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REMEDIAL ACTION PROGRESS REPORT: JANUARY THROUGH DECEMBER 2014

Lot 86 Farm Unit No. 1 Site
North Carolina State University
Raleigh, North Carolina

Prepared For:

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PROFESSIONAL CERTIFICATION

The *Remedial Action Progress Report: January through December 2014* for the North Carolina State University – Lot 86 Farm Unit No. 1 site has been prepared under the responsible charge of the following Professional Geologist registered in the State of North Carolina.

Printed Name	Signature
Date	Seal

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1.0 INTRODUCTION AND EXECUTIVE SUMMARY

This document presents a Remedial Action Progress Report (RAPR) for the North Carolina State University (NCSU) – Lot 86 Farm Unit No. 1 (Lot 86) site in Raleigh, North Carolina covering the period from January through December 2014. A groundwater extraction (GWE) system, for remediation of dissolved-phase groundwater chemicals of concern (COCs), was started at the site in September 2006 in accordance with the September 1996 Record of Decision (ROD) between NCSU and the U.S. Environmental Protection Agency (EPA).

This document presents site groundwater remediation objectives, GWE system specifications, GWE system monitoring and maintenance procedures, GWE operation statistics for the reporting period, groundwater monitoring procedures and results, and an evaluation of GWE system performance. Additional site background information is provided in the *Remedial Action Progress Report: September 2006 through December 2008*, prepared by Piedmont Geologic (January 2009). Summaries of GWE system operation and performance from startup in September 2006 through December 2014 are presented as follows.

Summary of GWE System Operation

GWE system startup date	September 26, 2006
Reporting period	Jan. 1 – Dec. 31, 2014
GWE system ON-time during reporting period	7,245 hours
GWE system OFF-time during reporting period	1,515 hours
GWE system ON-percentage during reporting period	83%
Total GWE system ON-time since startup	47,663 hours
Total GWE system ON-percentage since startup	66%
Volume of groundwater recovered/treated during reporting period	2,166,110 gallons
Mean groundwater recovery/treatment rate during reporting period	5.0 gpm
Total volume of groundwater recovered since GWE-system startup	9,659,278 gallons
Estimated mass of dissolved-phase VOCs* extracted during reporting period	354.7 lbs
Estimated mass of dissolved-phase VOCs extracted since system startup	1,515.0 lbs

VOC = volatile organic compounds

The wellhead for monitoring well MW-45 was found to be bent and damaged due to construction activities in 2012, which rendered it unusable for groundwater gauging or sampling. The well was decommissioned, and a replacement monitoring well (MW-45R) was installed, in May 2014.

Site groundwater potentiometric-surface contour maps continue to indicate groundwater drawdown and containment in the shallow and intermediate aquifer zones in response to pumping of site GWE wells. The potentiometric-surface contour maps generated for 2014 indicate much more pronounced groundwater drawdown and capture zones (as compared to years prior) for the shallow, intermediate, and to possibly

some extent, the deep aquifer zones. This is attributed to more efficient and continual operation of the GWE system following tie-in to the City of Raleigh sanitary sewer system in May 2013.

Comparison of May 2005 and August 2014 groundwater chloroform isoconcentration contour maps indicates some shrinkage of the lateral extent of the groundwater chloroform distribution in the shallow aquifer zone, particularly in the northern and southern site areas. Comparison of May 2005 and August 2014 chloroform isoconcentration contour maps for the intermediate aquifer zone indicates no demonstrable change in the groundwater chloroform distribution over time. Comparison of May 2005 to August 2014 maps for the deep aquifer zone indicates some expansion of the lateral extent of the groundwater chloroform distribution over time in the northeast and southeast directions. Graphs of groundwater COC concentrations versus time indicate generally decreasing, flat, or fluctuating trends in groundwater COC concentrations for most site monitoring wells with continued GWE system operation.

2.0 SITE BACKGROUND INFORMATION

The site location and layout are presented in Figures 1 through 3. Site groundwater monitoring well construction details are listed in Table 1. A complete description of site background information, including site descriptions, historical waste disposal and management practices, regulatory history, site geological/hydrogeological characteristics, and findings of environmental site investigations are provided in the *Remedial Action Progress Report: September 2006 through December 2008*, prepared by Piedmont Geologic (January 2009).

3.0 SUMMARY OF GROUNDWATER REMEDIATION OBJECTIVES

Site groundwater remediation activities were implemented in 2006 in accordance with the 1996 Record of Decision (ROD) issued by U.S. EPA. Groundwater remediation objectives established in the ROD are:

- Prevent COC migration to surface water to keep surface water COC levels from exceeding Ambient Water Quality Criteria (AWQC).
- Control future releases of COCs to ensure protection of human health and the environment (Superfund Amendments and Reauthorization Act (SARA) Section 121[d]).
- Permanently and significantly reduce mobility, toxicity, or volume of characteristic hazardous waste with treatment (SARA Section 121[d]).

Remedial Action Objectives for Groundwater

COC	Remediation Level (µg/L)	Basis
Benzene	1	NC groundwater standard (1)
Carbon tetrachloride	1	Contract Quantitation Limit (CRQL)
Chloroform	70	NC groundwater standard (1)
Methylene chloride (DCM)	5	NC groundwater standard (1)
Tetrachloroethene (PCE)	1	Contract Quantitation Limit (CRQL)
Acetone	700	NC groundwater standard (1)
Bromodichloromethane	1	Contract Quantitation Limit (CRQL)
1,2-Dichloropropane	1	Contract Quantitation Limit (CRQL)
1,1,2-Trichloroethane	1	Contract Quantitation Limit (CRQL)
Trichloroethene (TCE)	2.8	NC groundwater standard (1)
Manganese	370	Background concentration
Arsenic	10	Contract Quantitation Limit (CRQL)

(1) 15A NCAC 2L .0202 current in 2006

Cleanup goals for the site are the North Carolina groundwater quality standards defined in Title 15A NCAC 2L .0202 (2L Standards). For COCs with groundwater standards less than the laboratory practical quantitation limits (PQL), the PQL constitutes the groundwater cleanup goal. The site background groundwater concentration for manganese is the groundwater cleanup level for that compound.

4.0 GROUNDWATER EXTRACTION SYSTEM DESCRIPTION

The generalized layouts of the GWE wells and groundwater treatment system are shown in Figure 3 and Appendix A. A summary of the GWE system process and design is provided as follows.

- A conservative GWE system recovery and treatment design flow rate of 20 gallons per minute was selected based on the results of the pre-design pump test and groundwater flow modeling.
- The GWE system incorporates thirteen shallow GWE wells and four deep GWE wells. The shallow GWE wells are constructed of 4 inch inside diameter (I.D.), stainless-steel, well screen/casing and are installed to depths ranging from approximately 50 to 80 feet below grade (approximately 378 to 345 feet NGVD). The deep GWE wells are constructed of 4 inch I.D., stainless-steel, well screen/casing and are installed to depths ranging from approximately 118 to 152 feet below grade (approximately 310 to 265 feet NGVD), with outer 6 inch Schedule 40 PVC casings grouted into the top of bedrock. Each GWE wellhead is enclosed within a concrete vault that houses electrical and plumbing connections.
- Pumping depths of 380 feet NGVD for shallow GWE wells and 370 feet NGVD for deep GWE wells were selected to maximize groundwater flow from deeper to shallower aquifer zones.
- Contaminated groundwater is pumped from the GWE wells using dedicated, stainless-steel, variable-frequency drive, electric submersible pumps (Grundfos Redi-Flo3). Pump controls are located within a control panel located outside the groundwater treatment building. The pump speed (which controls groundwater recovery rate) is set manually for each well at the pump control panel. Each pump contains intrinsic protections that prevent the pump from running dry.
- Individual pump recovery lines manifold into a 2 inch I.D., high-density polyethylene (HDPE) header line that conveys recovered groundwater to the treatment building.
- Upon entering the treatment building, the GWE well header discharges to a 2,000 gallon equilibration tank. The equilibration tank incorporates ultrasonic level controls to provide for shut down of the system during high-level and low-level conditions. The effluent tank is controlled by a variable speed drive so that transfer-pump rates may be programmed to match influent groundwater recovery rates.
- Recovered groundwater is pumped from the equilibration tank through two bag filters plumbed in series (skid #1) to remove particulate matter from the raw groundwater influent.
- After passing through the skid #1 bag filters, influent groundwater is discharged to two, 10 gpm, four-tray, low-profile air strippers plumbed in parallel for dissolved volatile organic compound (VOC) removal. The airstripper sumps incorporate high-level and low-level controls that turn-on and turn-off, respectively, the airstripper sump transfer pumps.

- Treated groundwater effluent from the airstripper sumps is pumped to the City of Raleigh sanitary sewer system through a 6-inch I.D. PVC pipe in accordance with a City Industrial User Discharge Permit (IUDP).

The original GWE system design and operation from September 2006 through January 2012 included the following additional groundwater treatment processes after passing through the skid #2 bag filters. As explained below, these were taken off line permanently starting in June 2012.

- Treated groundwater effluent from the airstripper sumps was pumped to a 300 gallon intermediate tank. The intermediate tank incorporated high-level and low-level controls that turned on and turn off, respectively, the skid #2 transfer pump.
- Treated groundwater effluent was pumped from the intermediate tank through two bag filters plumbed in series (skid #2) to remove particulate matter generated from the airstripper treatment
- After passing through the skid #2 bag filters, treated groundwater effluent from the air strippers passed through two, 500 gallon, granular activated carbon (GAC) filter canisters plumbed in series for removal of organic compounds remaining following air stripping.
- After passing through the GAC filters, the treated groundwater effluent passed through two, 500 gallon, ion selective resin (i.e., ion exchange) (ISR) filter canisters plumbed in series for removal of mercury and other inorganics.
- After passing through the ISR filters, the final treated groundwater effluent discharged to a 350 gallon effluent tank. The effluent tank incorporates high-level and low-level controls that turn on and turn off, respectively, the effluent tank transfer pump.
- Final treated groundwater effluent was pumped from the effluent tank to the surface water discharge point through a 2 inch I.D. HDPE discharge pipe in accordance with a site National Pollution Discharge Elimination System (NPDES) permit.

As explained in the January-December 2012 RAPR (dated March 1, 2013), the site GWE system was shut down from January 25 through May 31, 2012 in response to recurring non-compliant results of chronic toxicity testing for GWE-system effluent groundwater samples collected as required under a former site NPDES discharge permit. A City of Raleigh IUDP was issued in May 2012 to allow for the discharge of treated groundwater from the GWE system to the City sanitary sewer system. Following the restart of the GWE system on June 1, 2012, treated groundwater was stored in a 21,000 gallon capacity on-site holding tank, which was offloaded on a weekly basis and discharged to a City of Raleigh sanitary sewer manhole located near the site, in accordance with the IUDP permit. This process continued through April 2013, at which time the GWE system was shut down again. A second City of Raleigh IUDP Permit was issued in May 2013 to allow for continuous discharge of treated groundwater from the GWE system directly into the

City sanitary sewer system via an underground discharge pipe. The GWE system was restarted on May 15, 2013, and operated through the end of the 2014 reporting period in accordance with the new discharge scenario.

5.0 GROUNDWATER EXTRACTION SYSTEM MONITORING AND MAINTENANCE

5.1 Overview

System operation and maintenance was conducted during the reporting period in accordance with the *Operation and Maintenance Plan: Groundwater Extraction System*, dated November 30, 2007, prepared by Piedmont Geologic. Routine O&M activities included the following.

- Weekly system visits by the Operator in Responsible Charge (ORC), or backup ORC, to meet City of Raleigh IUDP permit requirements and maintain the Groundwater Treatment System Log.
- Monthly sampling and analysis of GWE system effluent water (i.e., treated water) in accordance with the system NPDES and City of Raleigh permits.
- Monthly sampling and analysis of GWE system influent water (i.e., untreated water) for evaluation of recovery system efficacy.
- Remote monitoring of the system operation and onsite response to system upset conditions.
- Routine maintenance such as replacement of system bag filters.
- Quarterly collection and evaluation of groundwater potentiometric surface data from site monitoring wells.

5.2 Weekly System Visits by Operator in Responsible Charge

In accordance with the system NPDES permit, weekly system visits were conducted by the ORC, or backup ORC, to inspect the GWE system treatment components and discharge point. The site visits also included visual inspection of all system equipment; recording of gauge and meter readings for pumps, air strippers, bag filters, and other components; checks for air and water leaks from system components; and inspection of the GWE system effluent water for floating solids, foam, or sheens.

5.3 Remote Monitoring of System Operation and Response to System Upset Conditions

The system telemetry unit (EOS B2) was retrofitted in May 2014 to allow for remote communication with the unit via the internet, rather than a telephone landline. Prior to the upgrade, the telemetry unit was programmed to transmit reports via facsimile, while the retrofitted unit is programmed to transmit email reports to Piedmont Geologic personnel, as follows, using a standardized transmittal form.

- Daily (routine) reports: the telemetry system is programmed to automatically send a report email each morning (7 days per week) that shows a "snapshot" of system operating conditions and the current system effluent totalizer reading (i.e., total gallons of groundwater effluent discharged by system).
- Alarm (system upset) reports: alarm report emails are sent in response to system alarms or upsets, such as high-level conditions in sumps/tanks, low pressure or high pressure conditions in the air stripper, high-pressure conditions in filter vessels, and/or other system shutdown conditions.

Prior to the retrofit in May 2014, daily reports and alarm reports were transmitted to Piedmont Geologic's office via facsimile, under the same conditions as above. Facsimile and, subsequently, email reports were reviewed on a daily basis during the reporting period to determine the general operating condition of the system. The 24-hour average groundwater recovery and discharge rate was calculated each day using the daily system effluent totalizer reading. Logged operational data in the telemetry system was downloaded and reviewed for problems. When system problems or issues were observed, NCSU was promptly notified and response measures were conducted.

Alarm facsimiles/emails were reviewed upon receipt to determine the nature of the alarm and to develop an appropriate response action. The NCSU project manager was informed of alarm conditions within one business day of the alarm, and appropriate system maintenance and/or repairs were conducted.

5.4 Routine Operation and Maintenance Activities

Routine O&M activities were conducted during the reporting period to optimize system on-time and performance, including the following.

- Weekly, or as-needed, changing of 50 micron bag filters in each of the four bag filter canisters.
- As-needed cleaning of air-stripper sump sight tubes and skid #1 and #2 flow meters.
- Floor-sump pump cleaning and adjustments.
- Equipment lubricating.

5.5 Quarterly Groundwater Potentiometric Surface Data Evaluation

Groundwater levels were measured in site monitoring wells on a quarterly basis during the reporting period. Groundwater potentiometric surface contour maps for the shallow, intermediate, and deep aquifer

zones were developed from the groundwater-level data. The maps were reviewed to evaluate performance of the GWE system in terms of containment and capture of the site groundwater COC plume.

Quarterly monitoring-well gauging events for measurement of groundwater levels were conducted during the reporting period in February, May, August, and November 2014. Groundwater level data are provided in Tables 2 through 5, respectively.

5.6 GWE System Effluent and Influent Water Sampling/Analysis

Monthly sampling and laboratory analysis of groundwater treatment system effluent groundwater was conducted in accordance with the requirements of the site City of Raleigh IUDP during the reporting period. Sampling activities were documented using the system log described above, and samples were analyzed by North Carolina certified laboratories. GWE system effluent monitoring and performance requirements for the City of Raleigh Pretreatment permit are listed as follows.

GWE System Effluent-Groundwater Analyses and Discharge Limitations
(City of Raleigh Industrial User Discharge Permit)

Parameter	Discharge Limits		Monitoring Requirements	
	Monthly Average	Daily Maximum	Frequency	Sample Type
Flow	--	12,000 gpd	continuous	recording
pH	--	--	each discharge event	grab
Mercury	--	--	1/month	grab
Arsenic	--	--	1/2months	grab
Copper	--	--	1/2months	grab
Iron	--	--	1/2months	grab
Lead	--	--	1/2months	grab
Zinc	--	--	1/2months	grab
Manganese	--	--	1/2months	grab
Molybdenum	--	--	1/6months	grab
Selenium	--	--	1/6months	grab
Silver	--	--	1/6months	grab
Cadmium	--	--	1/6months	grab
Chromium	--	--	1/6months	grab
Nickel	--	--	1/6months	grab
Benzene	--	--	1/month	grab
Carbon Tetrachloroethene	--	--	1/month	grab
Toluene	--	--	1/month	grab
1,1,2,2-Tetrachloroethane	--	--	1/month	grab
Trichloroethene	--	--	1/month	grab
Chloroform	--	--	1/month	grab
1,2-Dibromoethane	--	--	1/month	grab
1,2-Dichloropropane	--	--	1/month	grab
Tetrachloroethene	--	--	1/month	grab

(continued)

GWE System Effluent-Groundwater Analyses and Discharge Limitations
(City of Raleigh Industrial User Discharge Permit) (continued)

Parameter	Discharge Limits		Monitoring Requirements	
	Monthly Average	Daily Maximum	Frequency	Sample Type
1,4-Dioxane	--	--	1/month	grab
Tritium	--	--	1/12months	grab
Gross beta activity	--	--	1/12months	grab

pH analysis was conducted by Piedmont Geologic (NC Certification #5560). Gross beta and tritium analyses were conducted by Test America Laboratories, Inc. (Test America) of St. Louis, Missouri (NELAP Certification #E87689). The remaining analyses were conducted by Environmental Science Corp. (ESC) of Mt. Juliet, Tennessee (NC Certification #375).

GWE system influent-groundwater (i.e., untreated water) samples were collected on a monthly basis in conjunction with the effluent groundwater sampling discussed above. The influent-groundwater samples were collected from a sample port in the influent water pipe prior to discharge into the process water tank. The samples were submitted to ESC and analyzed for VOCs by EPA Method 8260.

6.0 GROUNDWATER EXTRACTION SYSTEM OPERATION

6.1 Operation Summary

The GWE well pumps were on for a total of approximately 7,245 hours and were off for a total of approximately 1,515 hours during the January through December 2014 reporting period, for a total on-time percentage of approximately 83%. The largest portion of GWE system downtime was attributed to the system shutdown in May 2014, during which time the EOS telemetry unit was being retrofitted (Section 5.3). Remaining system downtime was the result of temporary power losses, malfunctions of the process water tank sonic water-level sensor, and various other minor system issues.

A total of approximately 2,166,110 gallons of groundwater were recovered, treated, and discharged during January-December 2014, at an average groundwater recovery rate of approximately 5.0 gallons per minute (gpm). A total of approximately 9,659,278 gallons of groundwater was recovered, treated, and discharged by the GWE system from system start up in September 2006 through December 2014. The average groundwater recovery rate during 2014 was greater than the average recovery rates for 2013 (2.6 gpm), 2012 (2.1 gpm), and 2010 (4.9 gpm). The lower groundwater recovery rates experience from 2012-2013 was the result of the recovery pump motor-speed settings being adjusted in an effort to balance the recovery rate with the discharge tank (i.e., holding tank) volume while operating the GWE well pumps as continuously as possible in concert with the weekly holding tank offloading schedule that was under implementation during that time. After direct discharge of GWE-system effluent to the City of Raleigh sanitary sewer was initiated in May 2013, the motor speeds for the GWE pumps were increased to the maximum recommended levels in November 2013.

From system startup in September 2006 to June 2008, all seventeen GWE wells were in service. Upon receipt of results of laboratory analysis of May 2008 groundwater samples in early June 2008, it was realized that increased dissolved COC concentrations had been detected in groundwater samples collected from intermediate and deep monitoring wells compared to the previous (May 2005) groundwater samples, collected prior to startup of the GWE system. As a result, concerns arose that groundwater pumping from the deep GWE wells could result in unwanted migration of dissolved COCs from the shallow saprolite aquifer to the deeper saprolite aquifer and the bedrock aquifer. In response, deep GWE wells DRW-A, B, C, and D were taken out of operation on June 10, 2008 and have remained off since that time.

6.2 GWE System Influent Monitoring Results and Mass Removal Calculations

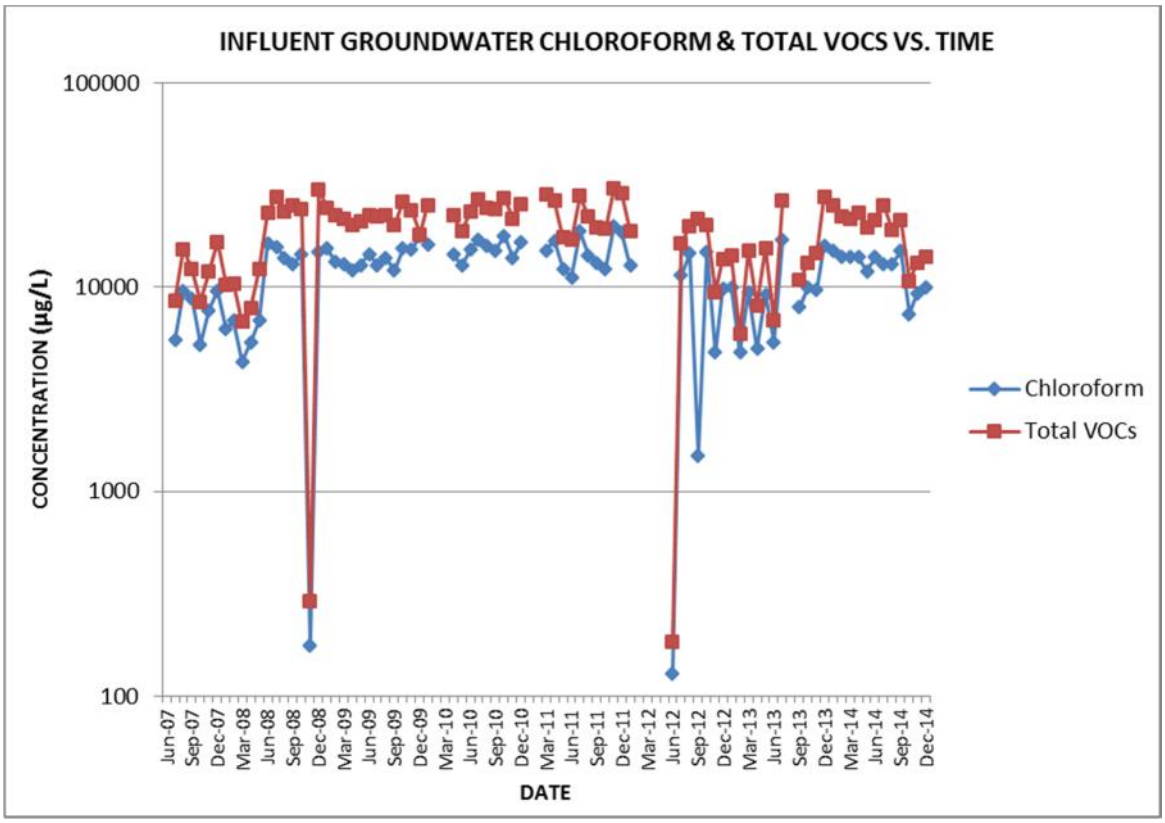
Results of laboratory analysis of monthly GWE system influent groundwater samples are tabulated in Table 6. The predominant groundwater COCs at the site in terms of frequency of detections and magnitude of concentrations are benzene, carbon tetrachloride, chloroform, 1,2-dichloropropane (1,2-DCP), 1,4-dioxane, and methylene chloride. A summary of laboratory results of analysis for monthly GWE system influent groundwater samples for 2014 is provided as follows.

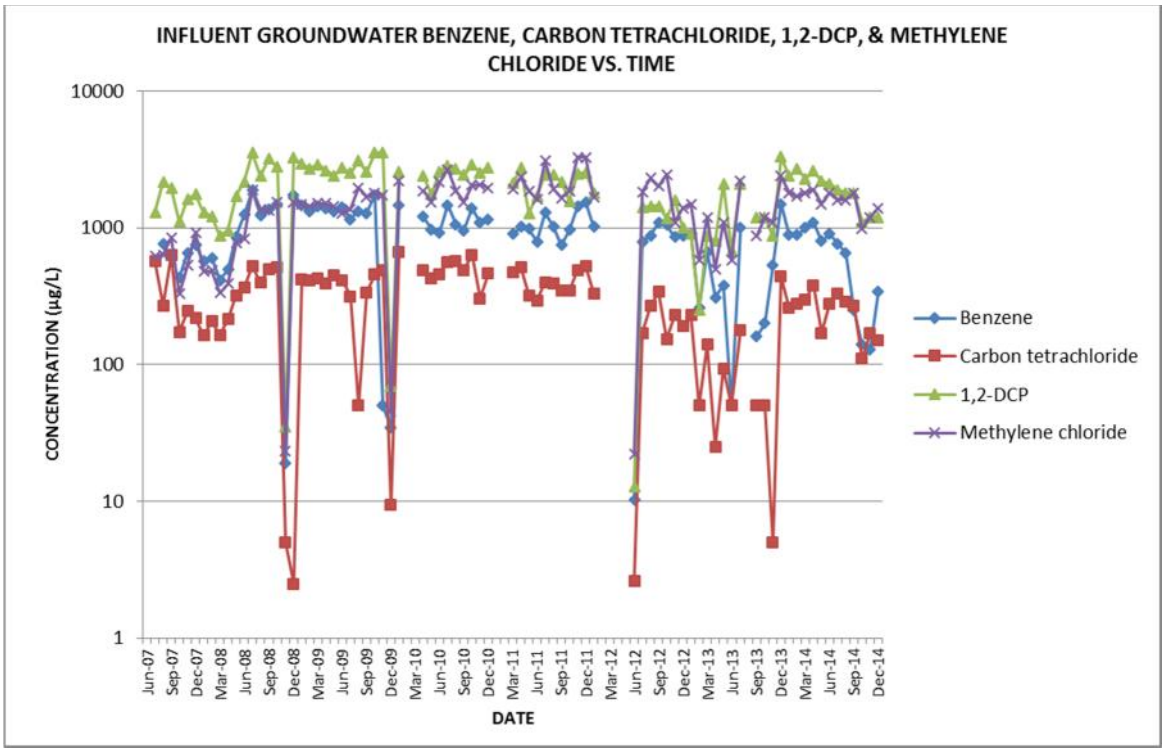
Summarized Results of Laboratory Analysis of GWE System Influent Samples

Sample Date / **Analyte (µg/L)**	**1/14**	**2/14**	**3/14**	**4/14**	**5/14**	**6/14**
Benzene	890	890	1,000	1,100	800	900
Carbon tetrachloride	260	280	300	380	170	280
Chloroform	15,000	14,000	14,000	14,000	12,000	14,000
1,2-DCP	2,400	2,700	2,300	2,600	2,200	2,100
1,4-Dioxane	2,000	<10,000	<10,000	1,500	1,500	<10,000
Methylene chloride	1,800	1,700	1,800	1,900	1,500	1,800
Total VOCs*	25,123	22,233	21,674	23,026	19,477	21,181
Sample Date / **Analyte (µg/L)**	**7/14**	**8/14**	**9/14**	**10/14**	**11/14**	**12/14**
Benzene	770	650	250	140	130	240
Carbon tetrachloride	330	290	270	110	170	150
Chloroform	13,000	13,000	15,000	7,400	9,300	10,000
1,2-DCP	1,900	1,800	1,800	1,100	1,200	1,200
1,4-Dioxane	<10,000	<10,000	<10,000	<10,000	<10,000	<10,000
Methylene chloride	1,600	1,600	1,800	980	1,200	1,400
Total VOCs*	25,115	18,980	21,320	10,707	13,099	14,035

* Total detected concentration of volatile organic compounds, including analytes listed in Table 6 not included in above summary.

Following are graphs of the groundwater COCs listed above, plus total VOC concentrations, versus time. Because 1,4-dioxane analysis for monthly GWE-system influent samples was not initiated until November 2012, it is excluded from the graphs. COCs not detected during any monthly analysis events are graphed at a value equal to one-half of the laboratory reporting limit.


INFLUENT GROUNDWATER CHLOROFORM & TOTAL VOCS VS. TIME
CONCENTRATION (µg/L)
100000
10000
1000
100
DATE
Chloroform
Total VOCs


INFLUENT GROUNDWATER BENZENE, CARBON TETRACHLORIDE, 1,2-DCP, & METHYLENE CHLORIDE VS. TIME
CONCENTRATION (µg/L)
10000
1000
100
10
1
DATE
Benzene
Carbon tetrachloride
1,2-DCP
Methylene chloride

The increase in influent groundwater VOC concentrations following June 2008 corresponds with the cessation of pumping of the deep GWE wells in June 2008. Influent groundwater VOC concentrations were generally higher in 2014 as compared to those observed from 2012 through 2013.

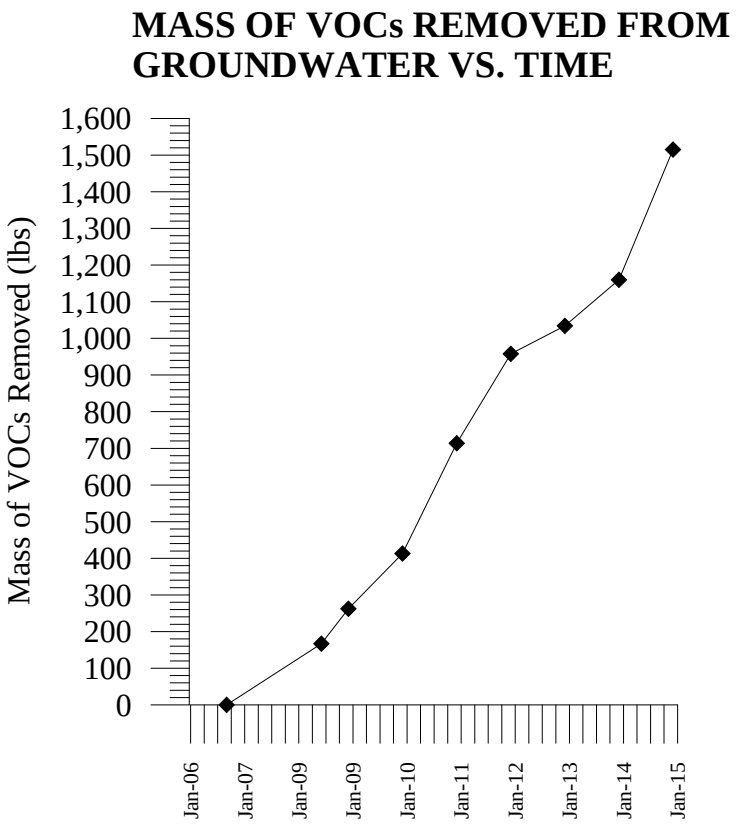
The estimated mass of total dissolved-phase VOCs removed from site groundwater through GWE during the reporting period is calculated as follows, along with VOC mass-removal calculations for previous reporting periods. The calculations incorporate the mean detected groundwater influent total VOC concentrations based on monthly analysis results during the reporting period.

Estimated Masses of VOCs Removed by the GWE System

	A	**B**	**C**	**D**	**E**	**F**
Period	**Mean Total VOCs (mg/L)**	**Ground-water Volume (gal)**	**Conversion Factor (L/gal)**	**Conversion Factor (g/mg)**	**Conversion Factor (lbs/g)**	**Mass Removed (lbs)**
9/26/06 – 6/9/08	10.981	1,825,593	3.785	0.001	0.0022	166.9
6/10/08 – 12/31/08	25.529	446,717	3.785	0.001	0.0022	95.0
1/01/09 – 12/31/09	22.084	819,632	3.785	0.001	0.0022	150.7
1/01/10 – 12/31/10	23.964	1,511,460	3.785	0.001	0.0022	301.6
1/01/11 – 12/31/11	23.799	1,229,770	3.785	0.001	0.0022	243.7
1/01/12 – 12/31/12	15.027	611,262	3.785	0.001	0.0022	76.5
1/01/13 – 12/31/13	14.416	1,048,607	3.785	0.001	0.0022	125.9
1/01/14 – 12/31/14	19.664	2,166,110	3.785	0.001	0.0022	354.7
					TOTAL	**1,515.0**

F = A x B x C x D x E

A graph of cumulative mass of dissolved-phase VOCs removed from groundwater since startup of the site GWE system in September 2006 is provided as follows.



The estimated mass of groundwater VOCs recovered, and the associated rate of groundwater VOC mass removal, during the 2014 reporting period were higher compared to previous annual reporting period due to the higher volume of groundwater recovered and the generally higher influent groundwater VOC concentrations during the 2014 reporting period, as explained above.

6.3 GWE System Effluent Monitoring

Results of laboratory analysis of the monthly GWE system effluent (i.e., treated) groundwater samples during the reporting period were submitted to the City of Raleigh in monthly Discharge Monitoring Reports (DMRs), prepared in compliance with the site City of Raleigh IUDP. GWE system effluent groundwater analysis results were in compliance with requirements of both permits.

6.4 GWE System Issues and Corrective Actions

The GWE system was offline for a 6-day period in May 2014 while the EOS telemetry unit was being retrofitted to allow for remote communication with the unit via the internet, rather than a telephone landline

(Section 5.3). No other significant issues with regard to GWE system operation occurred during the reporting period that caused substantial GWE-system down time (i.e., longer than 3 consecutive days). Short-term (i.e., 3 days or fewer) GWE-system down time occurred periodically during the reporting period due to miscellaneous typical operational and maintenance issues, such as high-pressure conditions in bag filter canisters, power failures, faulty sonic water-level probe readings at the process water tank, transfer-pump malfunctions, and other miscellaneous conditions, all of which were addressed within relatively short time periods. The sonic water-level probe, which had caused numerous GWE system shutdowns due to inference by floating biomass in the process water tank, was replaced with a conductivity water-level probe system in July 2014. In addition, the blower assembly for air stripper no. 1 malfunctioned in November 2013, necessitating installation of a new blower assembly, which was completed in February 2014. The GWE system operated with only air stripper no. 2 on line from November 2013 to February 2014.

Various periods of short-term downtime of individual submersible pumps in GWE wells RW-5, RW-6, RW-7, RW-8, and RW-13 occurred during the reporting period. The pumps went offline due to damaged and ceased impellors, and the issues were addressed by installing new pumps in those wells. These did not cause any down time for the GWE system as a whole.

7.0 GROUNDWATER MONITORING

Performance of site remedial actions is based on results of site groundwater monitoring following startup of the GWE system in September 2006. Annual site groundwater sampling/analysis was initiated in May 2008 in accordance with the following controlling documents.

- *Groundwater Sampling and Analysis Plan,* April 1, 2008, prepared by Piedmont Geologic;
- *Groundwater Sampling Quality Assurance Plan,* April 1, 2008, prepared by Piedmont Geologic.
- Letter from Piedmont Geologic to the North Carolina Department of Environment and Natural Resources (NCDENR), Superfund Branch, Waste Management Division, dated March 25, 2005, RE: *Request for Revisions to Laboratory QA/QC Requirements.*

Site groundwater sampling was conducted from August 12-20, 2014. The groundwater sampling event included the following 35 monitoring wells as specified in the August 2014 site *Groundwater Sampling Quality Assurance Plan*:

MW-2	MW-16I	MW-38
MW-3	MW-16D	MW-41S
MW-6	MW-17S	MW-41I
MW-8	MW-17I	MW-41D
MW-11S	MW-17D	MW-42
MW-11I	MW-27	MW-42I
MW-12S	MW-34DR	MW-43S
MW-12I	MW-35S	MW-43D
MW-12D	MW-35D	MW-45R
MW-13D	MW-36S	MW-46
MW-15	MW-36D	MW-47
MW-16S	MW-37	

Prior to groundwater sample collection, groundwater levels were measured in the site monitoring wells on August 11, 2014 using an optical interface probe, which distinguishes between non-aqueous phase liquid (NAPL) and water. August 2014 groundwater-level data are provided in Table 4. NAPL was not detected in any of the monitoring wells. Monitoring wells MW-2, MW-6, MW-11S, MW-15, and MW-17S were dry during the August 2014 gauging event.

Groundwater samples were collected from the monitoring wells (except MW-2, MW-6, MW-11S, MW-15, and MW-17S) using either low-flow pumping or traditional purge-and-sample techniques in accordance with the site groundwater sampling and analysis plan. Groundwater quality indicators including pH, temperature, specific conductance, dissolved oxygen, and turbidity were analyzed during monitoring well

purging using pre-calibrated, direct-read field meters equipped with a flow-through cell. All non-dedicated sampling equipment was cleaned prior to each use and in between well samplings in accordance with the procedures described in the site groundwater sampling/analysis work plan. Purge water and equipment cleaning wastewater was transferred to the site GWE system for treatment and discharge. The groundwater and QA/QC samples were shipped under chain of custody to Pace Analytical of Huntersville, North Carolina and analyzed for the following.

- VOCs by EPA Method 6200.
- RCRA metals by EPA Method 6010 and 7470.

Duplicate groundwater samples were submitted to Test America and analyzed for gross beta activity by EPA Method 900.0 and tritium by EPA Method 906.0.

Due to turbidity concentrations greater-than 50 NTU, substitute groundwater samples were collected for metals analysis on August 20, 2014, following the initial sampling event on August 12-19, 2014, from monitoring-wells MW-8, MW-12S, MW-16I, MW-27, MW-34DR, MW-35S, MW-36S, MW-38, MW-42S, and MW-43S. The substitute groundwater samples were collected directly from the well column without purging using dedicated disposable bailers and nylon rope.

Results of field and laboratory analysis of August 2014 groundwater samples are summarized in Tables 7 through 9. Trends in groundwater COC concentrations and distributions are discussed in Section 8.0.

8.0 GROUNDWATER COC CONCENTRATION AND DISTRIBUTION TRENDS

Evaluation of the performance of site remedial actions is based on containment and capture of the site groundwater COC plume and reduction of site groundwater COC concentrations. Evaluation of plume containment and reduction is based on: 1) comparison of groundwater potentiometric-surface contour maps and COC isoconcentration maps prepared for data collected prior to startup of the GWE system to maps prepared for data collected following startup of the GWE system; and, 2) graphical analysis of groundwater COC concentrations versus time for individual site monitoring wells.

GWE system performance evaluation was assisted through site groundwater modeling completed using Surfer 8® contouring software (Golden Software, Inc.) The following data sets were incorporated into the groundwater models:

1. May 2005 groundwater potentiometric-surface data for the shallow, intermediate, and deep aquifer zones.
2. May 2005 groundwater chloroform-concentration data for the shallow, intermediate, and deep aquifer zones.
3. February 2014, May 2014, August 2014, and November 2014 groundwater potentiometric-surface data for the shallow, intermediate, and deep aquifer zones.
4. August 2014 groundwater chloroform-concentration data for the shallow, intermediate, and deep aquifer zones.

Data sets 1 and 2 represent conditions prior to startup of the site GWE system in September 2006. Data sets 3 and 4 represent conditions during the 2014 reporting period, with the monitoring-well potentiometric-surface data being collected with the GWE system in operation (i.e., under pumping conditions). Groundwater modeling output is provided in Appendix B, along with site memorandums prepared following each of the 2014 quarterly monitoring-well gauging events.

May 2005 groundwater potentiometric-surface contour maps (Appendix B-1) indicate that groundwater flow under non-pumping conditions is towards the west-northwest over relatively shallow potentiometric-surface gradients of around 0.03 ft/ft. Comparison of the May 2005 potentiometric-surface contour maps with the corresponding 2014 maps (Appendix B-1) indicates groundwater drawdown in the shallow and intermediate aquifer zones in response to pumping, generally in the areas of GWE wells RW-1, RW-2, RW-9, RW-10, RW-11, RW-12, and RW-13 for the shallow aquifer zone and RW-1 through RW-4 for the intermediate aquifer zone. Comparison of the May 2005 and 2014 potentiometric-surface contour maps for the deep aquifer indicate similar potentiometric-surface contour patterns. However, some drawdown,

apparently attributed to GWE system operation, was observed in the areas of monitoring wells MW-17D (February, May, and August 2014), MW-36D (February 2014), and MW-38 (November 2014). The drawdown and capture zones observed in 2014 are much more pronounced as compared to previous years. This is attributed to the increased flow rates of the GWE system and an increase in GWE-system time-on percentage in 2014, both the result of a more continual operation following tie-in to the City of Raleigh sanitary sewer system in May 2013 (see Section 4.0).

Comparison of May 2005 and August 2014 groundwater chloroform isoconcentration contour maps (Appendix B-2) indicates substantial apparent shrinkage of the lateral extent of the groundwater chloroform distribution in the shallow aquifer zone, particularly in the northern and southern site areas. Comparison of May 2005 and August 2014 chloroform isoconcentration contour maps for the intermediate aquifer zone indicates no demonstrable change in the groundwater chloroform distribution over time. Comparison of May 2005 and August 2014 maps for the deep aquifer zone indicates some expansion of the lateral extent of the groundwater chloroform distribution over time in the northeast and southeast directions. This apparent expansion of the chloroform distribution in the deep aquifer appears to be controlled by increases in detected chloroform concentrations in groundwater samples from deep-aquifer monitoring wells MW-35D, MW-36D, MW-41D and MW-47, which, with the exception of MW-36D, have remained below the North Carolina groundwater standard for chloroform. However, sharp decreases in groundwater chloroform concentrations have been observed in MW-35D and MW-36D following 2008, coinciding with taking deep GWE wells DRW-A, B, C, and D out of operation in June 2008 (see Section 6.1).

Graphs of groundwater COC concentrations versus time for site monitoring wells are provided in Appendix C. The graph includes site monitoring wells that are part of the current groundwater monitoring program and from which groundwater samples since 2002 have had detected COC concentrations. Following are generalized trends in groundwater chloroform concentrations between May 2005 and August 2014. Chloroform has historically been selected for the evaluation, being the most prevalent groundwater COC generally detected at the highest concentrations in site groundwater samples. All monitoring wells that are part of the site groundwater monitoring program are included in the evaluation.

Trends in Groundwater Chloroform Concentrations: 2005-2014

Well I.D.	Aquifer Zone	May-05 to May-08	May-08 to May-09	May-09 to May-10	May-10 to Apr/May-11	Apr/May-11 to Aug-12	Aug-12 to Aug-13	Aug-13 to Aug-14
MW-2	Shallow	D	I-	D	NA	D-*	D	D*
MW-3	Shallow	D+	I-	D	D+	I	D	I
MW-6	Shallow	I-	D+	D	NA	NA	D*	NA
MW-8	Shallow	D+	I	D	D-	I	D-	I
MW-11S	Shallow	I	NA	D+*	NA	NA	NA	NA
MW-11I	Interm.	I++/NE	D++/ND	ND	ND	ND	ND	ND
MW-12S	Shallow	D	D+	D	I	I	D++	I
MW-12I	Interm.	I	I	D	I	D-	D	NV
MW-12D	Deep	NA	D++/NE*	ND	ND	ND	ND	I/NE
MW-13S	Shallow	ND	ND	NA	NA	NA	NA	NA
MW-13D	Deep	ND/NA	ND/NA	ND	NE	D/NE	I+/NE	D/NE
MW-14	Shallow	ND/NA	ND	ND	ND	NA	NA	NA
MW-15	Shallow	DRY	DRY	DRY	DRY	DRY	DRY	DRY
MW-16S	Shallow	D	I	D+	I	D	I	D+
MW-16I	Interm.	I++	D++	D+	I+	D+	D++/NE	I+
MW-16D	Deep	NA	D+/NE*	ND	ND	ND	ND	I/NE
MW-17S	Shallow	D+	D+	D+/NE	NA	D-/NE	D/NE	NA
MW-17I	Interm.	I	I+	D+	I	I	I	D-
MW-17D	Deep	NA	I+*	D	D	I	I	D
MW-27	Shallow	D/NE	D/NE	I/NE	D/NE	I/NE	I/NE	I-/NE
MW-34D	Deep	NA	D+/ND*	ND	ND	ND	ND	ND
MW-35S	Shallow	ND	I/NE	ND	ND	ND	I++/NE	ND
MW-35D	Deep	I++/NE	I/NE	D/NE	D/NE	I/NE	I/NE	D+/NE
MW-36S	Shallow	I	D++	D++	I+	D+	D	D
MW-36D	Deep	I++	I	D	D	D	D	D
MW-37	Shallow	I	I+	D+	I+	I-	NV	D-
MW-38	Shallow	ND	ND	ND	ND	ND	ND	ND
MW-40	Shallow	D++	I++	D++/NE	D+/NE	NA	NA	NA
MW-41S	Shallow	ND	ND	ND	ND	I+/NE	I+/NE	ND
MW-41I	Interm.	ND	I+/NE	ND	NE**	I/NE	D/NE	ND
MW-41D	Deep	I+/NE	I/NE	D/NE	I/NE	I/NE	I/NE	D/NE
MW-42S	Shallow	ND	ND	ND	NE**	I/NE	I+/NE	ND
MW-42I	Interm.	I++/NE	D++/NE	I++/NE	I/NE	D++/NE	I+/NE	D/NE
MW-43S	Shallow	D/NE	I-/NE	D/NE	I+/NE	I/NE	I/NE	D/NE
MW-43D	Deep	D+/NE	I++/NE	D/NE	I-/NE	D/NE	I-/NE	D/NE
MW-45	Shallow	I+/NE	I+/NE	D+/NE	NA	NA	NA	ND
MW-46	Shallow	ND	ND	ND	ND	ND	ND	ND
MW-47	Deep	NA	I+/NE*	I/NE	I/NE	I/NE	I/NE	D/NE

* Data not available for the first event in the time range. Evaluation is based on the previous available data.

I- = Increasing, but by less than 10%.
I = Increasing by more than 10%, but less than 2X.
I+ = Increasing by more than 2X.
I++ = Increasing by more than 10X.
ND = Not detected.

D- = Decreasing, but by less than 10%.
D = Decreasing by more than 10% but less than half.
D+ = Decreasing by more than half.
D++ = Decreasing by more than 90%.
NA = No data available.

NE = Concentration does not exceed NC groundwater standard.
NV = Evaluation cannot be performed due to duplicate sample results indicating concentrations both below and above the concentrations detected during the previous sampling event.

Detected groundwater chloroform concentrations increased in seven site monitoring wells between August 2013 and August 2014. Of these wells, consisting of four shallow, one intermediate, and two deep monitoring wells, groundwater chloroform concentrations remain less than the North Carolina groundwater standard (70 µg/L) in two of the wells (MW-12D and MW-16D).

A qualitative evaluation of overall trends in groundwater COC concentrations since 2002, based on the graphs of groundwater COC concentrations over time in Appendix C, is summarized as follows.

Generalized Trends in Groundwater COC Concentrations: 2002 to 2014

Generally Decreasing	Flat or Slightly Decreasing	Flat or Slightly Increasing	Generally Increasing	Fluctuating (no dominant overall trend)
MW-2	MW-8	MW-17D	MW-12I	MW-16I
MW-3		MW-37	MW-17I	MW-27
MW-6			MW-41D	MW-35S
MW-11			MW-43S	MW-36D
MW-11I			MW-43D	MW-40
MW-12			MW-47	MW-42I
MW-16				
MW-16D				
MW-17				
MW-35D				
MW-36S				
MW-45/45R				

Of the wells listed above as showing generally increasing trends in groundwater COC concentrations, detected groundwater COC concentrations in MW-41D, MW-43S, MW-43D, and MW-47 have generally been less than North Carolina groundwater standards.

The above categorization of trends is highly generalized, and variations exist within the overall general trends that are opposite the trends, and, in some cases, transitions from generally increasing to generally decreasing COC concentrations occur over the history of well sampling/analysis.

FIGURES

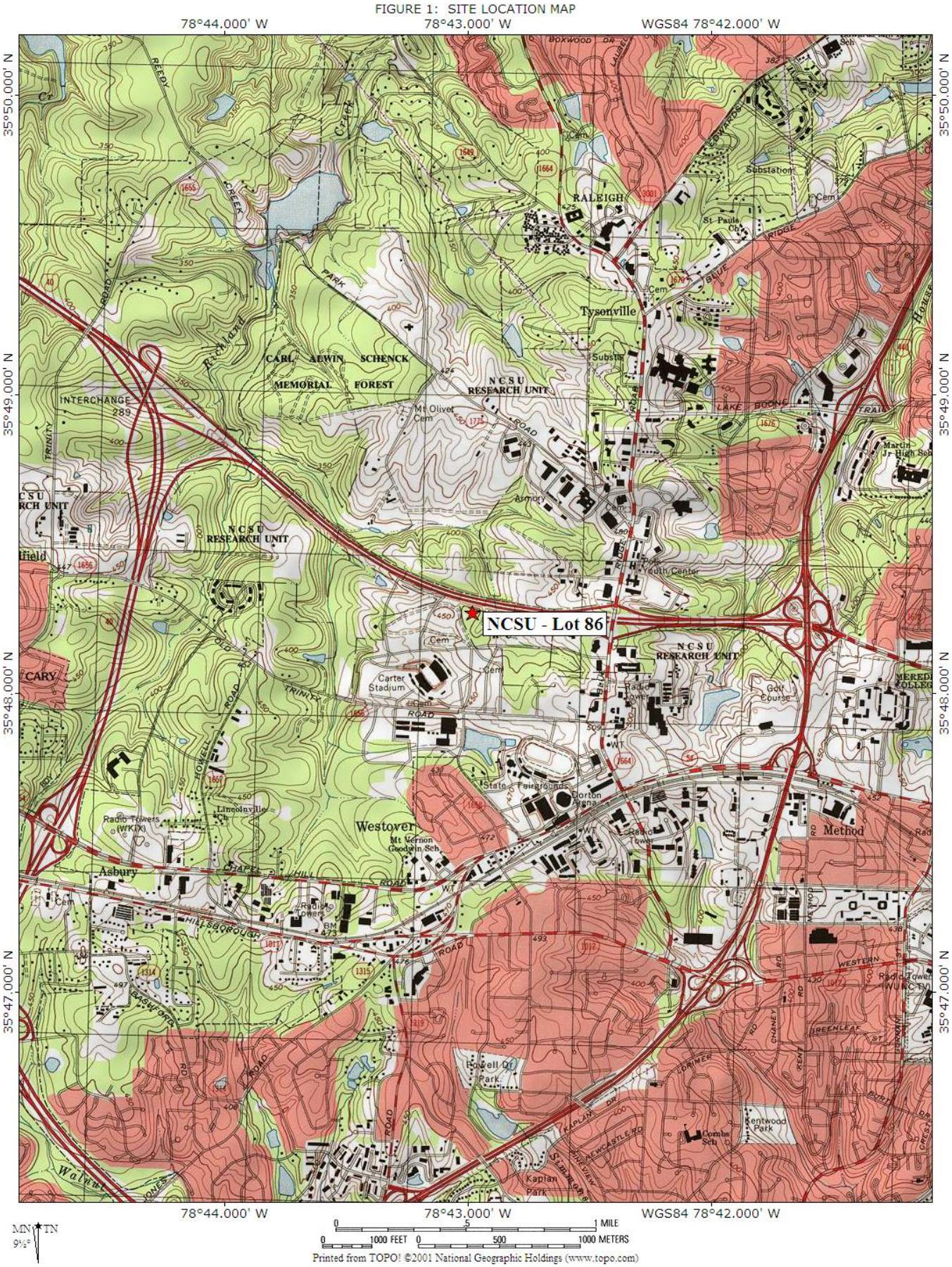
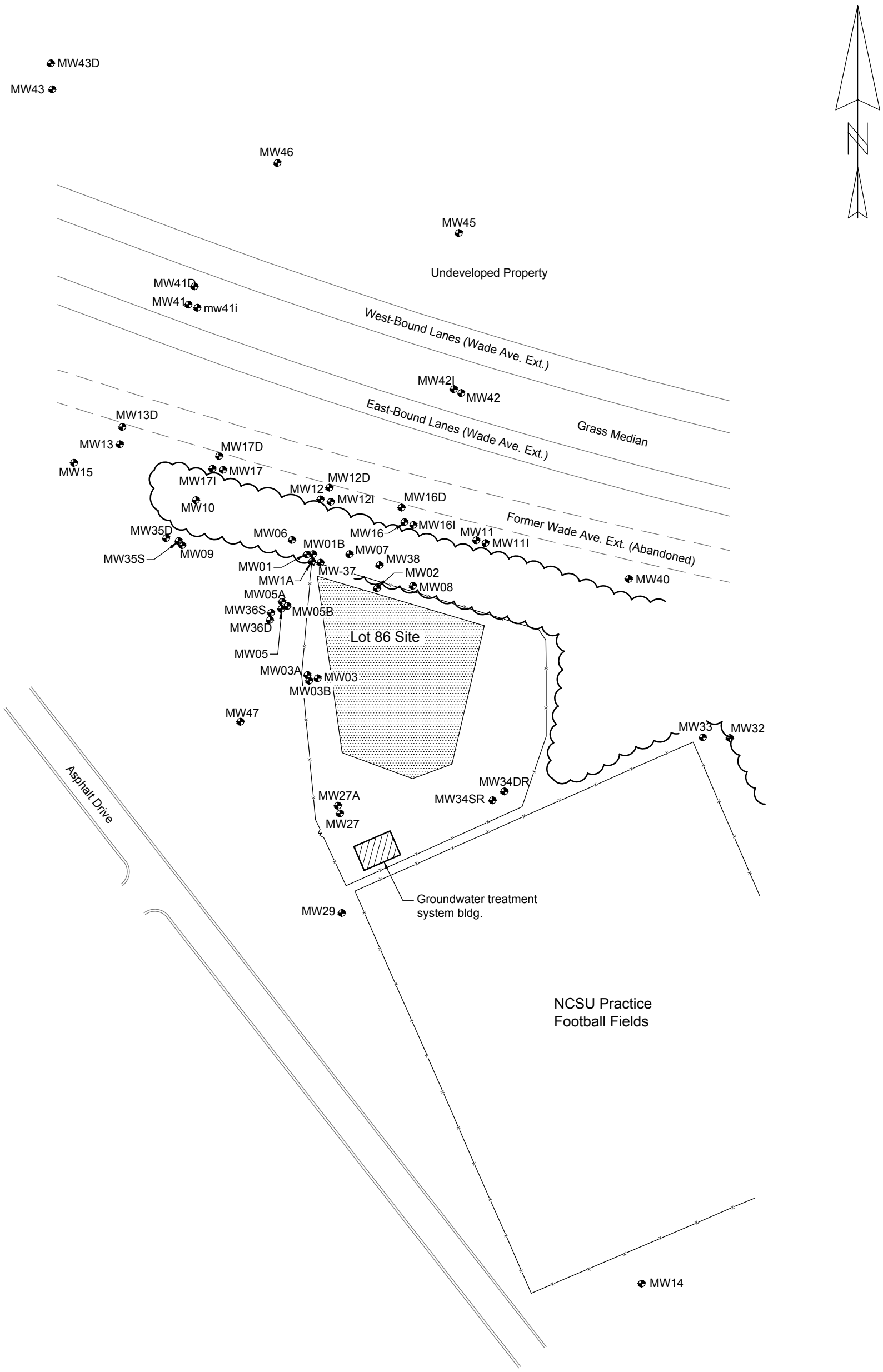


FIGURE 1
SITE LOCATION MAP
NCSU – Lot 86
Raleigh, North Carolina



LEGEND

MW33 Monitoring Well

Waste Burial Area (Source Area)

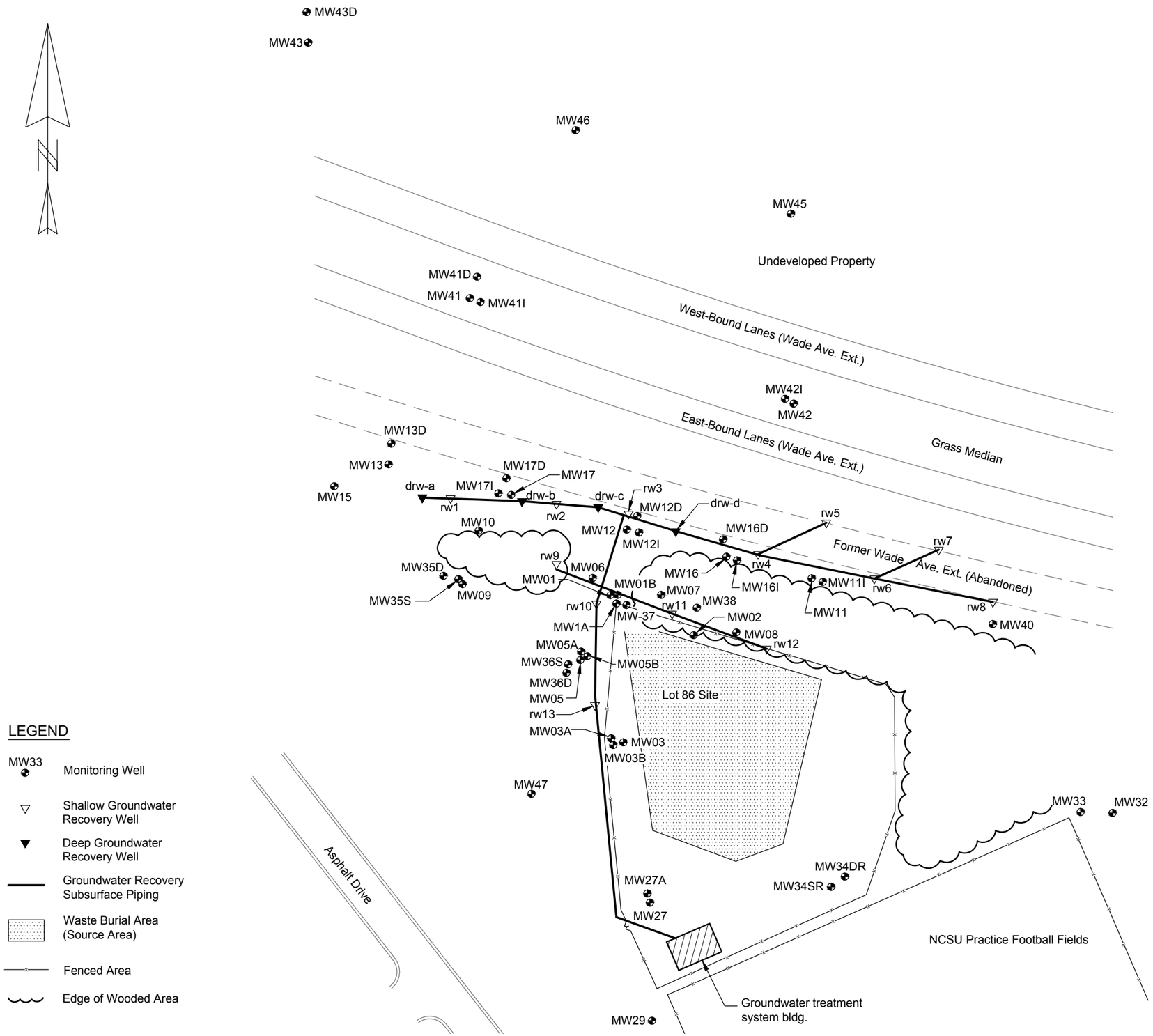
Fenced Area

Edge of Wooded Area

PIEDMONT GEOLOGIC, P.C.
Environmental Consultants

Gauging Date:	Drawing Date:	ACAD File:
	6/9/10	Fig 2.dwg

Designed:	Site Map	
PD		
Detailed: PD	Client: North Carolina State University	Project No.: 1020
Checked: PD	Location: Lot 86 Raleigh, North Carolina	Figure: 2



LEGEND

- MW33 Monitoring Well
- Shallow Groundwater Recovery Well
- Deep Groundwater Recovery Well
- Groundwater Recovery Subsurface Piping
- Waste Burial Area (Source Area)
- Fenced Area
- Edge of Wooded Area

PIEDMONT GEOLOGIC, P.C.
Environmental Consultants

Gauging Date:	Drawing Date:	ACAD File:
	2/18/13	Fig 3.dwg

Designed: PD	Generalized Groundwater Extraction System Layout	
Detailed: PD	Client: North Carolina State University	Project No.: 2844
Checked: PD	Location: Lot 86 Raleigh, North Carolina	Figure: 3

TABLES

TABLE 1
GROUNDWATER MONITORING WELL CONSTRUCTION DETAILS

North Carolina State University
Lot 86 Site
Raleigh, North Carolina

Well I.D.	Northing	Easting	Well Class (1)	Top of Casing Elevation (2)	Ground Elev. (2)	Screen Elevation (2)		Screen Depth (3)	
						Top	Bottom	Top	Bottom
MW-1	747,972.81	2,083,713.47	S	439.30	437.73	400.5	395.5	37.2	42.2
MW-1A	747,968.37	2,083,717.18	S	438.92	438.05	397.4	392.4	40.7	45.7
MW-1B	747,972.08	2,083,718.51	S	438.25	437.93	387.4	382.4	50.5	55.5
MW-2	747,934.50	2,083,791.44	S	448.74	446.00	401.2	396.2	44.8	49.8
MW-3	747,831.30	2,083,724.81	S	445.39	443.58	411.2	406.2	32.4	37.4
MW-3A	747,833.58	2,083,714.96	S-I	443.15	441.89	381.9	379.9	60.0	62.0
MW-3B	747,829.10	2,083,716.16	S-I	443.66	442.02	371.0	369.0	71.0	73.0
MW-4	747,738.38	2,083,847.26	S	454.32	452.54	405.5	400.5	47.0	52.0
MW-5	747,911.73	2,083,684.29	S	441.26	439.53	400.5	395.5	39.0	44.0
MW-5A	747,917.11	2,083,685.48	S	439.81	439.38	393.4	388.4	46.0	51.0
MW-5B	747,913.31	2,083,688.75	S-I	440.13	439.72	383.7	378.7	56.0	61.0
MW-6	747,987.81	2,083,695.81	S	438.61	436.36	402.9	397.9	33.5	38.5
MW-7	747,972.40	2,083,759.49	S	441.94	440.09	401.3	396.3	38.8	43.8
MW-8	747,936.68	2,083,831.30	S	447.85	445.91	397.9	392.9	48.0	53.0
MW-9	747,984.18	2,083,569.82	S	442.52	ND	ND	ND	ND	ND
MW-10	748,035.32	2,083,584.16	S	438.09	ND	ND	ND	ND	ND
MW-11	747,987.24	2,083,904.54	S	430.01	429.56	405.6	400.6	24.0	29.0
MW-11I	747,982.67	2,083,914.92	I	434.29	431.20	373.6	363.6	57.6	67.6
MW-12	748,035.37	2,083,726.83	S	427.24	426.18	397.2	392.2	29.0	34.0
MW-12I	748,031.08	2,083,738.92	I	430.70	427.45	359.8	354.8	67.7	72.7
MW-12D	748,048.21	2,083,735.45	D	427.45	427.95	331.0	321.0	97.0	107.0
MW-13	748,099.25	2,083,498.80	S	423.82	423.73	394.7	389.7	29.0	34.0
MW-13D	748,122.47	2,083,503.49	D	423.43	423.93	333.9	323.9	90.0	100.0
MW-14	747,148.54	2,084,091.12	S	451.87	450.38	413.4	408.4	37.0	42.0
MW-15	748,078.43	2,083,447.10	S	432.38	431.67	397.7	392.7	34.0	39.0
MW-16	748,009.06	2,083,822.21	S	427.94	427.61	399.6	394.6	28.0	33.0
MW-16I	748,004.62	2,083,832.41	I	432.14	429.23	374.7	364.7	54.5	64.5
MW-16D	748,024.15	2,083,819.82	D	428.98	429.48	349.5	339.5	80.0	90.0
MW-17	748,068.64	2,083,615.41	S	425.09	424.02	398.0	393.0	26.0	31.0
MW-17I	748,062.71	2,083,626.56	I	427.74	424.96	371.8	361.8	53.2	63.2
MW-17D	748,087.86	2,083,612.19	D	425.44	425.94	330.9	320.9	95.0	105.0
MW-27	747,678.44	2,083,751.29	S	448.26	447.22	407.2	402.2	40.0	45.0
MW-27A	747,687.36	2,083,749.28	S	448.55	447.40	392.9	388.9	54.5	58.5
MW-29	747,565.34	2,083,753.75	S	447.67	446.01	395.5	390.5	50.5	55.5
MW-30	747,579.80	2,084,072.68	S	440.86	438.17	399.2	389.2	39.0	49.0
MW-31	747,564.14	2,084,073.85	S	440.72	438.15	396.2	386.2	42.0	52.0
MW-32	747,760.44	2,084,186.72	S	438.15	436.21	411.4	401.4	24.8	34.8
MW-33	747,760.99	2,084,157.91	I	441.38	438.42	378.4	368.4	60.0	70.0
MW-34SR	747,694.98	2,083,926.43	S	454.82	452.32	424.3	404.3	28.0	48.0
MW-34DR	747,702.24	2,083,936.61	D	454.71	452.21	361.2	351.2	91.0	101.0
MW-35S	747,989.14	2,083,565.01	S	443.12	441.57	401.6	391.6	40.0	50.0
MW-35D	747,991.91	2,083,552.20	D	444.69	441.99	305.0	295.0	137.0	147.0

TABLE 1 (continued)
GROUNDWATER MONITORING WELL CONSTRUCTION DETAILS

North Carolina State University
Lot 86 Site
Raleigh, North Carolina

Well I.D.	Northing	Easting	Well Class (1)	Top of Casing Elevation (2)	Ground Elev. (2)	Screen Elevation (2)		Screen Depth (3)	
						Top	Bottom	Top	Bottom
MW-36S	747,905.86	2,083,672.19	S	442.71	439.64	399.6	389.6	40.0	50.0
MW-36D	747,898.07	2,083,671.54	D	442.87	439.75	335.5	325.5	104.3	114.3
MW-37	747,964.33	2,083,718.54	S	440.88	438.70	398.7	388.7	40.0	50.0
MW-38	747,959.35	2,083,794.05	D	445.38	442.47	345.4	335.4	97.1	107.1
MW-40	747,908.53	2,084,062.93	S	435.47	432.87	405.1	395.1	27.8	37.8
MW-41	748,239.12	2,083,608.18	S	421.17	421.30	396.9	386.9	24.4	34.4
MW-41I	748,235.91	2,083,619.56	I	421.57	421.47	371.0	361.0	50.5	60.5
MW-41D	748,278.60	2,083,583.47	D	420.67	421.17	341.2	331.2	80.0	90.0
MW-42	748,149.51	2,083,907.73	S	427.25	427.18	402.0	392.0	25.2	35.2
MW-42I	748,155.61	2,083,896.58	I	426.68	426.76	376.8	366.8	50.0	60.0
MW-43	748,526.66	2,083,396.75	S	440.59	438.74	385.4	375.4	53.3	63.3
MW-43D	748,532.52	2,083,416.56	D	438.01	435.50	339.5	329.5	96.0	106.0
MW-45R	748,539.15	2,083,844.73	S	426.15	426.45	396.5	381.5	30.0	45.0
MW-46	748,444.92	2,083,683.30	S	451.35	449.42	396.2	386.2	53.2	63.2
MW-47	747,787.80	2,083,636.72	D	441.11	441.61	336.6	321.6	105.0	120.0

(1) S = shallow wells with screen intervals in the elevation range from 382-413 ft;
I = intermediate-depth wells with screen intervals in the elevation range from 355-377 ft;
D = deep wells with screen intervals in the elevation range from 295-360 ft in bedrock.
(2) Measured in feet relative to National Vertical Datum (NGVD) of 1929.
(3) Measured in feet below ground surface.
ND = No data currently available.

