	MS

¹: USEPA-defined data validation qualifiers applied in this data evaluation:

UJ: The analyte was not detected; however, the reported quantitation limit is approximated and may be inaccurate or imprecise.

²: Reason Codes:

MS: The matrix spike recovery was outside of the quality control limits.

Table 2
Field Precision

Method	Compound	48-MW-1	48DUP-1	Units	% RPD
8260B	1,1-Dichloroethene	2.22	2.22	µg/L	0
8260B	Tetrachloroethene	1.61	1.48	µg/L	8.4
8260B	Trichloroethene	16.2	16.1	µg/L	0.62

% RPD: Relative percent difference between the primary sample result and the sample duplicate result.

Memorandum

To Chris Mason – AECOM Raleigh Page 1

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Subject Level 2 Data Validation for NCDOT-Pittsboro Groundwater Samples

From Robert Davis – AECOM Atlanta

Date June 20, 2012

Limited validation was performed on one data package from SGS Environmental Services in Wilmington, North Carolina for groundwater samples. The samples were collected at the NCDOT site in Pittsboro, North Carolina on May 31, 2012.

The data were reviewed for conformance to method specifications and the validation criteria set forth in the *USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Superfund Organic Methods Data Review*, USEPA-540-R-07-003, July 2008, with additional reference to *USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Organic Data Review*, EPA 540/R-99-008, May 1999 as they applied to the methodology used. Inorganic data were evaluated based on method specifications and the validation criteria set forth in the *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, EPA-540-R-04-004, January 2010, as they applied to the analytical methods employed. Field duplicate RPD control limits were taken from the *USEPA Region I Laboratory Data Validation Functional Guidelines for Evaluating Organics Analyses*, February 1988, upheld in DRAFT 1993.

The following analytical methods were requested on the chain-of-custody records (COCs):

- Method 8260B – Volatile Organic Compounds (VOC) by Gas Chromatography/Mass Spectrometry (GC/MS).

Review Elements

Sample data were reviewed for the following parameters:

- Agreement of analyses conducted with chain-of-custody (COC) requests
- Holding times/sample preservation
- Method blanks/trip blanks
- Surrogate results

- Laboratory control sample (LCS) results
- Matrix spike/matrix spike duplicate (MS/MSD) results
- Field precision results

Samples

AECOM Environment collected the following groundwater samples from the NCDOT site in Pittsboro, North Carolina.

31201715

Lab ID	Sample ID	Lab ID	Sample ID
31201715001	48DW-8 (90)	31201715004	48SVE-01 (1030)
31201715002	48DW-8 (40)	31201715009	TB-01
31201715003	48SVE-01 (1010)	31201715010	TB-02

Analytical Results

In general, the data are valid as reported and may be used for decision making purposes. Sample data are qualified with "UJ" (The analyte was not detected; however, the reported quantitation limit is approximated and may be inaccurate or imprecise). See Table 1.

Method 8260B: Samples 48DW-8(90), 48DW-8(40), 48SVE-01(1010), and 48SVE-01(1030) required analysis at a dilution in order to bring several of the compound concentrations into the calibration range, resulting in elevated detection limits.

Discussion

Agreement of Analyses Conducted with COC Requests

Laboratory sample reports were checked to verify that the results corresponded to analytical requests as designated on the COC. No discrepancies were noted.

Holding Times and Preservation

All samples were analyzed within the holding times required by the methods.

The sample cooler temperature upon receipt was outside the acceptable range of 4 ± 2 °C at 0.2 °C. None of the samples were received broken or frozen by the laboratory. Based on professional judgment, data qualification was not required.

All samples that required chemical preservation were chemically preserved to the proper pH.

Method Blanks/Trip Blanks

No analytes were detected at concentrations exceeding the reporting limits for the method blanks or trip blanks.

Surrogate Results

The surrogate recoveries were acceptable for all organic analyses.

Laboratory Control Sample Results

Laboratory control standards (LCS) for all of the analyses were within the quality control limits with the following exceptions:

HBN 24310 Method 8260B: The LCS/LCSD recoveries were outside of the quality control limits biased high for Bromomethane. All of the associated samples were non-detect for Bromomethane; therefore, data qualification was not required.

HBN 24310 Method 8260B: The LCS/LCSD recoveries were outside of the quality control limits biased low for 4-Chlorotoluene. All of the associated samples were qualified. See Table 1.

HBN 24409 Method 8260B: The LCS recovery was outside of the quality control limits biased high for 1,2,3-Trichloropropane. All of the associated samples were non-detect for 1,2,3-Trichloropropane; therefore, data qualification was not required.

Matrix Spike/Matrix Spike Duplicate Results

Matrix spike and matrix spike duplicates that were performed on non-project samples were not evaluated because matrix similarity to project samples could not be assumed.

The matrix spike/matrix spike duplicate (MS/MSD) recoveries and precision on client samples were all within the advisory limits.

Field Precision Results

A field duplicate was not collected for this sample set.

Table 1
Qualified Analytical Data

Sample ID	Method	Analyte	Lab Result	Lab Qual.	Validated Result	Validation Qualifier ¹	Units	Reason Codes ²
48SVE-01(1010)	8260B	4-Chlorotoluene	ND		1600	UJ	µg/L	LCS
48SVE-01(1030)	8260B	4-Chlorotoluene	ND		1250	UJ	µg/L	LCS

¹: USEPA-defined data validation qualifiers applied in this data evaluation:

UJ: The analyte was not detected; however, the reported quantitation limit is approximated and may be inaccurate or imprecise.

²: Reason Codes:

LCS: The laboratory control spike recovery was outside of the quality control limits.

About AECOM

AECOM (NYSE: ACM) is a global provider of professional technical and management support services to a broad range of markets, including transportation, facilities, environmental, energy, water and government. With approximately 45,000 employees around the world, AECOM is a leader in all of the key markets that it serves. AECOM provides a blend of global reach, local knowledge, innovation, and collaborative technical excellence in delivering solutions that enhance and sustain the world's built, natural, and social environments. A *Fortune 500* company, AECOM serves clients in more than 130 countries and has annual revenue in excess of \$8.0 billion.

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AECOM
250 Apollo Drive
Chelmsford, Massachusetts 01824
T: +1.978.905.2100
F: +1.978.905.2101
AskEnvironment@aecom.com