TABLE 2
MONITORING-WELL GAUGING DATA: FEBRUARY 7, 2014

North Carolina State University
Lot 86 Site
Raleigh, North Carolina

Well I.D.	Northing	Easting	Well Class	Top of Casing Elevation (ft)(1)	Depth to Ground-water (ft)(2)	Groundwater Elevation (ft)(1)
MW-1	747,972.81	2,083,713.47	shallow	439.30	DRY	NA
MW-1A	747,968.37	2,083,717.18	shallow	438.92	45.29	393.63
MW-1B	747,972.08	2,083,718.51	shallow	438.25	44.84	393.41
MW-2	747,934.50	2,083,791.44	shallow	448.74	DRY	NA
MW-3	747,831.30	2,083,724.81	shallow	445.39	49.11	396.28
MW-3A	747,833.58	2,083,714.96	shallow	443.15	47.25	395.90
MW-3B	747,829.10	2,083,716.16	intermediate	443.66	45.52	398.14
MW-5	747,911.73	2,083,684.29	shallow	441.26	DRY	NA
MW-5A	747,917.11	2,083,685.48	shallow	439.81	45.61	394.20
MW-5B	747,913.31	2,083,688.75	intermediate	440.13	46.04	394.09
MW-6	747,987.81	2,083,695.81	shallow	438.61	DRY	NA
MW-7	747,972.40	2,083,759.49	shallow	441.94	DRY	NA
MW-8	747,936.68	2,083,831.30	shallow	447.85	51.79	396.06
MW-9	747,984.18	2,083,569.82	shallow	442.52	DRY	NA
MW-10	748,035.32	2,083,584.16	shallow	438.09	DRY	NA
MW-11	747,987.24	2,083,904.54	shallow	430.01	DRY	NA
MW-11I	747,982.67	2,083,914.92	intermediate	434.29	35.71	398.58
MW-12	748,035.37	2,083,726.83	shallow	427.24	DRY	NA
MW-12I	748,031.08	2,083,738.92	intermediate	430.70	36.73	393.97
MW-12D	748,048.21	2,083,735.45	deep	427.45	30.66	396.79
MW-13	748,099.25	2,083,498.80	shallow	423.82	DRY	NA
MW-13D	748,122.47	2,083,503.49	deep	423.43	31.45	391.98
MW-14	747,148.54	2,084,091.12	shallow	451.87	38.28	413.59
MW-15	748,078.43	2,083,447.10	shallow	432.38	DRY	NA
MW-16	748,009.06	2,083,822.21	shallow	427.94	DRY	NA
MW-16I	748,004.62	2,083,832.41	intermediate	432.14	38.16	393.98
MW-16D	748,024.15	2,083,819.82	deep	428.98	32.30	396.68
MW-17	748,068.64	2,083,615.41	shallow	425.09	DRY	NA
MW-17I	748,062.71	2,083,626.56	intermediate	427.74	35.62	392.12
MW-17D	748,087.86	2,083,612.19	deep	425.44	33.26	392.18
MW-27	747,678.44	2,083,751.29	shallow	448.26	45.91	402.35
MW-27A	747,687.36	2,083,749.28	shallow	448.55	46.31	402.24
MW-29	747,565.34	2,083,753.75	shallow	447.67	46.05	401.62
MW-32	747,760.44	2,084,186.72	shallow	438.15	33.78	404.37
MW-33	747,760.99	2,084,157.91	intermediate	441.38	36.58	404.80
MW-34SR	747,694.98	2,083,926.43	shallow	454.82	46.27	408.55
MW-34DR	747,702.24	2,083,936.61	deep	454.71	45.21	409.50
MW-35S	747,989.14	2,083,565.01	shallow	443.12	50.16	392.96
MW-35D	747,991.91	2,083,552.20	deep	444.69	51.53	393.16

(continued)

TABLE 2 (continued)
MONITORING-WELL GAUGING DATA: FEBRUARY 7, 2014

North Carolina State University
Lot 86 Site
Raleigh, North Carolina

Well I.D.	Northing	Easting	Well Class	Top of Casing Elevation (ft)(1)	Depth to Ground-water (ft)(2)	Groundwater Elevation (ft)(1)
MW-36S	747,905.86	2,083,672.19	shallow	442.71	48.35	394.36
MW-36D	747,898.07	2,083,671.54	deep	442.87	48.78	394.09
MW-37	747,964.33	2,083,718.54	shallow	440.88	47.29	393.59
MW-38	747,959.35	2,083,794.05	deep	445.38	48.81	396.57
MW-40	747,908.53	2,084,062.93	shallow	435.47	31.82	403.65
MW-41	748,239.12	2,083,608.18	shallow	421.17	28.39	392.78
MW-41I	748,235.91	2,083,619.56	intermediate	421.57	28.60	392.97
MW-41D	748,278.60	2,083,583.47	deep	420.67	28.03	392.64
MW-42	748,149.51	2,083,907.73	shallow	427.25	29.75	397.50
MW-42I	748,155.61	2,083,896.58	intermediate	426.68	29.31	397.37
MW-43	748,526.66	2,083,396.75	shallow	440.59	51.22	389.37
MW-43D	748,532.52	2,083,416.56	deep	438.01	50.72	387.29
MW-45	748,342.75	2,083,907.91	shallow	447.50	NA	NA
MW-46	748,444.92	2,083,683.30	shallow	451.35	58.49	392.86
MW-47	747,787.80	2,083,636.72	deep	441.11	45.57	395.54

(1) Measured in feet relative to site datum.
(2) Measured relative to top-of-casing reference point.
NA = Not Applicable

TABLE 3
MONITORING-WELL GAUGING DATA: MAY 29, 2014

North Carolina State University
Lot 86 Site
Raleigh, North Carolina

Well I.D.	Northing	Easting	Well Class	Top of Casing Elevation (ft)(1)	Depth to Ground-water (ft)(2)	Groundwater Elevation (ft)(1)
MW-1	747,972.81	2,083,713.47	shallow	439.30	DRY	NA
MW-1A	747,968.37	2,083,717.18	shallow	438.92	43.03	395.89
MW-1B	747,972.08	2,083,718.51	shallow	438.25	42.76	395.49
MW-2	747,934.50	2,083,791.44	shallow	448.74	51.27	397.47
MW-3	747,831.30	2,083,724.81	shallow	445.39	47.49	397.90
MW-3A	747,833.58	2,083,714.96	shallow	443.15	45.64	397.51
MW-3B	747,829.10	2,083,716.16	intermediate	443.66	43.76	399.90
MW-5	747,911.73	2,083,684.29	shallow	441.26	DRY	NA
MW-5A	747,917.11	2,083,685.48	shallow	439.81	43.82	395.99
MW-5B	747,913.31	2,083,688.75	intermediate	440.13	44.35	395.78
MW-6	747,987.81	2,083,695.81	shallow	438.61	DRY	NA
MW-7	747,972.40	2,083,759.49	shallow	441.94	DRY	NA
MW-8	747,936.68	2,083,831.30	shallow	447.85	49.72	398.13
MW-9	747,984.18	2,083,569.82	shallow	442.52	DRY	NA
MW-10	748,035.32	2,083,584.16	shallow	438.09	DRY	NA
MW-11	747,987.24	2,083,904.54	shallow	430.01	DRY	NA
MW-11I	747,982.67	2,083,914.92	intermediate	434.29	34.95	399.34
MW-12	748,035.37	2,083,726.83	shallow	427.24	32.08	395.16
MW-12I	748,031.08	2,083,738.92	intermediate	430.70	34.64	396.06
MW-12D	748,048.21	2,083,735.45	deep	427.45	29.67	397.78
MW-13	748,099.25	2,083,498.80	shallow	423.82	29.82	394.00
MW-13D	748,122.47	2,083,503.49	deep	423.43	30.46	392.97
MW-14	747,148.54	2,084,091.12	shallow	451.87	36.52	415.35
MW-15	748,078.43	2,083,447.10	shallow	432.38	DRY	NA
MW-16	748,009.06	2,083,822.21	shallow	427.94	30.17	397.77
MW-16I	748,004.62	2,083,832.41	intermediate	432.14	35.94	396.20
MW-16D	748,024.15	2,083,819.82	deep	428.98	31.61	397.37
MW-17	748,068.64	2,083,615.41	shallow	425.09	30.63	394.46
MW-17I	748,062.71	2,083,626.56	intermediate	427.74	33.85	393.89
MW-17D	748,087.86	2,083,612.19	deep	425.44	31.74	393.70
MW-27	747,678.44	2,083,751.29	shallow	448.26	44.48	403.78
MW-27A	747,687.36	2,083,749.28	shallow	448.55	44.85	403.70
MW-29	747,565.34	2,083,753.75	shallow	447.67	44.58	403.09
MW-32	747,760.44	2,084,186.72	shallow	438.15	32.10	406.05
MW-33	747,760.99	2,084,157.91	intermediate	441.38	35.06	406.32
MW-34SR	747,694.98	2,083,926.43	shallow	454.82	44.45	410.37
MW-34DR	747,702.24	2,083,936.61	deep	454.71	43.94	410.77
MW-35S	747,989.14	2,083,565.01	shallow	443.12	48.73	394.39
MW-35D	747,991.91	2,083,552.20	deep	444.69	50.47	394.22

(continued)

TABLE 3 (continued)
MONITORING-WELL GAUGING DATA: MAY 29, 2014

North Carolina State University
Lot 86 Site
Raleigh, North Carolina

Well I.D.	Northing	Easting	Well Class	Top of Casing Elevation (ft)(1)	Depth to Ground-water (ft)(2)	Groundwater Elevation (ft)(1)
MW-36S	747,905.86	2,083,672.19	shallow	442.71	46.65	396.06
MW-36D	747,898.07	2,083,671.54	deep	442.87	47.32	395.55
MW-37	747,964.33	2,083,718.54	shallow	440.88	45.24	395.64
MW-38	747,959.35	2,083,794.05	deep	445.38	47.07	398.31
MW-40	747,908.53	2,084,062.93	shallow	435.47	29.89	405.58
MW-41	748,239.12	2,083,608.18	shallow	421.17	27.04	394.13
MW-41I	748,235.91	2,083,619.56	intermediate	421.57	27.28	394.29
MW-41D	748,278.60	2,083,583.47	deep	420.67	26.75	393.92
MW-42	748,149.51	2,083,907.73	shallow	427.25	27.79	399.46
MW-42I	748,155.61	2,083,896.58	intermediate	426.68	27.46	399.22
MW-43	748,526.66	2,083,396.75	shallow	440.59	50.15	390.44
MW-43D	748,532.52	2,083,416.56	deep	438.01	49.61	388.40
MW-45R	748,342.75	2,083,907.91	shallow	NS	33.59	NA
MW-46	748,444.92	2,083,683.30	shallow	451.35	57.24	394.11
MW-47	747,787.80	2,083,636.72	deep	441.11	44.67	396.44

(1) Measured in feet relative to site datum.
(2) Measured relative to top-of-casing reference point.
NA = Not Applicable
NS = Not Surveyed

TABLE 4
MONITORING-WELL GAUGING DATA: AUGUST 11, 2014

North Carolina State University
Lot 86 Site
Raleigh, North Carolina

Well I.D.	Northing	Easting	Well Class	Top of Casing Elevation (ft)(1)	Depth to Ground-water (ft)(2)	Groundwater Elevation (ft)(1)
MW-1	747,972.81	2,083,713.47	shallow	439.30	DRY	NA
MW-1A	747,968.37	2,083,717.18	shallow	438.92	44.18	394.74
MW-1B	747,972.08	2,083,718.51	shallow	438.25	43.66	394.59
MW-2	747,934.50	2,083,791.44	shallow	448.74	DRY	NA
MW-3	747,831.30	2,083,724.81	shallow	445.39	46.87	398.52
MW-3A	747,833.58	2,083,714.96	shallow	443.15	44.83	398.32
MW-3B	747,829.10	2,083,716.16	intermediate	443.66	43.96	399.70
MW-5	747,911.73	2,083,684.29	shallow	441.26	DRY	NA
MW-5A	747,917.11	2,083,685.48	shallow	439.81	43.83	395.98
MW-5B	747,913.31	2,083,688.75	intermediate	440.13	44.14	395.99
MW-6	747,987.81	2,083,695.81	shallow	438.61	DRY	NA
MW-7	747,972.40	2,083,759.49	shallow	441.94	DRY	NA
MW-8	747,936.68	2,083,831.30	shallow	447.85	51.10	396.75
MW-9	747,984.18	2,083,569.82	shallow	442.52	DRY	NA
MW-10	748,035.32	2,083,584.16	shallow	438.09	DRY	NA
MW-11	747,987.24	2,083,904.54	shallow	430.01	DRY	NA
MW-11I	747,982.67	2,083,914.92	intermediate	434.29	36.67	397.62
MW-12	748,035.37	2,083,726.83	shallow	427.24	33.68	393.56
MW-12I	748,031.08	2,083,738.92	intermediate	430.70	35.93	394.77
MW-12D	748,048.21	2,083,735.45	deep	427.45	30.31	397.14
MW-13	748,099.25	2,083,498.80	shallow	423.82	30.67	393.15
MW-13D	748,122.47	2,083,503.49	deep	423.43	30.63	392.80
MW-14	747,148.54	2,084,091.12	shallow	451.87	36.24	415.63
MW-15	748,078.43	2,083,447.10	shallow	432.38	DRY	NA
MW-16	748,009.06	2,083,822.21	shallow	427.94	30.48	397.46
MW-16I	748,004.62	2,083,832.41	intermediate	432.14	37.73	394.41
MW-16D	748,024.15	2,083,819.82	deep	428.98	31.85	397.13
MW-17	748,068.64	2,083,615.41	shallow	425.09	DRY	NA
MW-17I	748,062.71	2,083,626.56	intermediate	427.74	34.75	392.99
MW-17D	748,087.86	2,083,612.19	deep	425.44	32.24	393.20
MW-27	747,678.44	2,083,751.29	shallow	448.26	44.19	404.07
MW-27A	747,687.36	2,083,749.28	shallow	448.55	44.59	403.96
MW-29	747,565.34	2,083,753.75	shallow	447.67	44.23	403.44
MW-32	747,760.44	2,084,186.72	shallow	438.15	32.32	405.83
MW-33	747,760.99	2,084,157.91	intermediate	441.38	35.30	406.08
MW-34SR	747,694.98	2,083,926.43	shallow	454.82	43.93	410.89
MW-34DR	747,702.24	2,083,936.61	deep	454.71	42.94	411.77
MW-35S	747,989.14	2,083,565.01	shallow	443.12	49.35	393.77
MW-35D	747,991.91	2,083,552.20	deep	444.69	50.57	394.12

(continued)

TABLE 4 (continued)
MONITORING-WELL GAUGING DATA: AUGUST 11, 2014

North Carolina State University
Lot 86 Site
Raleigh, North Carolina

Well I.D.	Northing	Easting	Well Class	Top of Casing Elevation (ft)(1)	Depth to Ground-water (ft)(2)	Groundwater Elevation (ft)(1)
MW-36S	747,905.86	2,083,672.19	shallow	442.71	46.48	396.23
MW-36D	747,898.07	2,083,671.54	deep	442.87	46.91	395.96
MW-37	747,964.33	2,083,718.54	shallow	440.88	46.12	394.76
MW-38	747,959.35	2,083,794.05	deep	445.38	48.49	396.89
MW-40	747,908.53	2,084,062.93	shallow	435.47	29.98	405.49
MW-41	748,239.12	2,083,608.18	shallow	421.17	27.68	393.49
MW-41I	748,235.91	2,083,619.56	intermediate	421.57	27.89	393.68
MW-41D	748,278.60	2,083,583.47	deep	420.67	27.20	393.47
MW-42	748,149.51	2,083,907.73	shallow	427.25	29.55	397.70
MW-42I	748,155.61	2,083,896.58	intermediate	426.68	29.03	397.65
MW-43	748,526.66	2,083,396.75	shallow	440.59	50.07	390.52
MW-43D	748,532.52	2,083,416.56	deep	438.01	49.42	388.59
MW-45R	748,539.15	2,083,844.73	shallow	426.15	33.41	392.74
MW-46	748,444.92	2,083,683.30	shallow	451.35	57.22	394.13
MW-47	747,787.80	2,083,636.72	deep	441.11	44.03	397.08

(1) Measured in feet relative to site datum.
(2) Measured relative to top-of-casing reference point.
NA = Not Applicable

TABLE 5
MONITORING-WELL GAUGING DATA: NOVEMBER 17, 2014

North Carolina State University
Lot 86 Site
Raleigh, North Carolina

Well I.D.	Northing	Easting	Well Class	Top of Casing Elevation (ft)(1)	Depth to Ground-water (ft)(2)	Groundwater Elevation (ft)(1)
MW-1	747,972.81	2,083,713.47	shallow	439.30	DRY	NA
MW-1A	747,968.37	2,083,717.18	shallow	438.92	44.82	394.10
MW-1B	747,972.08	2,083,718.51	shallow	438.25	44.19	394.06
MW-2	747,934.50	2,083,791.44	shallow	448.74	DRY	NA
MW-3	747,831.30	2,083,724.81	shallow	445.39	48.62	396.77
MW-3A	747,833.58	2,083,714.96	shallow	443.15	46.78	396.37
MW-3B	747,829.10	2,083,716.16	intermediate	443.66	44.78	398.88
MW-5	747,911.73	2,083,684.29	shallow	441.26	DRY	NA
MW-5A	747,917.11	2,083,685.48	shallow	439.81	45.34	394.47
MW-5B	747,913.31	2,083,688.75	intermediate	440.13	45.72	394.41
MW-6	747,987.81	2,083,695.81	shallow	438.61	DRY	NA
MW-7	747,972.40	2,083,759.49	shallow	441.94	DRY	NA
MW-8	747,936.68	2,083,831.30	shallow	447.85	50.72	397.13
MW-9	747,984.18	2,083,569.82	shallow	442.52	DRY	NA
MW-10	748,035.32	2,083,584.16	shallow	438.09	DRY	NA
MW-11	747,987.24	2,083,904.54	shallow	430.01	29.36	400.65
MW-11I	747,982.67	2,083,914.92	intermediate	434.29	36.49	397.80
MW-12	748,035.37	2,083,726.83	shallow	427.24	33.77	393.47
MW-12I	748,031.08	2,083,738.92	intermediate	430.70	36.10	394.60
MW-12D	748,048.21	2,083,735.45	deep	427.45	30.39	397.06
MW-13	748,099.25	2,083,498.80	shallow	423.82	30.56	393.26
MW-13D	748,122.47	2,083,503.49	deep	423.43	30.62	392.81
MW-14	747,148.54	2,084,091.12	shallow	451.87	35.74	416.13
MW-15	748,078.43	2,083,447.10	shallow	432.38	DRY	NA
MW-16	748,009.06	2,083,822.21	shallow	427.94	32.44	395.50
MW-16I	748,004.62	2,083,832.41	intermediate	432.14	37.49	394.65
MW-16D	748,024.15	2,083,819.82	deep	428.98	30.82	398.16
MW-17	748,068.64	2,083,615.41	shallow	425.09	DRY	NA
MW-17I	748,062.71	2,083,626.56	intermediate	427.74	34.08	393.66
MW-17D	748,087.86	2,083,612.19	deep	425.44	31.80	393.64
MW-27	747,678.44	2,083,751.29	shallow	448.26	44.51	403.75
MW-27A	747,687.36	2,083,749.28	shallow	448.55	44.90	403.65
MW-29	747,565.34	2,083,753.75	shallow	447.67	44.42	403.25
MW-32	747,760.44	2,084,186.72	shallow	438.15	32.58	405.57
MW-33	747,760.99	2,084,157.91	intermediate	441.38	35.39	405.99
MW-34SR	747,694.98	2,083,926.43	shallow	454.82	43.88	410.94
MW-34DR	747,702.24	2,083,936.61	deep	454.71	42.92	411.79
MW-35S	747,989.14	2,083,565.01	shallow	443.12	49.32	393.80
MW-35D	747,991.91	2,083,552.20	deep	444.69	50.53	394.16

(continued)

TABLE 5 (continued)
MONITORING-WELL GAUGING DATA: NOVEMBER 17, 2014

North Carolina State University
Lot 86 Site
Raleigh, North Carolina

Well I.D.	Northing	Easting	Well Class	Top of Casing Elevation (ft)(1)	Depth to Ground-water (ft)(2)	Groundwater Elevation (ft)(1)
MW-36S	747,905.86	2,083,672.19	shallow	442.71	48.13	394.58
MW-36D	747,898.07	2,083,671.54	deep	442.87	48.22	394.65
MW-37	747,964.33	2,083,718.54	shallow	440.88	46.72	394.16
MW-38	747,959.35	2,083,794.05	deep	445.38	48.46	396.92
MW-40	747,908.53	2,084,062.93	shallow	435.47	30.66	404.81
MW-41	748,239.12	2,083,608.18	shallow	421.17	27.72	393.45
MW-41I	748,235.91	2,083,619.56	intermediate	421.57	27.88	393.69
MW-41D	748,278.60	2,083,583.47	deep	420.67	27.19	393.48
MW-42	748,149.51	2,083,907.73	shallow	427.25	29.91	397.34
MW-42I	748,155.61	2,083,896.58	intermediate	426.68	29.35	397.33
MW-43	748,526.66	2,083,396.75	shallow	440.59	50.00	390.59
MW-43D	748,532.52	2,083,416.56	deep	438.01	49.71	388.30
MW-45R	748,539.15	2,083,844.73	shallow	426.15	33.75	392.40
MW-46	748,444.92	2,083,683.30	shallow	451.35	57.42	393.93
MW-47	747,787.80	2,083,636.72	deep	441.11	45.32	395.79

(1) Measured in feet relative to site datum.
(2) Measured relative to top-of-casing reference point.
NA = Not Applicable

TABLE 6
SUMMARIZED RESULTS OF LABORATORY ANALYSIS
GWE SYSTEM INFLUENT GROUNDWATER SAMPLES

North Carolina State University
Lot 86 Site
Raleigh, North Carolina

Sample Date:	**1/22/14**	**2/6/14**	**3/3/14**	**4/3/14**	**5/12/14**	**6/9/14**	**7/11/14**	**8/6/14**	**9/2/14**	**10/7/14**	**11/4/14**	**12/3/14**
EPA Method 8260 (µg/L)(1)												
Acetone	270	<5,000	<5,000	430	430	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000
Benzene	890	890	1,000	1,100	800	900	770	650	250	140	130	240
Bromodichloromethane	99	100	120	110	91	110	120	110	110	54 J	65 J	57 J
Bromoform	0.78 J	<100	<100	<1.0	3.7	<100	<100	<100	<100	<100	<100	<100
Carbon disulfide	2.2	<100	<100	2.6	1.3	<100	<100	<100	<100	<100	<100	<100
Carbon tetrachloride	260	280	300	380	170	280	330	290	270	110	170	150
Chlorobenzene	42	40 J	40 J	42	26	40	<100	35 J	<100	<100	<100	<100
Chlorodibromomethane	0.40 J	<100	<100	0.60 J	0.52 J	<100	<100	<100	<100	<100	<100	<100
Chloroform	15,000	14,000	14,000	14,000	12,000	14,000	13,000	13,000	15,000	7,400	9,300	10,000
Chloromethane	0.68 J	<250	<250	<2.5	<2.5	<250	<250	<250	<250	<250	<250	<250
1,2-Dibromoethane (EDB)	820	1,000	920	1,000	890	740	650	610	1,100	560	600	570
1,2-Dibromo-3-chloropropane	<250	160 J	140 J	150	190	180 J	130 J	150 J	180 J	<500	<500	<500
Dibromomethane	<10	<100	<100	0.81 J	0.50 J	<100	<100	<100	<100	<100	<100	<100
1,2-Dichlorobenzene	11	<100	<100	10	7.8	<100	<100	<100	<100	<100	<100	<100
1,3-Dichlorobenzene	0.44 J	<100	<100	0.60 J	0.39 J	<100	<100	<100	<100	<100	<100	<100
Dichlorodifluoromethane	2.2 J	<500	<500	<5.0	1.9 J	<500	<500	<500	<500	<500	<500	<500
1,1-Dichloroethane	5.4	<100	<100	7.6	4.5	<100	<100	92 J	<100	<100	<100	<100
1,2-Dichloroethane	79	88 J	95 J	110	70	79 J	85 J	<100	160	65 J	82 J	86 J
1,1-Dichloroethene	4.7	<100	<100	9.7	4.1	<100	<100	<100	<100	<100	<100	<100
cis-1,2-Dichloroethene	1.2	<100	<100	1.8	0.99 J	<100	<100	<100	<100	<100	<100	<100
1,2-Dichloropropane	2,400	2,700	2,300	2,600	2,200	2,100	1,900	1,800	1,800	1,100	1,200	1,200
Ethylbenzene	25	<100	<100	23	15	<100	<100	<100	<100	<100	<100	<100
2-Butanone (MEK)	78	<1,000	<1,000	<10	60	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000
Methylene chloride	1,800	1,700	1,800	1,900	1,500	1,800	1,600	1,600	1,800	980	1,200	1,400
4-Methyl-2-pentanone (MIBK)	250	240 J	<1,000	140	190	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000
Styrene	<10	<100	<100	<10	1.0	<100	<100	<100	<100	<100	<100	<100
1,1,2,2-Tetrachloroethane	33	<100	<100	25	24	<100	<100	<100	<100	<100	<100	<100
Tetrachloroethene	100	100	97 J	100	61	100	110	93 J	140	61 J	65 J	58 J
Toluene	130	160 J	140 J	130	97	150 J	110 J	110 J	<500	<500	<500	<500
1,1,1-Trichloroethane	0.55 J	<100	<100	<1.0	0.83 J	<100	<100	<100	<100	<100	<100	<100
1,1,2-Trichloroethane	220	220	190	170	150	180	150	160	110	57 J	67 J	44 J
Trichloroethene	290	320	330	380	300	320	310	280	400	180	220	230
Trichlorofluoromethane	2.7 J	<500	<500	5.4	2.0 J	<500	<500	<500	<500	<500	<500	<500
1,2,3-Trichloropropane	100	95 J	92 J	77	73	82 J	<250	<250	<250	<250	<250	<250
Vinyl chloride	0.43 J	<100	<100	<1.0	0.60 J	<100	<100	<100	<100	<100	<100	<100
Xylenes	120	140 J	110 J	120	75	120 J	<300	<300	<300	<300	<300	<300
Acetonitrile	43 J	<5,000	<5,000	<50	35 J	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000
Isobutanol	41 J	<10,000	<10,000	<100	<100	<10,000	<10,000	<10,000	<10,000	<10,000	<10,000	<10,000
1,4-Dioxane	2,000	<10,000	<10,000	1,500	1,500	<10,000	<10,000	<10,000	<10,000	<10,000	<10,000	<10,000

(1) Method analytes detected in one or more samples are listed.
J = Estimated concentration; above the method detection limit, but below the reporting limit.

TABLE 7
SUMMARIZED RESULTS OF LABORATORY ANALYSIS
VOLATILE ORGANIC COMPOUNDS
GROUNDWATER SAMPLES COLLECTED AUGUST 2014

North Carolina State University
Lot 86 Site
Raleigh, North Carolina

Sample I.D.:	**MW-3**	**MW-8**	**MW-11I**	**MW-12S**	**MW-12I**	**MW-12I (2)**	**MW-12D**	**MW-13D**	**MW-16S**
Sample Date:	**8/19/14**	**8/15/14**	**8/13/14**	**8/19/14**	**8/18/14**	**8/18/14**	**8/12/14**	**8/14/14**	**8/19/14**
EPA Method 6200 (µg/L)(1)									
Benzene	**30.5**	**49.6**	<0.5	**318**	**87.4**	**68.5**	<0.5	<0.5	<5.0
Bromodichloromethane	**35.6**	<10.0	<0.5	<50.0	<25.0	<25.0	<0.5	<0.5	<5.0
Bromoform	**125**	<10.0	<0.5	<50.0	<25.0	<25.0	<0.5	<0.5	<5.0
Carbon tetrachloride	**264**	**110**	<0.5	**221**	**46.1**	**59.8**	<0.5	<0.5	<5.0
Chlorobenzene	**16.2**	<10.0	<0.5	**85.8**	<25.0	<25.0	<0.5	<0.5	<5.0
Chloroform	**5,970**	**5,800**	<0.5	**12,500**	**4,850**	**5,370**	**0.63**	**0.99**	**1,930**
1,2-Dibromo-3-chloropropane	**76.8**	<20.0	<1.0	**5,880**	<50.0	<50.0	<1.0	<1.0	<10.0
1,2-Dibromoethane (EDB)	**7,380**	**373**	<0.5	**7,540**	<25.0	<25.0	<0.5	<0.5	<5.0
1,2-Dichlorobenzene	<10.0	<10.0	<0.5	<50.0	<25.0	<25.0	<0.5	<0.5	<0.5
1,1-Dichloroethane	<10.0	<10.0	<0.5	<50.0	<25.0	<25.0	<0.5	<0.5	<5.0
1,2-Dichloroethane	**135**	<10.0	<0.5	**105**	<25.0	<25.0	<0.5	<0.5	<5.0
1,1-Dichloroethene	**13.6**	<10.0	<0.5	<50.0	<25.0	<25.0	<0.5	<0.5	<5.0
cis-1,2-Dichloroethene	**19.2**	**11.5**	<0.5	<50.0	**32.2**	<25.0	<0.5	<0.5	<5.0
1,2-Dichloropropane	**6,610**	**854**	<0.5	**18,400**	**174**	**185**	<0.5	<0.5	**239**
1,3-Dichloropropane	**40.5**	<10.0	<0.5	**206**	<25.0	<25.0	<0.5	<0.5	<5.0
Di-isopropyl ether (IPE)	<10.0	<10.0	<0.5	<50.0	<25.0	<25.0	<0.5	<0.5	<5.0
Ethylbenzene	<10.0	**10.2**	<0.5	<50.0	<25.0	<25.0	<0.5	<0.5	<5.0
Methylene chloride	**414**	**47.8**	<2.0	**1,050**	**119**	**108**	<2.0	<2.0	<20.0
1,1,2,2-Tetrachloroethane	**319**	<10.0	<0.5	<50.0	<25.0	<25.0	<0.5	<0.5	<5.0
Tetrachloroethene	**52.7**	**104**	<0.5	**126**	**93.2**	**106**	<0.5	<0.5	**177**
Toluene	**15.1**	**124**	<0.5	**279**	**48.1**	<25.0	<0.5	<0.5	<5.0
1,1,1-Trichloroethane	**13.1**	<10.0	<0.5	<50.0	<25.0	<25.0	<0.5	<0.5	<5.0
1,1,2-Trichloroethane	**20.0**	**12.0**	<0.5	**1,930**	**72.6**	**73.5**	<0.5	<0.5	**199**
Trichloroethene	**944**	**63.5**	<0.5	**310**	**94.4**	**106**	<0.5	<0.5	**161**
1,2,3-Trichloropropane	**252**	<10.0	<0.5	<50.0	<25.0	<25.0	<0.5	<0.5	<5.0
1,2,4-Trimethylbenzene	<10.0	<10.0	<0.5	<50.0	<25.0	<25.0	<0.5	<0.5	<5.0
Vinyl chloride	<20.0	<20.0	<1.0	<100	<50.0	<50.0	<1.0	<1.0	<10.0
m,p-Xylene	<20.0	**41.6**	<1.0	<100	<50.0	<50.0	<1.0	<1.0	<10.0
o-Xylene	<10.0	**12.7**	<0.5	**82.4**	<25.0	<25.0	<0.5	<0.5	<5.0
EPA Method 8260 SIM (µg/L)									
1,4-Dioxane	**620**	**7.2**	**84**	**150**	**10,000**	**13,000**	**7.3**	**7.5**	**100**

TABLE 7 (continued)
SUMMARIZED RESULTS OF LABORATORY ANALYSIS
VOLATILE ORGANIC COMPOUNDS
GROUNDWATER SAMPLES COLLECTED AUGUST 2014

North Carolina State University
Lot 86 Site
Raleigh, North Carolina

Sample I.D.:	**MW-16I**	**MW-16D**	**MW-17I**	**MW-17D**	**MW-27**	**MW-34DR**	**MW-35S**	**MW-35D**	**MW-36S**
Sample Date:	**8/15/14**	**8/14/14**	**8/18/14**	**8/18/14**	**8/15/14**	**8/11/14**	**8/15/14**	**8/14/14**	**8/18/14**
EPA Method 6200 (µg/L)(1)									
Benzene	**7.7**	**1.0**	**2,150**	**18.9**	<0.5	<0.5	<0.5	<0.5	**5.3**
Bromodichloromethane	<0.5	<0.5	**37.6**	<10.0	<0.5	<0.5	<0.5	<0.5	<5.0
Bromoform	<0.5	<0.5	<10.0	<10.0	<0.5	<0.5	<0.5	<0.5	<5.0
Carbon tetrachloride	**1.5**	<0.5	**78.2**	**190**	**9.4**	<0.5	<0.5	**2.1**	**31.0**
Chlorobenzene	**0.59**	<0.5	<10.0	<10.0	<0.5	<0.5	<0.5	<0.5	<5.0
Chloroform	**106**	**0.60**	**3,060**	**1,840**	**22.4**	<0.5	<0.5	**18.3**	**928**
1,2-Dibromo-3-chloropropane	<1.0	<1.0	<20.0	<20.0	<1.0	<1.0	<1.0	<1.0	<10.0
1,2-Dibromoethane (EDB)	**0.91**	<0.5	**18.7**	**10.2**	<0.5	<0.5	<0.5	<0.5	**58.7**
1,2-Dichlorobenzene	<0.5	<0.5	<10.0	<10.0	<0.5	<0.5	<0.5	<0.5	<5.0
1,1-Dichloroethane	<0.5	<0.5	<10.0	<10.0	<0.5	<0.5	<0.5	<0.5	<5.0
1,2-Dichloroethane	**1.8**	<0.5	<10.0	<10.0	<0.5	<0.5	<0.5	<0.5	**30.0**
1,1-Dichloroethene	<0.5	<0.5	<10.0	<10.0	<0.5	<0.5	<0.5	<0.5	<5.0
cis-1,2-Dichloroethene	<0.5	<0.5	<10.0	<10.0	<0.5	<0.5	<0.5	<0.5	**5.2**
1,2-Dichloropropane	**66.5**	**2.6**	**410**	**217**	**17.1**	<0.5	<0.5	<0.5	**392**
1,3-Dichloropropane	<0.5	<0.5	<10.0	<10.0	<0.5	<0.5	<0.5	<0.5	<5.0
Di-isopropyl ether (IPE)	**0.84**	<0.5	<10.0	<10.0	<0.5	<0.5	<0.5	<0.5	<5.0
Ethylbenzene	<0.5	<0.5	<10.0	<10.0	<0.5	<0.5	<0.5	<0.5	<5.0
Methylene chloride	<2.0	<2.0	**133**	<40.0	<2.0	<2.0	<2.0	<2.0	**23.0**
1,1,2,2-Tetrachloroethane	<0.5	<0.5	<10.0	<10.0	<0.5	<0.5	<0.5	<0.5	<5.0
Tetrachloroethene	**17.4**	<0.5	<10.0	**52.6**	**1.3**	<0.5	<0.5	<0.5	**8.7**
Toluene	<0.5	<0.5	**15.3**	**12.0**	<0.5	<0.5	<0.5	<0.5	**8.3**
1,1,1-Trichloroethane	<0.5	<0.5	<10.0	<10.0	<0.5	<0.5	<0.5	<0.5	<5.0
1,1,2-Trichloroethane	**3.3**	<0.5	**17.4**	**51.0**	<0.5	<0.5	<0.5	<0.5	<5.0
Trichloroethene	**15.6**	<0.5	**134**	**107**	**7.8**	<0.5	<0.5	<0.5	**68.3**
1,2,3-Trichloropropane	<0.5	<0.5	<10.0	<10.0	<0.5	<0.5	<0.5	<0.5	<5.0
1,2,4-Trimethylbenzene	<0.5	<0.5	<10.0	<10.0	<0.5	<0.5	<0.5	<0.5	<5.0
Vinyl chloride	**2.7**	<1.0	<20.0	<20.0	<1.0	<1.0	<1.0	<1.0	<10.0
m,p-Xylene	<1.0	<1.0	<20.0	<20.0	<1.0	<1.0	<1.0	<1.0	<10.0
o-Xylene	**0.71**	<0.5	<10.0	<10.0	<0.5	<0.5	<0.5	<0.5	<5.0
EPA Method 8260 SIM (µg/L)									
1,4-Dioxane	**1,400**	**550**	**250**	**19**	**140**	**15**	<3.0	<3.0	**25**

TABLE 7 (continued)
SUMMARIZED RESULTS OF LABORATORY ANALYSIS
VOLATILE ORGANIC COMPOUNDS
GROUNDWATER SAMPLES COLLECTED AUGUST 2014

North Carolina State University
Lot 86 Site
Raleigh, North Carolina

Sample I.D.:	**MW-36D**	**MW-36D (3)**	**MW-37**	**MW-38**	**MW-41S**	**MW-41I**	**MW-41D**	**MW-42S**	**MW-42I**
Sample Date:	**8/18/14**	**8/18/14**	**8/19/14**	**8/13/14**	**8/15/14**	**8/13/14**	**8/15/14**	**8/13/14**	**8/15/14**
EPA Method 6200 (µg/L)(1)									
Benzene	<1.0	<1.0	**9,470**	<0.5	<0.5	<0.5	<0.5	<0.5	**0.95**
Bromodichloromethane	<1.0	<1.0	<500	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform	<1.0	<1.0	<500	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Carbon tetrachloride	**5.5**	**5.6**	<500	<0.5	<0.5	<0.5	**7.4**	<0.5	<0.5
Chlorobenzene	<1.0	**353**	<500	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroform	**337**	**337**	**102,000**	<0.5	<0.5	<0.5	**35.3**	<0.5	**2.3**
1,2-Dibromo-3-chloropropane	<1.0	<1.0	<1,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dibromoethane (EDB)	<1.0	<1.0	<500	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichlorobenzene	<1.0	<1.0	**504**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethane	<1.0	<1.0	<500	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloroethane	**1.1**	**1.2**	**1,000**	<0.5	<0.5	<0.5	<0.5	<0.5	**1.0**
1,1-Dichloroethene	<1.0	<1.0	<500	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
cis-1,2-Dichloroethene	<1.0	<1.0	**522**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	**13.7**	**13.3**	**3,180**	<0.5	<0.5	<0.5	**2.6**	<0.5	**9.2**
1,3-Dichloropropane	<1.0	<1.0	<500	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Di-isopropyl ether (IPE)	<1.0	<1.0	<500	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	<1.0	<1.0	<500	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Methylene chloride	<4.0	<4.0	**14,800**	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,1,2,2-Tetrachloroethane	<1.0	<1.0	<500	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene	**1.5**	**1.3**	<500	<0.5	<0.5	<0.5	**0.90**	<0.5	**1.1**
Toluene	<1.0	<1.0	**1,740**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	<1.0	<1.0	<500	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	<1.0	<1.0	<500	<0.5	<0.5	<0.5	**0.51**	<0.5	<0.5
Trichloroethene	**3.8**	**3.6**	**1,100**	<0.5	<0.5	<0.5	**1.8**	<0.5	**0.92**
1,2,3-Trichloropropane	<1.0	<1.0	<500	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-Trimethylbenzene	<1.0	<1.0	<500	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Vinyl chloride	<2.0	<2.0	<1,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m,p-Xylene	<2.0	<2.0	<1,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
o-Xylene	<1.0	<1.0	<500	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
EPA Method 8260 SIM (µg/L)									
1,4-Dioxane	**3.4**	<3.0	**10,000**	**4.2**	<3.0	**0.85 J**	**2.8 J**	**1.4 J**	**760**

TABLE 7 (continued)
SUMMARIZED RESULTS OF LABORATORY ANALYSIS
VOLATILE ORGANIC COMPOUNDS
GROUNDWATER SAMPLES COLLECTED AUGUST 2014

North Carolina State University
Lot 86 Site
Raleigh, North Carolina

Sample I.D.:	**MW-43S**	**MW-43D**	**MW-45R**	**MW-46**	**MW-47**	**RW-1**	**RW-6**	**RW-7**	**RW-8**
Sample Date:	**8/14/14**	**8/13/14**	**8/14/14**	**8/13/14**	**8/14/14**	**8/19/14**	**8/12/14**	**8/12/14**	**8/12/14**
EPA Method 6200 (µg/L)(1)									
Benzene	<0.5	<0.5	<0.5	<0.5	<0.5	**1,820**	<0.5	<0.5	<0.5
Bromodichloromethane	<0.5	<0.5	<0.5	<0.5	<0.5	**5.0**	<0.5	<0.5	<0.5
Bromoform	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Carbon tetrachloride	<0.5	<0.5	<0.5	<0.5	<0.5	**41.1**	<0.5	<0.5	<0.5
Chlorobenzene	<0.5	<0.5	<0.5	<0.5	<0.5	**0.59**	<0.5	<0.5	<0.5
Chloroform	**17.7**	**3.9**	<0.5	<0.5	**20.0**	**659**	**27.7**	**197**	**2.1**
1,2-Dibromo-3-chloropropane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dibromoethane (EDB)	<0.5	<0.5	<0.5	<0.5	<0.5	**13.8**	<0.5	<0.5	<0.5
1,2-Dichlorobenzene	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethane	<0.5	<0.5	<0.5	<0.5	<0.5	**0.83**	<0.5	<0.5	<0.5
1,2-Dichloroethane	<0.5	<0.5	<0.5	<0.5	<0.5	**1.9**	<0.5	<0.5	<0.5
1,1-Dichloroethene	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
cis-1,2-Dichloroethene	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	<0.5	<0.5	<0.5	<0.5	<0.5	**179**	<0.5	**0.56**	<0.5
1,3-Dichloropropane	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Di-isopropyl ether (IPE)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Methylene chloride	<2.0	<2.0	<2.0	<2.0	<2.0	**43.4**	<2.0	<2.0	<2.0
1,1,2,2-Tetrachloroethane	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene	<0.5	<0.5	<0.5	<0.5	<0.5	**1.7**	<0.5	<0.5	<0.5
Toluene	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	<0.5	<0.5	<0.5	<0.5	<0.5	**5.0**	<0.5	<0.5	<0.5
Trichloroethene	<0.5	<0.5	<0.5	<0.5	<0.5	**61.5**	<0.5	<0.5	<0.5
1,2,3-Trichloropropane	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-Trimethylbenzene	<0.5	<0.5	<0.5	<0.5	<0.5	**0.73**	<0.5	<0.5	<0.5
Vinyl chloride	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m,p-Xylene	<1.0	<1.0	<1.0	<1.0	<1.0	**2.1**	<1.0	<1.0	<1.0
o-Xylene	<0.5	<0.5	<0.5	<0.5	<0.5	**1.3**	<0.5	<0.5	<0.5
EPA Method 8260 SIM (µg/L)									
1,4-Dioxane	<3.0	<3.0	<3.0	**3.0**	**0.60 J**	**50**	**740**	**140**	**21**

TABLE 7 (continued)
SUMMARIZED RESULTS OF LABORATORY ANALYSIS
VOLATILE ORGANIC COMPOUNDS
GROUNDWATER SAMPLES COLLECTED AUGUST 2014

North Carolina State University
Lot 86 Site
Raleigh, North Carolina

Sample I.D.:	**RW-10**	**FB-1 (4)**	**FB-2 (5)**	**Trip Blank**	**NC 2L Standard (µg/L)**
Sample Date:	**8/19/14**	**8/15/14**	**8/19/14**	**8/20/14**	**---**
EPA Method 6200 (µg/L)(1)					
Benzene	**1,770**	<0.5	<0.5	<1.0	1
Bromodichloromethane	<25.0	<0.5	<0.5	<1.0	0.6
Bromoform	<25.0	<0.5	<0.5	<1.0	4
Carbon tetrachloride	<25.0	<0.5	<0.5	<1.0	0.3
Chlorobenzene	**135**	<0.5	<0.5	<1.0	50
Chloroform	**29,700**	<0.5	<0.5	<1.0	70
1,2-Dibromo-3-chloropropane	**135**	<1.0	<1.0	<2.0	0.04
1,2-Dibromoethane (EDB)	**199**	<0.5	<0.5	<1.0	0.02
1,2-Dichlorobenzene	**149**	<0.5	<0.5	<1.0	20
1,1-Dichloroethane	<25.0	<0.5	<0.5	<1.0	6
1,2-Dichloroethane	**461**	<0.5	<0.5	<1.0	0.4
1,1-Dichloroethene	<25.0	<0.5	<0.5	<1.0	350
cis-1,2-Dichloroethene	<25.0	<0.5	<0.5	<1.0	70
1,2-Dichloropropane	**852**	<0.5	<0.5	<1.0	0.6
1,3-Dichloropropane	<25.0	<0.5	<0.5	<1.0	NS
Di-isopropyl ether (IPE)	<25.0	<0.5	<0.5	<1.0	70
Ethylbenzene	**73.7**	<0.5	<0.5	<1.0	600
Methylene chloride	**3,630**	<2.0	<2.0	<2.0	5
1,1,2,2-Tetrachloroethane	<25.0	<0.5	<0.5	<1.0	0.2
Tetrachloroethene	**106**	<0.5	<0.5	<1.0	0.7
Toluene	**135**	<0.5	<0.5	<1.0	1,000
1,1,1-Trichloroethane	<25.0	<0.5	<0.5	<1.0	200
1,1,2-Trichloroethane	<25.0	<0.5	<0.5	<1.0	NS
Trichloroethene	**545**	<0.5	<0.5	<1.0	3
1,2,3-Trichloropropane	<25.0	<0.5	<0.5	<1.0	0.005
1,2,4-Trimethylbenzene	**39.6**	<0.5	<0.5	<1.0	400
Vinyl chloride	<50.0	<1.0	<1.0	<1.0	0.03
m,p-Xylene	**143**	<1.0	<1.0	<2.0	500
o-Xylene	**196**	<0.5	<0.5	<1.0	500
EPA Method 8260 SIM (µg/L)					
1,4-Dioxane	**1,600**	**1.0 J**	**9.0**	<2.0	3

(1) Method compounds detected in one or more samples are listed.
(2) Duplicate sample; labeled "MW-62" in chain of custody and laboratory report.
(3) Duplicate sample; labeled "MW-61" in chain of custody and laboratory report.
(4) Field rinseate blank; labeled "MW-63" in chain of custody and laboratory report.
(5) Field rinseate blank; labeled "MW-64" in chain of custody and laboratory report.
NA = Not analyzed.
J = Estimated concentration; above the method detection limit, but below the reporting limit.
Bold type denotes detected compound.
Shaded type denotes concentration above North Carolina 2L standard.

TABLE 8
SUMMARIZED RESULTS OF LABORATORY AND FIELD ANALYSES
METALS AND FIELD PARAMETERS
GROUNDWATER SAMPLES COLLECTED AUGUST 2014

North Carolina State University
Lot 86 Site
Raleigh, North Carolina

Sample I.D.:	**MW-3**	**MW-8**	**MW-11I**	**MW-12S**	**MW-12I**	**MW-12I (1)**	**MW-12D**	**MW-13D**
Sample Date:	**8/19/14**	**8/20/14**	**8/13/14**	**8/20/14**	**8/18/14**	**8/18/14**	**8/12/14**	**8/14/14**
LABORATORY ANALYSES								
EPA Method 6010 (µg/L)								
Arsenic	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Barium	**420**	**16.3**	**28.8**	**650**	**24.7**	**22.9**	**23.8**	**11.7**
Cadmium	**1.2**	<1.0	<1.0	**7.9**	<1.0	<1.0	<1.0	<1.0
Chromium	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**145**	<5.0
Lead	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Manganese	**6,440**	**27.7**	**176**	**37,800**	**84.2**	**81.8**	**124**	**56.5**
Selenium	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
EPA Method 7470 (µg/L)								
Mercury	<0.2	<0.2	<0.2	**0.55**	<0.2	<0.2	<0.2	<0.2
FIELD ANALYSES								
pH	5.7	5.6	6.8	5.1	6.0	6.0	7.8	7.6
Temperature (^{o}C)	19.7	20.2	20.4	18.2	22.0	22.0	22.9	21.0
Specific Cond. (umhos/cm)	167	39	105	404	56	56	208	98
Dissolved Oxygen (mg/L)	3.51	3.51	2.36	1.71	0.81	0.81	3.80	3.71
Turbidity (NTU)	15.0	12.8	16.5	32.4	46.9	46.9	21.8	101

Sample I.D.:	**MW-16S**	**MW-16I**	**MW-16D**	**MW-17I**	**MW-17D**	**MW-27**	**MW-34DR**	**MW-35S**
Sample Date:	**8/19/14**	**8/20/14**	**8/14/14**	**8/18/14**	**8/18/14**	**8/20/14**	**8/20/14**	**8/20/14**
LABORATORY ANALYSES								
EPA Method 6010 (µg/L)								
Arsenic	**68.0**	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Barium	**1,800**	**15.2**	**16.8**	**13.8**	<5.0	**30.4**	**32.1**	**53.7**
Cadmium	**62.5**	<1.0	<1.0	<1.0	<1.0	<1.0	**3.0**	**1.4**
Chromium	**272**	<5.0	<5.0	<5.0	<5.0	**5.6**	**7.0**	**32.1**
Lead	**315**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Manganese	**23,600**	**98.6**	<5.0	**126**	<5.0	**239**	**26.3**	**161**
Selenium	<50.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
EPA Method 7470 (µg/L)								
Mercury	**0.70**	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
FIELD ANALYSES								
pH	6.3	6.6	9.9	5.4	6.1	6.0	6.3	5.2
Temperature (^{o}C)	18.7	22.2	20.9	22.0	20.7	21.3	20.9	17.2
Specific Cond. (umhos/cm)	172	115	171	28	56	36	63	29
Dissolved Oxygen (mg/L)	2.67	2.39	1.15	0.92	2.58	2.42	3.31	4.21
Turbidity (NTU)	107	25.8	17.3	10.2	4.38	42.2	37.4	39.6

TABLE 8 (continued)
SUMMARIZED RESULTS OF LABORATORY AND FIELD ANALYSES
METALS AND FIELD PARAMETERS
GROUNDWATER SAMPLES COLLECTED AUGUST 2014

North Carolina State University
Lot 86 Site
Raleigh, North Carolina

Sample I.D.:	**MW-35D**	**MW-36S**	**MW-36D**	**MW-36D (2)**	**MW-37**	**MW-38**	**MW-41S**	**MW-41I**
Sample Date:	**8/14/14**	**8/20/14**	**8/18/14**	**8/18/14**	**8/19/14**	**8/20/14**	**8/15/14**	**8/13/14**
LABORATORY ANALYSES								
EPA Method 6010 (µg/L)								
Arsenic	<10.0	<10.0	**35.9**	**38.3**	<10.0	<10.0	<10.0	<10.0
Barium	<5.0	**114**	<5.0	<5.0	**816**	**18.9**	**56.3**	**21.7**
Cadmium	**1.4**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chromium	**8.6**	<5.0	**5.3**	<5.0	<5.0	**29.8**	**55.1**	**16.0**
Lead	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Manganese	**23.2**	**3,480**	**34.9**	**32.4**	**48,300**	**40.2**	**214**	**35.9**
Selenium	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
EPA Method 7470 (µg/L)								
Mercury	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
FIELD ANALYSES								
pH	6.5	5.2	6.8	6.8	6.1	8.1	6.0	6.3
Temperature (^{o}C)	20.0	18.4	21.0	21.0	19.2	22.0	19.9	19.0
Specific Cond. (umhos/cm)	102	61	98	98	501	183	109	41
Dissolved Oxygen (mg/L)	3.60	3.12	1.36	1.36	1.69	1.33	3.27	5.18
Turbidity (NTU)	14.5	42.1	16.5	16.5	4.35	29.9	20.8	45.6

Sample I.D.:	**MW-41D**	**MW-42S**	**MW-42I**	**MW-43S**	**MW-43D**	**MW-45R**	**MW-46**	**MW-47**
Sample Date:	**8/15/14**	**8/20/14**	**8/15/14**	**8/20/14**	**8/13/14**	**8/14/14**	**8/13/14**	**8/14/14**
LABORATORY ANALYSES								
EPA Method 6010 (µg/L)								
Arsenic	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Barium	**14.9**	**22.5**	**24.0**	**19.4**	**12.9**	**102**	**26.9**	**19.4**
Cadmium	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chromium	**8.2**	**44.6**	<5.0	**18.1**	<5.0	**7.8**	**11.6**	**8.6**
Lead	<5.0	<5.0	<5.0	<5.0	<5.0	**11.7**	<5.0	<5.0
Manganese	**50.8**	**78.8**	**329**	**9.1**	**8.6**	**1,030**	**103**	**16.0**
Selenium	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
EPA Method 7470 (µg/L)								
Mercury	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
FIELD ANALYSES								
pH	6.0	6.1	6.7	5.9	5.8	5.9	5.6	6.1
Temperature (^{o}C)	23.6	20.4	22.4	18.5	20.9	21.0	20.2	19.3
Specific Cond. (umhos/cm)	48	59	137	31	49	39	44	59
Dissolved Oxygen (mg/L)	4.47	4.11	0.85	5.49	4.84	5.47	5.02	3.85
Turbidity (NTU)	39.1	23.6	18.0	9.64	2.08	43.3	34.1	40.4

TABLE 8 (continued)
SUMMARIZED RESULTS OF LABORATORY AND FIELD ANALYSES
METALS AND FIELD PARAMETERS
GROUNDWATER SAMPLES COLLECTED AUGUST 2014

North Carolina State University
Lot 86 Site
Raleigh, North Carolina

Sample I.D.:	**RW-1**	**RW-6**	**RW-10**	**FB-1 (3)**	**FB-2 (4)**	**NC 2L Standard (µg/L)**
Sample Date:	**8/19/14**	**8/19/14**	**8/19/14**	**8/15/14**	**8/19/14**	**---**
LABORATORY ANALYSES						
EPA Method 6010 (µg/L)						
Arsenic	<10.0	<10.0	<10.0	<10.0	<10.0	10
Barium	**15.9**	**40.6**	**418**	<5.0	<5.0	700
Cadmium	<1.0	<1.0	<1.0	<1.0	<1.0	2
Chromium	<5.0	<5.0	<5.0	<5.0	<5.0	10
Lead	<5.0	<5.0	**9.6**	<5.0	<5.0	15
Manganese	**32.9**	**1,540**	**8,430**	<5.0	<5.0	50
Selenium	<10.0	<10.0	<10.0	<10.0	<10.0	20
EPA Method 7470 (µg/L)						
Mercury	<0.2	<0.2	<0.2	<0.2	<0.2	1
FIELD ANALYSES						
pH	5.6	6.6	5.8	NA	NA	NS
Temperature (^{o}C)	24.5	22.3	21.6	NA	NA	NS
Specific Cond. (umhos/cm)	30	162	247	NA	NA	NS
Dissolved Oxygen (mg/L)	3.03	5.02	1.07	NA	NA	NS
Turbidity (NTU)	NA	NA	NA	NA	NA	NS

(1) Duplicate sample; labeled "MW-62" in chain of custody and laboratory report.
(2) Duplicate sample; labeled "MW-61" in chain of custody and laboratory report.
(3) Field rinseate blank; labeled "MW-63" in chain of custody and laboratory report.
(4) Field rinseate blank; labeled "MW-64" in chain of custody and laboratory report.
NA = Not analyzed. NS = No North Carolina 2L standard exists.
Bold type denotes detected compound.
Shaded type denotes concentration above North Carolina 2L standard.

TABLE 9
SUMMARIZED RESULTS OF LABORATORY ANALYSIS
GROSS BETA AND TRITIUM
GROUNDWATER SAMPLES COLLECTED AUGUST 2014

North Carolina State University
Lot 86 Site
Raleigh, North Carolina

Sample I.D.:	**MW-3**	**MW-8**	**MW-11I**	**MW-12I**	**MW-12I (1)**	**MW-12D**	**MW-13D**	**MW-16I**	**MW-16D**
Sample Date:	**8/19/14**	**8/15/14**	**8/13/14**	**8/18/14**	**8/18/14**	**8/12/14**	**8/14/14**	**8/15/14**	**8/14/14**
Method 900.0 (pCi/L)									
Gross Beta	**1.51**	**10.7**	**4.11**	**4.19**	**5.63**	**7.05**	**9.39**	**2.98**	**3.47**
Count uncertainty (2σ+/-)	0.665	1.28	0.843	0.874	1.02	1.15	1.52	0.739	0.834
Total uncertainty (2σ+/-)	0.682	1.67	0.938	0.969	1.16	1.35	1.79	0.797	0.904
Method 906.0 (pCi/L)									
Tritium	**81.1 U**	**-8.56 U**	**523**	**5,120**	**4,820**	**-31.5 U**	**4.50 U**	**6,750**	**284 U**
Count uncertainty (2σ+/-)	197	182	245	503	437	208	227	566	234
Total uncertainty (2σ+/-)	197	182	249	675	609	208	227	820	236

Sample I.D.:	**MW-17I**	**MW-17D**	**MW-27**	**MW-34DR**	**MW-35S**	**MW-35D**	**MW-36S**	**MW-36D**	**MW-36D (2)**
Sample Date:	**8/18/14**	**8/18/14**	**8/15/14**	**8/11/14**	**8/15/14**	**8/14/14**	**8/18/14**	**8/18/14**	**8/18/14**
Method 900.0 (pCi/L)									
Gross Beta	**0.442 U**	**0.600 U**	**15.8**	**2.29**	**49.5 G**	**3.25**	**36.8 G**	**2.43**	**2.76**
Count uncertainty (2σ+/-)	0.512	0.506	1.50	0.725	21.1	0.846	6.90	0.701	0.740
Total uncertainty (2σ+/-)	0.514	0.510	2.18	0.760	21.7	0.907	7.82	0.742	0.790
Method 906.0 (pCi/L)									
Tritium	**-23.4 U**	**37.8 U**	**-3.15 U**	**-4.50 U**	**-126 U**	**27.0 U**	**46.8 U**	**32.9 U**	**73.9 U**
Count uncertainty (2σ+/-)	184	191	184	209	206	219	191	190	197
Total uncertainty (2σ+/-)	184	191	184	209	206	210	191	190	197

Sample I.D.:	**MW-37**	**MW-38**	**MW-41S**	**MW-41I**	**MW-41D**	**MW-42S**	**MW-42I**	**MW-43S**	**MW-43D**
Sample Date:	**8/19/14**	**8/13/14**	**8/15/14**	**8/13/14**	**8/15/14**	**8/13/14**	**8/15/14**	**8/14/14**	**8/13/14**
Method 900.0 (pCi/L)									
Gross Beta	**17.1**	**2.80**	**123 G**	**2.44**	**0.833 U**	**32.4**	**14.6**	**8.20**	**0.865 U**
Count uncertainty (2σ+/-)	2.45	0.742	10.6	0.706	0.651	4.06	1.39	1.18	0.715
Total uncertainty (2σ+/-)	2.99	0.793	16.3	0.747	0.656	5.20	2.02	1.43	0.720
Method 906.0 (pCi/L)									
Tritium	**81.1 U**	**-18.0 U**	**252 U**	**81.1 U**	**-55.0 U**	**22.5 U**	**705**	**-54.1 U**	**85.6 U**
Count uncertainty (2σ+/-)	195	208	236	215	182	214	257	209	217
Total uncertainty (2σ+/-)	195	208	237	215	182	214	264	209	217

Sample I.D.:	**MW-45R**	**MW-46**	**MW-47**	**RW-1**	**RW-2**	**RW-3**	**RW-4**	**RW-5**	**RW-6**
Sample Date:	**8/14/14**	**8/13/14**	**8/14/14**	**8/12/14**	**8/12/14**	**8/12/14**	**8/12/14**	**8/12/14**	**8/12/14**
Method 900.0 (pCi/L)									
Gross Beta	**24.0**	**80.9 G**	**1.63**	**0.749 U**	**1.66**	**3.13**	**1.97**	**1.88**	**2.77**
Count uncertainty (2σ+/-)	3.73	9.43	0.688	0.586	0.721	0.799	0.720	0.658	0.769
Total uncertainty (2σ+/-)	4.43	12.4	0.707	0.591	0.740	0.858	0.746	0.684	0.818
Method 906.0 (pCi/L)									
Tritium	**45.0 U**	**-4.50 U**	**67.6 U**	**4.50 U**	**-18.0 U**	**296,000**	**10,300**	**6,060**	**405**
Count uncertainty (2σ+/-)	223	209	218	210	199	4,460	607	481	237
Total uncertainty (2σ+/-)	223	209	218	210	199	26,400	1,090	718	239

TABLE 9 (continued)
SUMMARIZED RESULTS OF LABORATORY ANALYSIS
GROSS BETA AND TRITIUM
GROUNDWATER SAMPLES COLLECTED AUGUST 2014

North Carolina State University
Lot 86 Site
Raleigh, North Carolina

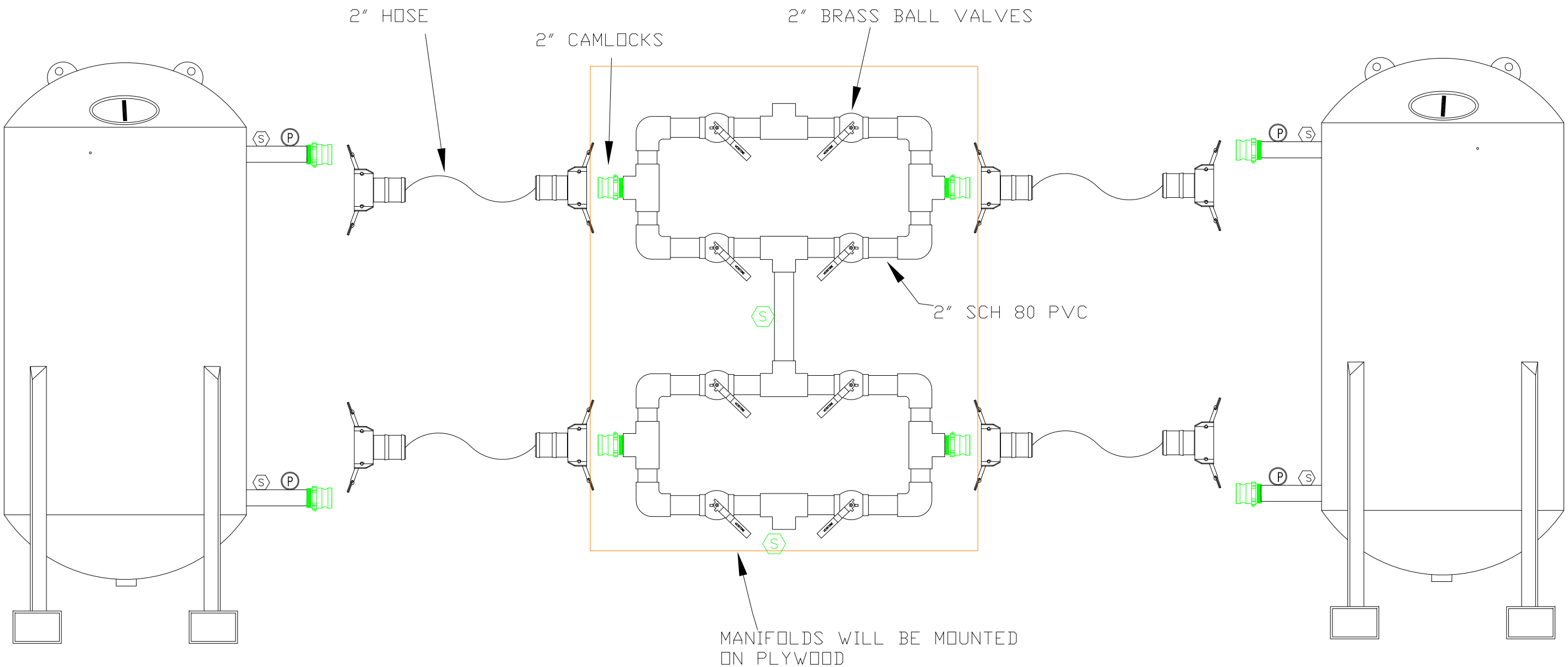
Sample I.D.:	**RW-7**	**RW-8**	**RW-9**	**RW-10**	**RW-11**	**RW-12**	**RW-13**		
Sample Date:	**8/12/14**	**8/12/14**	**8/12/14**	**8/12/14**	**8/12/14**	**8/12/14**	**8/12/14**		
Method 900.0 (pCi/L)									
Gross Beta	**0.787 U**	**1.87**	**0.287 U**	**2.71**	**1.30**	**3.87**	**13.3**		
Count uncertainty (2σ+/-)	0.564	0.673	0.570	0.753	0.701	0.959	2.31		
Total uncertainty (2σ+/-)	0.570	0.698	0.571	0.800	0.713	1.03	2.66		
Method 906.0 (pCi/L)									
Tritium	**85.6 U**	**-27.0 U**	**216 U**	**36.0 U**	**6,080**	**25,900**	**45.0 U**		
Count uncertainty (2σ+/-)	208	205	211	213	485	926	193		
Total uncertainty (2σ+/-)	208	205	212	213	722	2,460	193		

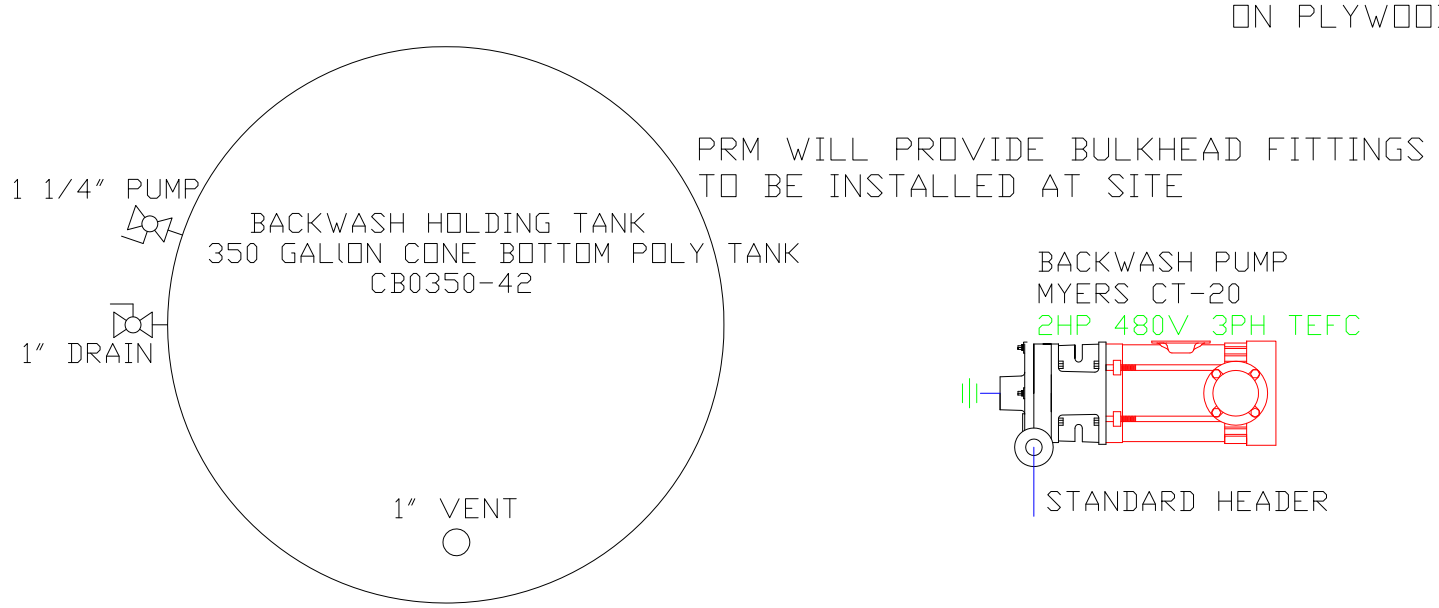
(1) Duplicate sample; labeled "MW-62" in chain of custody and laboratory report.
(2) Duplicate sample; labeled "MW-61" in chain of custody and laboratory report.
NA = Not analyzed.
U = The analyte was analyzed for but not detected.

APPENDIX A

GWE SYSTEM EQUIPMENT SCHEMATICS

TWO MANIFOLDS ONE FOR CARBON ONE FOR ION





HEPACO
NC STATE LOT 86 SITE
BACKWASH MANIFOLD LAYOUT

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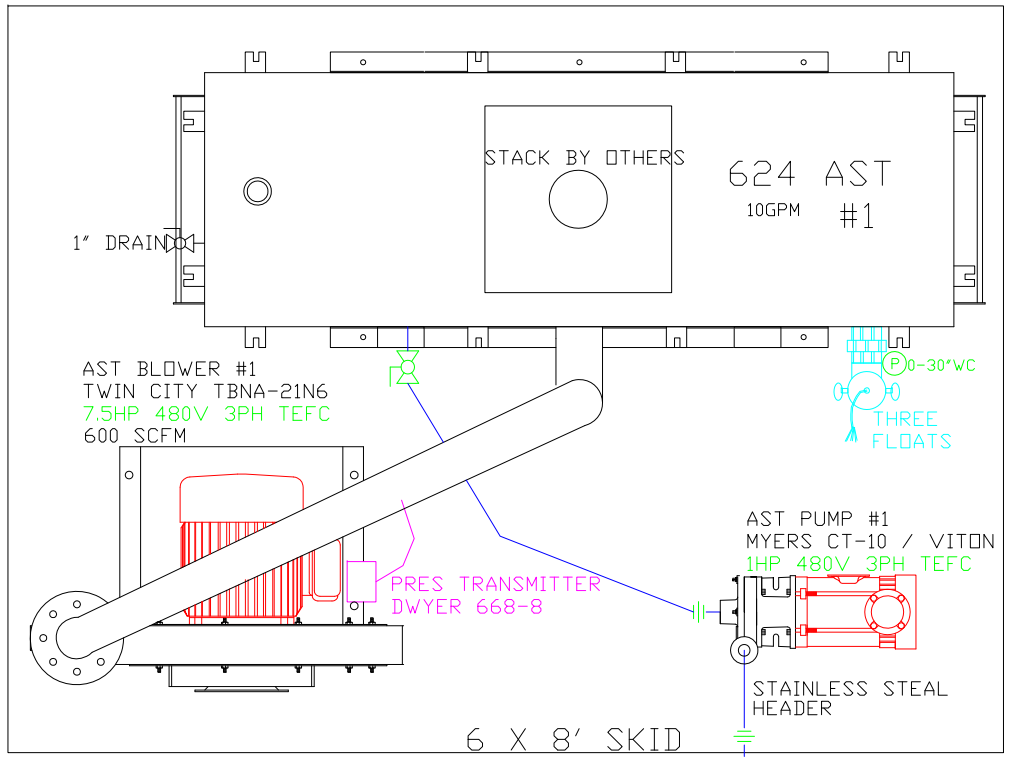
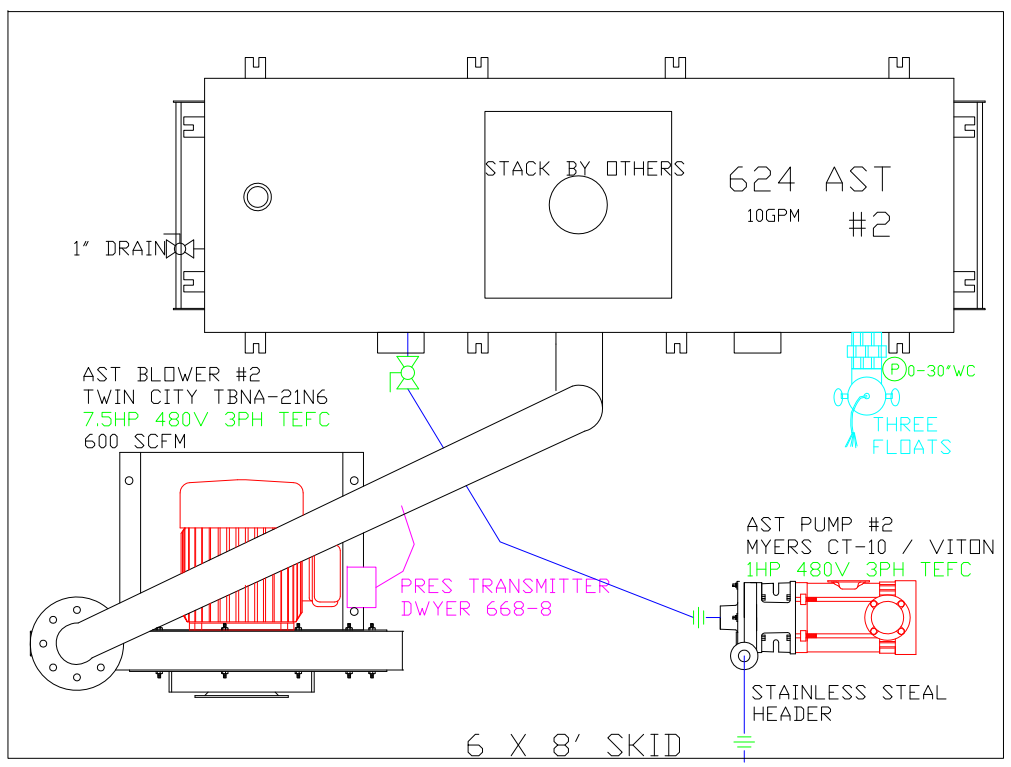
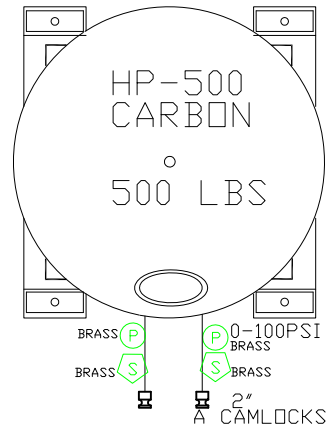
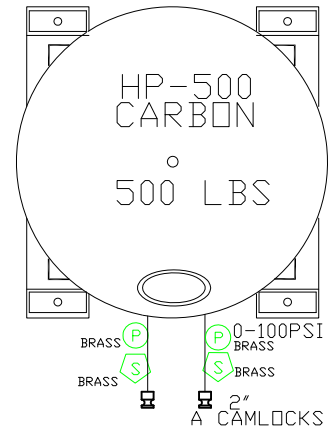
FIGURE	1B
JOB #:	WO-001292
DRAWN	G.A.C.
DATE:	7/06
CHECKED	N/A
REV #:	1a

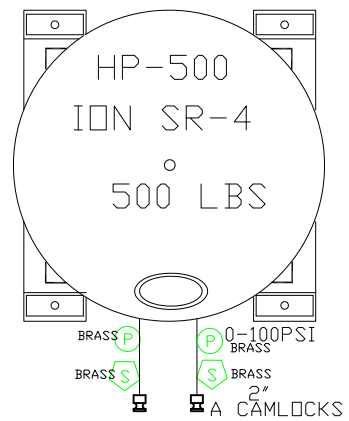
HP-500 BACKWASH MANIFOLD
(SEE CHANGE ORDER AND DRAWING 1A)

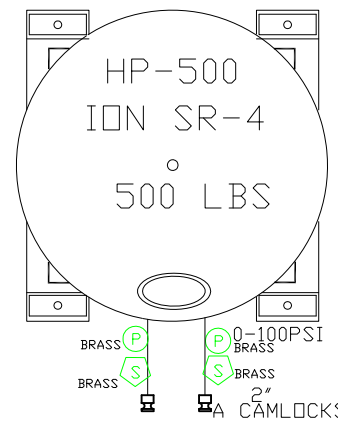




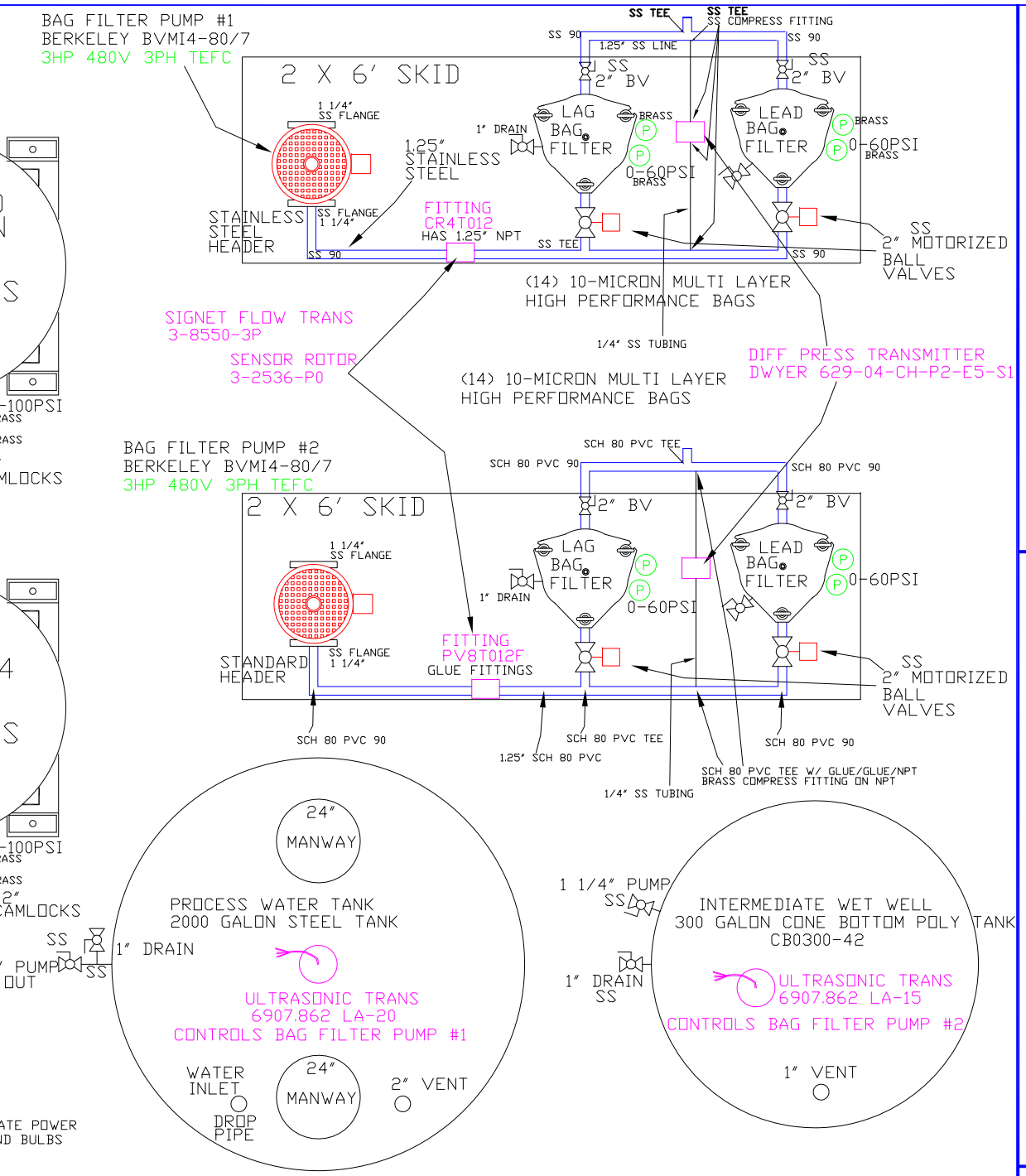






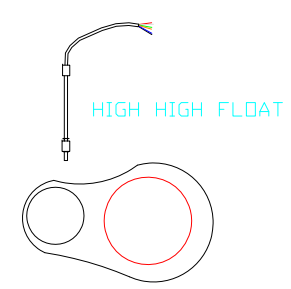


(3) THREE PRESSURE TRANS - DWYER 628-10
PS-1, PS-2, PS-3 (SEE CLIENT P&ID FOR ALARM CONDITIONS)



GROUNDWATER PUMPS

(17) MODEL # 10 REDI-FLO3-100 GROUNDWATER PUMPS
(17) 50' TEFZEL CABLE KITS
(17) CU300 STATUS BOXES
(2) R100 INFARED REMTES
STATUS BOXES WILL BE INSTALLED INTO (3) PANEL BOXES
PANEL BOXES WILL BE MOUNTED TO A EQUIPMENT RACK SIZED TO ACCOMMODATE POWER
RACK WILL BE FITTED WITH WET LOCATION FLOURESCENT LIGHT FIXTURE AND BULBS
GFCI ALL WEATHER OUTLET LOCATED ON OUTSIDE OF TRAILER
500' OF ADDITIONAL TEFZEL CABLE W/ SPLICE KITS (CO #1)



FLOOR SUMP PUMP
DAYTON (3BB78)
1/3HP 120V 3PH TEFC

CONTROL PANEL

1. MET LISTED	YES (OPTION 5)
2. DEADFRONT	YES
3. VOLTAGE	480
4. PHASE	3
5. AUTO RESTART	YES
6. BREAKERS IN PANEL	YES
7. HOUR METERS	AST MOTORS (OPTION 2)
8. AMP METERS	NO
9. HOA AND RESET BUTTON	AST BLOWER 1 & 2 AST PUMP 1 & 2 FILTER SKID 1 & 2
10. OXIDIZER INTERLOCK	NO

11. PLC OK?	YES
12. 7/24 TIMER	NO
13. SURGE PROTECTOR	YES
14. PHASE MONITOR	YES (OPTION 3)
15. PANEL TRANSFORMER	NO
16 FAN IN PANEL	NO
17. TELEMETRY	EOS B2
18. AUTODIALER	NO
19. VFD'S	FILTER SKID PUMP 1 FILTER SKID PUMP 2 CONTROLLED BY SIGNET UNIT

LIGHTNING PROTECTION
BATTERY BACKUP
GFCI INSIDE PANEL
PC WITH MONITOR AND SMALL DESK FOR PLC SYSTEM (MEL TO GET)
PANEL WILL HAVE A 100 AMP 2 POLE CONTACTOR TO KILL POWER TO THE RECOVERY PUMPS
MAIN PANEL INCLUDES 100 AMP 2 POLE BREAKER TO FEED RECOVERY PUMP PANELS
RECOVERY PUMP PANELS WILL HAVE INDIVIDUAL CIRCUIT BREAKERS FOR INDIVIDUAL PUMPS

BAG FILTER CONTROLS
THE MOTOR OPERATED VALVES SHALL AUTOMATICALLY ISOLATE THE LEAD FILTER AND START FLOW TO THE LAG FILTER WHEN THE DIFF TRANS REACHES SETPIONT. (SET AT 10 PSI TO START)

CONTACT:
JAMES KESSLER - 704-564-8850

cary OFFICE - 719-1603

CHUCK (DOING SITE INSTALL)
CELL 704-564-8854

NC STATE LOT 86
RALEIGH, NC
RBC CENTER

THIRD PARTY LISTED SYSTEM

HEPACO
NC STATE LOT 86 SITE
PUMP AND TREAT SYSTEM
PLAN VIEW

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JOB #:	WO-001292	FIGURE	1
DATE:	5/06	DRAWN	G.A.C.
REV #:	2	CHECKED	N/A

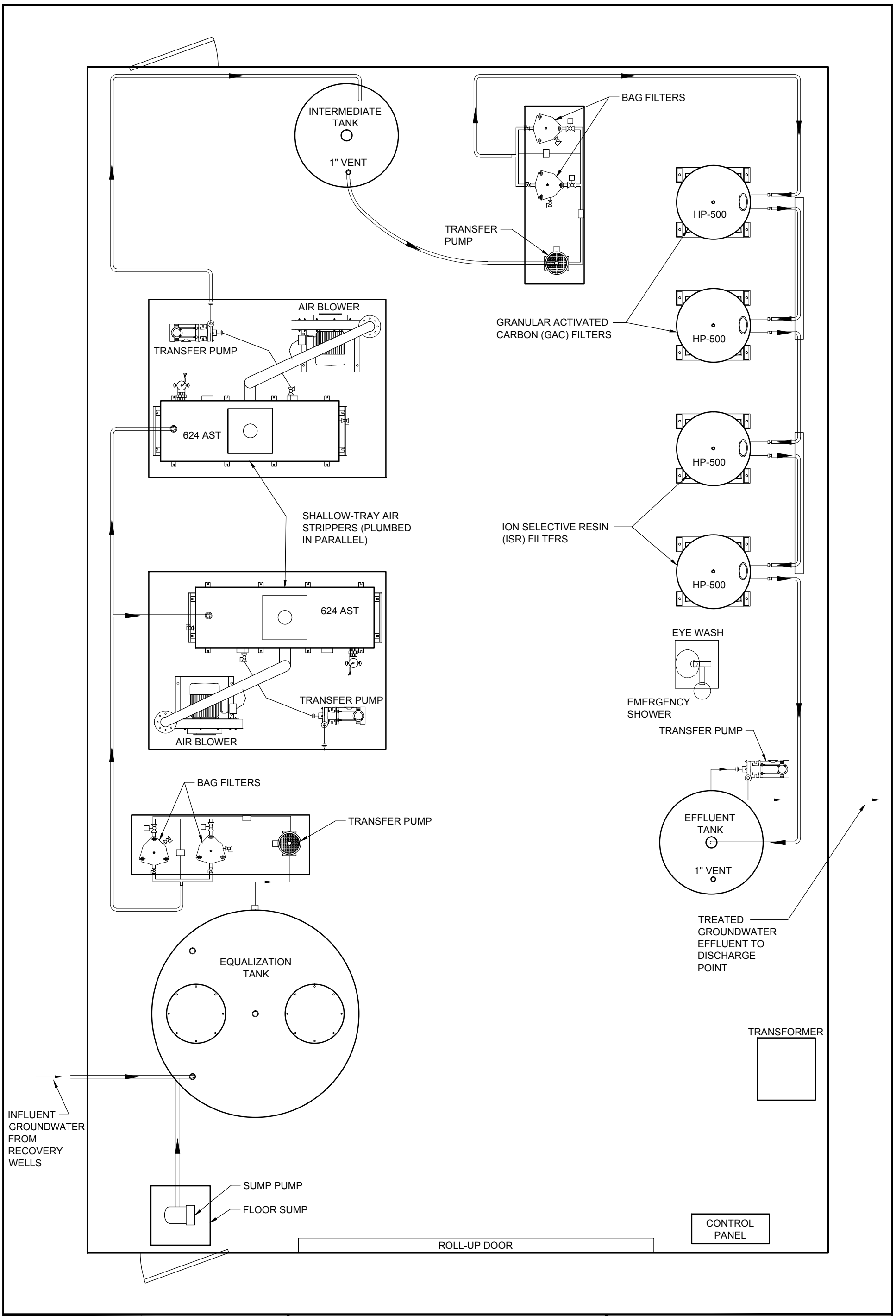
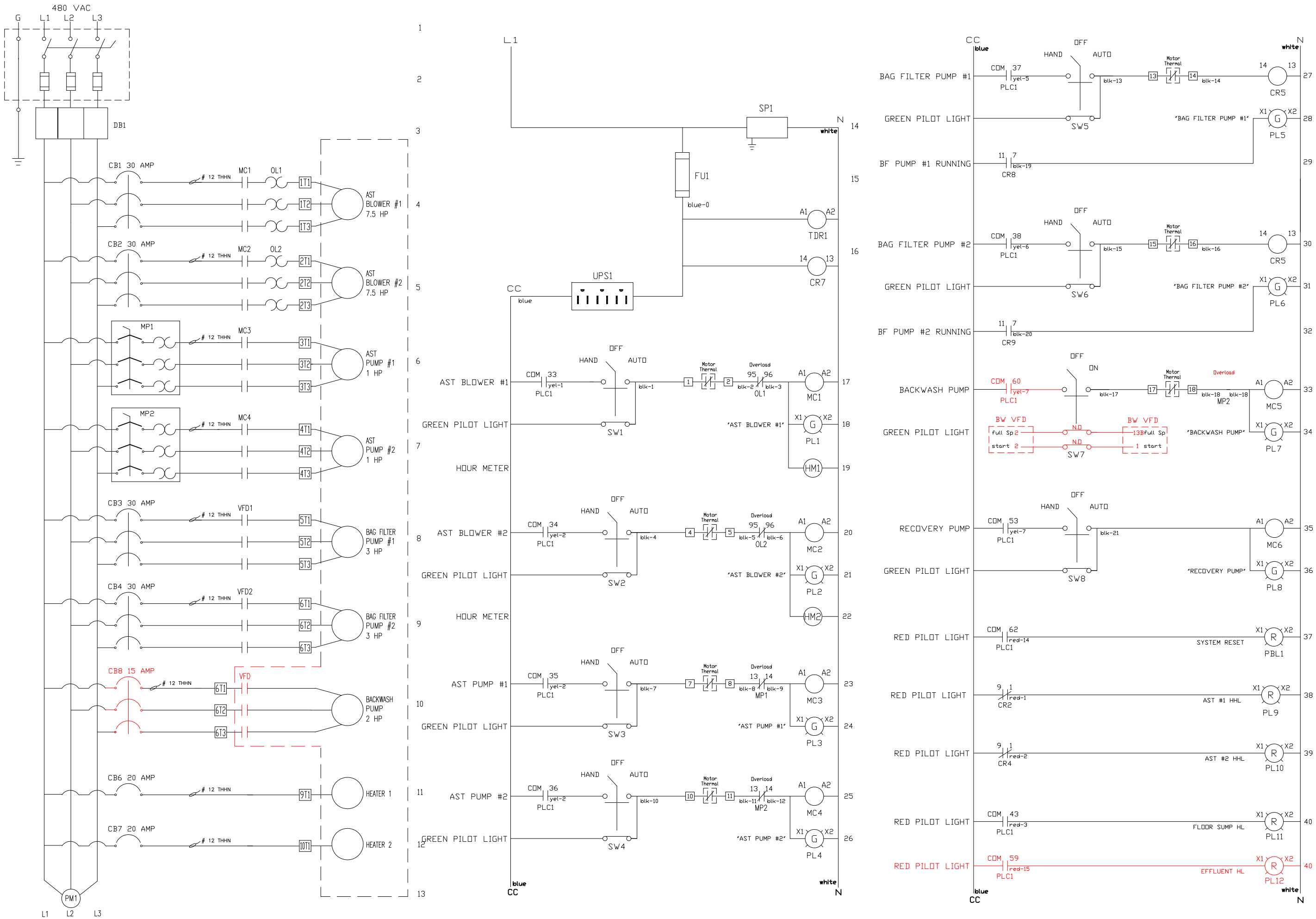


FIGURE 1A	JOB #: WO-001292	PRM PRODUCT RECOVERY MANAGEMENT a division of Phillips Electric Company of Durham, Inc. This information is proprietary and confidential. No copies or reproductions allowed without the express written consent of PRM.	NC STATE LOT 86 SITE PUMP AND TREAT SYSTEM PLAN VIEW
DRAWN G.A.C.	DATE: 5/06		
CHECKED N/A	REV #: 2		



Broken lines show components outside of control panel

HEPACO
NC STATE LOT 86 SITE
CONTROL PANEL SCHEMATIC

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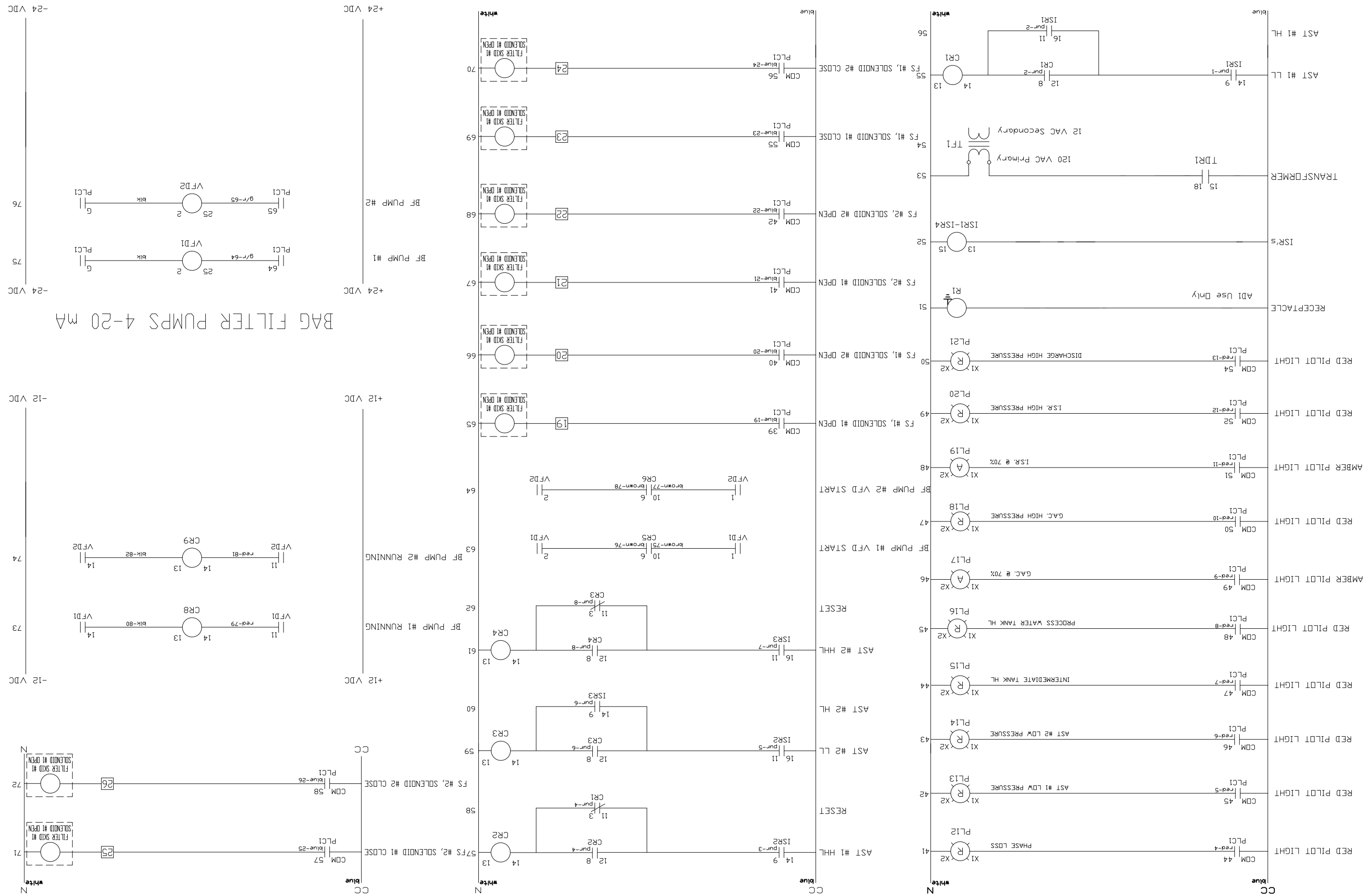
JOB #:	WO-001292
DATE:	09/06/06
CHECKED	N/A
MET	SN0118
DRAWN	DJM
FIGURE 2	PAGE 1 OF 3

Broken lines show components outside of control panel



MET	SN0118	JOB #:	WO-001292
DRAWN	DJM	DATE:	09/06/06
CHECKED			N/A

FIGURE 2 PAGE 2 OF 3

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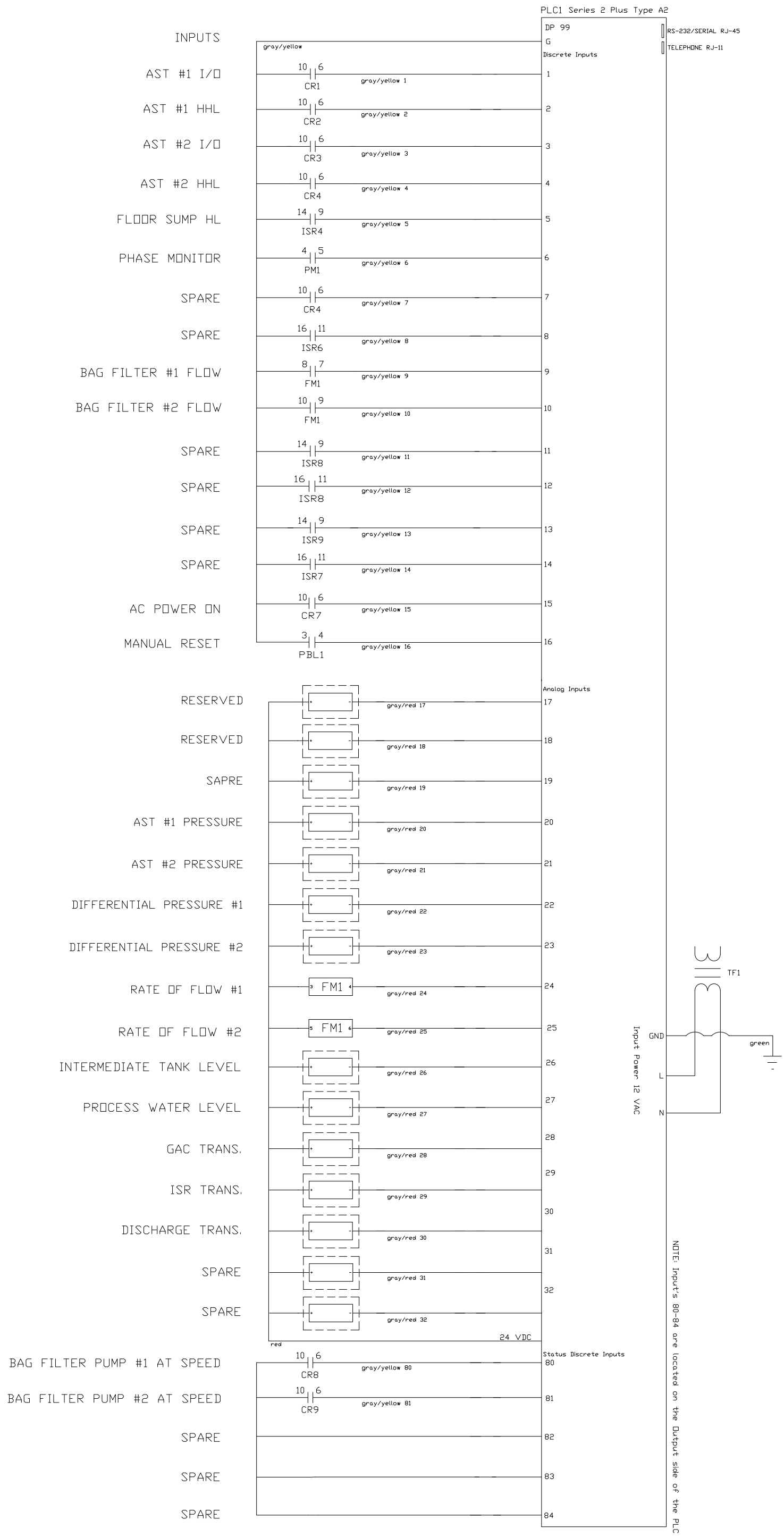
HEPACO
NC STATE LOT 86 SITE
CONTROL PANEL SCHEMATIC

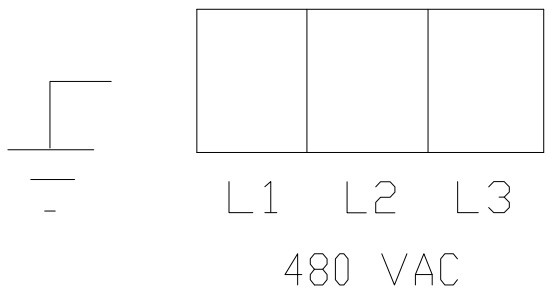


MET SN0118	JOB #: WO-001292	PRM PRODUCT RECOVERY MANAGEMENT a division of Phillips Electric Company of Durham, Inc.	HEPACO
DRAWN DJM	DATE: 09/06/06	This information is proprietary and confidential. No copies or reproductions allowed without the express written consent of PRM.	NC STATE LOT 86 SITE
FIGURE 2 PAGE 3 OF 3	CHECKED N/A		CONTROL PANEL SCHEMATIC

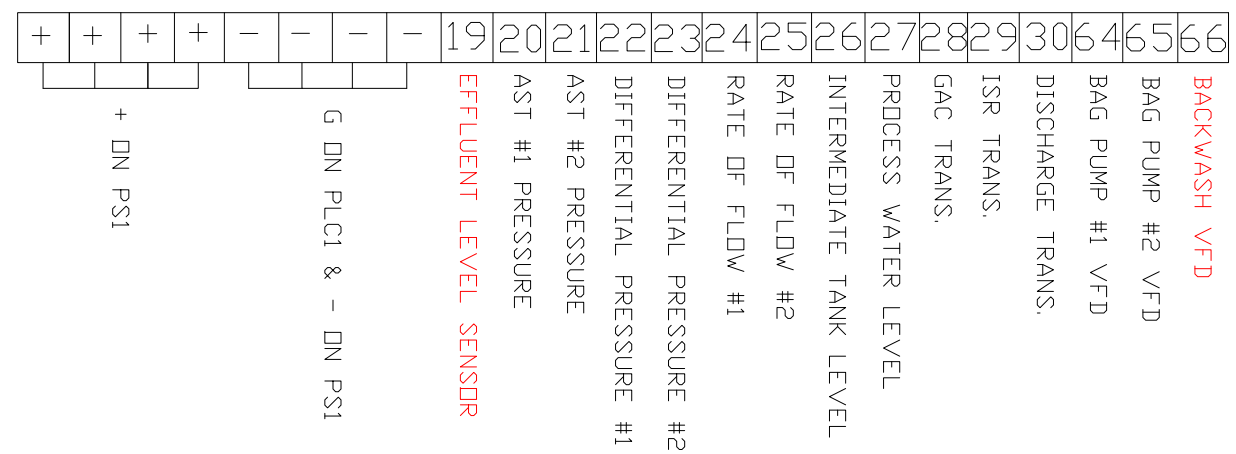
I.D.	hep001292
Voltage	480 VAC
Phase	3
F.L.A.	56.8
Frequency	60
Largest Motor: 7.5 HP	

HEPACO
NC STATE LOT 86 SITE
NON-INTRINSIC WIRING DIAGRAM

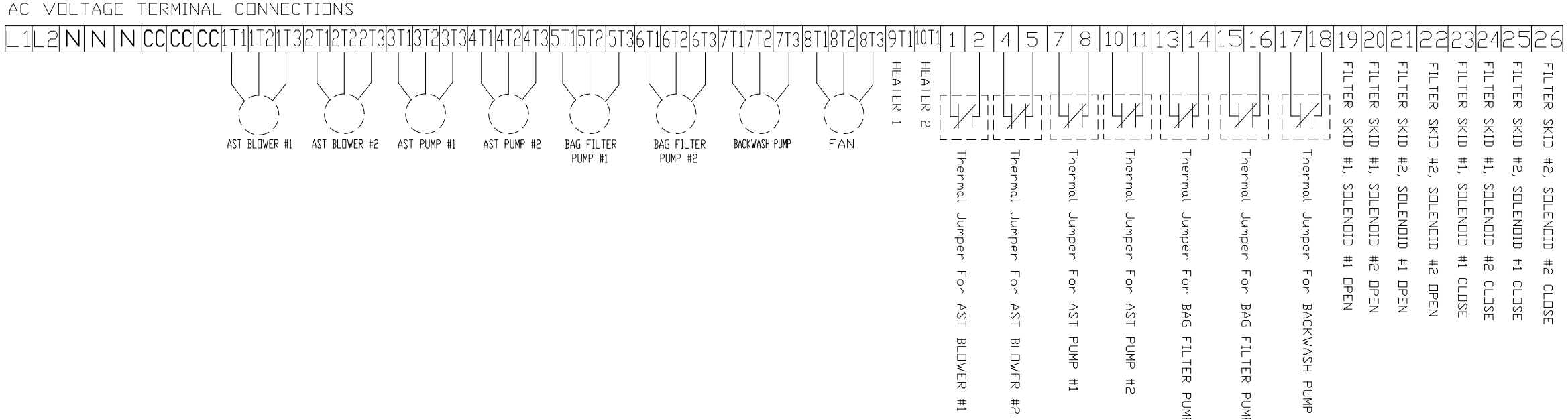
Power Distribution Block



Low Voltage Terminals



AC VOLTAGE TERMINAL CONNECTIONS



NOTES: Some connections may have already been made by PRM
Broken lines indicate components outside of control panel

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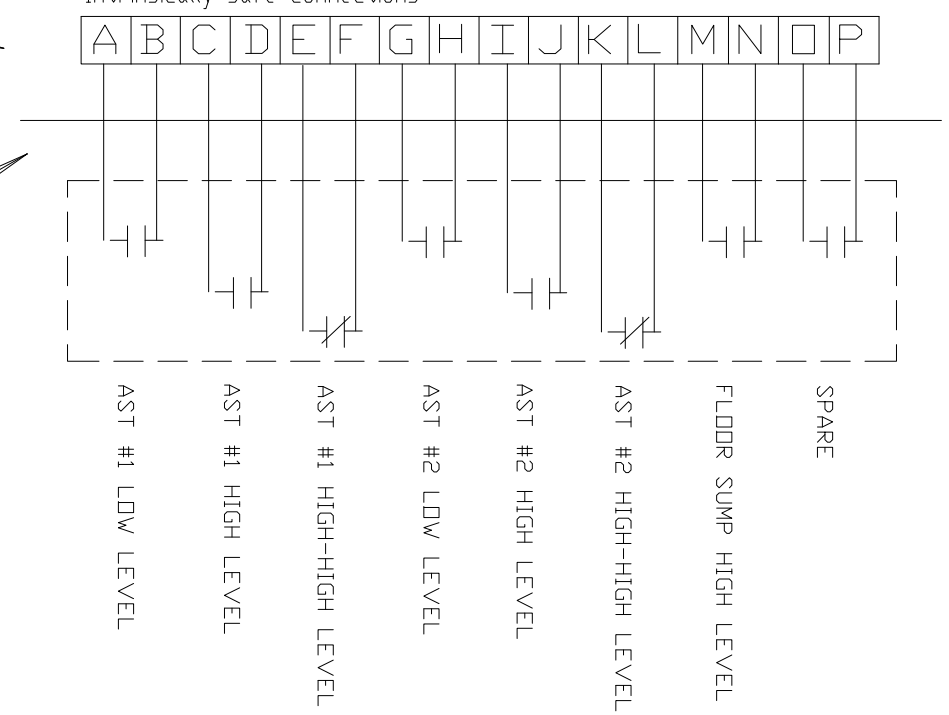
MET	SN0118	JOB #:	WO-001292
DRAWN	DJM	DATE:	09/06/06
FIGURE 3	PAGE 1 OF 2	CHECKED	N/A

For connecting only to purely resistive non-energy storing devices

Intrinsically safe connections



Install in accordance with Art. 504 of the NEC

Non-Hazardous Area

Bonded to system ground

Hazardous Area

Class I Groups A,B,C,and D

I.S. NOTES

1. Maximum cable length-21,217 ft.

NOTES: Some connections may have already been made by PRM
Broken lines indicate components outside of control panel

HEPACO
NC STATE LOT 86 SITE
INTRINSIC WIRING DIAGRAM

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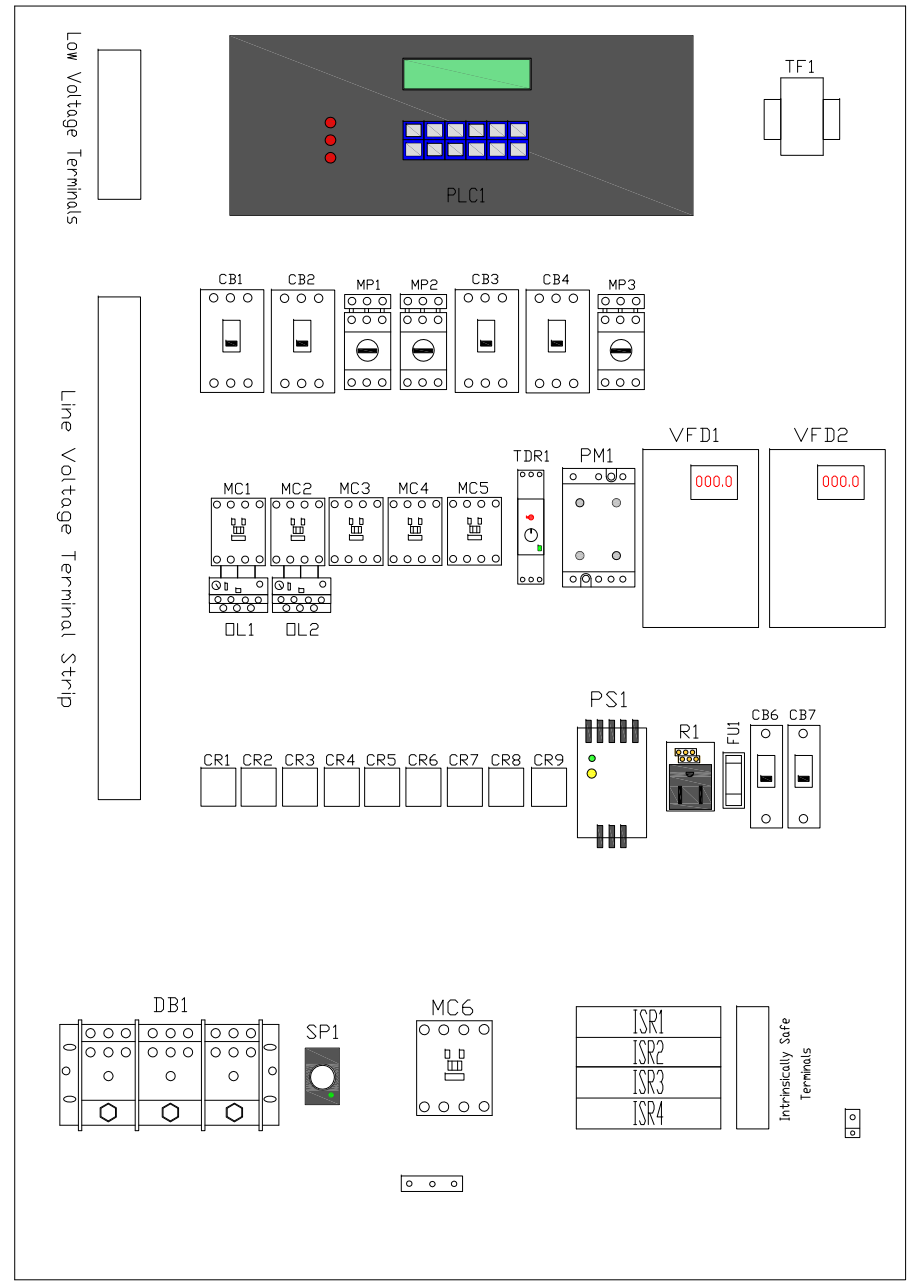
MET	SN0118	JOB #:	WO-001292
DRAWN	DJM	DATE:	09/06/06
FIGURE 3	PAGE 2 OF 2	CHECKED	N/A



Qty.	Drawing I.D.	Part No.	Description
		Enclosures	
1		28260	Rittal Enclosure
1		28845	Backplate
1		25311	Deadfront
		Components	
2	CB1-CB2	CQD330	Siemens Circuit Breaker
2	CB3-CB4	CQD315	Siemens Circuit Breaker
9	CR1-CR9	700-HC24A1	Allen-Bradley Control Relay
9		DRS-02-14P	Moonics Relay Base
1	DB1	16021-3	Buss Distribution Block
1	FM1	KTK-R-2	Signet Flow Meter
1	FU1	KTK-R-2	Class CC fuse
1		BM6031PQ	Buss Fuse Holder
2	HM1-HM2	T50B2	ENM Hour Meter
4	ISR1-ISR4	GHG122 3121 D1003	Crouse Hinds 120 VAC ISR
2	MC1-MC2	100-C12-D10	Allen-Bradley Motor Controller
3	MC3-MC5	100-C09-D10	Allen-Bradley Motor Controller
1	MC6	K85	Benedikt & Jager Motor Controller
2	MP1-MP2	140M-C2E-B25-KY	Allen-Bradley Manual Motor Protector
1	MP3	140M-C2E-B40-KY	Allen-Bradley Manual Motor Protector
2	OL1-OL2	193-EA2FB	Allen-Bradley Overload
1	PBL1	800EP-LE4	Allen-Bradley Reset Button
1		800E-3X10	Allen-Bradley N.O. Contact Block
8	PL1-PL8	800EP-P3	Allen-Bradley Green Lens
8		800-3NL5G	Allen-Bradley 120VAC Green LED Module
12	PL9-PL16,PL18,PL20-PL21	800EP-P4	Allen-Bradley Red Lens
13		800E-3NL5R	Allen-Bradley 120VAC Red LED Module
2	PL17, PL19	800EP-P5	Allen-Bradley Amber Lens
2		800-3NL5A	Allen-Bradley 120VAC Amber LED Module
1	PLC1	A2	EOS Procontrol PLC
1	PM1	460-14	SymCom Phase Monitor
1	PS1	1606-XLP	Allen-Bradley 24VDC Power Supply
1	R1	991548	Weldmuller Receptacle 125V 15A
1	SP1	DTK-120HW	Ditek Surge Protector
7	SW1-SW7	800EP-SL32	Allen-Bradley Spring from Left Switch
1	SW8	800EP-SM32	Allen-Bradley Spring All-Maintained Switch
8		800E-3LX20	Allen-Bradley N.O. Contact Block
8		800E-11BE128K	Allen-Bradley HOA Legend Plates
1	TDR1	FEA3T	Allen-Bradley Time Delay Relay
1	TF1	CL2-40-12	EOS Transformer
1		5B718	4 Conductor Grounding Bar Kit
1		IDE375	9 Conductor Grounding Bar Kit
1		3LN44	1 Conductor Grounding Lug
47		1492-CAM1	Allen-Bradley Terminal Blocks
39		1492-HM1	Allen-Bradley Terminal Blocks
1		CONT35MDINMT	35 mm Din Rail
1		5B371	22 mm Din Rail
1		CONTWDSG6080	60 x 80 Tecnomatic Wire Duct

Broken lines show components outside of control panel

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NC STATE LOT 86 SITE
CONTROL PANEL LAYOUT

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JOB #: WO-001292
DATE: 09/06/06
CHECKED N/A

MET SN0118
DRAWN DJM
FIGURE 4 PAGE 1 OF 1

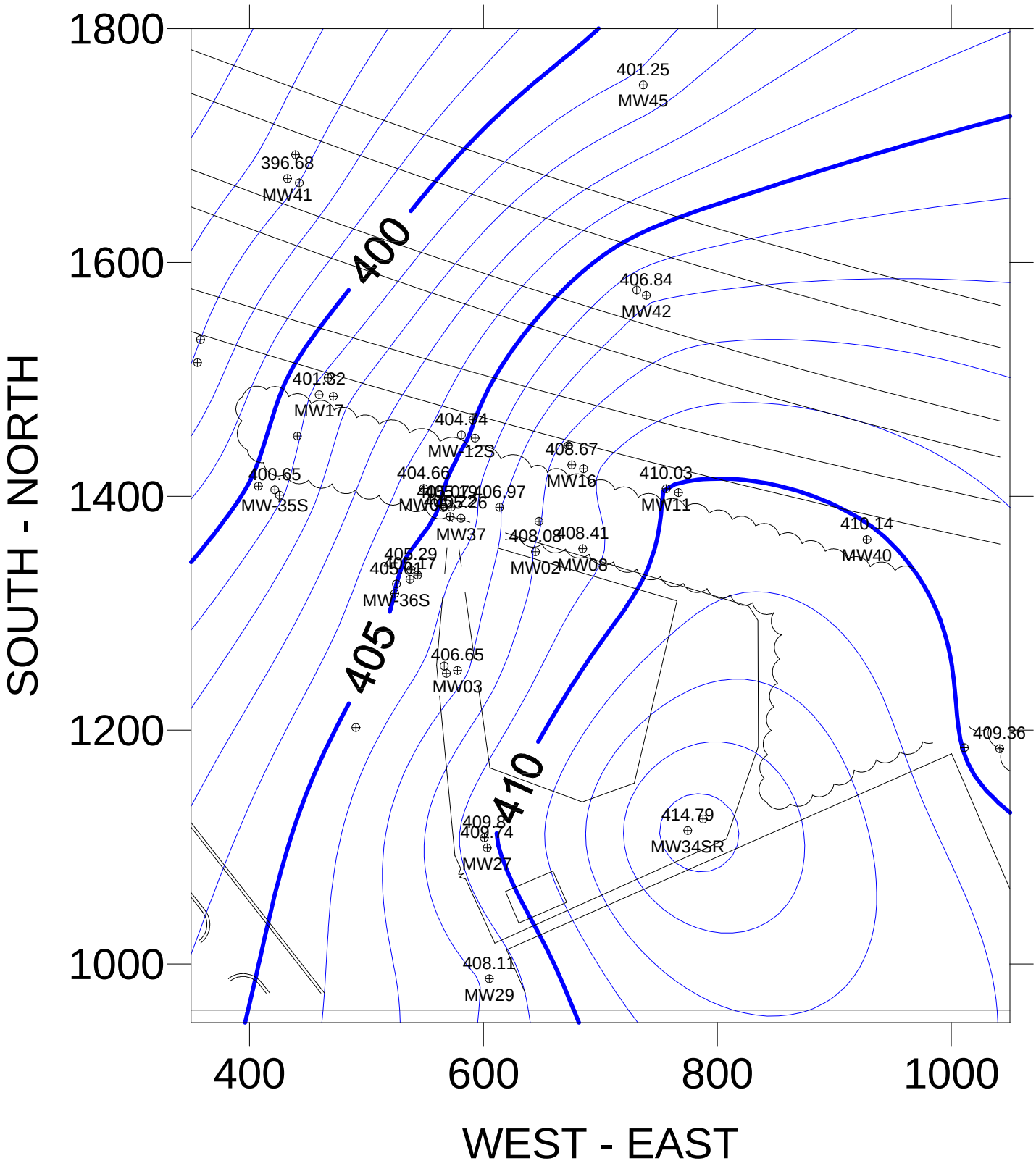
APPENDIX B

GROUNDWATER MODELING OUTPUT

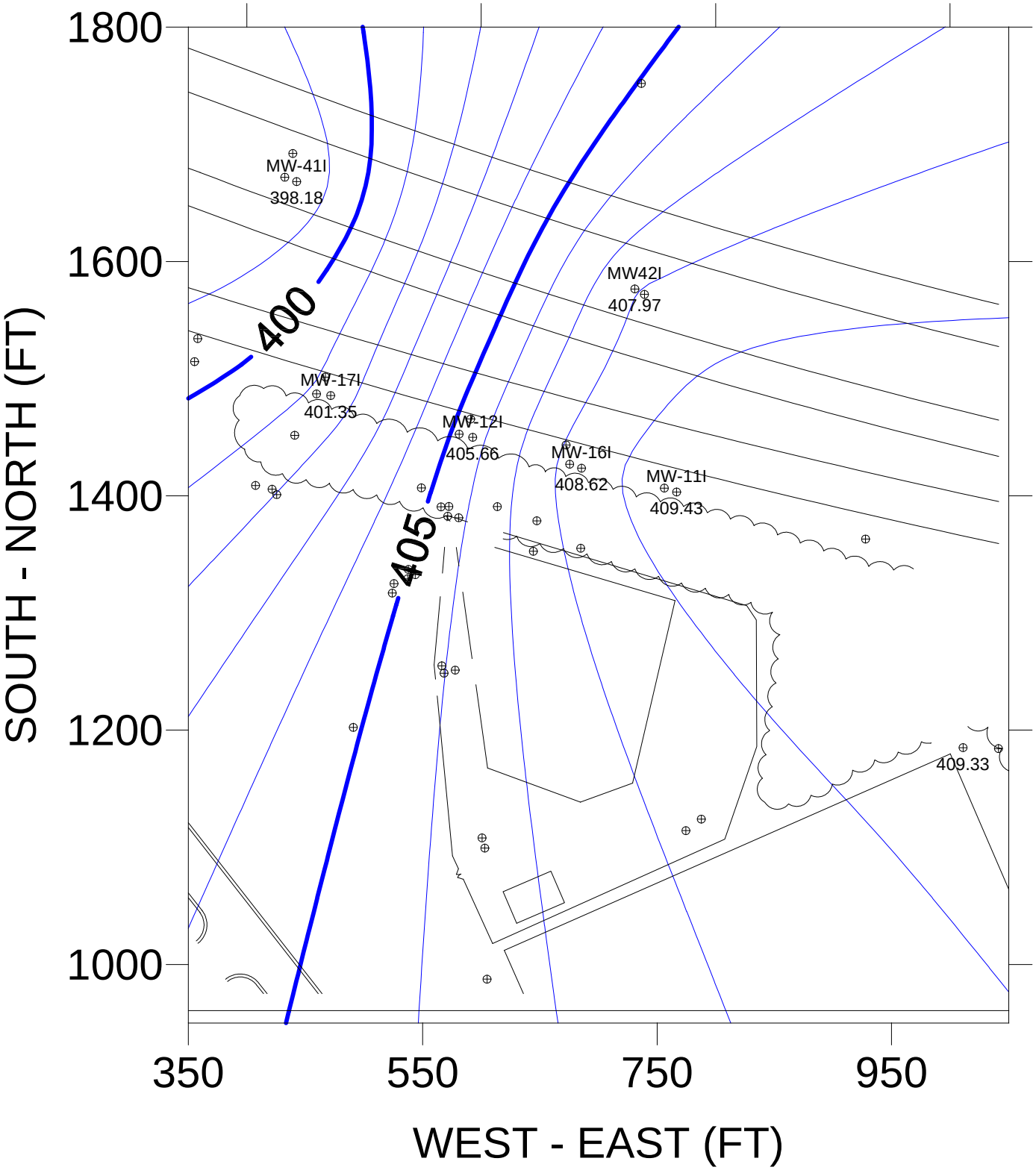
APPENDIX B-1

GROUNDWATER POTENTIOMETRIC-SURFACE AND FLOW MODELS

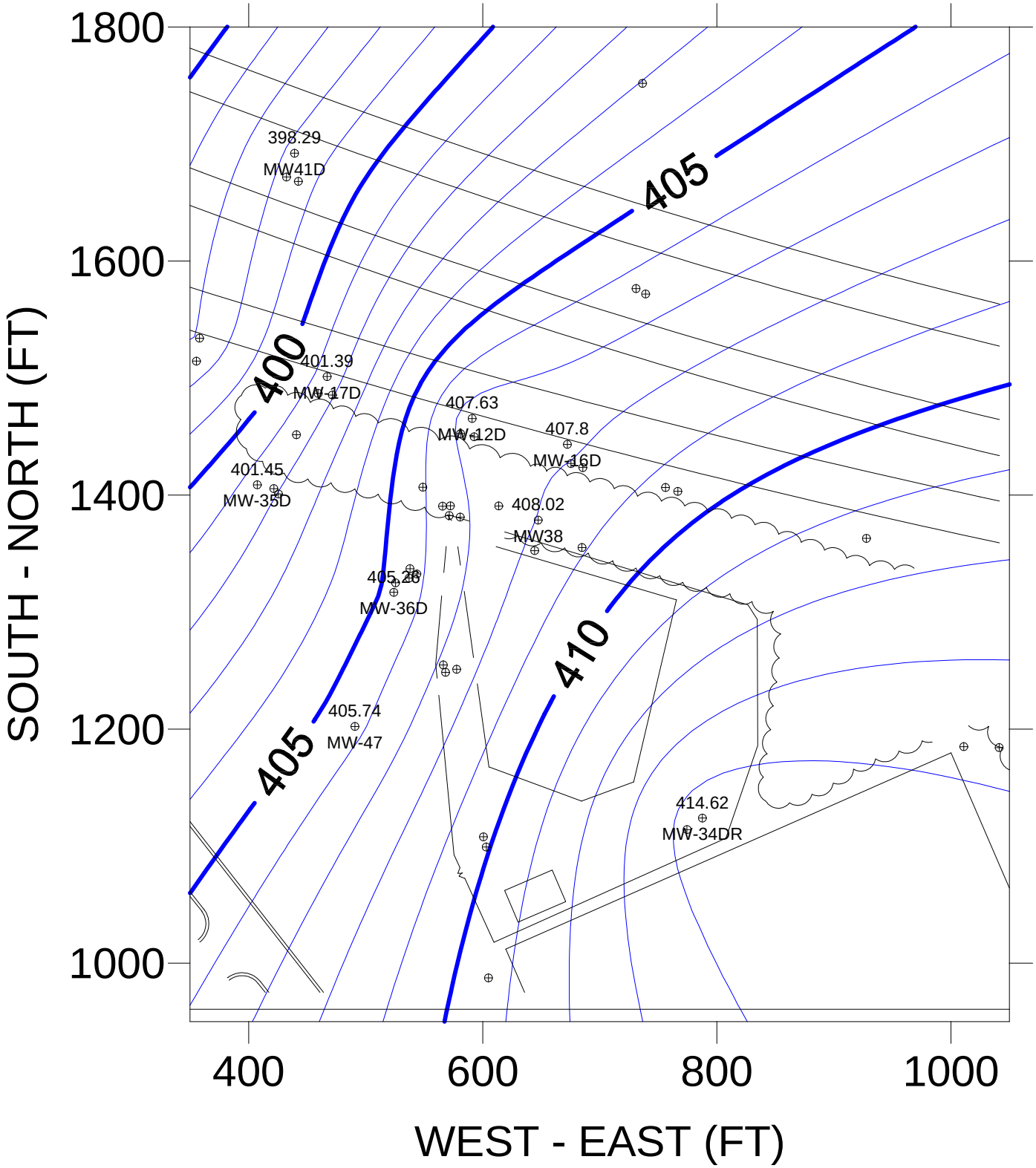
SHALLOW GROUNDWATER POTENTIOMETRIC SURFACE CONTOUR MAP: MAY 2005 - NON-PUMPING CONDITIONS NCSU - LOT 86 SITE



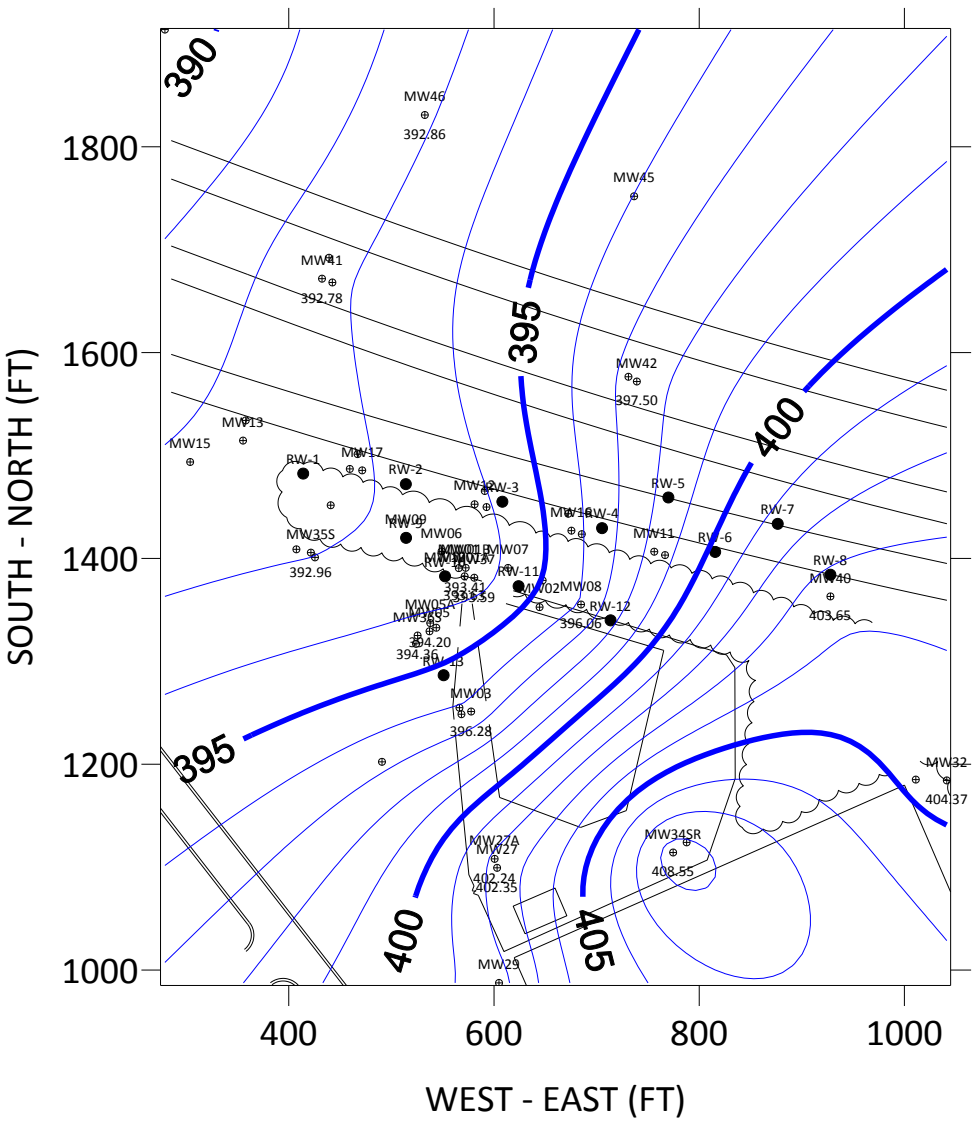
INTERMEDIATE GROUNDWATER POTENTIOMETRIC SURFACE CONTOUR MAP: MAY 2005 - NON-PUMPING CONDITIONS
NCSU - LOT 86 SITE

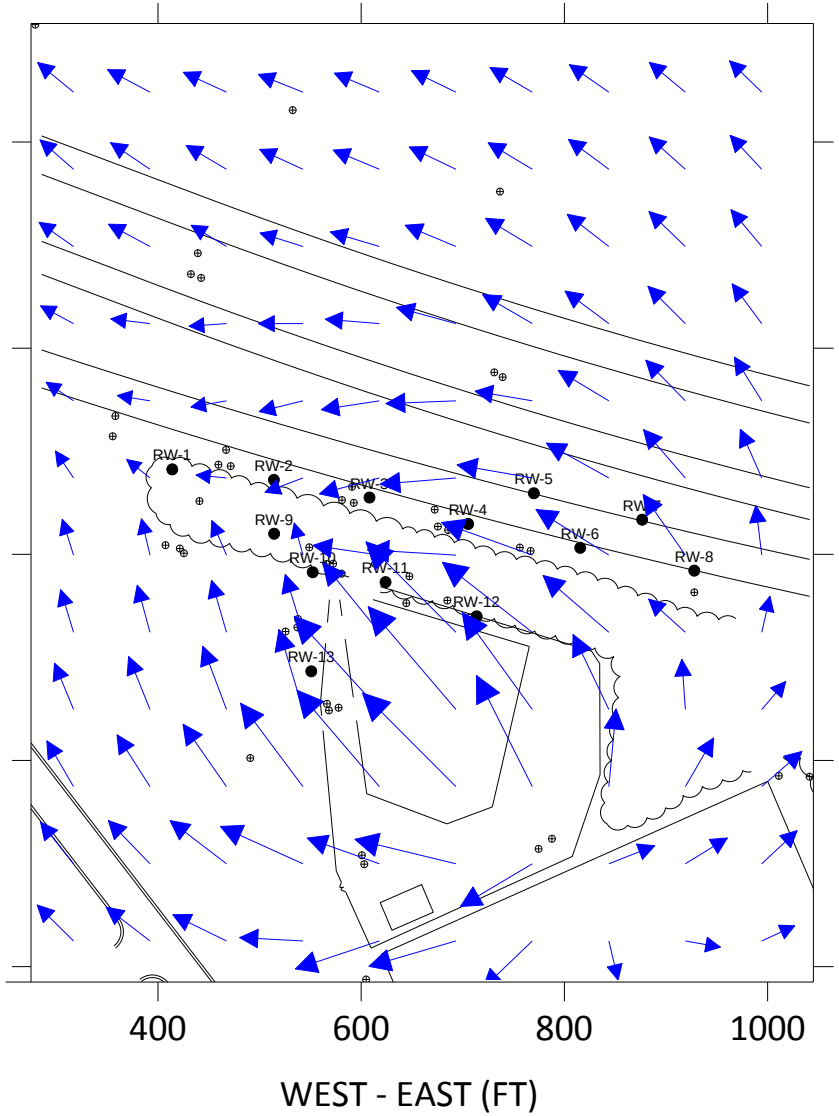


DEEP GROUNDWATER POTENTIOMETRIC SURFACE CONTOUR MAP: MAY 2005 - NON-PUMPING CONDITIONS NCSU - LOT 86 SITE

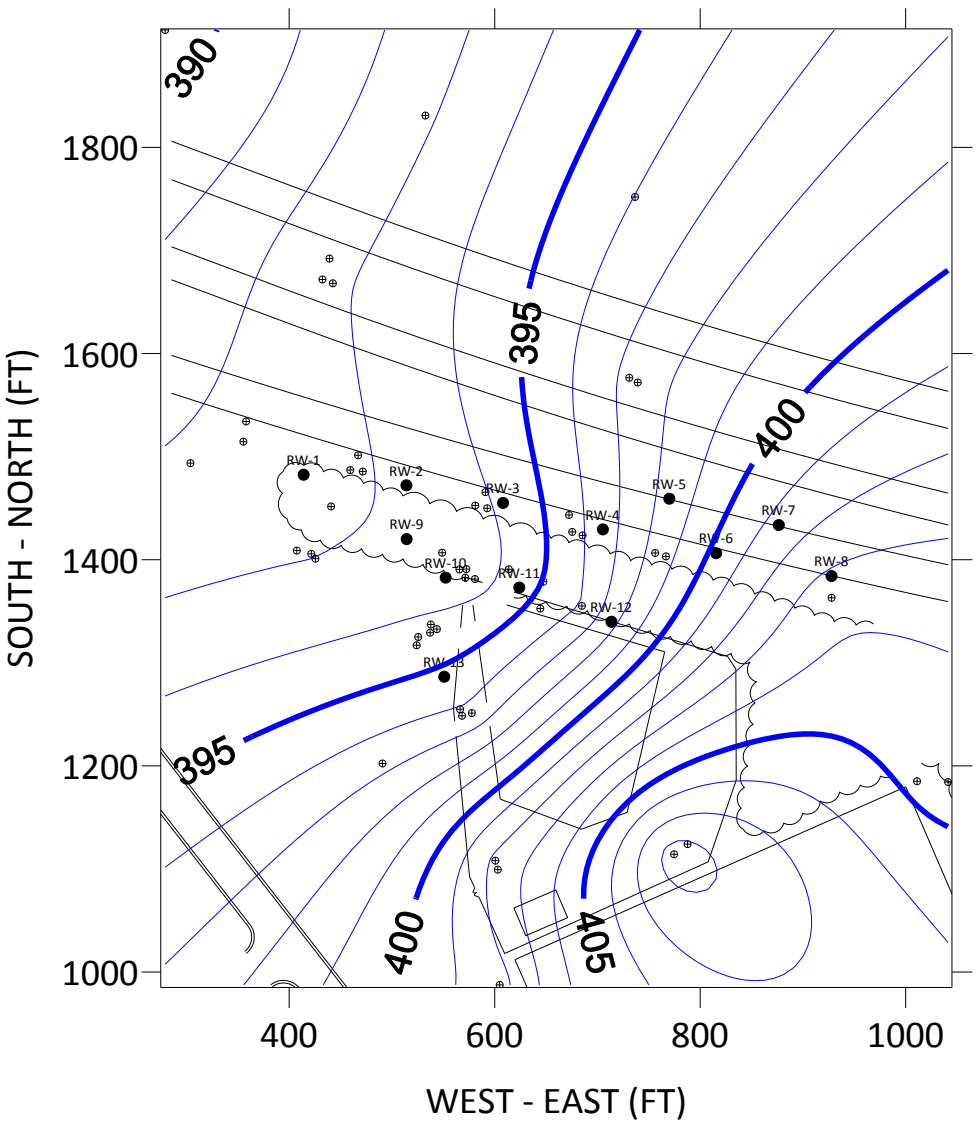


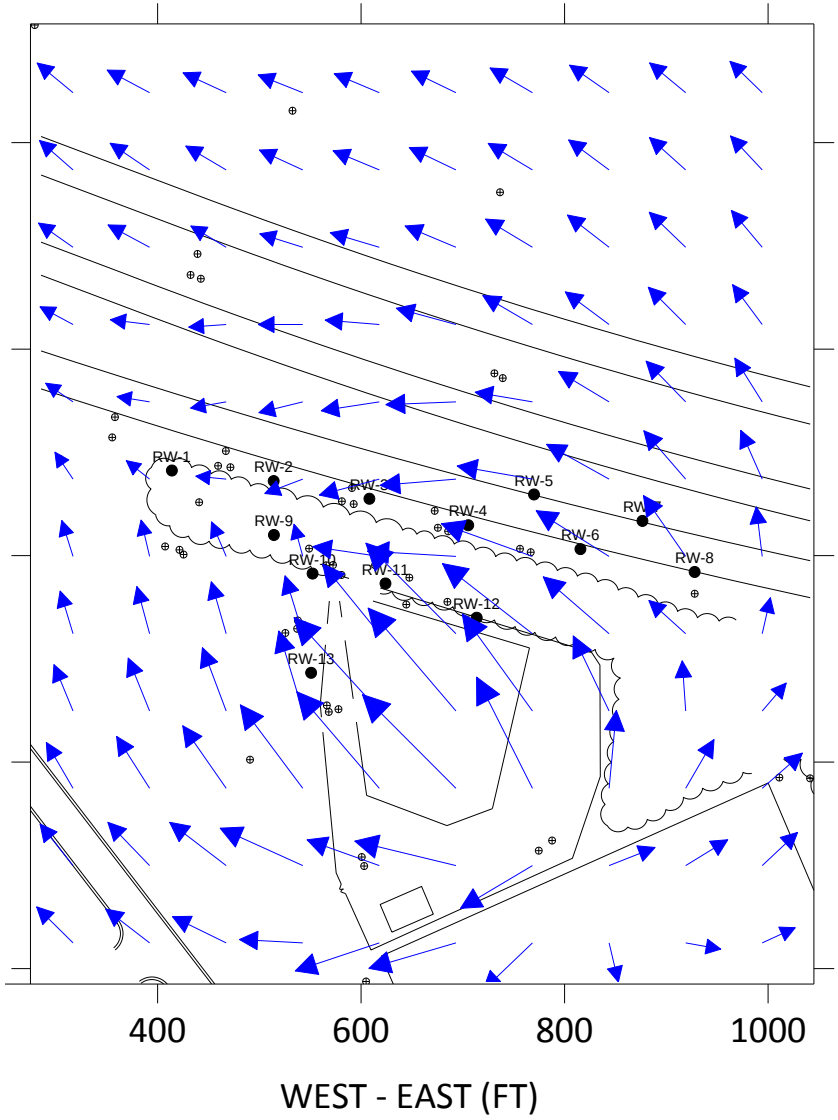
SHALLOW GROUNDWATER POTENTIOMETRIC SURFACE CONTOUR:
AND FLOW VECTOR MAPS: FEBRUARY 7, 2014
NCSU - LOT 86 SITE



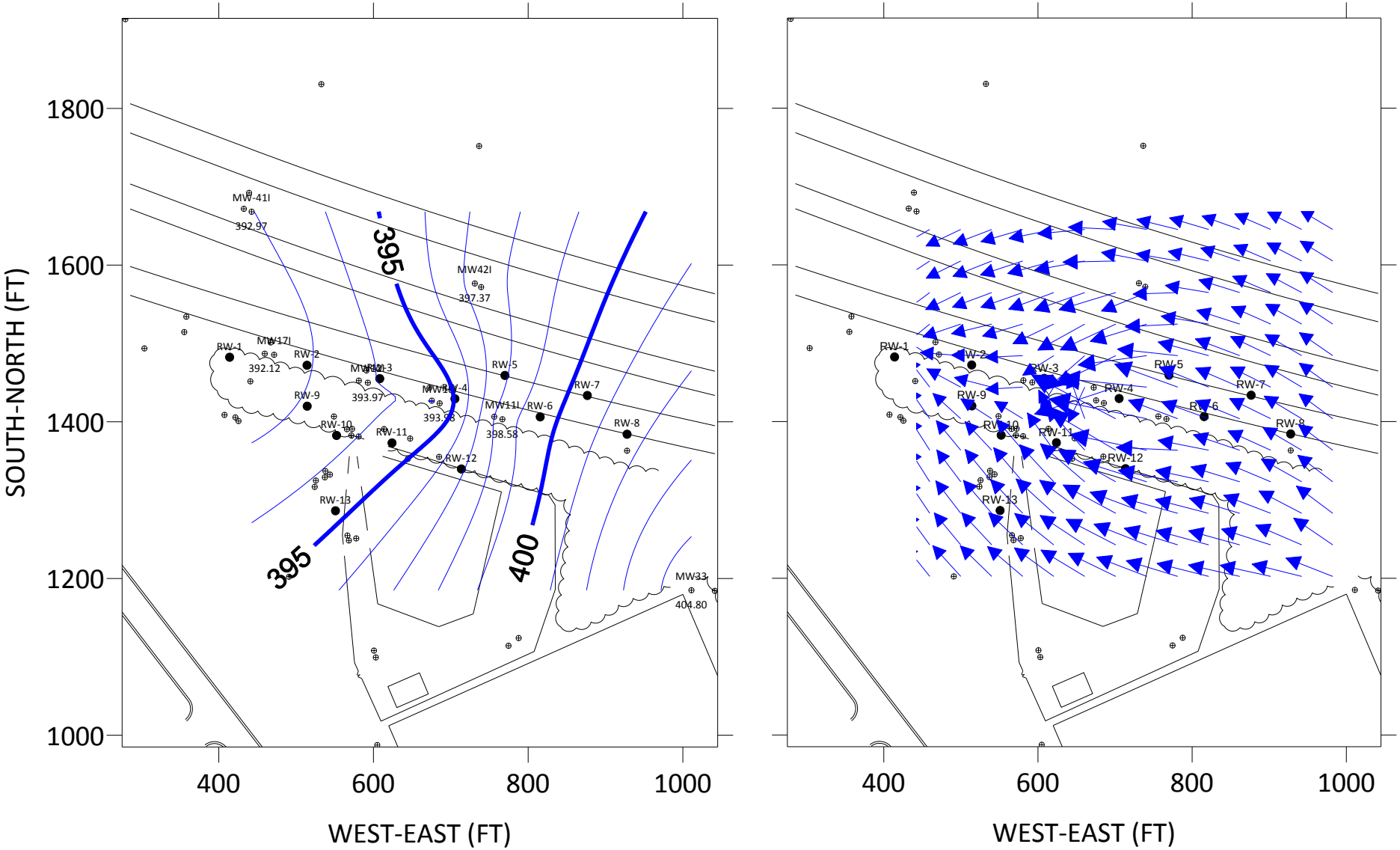


SHALLOW GROUNDWATER POTENTIOMETRIC SURFACE CONTOUR:
AND FLOW VECTOR MAPS: FEBRUARY 7, 2014
NCSU - LOT 86 SITE

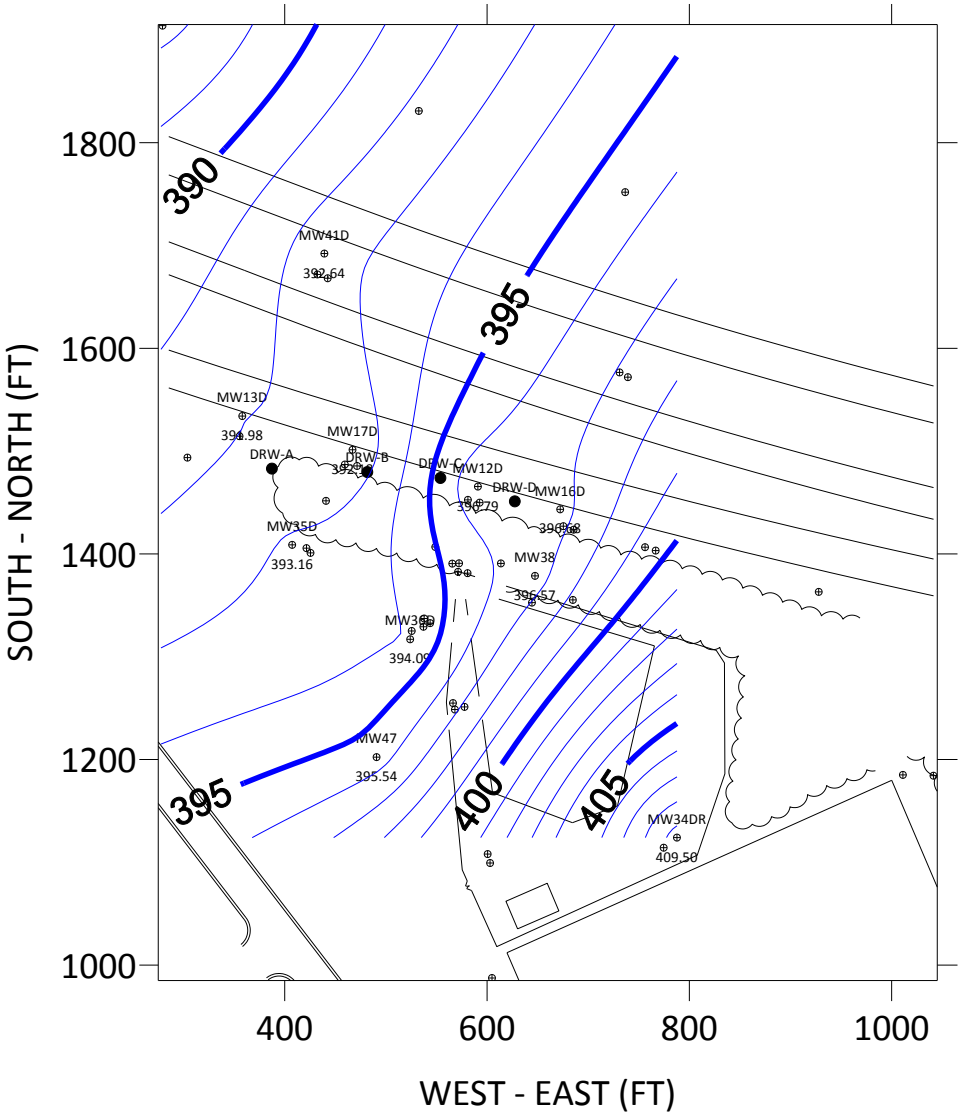


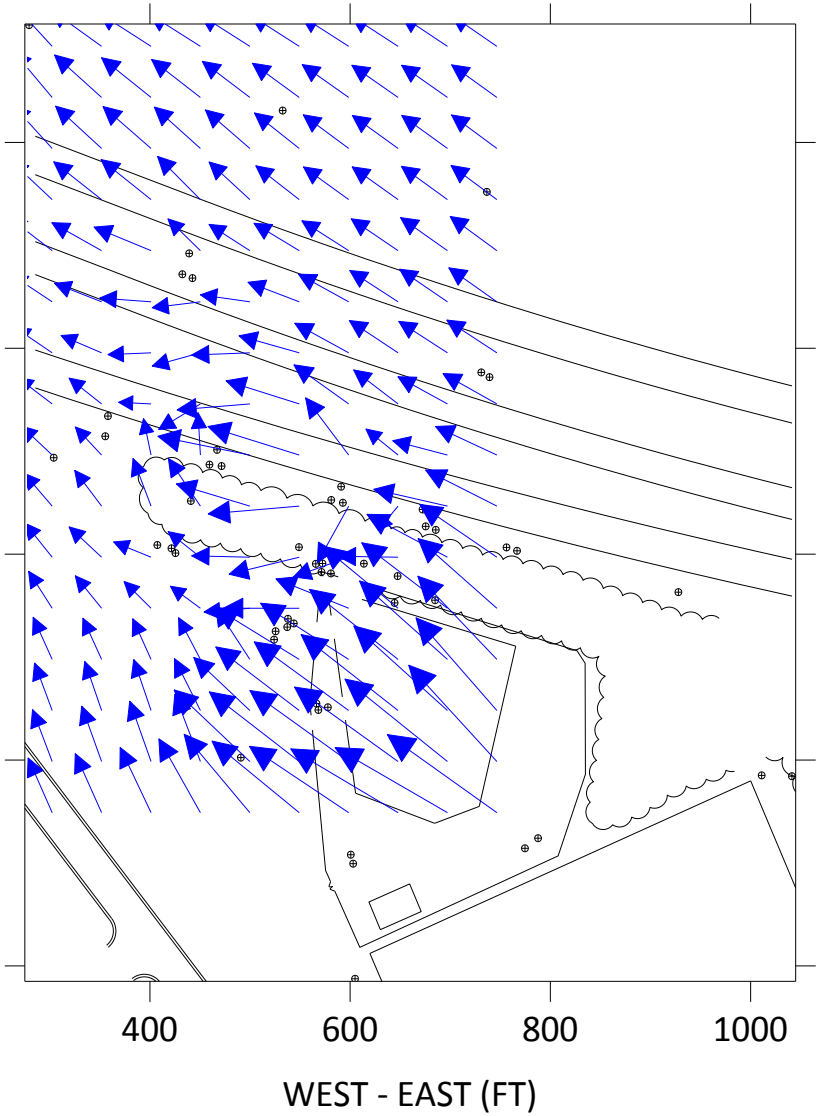


INTERMEDIATE GROUNDWATER POTENTIOMETRIC SURFACE CONTOUR
AND FLOW VECTOR MAPS: FEBRUARY 7, 2014
NCSU - LOT 86 SITE

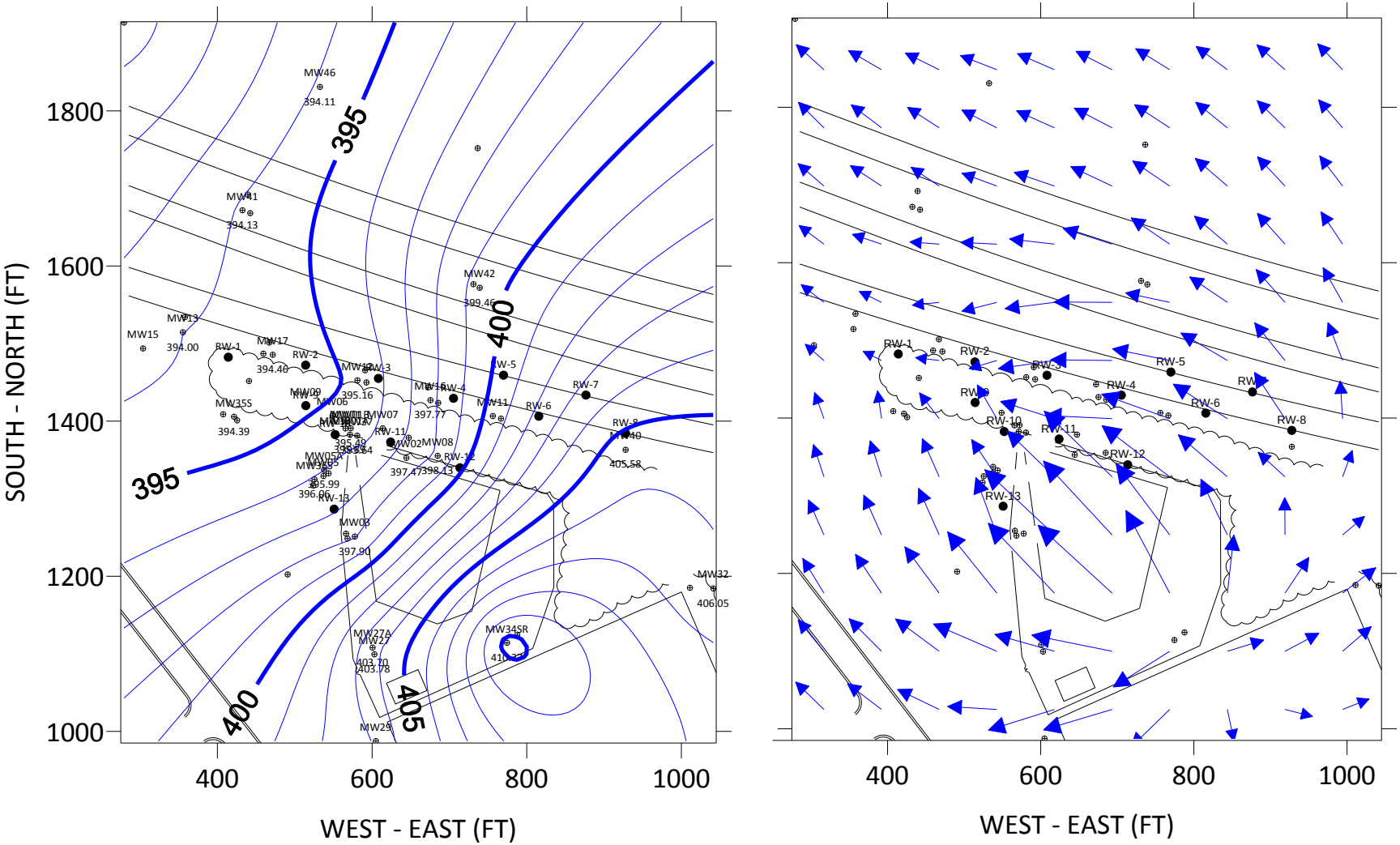


DEEP (BEDROCK) GROUNDWATER POTENTIOMETRIC SURFACE CONTOUR
AND FLOW VECTOR MAPS: FEBRUARY 7, 2014
NCSU - LOT 86 SITE

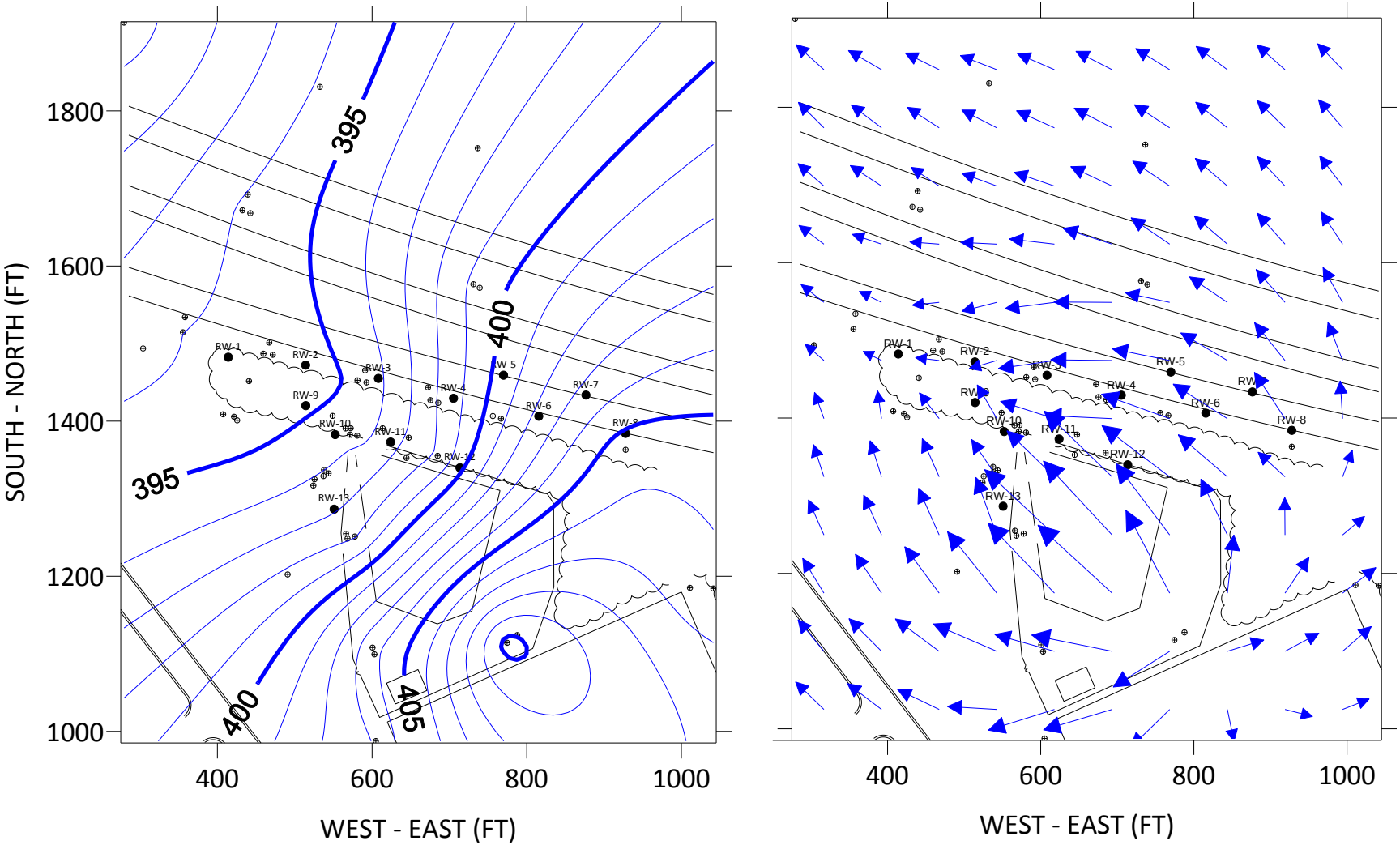




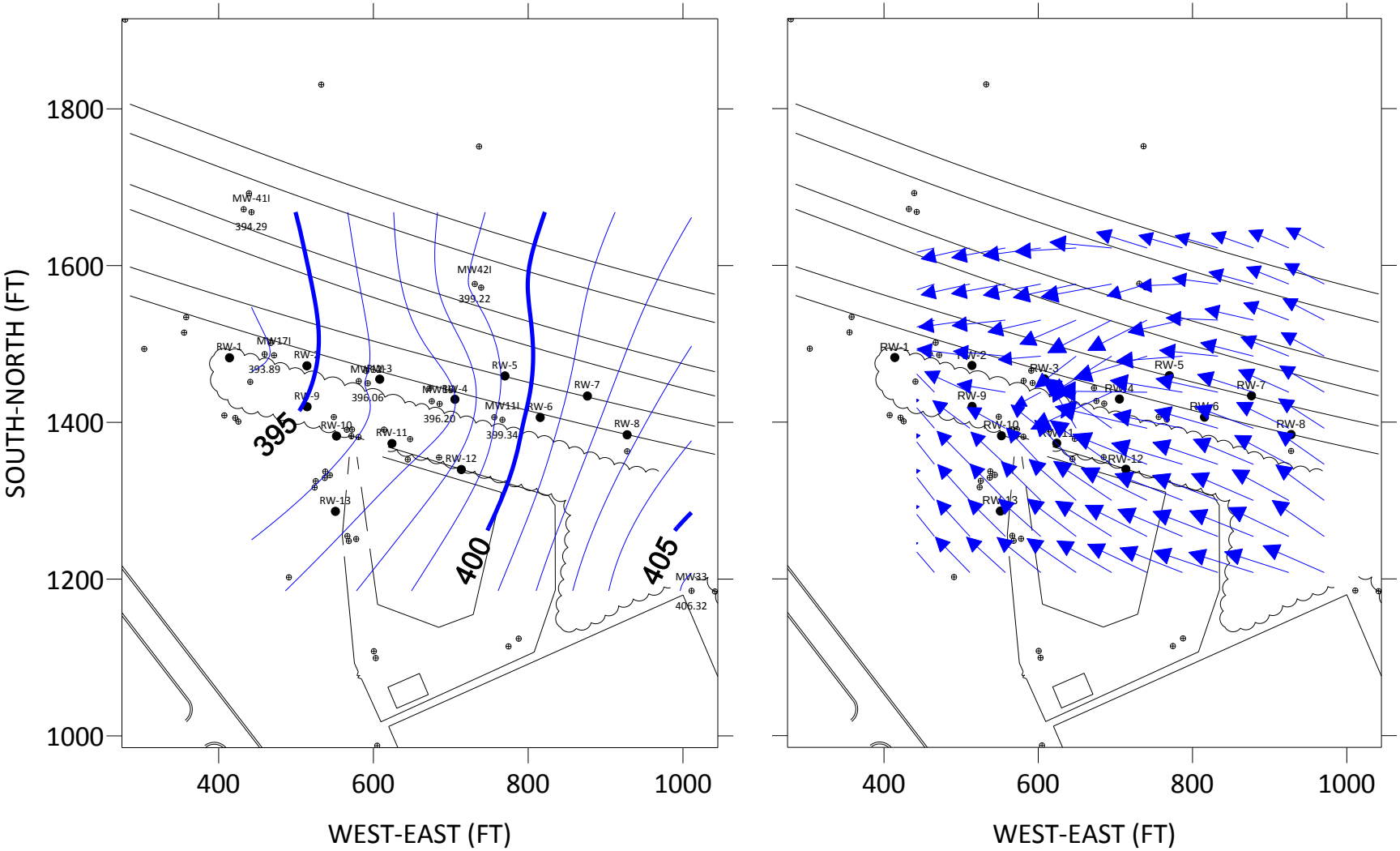
SHALLOW GROUNDWATER POTENTIOMETRIC SURFACE CONTOUR:
AND FLOW VECTOR MAPS: MAY 29, 2014
NCSU - LOT 86 SITE



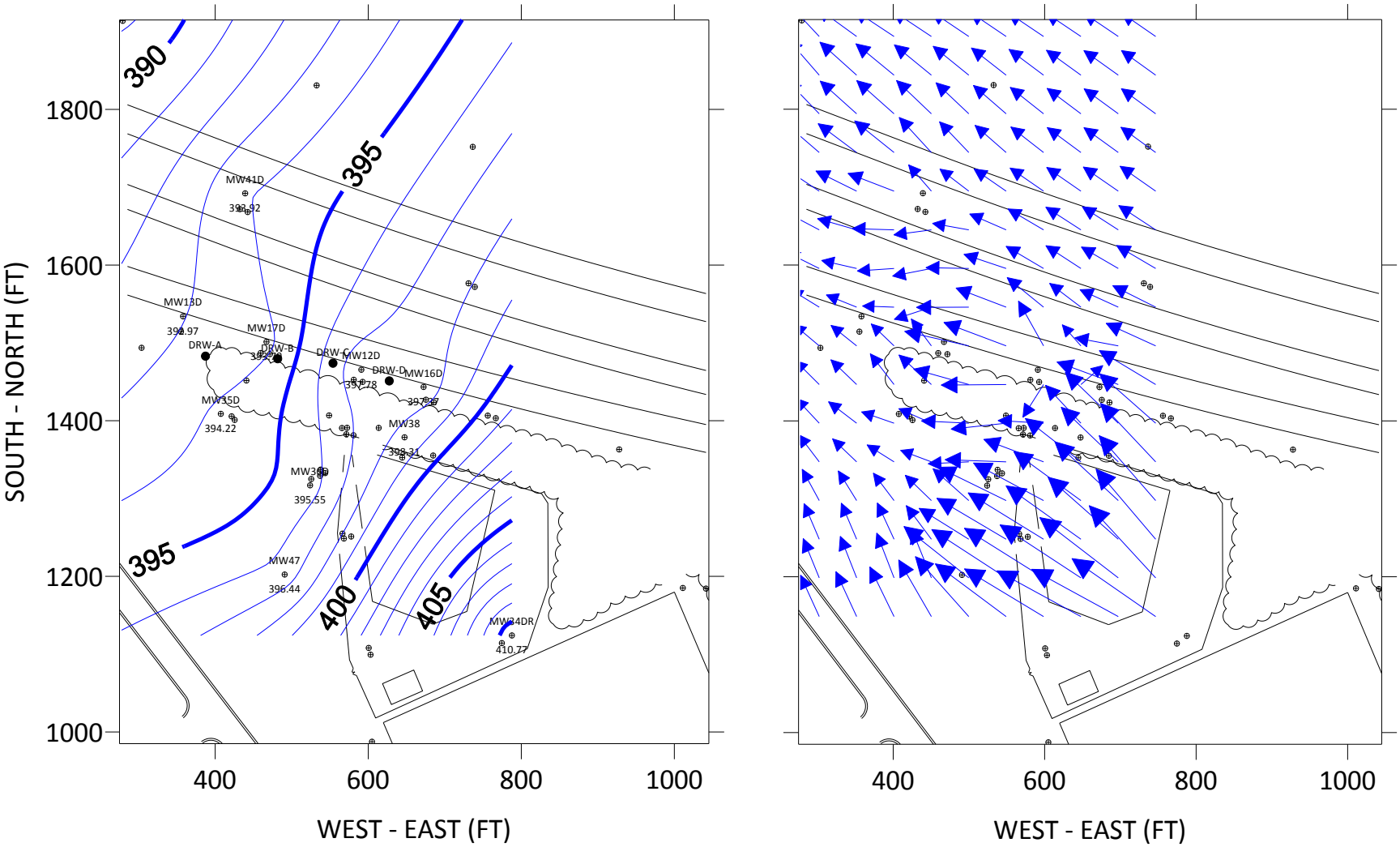
SHALLOW GROUNDWATER POTENTIOMETRIC SURFACE CONTOUR:
AND FLOW VECTOR MAPS: MAY 29, 2014
NCSU - LOT 86 SITE



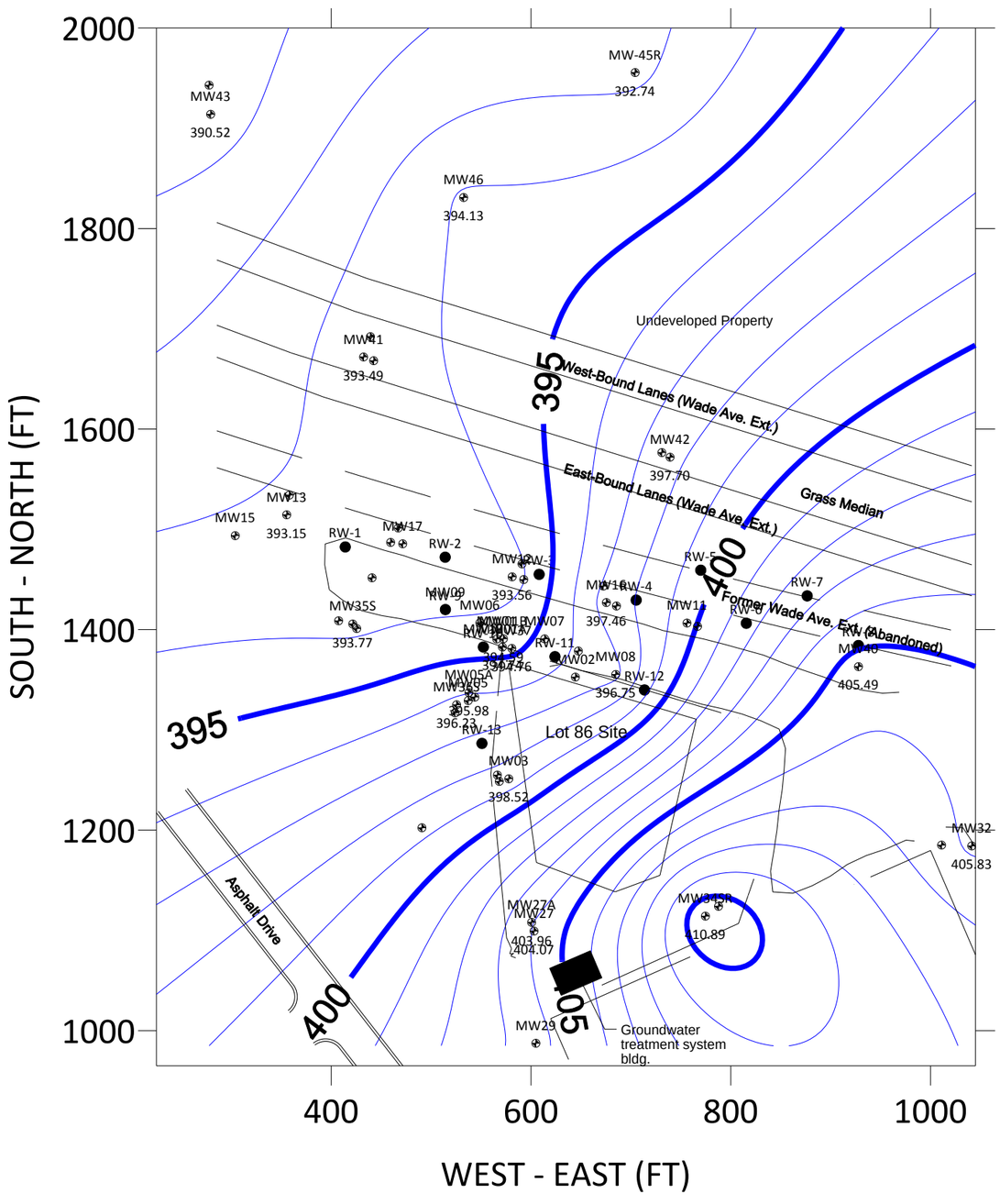
INTERMEDIATE GROUNDWATER POTENTIOMETRIC SURFACE CONTOUR
AND FLOW VECTOR MAPS: MAY 29, 2014
NCSU - LOT 86 SITE

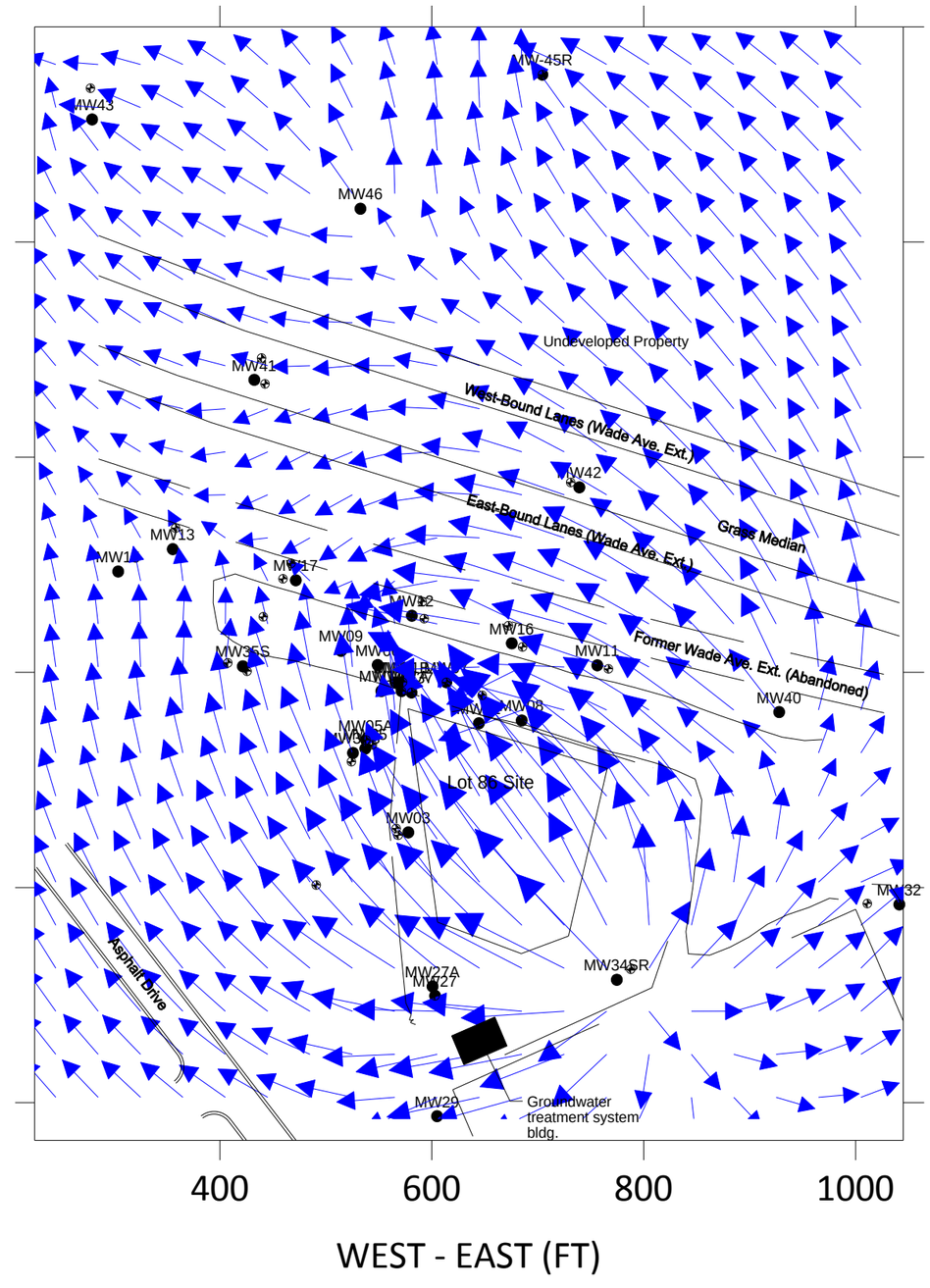


DEEP (BEDROCK) GROUNDWATER POTENTIOMETRIC SURFACE CONTOUR
AND FLOW VECTOR MAPS: MAY 29, 2014
NCSU - LOT 86 SITE

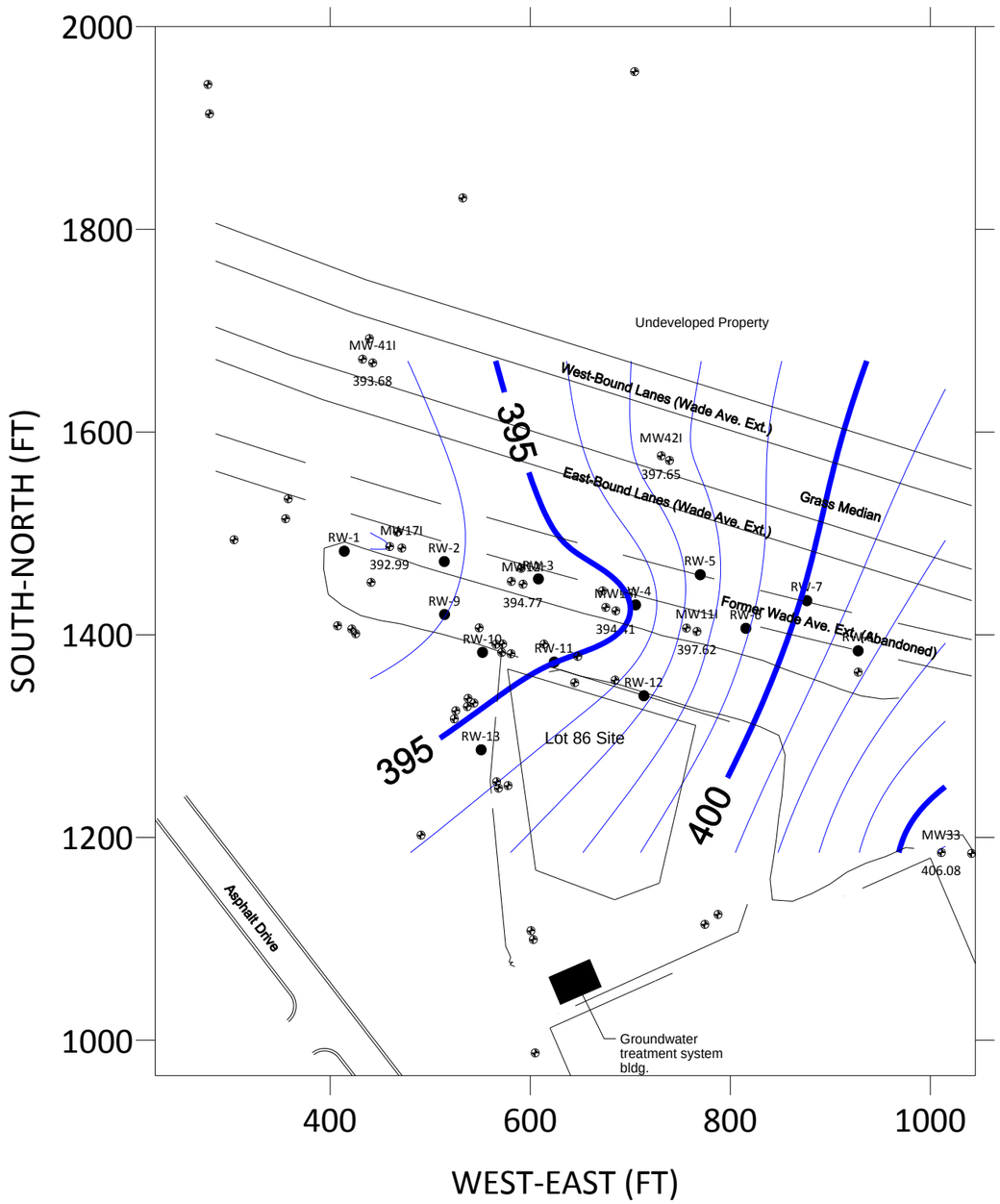


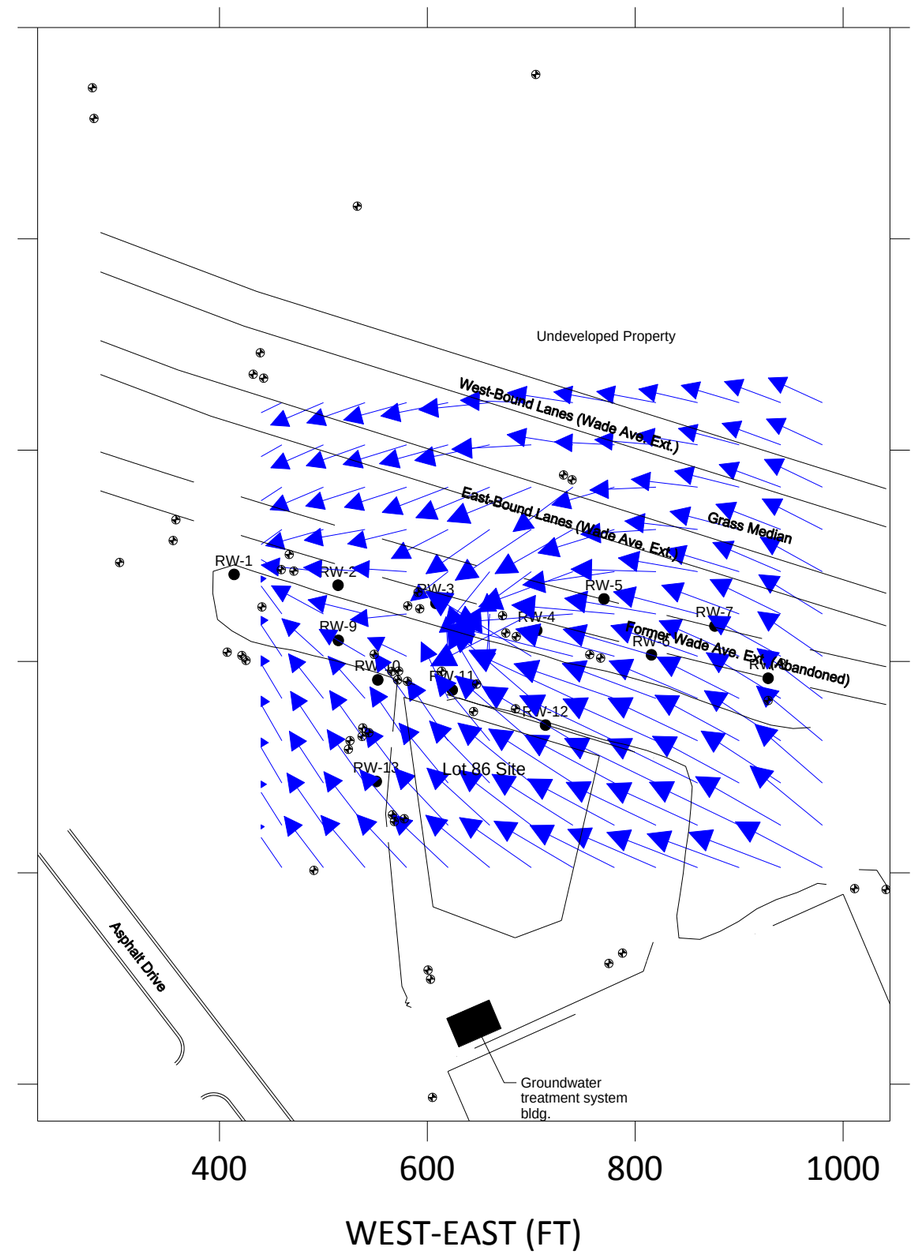
SHALLOW GROUNDWATER POTENTIOMETRIC SURFACE CONTOUR:
AND FLOW VECTOR MAPS: AUGUST 11, 2014
NCSU - LOT 86 SITE



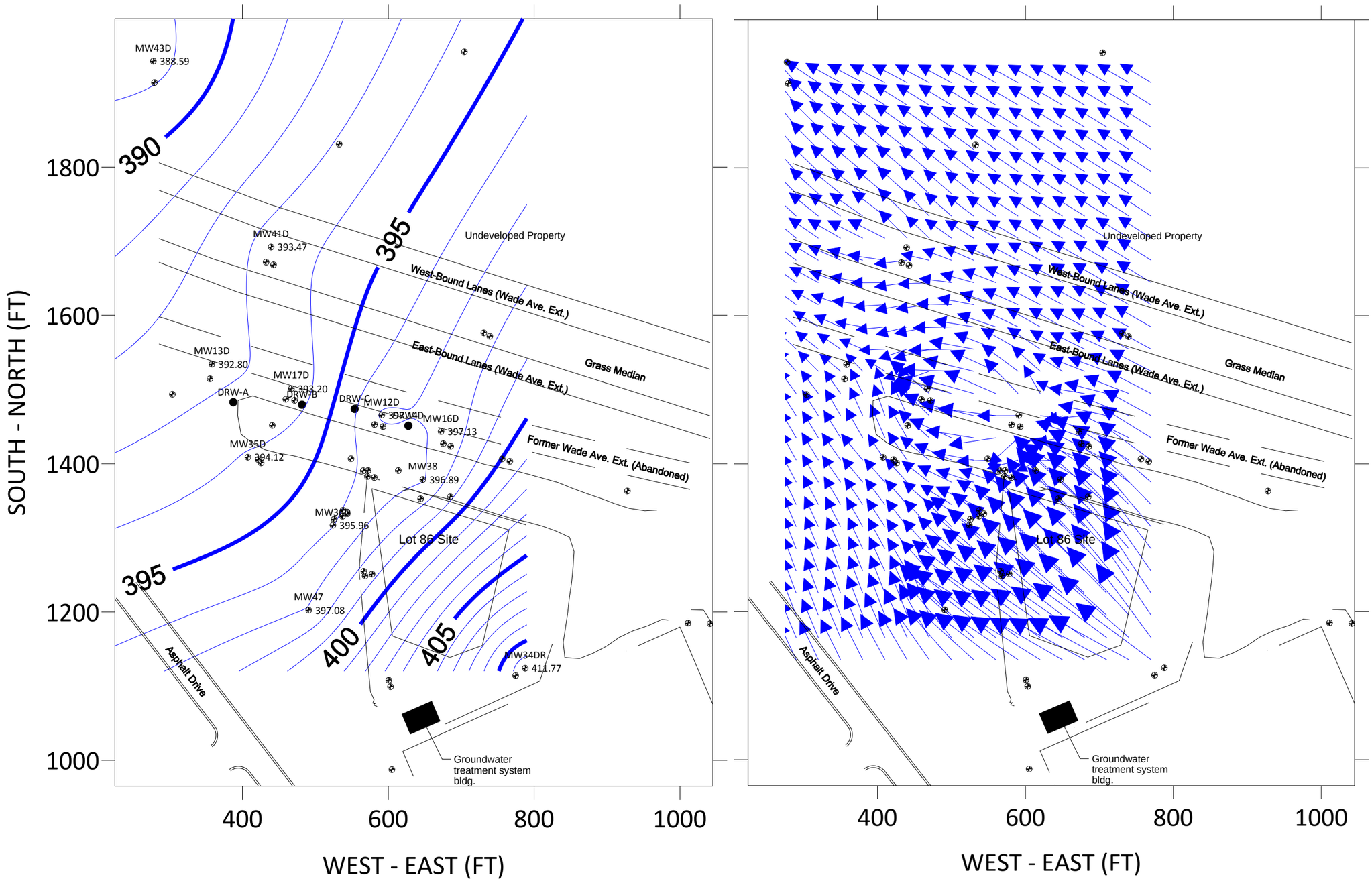


INTERMEDIATE GROUNDWATER POTENTIOMETRIC SURFACE CONTOUR
AND FLOW VECTOR MAPS: AUGUST 11, 2014
NCSU - LOT 86 SITE

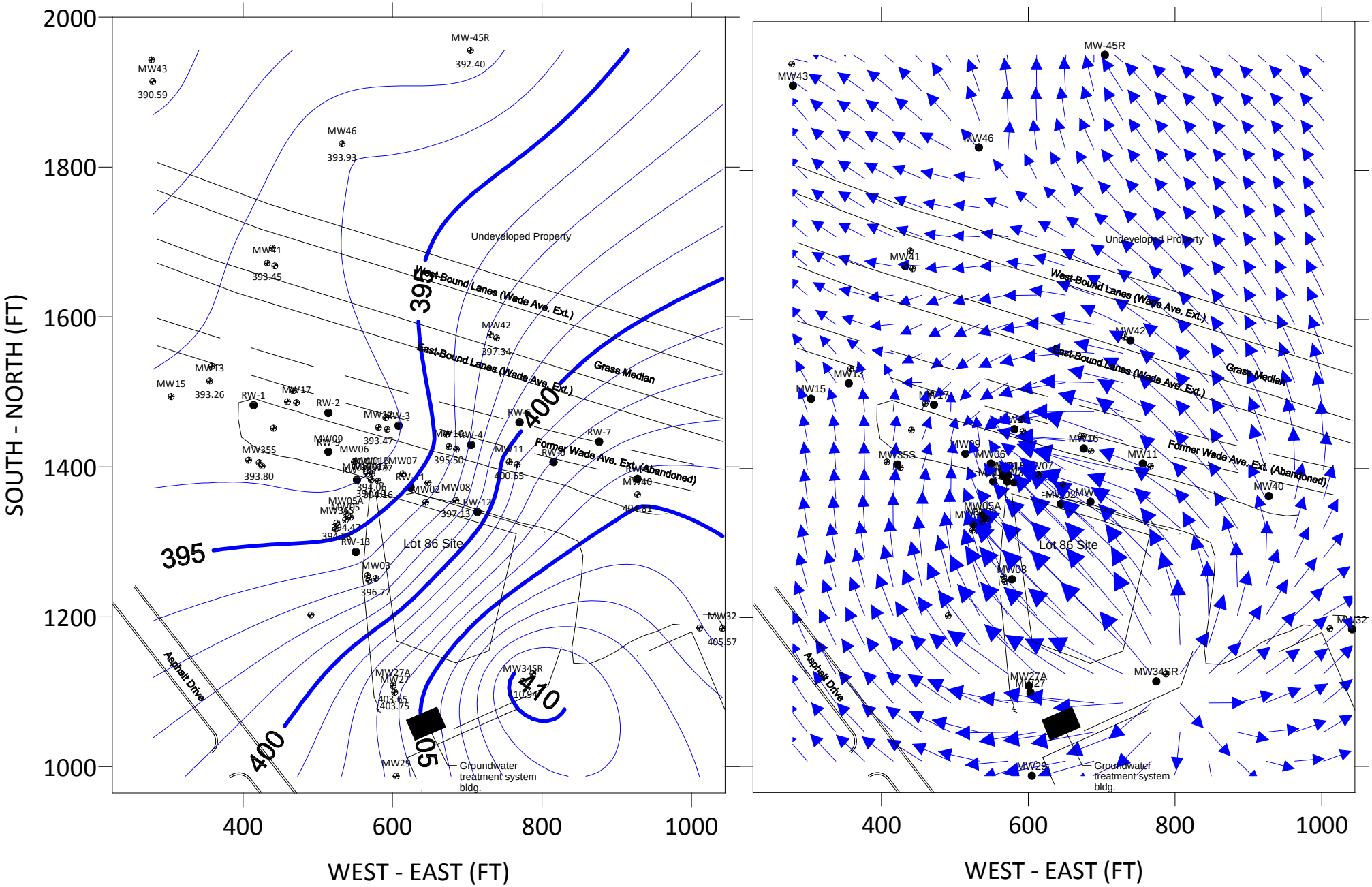




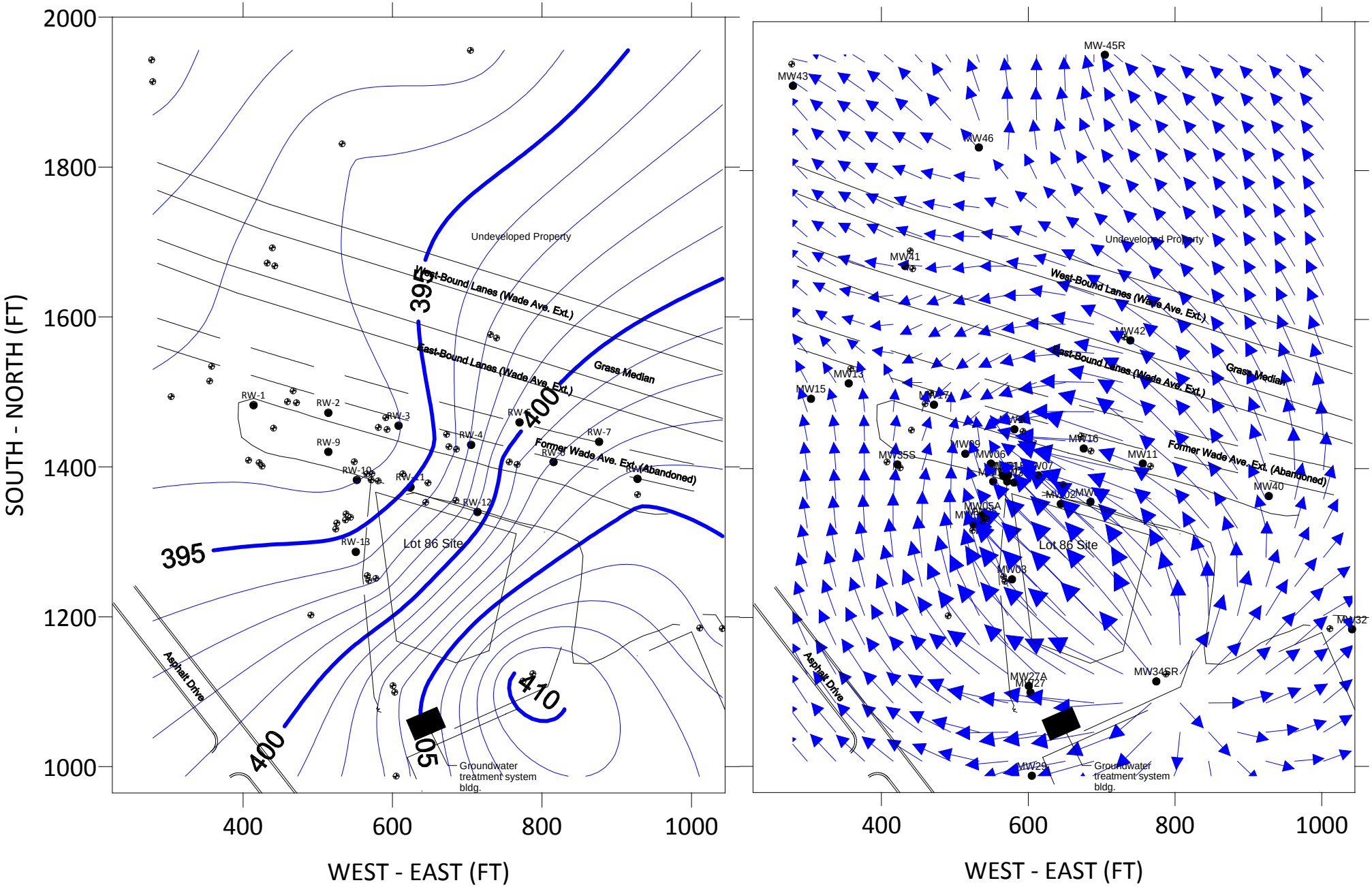
DEEP (BEDROCK) GROUNDWATER POTENTIOMETRIC SURFACE CONTOUR
AND FLOW VECTOR MAPS: AUGUST 11, 2014
NCSU - LOT 86 SITE



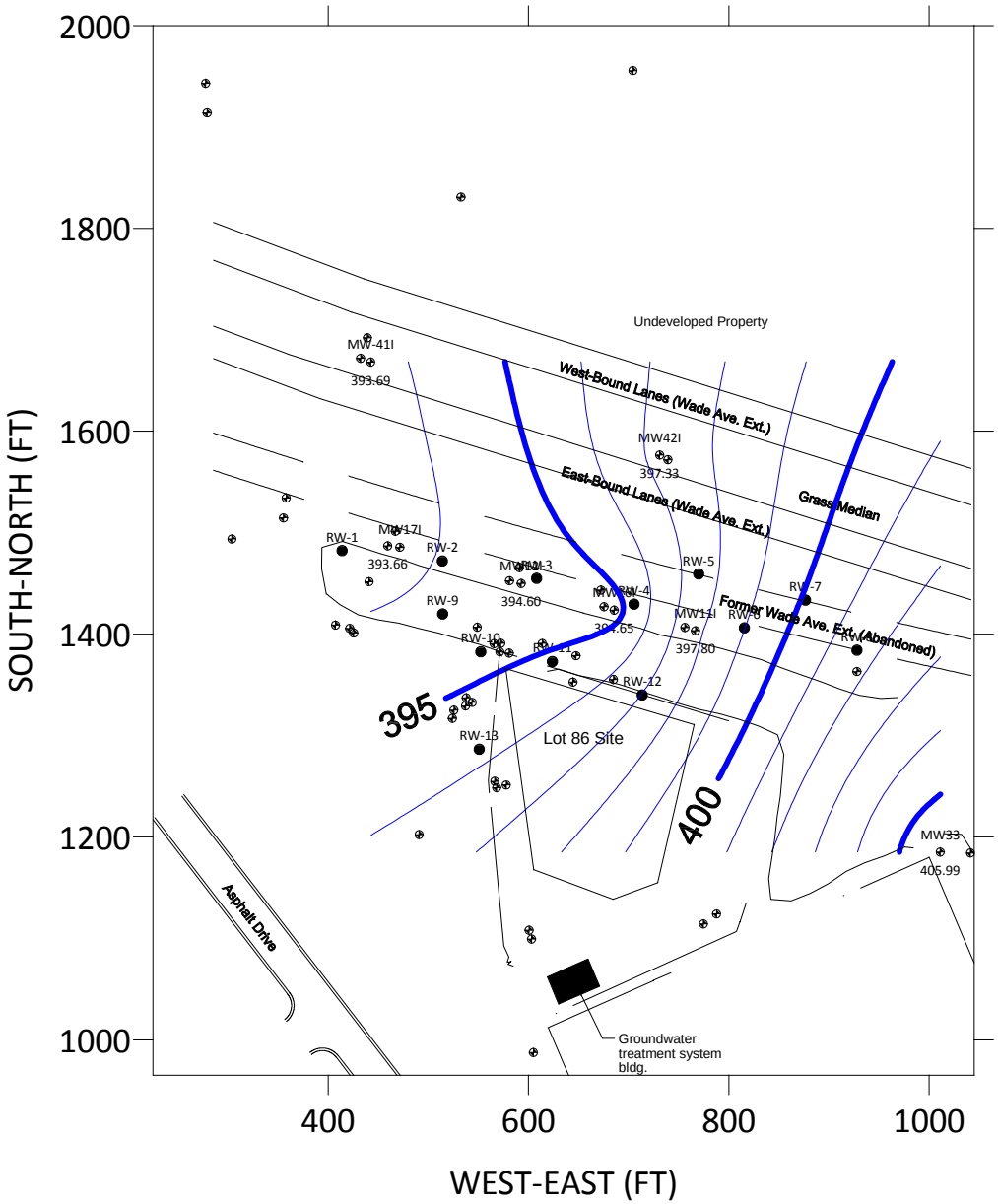
SHALLOW GROUNDWATER POTENTIOMETRIC SURFACE CONTOUR:
AND FLOW VECTOR MAPS: NOVEMBER 17, 2014
NCSU - LOT 86 SITE

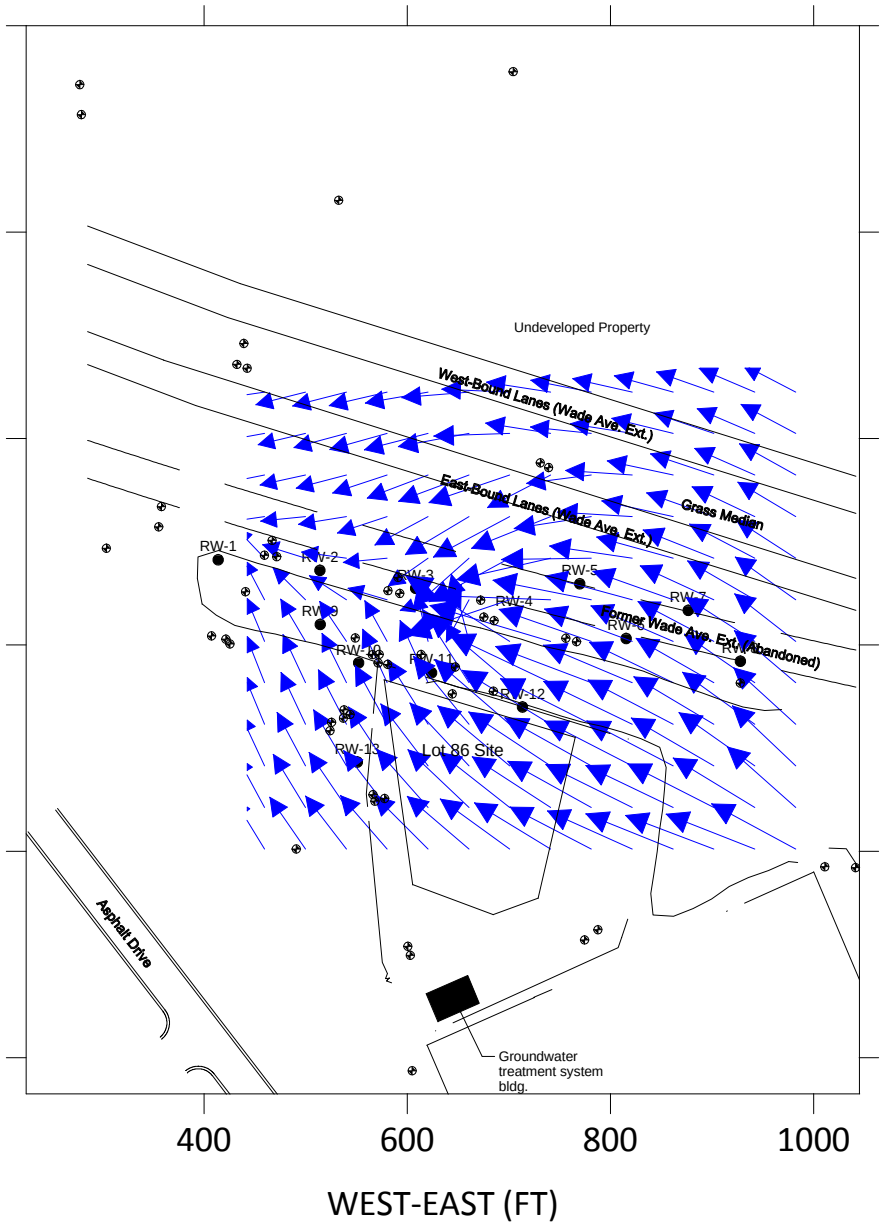


SHALLOW GROUNDWATER POTENTIOMETRIC SURFACE CONTOUR:
AND FLOW VECTOR MAPS: NOVEMBER 17, 2014
NCSU - LOT 86 SITE

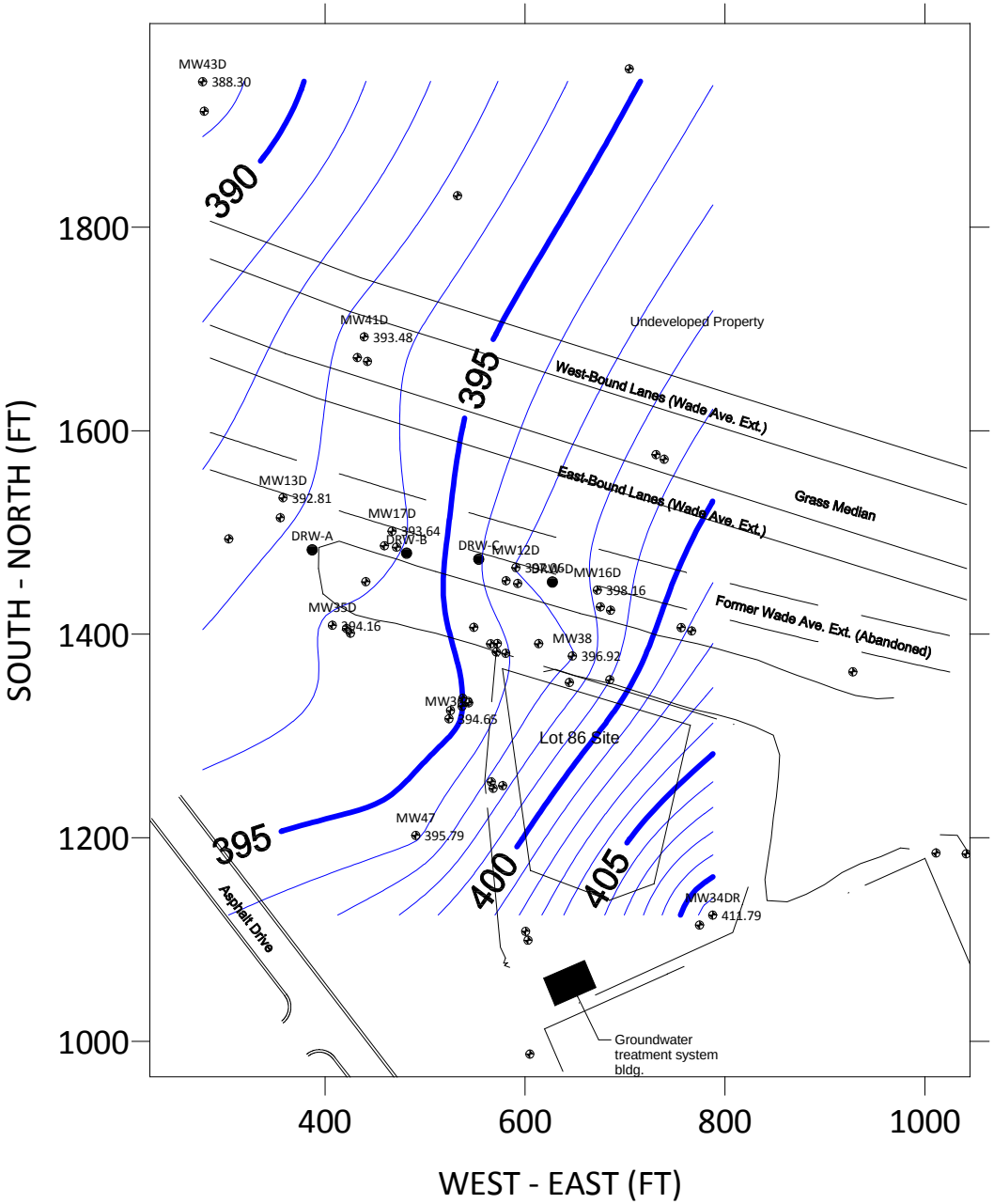


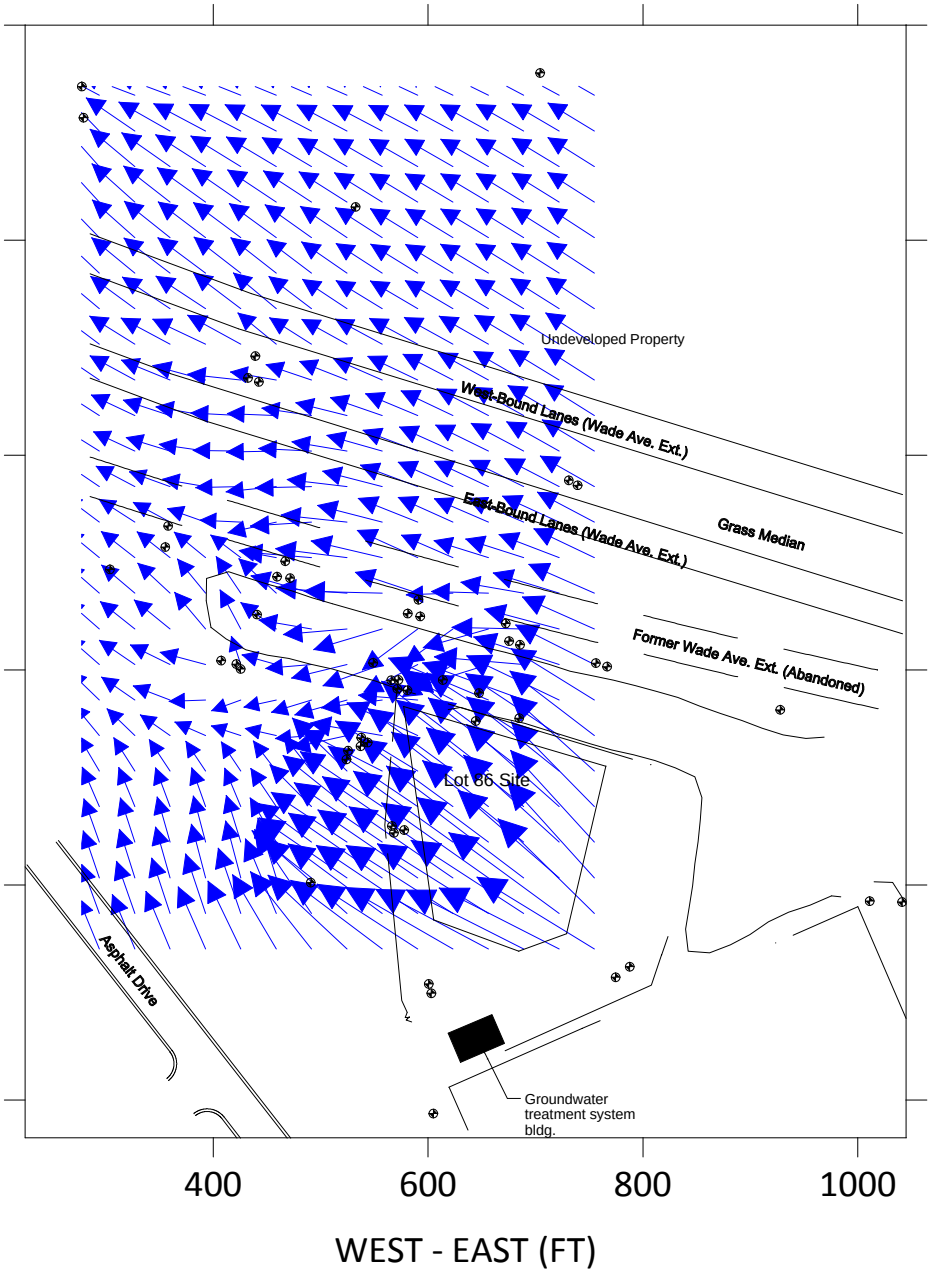
INTERMEDIATE GROUNDWATER POTENTIOMETRIC SURFACE CONTOUR
AND FLOW VECTOR MAPS: NOVEMBER 17, 2014
NCSU - LOT 86 SITE





DEEP (BEDROCK) GROUNDWATER POTENTIOMETRIC SURFACE CONTOUR
AND FLOW VECTOR MAPS: NOVEMBER 17, 2014
NCSU - LOT 86 SITE

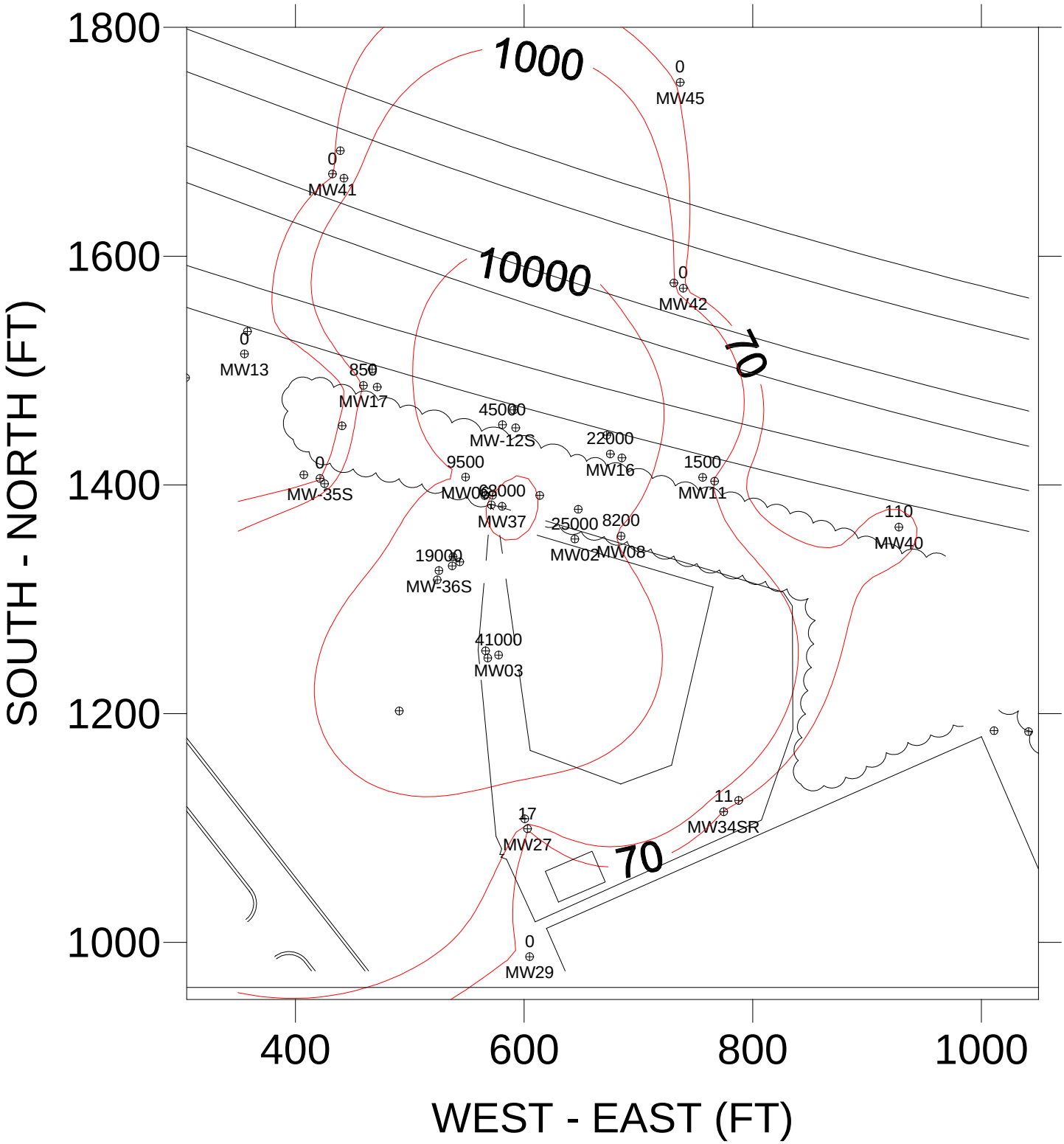




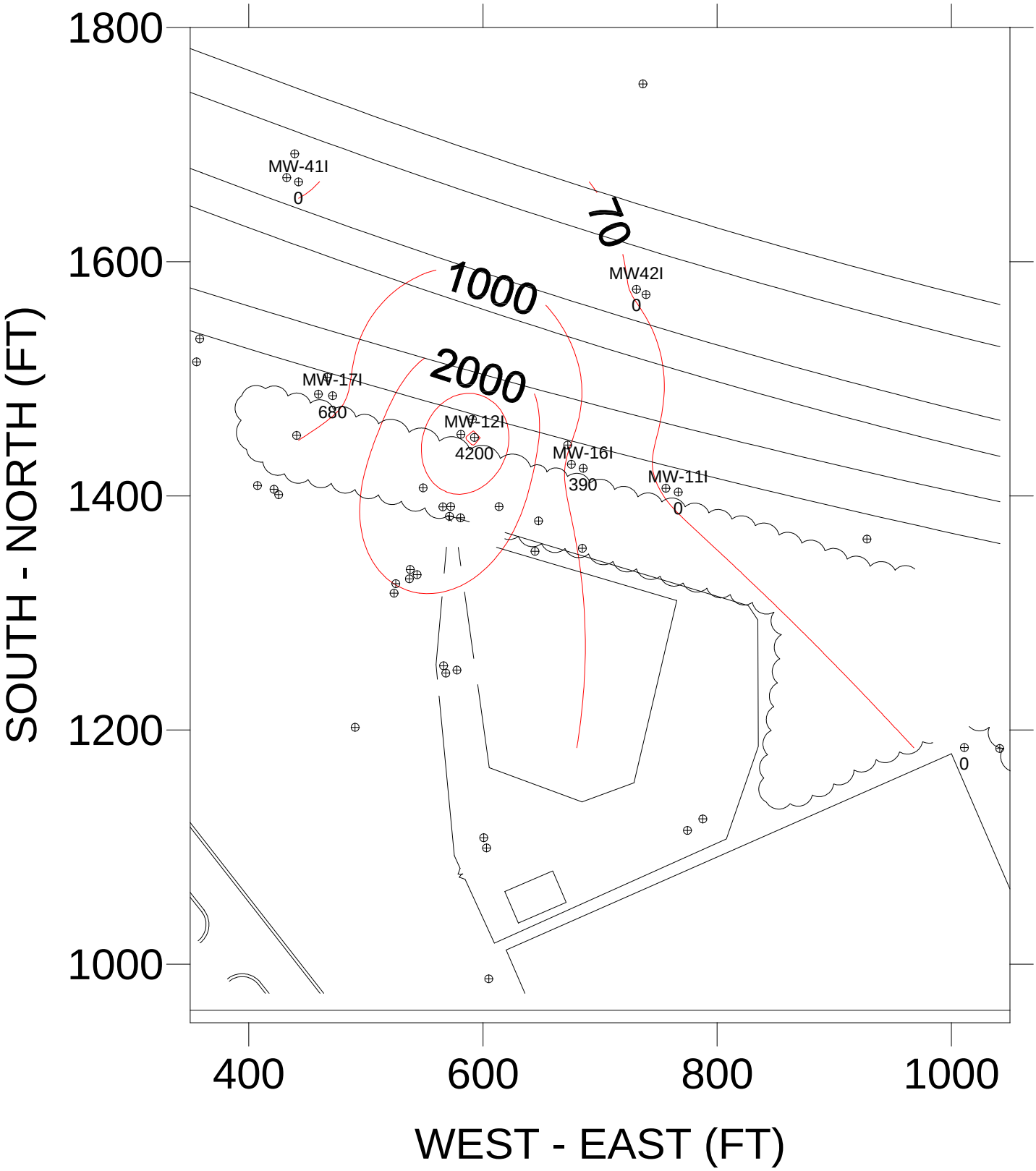
APPENDIX B-2

GROUNDWATER COC DISTRIBUTION MODELS

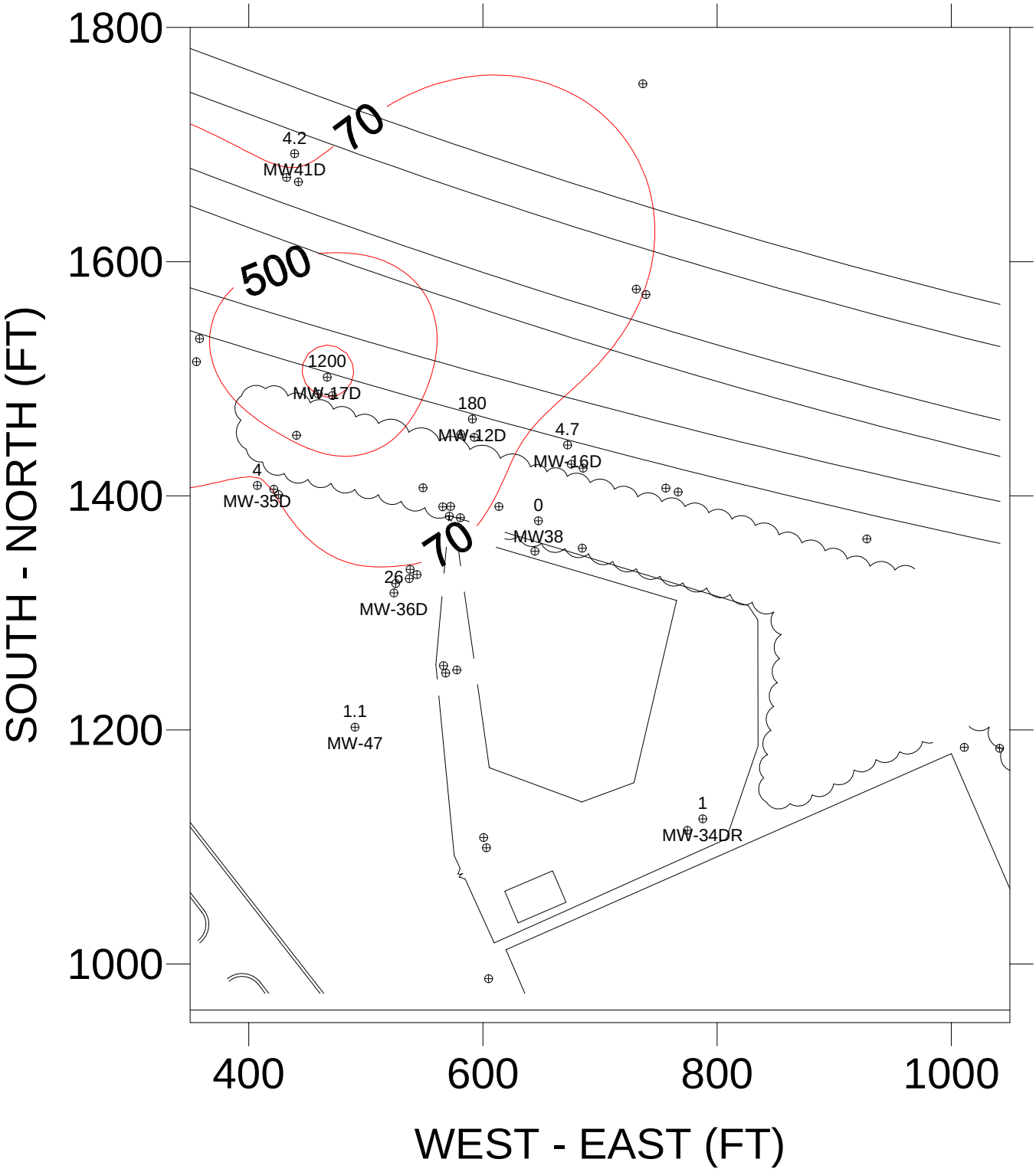
SHALLOW GROUNDWATER CHLOROFORM ISOCONCENTRATION CONTOUR MAP: MAY 2005 NCSU - LOT 86 SITE



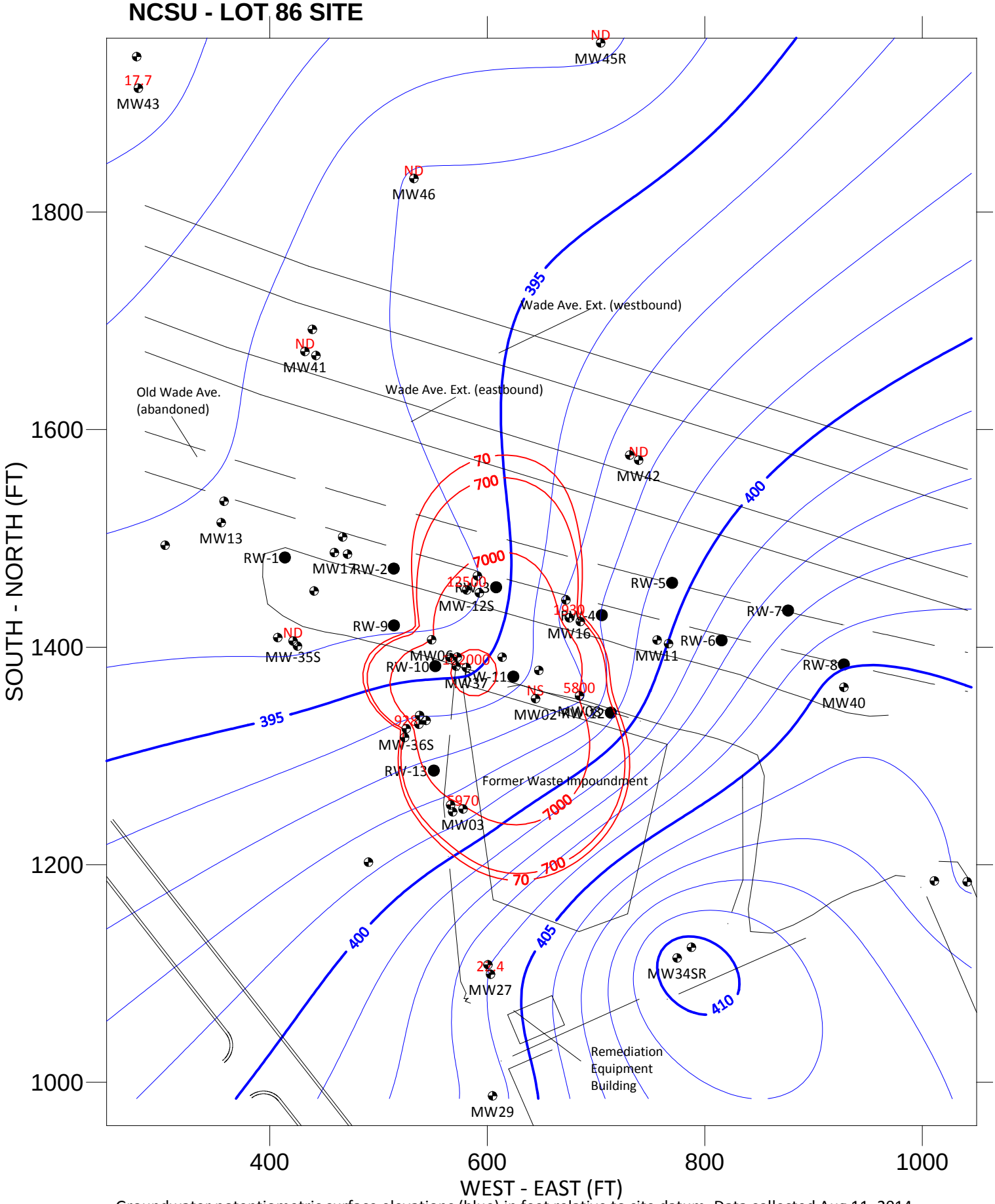
INTERMEDIATE GROUNDWATER CHLOROFORM ISOCONCENTRATION CONTOUR MAP: MAY 2005 NCSU - LOT 86 SITE



DEEP (BEDROCK) GROUNDWATER CHLOROFORM ISOCONCENTRATION CONTOUR MAP: MAY 2005 NCSU - LOT 86 SITE

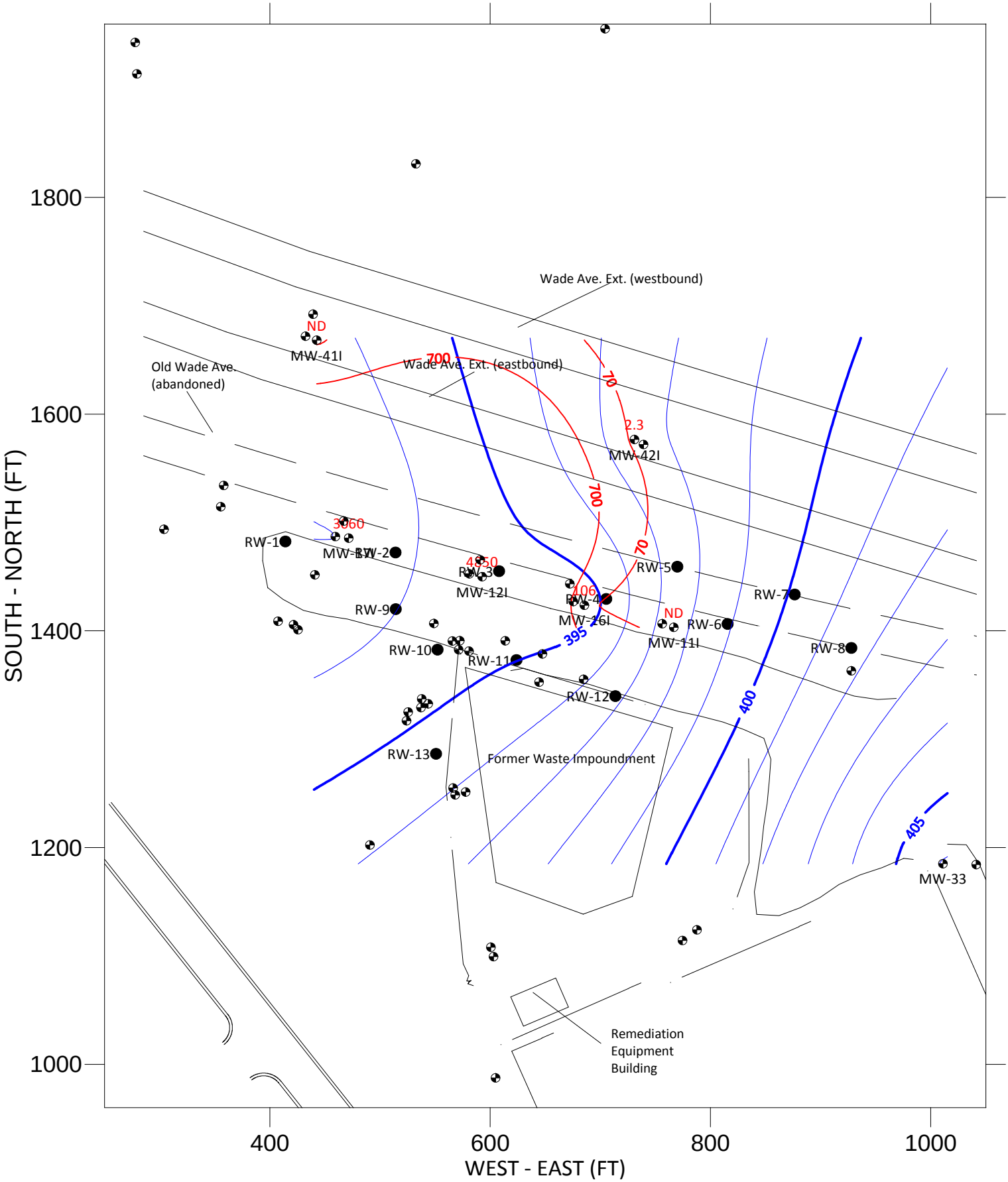


SHALLOW AQUIFER ZONE: GROUNDWATER POTENTIOMETRIC SURFACE AND CHLOROFORM ISOCONCENTRATION CONTOURS: AUGUST 2014 NCSU - LOT 86 SITE



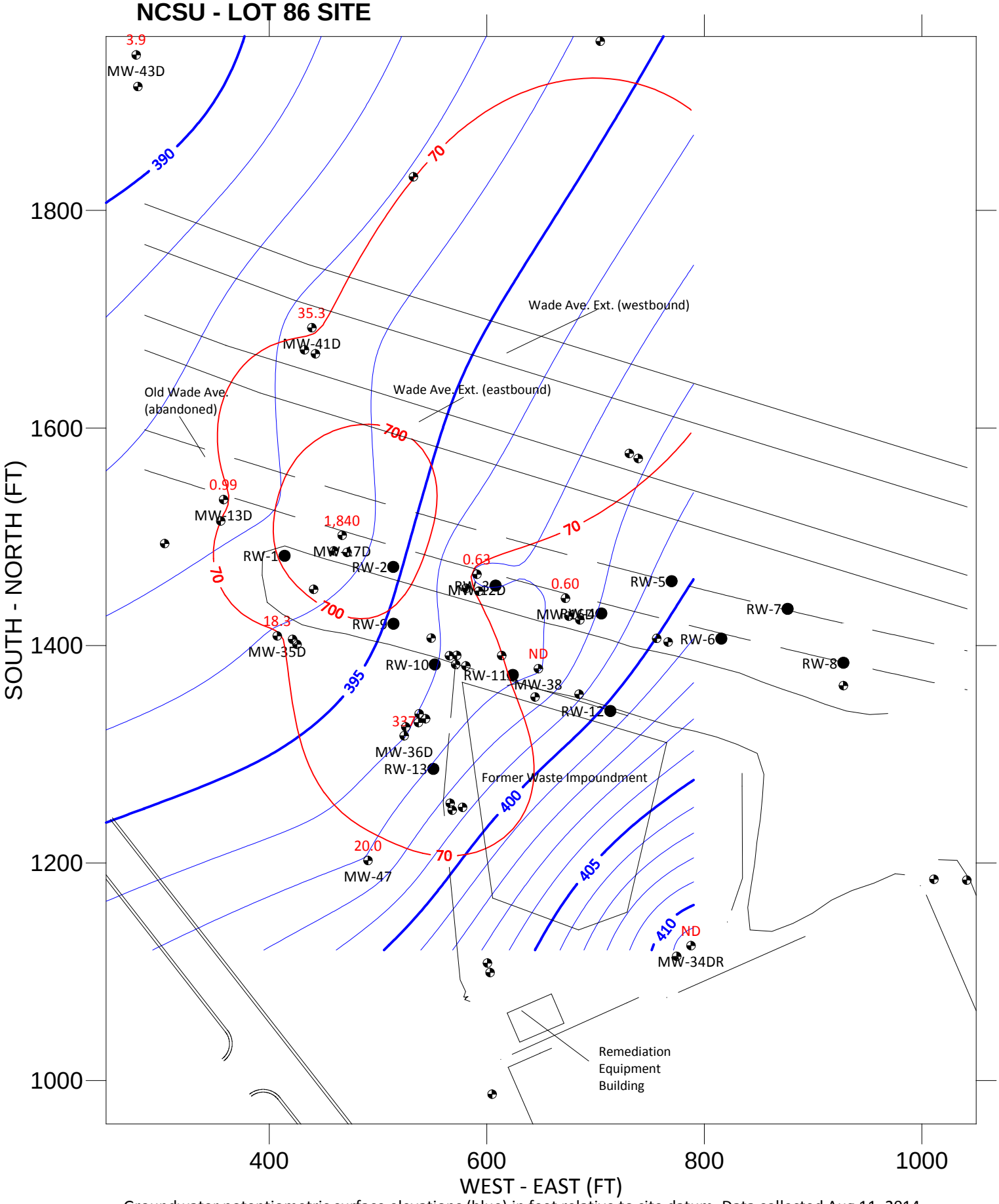
Groundwater potentiometric surface elevations (blue) in feet relative to site datum. Data collected Aug 11, 2014.
Groundwater chloroform concentrations (red) in ug/L. Groundwater samples collected Aug 12-20, 2014.

INTERMEDIATE AQUIFER ZONE: GROUNDWATER POTENTIOMETRIC SURFACE AND CHLOROFORM ISOCONCENTRATION CONTOURS: AUGUST 2014 NCSU - LOT 86 SITE



Groundwater potentiometric surface elevations (blue) in feet relative to site datum. Data collected Aug 11, 2014.
Groundwater chloroform concentrations (red) in ug/L. Groundwater samples collected Aug 12-20, 2014.

DEEP AQUIFER ZONE:
GROUNDWATER POTENTIOMETRIC SURFACE AND CHLOROFORM ISOCONCENTRATION CONTOURS: AUGUST 2014
NCSU - LOT 86 SITE



Groundwater potentiometric surface elevations (blue) in feet relative to site datum. Data collected Aug 11, 2014.
Groundwater chloroform concentrations (red) in ug/L. Groundwater samples collected Aug 12-20, 2014.

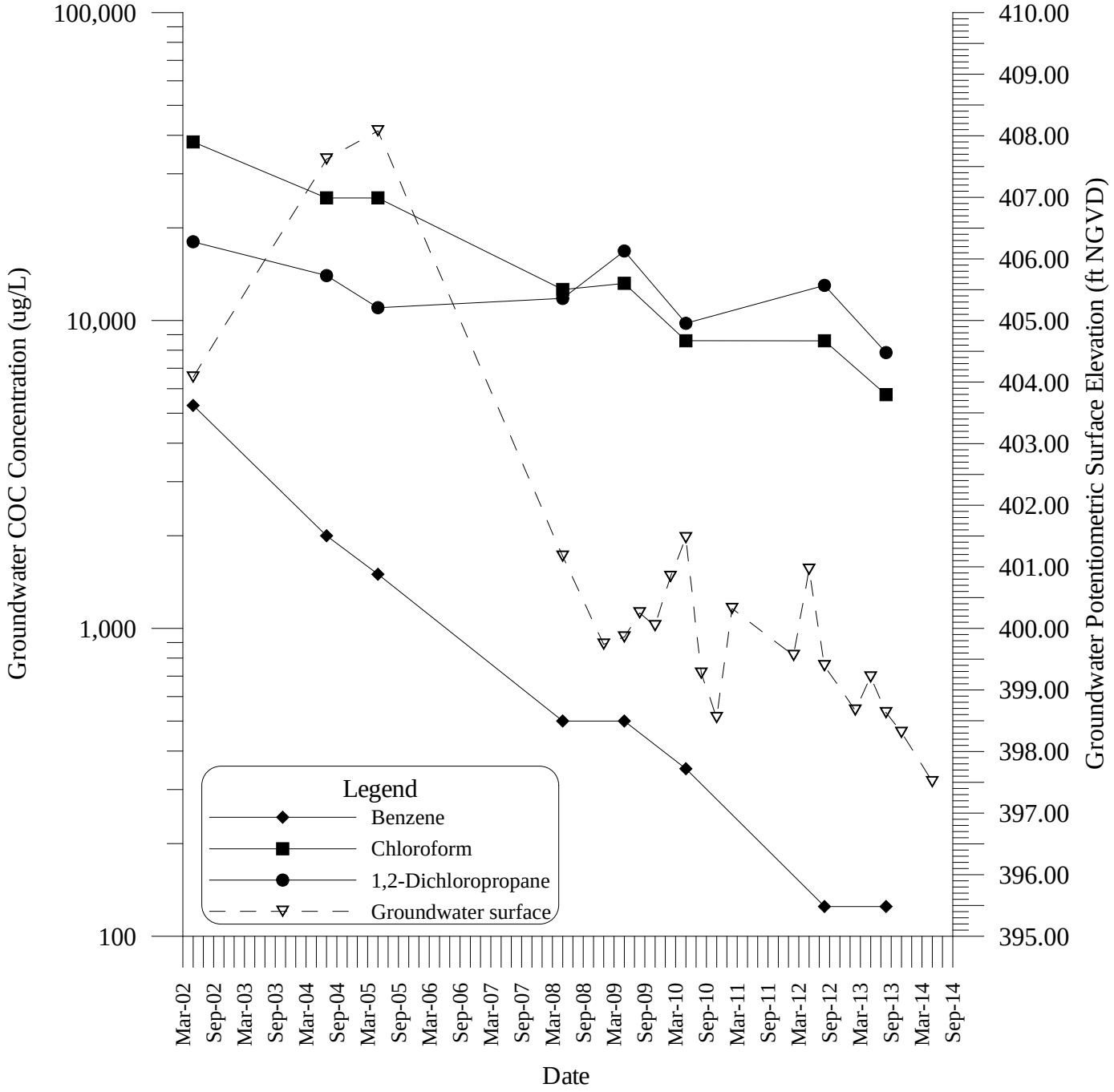
APPENDIX C

GRAPHS

SHALLOW MONITORING WELL

MW-2: Groundwater Chemical of Concern Concentrations vs. Time

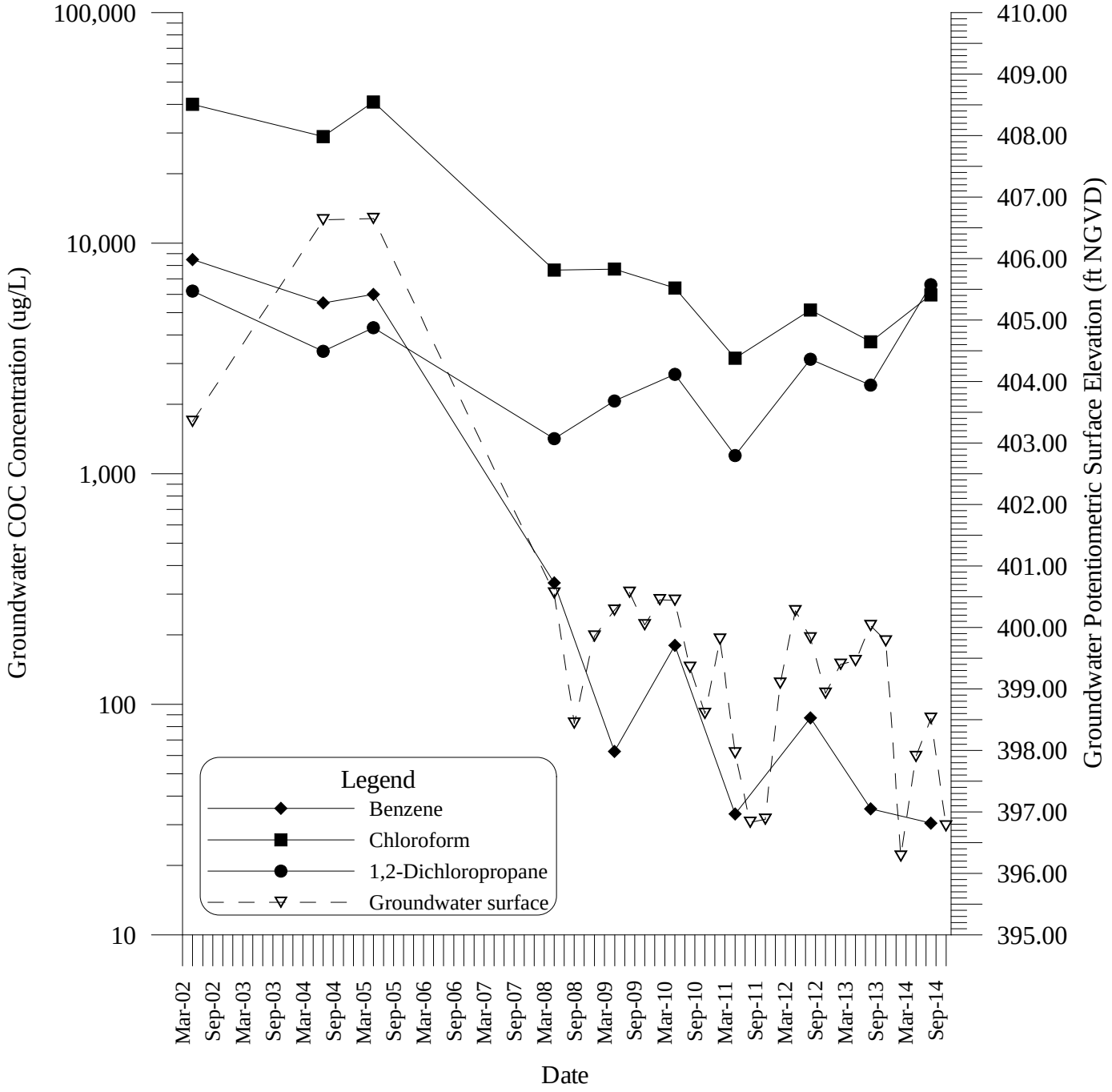
North Carolina State University
Lot 86 Site
Raleigh, North Carolina



SHALLOW MONITORING WELL

MW-3: Groundwater Chemical of Concern Concentrations vs. Time

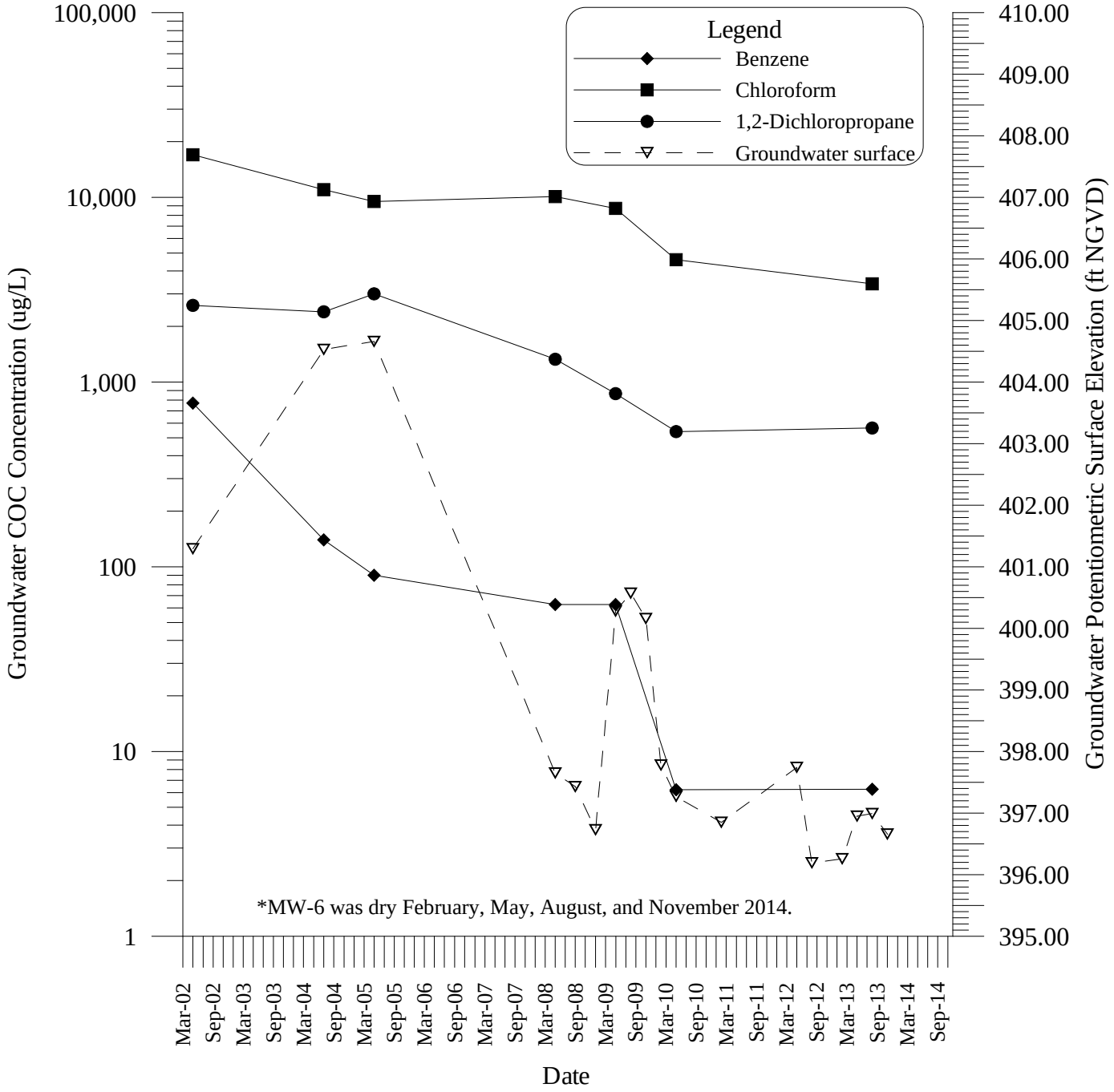
North Carolina State University
Lot 86 Site
Raleigh, North Carolina



SHALLOW MONITORING WELL

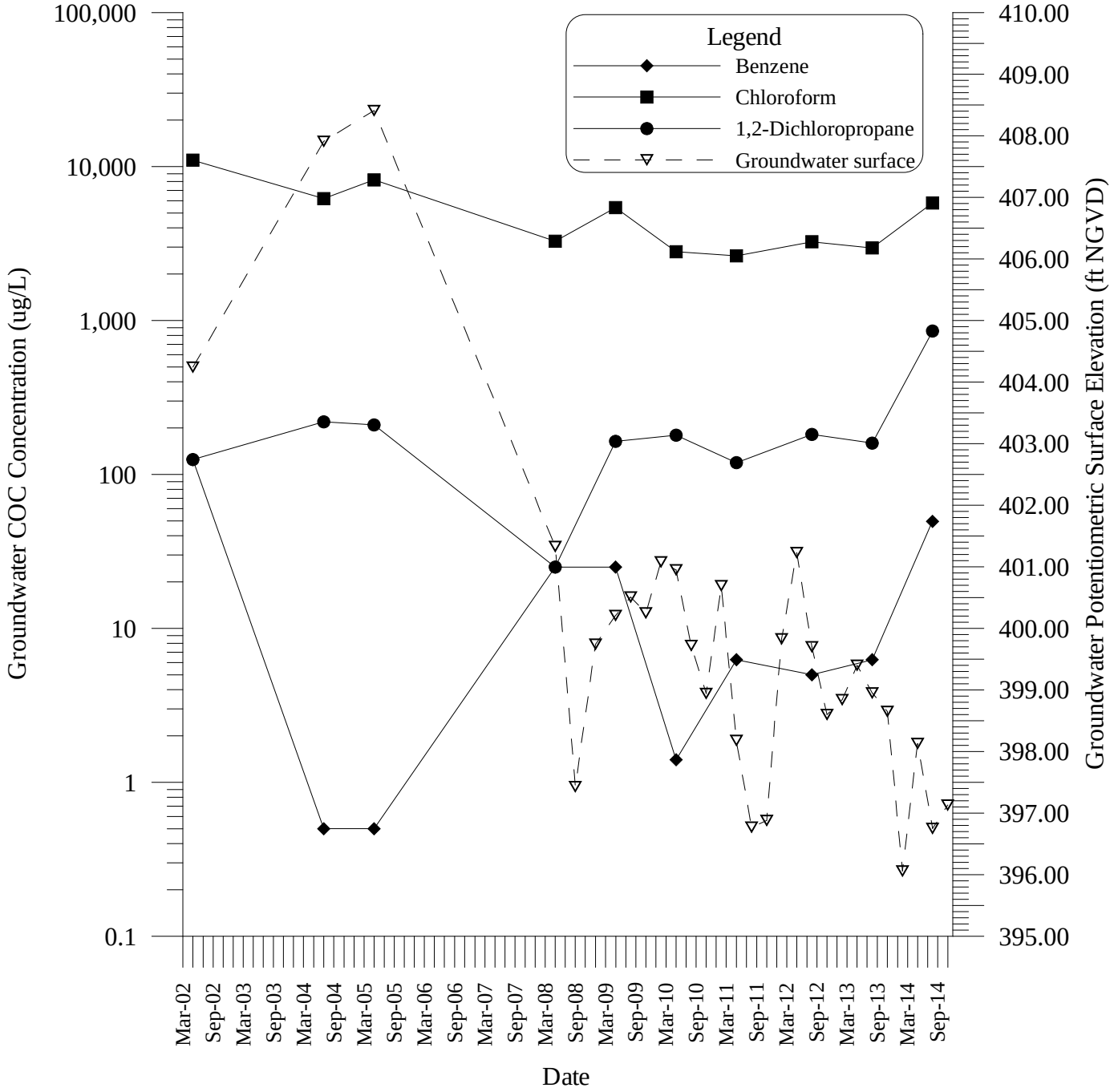
MW-6: Groundwater Chemical of Concern Concentrations vs. Time

North Carolina State University
Lot 86 Site
Raleigh, North Carolina



SHALLOW MONITORING WELL
MW-8: Groundwater Chemical of Concern Concentrations vs. Time

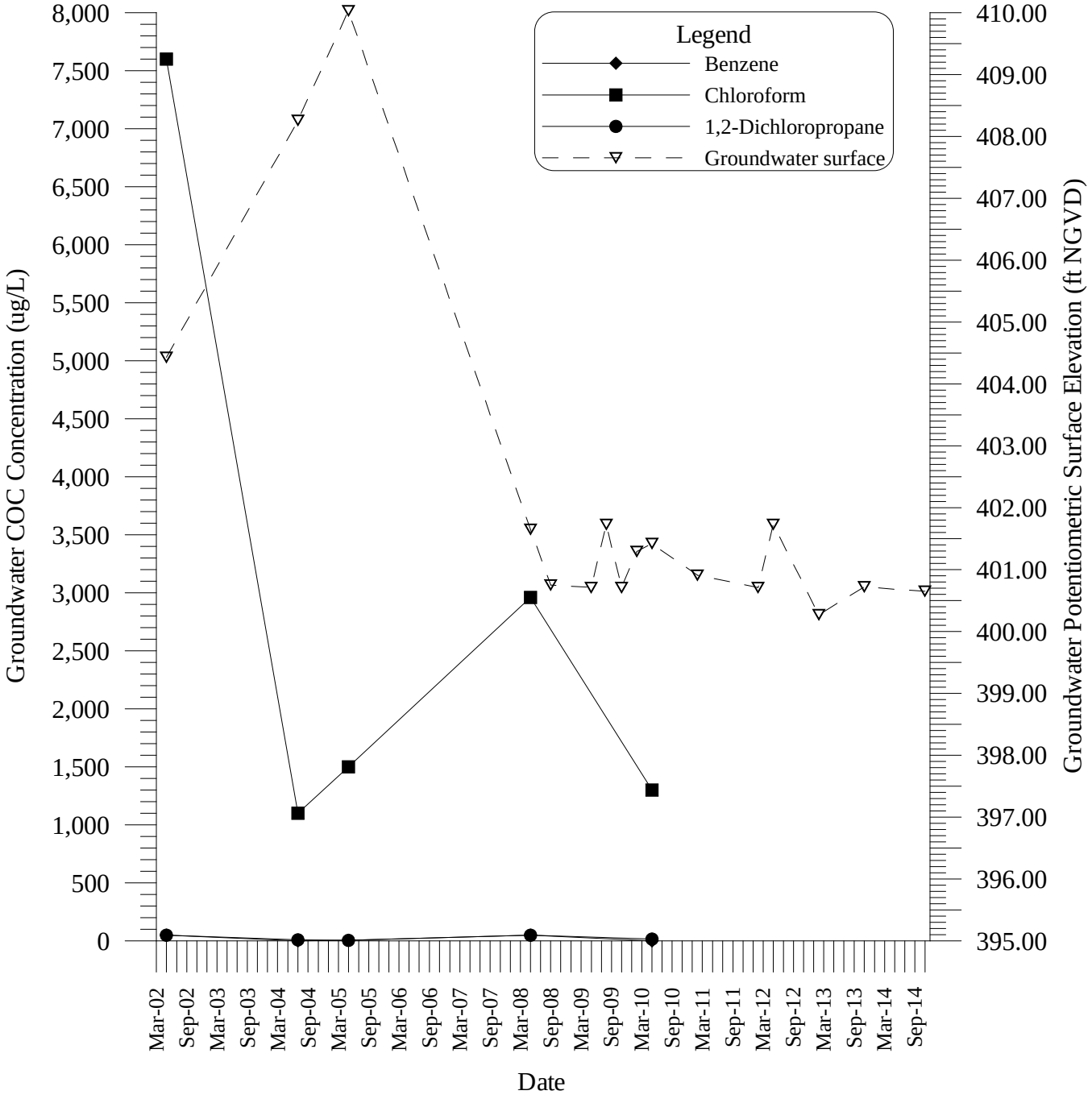
North Carolina State University
Lot 86 Site
Raleigh, North Carolina



SHALLOW MONITORING WELL

MW-11: Groundwater Chemical of Concern Concentrations vs. Time

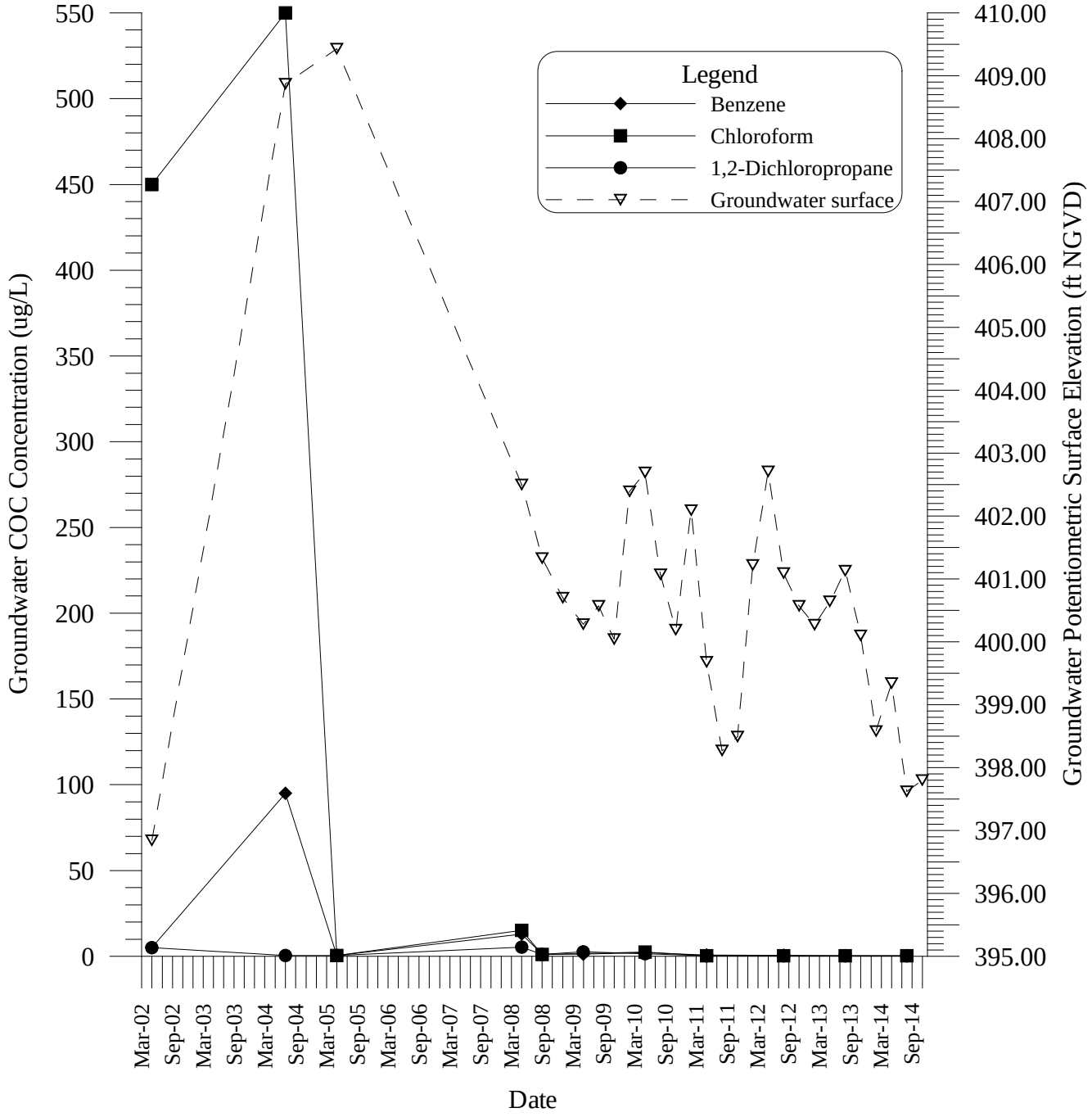
North Carolina State University
Lot 86 Site
Raleigh, North Carolina



INTERMEDIATE MONITORING WELL

MW-11I: Groundwater Chemical of Concern Concentrations vs. Time

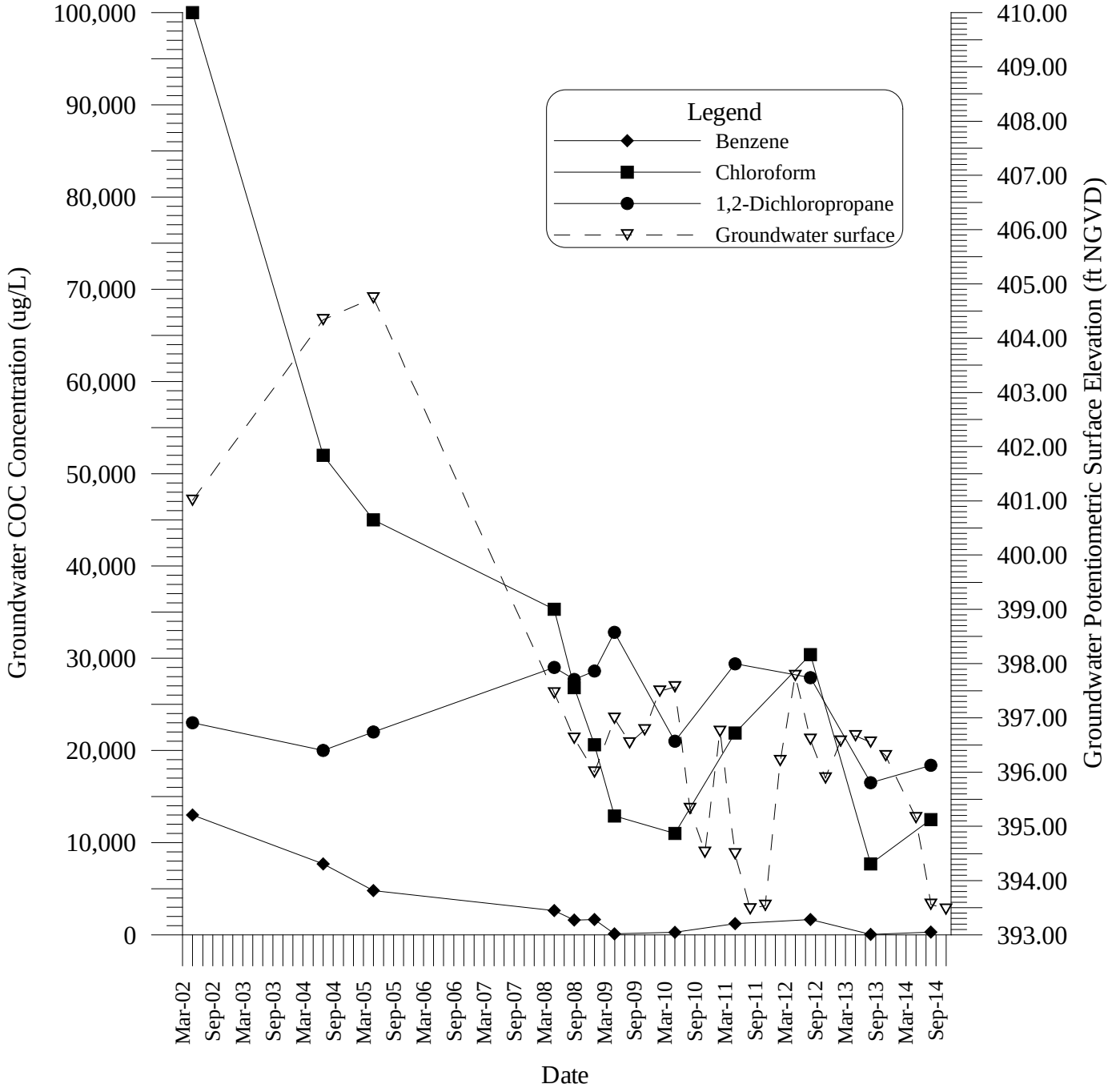
North Carolina State University
Lot 86 Site
Raleigh, North Carolina



SHALLOW MONITORING WELL

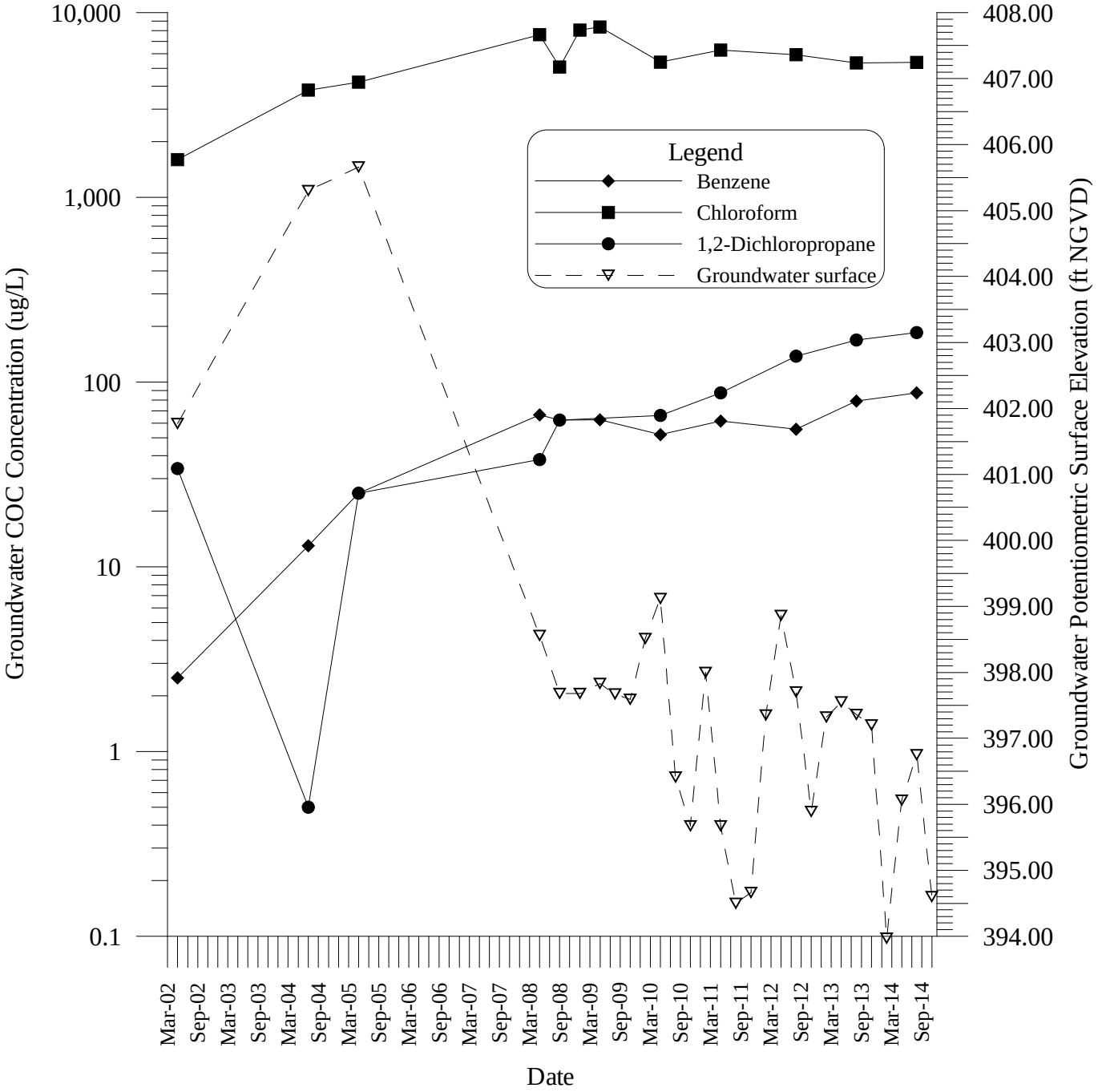
MW-12: Groundwater Chemical of Concern Concentrations vs. Time

North Carolina State University
Lot 86 Site
Raleigh, North Carolina



INTERMEDIATE MONITORING WELL
MW-12I: Groundwater Chemical of Concern Concentrations vs. Time

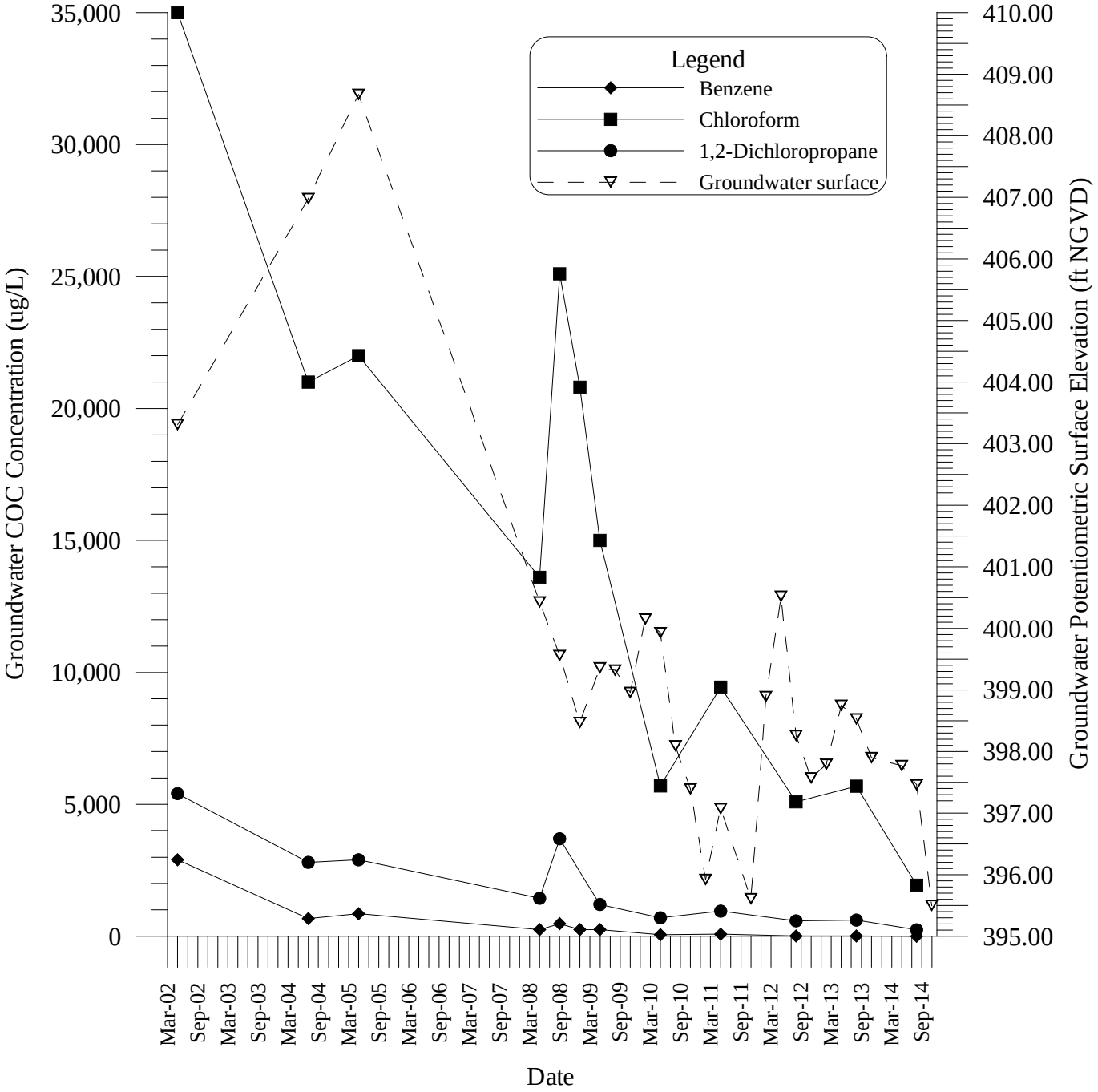
North Carolina State University
Lot 86 Site
Raleigh, North Carolina



SHALLOW MONITORING WELL

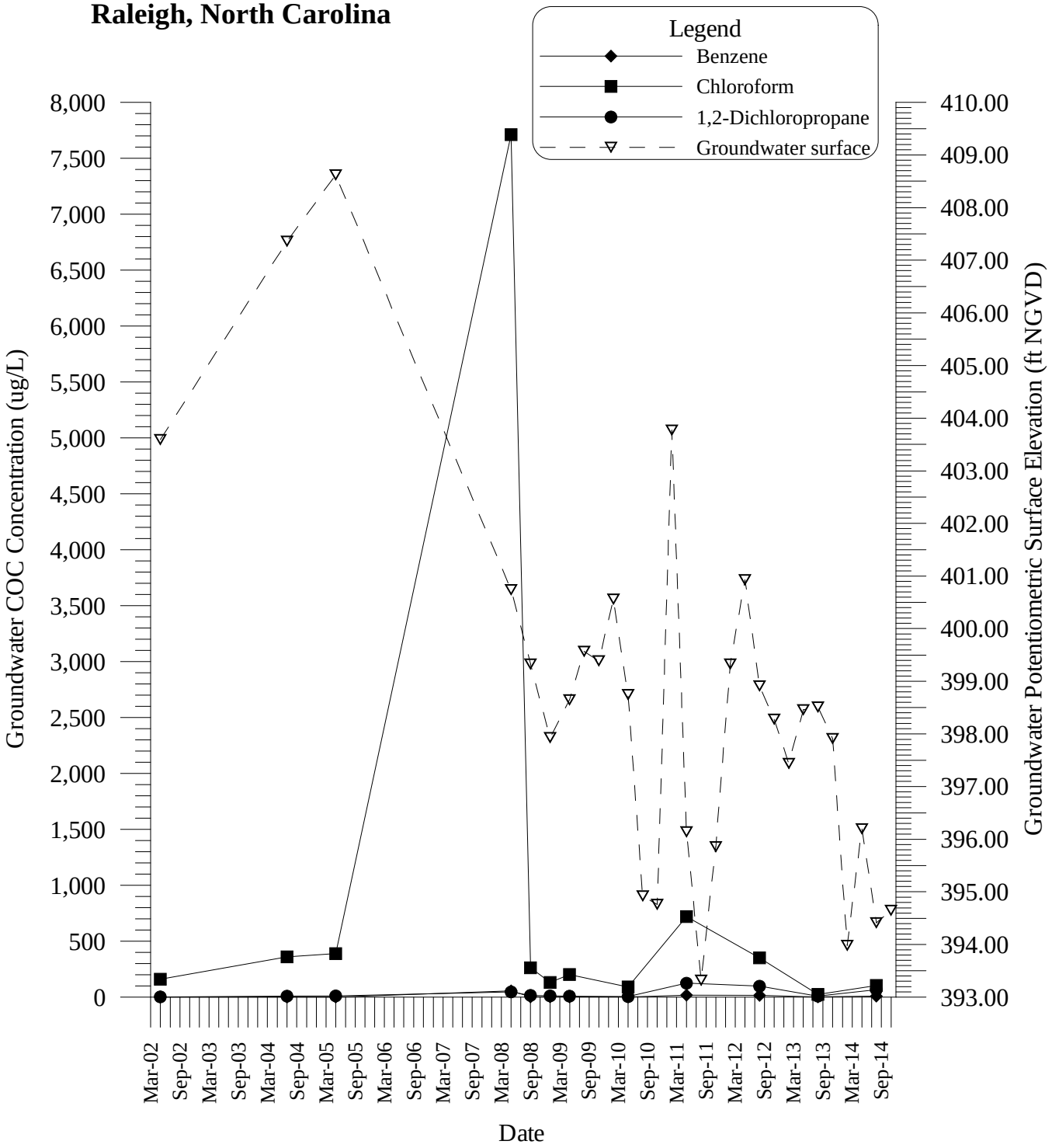
MW-16: Groundwater Chemical of Concern Concentrations vs. Time

North Carolina State University
Lot 86 Site
Raleigh, North Carolina



INTERMEDIATE MONITORING WELL
MW-16I: Groundwater Chemical of Concern Concentrations vs. Time

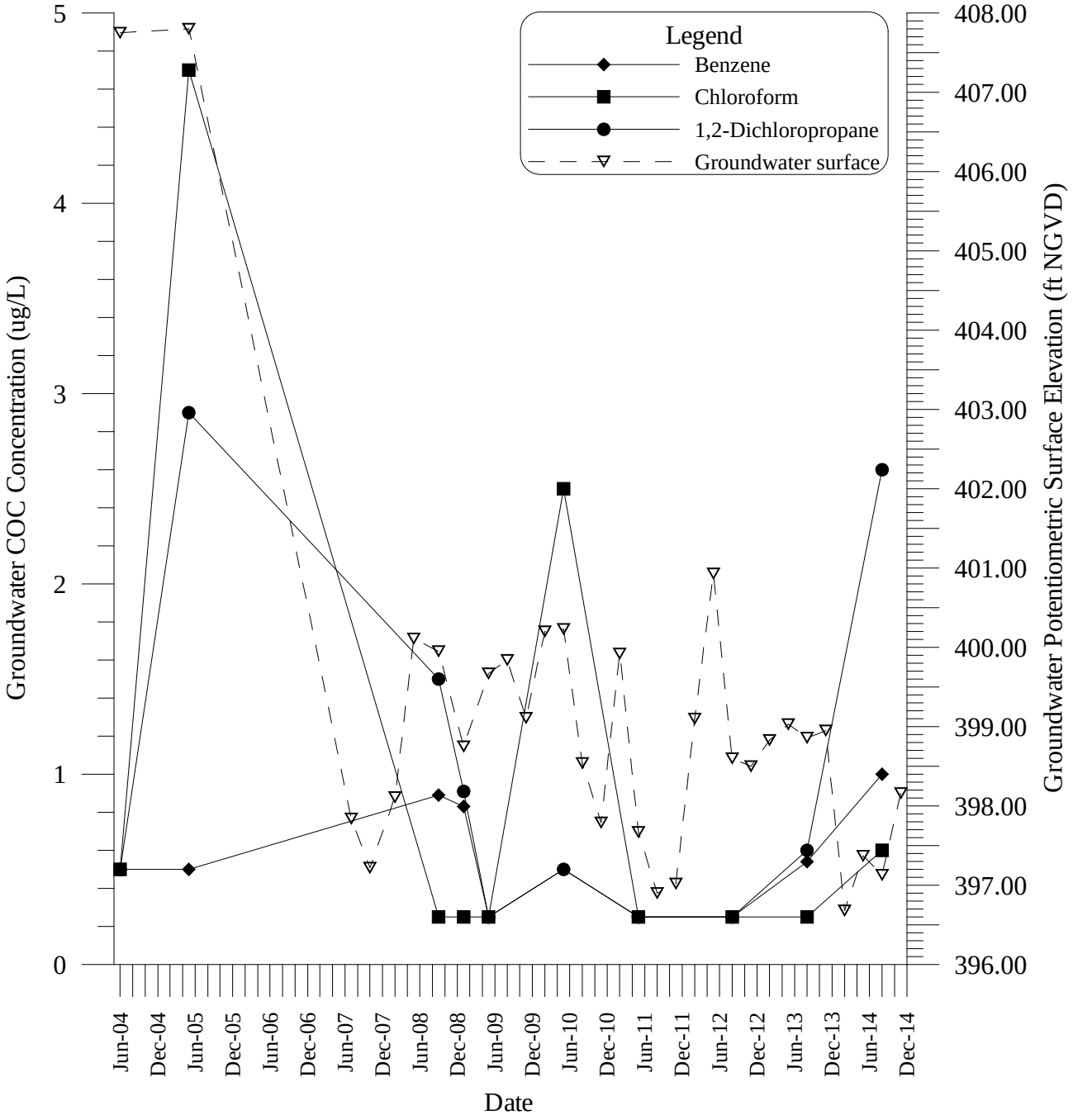
North Carolina State University
Lot 86 Site
Raleigh, North Carolina



DEEP MONITORING WELL

MW-16D: Groundwater Chemical of Concern Concentrations vs. Time

North Carolina State University
Lot 86 Site
Raleigh, North Carolina

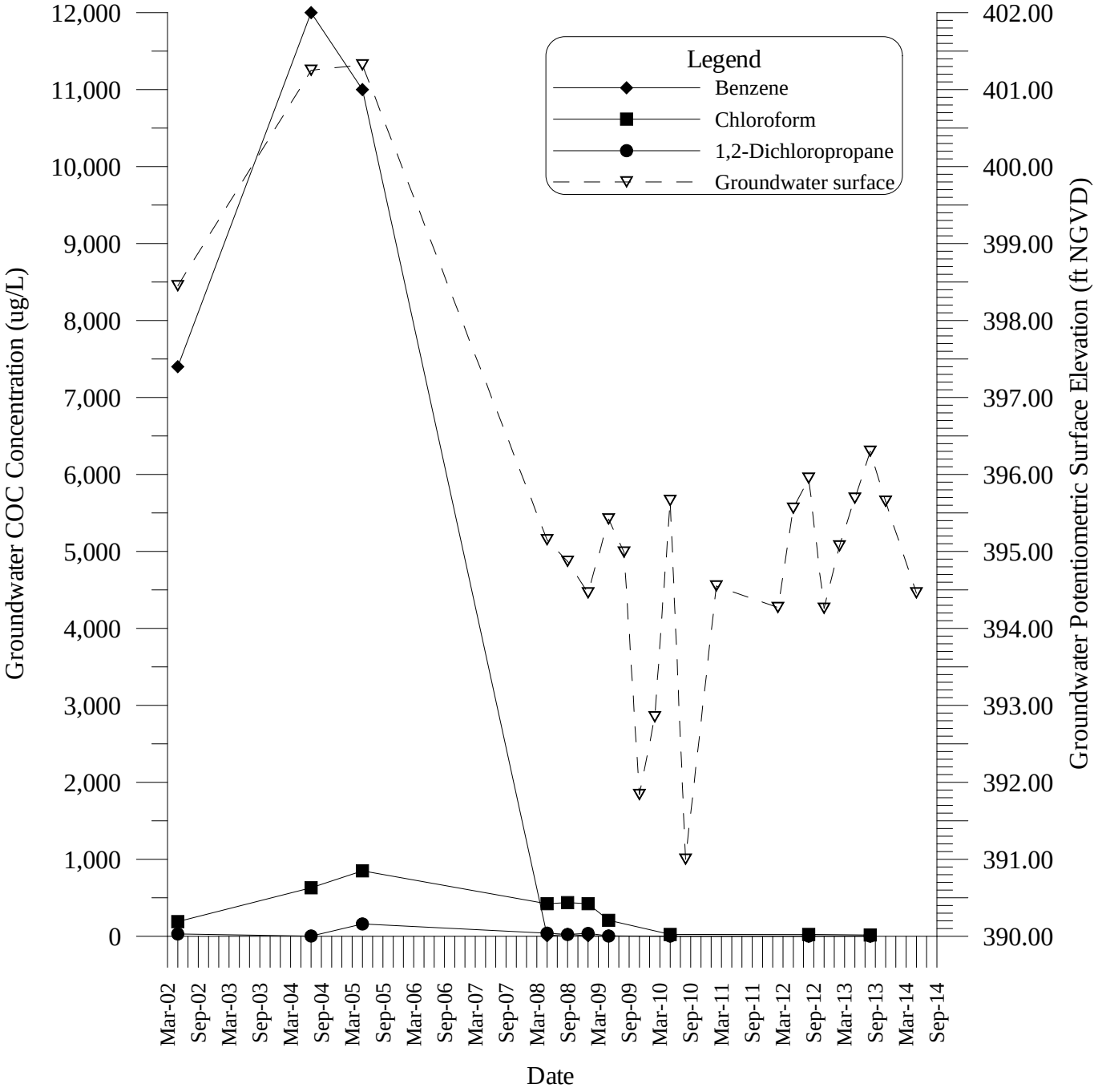


Non-detected concentrations are plotted at one-half the detection limit.

SHALLOW MONITORING WELL

MW-17: Groundwater Chemical of Concern Concentrations vs. Time

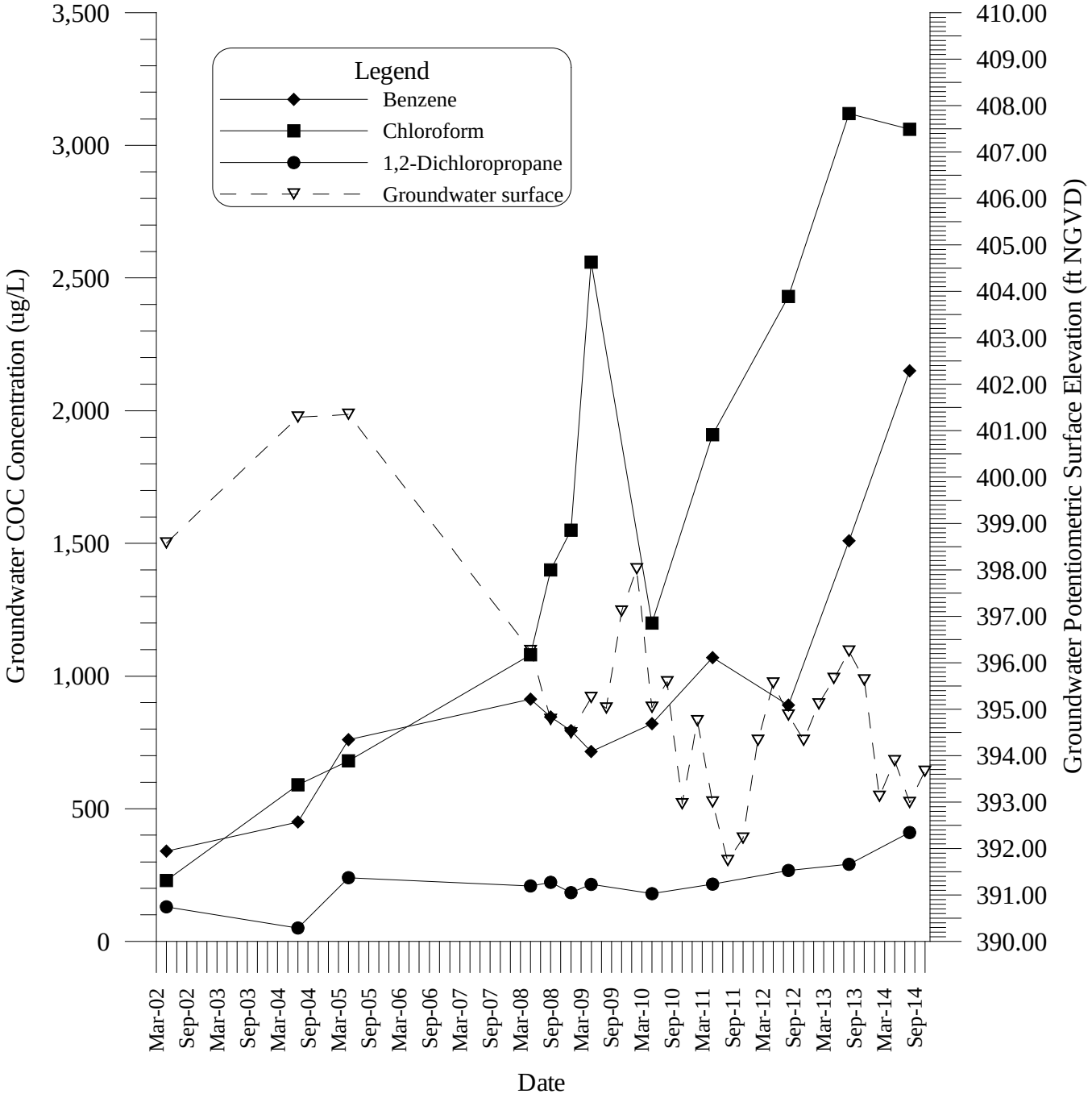
North Carolina State University
Lot 86 Site
Raleigh, North Carolina



INTERMEDIATE MONITORING WELL

MW-17I: Groundwater Chemical of Concern Concentrations vs. Time

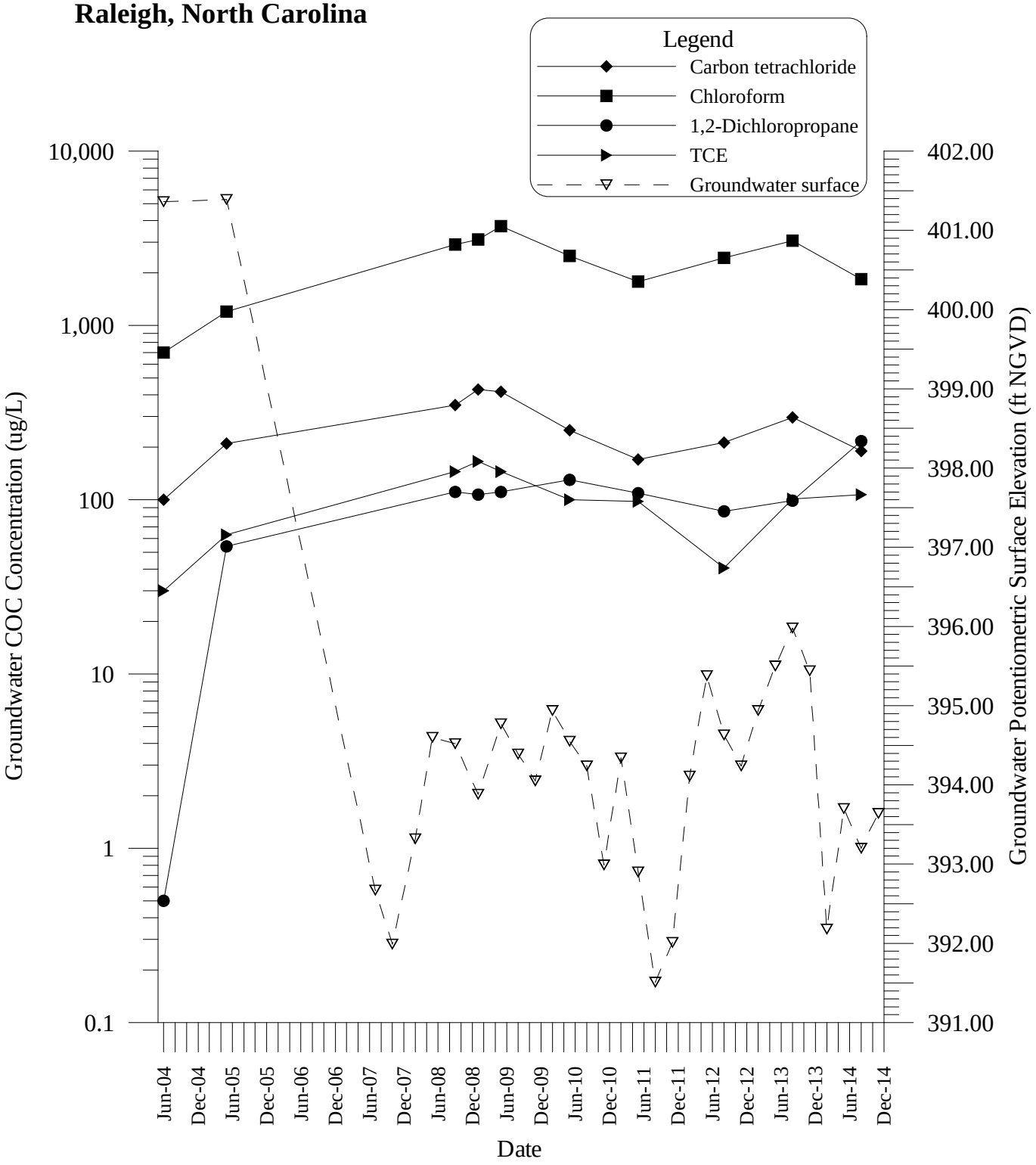
North Carolina State University
Lot 86 Site
Raleigh, North Carolina



DEEP MONITORING WELL

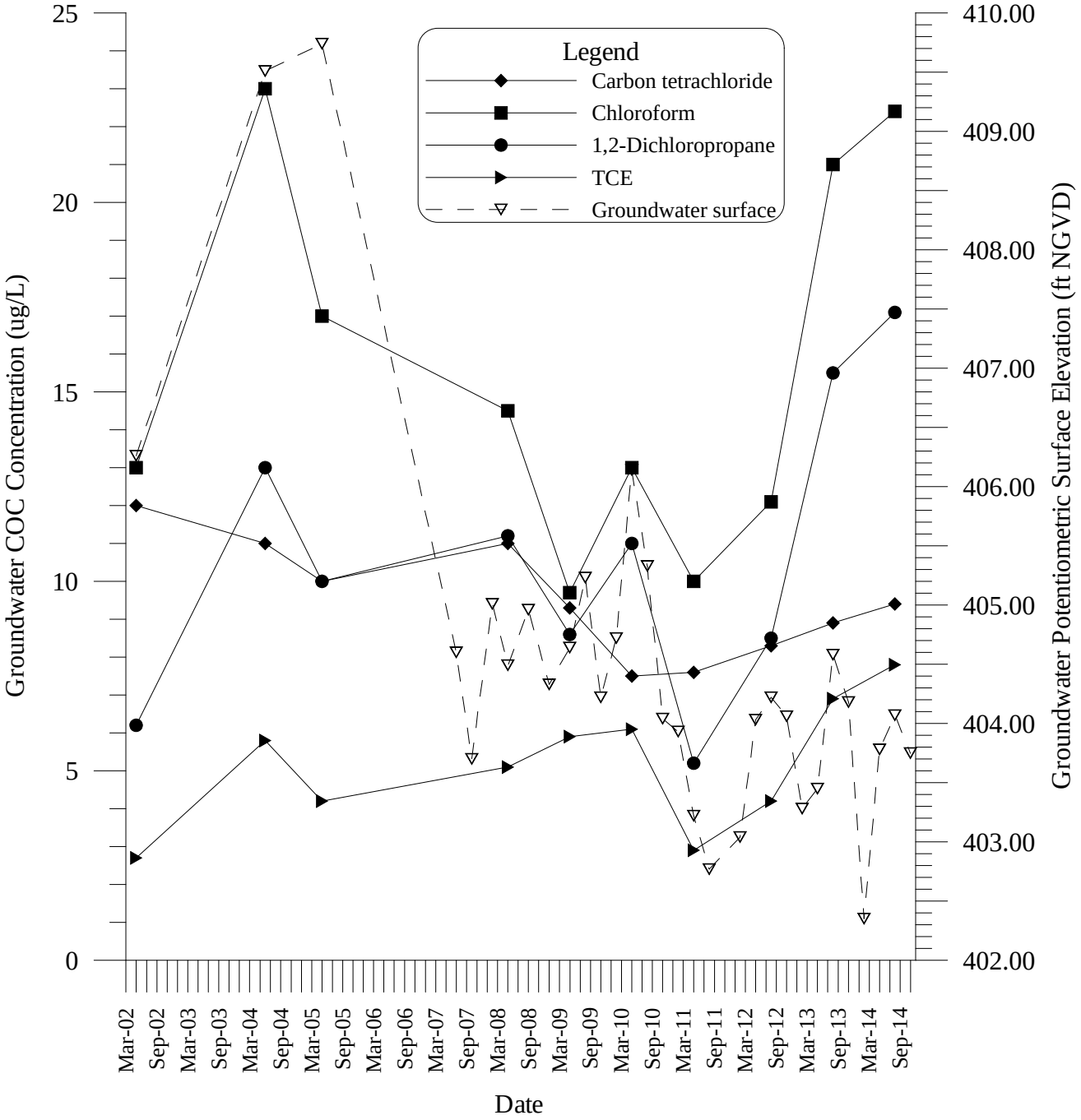
MW-17D: Groundwater Chemical of Concern Concentrations vs. Time

North Carolina State University
Lot 86 Site
Raleigh, North Carolina



SHALLOW MONITORING WELL
MW-27: Groundwater Chemical of Concern Concentrations vs. Time

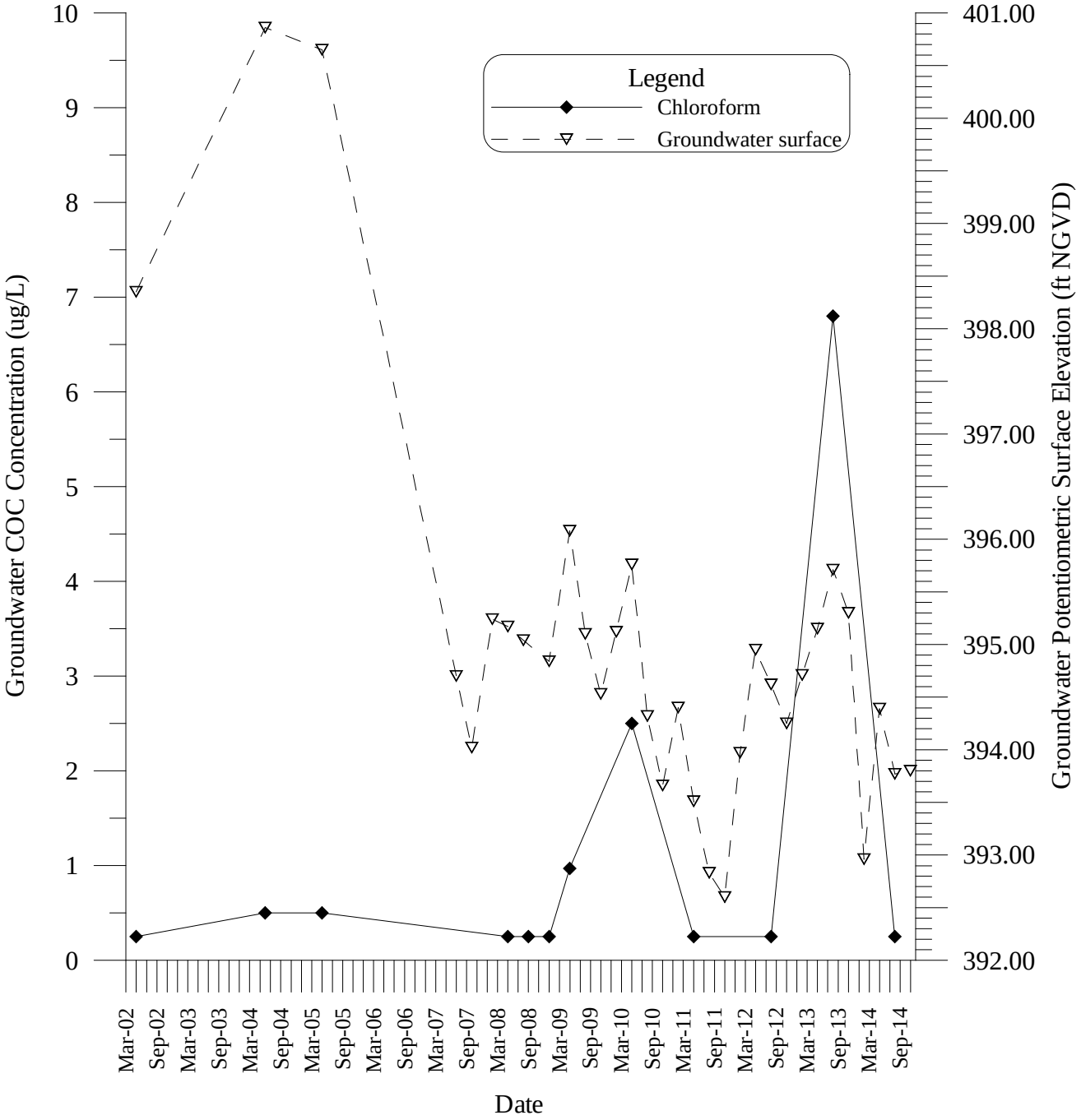
North Carolina State University
Lot 86 Site
Raleigh, North Carolina



SHALLOW MONITORING WELL

MW-35S: Groundwater Chemical of Concern Concentrations vs. Time

North Carolina State University
Lot 86 Site
Raleigh, North Carolina

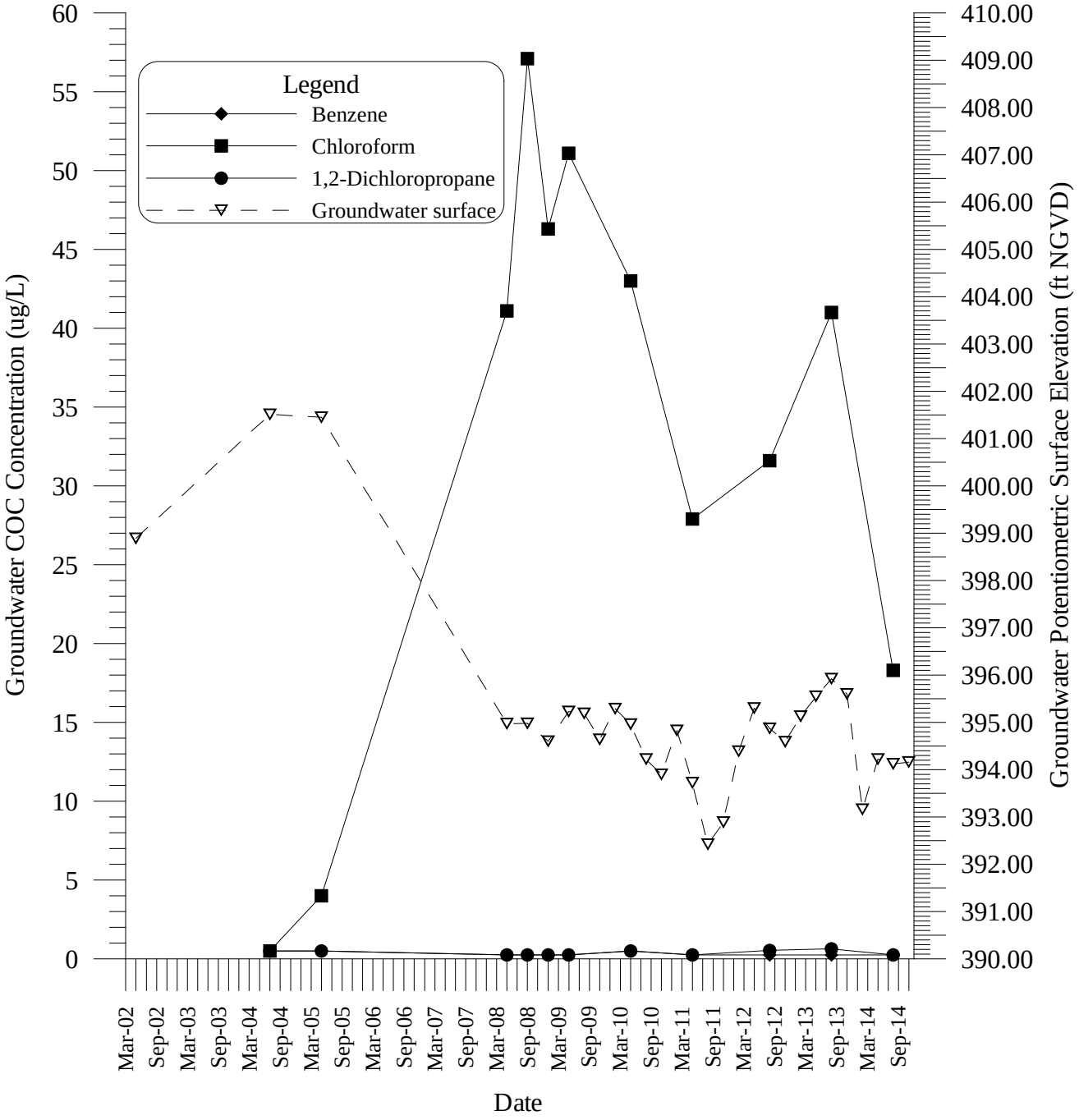


Note: non-detected concentrations are plotted at one-half of the detection limit.

DEEP MONITORING WELL

MW-35D: Groundwater Chemical of Concern Concentrations vs. Time

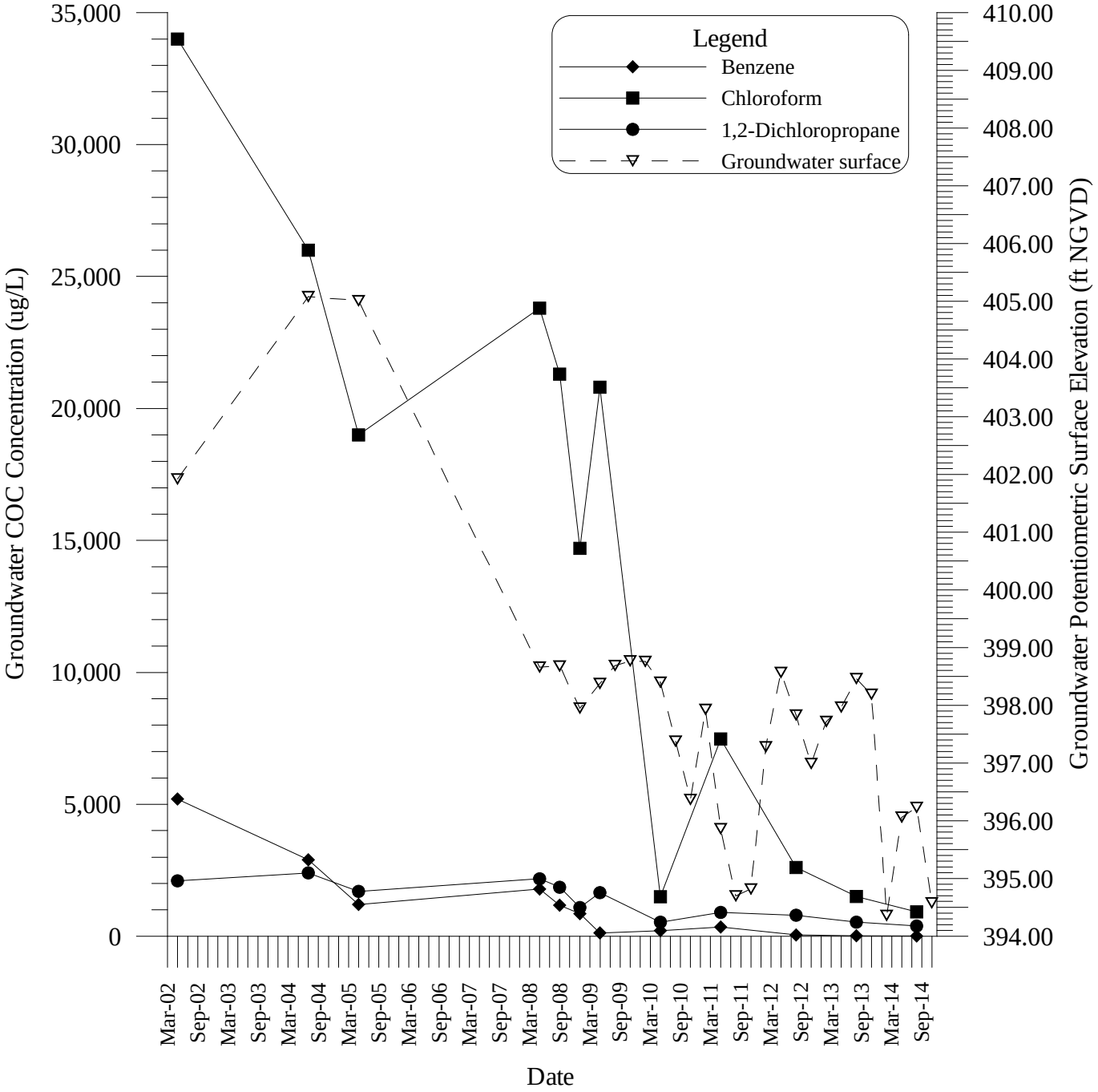
North Carolina State University
Lot 86 Site
Raleigh, North Carolina



SHALLOW MONITORING WELL

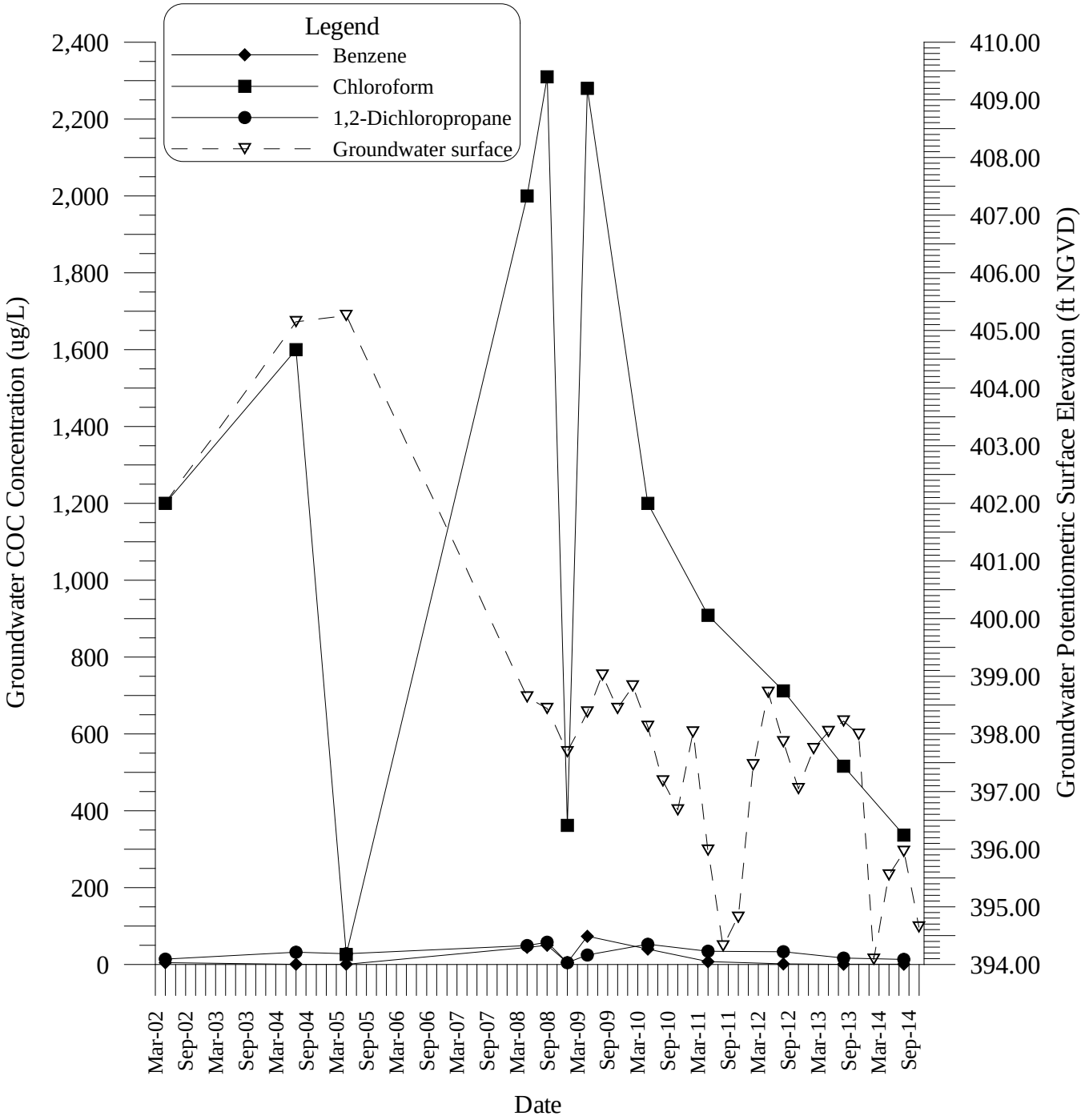
MW-36S: Groundwater Chemical of Concern Concentrations vs. Time

North Carolina State University
Lot 86 Site
Raleigh, North Carolina



DEEP MONITORING WELL
MW-36D: Groundwater Chemical of Concern Concentrations vs. Time

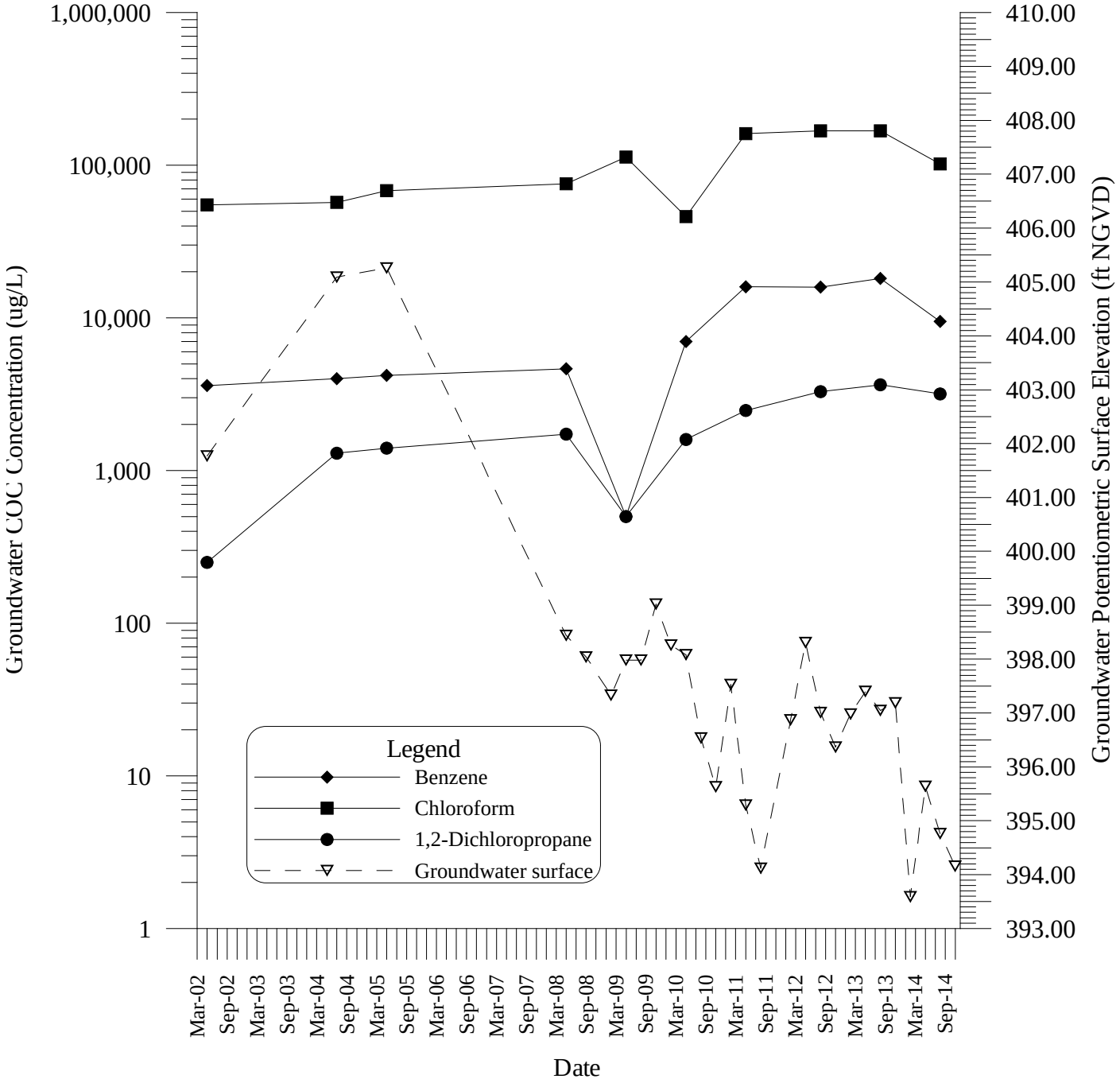
North Carolina State University
Lot 86 Site
Raleigh, North Carolina



SHALLOW MONITORING WELL

MW-37: Groundwater Chemical of Concern Concentrations vs. Time

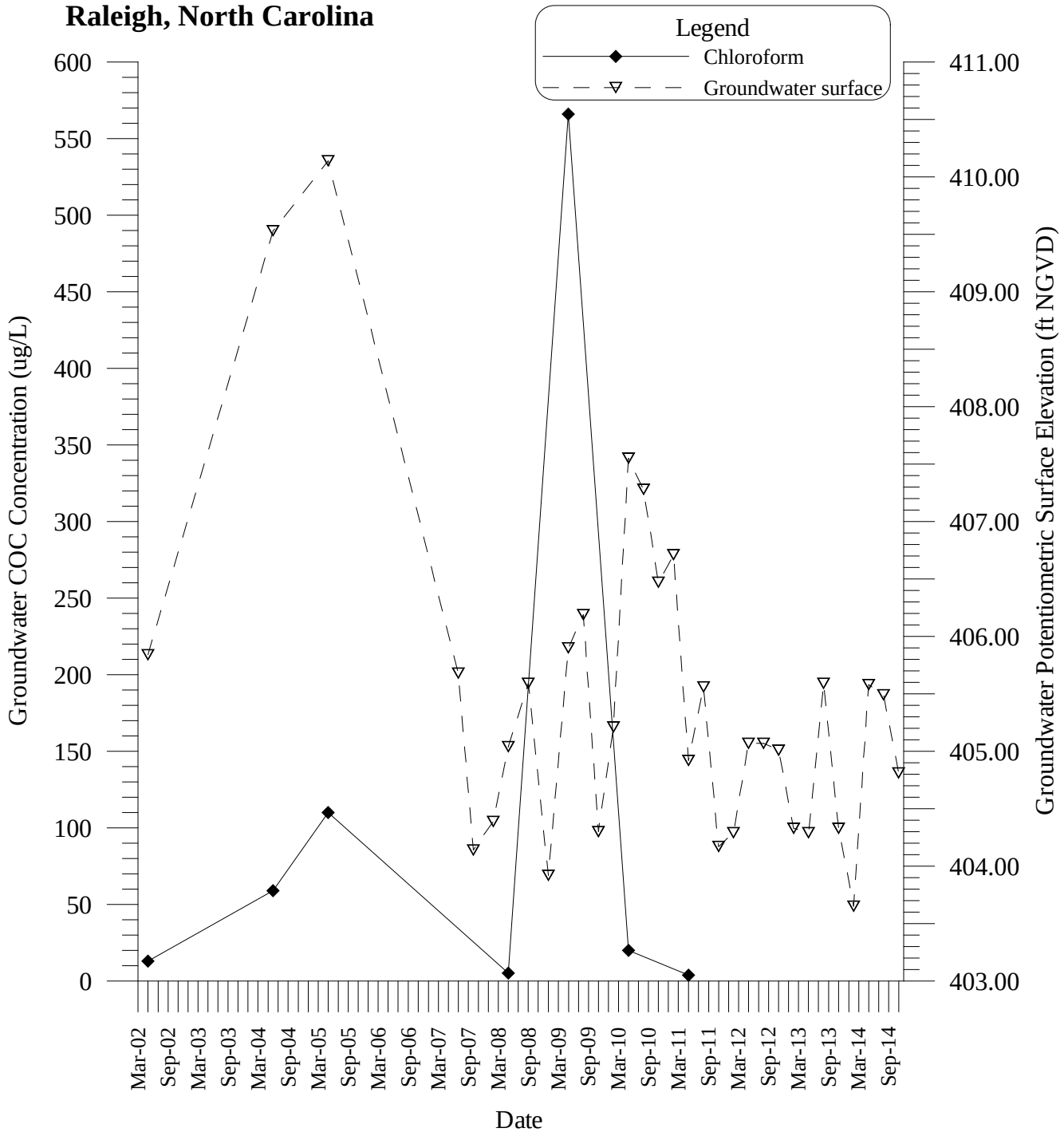
North Carolina State University
Lot 86 Site
Raleigh, North Carolina



SHALLOW MONITORING WELL

MW-40: Groundwater Chemical of Concern Concentrations vs. Time

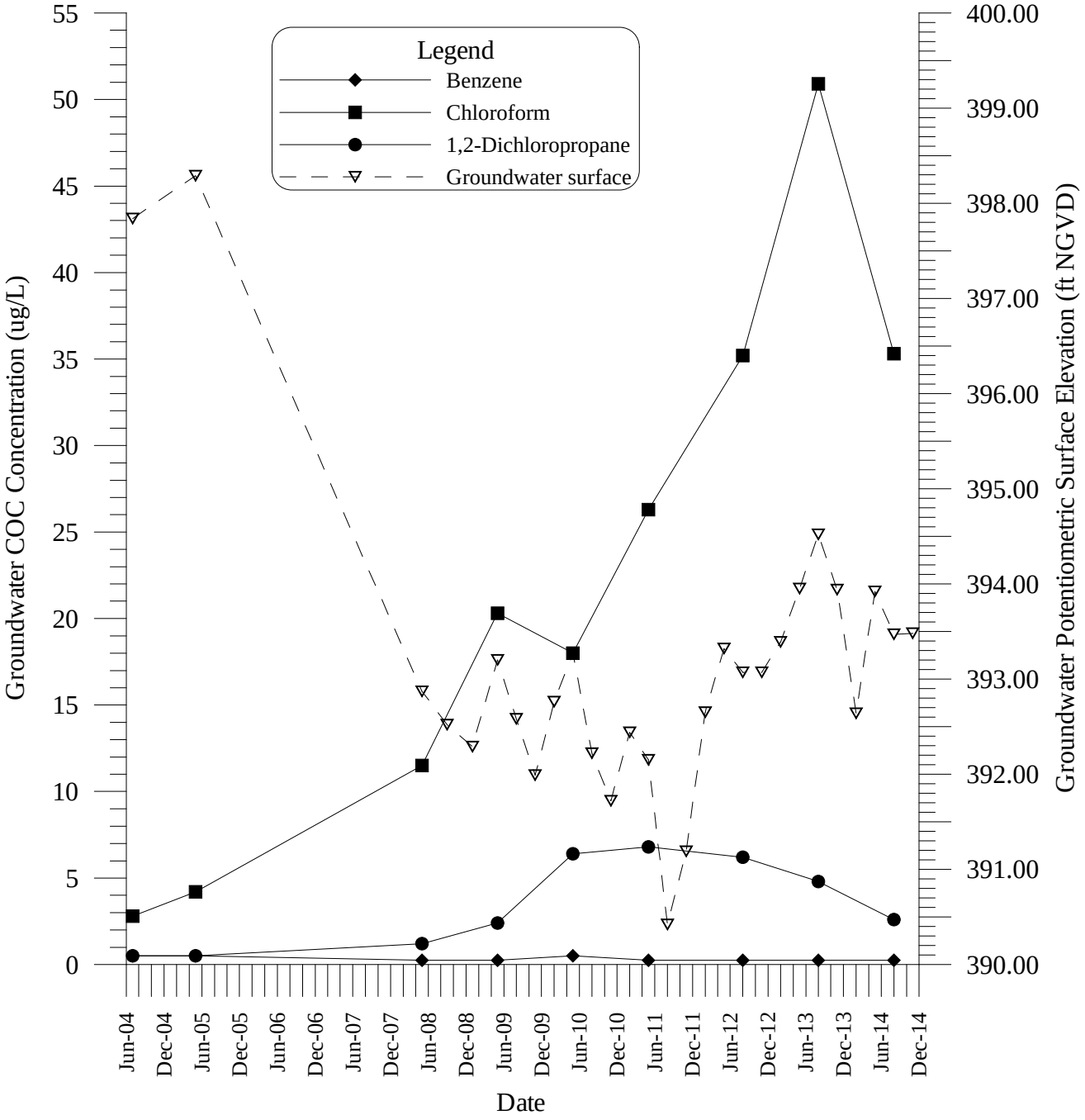
North Carolina State University
Lot 86 Site
Raleigh, North Carolina



DEEP MONITORING WELL

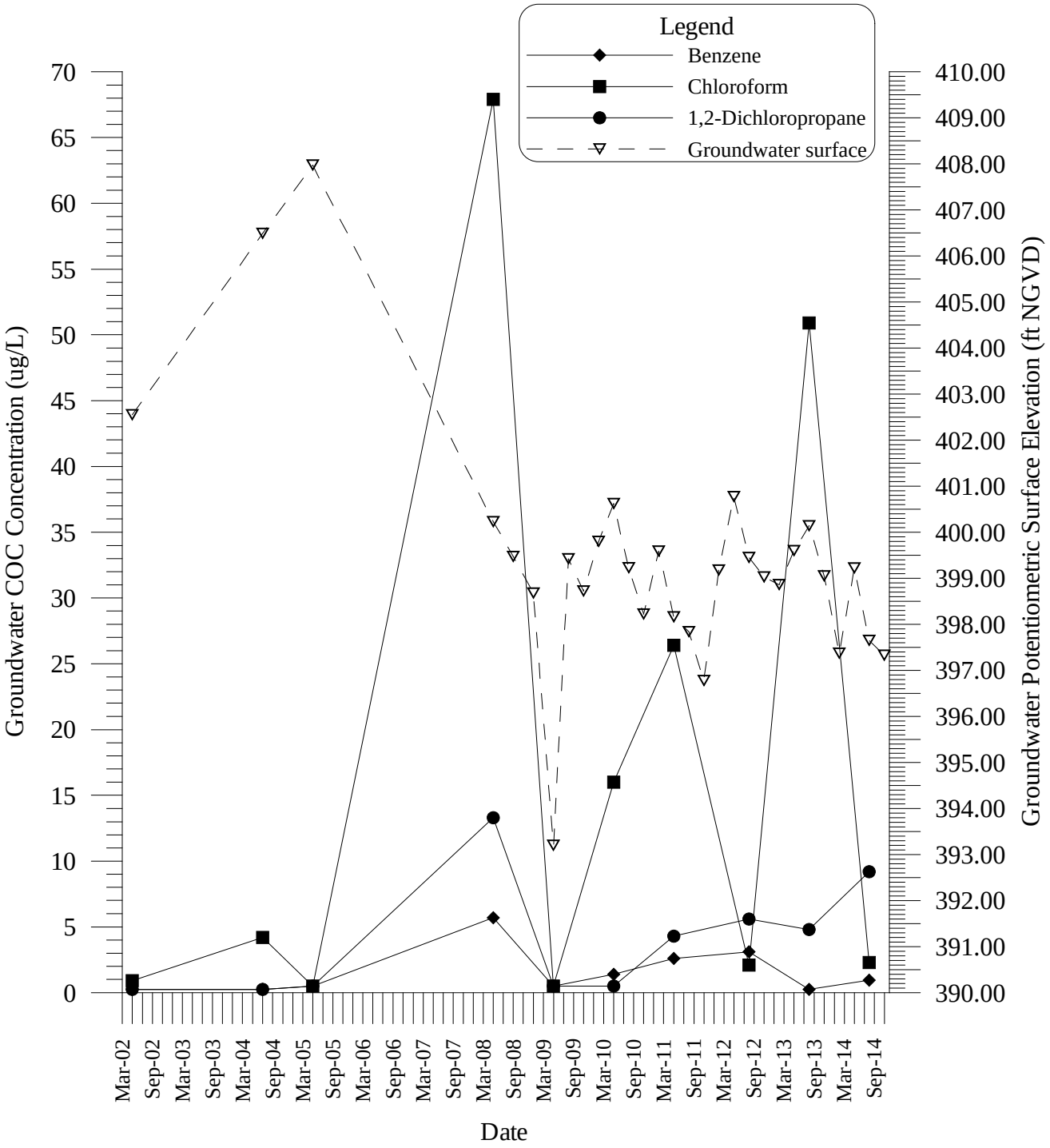
MW-41D: Groundwater Chemical of Concern Concentrations vs. Time

North Carolina State University
Lot 86 Site
Raleigh, North Carolina



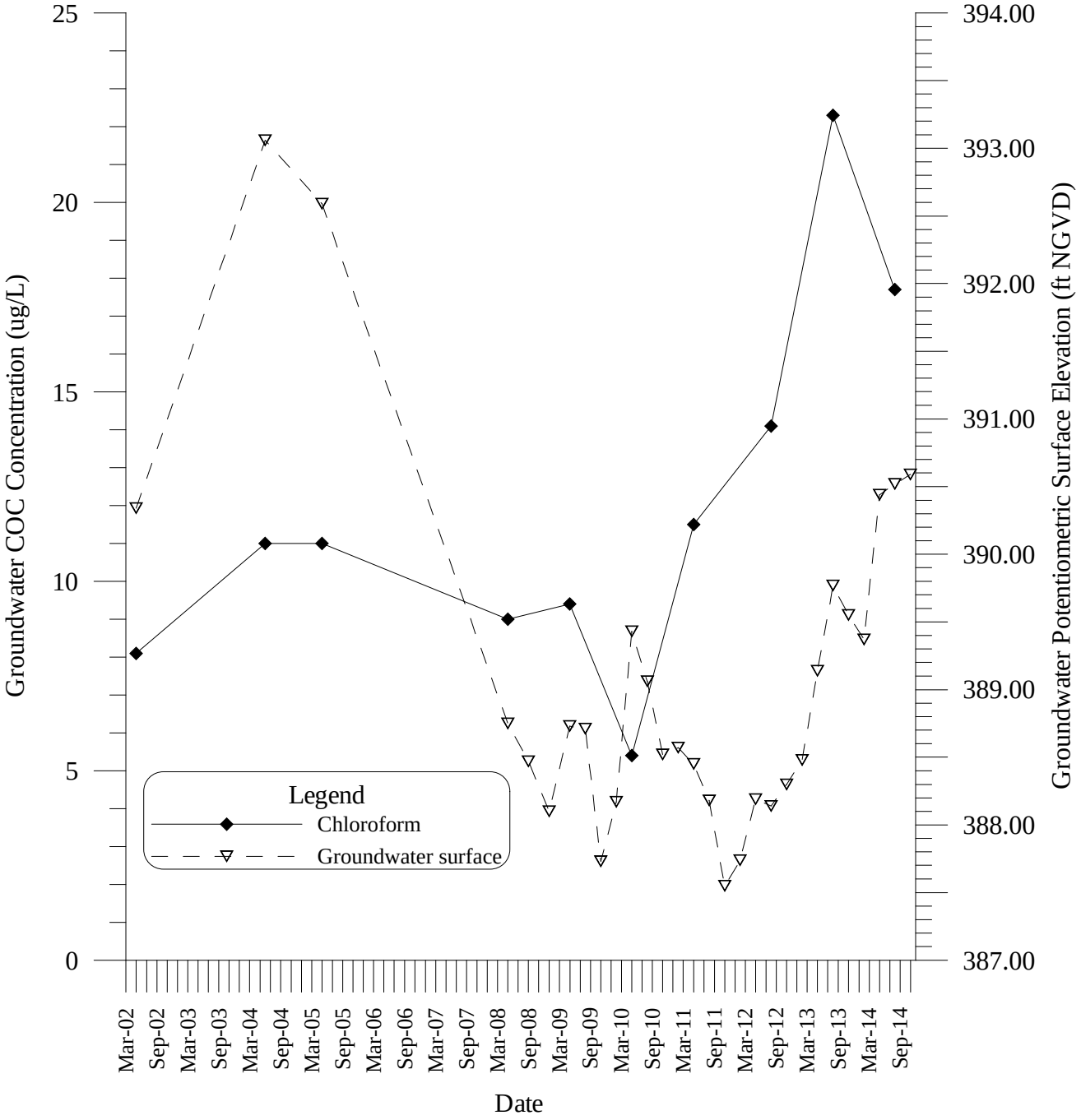
INTERMEDIATE MONITORING WELL
MW-42I: Groundwater Chemical of Concern Concentrations vs. Time

North Carolina State University
Lot 86 Site
Raleigh, North Carolina



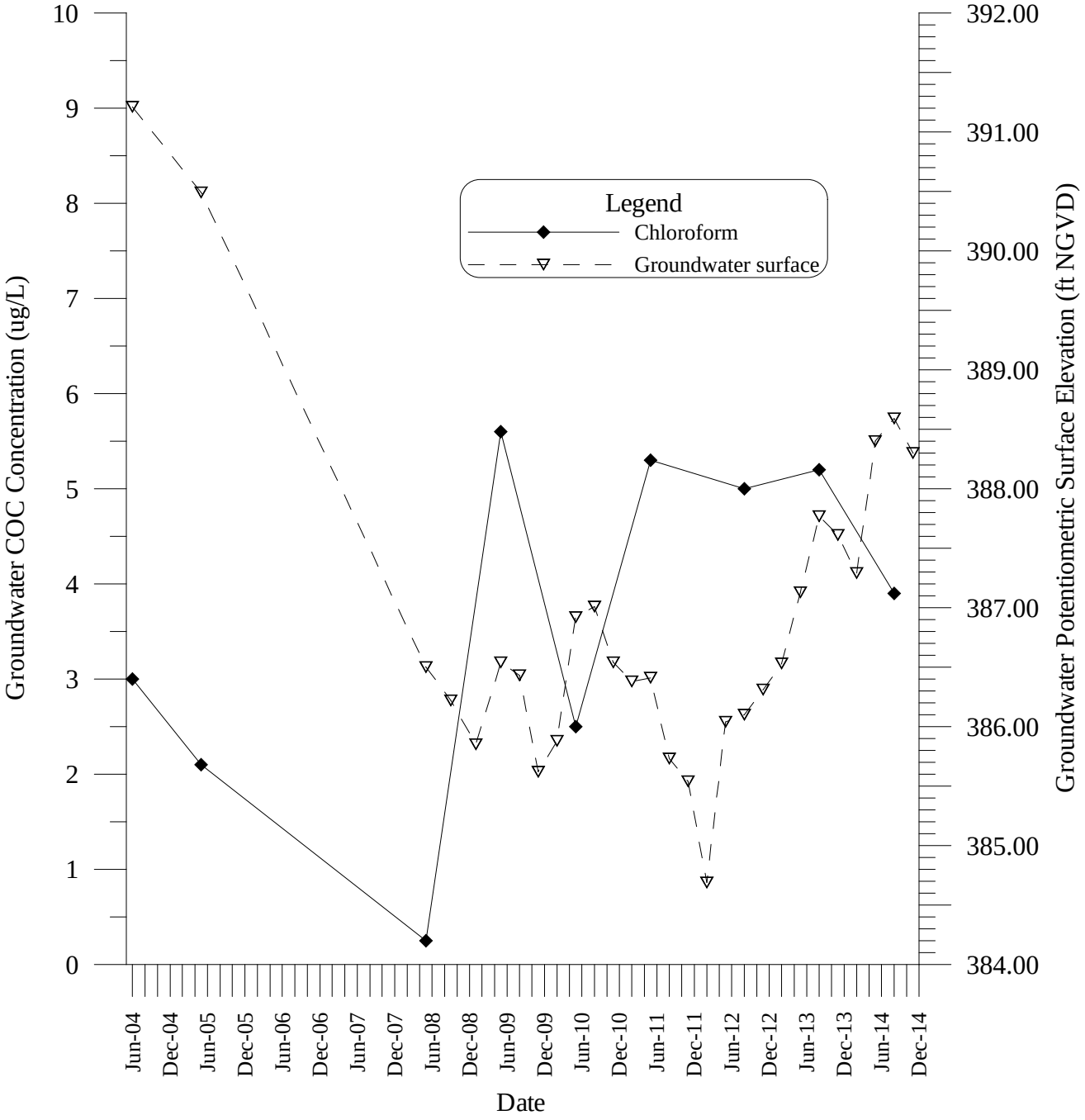
SHALLOW MONITORING WELL
MW-43S: Groundwater Chemical of Concern Concentrations vs. Time

North Carolina State University
Lot 86 Site
Raleigh, North Carolina



DEEP MONITORING WELL
MW-43D: Groundwater Chemical of Concern Concentrations vs. Time

North Carolina State University
Lot 86 Site
Raleigh, North Carolina

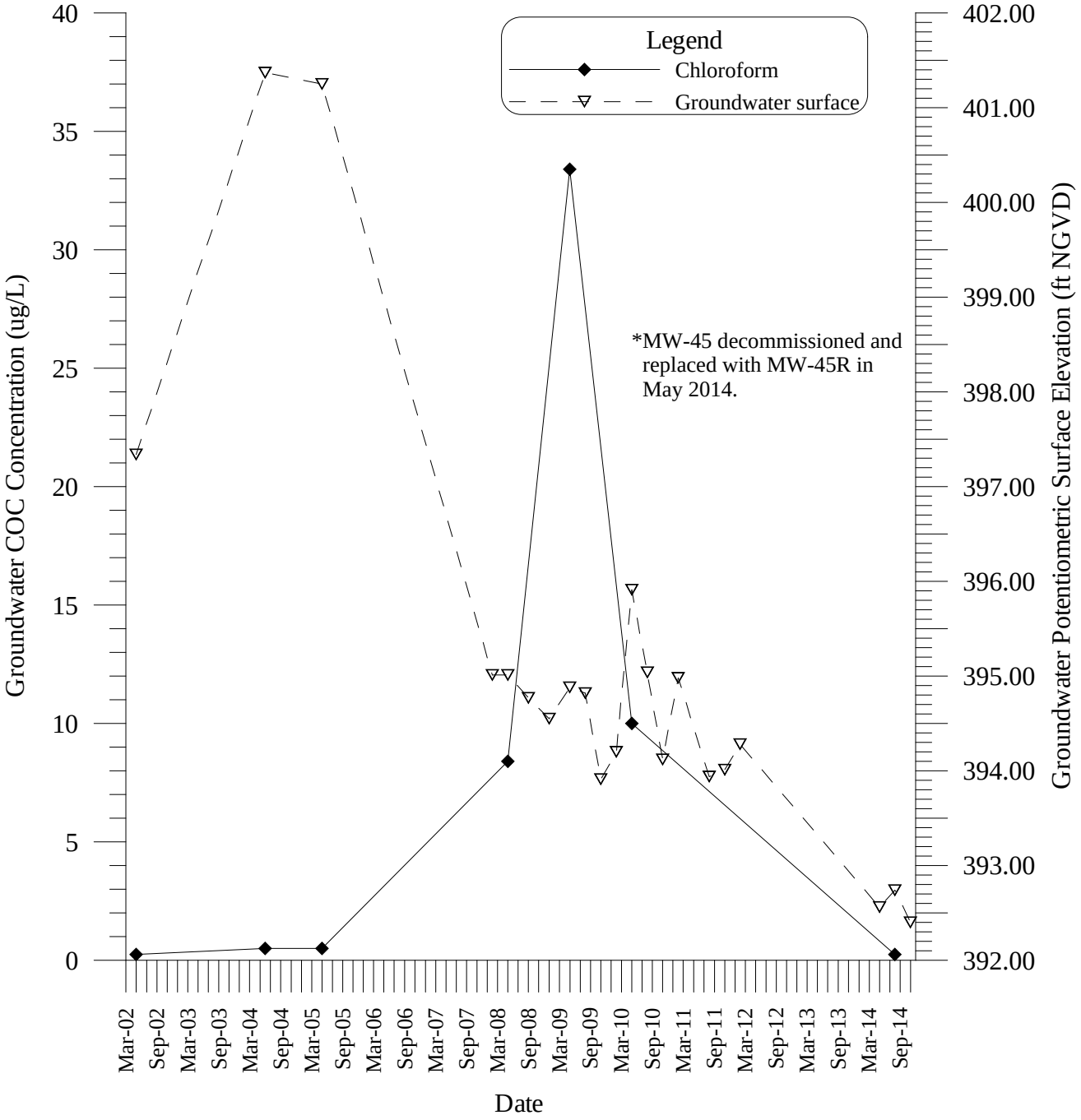


Note: non-detected concentrations are plotted at one-half of the detection limit.

SHALLOW MONITORING WELL

MW-45/MW-45R: Groundwater Chemical of Concern Concentrations vs. Time

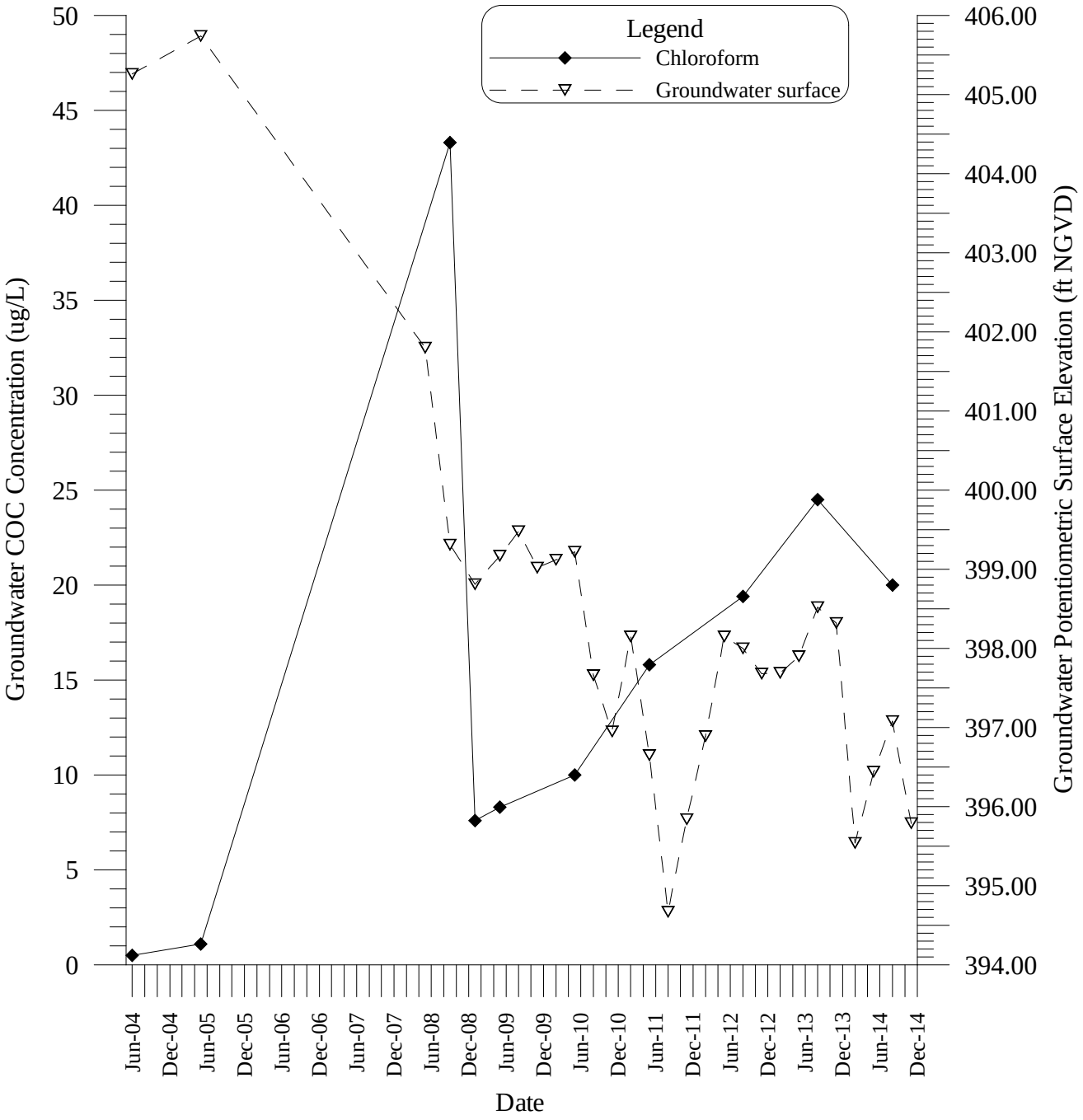
North Carolina State University
Lot 86 Site
Raleigh, North Carolina



Note: non-detected concentrations are plotted at one-half of the detection limit.

DEEP MONITORING WELL
MW-47: Groundwater Chemical of Concern Concentrations vs. Time

North Carolina State University
Lot 86 Site
Raleigh, North Carolina



Note: non-detected concentrations are plotted at one-half of the detection limit.

APPENDIX D

LABORATORY REPORTS

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

Mr. Pete Dressel
Piedmont Geologic
6003 Chapel Hill Road Suite 145
Raleigh, NC 27607

Report Summary

Friday January 31, 2014

Report Number: L679541
Samples Received: 01/23/14
Client Project: 1347

Description: NCSU Lot 86 - Water Treatment System Monitoring

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By: Jimmy Hunt

Jimmy Hunt , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197, FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704/BIO041, ND - R-140. NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1, TX - T104704245-11-3, OK - 9915, PA - 68-02979, IA Lab #364, EPA - TN002

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.
Note: The use of the preparatory EPA Method 3511 is not approved or endorsed by the CA ELAP.

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Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

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REPORT OF ANALYSIS

Mr. Pete Dressel
Piedmont Geologic
6003 Chapel Hill Road Suite 145
Raleigh, NC 27607

January 31, 2014

ESC Sample # : L679541-01

Site ID : RALEIGH NC

Project # : 1347

Date Received : January 23, 2014
Description : NCSU Lot 86

Sample ID : GWE INFLUENT

Collected By : Jonathan Murphrey
Collection Date : 01/22/14 09:10

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Volatile Organics								
Acetone	270	10.	50.	ug/l		8260B	01/24/14	1
Acrolein	U	8.9	50.	ug/l		8260B	01/24/14	1
Acrylonitrile	U	1.9	10.	ug/l		8260B	01/24/14	1
Benzene	890	16.	50.	ug/l		8260B	01/28/14	50
Bromodichloromethane	99.	0.38	1.0	ug/l		8260B	01/24/14	1
Bromoform	0.78	0.47	1.0	ug/l	J	8260B	01/24/14	1
Bromomethane	U	0.87	5.0	ug/l		8260B	01/24/14	1
Carbon disulfide	2.2	0.28	1.0	ug/l		8260B	01/24/14	1
Carbon tetrachloride	260	19.	50.	ug/l		8260B	01/28/14	50
Chlorobenzene	42.	0.35	1.0	ug/l		8260B	01/24/14	1
Chlorodibromomethane	0.40	0.33	1.0	ug/l	J	8260B	01/24/14	1
Chloroethane	U	0.45	5.0	ug/l		8260B	01/24/14	1
Chloroform	15000	160	2500	ug/l		8260B	01/30/14	500
Chloromethane	0.68	0.28	2.5	ug/l	J	8260B	01/24/14	1
1,2-Dibromoethane	820	19.	50.	ug/l		8260B	01/28/14	50
1,2-Dibromo-3-Chloropropane	220	66.	250	ug/l	J	8260B	01/28/14	50
Dibromomethane	U	0.35	1.0	ug/l		8260B	01/24/14	1
1,2-Dichlorobenzene	11.	0.35	1.0	ug/l		8260B	01/24/14	1
1,3-Dichlorobenzene	0.44	0.22	1.0	ug/l	J	8260B	01/24/14	1
1,4-Dichlorobenzene	1.7	0.27	1.0	ug/l		8260B	01/24/14	1
Dichlorodifluoromethane	2.2	0.55	5.0	ug/l	J	8260B	01/24/14	1
1,1-Dichloroethane	5.4	0.26	1.0	ug/l		8260B	01/24/14	1
1,2-Dichloroethane	79.	0.36	1.0	ug/l		8260B	01/24/14	1
1,1-Dichloroethene	4.7	0.40	1.0	ug/l		8260B	01/24/14	1
cis-1,2-Dichloroethene	1.2	0.26	1.0	ug/l		8260B	01/24/14	1
trans-1,2-Dichloroethene	U	0.40	1.0	ug/l		8260B	01/24/14	1
1,2-Dichloropropane	2400	15.	50.	ug/l		8260B	01/28/14	50
cis-1,3-Dichloropropene	U	0.42	1.0	ug/l		8260B	01/24/14	1
trans-1,3-Dichloropropene	U	0.42	1.0	ug/l		8260B	01/24/14	1
Ethylbenzene	25.	0.38	1.0	ug/l		8260B	01/24/14	1
2-Hexanone	U	3.8	10.	ug/l		8260B	01/24/14	1
Iodomethane	U	1.7	10.	ug/l		8260B	01/24/14	1
2-Butanone (MEK)	78.	3.9	10.	ug/l		8260B	01/24/14	1
Methylene Chloride	1800	50.	250	ug/l		8260B	01/28/14	50
4-Methyl-2-pentanone (MIBK)	250	2.1	10.	ug/l		8260B	01/24/14	1
Pentachloroethane	U	3.6	5.0	ug/l		8260B	01/24/14	1
Styrene	U	0.31	1.0	ug/l		8260B	01/24/14	1
1,1,2,2-Tetrachloroethane	33.	0.58	1.0	ug/l		8260B	01/24/14	1
1,1,1,2-Tetrachloroethane	U	0.38	1.0	ug/l		8260B	01/24/14	1
Tetrachloroethene	100	0.37	1.0	ug/l		8260B	01/24/14	1
Toluene	130	0.78	5.0	ug/l		8260B	01/24/14	1
1,1,1-Trichloroethane	0.55	0.32	1.0	ug/l	J	8260B	01/24/14	1

U = ND (Not Detected)
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL
MDL = Minimum Detection Limit = LOD = TRRP SDL
Note:
The reported analytical results relate only to the sample submitted.
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Reported: 01/30/14 14:51 Revised: 01/31/14 08:04

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REPORT OF ANALYSIS

Mr. Pete Dressel
Piedmont Geologic
6003 Chapel Hill Road Suite 145
Raleigh, NC 27607

January 31, 2014

ESC Sample # : L679541-01

Site ID : RALEIGH NC

Project # : 1347

Date Received : January 23, 2014
Description : NCSU Lot 86

Sample ID : GWE INFLUENT

Collected By : Jonathan Murphrey
Collection Date : 01/22/14 09:10

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
1,1,2-Trichloroethane	220	19.	50.	ug/l		8260B	01/28/14	50
Trichloroethene	290	20.	50.	ug/l		8260B	01/28/14	50
Trichlorofluoromethane	2.7	1.2	5.0	ug/l	J	8260B	01/24/14	1
1,2,3-Trichloropropane	100	0.81	2.5	ug/l		8260B	01/24/14	1
Vinyl acetate	U	1.6	10.	ug/l		8260B	01/24/14	1
Vinyl chloride	0.43	0.26	1.0	ug/l	J	8260B	01/24/14	1
Xylenes, Total	120	1.1	3.0	ug/l		8260B	01/24/14	1
Acetonitrile	43.	15.	50	ug/l	J	8260B	01/24/14	1
Allyl chloride	U	1.7	5.0	ug/l		8260B	01/24/14	1
Chloroprene	U	1.7	50.	ug/l		8260B	01/24/14	1
trans-1,4-Dichloro-2-butene	U	0.87	2.5	ug/l		8260B	01/24/14	1
Isobutanol	41.	39.	100	ug/l	J	8260B	01/24/14	1
1,4-Dioxane	2000	36.	100	ug/l		8260B	01/24/14	1
Methacrylonitrile	U	13.	50.	ug/l		8260B	01/24/14	1
Methyl methacrylate	U	1.2	5.0	ug/l		8260B	01/24/14	1
Ethyl methacrylate	U	1.4	5.0	ug/l		8260B	01/24/14	1
Propionitrile	U	13.	50.	ug/l		8260B	01/24/14	1
Surrogate Recovery								
Toluene-d8	100.			% Rec.		8260B	01/24/14	1
Dibromofluoromethane	95.8			% Rec.		8260B	01/24/14	1
a,a,a-Trifluorotoluene	95.1			% Rec.		8260B	01/24/14	1
4-Bromofluorobenzene	94.8			% Rec.		8260B	01/24/14	1

U = ND (Not Detected)
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL
MDL = Minimum Detection Limit = LOD = TRRP SDL
Note:
The reported analytical results relate only to the sample submitted.
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Reported: 01/30/14 14:51 Revised: 01/31/14 08:04

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L679541-01	WG703085	SAMP	Bromoform	R2879788	J
	WG703085	SAMP	Chlorodibromomethane	R2879788	J
	WG703085	SAMP	Chloromethane	R2879788	J
	WG703559	SAMP	1,2-Dibromo-3-Chloropropane	R2880349	J
	WG703085	SAMP	1,3-Dichlorobenzene	R2879788	J
	WG703085	SAMP	Dichlorodifluoromethane	R2879788	J
	WG703085	SAMP	1,1,1-Trichloroethane	R2879788	J
	WG703085	SAMP	Trichlorofluoromethane	R2879788	J
	WG703085	SAMP	Vinyl chloride	R2879788	J
	WG703085	SAMP	Acetonitrile	R2879788	J
	WG703085	SAMP	Isobutanol	R2879788	J

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J	(EPA) - Estimated value below the lowest calibration point. Confidence correlates with concentration.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods,it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.

Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Differrence.

Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromotography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.

TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

Summary of Remarks For Samples Printed
01/31/14 at 08:04:14

TSR Signing Reports: 350
R5 - Desired TAT

MDL/RDL; CDG, not CDICP for GW

Sample: L679541-01 Account: PIEGEO Received: 01/23/14 09:30 Due Date: 01/30/14 00:00 RPT Date: 01/30/14 14:51

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Raleigh, NC 27607

Quality Assurance Report
Level II

L679541

January 31, 2014

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
1,1,1,2-Tetrachloroethane	< .001	mg/l			WG703085	01/24/14 15:44
1,1,1-Trichloroethane	< .001	mg/l			WG703085	01/24/14 15:44
1,1,2,2-Tetrachloroethane	< .001	mg/l			WG703085	01/24/14 15:44
1,1-Dichloroethane	< .001	mg/l			WG703085	01/24/14 15:44
1,1-Dichloroethene	< .001	mg/l			WG703085	01/24/14 15:44
1,2,3-Trichloropropane	< .001	mg/l			WG703085	01/24/14 15:44
1,2-Dichlorobenzene	< .001	mg/l			WG703085	01/24/14 15:44
1,2-Dichloroethane	< .001	mg/l			WG703085	01/24/14 15:44
1,3-Dichlorobenzene	< .001	mg/l			WG703085	01/24/14 15:44
1,4-Dichlorobenzene	< .001	mg/l			WG703085	01/24/14 15:44
2-Butanone (MEK)	< .01	mg/l			WG703085	01/24/14 15:44
2-Hexanone	< .01	mg/l			WG703085	01/24/14 15:44
4-Methyl-2-pentanone (MIBK)	< .01	mg/l			WG703085	01/24/14 15:44
Acetone	< .05	mg/l			WG703085	01/24/14 15:44
Acetonitrile	< .05	mg/l			WG703085	01/24/14 15:44
Acrolein	< .025	mg/l			WG703085	01/24/14 15:44
Acrylonitrile	< .01	mg/l			WG703085	01/24/14 15:44
Allyl chloride	< .005	mg/l			WG703085	01/24/14 15:44
Bromodichloromethane	< .001	mg/l			WG703085	01/24/14 15:44
Bromoform	< .001	mg/l			WG703085	01/24/14 15:44
Bromomethane	< .005	mg/l			WG703085	01/24/14 15:44
Carbon disulfide	< .001	mg/l			WG703085	01/24/14 15:44
Chlorobenzene	< .001	mg/l			WG703085	01/24/14 15:44
Chlorodibromomethane	< .001	mg/l			WG703085	01/24/14 15:44
Chloroethane	< .005	mg/l			WG703085	01/24/14 15:44
Chloromethane	< .0025	mg/l			WG703085	01/24/14 15:44
Chloroprene	< .05	mg/l			WG703085	01/24/14 15:44
cis-1,2-Dichloroethene	< .001	mg/l			WG703085	01/24/14 15:44
cis-1,3-Dichloropropene	< .001	mg/l			WG703085	01/24/14 15:44
Dibromomethane	< .001	mg/l			WG703085	01/24/14 15:44
Dichlorodifluoromethane	< .005	mg/l			WG703085	01/24/14 15:44
Ethyl methacrylate	< .005	mg/l			WG703085	01/24/14 15:44
Ethylbenzene	< .001	mg/l			WG703085	01/24/14 15:44
Iodomethane	< .01	mg/l			WG703085	01/24/14 15:44
Isobutanol	< .1	mg/l			WG703085	01/24/14 15:44
Methacrylonitrile	< .05	mg/l			WG703085	01/24/14 15:44
Methyl methacrylate	< .005	mg/l			WG703085	01/24/14 15:44
Pentachloroethane	< .005	mg/l			WG703085	01/24/14 15:44
Propionitrile	< .05	mg/l			WG703085	01/24/14 15:44
Styrene	< .001	mg/l			WG703085	01/24/14 15:44
Tetrachloroethene	< .001	mg/l			WG703085	01/24/14 15:44
Toluene	< .005	mg/l			WG703085	01/24/14 15:44
trans-1,2-Dichloroethene	< .001	mg/l			WG703085	01/24/14 15:44
trans-1,3-Dichloropropene	< .001	mg/l			WG703085	01/24/14 15:44
trans-1,4-Dichloro-2-butene	< .0025	mg/l			WG703085	01/24/14 15:44
Trichlorofluoromethane	< .005	mg/l			WG703085	01/24/14 15:44
Vinyl acetate	< .01	mg/l			WG703085	01/24/14 15:44
Vinyl chloride	< .001	mg/l			WG703085	01/24/14 15:44
Xylenes, Total	< .003	mg/l			WG703085	01/24/14 15:44
4-Bromofluorobenzene		% Rec.	99.20	71-126	WG703085	01/24/14 15:44
Dibromofluoromethane		% Rec.	100.0	78.3-121	WG703085	01/24/14 15:44
Toluene-d8		% Rec.	101.0	88.5-111	WG703085	01/24/14 15:44
a,a,a-Trifluorotoluene		% Rec.	101.0	85-114	WG703085	01/24/14 15:44
1,1,2-Trichloroethane	< .001	mg/l			WG703559	01/28/14 11:23
1,2-Dibromo-3-Chloropropane	< .005	mg/l			WG703559	01/28/14 11:23
1,2-Dibromoethane	< .001	mg/l			WG703559	01/28/14 11:23
1,2-Dichloropropane	< .001	mg/l			WG703559	01/28/14 11:23

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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Quality Assurance Report
Level II

L679541

January 31, 2014

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
Benzene	< .001	mg/l			WG703559	01/28/14 11:23
Carbon tetrachloride	< .001	mg/l			WG703559	01/28/14 11:23
Methylene Chloride	< .005	mg/l			WG703559	01/28/14 11:23
Trichloroethene	< .001	mg/l			WG703559	01/28/14 11:23
4-Bromofluorobenzene		% Rec.	93.50	71-126	WG703559	01/28/14 11:23
Dibromofluoromethane		% Rec.	91.00	78.3-121	WG703559	01/28/14 11:23
Toluene-d8		% Rec.	103.0	88.5-111	WG703559	01/28/14 11:23
a,a,a-Trifluorotoluene		% Rec.	94.80	85-114	WG703559	01/28/14 11:23
Chloroform	< .005	mg/l			WG703970	01/30/14 12:47
4-Bromofluorobenzene		% Rec.	103.0	71-126	WG703970	01/30/14 12:47
Dibromofluoromethane		% Rec.	94.80	78.3-121	WG703970	01/30/14 12:47
Toluene-d8		% Rec.	99.50	88.5-111	WG703970	01/30/14 12:47
a,a,a-Trifluorotoluene		% Rec.	95.90	85-114	WG703970	01/30/14 12:47

Laboratory Control Sample

Analyte	Units	Known Val	Result	% Rec	Limit	Batch
1,1,1,2-Tetrachloroethane	mg/l	.025	0.0245	98.1	74.2-124	WG703085
1,1,1-Trichloroethane	mg/l	.025	0.0221	88.3	73.2-123	WG703085
1,1,2,2-Tetrachloroethane	mg/l	.025	0.0235	93.8	70.7-122	WG703085
1,1-Dichloroethane	mg/l	.025	0.0236	94.4	70.7-126	WG703085
1,1-Dichloroethene	mg/l	.025	0.0244	97.5	67.8-129	WG703085
1,2,3-Trichloropropane	mg/l	.025	0.0231	92.5	71.8-121	WG703085
1,2-Dichlorobenzene	mg/l	.025	0.0247	98.7	78.4-117	WG703085
1,2-Dichloroethane	mg/l	.025	0.0209	83.8	68.8-124	WG703085
1,3-Dichlorobenzene	mg/l	.025	0.0242	96.9	70.8-128	WG703085
1,4-Dichlorobenzene	mg/l	.025	0.0233	93.2	78.8-115	WG703085
2-Butanone (MEK)	mg/l	.125	0.111	88.8	55-149	WG703085
2-Hexanone	mg/l	.125	0.112	89.4	65.6-144	WG703085
4-Methyl-2-pentanone (MIBK)	mg/l	.125	0.113	90.5	70.5-133	WG703085
Acetone	mg/l	.125	0.0555	44.4	35.6-163	WG703085
Acrolein	mg/l	.125	0.128	103.	10-190	WG703085
Acrylonitrile	mg/l	.125	0.125	99.9	55.2-130	WG703085
Bromodichloromethane	mg/l	.025	0.0200	79.8	75.1-116	WG703085
Bromoform	mg/l	.025	0.0240	95.9	67.5-130	WG703085
Bromomethane	mg/l	.025	0.0190	76.1	49.9-162	WG703085
Carbon disulfide	mg/l	.025	0.0245	98.2	64.6-140	WG703085
Chlorobenzene	mg/l	.025	0.0251	100.	78.1-119	WG703085
Chlorodibromomethane	mg/l	.025	0.0235	93.9	74-121	WG703085
Chloroethane	mg/l	.025	0.0234	93.6	61.7-135	WG703085
Chloromethane	mg/l	.025	0.0229	91.4	61.5-129	WG703085
cis-1,2-Dichloroethene	mg/l	.025	0.0244	97.5	76-119	WG703085
cis-1,3-Dichloropropene	mg/l	.025	0.0225	89.9	78.2-120	WG703085
Dibromomethane	mg/l	.025	0.0231	92.5	79.5-118	WG703085
Dichlorodifluoromethane	mg/l	.025	0.0212	84.8	54.8-135	WG703085
Ethylbenzene	mg/l	.025	0.0250	100.	78.8-122	WG703085
Iodomethane	mg/l	.125	0.111	88.8	61-130	WG703085
Styrene	mg/l	.025	0.0257	103.	80.4-126	WG703085
Tetrachloroethene	mg/l	.025	0.0253	101.	72.6-126	WG703085
Toluene	mg/l	.025	0.0219	87.5	79.7-116	WG703085
trans-1,2-Dichloroethene	mg/l	.025	0.0238	95.4	72.6-121	WG703085
trans-1,3-Dichloropropene	mg/l	.025	0.0229	91.7	74.3-123	WG703085
trans-1,4-Dichloro-2-butene	mg/l	.025	0.0190	76.0	65.1-123	WG703085
Trichlorofluoromethane	mg/l	.025	0.0228	91.3	63.5-135	WG703085
Vinyl acetate	mg/l	.125	0.105	84.4	65-138	WG703085
Vinyl chloride	mg/l	.025	0.0249	99.5	65.9-128	WG703085
Xylenes, Total	mg/l	.075	0.0701	93.4	78.7-121	WG703085

* Performance of this Analyte is outside of established criteria.
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Quality Assurance Report
Level II

L679541

January 31, 2014

Analyte	Units	Laboratory Control Sample Known Val	Result	% Rec	Limit	Batch
4-Bromofluorobenzene				98.00	71-126	
Dibromofluoromethane				100.0	78.3-121	
Toluene-d8				100.0	88.5-111	
a,a,a-Trifluorotoluene				102.0	85-114	
1,1,2-Trichloroethane	mg/l	.025	0.0251	101.	77.7-118	WG703559
1,2-Dibromo-3-Chloropropane	mg/l	.025	0.0260	104.	65.4-128	WG703559
1,2-Dibromoethane	mg/l	.025	0.0239	95.4	76.6-121	WG703559
1,2-Dichloropropane	mg/l	.025	0.0290	116.	76.5-119	WG703559
Benzene	mg/l	.025	0.0269	108.	74.8-121	WG703559
Carbon tetrachloride	mg/l	.025	0.0258	103.	70.2-123	WG703559
Methylene Chloride	mg/l	.025	0.0277	111.	70.3-120	WG703559
Trichloroethene	mg/l	.025	0.0269	108.	77.7-118	WG703559
4-Bromofluorobenzene				91.10	71-126	WG703559
Dibromofluoromethane				99.70	78.3-121	WG703559
Toluene-d8				102.0	88.5-111	WG703559
a,a,a-Trifluorotoluene				102.0	85-114	WG703559
Chloroform	mg/l	.025	0.0252	101.	76-121	WG703970
4-Bromofluorobenzene				99.70	71-126	WG703970
Dibromofluoromethane				95.70	78.3-121	WG703970
Toluene-d8				100.0	88.5-111	WG703970
a,a,a-Trifluorotoluene				95.90	85-114	WG703970

Analyte	Units	Laboratory Control Sample Duplicate Result	Ref	%Rec	Limit	RPD	Limit	Batch
1,1,1,2-Tetrachloroethane	mg/l	0.0249	0.0245	100.	74.2-124	1.44	20	WG703085
1,1,1-Trichloroethane	mg/l	0.0226	0.0221	90.0	73.2-123	2.43	20	WG703085
1,1,2,2-Tetrachloroethane	mg/l	0.0238	0.0235	95.0	70.7-122	1.40	20	WG703085
1,1-Dichloroethane	mg/l	0.0241	0.0236	96.0	70.7-126	2.07	20	WG703085
1,1-Dichloroethene	mg/l	0.0241	0.0244	96.0	67.8-129	0.930	20	WG703085
1,2,3-Trichloropropane	mg/l	0.0248	0.0231	99.0	71.8-121	6.76	20	WG703085
1,2-Dichlorobenzene	mg/l	0.0261	0.0247	104.	78.4-117	5.52	20	WG703085
1,2-Dichloroethane	mg/l	0.0212	0.0209	85.0	68.8-124	1.20	20	WG703085
1,3-Dichlorobenzene	mg/l	0.0241	0.0242	96.0	70.8-128	0.380	20	WG703085
1,4-Dichlorobenzene	mg/l	0.0242	0.0233	97.0	78.8-115	3.96	20	WG703085
2-Butanone (MEK)	mg/l	0.100	0.111	80.0	55-149	9.98	20	WG703085
2-Hexanone	mg/l	0.116	0.112	92.0	65.6-144	3.41	20	WG703085
4-Methyl-2-pentanone (MIBK)	mg/l	0.118	0.113	94.0	70.5-133	4.14	20	WG703085
Acetone	mg/l	0.0586	0.0555	47.0	35.6-163	5.43	23.9	WG703085
Acrolein	mg/l	0.128	0.128	103.	10-190	0.160	28.1	WG703085
Acrylonitrile	mg/l	0.128	0.125	102.	55.2-130	2.57	20	WG703085
Bromodichloromethane	mg/l	0.0207	0.0200	83.0	75.1-116	3.90	20	WG703085
Bromoform	mg/l	0.0241	0.0240	96.0	67.5-130	0.490	20	WG703085
Bromomethane	mg/l	0.0199	0.0190	80.0	49.9-162	4.40	20	WG703085
Carbon disulfide	mg/l	0.0247	0.0245	99.0	64.6-140	0.650	20	WG703085
Chlorobenzene	mg/l	0.0253	0.0251	101.	78.1-119	0.510	20	WG703085
Chlorodibromomethane	mg/l	0.0235	0.0235	94.0	74-121	0.0600	20	WG703085
Chloroethane	mg/l	0.0224	0.0234	90.0	61.7-135	4.42	20	WG703085
Chloromethane	mg/l	0.0230	0.0229	92.0	61.5-129	0.550	20	WG703085
cis-1,2-Dichloroethene	mg/l	0.0250	0.0244	100.	76-119	2.45	20	WG703085
cis-1,3-Dichloropropene	mg/l	0.0233	0.0225	93.0	78.2-120	3.85	20	WG703085
Dibromomethane	mg/l	0.0239	0.0231	96.0	79.5-118	3.38	20	WG703085
Dichlorodifluoromethane	mg/l	0.0208	0.0212	83.0	54.8-135	1.94	20	WG703085
Ethylbenzene	mg/l	0.0252	0.0250	101.	78.8-122	0.420	20	WG703085
Iodomethane	mg/l	0.111	0.111	88.0	61-130	0.340	20	WG703085
Styrene	mg/l	0.0258	0.0257	103.	80.4-126	0.0800	20	WG703085
Tetrachloroethene	mg/l	0.0255	0.0253	102.	72.6-126	0.810	20	WG703085

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Quality Assurance Report
Level II

L679541

January 31, 2014

Analyte	Units	Laboratory Control Sample Duplicate Result	Ref	%Rec	Limit	RPD	Limit	Batch
Toluene	mg/l	0.0230	0.0219	92.0	79.7-116	4.83	20	WG703085
trans-1,2-Dichloroethene	mg/l	0.0241	0.0238	96.0	72.6-121	1.08	20	WG703085
trans-1,3-Dichloropropene	mg/l	0.0248	0.0229	99.0	74.3-123	7.88	20	WG703085
trans-1,4-Dichloro-2-butene	mg/l	0.0185	0.0190	74.0	65.1-123	2.39	20	WG703085
Trichlorofluoromethane	mg/l	0.0225	0.0228	90.0	63.5-135	1.51	20	WG703085
Vinyl acetate	mg/l	0.108	0.105	87.0	65-138	2.70	20	WG703085
Vinyl chloride	mg/l	0.0250	0.0249	100.	65.9-128	0.570	20	WG703085
Xylenes, Total	mg/l	0.0717	0.0701	96.0	78.7-121	2.34	20	WG703085
4-Bromofluorobenzene				96.50	71-126			WG703085
Dibromofluoromethane				100.0	78.3-121			WG703085
Toluene-d8				102.0	88.5-111			WG703085
a,a,a-Trifluorotoluene				102.0	85-114			WG703085
1,1,2-Trichloroethane	mg/l	0.0254	0.0251	102.	77.7-118	1.15	20	WG703559
1,2-Dibromo-3-Chloropropane	mg/l	0.0226	0.0260	90.0	65.4-128	14.0	20	WG703559
1,2-Dibromoethane	mg/l	0.0245	0.0239	98.0	76.6-121	2.70	20	WG703559
1,2-Dichloropropane	mg/l	0.0268	0.0290	107.	76.5-119	7.70	20	WG703559
Benzene	mg/l	0.0262	0.0269	105.	74.8-121	2.65	20	WG703559
Carbon tetrachloride	mg/l	0.0235	0.0258	94.0	70.2-123	9.34	20	WG703559
Methylene Chloride	mg/l	0.0249	0.0277	99.0	70.3-120	10.9	20	WG703559
Trichloroethene	mg/l	0.0249	0.0269	100.	77.7-118	7.82	20	WG703559
4-Bromofluorobenzene				92.10	71-126			WG703559
Dibromofluoromethane				94.30	78.3-121			WG703559
Toluene-d8				102.0	88.5-111			WG703559
a,a,a-Trifluorotoluene				94.90	85-114			WG703559
Chloroform	mg/l	0.0256	0.0252	102.	76-121	1.53	20	WG703970
4-Bromofluorobenzene				98.30	71-126			WG703970
Dibromofluoromethane				97.40	78.3-121			WG703970
Toluene-d8				99.10	88.5-111			WG703970
a,a,a-Trifluorotoluene				97.40	85-114			WG703970

Analyte	Units	Matrix Spike MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
1,1,1,2-Tetrachloroethane	mg/l	0.0205	0.0	.025	82.0	64-128	L679576-01	WG703085
1,1,1-Trichloroethane	mg/l	0.0192	0.0	.025	77.0	58.7-134	L679576-01	WG703085
1,1,2,2-Tetrachloroethane	mg/l	0.0207	0.0	.025	83.0	56-132	L679576-01	WG703085
1,1-Dichloroethane	mg/l	0.0205	0.0	.025	82.0	58.5-132	L679576-01	WG703085
1,1-Dichloroethene	mg/l	0.0204	0.0	.025	82.0	51.1-140	L679576-01	WG703085
1,2,3-Trichloropropane	mg/l	0.0214	0.0	.025	86.0	61.4-128	L679576-01	WG703085
1,2-Dichlorobenzene	mg/l	0.0222	0.0	.025	89.0	68.2-123	L679576-01	WG703085
1,2-Dichloroethane	mg/l	0.0182	0.0	.025	73.0	60-126	L679576-01	WG703085
1,3-Dichlorobenzene	mg/l	0.0218	0.0	.025	87.0	63.1-131	L679576-01	WG703085
1,4-Dichlorobenzene	mg/l	0.0215	0.0	.025	86.0	68.6-123	L679576-01	WG703085
2-Butanone (MEK)	mg/l	0.0904	0.0	.125	72.0	22.4-138	L679576-01	WG703085
2-Hexanone	mg/l	0.104	0.0	.125	83.0	43.3-137	L679576-01	WG703085
4-Methyl-2-pentanone (MIBK)	mg/l	0.109	0.0	.125	87.0	60.8-140	L679576-01	WG703085
Acetone	mg/l	0.0538	0.00872	.125	36.0	10-130	L679576-01	WG703085
Acrolein	mg/l	0.138	0.00243	.125	110.	10-200	L679576-01	WG703085
Acrylonitrile	mg/l	0.119	0.0	.125	95.0	49.4-133	L679576-01	WG703085
Bromodichloromethane	mg/l	0.0182	0.0	.025	73.0	63.9-121	L679576-01	WG703085
Bromoform	mg/l	0.0211	0.0	.025	84.0	59.5-134	L679576-01	WG703085
Bromomethane	mg/l	0.0154	0.0	.025	62.0	41.7-155	L679576-01	WG703085
Carbon disulfide	mg/l	0.0215	0.0	.025	86.0	43.3-149	L679576-01	WG703085
Chlorobenzene	mg/l	0.0220	0.0	.025	88.0	67-125	L679576-01	WG703085
Chlorodibromomethane	mg/l	0.0203	0.0	.025	81.0	64.3-125	L679576-01	WG703085

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Quality Assurance Report
Level II

L679541

January 31, 2014

Analyte	Units	Matrix Spike MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
Chloroethane	mg/l	0.0197	0.0	.025	79.0	51.5-136	L679576-01	WG703085
Chloromethane	mg/l	0.0194	0.0	.025	78.0	42.4-135	L679576-01	WG703085
cis-1,2-Dichloroethene	mg/l	0.0217	0.0	.025	87.0	59.2-129	L679576-01	WG703085
cis-1,3-Dichloropropene	mg/l	0.0198	0.0	.025	79.0	66.4-125	L679576-01	WG703085
Dibromomethane	mg/l	0.0207	0.0	.025	83.0	68.2-124	L679576-01	WG703085
Dichlorodifluoromethane	mg/l	0.0186	0.0	.025	74.0	40.6-144	L679576-01	WG703085
Ethylbenzene	mg/l	0.0224	0.000679	.025	87.0	61.4-133	L679576-01	WG703085
Iodomethane	mg/l	0.102	0.0	.125	82.0	49.7-132	L679576-01	WG703085
Styrene	mg/l	0.0221	0.0	.025	88.0	66.8-133	L679576-01	WG703085
Tetrachloroethene	mg/l	0.0219	0.0	.025	88.0	53-139	L679576-01	WG703085
Toluene	mg/l	0.0205	0.000597	.025	80.0	61.4-130	L679576-01	WG703085
trans-1,2-Dichloroethene	mg/l	0.0211	0.0	.025	84.0	56.5-129	L679576-01	WG703085
trans-1,3-Dichloropropene	mg/l	0.0208	0.0	.025	83.0	64.1-128	L679576-01	WG703085
trans-1,4-Dichloro-2-butene	mg/l	0.0169	0.0	.025	67.0	57.1-130	L679576-01	WG703085
Trichlorofluoromethane	mg/l	0.0192	0.0	.025	77.0	49.6-145	L679576-01	WG703085
Vinyl acetate	mg/l	0.0941	0.000389	.125	75.0	56.1-149	L679576-01	WG703085
Vinyl chloride	mg/l	0.0212	0.0	.025	85.0	47.8-137	L679576-01	WG703085
Xylenes, Total	mg/l	0.0623	0.000703	.075	82.0	63.3-131	L679576-01	WG703085
4-Bromofluorobenzene					97.40	71-126		WG703085
Dibromofluoromethane					99.30	78.3-121		WG703085
Toluene-d8					102.0	88.5-111		WG703085
a,a,a-Trifluorotoluene					103.0	85-114		WG703085
1,1,2-Trichloroethane	mg/l	0.0206	0.0	.025	82.0	66.3-125	L679998-02	WG703559
1,2-Dibromo-3-Chloropropane	mg/l	0.0186	0.0	.025	74.0	57.3-136	L679998-02	WG703559
1,2-Dibromoethane	mg/l	0.0209	0.0	.025	84.0	67.1-125	L679998-02	WG703559
1,2-Dichloropropane	mg/l	0.0223	0.0	.025	89.0	64.2-123	L679998-02	WG703559
Benzene	mg/l	0.0213	0.0	.025	85.0	54.3-133	L679998-02	WG703559
Carbon tetrachloride	mg/l	0.0197	0.0	.025	79.0	55.7-134	L679998-02	WG703559
Methylene Chloride	mg/l	0.0210	0.000620	.025	82.0	58.1-122	L679998-02	WG703559
Trichloroethene	mg/l	0.0209	0.0	.025	84.0	44.1-149	L679998-02	WG703559
4-Bromofluorobenzene					95.20	71-126		WG703559
Dibromofluoromethane					96.70	78.3-121		WG703559
Toluene-d8					103.0	88.5-111		WG703559
a,a,a-Trifluorotoluene					98.40	85-114		WG703559
Chloroform	mg/l	0.0265	0.0	.025	110.	63-129	L679944-03	WG703970
4-Bromofluorobenzene					97.60	71-126		WG703970
Dibromofluoromethane					97.50	78.3-121		WG703970
Toluene-d8					99.10	88.5-111		WG703970
a,a,a-Trifluorotoluene					97.00	85-114		WG703970

Analyte	Units	Matrix Spike Duplicate MSD	Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
1,1,1,2-Tetrachloroethane	mg/l	0.0121	0.0205	48.4*	64-128	51.6*	20	L679576-01	WG703085
1,1,1-Trichloroethane	mg/l	0.00908	0.0192	36.3*	58.7-134	71.4*	20	L679576-01	WG703085
1,1,2,2-Tetrachloroethane	mg/l	0.0125	0.0207	50.1*	56-132	49.3*	22.2	L679576-01	WG703085
1,1-Dichloroethane	mg/l	0.00960	0.0205	38.4*	58.5-132	72.6*	20	L679576-01	WG703085
1,1-Dichloroethene	mg/l	0.00849	0.0204	34.0*	51.1-140	82.6*	20.2	L679576-01	WG703085
1,2,3-Trichloropropane	mg/l	0.0135	0.0214	54.0*	61.4-128	45.5*	22.4	L679576-01	WG703085
1,2-Dichlorobenzene	mg/l	0.0133	0.0222	53.0*	68.2-123	50.6*	20	L679576-01	WG703085
1,2-Dichloroethane	mg/l	0.00984	0.0182	39.3*	60-126	59.4*	20	L679576-01	WG703085
1,3-Dichlorobenzene	mg/l	0.0125	0.0218	50.0*	63.1-131	54.1*	20	L679576-01	WG703085
1,4-Dichlorobenzene	mg/l	0.0126	0.0215	50.4*	68.6-123	52.1*	20	L679576-01	WG703085
2-Butanone (MEK)	mg/l	0.0527	0.0904	42.1	22.4-138	52.8*	27	L679576-01	WG703085
2-Hexanone	mg/l	0.0638	0.104	51.0	43.3-137	48.0*	25.5	L679576-01	WG703085

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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Piedmont Geologic
Mr. Pete Dressel
6003 Chapel Hill Road Suite 145

Raleigh, NC 27607

Quality Assurance Report
Level II

L679541

January 31, 2014

Analyte	Units	MSD	Matrix Spike Ref	Duplicate %Rec	Limit	RPD	Limit	Ref Samp	Batch
4-Methyl-2-pentanone (MIBK)	mg/l	0.0658	0.109	52.6*	60.8-140	49.3*	25.1	L679576-01	WG703085
Acetone	mg/l	0.0309	0.0538	17.8	10-130	53.9*	27.9	L679576-01	WG703085
Acrolein	mg/l	0.0824	0.138	64.0	10-200	50.5*	27.7	L679576-01	WG703085
Acrylonitrile	mg/l	0.0668	0.119	53.4	49.4-133	56.1*	25.3	L679576-01	WG703085
Bromodichloromethane	mg/l	0.0100	0.0182	40.1*	63.9-121	57.7*	20	L679576-01	WG703085
Bromoform	mg/l	0.0122	0.0211	48.8*	59.5-134	53.5*	20.5	L679576-01	WG703085
Bromomethane	mg/l	0.00681	0.0154	27.2*	41.7-155	77.5*	21.9	L679576-01	WG703085
Carbon disulfide	mg/l	0.00869	0.0215	34.8*	43.3-149	84.8*	20.3	L679576-01	WG703085
Chlorobenzene	mg/l	0.0124	0.0220	49.4*	67-125	55.9*	20	L679576-01	WG703085
Chlorodibromomethane	mg/l	0.0114	0.0203	45.6*	64.3-125	56.2*	20.8	L679576-01	WG703085
Chloroethane	mg/l	0.00805	0.0197	32.2*	51.5-136	83.9*	40	L679576-01	WG703085
Chloromethane	mg/l	0.00763	0.0194	30.5*	42.4-135	87.1*	20	L679576-01	WG703085
cis-1,2-Dichloroethene	mg/l	0.0104	0.0217	41.5*	59.2-129	70.6*	20	L679576-01	WG703085
cis-1,3-Dichloropropene	mg/l	0.0109	0.0198	43.7*	66.4-125	57.7*	20	L679576-01	WG703085
Dibromomethane	mg/l	0.0114	0.0207	45.4*	68.2-124	58.1*	20	L679576-01	WG703085
Dichlorodifluoromethane	mg/l	0.00742	0.0186	29.7*	40.6-144	85.9*	20.2	L679576-01	WG703085
Ethylbenzene	mg/l	0.0127	0.0224	47.9*	61.4-133	55.6*	20	L679576-01	WG703085
Iodomethane	mg/l	0.0396	0.102	31.7*	49.7-132	88.0*	20	L679576-01	WG703085
Styrene	mg/l	0.0128	0.0221	51.1*	66.8-133	53.7*	20	L679576-01	WG703085
Tetrachloroethene	mg/l	0.0116	0.0219	46.3*	53-139	61.7*	20	L679576-01	WG703085
Toluene	mg/l	0.0111	0.0205	42.0*	61.4-130	59.5*	20	L679576-01	WG703085
trans-1,2-Dichloroethene	mg/l	0.00899	0.0211	36.0*	56.5-129	80.3*	20	L679576-01	WG703085
trans-1,3-Dichloropropene	mg/l	0.0127	0.0208	50.7*	64.1-128	48.5*	20	L679576-01	WG703085
trans-1,4-Dichloro-2-butene	mg/l	0.0105	0.0169	42.0*	57.1-130	46.5*	23.9	L679576-01	WG703085
Trichlorofluoromethane	mg/l	0.00767	0.0192	30.7*	49.6-145	85.9*	21.2	L679576-01	WG703085
Vinyl acetate	mg/l	0.0502	0.0941	39.9*	56.1-149	60.8*	22.7	L679576-01	WG703085
Vinyl chloride	mg/l	0.00852	0.0212	34.1*	47.8-137	85.5*	20	L679576-01	WG703085
Xylenes, Total	mg/l	0.0355	0.0623	46.4*	63.3-131	54.8*	20	L679576-01	WG703085
4-Bromofluorobenzene				98.20	71-126				WG703085
Dibromofluoromethane				101.0	78.3-121				WG703085
Toluene-d8				102.0	88.5-111				WG703085
a,a,a-Trifluorotoluene				102.0	85-114				WG703085
1,1,2-Trichloroethane	mg/l	0.0245	0.0206	98.1	66.3-125	17.6	20	L679998-02	WG703559
1,2-Dibromo-3-Chloropropane	mg/l	0.0234	0.0186	93.7	57.3-136	23.0	27	L679998-02	WG703559
1,2-Dibromoethane	mg/l	0.0250	0.0209	100.	67.1-125	18.0	20	L679998-02	WG703559
1,2-Dichloropropane	mg/l	0.0246	0.0223	98.4	64.2-123	9.80	20	L679998-02	WG703559
Benzene	mg/l	0.0241	0.0213	96.3	54.3-133	12.3	20	L679998-02	WG703559
Carbon tetrachloride	mg/l	0.0220	0.0197	87.8	55.7-134	11.0	20	L679998-02	WG703559
Methylene Chloride	mg/l	0.0236	0.0210	91.7	58.1-122	11.3	20	L679998-02	WG703559
Trichloroethene	mg/l	0.0235	0.0209	93.8	44.1-149	11.5	20	L679998-02	WG703559
4-Bromofluorobenzene				95.40	71-126				WG703559
Dibromofluoromethane				95.90	78.3-121				WG703559
Toluene-d8				102.0	88.5-111				WG703559
a,a,a-Trifluorotoluene				95.10	85-114				WG703559
Chloroform	mg/l	0.0260	0.0265	104.	63-129	1.83	20	L679944-03	WG703970
4-Bromofluorobenzene				99.60	71-126				WG703970
Dibromofluoromethane				98.00	78.3-121				WG703970
Toluene-d8				99.40	88.5-111				WG703970
a,a,a-Trifluorotoluene				96.10	85-114				WG703970

Batch number /Run number / Sample number cross reference

WG703085: R2879788: L679541-01
WG703559: R2880349: L679541-01

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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Mr. Pete Dressel
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Raleigh, NC 27607

Quality Assurance Report
Level II

L679541

January 31, 2014

WG703970: R2880921: L679541-01

* * Calculations are performed prior to rounding of reported values.
* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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January 31, 2014

The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.

Company Name/Address:
Piedmont Geologic
6003-145 Chapel Hill Road
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Billing Information:
Accounts Payable
6003-145 Chapel Hill Road
Raleigh,NC 27607

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

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L# L679541
C177

Report to: Pete Dressel
Email To: pjdressel@piedmontgeologic.com

Project Description: NCSU Lot 86
City/State Collected: Raleigh,NC

Phone: 919-854-9700
Fax: 919-854-9532
Client Project # 1347
Lab Project # PIEGEO-NCSU LOT 86

Collected by (print): Jonathan Murphrey
Site/Facility ID # Raleigh, NC
P.O. #

Collected by (signature): Jonathan Murphrey
Immediately Packed on Ice N ___ Y ✓

Rush? (Lab MUST Be Notified)
___ Same Day 200%
___ Next Day 100%
___ Two Day 50%
___ Three Day 25%

Date Results Needed
Email? ___No ✓Yes
FAX? ___No ___Yes

Acctnum:
Template:
Prelogin:
TSR:
PB:
Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	V8260AP9 40ml/Amb-HCl	Rem./Contaminant	Sample # (lab only)
GWE Influent	Grab	GW	--------	1/22/14	910	2	X		-01

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other _____ 5781 0508 0014

pH _____ Temp _____
Flow _____ Other _____

Remarks: V8260AP9 = V8260 + 1,4-Dioxane (Report 14D to MDL) Quote PIEGEO080513S

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Samples returned via: ☐ UPS ☑ FedEx ☐ Courier ☐ ____	Hold #
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 2.1 °C Bottles Received: 2UP	Condition: (lab use only)
Relinquished by : (Signature)	Date: 1/22/14	Time: 17:30	Received for lab by: (Signature)	Date: 1-23-14 Time: 0930	COC Seal Intact: ✓Y ___N ___NA
					pH Checked: NCF:

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Mr. Pete Dressel
Piedmont Geologic
6003 Chapel Hill Road Suite 145
Raleigh, NC 27607

Report Summary

Wednesday February 12, 2014

Report Number: L682102
Samples Received: 02/08/14
Client Project: 1347

Description: NCSU Lot 86 - Water Treatment System Monitoring

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By: Jimmy Hunt

Jimmy Hunt , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197, FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704/BIO041, ND - R-140. NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1, TX - T104704245-11-3, OK - 9915, PA - 68-02979, IA Lab #364, EPA - TN002

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Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

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REPORT OF ANALYSIS

Mr. Pete Dressel
Piedmont Geologic
6003 Chapel Hill Road Suite 145
Raleigh, NC 27607

February 12, 2014

ESC Sample # : L682102-01

Site ID : RALEIGH, NC

Project # : 1347

Date Received : February 08, 2014
Description : NCSU Lot 86 - Water Treatment System Monitoring

Sample ID : GWE INFLUENT

Collected By : Geoffrey Murphey
Collection Date : 02/06/14 11:20

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Volatile Organics								
Acetone	U	1000	5000	ug/l		8260B	02/11/14	100
Acrolein	U	890	5000	ug/l		8260B	02/11/14	100
Acrylonitrile	U	190	1000	ug/l		8260B	02/11/14	100
Benzene	890	33.	100	ug/l		8260B	02/11/14	100
Bromodichloromethane	100	38.	100	ug/l		8260B	02/11/14	100
Bromoform	U	47.	100	ug/l		8260B	02/11/14	100
Bromomethane	U	87.	500	ug/l		8260B	02/11/14	100
Carbon disulfide	U	28.	100	ug/l		8260B	02/11/14	100
Carbon tetrachloride	280	38.	100	ug/l		8260B	02/11/14	100
Chlorobenzene	40.	35.	100	ug/l	J	8260B	02/11/14	100
Chlorodibromomethane	U	33.	100	ug/l		8260B	02/11/14	100
Chloroethane	U	45.	500	ug/l		8260B	02/11/14	100
Chloroform	14000	32.	500	ug/l		8260B	02/11/14	100
Chloromethane	U	28.	250	ug/l		8260B	02/11/14	100
1,2-Dibromoethane	1000	38.	100	ug/l		8260B	02/11/14	100
1,2-Dibromo-3-Chloropropane	160	130	500	ug/l	J	8260B	02/11/14	100
Dibromomethane	U	35.	100	ug/l		8260B	02/11/14	100
1,2-Dichlorobenzene	U	35.	100	ug/l		8260B	02/11/14	100
1,3-Dichlorobenzene	U	22.	100	ug/l		8260B	02/11/14	100
1,4-Dichlorobenzene	U	27.	100	ug/l		8260B	02/11/14	100
Dichlorodifluoromethane	U	55.	500	ug/l		8260B	02/11/14	100
1,1-Dichloroethane	U	26.	100	ug/l		8260B	02/11/14	100
1,2-Dichloroethane	88.	36.	100	ug/l	J	8260B	02/11/14	100
1,1-Dichloroethene	U	40.	100	ug/l		8260B	02/11/14	100
cis-1,2-Dichloroethene	U	26.	100	ug/l		8260B	02/11/14	100
trans-1,2-Dichloroethene	U	40.	100	ug/l		8260B	02/11/14	100
1,2-Dichloropropane	2700	31.	100	ug/l		8260B	02/11/14	100
cis-1,3-Dichloropropene	U	42.	100	ug/l		8260B	02/11/14	100
trans-1,3-Dichloropropene	U	42.	100	ug/l		8260B	02/11/14	100
Ethylbenzene	U	38.	100	ug/l		8260B	02/11/14	100
2-Hexanone	U	380	1000	ug/l		8260B	02/11/14	100
Iodomethane	U	170	1000	ug/l		8260B	02/11/14	100
2-Butanone (MEK)	U	390	1000	ug/l		8260B	02/11/14	100
Methylene Chloride	1700	100	500	ug/l		8260B	02/11/14	100
4-Methyl-2-pentanone (MIBK)	240	210	1000	ug/l	J	8260B	02/11/14	100
Pentachloroethane	U	360	500	ug/l		8260B	02/11/14	100
Styrene	U	31.	100	ug/l		8260B	02/11/14	100
1,1,2,2-Tetrachloroethane	U	58.	100	ug/l		8260B	02/11/14	100
1,1,1,2-Tetrachloroethane	U	38.	100	ug/l		8260B	02/11/14	100
Tetrachloroethene	100	37.	100	ug/l		8260B	02/11/14	100
Toluene	160	78.	500	ug/l	J	8260B	02/11/14	100
1,1,1-Trichloroethane	U	32.	100	ug/l		8260B	02/11/14	100

U = ND (Not Detected)
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL
MDL = Minimum Detection Limit = LOD = TRRP SDL
Note:
The reported analytical results relate only to the sample submitted.
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REPORT OF ANALYSIS

Mr. Pete Dressel
Piedmont Geologic
6003 Chapel Hill Road Suite 145
Raleigh, NC 27607

February 12, 2014

ESC Sample # : L682102-01

Site ID : RALEIGH, NC

Project # : 1347

Date Received : February 08, 2014
Description : NCSU Lot 86 - Water Treatment System Monitoring

Sample ID : GWE INFLUENT

Collected By : Geoffrey Murphey
Collection Date : 02/06/14 11:20

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
1,1,2-Trichloroethane	220	38.	100	ug/l		8260B	02/11/14	100
Trichloroethene	320	40.	100	ug/l		8260B	02/11/14	100
Trichlorofluoromethane	U	120	500	ug/l		8260B	02/11/14	100
1,2,3-Trichloropropane	95.	81.	250	ug/l	J	8260B	02/11/14	100
Vinyl acetate	U	160	1000	ug/l		8260B	02/11/14	100
Vinyl chloride	U	26.	100	ug/l		8260B	02/11/14	100
Xylenes, Total	140	110	300	ug/l	J	8260B	02/11/14	100
Acetonitrile	U	1500	5000	ug/l		8260B	02/11/14	100
Allyl chloride	U	170	500	ug/l		8260B	02/11/14	100
Chloroprene	U	170	5000	ug/l		8260B	02/11/14	100
trans-1,4-Dichloro-2-butene	U	87.	250	ug/l		8260B	02/11/14	100
Isobutanol	U	3900	10000	ug/l		8260B	02/11/14	100
1,4-Dioxane	U	3600	10000	ug/l		8260B	02/11/14	100
Methacrylonitrile	U	1300	5000	ug/l		8260B	02/11/14	100
Methyl methacrylate	U	120	500	ug/l		8260B	02/11/14	100
Ethyl methacrylate	U	140	500	ug/l		8260B	02/11/14	100
Propionitrile	U	1300	5000	ug/l		8260B	02/11/14	100
Surrogate Recovery								
Toluene-d8	99.1			% Rec.		8260B	02/11/14	100
Dibromofluoromethane	89.5			% Rec.		8260B	02/11/14	100
a,a,a-Trifluorotoluene	92.8			% Rec.		8260B	02/11/14	100
4-Bromofluorobenzene	101.			% Rec.		8260B	02/11/14	100

U = ND (Not Detected)
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL
MDL = Minimum Detection Limit = LOD = TRRP SDL
Note:
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Reported: 02/12/14 09:09 Printed: 02/12/14 09:10

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L682102-01	WG705788	SAMP	Chlorobenzene	R2883843	J
	WG705788	SAMP	1,2-Dibromo-3-Chloropropane	R2883843	J
	WG705788	SAMP	1,2-Dichloroethane	R2883843	J
	WG705788	SAMP	4-Methyl-2-pentanone (MIBK)	R2883843	J
	WG705788	SAMP	Toluene	R2883843	J
	WG705788	SAMP	1,2,3-Trichloropropane	R2883843	J
	WG705788	SAMP	Xylenes, Total	R2883843	J

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J	(EPA) - Estimated value below the lowest calibration point. Confidence correlates with concentration.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods,it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.

Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Differrence.

Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromotography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.

TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

Summary of Remarks For Samples Printed
02/12/14 at 09:10:21

TSR Signing Reports: 350
R5 - Desired TAT

MDL/RDL; CDG, not CDICP for GW

Sample: L682102-01 Account: PIEGEO Received: 02/08/14 11:00 Due Date: 02/14/14 00:00 RPT Date: 02/12/14 09:09
V8260AP9 = V8260 + 1,4-Dioxane (Report 14D to MDL)

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Piedmont Geologic
Mr. Pete Dressel
6003 Chapel Hill Road Suite 145

Raleigh, NC 27607

Quality Assurance Report
Level II

L682102

February 12, 2014

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
1,1,1,2-Tetrachloroethane	< .001	mg/l			WG705788	02/11/14 12:48
1,1,1-Trichloroethane	< .001	mg/l			WG705788	02/11/14 12:48
1,1,2,2-Tetrachloroethane	< .001	mg/l			WG705788	02/11/14 12:48
1,1,2-Trichloroethane	< .001	mg/l			WG705788	02/11/14 12:48
1,1-Dichloroethane	< .001	mg/l			WG705788	02/11/14 12:48
1,1-Dichloroethene	< .001	mg/l			WG705788	02/11/14 12:48
1,2,3-Trichloropropane	< .001	mg/l			WG705788	02/11/14 12:48
1,2-Dibromo-3-Chloropropane	< .005	mg/l			WG705788	02/11/14 12:48
1,2-Dibromoethane	< .001	mg/l			WG705788	02/11/14 12:48
1,2-Dichlorobenzene	< .001	mg/l			WG705788	02/11/14 12:48
1,2-Dichloroethane	< .001	mg/l			WG705788	02/11/14 12:48
1,2-Dichloropropane	< .001	mg/l			WG705788	02/11/14 12:48
1,3-Dichlorobenzene	< .001	mg/l			WG705788	02/11/14 12:48
1,4-Dichlorobenzene	< .001	mg/l			WG705788	02/11/14 12:48
2-Butanone (MEK)	< .01	mg/l			WG705788	02/11/14 12:48
2-Hexanone	< .01	mg/l			WG705788	02/11/14 12:48
4-Methyl-2-pentanone (MIBK)	< .01	mg/l			WG705788	02/11/14 12:48
Acetone	< .05	mg/l			WG705788	02/11/14 12:48
Acetonitrile	< .05	mg/l			WG705788	02/11/14 12:48
Acrolein	< .025	mg/l			WG705788	02/11/14 12:48
Acrylonitrile	< .01	mg/l			WG705788	02/11/14 12:48
Allyl chloride	< .005	mg/l			WG705788	02/11/14 12:48
Benzene	< .001	mg/l			WG705788	02/11/14 12:48
Bromodichloromethane	< .001	mg/l			WG705788	02/11/14 12:48
Bromoform	< .001	mg/l			WG705788	02/11/14 12:48
Bromomethane	< .005	mg/l			WG705788	02/11/14 12:48
Carbon disulfide	< .001	mg/l			WG705788	02/11/14 12:48
Carbon tetrachloride	< .001	mg/l			WG705788	02/11/14 12:48
Chlorobenzene	< .001	mg/l			WG705788	02/11/14 12:48
Chlorodibromomethane	< .001	mg/l			WG705788	02/11/14 12:48
Chloroethane	< .005	mg/l			WG705788	02/11/14 12:48
Chloroform	< .005	mg/l			WG705788	02/11/14 12:48
Chloromethane	< .0025	mg/l			WG705788	02/11/14 12:48
Chloroprene	< .05	mg/l			WG705788	02/11/14 12:48
cis-1,2-Dichloroethene	< .001	mg/l			WG705788	02/11/14 12:48
cis-1,3-Dichloropropene	< .001	mg/l			WG705788	02/11/14 12:48
Dibromomethane	< .001	mg/l			WG705788	02/11/14 12:48
Dichlorodifluoromethane	< .005	mg/l			WG705788	02/11/14 12:48
Ethyl methacrylate	< .005	mg/l			WG705788	02/11/14 12:48
Ethylbenzene	< .001	mg/l			WG705788	02/11/14 12:48
Iodomethane	< .01	mg/l			WG705788	02/11/14 12:48
Isobutanol	< .1	mg/l			WG705788	02/11/14 12:48
Methacrylonitrile	< .05	mg/l			WG705788	02/11/14 12:48
Methyl methacrylate	< .005	mg/l			WG705788	02/11/14 12:48
Methylene Chloride	< .005	mg/l			WG705788	02/11/14 12:48
Pentachloroethane	< .005	mg/l			WG705788	02/11/14 12:48
Propionitrile	< .05	mg/l			WG705788	02/11/14 12:48
Styrene	< .001	mg/l			WG705788	02/11/14 12:48
Tetrachloroethene	< .001	mg/l			WG705788	02/11/14 12:48
Toluene	< .005	mg/l			WG705788	02/11/14 12:48
trans-1,2-Dichloroethene	< .001	mg/l			WG705788	02/11/14 12:48
trans-1,3-Dichloropropene	< .001	mg/l			WG705788	02/11/14 12:48
trans-1,4-Dichloro-2-butene	< .0025	mg/l			WG705788	02/11/14 12:48
Trichloroethene	< .001	mg/l			WG705788	02/11/14 12:48
Trichlorofluoromethane	< .005	mg/l			WG705788	02/11/14 12:48
Vinyl acetate	< .01	mg/l			WG705788	02/11/14 12:48
Vinyl chloride	< .001	mg/l			WG705788	02/11/14 12:48
Xylenes, Total	< .003	mg/l			WG705788	02/11/14 12:48
4-Bromofluorobenzene		% Rec.	101.0	71-126	WG705788	02/11/14 12:48

* Performance of this Analyte is outside of established criteria.
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Mr. Pete Dressel
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Raleigh, NC 27607

Quality Assurance Report
Level II

L682102

February 12, 2014

Analyte	Units	Laboratory Control Sample Known Val	Result	% Rec	Limit	Batch
Dibromofluoromethane		% Rec.	89.00	78.3-121		02/11/14 12:48
Toluene-d8		% Rec.	98.80	88.5-111		02/11/14 12:48
a,a,a-Trifluorotoluene		% Rec.	93.90	85-114		02/11/14 12:48

Analyte	Units	Laboratory Control Sample Known Val	Result	% Rec	Limit	Batch
1,1,1,2-Tetrachloroethane	mg/l	.025	0.0206	82.4	74.2-124	WG705788
1,1,1-Trichloroethane	mg/l	.025	0.0217	86.8	73.2-123	WG705788
1,1,2,2-Tetrachloroethane	mg/l	.025	0.0201	80.4	70.7-122	WG705788
1,1,2-Trichloroethane	mg/l	.025	0.0230	92.0	77.7-118	WG705788
1,1-Dichloroethane	mg/l	.025	0.0243	97.3	70.7-126	WG705788
1,1-Dichloroethene	mg/l	.025	0.0243	97.3	67.8-129	WG705788
1,2,3-Trichloropropane	mg/l	.025	0.0214	85.7	71.8-121	WG705788
1,2-Dibromo-3-Chloropropane	mg/l	.025	0.0172	68.9	65.4-128	WG705788
1,2-Dibromoethane	mg/l	.025	0.0240	95.8	76.6-121	WG705788
1,2-Dichlorobenzene	mg/l	.025	0.0218	87.1	78.4-117	WG705788
1,2-Dichloroethane	mg/l	.025	0.0221	88.2	68.8-124	WG705788
1,2-Dichloropropane	mg/l	.025	0.0248	99.0	76.5-119	WG705788
1,3-Dichlorobenzene	mg/l	.025	0.0239	95.5	70.8-128	WG705788
1,4-Dichlorobenzene	mg/l	.025	0.0233	93.2	78.8-115	WG705788
2-Butanone (MEK)	mg/l	.125	0.137	110.	55-149	WG705788
2-Hexanone	mg/l	.125	0.147	118.	65.6-144	WG705788
4-Methyl-2-pentanone (MIBK)	mg/l	.125	0.121	96.6	70.5-133	WG705788
Acetone	mg/l	.125	0.118	94.0	35.6-163	WG705788
Acrolein	mg/l	.125	0.202	162.	10-190	WG705788
Acrylonitrile	mg/l	.125	0.111	88.8	55.2-130	WG705788
Benzene	mg/l	.025	0.0260	104.	74.8-121	WG705788
Bromodichloromethane	mg/l	.025	0.0192	76.9	75.1-116	WG705788
Bromoform	mg/l	.025	0.0198	79.1	67.5-130	WG705788
Bromomethane	mg/l	.025	0.0211	84.4	49.9-162	WG705788
Carbon disulfide	mg/l	.025	0.0277	111.	64.6-140	WG705788
Carbon tetrachloride	mg/l	.025	0.0208	83.0	70.2-123	WG705788
Chlorobenzene	mg/l	.025	0.0249	99.5	78.1-119	WG705788
Chlorodibromomethane	mg/l	.025	0.0207	82.6	74-121	WG705788
Chloroethane	mg/l	.025	0.0222	88.8	61.7-135	WG705788
Chloroform	mg/l	.025	0.0228	91.1	76-121	WG705788
Chloromethane	mg/l	.025	0.0220	87.8	61.5-129	WG705788
cis-1,2-Dichloroethene	mg/l	.025	0.0237	94.7	76-119	WG705788
cis-1,3-Dichloropropene	mg/l	.025	0.0251	100.	78.2-120	WG705788
Dibromomethane	mg/l	.025	0.0207	82.9	79.5-118	WG705788
Dichlorodifluoromethane	mg/l	.025	0.0200	80.0	54.8-135	WG705788
Ethylbenzene	mg/l	.025	0.0250	100.	78.8-122	WG705788
Iodomethane	mg/l	.125	0.120	96.2	61-130	WG705788
Methylene Chloride	mg/l	.025	0.0219	87.6	70.3-120	WG705788
Styrene	mg/l	.025	0.0253	101.	80.4-126	WG705788
Tetrachloroethene	mg/l	.025	0.0239	95.5	72.6-126	WG705788
Toluene	mg/l	.025	0.0249	99.4	79.7-116	WG705788
trans-1,2-Dichloroethene	mg/l	.025	0.0235	94.2	72.6-121	WG705788
trans-1,3-Dichloropropene	mg/l	.025	0.0240	95.9	74.3-123	WG705788
trans-1,4-Dichloro-2-butene	mg/l	.025	0.0199	79.5	65.1-123	WG705788
Trichloroethene	mg/l	.025	0.0227	90.8	77.7-118	WG705788
Trichlorofluoromethane	mg/l	.025	0.0206	82.3	63.5-135	WG705788
Vinyl acetate	mg/l	.125	0.143	114.	65-138	WG705788
Vinyl chloride	mg/l	.025	0.0226	90.3	65.9-128	WG705788
Xylenes, Total	mg/l	.075	0.0720	96.0	78.7-121	WG705788
4-Bromofluorobenzene				98.20	71-126	WG705788
Dibromofluoromethane				88.60	78.3-121	WG705788
Toluene-d8				99.10	88.5-111	WG705788

* Performance of this Analyte is outside of established criteria.
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Quality Assurance Report
Level II

L682102

February 12, 2014

Analyte	Laboratory Control Sample Duplicate							
	Units	Result	Ref	%Rec	Limit	RPD	Limit	Batch
a,a,a-Trifluorotoluene					93.00		85-114	

Analyte	Laboratory Control Sample Duplicate							
	Units	Result	Ref	%Rec	Limit	RPD	Limit	Batch
1,1,1,2-Tetrachloroethane	mg/l	0.0211	0.0206	84.0	74.2-124	2.25	20	WG705788
1,1,1-Trichloroethane	mg/l	0.0221	0.0217	88.0	73.2-123	1.61	20	WG705788
1,1,2,2-Tetrachloroethane	mg/l	0.0204	0.0201	82.0	70.7-122	1.61	20	WG705788
1,1,2-Trichloroethane	mg/l	0.0231	0.0230	92.0	77.7-118	0.600	20	WG705788
1,1-Dichloroethane	mg/l	0.0247	0.0243	99.0	70.7-126	1.55	20	WG705788
1,1-Dichloroethene	mg/l	0.0247	0.0243	99.0	67.8-129	1.45	20	WG705788
1,2,3-Trichloropropane	mg/l	0.0211	0.0214	84.0	71.8-121	1.36	20	WG705788
1,2-Dibromo-3-Chloropropane	mg/l	0.0168	0.0172	67.0	65.4-128	2.71	20	WG705788
1,2-Dibromoethane	mg/l	0.0244	0.0240	98.0	76.6-121	1.96	20	WG705788
1,2-Dichlorobenzene	mg/l	0.0218	0.0218	87.0	78.4-117	0.190	20	WG705788
1,2-Dichloroethane	mg/l	0.0228	0.0221	91.0	68.8-124	3.12	20	WG705788
1,2-Dichloropropane	mg/l	0.0257	0.0248	103.	76.5-119	3.86	20	WG705788
1,3-Dichlorobenzene	mg/l	0.0243	0.0239	97.0	70.8-128	1.75	20	WG705788
1,4-Dichlorobenzene	mg/l	0.0232	0.0233	93.0	78.8-115	0.510	20	WG705788
2-Butanone (MEK)	mg/l	0.137	0.137	109.	55-149	0.560	20	WG705788
2-Hexanone	mg/l	0.143	0.147	114.	65.6-144	2.71	20	WG705788
4-Methyl-2-pentanone (MIBK)	mg/l	0.123	0.121	98.0	70.5-133	1.96	20	WG705788
Acetone	mg/l	0.111	0.118	89.0	35.6-163	5.40	23.9	WG705788
Acrolein	mg/l	0.211	0.202	169.	10-190	4.52	28.1	WG705788
Acrylonitrile	mg/l	0.112	0.111	89.0	55.2-130	0.680	20	WG705788
Benzene	mg/l	0.0263	0.0260	105.	74.8-121	1.00	20	WG705788
Bromodichloromethane	mg/l	0.0197	0.0192	79.0	75.1-116	2.60	20	WG705788
Bromoform	mg/l	0.0198	0.0198	79.0	67.5-130	0.270	20	WG705788
Bromomethane	mg/l	0.0217	0.0211	87.0	49.9-162	2.54	20	WG705788
Carbon disulfide	mg/l	0.0282	0.0277	113.	64.6-140	1.93	20	WG705788
Carbon tetrachloride	mg/l	0.0217	0.0208	87.0	70.2-123	4.42	20	WG705788
Chlorobenzene	mg/l	0.0252	0.0249	101.	78.1-119	1.42	20	WG705788
Chlorodibromomethane	mg/l	0.0211	0.0207	84.0	74-121	2.03	20	WG705788
Chloroethane	mg/l	0.0232	0.0222	93.0	61.7-135	4.22	20	WG705788
Chloroform	mg/l	0.0234	0.0228	94.0	76-121	2.67	20	WG705788
Chloromethane	mg/l	0.0236	0.0220	94.0	61.5-129	7.21	20	WG705788
cis-1,2-Dichloroethene	mg/l	0.0240	0.0237	96.0	76-119	1.49	20	WG705788
cis-1,3-Dichloropropene	mg/l	0.0254	0.0251	102.	78.2-120	1.28	20	WG705788
Dibromomethane	mg/l	0.0214	0.0207	86.0	79.5-118	3.30	20	WG705788
Dichlorodifluoromethane	mg/l	0.0205	0.0200	82.0	54.8-135	2.36	20	WG705788
Ethylbenzene	mg/l	0.0251	0.0250	100.	78.8-122	0.100	20	WG705788
Iodomethane	mg/l	0.123	0.120	98.0	61-130	1.87	20	WG705788
Methylene Chloride	mg/l	0.0223	0.0219	89.0	70.3-120	1.70	20	WG705788
Styrene	mg/l	0.0260	0.0253	104.	80.4-126	2.90	20	WG705788
Tetrachloroethene	mg/l	0.0246	0.0239	98.0	72.6-126	2.98	20	WG705788
Toluene	mg/l	0.0257	0.0249	103.	79.7-116	3.17	20	WG705788
trans-1,2-Dichloroethene	mg/l	0.0241	0.0235	96.0	72.6-121	2.41	20	WG705788
trans-1,3-Dichloropropene	mg/l	0.0249	0.0240	99.0	74.3-123	3.67	20	WG705788
trans-1,4-Dichloro-2-butene	mg/l	0.0200	0.0199	80.0	65.1-123	0.720	20	WG705788
Trichloroethene	mg/l	0.0229	0.0227	91.0	77.7-118	0.730	20	WG705788
Trichlorofluoromethane	mg/l	0.0210	0.0206	84.0	63.5-135	2.02	20	WG705788
Vinyl acetate	mg/l	0.146	0.143	117.	65-138	2.12	20	WG705788
Vinyl chloride	mg/l	0.0232	0.0226	93.0	65.9-128	2.94	20	WG705788
Xylenes, Total	mg/l	0.0737	0.0720	98.0	78.7-121	2.26	20	WG705788
4-Bromofluorobenzene				97.60	71-126			WG705788
Dibromofluoromethane				88.20	78.3-121			WG705788
Toluene-d8				100.0	88.5-111			WG705788
a,a,a-Trifluorotoluene				94.30	85-114			WG705788

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Quality Assurance Report
Level II

L682102

February 12, 2014

Analyte	Units	Matrix Spike MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
1,1,1,2-Tetrachloroethane	mg/l	0.0223	0.0	.025	89.0	64-128	L682103-10	WG705788
1,1,1-Trichloroethane	mg/l	0.0233	0.0	.025	93.0	58.7-134	L682103-10	WG705788
1,1,2,2-Tetrachloroethane	mg/l	0.0234	0.0	.025	94.0	56-132	L682103-10	WG705788
1,1,2-Trichloroethane	mg/l	0.0255	0.0	.025	100.	66.3-125	L682103-10	WG705788
1,1-Dichloroethane	mg/l	0.0260	0.0	.025	100.	58.5-132	L682103-10	WG705788
1,1-Dichloroethene	mg/l	0.0266	0.0	.025	110.	51.1-140	L682103-10	WG705788
1,2,3-Trichloropropane	mg/l	0.0238	0.0	.025	95.0	61.4-128	L682103-10	WG705788
1,2-Dibromo-3-Chloropropane	mg/l	0.0205	0.0	.025	82.0	57.3-136	L682103-10	WG705788
1,2-Dibromoethane	mg/l	0.0270	0.0	.025	110.	67.1-125	L682103-10	WG705788
1,2-Dichlorobenzene	mg/l	0.0232	0.0	.025	93.0	68.2-123	L682103-10	WG705788
1,2-Dichloroethane	mg/l	0.0239	0.0	.025	96.0	60-126	L682103-10	WG705788
1,2-Dichloropropane	mg/l	0.0271	0.0	.025	110.	64.2-123	L682103-10	WG705788
1,3-Dichlorobenzene	mg/l	0.0258	0.0	.025	100.	63.1-131	L682103-10	WG705788
1,4-Dichlorobenzene	mg/l	0.0245	0.0	.025	98.0	68.6-123	L682103-10	WG705788
2-Butanone (MEK)	mg/l	0.132	0.0	.125	110.	22.4-138	L682103-10	WG705788
2-Hexanone	mg/l	0.155	0.0	.125	120.	43.3-137	L682103-10	WG705788
4-Methyl-2-pentanone (MIBK)	mg/l	0.141	0.0	.125	110.	60.8-140	L682103-10	WG705788
Acetone	mg/l	0.100	0.00759	.125	74.0	10-130	L682103-10	WG705788
Acrolein	mg/l	0.270	0.0	.125	220.*	10-200	L682103-10	WG705788
Acrylonitrile	mg/l	0.128	0.0	.125	100.	49.4-133	L682103-10	WG705788
Benzene	mg/l	0.0277	0.0	.025	110.	54.3-133	L682103-10	WG705788
Bromodichloromethane	mg/l	0.0205	0.0	.025	82.0	63.9-121	L682103-10	WG705788
Bromoform	mg/l	0.0219	0.0	.025	87.0	59.5-134	L682103-10	WG705788
Bromomethane	mg/l	0.0232	0.0	.025	93.0	41.7-155	L682103-10	WG705788
Carbon disulfide	mg/l	0.0295	0.0	.025	120.	43.3-149	L682103-10	WG705788
Carbon tetrachloride	mg/l	0.0227	0.0	.025	91.0	55.7-134	L682103-10	WG705788
Chlorobenzene	mg/l	0.0267	0.0	.025	110.	67-125	L682103-10	WG705788
Chlorodibromomethane	mg/l	0.0225	0.0	.025	90.0	64.3-125	L682103-10	WG705788
Chloroethane	mg/l	0.0238	0.0	.025	95.0	51.5-136	L682103-10	WG705788
Chloroform	mg/l	0.0242	0.0	.025	97.0	63-129	L682103-10	WG705788
Chloromethane	mg/l	0.0232	0.0	.025	93.0	42.4-135	L682103-10	WG705788
cis-1,2-Dichloroethene	mg/l	0.0253	0.0	.025	100.	59.2-129	L682103-10	WG705788
cis-1,3-Dichloropropene	mg/l	0.0266	0.0	.025	110.	66.4-125	L682103-10	WG705788
Dibromomethane	mg/l	0.0235	0.0	.025	94.0	68.2-124	L682103-10	WG705788
Dichlorodifluoromethane	mg/l	0.0214	0.0	.025	86.0	40.6-144	L682103-10	WG705788
Ethylbenzene	mg/l	0.0273	0.0	.025	110.	61.4-133	L682103-10	WG705788
Iodomethane	mg/l	0.128	0.0	.125	100.	49.7-132	L682103-10	WG705788
Methylene Chloride	mg/l	0.0234	0.000461	.025	92.0	58.1-122	L682103-10	WG705788
Styrene	mg/l	0.0279	0.0	.025	110.	66.8-133	L682103-10	WG705788
Tetrachloroethene	mg/l	0.0261	0.0	.025	100.	53-139	L682103-10	WG705788
Toluene	mg/l	0.0284	0.0	.025	110.	61.4-130	L682103-10	WG705788
trans-1,2-Dichloroethene	mg/l	0.0253	0.0	.025	100.	56.5-129	L682103-10	WG705788
trans-1,3-Dichloropropene	mg/l	0.0260	0.0	.025	100.	64.1-128	L682103-10	WG705788
trans-1,4-Dichloro-2-butene	mg/l	0.0229	0.0	.025	92.0	57.1-130	L682103-10	WG705788
Trichloroethene	mg/l	0.0244	0.0	.025	98.0	44.1-149	L682103-10	WG705788
Trichlorofluoromethane	mg/l	0.0224	0.0	.025	90.0	49.6-145	L682103-10	WG705788
Vinyl acetate	mg/l	0.162	0.0	.125	130.	56.1-149	L682103-10	WG705788
Vinyl chloride	mg/l	0.0242	0.0	.025	97.0	47.8-137	L682103-10	WG705788
Xylenes, Total	mg/l	0.0804	0.0	.075	110.	63.3-131	L682103-10	WG705788
4-Bromofluorobenzene					99.30	71-126		WG705788
Dibromofluoromethane					88.30	78.3-121		WG705788
Toluene-d8					99.30	88.5-111		WG705788
a,a,a-Trifluorotoluene					94.50	85-114		WG705788

Analyte	Units	Matrix Spike Duplicate MSD	Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
1,1,1,2-Tetrachloroethane	mg/l	0.0189	0.0223	75.8	64-128	16.5	20	L682103-10	WG705788
1,1,1-Trichloroethane	mg/l	0.0199	0.0233	79.8	58.7-134	15.4	20	L682103-10	WG705788
1,1,2,2-Tetrachloroethane	mg/l	0.0202	0.0234	80.6	56-132	14.9	22.2	L682103-10	WG705788

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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Piedmont Geologic
Mr. Pete Dressel
6003 Chapel Hill Road Suite 145

Raleigh, NC 27607

Quality Assurance Report
Level II

L682102

February 12, 2014

Analyte	Units	Matrix Spike Duplicate MSD	Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
1,1,2-Trichloroethane	mg/l	0.0221	0.0255	88.3	66.3-125	14.3	20	L682103-10	WG705788
1,1-Dichloroethane	mg/l	0.0225	0.0260	89.9	58.5-132	14.5	20	L682103-10	WG705788
1,1-Dichloroethene	mg/l	0.0227	0.0266	90.7	51.1-140	15.9	20.2	L682103-10	WG705788
1,2,3-Trichloropropane	mg/l	0.0205	0.0238	81.9	61.4-128	15.0	22.4	L682103-10	WG705788
1,2-Dibromo-3-Chloropropane	mg/l	0.0180	0.0205	72.0	57.3-136	13.2	27	L682103-10	WG705788
1,2-Dibromoethane	mg/l	0.0235	0.0270	94.1	67.1-125	13.9	20	L682103-10	WG705788
1,2-Dichlorobenzene	mg/l	0.0203	0.0232	81.3	68.2-123	13.3	20	L682103-10	WG705788
1,2-Dichloroethane	mg/l	0.0205	0.0239	82.0	60-126	15.2	20	L682103-10	WG705788
1,2-Dichloropropane	mg/l	0.0230	0.0271	91.9	64.2-123	16.4	20	L682103-10	WG705788
1,3-Dichlorobenzene	mg/l	0.0223	0.0258	89.3	63.1-131	14.6	20	L682103-10	WG705788
1,4-Dichlorobenzene	mg/l	0.0215	0.0245	85.9	68.6-123	13.2	20	L682103-10	WG705788
2-Butanone (MEK)	mg/l	0.117	0.132	93.7	22.4-138	12.2	27	L682103-10	WG705788
2-Hexanone	mg/l	0.134	0.155	107.	43.3-137	14.7	25.5	L682103-10	WG705788
4-Methyl-2-pentanone (MIBK)	mg/l	0.119	0.141	95.5	60.8-140	16.7	25.1	L682103-10	WG705788
Acetone	mg/l	0.0829	0.100	60.3	10-130	19.0	27.9	L682103-10	WG705788
Acrolein	mg/l	0.241	0.270	192.	10-200	11.5	27.7	L682103-10	WG705788
Acrylonitrile	mg/l	0.110	0.128	88.4	49.4-133	15.1	25.3	L682103-10	WG705788
Benzene	mg/l	0.0241	0.0277	96.5	54.3-133	13.9	20	L682103-10	WG705788
Bromodichloromethane	mg/l	0.0175	0.0205	70.1	63.9-121	15.7	20	L682103-10	WG705788
Bromoform	mg/l	0.0190	0.0219	76.1	59.5-134	13.8	20.5	L682103-10	WG705788
Bromomethane	mg/l	0.0196	0.0232	78.3	41.7-155	16.7	21.9	L682103-10	WG705788
Carbon disulfide	mg/l	0.0253	0.0295	101.	43.3-149	15.3	20.3	L682103-10	WG705788
Carbon tetrachloride	mg/l	0.0195	0.0227	78.2	55.7-134	14.8	20	L682103-10	WG705788
Chlorobenzene	mg/l	0.0231	0.0267	92.2	67-125	14.7	20	L682103-10	WG705788
Chlorodibromomethane	mg/l	0.0195	0.0225	78.1	64.3-125	14.1	20.8	L682103-10	WG705788
Chloroethane	mg/l	0.0199	0.0238	79.6	51.5-136	18.0	40	L682103-10	WG705788
Chloroform	mg/l	0.0208	0.0242	83.1	63-129	15.2	20	L682103-10	WG705788
Chloromethane	mg/l	0.0200	0.0232	80.2	42.4-135	14.6	20	L682103-10	WG705788
cis-1,2-Dichloroethene	mg/l	0.0211	0.0253	84.6	59.2-129	18.0	20	L682103-10	WG705788
cis-1,3-Dichloropropene	mg/l	0.0230	0.0266	91.8	66.4-125	14.5	20	L682103-10	WG705788
Dibromomethane	mg/l	0.0198	0.0235	79.1	68.2-124	17.1	20	L682103-10	WG705788
Dichlorodifluoromethane	mg/l	0.0186	0.0214	74.4	40.6-144	13.8	20.2	L682103-10	WG705788
Ethylbenzene	mg/l	0.0236	0.0273	94.4	61.4-133	14.6	20	L682103-10	WG705788
Iodomethane	mg/l	0.110	0.128	87.8	49.7-132	15.4	20	L682103-10	WG705788
Methylene Chloride	mg/l	0.0196	0.0234	76.7	58.1-122	17.3	20	L682103-10	WG705788
Styrene	mg/l	0.0240	0.0279	96.0	66.8-133	15.2	20	L682103-10	WG705788
Tetrachloroethene	mg/l	0.0226	0.0261	90.2	53-139	14.8	20	L682103-10	WG705788
Toluene	mg/l	0.0243	0.0284	97.3	61.4-130	15.5	20	L682103-10	WG705788
trans-1,2-Dichloroethene	mg/l	0.0216	0.0253	86.4	56.5-129	15.7	20	L682103-10	WG705788
trans-1,3-Dichloropropene	mg/l	0.0227	0.0260	90.7	64.1-128	13.5	20	L682103-10	WG705788
trans-1,4-Dichloro-2-butene	mg/l	0.0206	0.0229	82.3	57.1-130	10.7	23.9	L682103-10	WG705788
Trichloroethene	mg/l	0.0206	0.0244	82.3	44.1-149	16.9	20	L682103-10	WG705788
Trichlorofluoromethane	mg/l	0.0191	0.0224	76.5	49.6-145	16.0	21.2	L682103-10	WG705788
Vinyl acetate	mg/l	0.140	0.162	112.	56.1-149	14.4	22.7	L682103-10	WG705788
Vinyl chloride	mg/l	0.0208	0.0242	83.3	47.8-137	15.0	20	L682103-10	WG705788
Xylenes, Total	mg/l	0.0690	0.0804	92.0	63.3-131	15.3	20	L682103-10	WG705788
4-Bromofluorobenzene				100.0	71-126				WG705788
Dibromofluoromethane				88.70	78.3-121				WG705788
Toluene-d8				99.10	88.5-111				WG705788
a,a,a-Trifluorotoluene				93.20	85-114				WG705788

Batch number /Run number / Sample number cross reference

WG705788: R2883843: L682102-01

* * Calculations are performed prior to rounding of reported values.
* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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Mr. Pete Dressel
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Quality Assurance Report
Level II

L682102

February 12, 2014

The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.

Piedmont Geologic

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Raleigh, NC 27607

Billing Information:
Accounts Payable
6003 Chapel Hill Rd Ste 145
Raleigh, NC 27607

Report to: Mr. Pete Dressel

Email To: pjdressel@piedmontgeologic.com

Project Description: NCSU Lot 86 - Water Treatment System Mon

City/State Collected: Raleigh, NC

Phone: 919-854-9700
Fax: 919-854-9532

Client Project # ~~1247~~ 1347

Lab Project # PIEGEO-NCSU LOT 86

Collected by (print): Geoffrey Murphrey

Site/Facility ID # RALEIGH, NC

P.O. # 1247

Collected by (signature): [signature]
Immediately Packed on Ice N ___ Y ✓

Rush? (Lab MUST Be Notified)
___ Same Day 200%
___ Next Day 100%
___ Two Day 50%
___ Three Day 25%

Date Results Needed

Email? ___No X__Yes
FAX? ___No ___Yes

Analysis / Container / Preservative: V8260AP9 40mlAmb-HCl

Chain of Custody Page 1 of 1

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YOUR LAB OF CHOICE
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Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# L682102
Tabl F170
Acctnum: PIEGEO
Template: T82911
Prelogin: P456708
TSR: 350 - Jimmy Hunt
PB: 1-27 TS
Shipped Via: FedEX Ground

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	V8260AP9 40mlAmb-HCl	Rem./Contaminant	Sample # (lab only)
GWE INFLUENT	Grab	GW		2/6/14	1120	2	X		-01

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other_____

Remarks: V8260AP9 = V8260 + 1,4-Dioxane (Report 14D to MDL)
Quote PIEGEO080513S

pH _____ Temp _____
Flow _____ Other _____

Hold #

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Samples returned via: ☐ UPS ☒ FedEx ☐ Courier ☐ ____	Condition: (lab use only)
[signature]	2/6/14	1900	[signature] 5851 4711 0166		JW OK
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 3.6 °C Bottles Received: 2 + 4 ID	COC Seal Intact: ___Y ___N ___NA
Relinquished by : (Signature) [signature]	Date: 2/7/14	Time: 17:10	Received for lab by: (Signature) [signature]	Date: 2/8/14 Time: 11:00	pH Checked: NCF:

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Mr. Pete Dressel
Piedmont Geologic
6003 Chapel Hill Road Suite 145
Raleigh, NC 27607

Report Summary

Monday March 10, 2014

Report Number: L686179
Samples Received: 03/05/14
Client Project: 1347

Description: NCSU Lot 86 - Water Treatment System Monitoring

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By: Jimmy Hunt

Jimmy Hunt , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197, FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704/BIO041, ND - R-140. NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1, TX - T104704245-11-3, OK - 9915, PA - 68-02979, IA Lab #364, EPA - TN002

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REPORT OF ANALYSIS

Mr. Pete Dressel
Piedmont Geologic
6003 Chapel Hill Road Suite 145
Raleigh, NC 27607

March 10, 2014

ESC Sample # : L686179-01

Site ID : RALEIGH, NC

Project # : 1347

Date Received : March 05, 2014
Description : NCSU Lot 86 - Water Treatment System Monitoring

Sample ID : GWE INFLUENT

Collected By : P. Dressel
Collection Date : 03/03/14 10:45

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Volatile Organics								
Acetone	U	1000	5000	ug/l		8260B	03/07/14	100
Acrolein	U	890	5000	ug/l		8260B	03/07/14	100
Acrylonitrile	U	190	1000	ug/l		8260B	03/07/14	100
Benzene	1000	33.	100	ug/l		8260B	03/07/14	100
Bromodichloromethane	120	38.	100	ug/l		8260B	03/07/14	100
Bromoform	U	47.	100	ug/l		8260B	03/07/14	100
Bromomethane	U	87.	500	ug/l		8260B	03/07/14	100
Carbon disulfide	U	28.	100	ug/l		8260B	03/07/14	100
Carbon tetrachloride	300	38.	100	ug/l		8260B	03/07/14	100
Chlorobenzene	40.	35.	100	ug/l	J	8260B	03/07/14	100
Chlorodibromomethane	U	33.	100	ug/l		8260B	03/07/14	100
Chloroethane	U	45.	500	ug/l		8260B	03/07/14	100
Chloroform	14000	32.	500	ug/l		8260B	03/07/14	100
Chloromethane	U	28.	250	ug/l		8260B	03/07/14	100
1,2-Dibromoethane	920	38.	100	ug/l		8260B	03/07/14	100
1,2-Dibromo-3-Chloropropane	140	130	500	ug/l	J	8260B	03/07/14	100
Dibromomethane	U	35.	100	ug/l		8260B	03/07/14	100
1,2-Dichlorobenzene	U	35.	100	ug/l		8260B	03/07/14	100
1,3-Dichlorobenzene	U	22.	100	ug/l		8260B	03/07/14	100
1,4-Dichlorobenzene	U	27.	100	ug/l		8260B	03/07/14	100
Dichlorodifluoromethane	U	55.	500	ug/l	J3	8260B	03/07/14	100
1,1-Dichloroethane	U	26.	100	ug/l		8260B	03/07/14	100
1,2-Dichloroethane	95.	36.	100	ug/l	J	8260B	03/07/14	100
1,1-Dichloroethene	U	40.	100	ug/l		8260B	03/07/14	100
cis-1,2-Dichloroethene	U	26.	100	ug/l		8260B	03/07/14	100
trans-1,2-Dichloroethene	U	40.	100	ug/l		8260B	03/07/14	100
1,2-Dichloropropane	2300	31.	100	ug/l		8260B	03/07/14	100
cis-1,3-Dichloropropene	U	42.	100	ug/l		8260B	03/07/14	100
trans-1,3-Dichloropropene	U	42.	100	ug/l		8260B	03/07/14	100
Ethylbenzene	U	38.	100	ug/l		8260B	03/07/14	100
2-Hexanone	U	380	1000	ug/l		8260B	03/07/14	100
Iodomethane	U	170	1000	ug/l		8260B	03/07/14	100
2-Butanone (MEK)	U	390	1000	ug/l		8260B	03/07/14	100
Methylene Chloride	1800	100	500	ug/l		8260B	03/07/14	100
4-Methyl-2-pentanone (MIBK)	U	210	1000	ug/l		8260B	03/07/14	100
Pentachloroethane	U	360	500	ug/l		8260B	03/07/14	100
Styrene	U	31.	100	ug/l		8260B	03/07/14	100
1,1,2,2-Tetrachloroethane	U	58.	100	ug/l		8260B	03/07/14	100
1,1,1,2-Tetrachloroethane	U	38.	100	ug/l		8260B	03/07/14	100
Tetrachloroethene	97.	37.	100	ug/l	J	8260B	03/07/14	100
Toluene	140	78.	500	ug/l	J	8260B	03/07/14	100
1,1,1-Trichloroethane	U	32.	100	ug/l		8260B	03/07/14	100

U = ND (Not Detected)
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL
MDL = Minimum Detection Limit = LOD = TRRP SDL
Note:
The reported analytical results relate only to the sample submitted.
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Reported: 03/10/14 09:24 Printed: 03/10/14 09:24

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REPORT OF ANALYSIS

Mr. Pete Dressel
Piedmont Geologic
6003 Chapel Hill Road Suite 145
Raleigh, NC 27607

March 10, 2014

ESC Sample # : L686179-01

Site ID : RALEIGH, NC

Project # : 1347

Date Received : March 05, 2014
Description : NCSU Lot 86 - Water Treatment System Monitoring

Sample ID : GWE INFLUENT

Collected By : P. Dressel
Collection Date : 03/03/14 10:45

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
1,1,2-Trichloroethane	190	38.	100	ug/l		8260B	03/07/14	100
Trichloroethene	330	40.	100	ug/l		8260B	03/07/14	100
Trichlorofluoromethane	U	120	500	ug/l		8260B	03/07/14	100
1,2,3-Trichloropropane	92.	81.	250	ug/l	J	8260B	03/07/14	100
Vinyl acetate	U	160	1000	ug/l		8260B	03/07/14	100
Vinyl chloride	U	26.	100	ug/l		8260B	03/07/14	100
Xylenes, Total	110	110	300	ug/l	J	8260B	03/07/14	100
Acetonitrile	U	1500	5000	ug/l		8260B	03/07/14	100
Allyl chloride	U	170	500	ug/l		8260B	03/07/14	100
Chloroprene	U	170	5000	ug/l		8260B	03/07/14	100
trans-1,4-Dichloro-2-butene	U	87.	250	ug/l		8260B	03/07/14	100
Isobutanol	U	3900	10000	ug/l		8260B	03/07/14	100
1,4-Dioxane	U	3600	10000	ug/l		8260B	03/07/14	100
Methacrylonitrile	U	1300	5000	ug/l		8260B	03/07/14	100
Methyl methacrylate	U	120	500	ug/l		8260B	03/07/14	100
Ethyl methacrylate	U	140	500	ug/l		8260B	03/07/14	100
Propionitrile	U	1300	5000	ug/l		8260B	03/07/14	100
Surrogate Recovery								
Toluene-d8	97.7			% Rec.		8260B	03/07/14	100
Dibromofluoromethane	100.			% Rec.		8260B	03/07/14	100
a,a,a-Trifluorotoluene	98.3			% Rec.		8260B	03/07/14	100
4-Bromofluorobenzene	99.8			% Rec.		8260B	03/07/14	100

U = ND (Not Detected)
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL
MDL = Minimum Detection Limit = LOD = TRRP SDL
Note:
The reported analytical results relate only to the sample submitted.
This report shall not be reproduced, except in full, without the written approval from ESC.
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Reported: 03/10/14 09:24 Printed: 03/10/14 09:24

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L686179-01	WG709653	SAMP	Chlorobenzene	R2891424	J
	WG709653	SAMP	1,2-Dibromo-3-Chloropropane	R2891424	J
	WG709653	SAMP	Dichlorodifluoromethane	R2891424	J3
	WG709653	SAMP	1,2-Dichloroethane	R2891424	J
	WG709653	SAMP	Tetrachloroethene	R2891424	J
	WG709653	SAMP	Toluene	R2891424	J
	WG709653	SAMP	1,2,3-Trichloropropane	R2891424	J
	WG709653	SAMP	Xylenes, Total	R2891424	J

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J	(EPA) - Estimated value below the lowest calibration point. Confidence correlates with concentration.
J3	The associated batch QC was outside the established quality control range for precision.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods,it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.

Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Differrence.

Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromotography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.

TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

Summary of Remarks For Samples Printed
03/10/14 at 09:24:51

TSR Signing Reports: 350
R5 - Desired TAT

MDL/RDL; CDG, not CDICP for GW

Sample: L686179-01 Account: PIEGEO Received: 03/05/14 09:30 Due Date: 03/12/14 00:00 RPT Date: 03/10/14 09:24
V8260AP9 = V8260 + 1,4-Dioxane (Report 14D to MDL)

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Quality Assurance Report
Level II

L686179

March 10, 2014

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
1,1,1,2-Tetrachloroethane	< .001	mg/l			WG709653	03/07/14 18:45
1,1,1-Trichloroethane	< .001	mg/l			WG709653	03/07/14 18:45
1,1,2,2-Tetrachloroethane	< .001	mg/l			WG709653	03/07/14 18:45
1,1,2-Trichloroethane	< .001	mg/l			WG709653	03/07/14 18:45
1,1-Dichloroethane	< .001	mg/l			WG709653	03/07/14 18:45
1,1-Dichloroethene	< .001	mg/l			WG709653	03/07/14 18:45
1,2,3-Trichloropropane	< .001	mg/l			WG709653	03/07/14 18:45
1,2-Dibromo-3-Chloropropane	< .005	mg/l			WG709653	03/07/14 18:45
1,2-Dibromoethane	< .001	mg/l			WG709653	03/07/14 18:45
1,2-Dichlorobenzene	< .001	mg/l			WG709653	03/07/14 18:45
1,2-Dichloroethane	< .001	mg/l			WG709653	03/07/14 18:45
1,2-Dichloropropane	< .001	mg/l			WG709653	03/07/14 18:45
1,3-Dichlorobenzene	< .001	mg/l			WG709653	03/07/14 18:45
1,4-Dichlorobenzene	< .001	mg/l			WG709653	03/07/14 18:45
2-Butanone (MEK)	< .01	mg/l			WG709653	03/07/14 18:45
2-Hexanone	< .01	mg/l			WG709653	03/07/14 18:45
4-Methyl-2-pentanone (MIBK)	< .01	mg/l			WG709653	03/07/14 18:45
Acetone	< .05	mg/l			WG709653	03/07/14 18:45
Acetonitrile	< .05	mg/l			WG709653	03/07/14 18:45
Acrolein	< .025	mg/l			WG709653	03/07/14 18:45
Acrylonitrile	< .01	mg/l			WG709653	03/07/14 18:45
Allyl chloride	< .005	mg/l			WG709653	03/07/14 18:45
Benzene	< .001	mg/l			WG709653	03/07/14 18:45
Bromodichloromethane	< .001	mg/l			WG709653	03/07/14 18:45
Bromoform	< .001	mg/l			WG709653	03/07/14 18:45
Bromomethane	< .005	mg/l			WG709653	03/07/14 18:45
Carbon disulfide	< .001	mg/l			WG709653	03/07/14 18:45
Carbon tetrachloride	< .001	mg/l			WG709653	03/07/14 18:45
Chlorobenzene	< .001	mg/l			WG709653	03/07/14 18:45
Chlorodibromomethane	< .001	mg/l			WG709653	03/07/14 18:45
Chloroethane	< .005	mg/l			WG709653	03/07/14 18:45
Chloroform	< .005	mg/l			WG709653	03/07/14 18:45
Chloromethane	< .0025	mg/l			WG709653	03/07/14 18:45
Chloroprene	< .05	mg/l			WG709653	03/07/14 18:45
cis-1,2-Dichloroethene	< .001	mg/l			WG709653	03/07/14 18:45
cis-1,3-Dichloropropene	< .001	mg/l			WG709653	03/07/14 18:45
Dibromomethane	< .001	mg/l			WG709653	03/07/14 18:45
Dichlorodifluoromethane	< .005	mg/l			WG709653	03/07/14 18:45
Ethyl methacrylate	< .005	mg/l			WG709653	03/07/14 18:45
Ethylbenzene	< .001	mg/l			WG709653	03/07/14 18:45
Iodomethane	< .01	mg/l			WG709653	03/07/14 18:45
Isobutanol	< .1	mg/l			WG709653	03/07/14 18:45
Methacrylonitrile	< .05	mg/l			WG709653	03/07/14 18:45
Methyl methacrylate	< .005	mg/l			WG709653	03/07/14 18:45
Methylene Chloride	< .005	mg/l			WG709653	03/07/14 18:45
Pentachloroethane	< .005	mg/l			WG709653	03/07/14 18:45
Propionitrile	< .05	mg/l			WG709653	03/07/14 18:45
Styrene	< .001	mg/l			WG709653	03/07/14 18:45
Tetrachloroethene	< .001	mg/l			WG709653	03/07/14 18:45
Toluene	< .005	mg/l			WG709653	03/07/14 18:45
trans-1,2-Dichloroethene	< .001	mg/l			WG709653	03/07/14 18:45
trans-1,3-Dichloropropene	< .001	mg/l			WG709653	03/07/14 18:45
trans-1,4-Dichloro-2-butene	< .0025	mg/l			WG709653	03/07/14 18:45
Trichloroethene	< .001	mg/l			WG709653	03/07/14 18:45
Trichlorofluoromethane	< .005	mg/l			WG709653	03/07/14 18:45
Vinyl acetate	< .01	mg/l			WG709653	03/07/14 18:45
Vinyl chloride	< .001	mg/l			WG709653	03/07/14 18:45
Xylenes, Total	< .003	mg/l			WG709653	03/07/14 18:45
4-Bromofluorobenzene		% Rec.	101.0	71-126	WG709653	03/07/14 18:45

* Performance of this Analyte is outside of established criteria.
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Raleigh, NC 27607

Quality Assurance Report
Level II

L686179

March 10, 2014

Analyte	Units	Laboratory Control Sample Known Val	Result	% Rec	Limit	Batch
Dibromofluoromethane		% Rec.	98.90	78.3-121		03/07/14 18:45
Toluene-d8		% Rec.	97.80	88.5-111		03/07/14 18:45
a,a,a-Trifluorotoluene		% Rec.	99.60	85-114		03/07/14 18:45

Analyte	Units	Laboratory Control Sample Known Val	Result	% Rec	Limit	Batch
1,1,1,2-Tetrachloroethane	mg/l	.025	0.0227	90.8	74.2-124	WG709653
1,1,1-Trichloroethane	mg/l	.025	0.0208	83.0	73.2-123	WG709653
1,1,2,2-Tetrachloroethane	mg/l	.025	0.0220	88.1	70.7-122	WG709653
1,1,2-Trichloroethane	mg/l	.025	0.0239	95.6	77.7-118	WG709653
1,1-Dichloroethane	mg/l	.025	0.0214	85.7	70.7-126	WG709653
1,1-Dichloroethene	mg/l	.025	0.0200	80.1	67.8-129	WG709653
1,2,3-Trichloropropane	mg/l	.025	0.0229	91.7	71.8-121	WG709653
1,2-Dibromo-3-Chloropropane	mg/l	.025	0.0215	85.9	65.4-128	WG709653
1,2-Dibromoethane	mg/l	.025	0.0239	95.5	76.6-121	WG709653
1,2-Dichlorobenzene	mg/l	.025	0.0227	90.7	78.4-117	WG709653
1,2-Dichloroethane	mg/l	.025	0.0239	95.5	68.8-124	WG709653
1,2-Dichloropropane	mg/l	.025	0.0220	88.0	76.5-119	WG709653
1,3-Dichlorobenzene	mg/l	.025	0.0219	87.5	70.8-128	WG709653
1,4-Dichlorobenzene	mg/l	.025	0.0225	90.0	78.8-115	WG709653
2-Butanone (MEK)	mg/l	.125	0.106	84.7	55-149	WG709653
2-Hexanone	mg/l	.125	0.115	91.7	65.6-144	WG709653
4-Methyl-2-pentanone (MIBK)	mg/l	.125	0.114	90.9	70.5-133	WG709653
Acetone	mg/l	.125	0.0862	69.0	35.6-163	WG709653
Acrolein	mg/l	.125	0.173	138.	10-190	WG709653
Acrylonitrile	mg/l	.125	0.110	87.7	55.2-130	WG709653
Benzene	mg/l	.025	0.0216	86.5	74.8-121	WG709653
Bromodichloromethane	mg/l	.025	0.0217	87.0	75.1-116	WG709653
Bromoform	mg/l	.025	0.0227	90.7	67.5-130	WG709653
Bromomethane	mg/l	.025	0.0216	86.5	49.9-162	WG709653
Carbon disulfide	mg/l	.025	0.0193	77.3	64.6-140	WG709653
Carbon tetrachloride	mg/l	.025	0.0201	80.4	70.2-123	WG709653
Chlorobenzene	mg/l	.025	0.0224	89.8	78.1-119	WG709653
Chlorodibromomethane	mg/l	.025	0.0231	92.5	74-121	WG709653
Chloroethane	mg/l	.025	0.0204	81.4	61.7-135	WG709653
Chloroform	mg/l	.025	0.0218	87.1	76-121	WG709653
Chloromethane	mg/l	.025	0.0167	66.9	61.5-129	WG709653
cis-1,2-Dichloroethene	mg/l	.025	0.0219	87.5	76-119	WG709653
cis-1,3-Dichloropropene	mg/l	.025	0.0232	92.8	78.2-120	WG709653
Dibromomethane	mg/l	.025	0.0243	97.1	79.5-118	WG709653
Dichlorodifluoromethane	mg/l	.025	0.0176	70.5	54.8-135	WG709653
Ethylbenzene	mg/l	.025	0.0208	83.2	78.8-122	WG709653
Iodomethane	mg/l	.125	0.0986	78.9	61-130	WG709653
Methylene Chloride	mg/l	.025	0.0203	81.1	70.3-120	WG709653
Styrene	mg/l	.025	0.0228	91.2	80.4-126	WG709653
Tetrachloroethene	mg/l	.025	0.0213	85.1	72.6-126	WG709653
Toluene	mg/l	.025	0.0209	83.6	79.7-116	WG709653
trans-1,2-Dichloroethene	mg/l	.025	0.0192	77.0	72.6-121	WG709653
trans-1,3-Dichloropropene	mg/l	.025	0.0229	91.6	74.3-123	WG709653
trans-1,4-Dichloro-2-butene	mg/l	.025	0.0188	75.3	65.1-123	WG709653
Trichloroethene	mg/l	.025	0.0215	86.0	77.7-118	WG709653
Trichlorofluoromethane	mg/l	.025	0.0202	80.9	63.5-135	WG709653
Vinyl acetate	mg/l	.125	0.127	102.	65-138	WG709653
Vinyl chloride	mg/l	.025	0.0183	73.0	65.9-128	WG709653
Xylenes, Total	mg/l	.075	0.0621	82.8	78.7-121	WG709653
4-Bromofluorobenzene				97.20	71-126	WG709653
Dibromofluoromethane				97.10	78.3-121	WG709653
Toluene-d8				96.90	88.5-111	WG709653

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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Quality Assurance Report
Level II

L686179

March 10, 2014

Analyte	Laboratory Control Sample Duplicate							
	Units	Result	Ref	%Rec	Limit	RPD	Limit	Batch
a,a,a-Trifluorotoluene					97.20		85-114	

Analyte	Laboratory Control Sample Duplicate							
	Units	Result	Ref	%Rec	Limit	RPD	Limit	Batch
1,1,1,2-Tetrachloroethane	mg/l	0.0236	0.0227	94.0	74.2-124	3.81	20	WG709653
1,1,1-Trichloroethane	mg/l	0.0228	0.0208	91.0	73.2-123	9.55	20	WG709653
1,1,2,2-Tetrachloroethane	mg/l	0.0223	0.0220	89.0	70.7-122	1.13	20	WG709653
1,1,2-Trichloroethane	mg/l	0.0244	0.0239	97.0	77.7-118	2.01	20	WG709653
1,1-Dichloroethane	mg/l	0.0225	0.0214	90.0	70.7-126	4.75	20	WG709653
1,1-Dichloroethene	mg/l	0.0217	0.0200	87.0	67.8-129	8.06	20	WG709653
1,2,3-Trichloropropane	mg/l	0.0232	0.0229	93.0	71.8-121	0.940	20	WG709653
1,2-Dibromo-3-Chloropropane	mg/l	0.0217	0.0215	87.0	65.4-128	1.14	20	WG709653
1,2-Dibromoethane	mg/l	0.0238	0.0239	95.0	76.6-121	0.490	20	WG709653
1,2-Dichlorobenzene	mg/l	0.0234	0.0227	94.0	78.4-117	3.03	20	WG709653
1,2-Dichloroethane	mg/l	0.0246	0.0239	98.0	68.8-124	3.03	20	WG709653
1,2-Dichloropropane	mg/l	0.0228	0.0220	91.0	76.5-119	3.62	20	WG709653
1,3-Dichlorobenzene	mg/l	0.0227	0.0219	91.0	70.8-128	3.51	20	WG709653
1,4-Dichlorobenzene	mg/l	0.0233	0.0225	93.0	78.8-115	3.40	20	WG709653
2-Butanone (MEK)	mg/l	0.114	0.106	91.0	55-149	7.70	20	WG709653
2-Hexanone	mg/l	0.123	0.115	98.0	65.6-144	7.05	20	WG709653
4-Methyl-2-pentanone (MIBK)	mg/l	0.117	0.114	94.0	70.5-133	2.91	20	WG709653
Acetone	mg/l	0.0978	0.0862	78.0	35.6-163	12.6	23.9	WG709653
Acrolein	mg/l	0.170	0.173	136.	10-190	1.94	28.1	WG709653
Acrylonitrile	mg/l	0.115	0.110	92.0	55.2-130	5.04	20	WG709653
Benzene	mg/l	0.0227	0.0216	91.0	74.8-121	4.72	20	WG709653
Bromodichloromethane	mg/l	0.0222	0.0217	89.0	75.1-116	1.97	20	WG709653
Bromoform	mg/l	0.0225	0.0227	90.0	67.5-130	0.540	20	WG709653
Bromomethane	mg/l	0.0221	0.0216	88.0	49.9-162	2.03	20	WG709653
Carbon disulfide	mg/l	0.0208	0.0193	83.0	64.6-140	7.46	20	WG709653
Carbon tetrachloride	mg/l	0.0223	0.0201	89.0	70.2-123	10.4	20	WG709653
Chlorobenzene	mg/l	0.0232	0.0224	93.0	78.1-119	3.12	20	WG709653
Chlorodibromomethane	mg/l	0.0235	0.0231	94.0	74-121	1.71	20	WG709653
Chloroethane	mg/l	0.0213	0.0204	85.0	61.7-135	4.45	20	WG709653
Chloroform	mg/l	0.0232	0.0218	93.0	76-121	6.21	20	WG709653
Chloromethane	mg/l	0.0180	0.0167	72.0	61.5-129	7.62	20	WG709653
cis-1,2-Dichloroethene	mg/l	0.0236	0.0219	94.0	76-119	7.52	20	WG709653
cis-1,3-Dichloropropene	mg/l	0.0234	0.0232	93.0	78.2-120	0.600	20	WG709653
Dibromomethane	mg/l	0.0244	0.0243	98.0	79.5-118	0.690	20	WG709653
Dichlorodifluoromethane	mg/l	0.0221	0.0176	88.0	54.8-135	22.6*	20	WG709653
Ethylbenzene	mg/l	0.0216	0.0208	86.0	78.8-122	3.69	20	WG709653
Iodomethane	mg/l	0.110	0.0986	88.0	61-130	11.1	20	WG709653
Methylene Chloride	mg/l	0.0216	0.0203	86.0	70.3-120	6.51	20	WG709653
Styrene	mg/l	0.0238	0.0228	95.0	80.4-126	4.24	20	WG709653
Tetrachloroethene	mg/l	0.0233	0.0213	93.0	72.6-126	8.96	20	WG709653
Toluene	mg/l	0.0216	0.0209	86.0	79.7-116	3.33	20	WG709653
trans-1,2-Dichloroethene	mg/l	0.0211	0.0192	84.0	72.6-121	9.08	20	WG709653
trans-1,3-Dichloropropene	mg/l	0.0224	0.0229	90.0	74.3-123	2.00	20	WG709653
trans-1,4-Dichloro-2-butene	mg/l	0.0191	0.0188	76.0	65.1-123	1.56	20	WG709653
Trichloroethene	mg/l	0.0237	0.0215	95.0	77.7-118	9.57	20	WG709653
Trichlorofluoromethane	mg/l	0.0226	0.0202	90.0	63.5-135	10.9	20	WG709653
Vinyl acetate	mg/l	0.131	0.127	104.	65-138	2.81	20	WG709653
Vinyl chloride	mg/l	0.0205	0.0183	82.0	65.9-128	11.5	20	WG709653
Xylenes, Total	mg/l	0.0651	0.0621	87.0	78.7-121	4.76	20	WG709653
4-Bromofluorobenzene				97.10	71-126			WG709653
Dibromofluoromethane				97.00	78.3-121			WG709653
Toluene-d8				97.00	88.5-111			WG709653
a,a,a-Trifluorotoluene				97.70	85-114			WG709653

* Performance of this Analyte is outside of established criteria.
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Quality Assurance Report
Level II

L686179

March 10, 2014

Analyte	Units	Matrix Spike MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
1,1,1,2-Tetrachloroethane	mg/l	0.0246	0.0	.025	98.0	64-128	L685829-01	WG709653
1,1,1-Trichloroethane	mg/l	0.0229	0.0	.025	92.0	58.7-134	L685829-01	WG709653
1,1,2,2-Tetrachloroethane	mg/l	0.0250	0.00109	.025	96.0	56-132	L685829-01	WG709653
1,1,2-Trichloroethane	mg/l	0.0262	0.000652	.025	100.	66.3-125	L685829-01	WG709653
1,1-Dichloroethane	mg/l	0.0236	0.0	.025	94.0	58.5-132	L685829-01	WG709653
1,1-Dichloroethene	mg/l	0.0240	0.0	.025	96.0	51.1-140	L685829-01	WG709653
1,2,3-Trichloropropane	mg/l	0.0304	0.00513	.025	100.	61.4-128	L685829-01	WG709653
1,2-Dibromo-3-Chloropropane	mg/l	0.0666	0.0366	.025	120.	57.3-136	L685829-01	WG709653
1,2-Dibromoethane	mg/l	0.0314	0.00593	.025	100.	67.1-125	L685829-01	WG709653
1,2-Dichlorobenzene	mg/l	0.0239	0.0	.025	96.0	68.2-123	L685829-01	WG709653
1,2-Dichloroethane	mg/l	0.0256	0.0	.025	100.	60-126	L685829-01	WG709653
1,2-Dichloropropane	mg/l	0.0238	0.0	.025	95.0	64.2-123	L685829-01	WG709653
1,3-Dichlorobenzene	mg/l	0.0235	0.0	.025	94.0	63.1-131	L685829-01	WG709653
1,4-Dichlorobenzene	mg/l	0.0235	0.0	.025	94.0	68.6-123	L685829-01	WG709653
2-Butanone (MEK)	mg/l	0.141	0.0202	.125	96.0	22.4-138	L685829-01	WG709653
2-Hexanone	mg/l	0.129	0.000427	.125	100.	43.3-137	L685829-01	WG709653
4-Methyl-2-pentanone (MIBK)	mg/l	0.159	0.0315	.125	100.	60.8-140	L685829-01	WG709653
Acetone	mg/l	0.273	0.164	.125	87.0	10-130	L685829-01	WG709653
Acrolein	mg/l	0.226	0.00123	.125	180.	10-200	L685829-01	WG709653
Acrylonitrile	mg/l	0.125	0.0	.125	100.	49.4-133	L685829-01	WG709653
Benzene	mg/l	0.0228	0.0	.025	91.0	54.3-133	L685829-01	WG709653
Bromodichloromethane	mg/l	0.0231	0.0	.025	92.0	63.9-121	L685829-01	WG709653
Bromoform	mg/l	0.0242	0.0	.025	97.0	59.5-134	L685829-01	WG709653
Bromomethane	mg/l	0.0236	0.0	.025	94.0	41.7-155	L685829-01	WG709653
Carbon disulfide	mg/l	0.0221	0.000450	.025	87.0	43.3-149	L685829-01	WG709653
Carbon tetrachloride	mg/l	0.0227	0.0	.025	91.0	55.7-134	L685829-01	WG709653
Chlorobenzene	mg/l	0.0240	0.0	.025	96.0	67-125	L685829-01	WG709653
Chlorodibromomethane	mg/l	0.0251	0.0	.025	100.	64.3-125	L685829-01	WG709653
Chloroethane	mg/l	0.0240	0.0	.025	96.0	51.5-136	L685829-01	WG709653
Chloroform	mg/l	0.0251	0.00137	.025	95.0	63-129	L685829-01	WG709653
Chloromethane	mg/l	0.0185	0.0	.025	74.0	42.4-135	L685829-01	WG709653
cis-1,2-Dichloroethene	mg/l	0.0232	0.0	.025	93.0	59.2-129	L685829-01	WG709653
cis-1,3-Dichloropropene	mg/l	0.0237	0.0	.025	95.0	66.4-125	L685829-01	WG709653
Dibromomethane	mg/l	0.0255	0.0	.025	100.	68.2-124	L685829-01	WG709653
Dichlorodifluoromethane	mg/l	0.0214	0.0	.025	86.0	40.6-144	L685829-01	WG709653
Ethylbenzene	mg/l	0.0224	0.0	.025	89.0	61.4-133	L685829-01	WG709653
Iodomethane	mg/l	0.103	0.0	.125	82.0	49.7-132	L685829-01	WG709653
Methylene Chloride	mg/l	0.0222	0.0	.025	89.0	58.1-122	L685829-01	WG709653
Styrene	mg/l	0.0245	0.0	.025	98.0	66.8-133	L685829-01	WG709653
Tetrachloroethene	mg/l	0.0241	0.0	.025	96.0	53-139	L685829-01	WG709653
Toluene	mg/l	0.0222	0.0	.025	89.0	61.4-130	L685829-01	WG709653
trans-1,2-Dichloroethene	mg/l	0.0219	0.0	.025	88.0	56.5-129	L685829-01	WG709653
trans-1,3-Dichloropropene	mg/l	0.0232	0.0	.025	93.0	64.1-128	L685829-01	WG709653
trans-1,4-Dichloro-2-butene	mg/l	0.0226	0.0	.025	90.0	57.1-130	L685829-01	WG709653
Trichloroethene	mg/l	0.0243	0.0	.025	97.0	44.1-149	L685829-01	WG709653
Trichlorofluoromethane	mg/l	0.0241	0.0	.025	96.0	49.6-145	L685829-01	WG709653
Vinyl acetate	mg/l	0.136	0.0	.125	110.	56.1-149	L685829-01	WG709653
Vinyl chloride	mg/l	0.0208	0.0	.025	83.0	47.8-137	L685829-01	WG709653
Xylenes, Total	mg/l	0.0671	0.0	.075	90.0	63.3-131	L685829-01	WG709653
4-Bromofluorobenzene					99.40	71-126		WG709653
Dibromofluoromethane					97.40	78.3-121		WG709653
Toluene-d8					96.50	88.5-111		WG709653
a,a,a-Trifluorotoluene					99.90	85-114		WG709653

Analyte	Units	Matrix Spike Duplicate MSD	Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
1,1,1,2-Tetrachloroethane	mg/l	0.0262	0.0246	105.	64-128	6.29	20	L685829-01	WG709653
1,1,1-Trichloroethane	mg/l	0.0247	0.0229	99.0	58.7-134	7.75	20	L685829-01	WG709653
1,1,2,2-Tetrachloroethane	mg/l	0.0262	0.0250	100.	56-132	4.76	22.2	L685829-01	WG709653

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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Piedmont Geologic
Mr. Pete Dressel
6003 Chapel Hill Road Suite 145

Raleigh, NC 27607

Quality Assurance Report
Level II

L686179

March 10, 2014

Analyte	Units	MSD	Matrix Spike Duplicate Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
1,1,2-Trichloroethane	mg/l	0.0270	0.0262	105.	66.3-125	3.00	20	L685829-01	WG709653
1,1-Dichloroethane	mg/l	0.0248	0.0236	99.0	58.5-132	4.81	20	L685829-01	WG709653
1,1-Dichloroethene	mg/l	0.0245	0.0240	98.0	51.1-140	2.21	20.2	L685829-01	WG709653
1,2,3-Trichloropropane	mg/l	0.0313	0.0304	105.	61.4-128	2.87	22.4	L685829-01	WG709653
1,2-Dibromo-3-Chloropropane	mg/l	0.0681	0.0666	126.	57.3-136	2.11	27	L685829-01	WG709653
1,2-Dibromoethane	mg/l	0.0324	0.0314	106.	67.1-125	3.21	20	L685829-01	WG709653
1,2-Dichlorobenzene	mg/l	0.0256	0.0239	102.	68.2-123	6.62	20	L685829-01	WG709653
1,2-Dichloroethane	mg/l	0.0263	0.0256	105.	60-126	2.63	20	L685829-01	WG709653
1,2-Dichloropropane	mg/l	0.0246	0.0238	98.6	64.2-123	3.43	20	L685829-01	WG709653
1,3-Dichlorobenzene	mg/l	0.0254	0.0235	101.	63.1-131	7.52	20	L685829-01	WG709653
1,4-Dichlorobenzene	mg/l	0.0252	0.0235	101.	68.6-123	6.78	20	L685829-01	WG709653
2-Butanone (MEK)	mg/l	0.139	0.141	95.1	22.4-138	1.06	27	L685829-01	WG709653
2-Hexanone	mg/l	0.130	0.129	104.	43.3-137	1.03	25.5	L685829-01	WG709653
4-Methyl-2-pentanone (MIBK)	mg/l	0.156	0.159	99.4	60.8-140	2.30	25.1	L685829-01	WG709653
Acetone	mg/l	0.264	0.273	80.3	10-130	3.19	27.9	L685829-01	WG709653
Acrolein	mg/l	0.239	0.226	190.	10-200	5.42	27.7	L685829-01	WG709653
Acrylonitrile	mg/l	0.125	0.125	100.	49.4-133	0.170	25.3	L685829-01	WG709653
Benzene	mg/l	0.0246	0.0228	98.3	54.3-133	7.33	20	L685829-01	WG709653
Bromodichloromethane	mg/l	0.0237	0.0231	95.0	63.9-121	2.84	20	L685829-01	WG709653
Bromoform	mg/l	0.0247	0.0242	98.8	59.5-134	1.98	20.5	L685829-01	WG709653
Bromomethane	mg/l	0.0257	0.0236	103.	41.7-155	8.70	21.9	L685829-01	WG709653
Carbon disulfide	mg/l	0.0233	0.0221	91.4	43.3-149	5.23	20.3	L685829-01	WG709653
Carbon tetrachloride	mg/l	0.0243	0.0227	97.1	55.7-134	6.69	20	L685829-01	WG709653
Chlorobenzene	mg/l	0.0255	0.0240	102.	67-125	6.36	20	L685829-01	WG709653
Chlorodibromomethane	mg/l	0.0257	0.0251	103.	64.3-125	2.56	20.8	L685829-01	WG709653
Chloroethane	mg/l	0.0254	0.0240	102.	51.5-136	5.44	40	L685829-01	WG709653
Chloroform	mg/l	0.0264	0.0251	100.	63-129	4.80	20	L685829-01	WG709653
Chloromethane	mg/l	0.0195	0.0185	77.9	42.4-135	4.94	20	L685829-01	WG709653
cis-1,2-Dichloroethene	mg/l	0.0252	0.0232	101.	59.2-129	8.20	20	L685829-01	WG709653
cis-1,3-Dichloropropene	mg/l	0.0245	0.0237	97.9	66.4-125	3.34	20	L685829-01	WG709653
Dibromomethane	mg/l	0.0263	0.0255	105.	68.2-124	3.00	20	L685829-01	WG709653
Dichlorodifluoromethane	mg/l	0.0224	0.0214	89.7	40.6-144	4.70	20.2	L685829-01	WG709653
Ethylbenzene	mg/l	0.0247	0.0224	98.7	61.4-133	9.88	20	L685829-01	WG709653
Iodomethane	mg/l	0.106	0.103	84.5	49.7-132	2.85	20	L685829-01	WG709653
Methylene Chloride	mg/l	0.0232	0.0222	92.9	58.1-122	4.30	20	L685829-01	WG709653
Styrene	mg/l	0.0263	0.0245	105.	66.8-133	7.04	20	L685829-01	WG709653
Tetrachloroethene	mg/l	0.0254	0.0241	102.	53-139	5.29	20	L685829-01	WG709653
Toluene	mg/l	0.0228	0.0222	91.2	61.4-130	2.69	20	L685829-01	WG709653
trans-1,2-Dichloroethene	mg/l	0.0232	0.0219	92.8	56.5-129	5.57	20	L685829-01	WG709653
trans-1,3-Dichloropropene	mg/l	0.0245	0.0232	98.0	64.1-128	5.34	20	L685829-01	WG709653
trans-1,4-Dichloro-2-butene	mg/l	0.0224	0.0226	89.7	57.1-130	0.650	23.9	L685829-01	WG709653
Trichloroethene	mg/l	0.0249	0.0243	99.4	44.1-149	2.40	20	L685829-01	WG709653
Trichlorofluoromethane	mg/l	0.0265	0.0241	106.	49.6-145	9.38	21.2	L685829-01	WG709653
Vinyl acetate	mg/l	0.139	0.136	111.	56.1-149	2.18	22.7	L685829-01	WG709653
Vinyl chloride	mg/l	0.0223	0.0208	89.1	47.8-137	7.06	20	L685829-01	WG709653
Xylenes, Total	mg/l	0.0719	0.0671	95.8	63.3-131	6.85	20	L685829-01	WG709653
4-Bromofluorobenzene				99.40	71-126				WG709653
Dibromofluoromethane				99.10	78.3-121				WG709653
Toluene-d8				95.60	88.5-111				WG709653
a,a,a-Trifluorotoluene				98.10	85-114				WG709653

Batch number /Run number / Sample number cross reference

WG709653: R2891424: L686179-01

* * Calculations are performed prior to rounding of reported values.
* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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Raleigh, NC 27607

Quality Assurance Report
Level II

L686179

March 10, 2014

The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.

Piedmont Geologic

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Raleigh, NC 27607

Billing Information:
Accounts Payable
6003 Chapel Hill Rd Ste 145
Raleigh, NC 27607

Report to: Mr. Pete Dressel

Email To: pjdressel@piedmontgeologic.com

Project Description: NCSU Lot 86 - Water Treatment System Mon

City/State Collected: RALEIGH, NC

Phone: 919-854-9700
Fax: 919-854-9532

Client Project # ~~1247~~ 1347

Lab Project # PIEGEO-NCSU LOT 86

Collected by (print): P. DRESSEL

Site/Facility ID # RALEIGH, NC

P.O. # 1347

Collected by (signature): [signature]

Immediately Packed on Ice N ___ Y ✓

Rush? (Lab MUST Be Notified)
___ Same Day 200%
___ Next Day 100%
___ Two Day 50%
___ Three Day 25%

Date Results Needed

Email? ___No X__Yes
FAX? ___No ___Yes

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

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Phone: 800-767-5859
Fax: 615-758-5859

L # L686179
D055

Acctnum: PIEGEO
Template: T82911
Prelogin: P459269
TSR: 350 - Jimmy Hunt
PB: 2-26-18
Shipped Via: FedEx Ground

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	V8260AP9 40mlAmb-HCl									Rem./Contaminant	Sample # (lab only)
GWE INFLUENT	GRAB	GW	—	3-3-14	1045	2	X										-01

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other_____

Remarks: V8260AP9 = V8260 + 1,4-Dioxane (Report 14D to MDL)
Quote PIEGEO080513S

pH _____ Temp _____
Flow _____ Other _____

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
[signature]	3/3/14	11:47	[signature]
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)
[signature]	3/4/14	16:45	[signature]

Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☒ Sub

Temp: 3.1 °C Bottles Received: 24

Date: 3/5/14 Time: 0930

Hold #

Condition: (lab use only) N
OK

COC Seal Intact: ✓ Y ___N ___NA

pH Checked: NCF:

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Mr. Pete Dressel
Piedmont Geologic
6003 Chapel Hill Road Suite 145
Raleigh, NC 27607

Report Summary

Tuesday April 15, 2014

Report Number: L692222
Samples Received: 04/05/14
Client Project: 1247

Description: NCSU Lot 86 - Water Treatment System Monitoring

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By: Jimmy Hunt

Jimmy Hunt , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197, FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704/BIO041, ND - R-140. NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1, TX - T104704245-11-3, OK - 9915, PA - 68-02979, IA Lab #364, EPA - TN002

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REPORT OF ANALYSIS

Mr. Pete Dressel
Piedmont Geologic
6003 Chapel Hill Road Suite 145
Raleigh, NC 27607

April 15, 2014

ESC Sample # : L692222-01

Site ID : RALEIGH, NC

Project # : 1247

Date Received : April 05, 2014
Description : NCSU Lot 86 - Water Treatment System Monitoring

Sample ID : GWE INFLUENT

Collected By : Geoffrey Murphey
Collection Date : 04/03/14 11:15

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Volatile Organics								
Acetone	430	10.	50.	ug/l		8260B	04/13/14	1
Acrolein	U	8.9	50.	ug/l		8260B	04/13/14	1
Acrylonitrile	U	1.9	10.	ug/l		8260B	04/13/14	1
Benzene	1100	8.3	25.	ug/l		8260B	04/14/14	25
Bromodichloromethane	110	0.38	1.0	ug/l		8260B	04/13/14	1
Bromoform	U	0.47	1.0	ug/l		8260B	04/13/14	1
Bromomethane	U	0.87	5.0	ug/l		8260B	04/13/14	1
Carbon disulfide	2.6	0.28	1.0	ug/l		8260B	04/13/14	1
Carbon tetrachloride	380	9.5	25.	ug/l		8260B	04/14/14	25
Chlorobenzene	42.	0.35	1.0	ug/l		8260B	04/13/14	1
Chlorodibromomethane	0.60	0.33	1.0	ug/l	J	8260B	04/13/14	1
Chloroethane	U	0.45	5.0	ug/l		8260B	04/13/14	1
Chloroform	14000	160	2500	ug/l		8260B	04/14/14	500
Chloromethane	U	0.28	2.5	ug/l		8260B	04/13/14	1
1,2-Dibromoethane	1000	9.5	25.	ug/l		8260B	04/14/14	25
1,2-Dibromo-3-Chloropropane	150	1.3	5.0	ug/l		8260B	04/13/14	1
Dibromomethane	0.81	0.35	1.0	ug/l	J	8260B	04/13/14	1
1,2-Dichlorobenzene	10.	0.35	1.0	ug/l		8260B	04/13/14	1
1,3-Dichlorobenzene	0.60	0.22	1.0	ug/l	J	8260B	04/13/14	1
1,4-Dichlorobenzene	U	0.27	1.0	ug/l		8260B	04/13/14	1
Dichlorodifluoromethane	U	0.55	5.0	ug/l		8260B	04/13/14	1
1,1-Dichloroethane	7.6	0.26	1.0	ug/l		8260B	04/13/14	1
1,2-Dichloroethane	110	0.36	1.0	ug/l		8260B	04/13/14	1
1,1-Dichloroethene	9.7	0.40	1.0	ug/l		8260B	04/13/14	1
cis-1,2-Dichloroethene	1.8	0.26	1.0	ug/l		8260B	04/13/14	1
trans-1,2-Dichloroethene	U	0.40	1.0	ug/l		8260B	04/13/14	1
1,2-Dichloropropane	2600	7.6	25.	ug/l		8260B	04/14/14	25
cis-1,3-Dichloropropene	U	0.42	1.0	ug/l		8260B	04/13/14	1
trans-1,3-Dichloropropene	U	0.42	1.0	ug/l		8260B	04/13/14	1
Ethylbenzene	23.	0.38	1.0	ug/l		8260B	04/13/14	1
2-Hexanone	U	3.8	10.	ug/l		8260B	04/13/14	1
Iodomethane	U	1.7	10.	ug/l		8260B	04/13/14	1
2-Butanone (MEK)	U	3.9	10.	ug/l		8260B	04/13/14	1
Methylene Chloride	1900	25.	130	ug/l		8260B	04/14/14	25
4-Methyl-2-pentanone (MIBK)	140	2.1	10.	ug/l		8260B	04/13/14	1
Pentachloroethane	U	3.6	5.0	ug/l		8260B	04/13/14	1
Styrene	U	0.31	1.0	ug/l		8260B	04/13/14	1
1,1,2,2-Tetrachloroethane	25.	0.58	1.0	ug/l		8260B	04/13/14	1
1,1,1,2-Tetrachloroethane	U	0.38	1.0	ug/l		8260B	04/13/14	1
Tetrachloroethene	100	0.37	1.0	ug/l		8260B	04/13/14	1
Toluene	130	0.78	5.0	ug/l		8260B	04/13/14	1
1,1,1-Trichloroethane	U	0.32	1.0	ug/l		8260B	04/13/14	1

U = ND (Not Detected)
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL
MDL = Minimum Detection Limit = LOD = TRRP SDL
Note:
The reported analytical results relate only to the sample submitted.
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Reported: 04/15/14 09:34 Printed: 04/15/14 09:44

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Est. 1970

REPORT OF ANALYSIS

Mr. Pete Dressel
Piedmont Geologic
6003 Chapel Hill Road Suite 145
Raleigh, NC 27607

April 15, 2014

ESC Sample # : L692222-01

Site ID : RALEIGH, NC

Project # : 1247

Date Received : April 05, 2014
Description : NCSU Lot 86 - Water Treatment System Monitoring

Sample ID : GWE INFLUENT

Collected By : Geoffrey Murphey
Collection Date : 04/03/14 11:15

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
1,1,2-Trichloroethane	170	0.38	1.0	ug/l		8260B	04/13/14	1
Trichloroethene	380	10.	25.	ug/l		8260B	04/14/14	25
Trichlorofluoromethane	5.4	1.2	5.0	ug/l		8260B	04/13/14	1
1,2,3-Trichloropropane	77.	0.81	2.5	ug/l		8260B	04/13/14	1
Vinyl acetate	U	1.6	10.	ug/l		8260B	04/13/14	1
Vinyl chloride	U	0.26	1.0	ug/l		8260B	04/13/14	1
Xylenes, Total	120	1.1	3.0	ug/l		8260B	04/13/14	1
Acetonitrile	U	15.	50	ug/l		8260B	04/13/14	1
Allyl chloride	U	1.7	5.0	ug/l		8260B	04/13/14	1
Chloroprene	U	1.7	50.	ug/l		8260B	04/13/14	1
trans-1,4-Dichloro-2-butene	U	0.87	2.5	ug/l		8260B	04/13/14	1
Isobutanol	U	39.	100	ug/l		8260B	04/13/14	1
1,4-Dioxane	1500	36.	100	ug/l		8260B	04/13/14	1
Methacrylonitrile	U	13.	50.	ug/l		8260B	04/13/14	1
Methyl methacrylate	U	1.2	5.0	ug/l		8260B	04/13/14	1
Ethyl methacrylate	U	1.4	5.0	ug/l		8260B	04/13/14	1
Propionitrile	U	13.	50.	ug/l		8260B	04/13/14	1
Surrogate Recovery								
Toluene-d8	99.4			% Rec.		8260B	04/13/14	1
Dibromofluoromethane	112.			% Rec.		8260B	04/13/14	1
a,a,a-Trifluorotoluene	102.			% Rec.		8260B	04/13/14	1
4-Bromofluorobenzene	94.9			% Rec.		8260B	04/13/14	1

U = ND (Not Detected)
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL
MDL = Minimum Detection Limit = LOD = TRRP SDL
Note:
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Reported: 04/15/14 09:34 Printed: 04/15/14 09:44

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L692222-01	WG715889	SAMP	Chlorodibromomethane	R2904235	J
	WG715889	SAMP	Dibromomethane	R2904235	J
	WG715889	SAMP	1,3-Dichlorobenzene	R2904235	J

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J	(EPA) - Estimated value below the lowest calibration point. Confidence correlates with concentration.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods,it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.

Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Differrence.

Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromotography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.

TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

Summary of Remarks For Samples Printed
04/15/14 at 09:44:53

TSR Signing Reports: 350
R5 - Desired TAT

MDL/RDL; CDG, not CDICP for GW

Sample: L692222-01 Account: PIEGEO Received: 04/05/14 09:30 Due Date: 04/11/14 00:00 RPT Date: 04/15/14 09:34
V8260AP9 = V8260 + 1,4-Dioxane (Report 14D to MDL)

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Level II

L692222

April 15, 2014

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Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
1,1,1,2-Tetrachloroethane	< .001	mg/l			WG715889	04/13/14 13:02
1,1,1-Trichloroethane	< .001	mg/l			WG715889	04/13/14 13:02
1,1,2,2-Tetrachloroethane	< .001	mg/l			WG715889	04/13/14 13:02
1,1,2-Trichloroethane	< .001	mg/l			WG715889	04/13/14 13:02
1,1-Dichloroethane	< .001	mg/l			WG715889	04/13/14 13:02
1,1-Dichloroethene	< .001	mg/l			WG715889	04/13/14 13:02
1,2,3-Trichloropropane	< .001	mg/l			WG715889	04/13/14 13:02
1,2-Dibromo-3-Chloropropane	< .005	mg/l			WG715889	04/13/14 13:02
1,2-Dichlorobenzene	< .001	mg/l			WG715889	04/13/14 13:02
1,2-Dichloroethane	< .001	mg/l			WG715889	04/13/14 13:02
1,3-Dichlorobenzene	< .001	mg/l			WG715889	04/13/14 13:02
1,4-Dichlorobenzene	< .001	mg/l			WG715889	04/13/14 13:02
2-Butanone (MEK)	< .01	mg/l			WG715889	04/13/14 13:02
2-Hexanone	< .01	mg/l			WG715889	04/13/14 13:02
4-Methyl-2-pentanone (MIBK)	< .01	mg/l			WG715889	04/13/14 13:02
Acetone	< .05	mg/l			WG715889	04/13/14 13:02
Acetonitrile	< .05	mg/l			WG715889	04/13/14 13:02
Acrolein	< .025	mg/l			WG715889	04/13/14 13:02
Acrylonitrile	< .01	mg/l			WG715889	04/13/14 13:02
Allyl chloride	< .005	mg/l			WG715889	04/13/14 13:02
Bromodichloromethane	< .001	mg/l			WG715889	04/13/14 13:02
Bromoform	< .001	mg/l			WG715889	04/13/14 13:02
Bromomethane	< .005	mg/l			WG715889	04/13/14 13:02
Carbon disulfide	< .001	mg/l			WG715889	04/13/14 13:02
Chlorobenzene	< .001	mg/l			WG715889	04/13/14 13:02
Chlorodibromomethane	< .001	mg/l			WG715889	04/13/14 13:02
Chloroethane	< .005	mg/l			WG715889	04/13/14 13:02
Chloromethane	< .0025	mg/l			WG715889	04/13/14 13:02
Chloroprene	< .05	mg/l			WG715889	04/13/14 13:02
cis-1,2-Dichloroethene	< .001	mg/l			WG715889	04/13/14 13:02
cis-1,3-Dichloropropene	< .001	mg/l			WG715889	04/13/14 13:02
Dibromomethane	< .001	mg/l			WG715889	04/13/14 13:02
Dichlorodifluoromethane	< .005	mg/l			WG715889	04/13/14 13:02
Ethyl methacrylate	< .005	mg/l			WG715889	04/13/14 13:02
Ethylbenzene	< .001	mg/l			WG715889	04/13/14 13:02
Iodomethane	< .01	mg/l			WG715889	04/13/14 13:02
Isobutanol	< .1	mg/l			WG715889	04/13/14 13:02
Methacrylonitrile	< .05	mg/l			WG715889	04/13/14 13:02
Methyl methacrylate	< .005	mg/l			WG715889	04/13/14 13:02
Pentachloroethane	< .005	mg/l			WG715889	04/13/14 13:02
Propionitrile	< .05	mg/l			WG715889	04/13/14 13:02
Styrene	< .001	mg/l			WG715889	04/13/14 13:02
Tetrachloroethene	< .001	mg/l			WG715889	04/13/14 13:02
Toluene	< .005	mg/l			WG715889	04/13/14 13:02
trans-1,2-Dichloroethene	< .001	mg/l			WG715889	04/13/14 13:02
trans-1,3-Dichloropropene	< .001	mg/l			WG715889	04/13/14 13:02
trans-1,4-Dichloro-2-butene	< .0025	mg/l			WG715889	04/13/14 13:02
Trichlorofluoromethane	< .005	mg/l			WG715889	04/13/14 13:02
Vinyl acetate	< .01	mg/l			WG715889	04/13/14 13:02
Vinyl chloride	< .001	mg/l			WG715889	04/13/14 13:02
Xylenes, Total	< .003	mg/l			WG715889	04/13/14 13:02
4-Bromofluorobenzene		% Rec.	99.80	71-126	WG715889	04/13/14 13:02
Dibromofluoromethane		% Rec.	93.00	78.3-121	WG715889	04/13/14 13:02
Toluene-d8		% Rec.	98.10	88.5-111	WG715889	04/13/14 13:02
a,a,a-Trifluorotoluene		% Rec.	99.80	85-114	WG715889	04/13/14 13:02
1,2-Dibromoethane	< .001	mg/l			WG715586	04/14/14 12:22
1,2-Dichloropropane	< .001	mg/l			WG715586	04/14/14 12:22

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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Level II

L692222

April 15, 2014

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Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
Benzene	< .001	mg/l			WG715586	04/14/14 12:22
Carbon tetrachloride	< .001	mg/l			WG715586	04/14/14 12:22
Chloroform	< .005	mg/l			WG715586	04/14/14 12:22
Methylene Chloride	< .005	mg/l			WG715586	04/14/14 12:22
Trichloroethene	< .001	mg/l			WG715586	04/14/14 12:22
4-Bromofluorobenzene		% Rec.	90.40	71-126	WG715586	04/14/14 12:22
Dibromofluoromethane		% Rec.	103.0	78.3-121	WG715586	04/14/14 12:22
Toluene-d8		% Rec.	100.0	88.5-111	WG715586	04/14/14 12:22
a,a,a-Trifluorotoluene		% Rec.	95.10	85-114	WG715586	04/14/14 12:22

Laboratory Control Sample

Analyte	Units	Known Val	Result	% Rec	Limit	Batch
1,1,1,2-Tetrachloroethane	mg/l	.025	0.0231	92.3	74.2-124	WG715889
1,1,1-Trichloroethane	mg/l	.025	0.0228	91.0	73.2-123	WG715889
1,1,2,2-Tetrachloroethane	mg/l	.025	0.0210	83.9	70.7-122	WG715889
1,1,2-Trichloroethane	mg/l	.025	0.0220	88.1	77.7-118	WG715889
1,1-Dichloroethane	mg/l	.025	0.0224	89.6	70.7-126	WG715889
1,1-Dichloroethene	mg/l	.025	0.0235	93.9	67.8-129	WG715889
1,2,3-Trichloropropane	mg/l	.025	0.0217	86.8	71.8-121	WG715889
1,2-Dibromo-3-Chloropropane	mg/l	.025	0.0203	81.0	65.4-128	WG715889
1,2-Dichlorobenzene	mg/l	.025	0.0221	88.3	78.4-117	WG715889
1,2-Dichloroethane	mg/l	.025	0.0206	82.5	68.8-124	WG715889
1,3-Dichlorobenzene	mg/l	.025	0.0227	90.9	70.8-128	WG715889
1,4-Dichlorobenzene	mg/l	.025	0.0223	89.2	78.8-115	WG715889
2-Butanone (MEK)	mg/l	.125	0.109	87.1	55-149	WG715889
2-Hexanone	mg/l	.125	0.105	84.1	65.6-144	WG715889
4-Methyl-2-pentanone (MIBK)	mg/l	.125	0.103	82.4	70.5-133	WG715889
Acetone	mg/l	.125	0.0833	66.6	35.6-163	WG715889
Acrolein	mg/l	.125	0.154	123.	10-190	WG715889
Acrylonitrile	mg/l	.125	0.0987	78.9	55.2-130	WG715889
Bromodichloromethane	mg/l	.025	0.0204	81.4	75.1-116	WG715889
Bromoform	mg/l	.025	0.0205	82.1	67.5-130	WG715889
Bromomethane	mg/l	.025	0.0258	103.	49.9-162	WG715889
Carbon disulfide	mg/l	.025	0.0208	83.0	64.6-140	WG715889
Chlorobenzene	mg/l	.025	0.0229	91.7	78.1-119	WG715889
Chlorodibromomethane	mg/l	.025	0.0212	84.8	74-121	WG715889
Chloroethane	mg/l	.025	0.0228	91.2	61.7-135	WG715889
Chloromethane	mg/l	.025	0.0194	77.7	61.5-129	WG715889
cis-1,2-Dichloroethene	mg/l	.025	0.0220	88.1	76-119	WG715889
cis-1,3-Dichloropropene	mg/l	.025	0.0214	85.6	78.2-120	WG715889
Dibromomethane	mg/l	.025	0.0212	84.7	79.5-118	WG715889
Dichlorodifluoromethane	mg/l	.025	0.0181	72.4	54.8-135	WG715889
Ethylbenzene	mg/l	.025	0.0233	93.0	78.8-122	WG715889
Iodomethane	mg/l	.125	0.113	90.5	61-130	WG715889
Styrene	mg/l	.025	0.0268	107.	80.4-126	WG715889
Tetrachloroethene	mg/l	.025	0.0229	91.7	72.6-126	WG715889
Toluene	mg/l	.025	0.0216	86.6	79.7-116	WG715889
trans-1,2-Dichloroethene	mg/l	.025	0.0217	86.7	72.6-121	WG715889
trans-1,3-Dichloropropene	mg/l	.025	0.0208	83.4	74.3-123	WG715889
trans-1,4-Dichloro-2-butene	mg/l	.025	0.0180	72.2	65.1-123	WG715889
Trichlorofluoromethane	mg/l	.025	0.0231	92.6	63.5-135	WG715889
Vinyl acetate	mg/l	.125	0.104	83.5	65-138	WG715889
Vinyl chloride	mg/l	.025	0.0218	87.2	65.9-128	WG715889
Xylenes, Total	mg/l	.075	0.0695	92.6	78.7-121	WG715889
4-Bromofluorobenzene				97.70	71-126	WG715889
Dibromofluoromethane				97.40	78.3-121	WG715889
Toluene-d8				98.30	88.5-111	WG715889
a,a,a-Trifluorotoluene				99.60	85-114	WG715889

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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Quality Assurance Report
Level II

L692222

April 15, 2014

Analyte	Units	Laboratory Control Sample Known Val	Result	% Rec	Limit	Batch
1,2-Dibromoethane	mg/l	.025	0.0218	87.0	76.6-121	WG715586
1,2-Dichloropropane	mg/l	.025	0.0227	90.6	76.5-119	WG715586
Benzene	mg/l	.025	0.0234	93.5	74.8-121	WG715586
Carbon tetrachloride	mg/l	.025	0.0235	94.1	70.2-123	WG715586
Chloroform	mg/l	.025	0.0229	91.5	76-121	WG715586
Methylene Chloride	mg/l	.025	0.0212	84.7	70.3-120	WG715586
Trichloroethene	mg/l	.025	0.0219	87.6	77.7-118	WG715586
4-Bromofluorobenzene				93.00	71-126	WG715586
Dibromofluoromethane				103.0	78.3-121	WG715586
Toluene-d8				102.0	88.5-111	WG715586
a,a,a-Trifluorotoluene				92.80	85-114	WG715586

Analyte	Units	Laboratory Control Sample Duplicate Result	Ref	%Rec	Limit	RPD	Limit	Batch
1,1,1,2-Tetrachloroethane	mg/l	0.0233	0.0231	93.0	74.2-124	0.820	20	WG715889
1,1,1-Trichloroethane	mg/l	0.0227	0.0228	91.0	73.2-123	0.0800	20	WG715889
1,1,2,2-Tetrachloroethane	mg/l	0.0215	0.0210	86.0	70.7-122	2.30	20	WG715889
1,1,2-Trichloroethane	mg/l	0.0228	0.0220	91.0	77.7-118	3.35	20	WG715889
1,1-Dichloroethane	mg/l	0.0224	0.0224	90.0	70.7-126	0.0400	20	WG715889
1,1-Dichloroethene	mg/l	0.0233	0.0235	93.0	67.8-129	0.780	20	WG715889
1,2,3-Trichloropropane	mg/l	0.0214	0.0217	85.0	71.8-121	1.60	20	WG715889
1,2-Dibromo-3-Chloropropane	mg/l	0.0201	0.0203	80.0	65.4-128	0.850	20	WG715889
1,2-Dichlorobenzene	mg/l	0.0220	0.0221	88.0	78.4-117	0.550	20	WG715889
1,2-Dichloroethane	mg/l	0.0204	0.0206	82.0	68.8-124	1.10	20	WG715889
1,3-Dichlorobenzene	mg/l	0.0227	0.0227	91.0	70.8-128	0.0500	20	WG715889
1,4-Dichlorobenzene	mg/l	0.0222	0.0223	89.0	78.8-115	0.630	20	WG715889
2-Butanone (MEK)	mg/l	0.110	0.109	88.0	55-149	1.09	20	WG715889
2-Hexanone	mg/l	0.107	0.105	86.0	65.6-144	2.12	20	WG715889
4-Methyl-2-pentanone (MIBK)	mg/l	0.105	0.103	84.0	70.5-133	2.20	20	WG715889
Acetone	mg/l	0.0817	0.0833	65.0	35.6-163	1.86	23.9	WG715889
Acrolein	mg/l	0.147	0.154	117.	10-190	4.73	28.1	WG715889
Acrylonitrile	mg/l	0.0985	0.0987	79.0	55.2-130	0.210	20	WG715889
Bromodichloromethane	mg/l	0.0204	0.0204	82.0	75.1-116	0.310	20	WG715889
Bromoform	mg/l	0.0204	0.0205	82.0	67.5-130	0.430	20	WG715889
Bromomethane	mg/l	0.0248	0.0258	99.0	49.9-162	3.78	20	WG715889
Carbon disulfide	mg/l	0.0209	0.0208	84.0	64.6-140	0.620	20	WG715889
Chlorobenzene	mg/l	0.0232	0.0229	93.0	78.1-119	1.16	20	WG715889
Chlorodibromomethane	mg/l	0.0219	0.0212	87.0	74-121	3.08	20	WG715889
Chloroethane	mg/l	0.0227	0.0228	91.0	61.7-135	0.240	20	WG715889
Chloromethane	mg/l	0.0194	0.0194	78.0	61.5-129	0.0300	20	WG715889
cis-1,2-Dichloroethene	mg/l	0.0221	0.0220	88.0	76-119	0.180	20	WG715889
cis-1,3-Dichloropropene	mg/l	0.0217	0.0214	87.0	78.2-120	1.29	20	WG715889
Dibromomethane	mg/l	0.0213	0.0212	85.0	79.5-118	0.400	20	WG715889
Dichlorodifluoromethane	mg/l	0.0177	0.0181	71.0	54.8-135	2.25	20	WG715889
Ethylbenzene	mg/l	0.0237	0.0233	95.0	78.8-122	1.78	20	WG715889
Iodomethane	mg/l	0.116	0.113	93.0	61-130	2.69	20	WG715889
Styrene	mg/l	0.0272	0.0268	109.	80.4-126	1.55	20	WG715889
Tetrachloroethene	mg/l	0.0231	0.0229	92.0	72.6-126	0.760	20	WG715889
Toluene	mg/l	0.0216	0.0216	86.0	79.7-116	0.0500	20	WG715889
trans-1,2-Dichloroethene	mg/l	0.0217	0.0217	87.0	72.6-121	0.0900	20	WG715889
trans-1,3-Dichloropropene	mg/l	0.0209	0.0208	83.0	74.3-123	0.100	20	WG715889
trans-1,4-Dichloro-2-butene	mg/l	0.0183	0.0180	73.0	65.1-123	1.55	20	WG715889
Trichlorofluoromethane	mg/l	0.0230	0.0231	92.0	63.5-135	0.710	20	WG715889
Vinyl acetate	mg/l	0.104	0.104	83.0	65-138	0.300	20	WG715889
Vinyl chloride	mg/l	0.0210	0.0218	84.0	65.9-128	3.58	20	WG715889
Xylenes, Total	mg/l	0.0704	0.0695	94.0	78.7-121	1.29	20	WG715889
4-Bromofluorobenzene				98.30	71-126			WG715889
Dibromofluoromethane				93.50	78.3-121			WG715889

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Quality Assurance Report
Level II

L692222

April 15, 2014

Analyte	Units	Laboratory Control Sample Duplicate Result	Ref	%Rec	Limit	RPD	Limit	Batch
Toluene-d8				97.90	88.5-111			
a,a,a-Trifluorotoluene				100.0	85-114			
1,2-Dibromoethane	mg/l	0.0240	0.0218	96.0	76.6-121	9.77	20	WG715586
1,2-Dichloropropane	mg/l	0.0248	0.0227	99.0	76.5-119	9.05	20	WG715586
Benzene	mg/l	0.0255	0.0234	102.	74.8-121	8.63	20	WG715586
Carbon tetrachloride	mg/l	0.0259	0.0235	103.	70.2-123	9.53	20	WG715586
Chloroform	mg/l	0.0251	0.0229	100.	76-121	9.19	20	WG715586
Methylene Chloride	mg/l	0.0235	0.0212	94.0	70.3-120	10.5	20	WG715586
Trichloroethene	mg/l	0.0236	0.0219	94.0	77.7-118	7.69	20	WG715586
4-Bromofluorobenzene				93.30	71-126			WG715586
Dibromofluoromethane				101.0	78.3-121			WG715586
Toluene-d8				100.0	88.5-111			WG715586
a,a,a-Trifluorotoluene				93.50	85-114			WG715586

Analyte	Units	Matrix Spike MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
1,1,1,2-Tetrachloroethane	mg/l	0.0231	0.0	.025	92.0	64-128	L692225-04	WG715889
1,1,1-Trichloroethane	mg/l	0.0251	0.0	.025	100.	58.7-134	L692225-04	WG715889
1,1,2,2-Tetrachloroethane	mg/l	0.000474	0.0	.025	1.90*	56-132	L692225-04	WG715889
1,1,2-Trichloroethane	mg/l	0.0216	0.0	.025	86.0	66.3-125	L692225-04	WG715889
1,1-Dichloroethane	mg/l	0.0232	0.0	.025	93.0	58.5-132	L692225-04	WG715889
1,1-Dichloroethene	mg/l	0.0265	0.0	.025	110.	51.1-140	L692225-04	WG715889
1,2,3-Trichloropropane	mg/l	0.0217	0.0	.025	87.0	61.4-128	L692225-04	WG715889
1,2-Dibromo-3-Chloropropane	mg/l	0.0210	0.0	.025	84.0	57.3-136	L692225-04	WG715889
1,2-Dichlorobenzene	mg/l	0.0219	0.0	.025	88.0	68.2-123	L692225-04	WG715889
1,2-Dichloroethane	mg/l	0.0211	0.0	.025	85.0	60-126	L692225-04	WG715889
1,3-Dichlorobenzene	mg/l	0.0232	0.0	.025	93.0	63.1-131	L692225-04	WG715889
1,4-Dichlorobenzene	mg/l	0.0228	0.0	.025	91.0	68.6-123	L692225-04	WG715889
2-Butanone (MEK)	mg/l	0.157	0.00629	.125	120.	22.4-138	L692225-04	WG715889
2-Hexanone	mg/l	0.140	0.000673	.125	110.	43.3-137	L692225-04	WG715889
4-Methyl-2-pentanone (MIBK)	mg/l	0.116	0.00277	.125	90.0	60.8-140	L692225-04	WG715889
Acetone	mg/l	0.224	0.0321	.125	150.*	10-130	L692225-04	WG715889
Acrolein	mg/l	0.168	0.0	.125	130.	10-200	L692225-04	WG715889
Acrylonitrile	mg/l	0.107	0.000683	.125	85.0	49.4-133	L692225-04	WG715889
Bromodichloromethane	mg/l	0.0204	0.0	.025	82.0	63.9-121	L692225-04	WG715889
Bromoform	mg/l	0.0216	0.0	.025	86.0	59.5-134	L692225-04	WG715889
Bromomethane	mg/l	0.0268	0.0	.025	110.	41.7-155	L692225-04	WG715889
Carbon disulfide	mg/l	0.0224	0.0	.025	90.0	43.3-149	L692225-04	WG715889
Chlorobenzene	mg/l	0.0232	0.0	.025	93.0	67-125	L692225-04	WG715889
Chlorodibromomethane	mg/l	0.0211	0.0	.025	84.0	64.3-125	L692225-04	WG715889
Chloroethane	mg/l	0.0240	0.0	.025	96.0	51.5-136	L692225-04	WG715889
Chloromethane	mg/l	0.0220	0.0	.025	88.0	42.4-135	L692225-04	WG715889
cis-1,2-Dichloroethene	mg/l	0.0230	0.0	.025	92.0	59.2-129	L692225-04	WG715889
cis-1,3-Dichloropropene	mg/l	0.0218	0.0	.025	87.0	66.4-125	L692225-04	WG715889
Dibromomethane	mg/l	0.0218	0.0	.025	87.0	68.2-124	L692225-04	WG715889
Dichlorodifluoromethane	mg/l	0.0211	0.0	.025	84.0	40.6-144	L692225-04	WG715889
Ethylbenzene	mg/l	0.0245	0.000638	.025	96.0	61.4-133	L692225-04	WG715889
Iodomethane	mg/l	0.121	0.0	.125	97.0	49.7-132	L692225-04	WG715889
Styrene	mg/l	0.0268	0.0	.025	110.	66.8-133	L692225-04	WG715889
Tetrachloroethene	mg/l	0.0258	0.00109	.025	99.0	53-139	L692225-04	WG715889
Toluene	mg/l	0.0230	0.000798	.025	89.0	61.4-130	L692225-04	WG715889
trans-1,2-Dichloroethene	mg/l	0.0232	0.0	.025	93.0	56.5-129	L692225-04	WG715889
trans-1,3-Dichloropropene	mg/l	0.0210	0.0	.025	84.0	64.1-128	L692225-04	WG715889
trans-1,4-Dichloro-2-butene	mg/l	0.0195	0.0	.025	78.0	57.1-130	L692225-04	WG715889
Trichlorofluoromethane	mg/l	0.0272	0.0	.025	110.	49.6-145	L692225-04	WG715889
Vinyl acetate	mg/l	0.0	0.0	.125	0.0*	56.1-149	L692225-04	WG715889
Vinyl chloride	mg/l	0.0246	0.0	.025	98.0	47.8-137	L692225-04	WG715889
Xylenes, Total	mg/l	0.0745	0.00352	.075	95.0	63.3-131	L692225-04	WG715889

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Level II

L692222

April 15, 2014

Analyte	Units	MS Res	Matrix Spike Ref Res	TV	% Rec	Limit	Ref Samp	Batch
4-Bromofluorobenzene					98.50	71-126		
Dibromofluoromethane					74.70*	78.3-121		
Toluene-d8					98.30	88.5-111		
a,a,a-Trifluorotoluene					100.0	85-114		
1,2-Dibromoethane	mg/l	0.0228	0.0	.025	91.0	67.1-125	L692965-03	WG715586
1,2-Dichloropropane	mg/l	0.0233	0.0	.025	93.0	64.2-123	L692965-03	WG715586
Benzene	mg/l	0.0254	0.00179	.025	94.0	54.3-133	L692965-03	WG715586
Carbon tetrachloride	mg/l	0.0243	0.0	.025	97.0	55.7-134	L692965-03	WG715586
Chloroform	mg/l	0.0245	0.0	.025	98.0	63-129	L692965-03	WG715586
Methylene Chloride	mg/l	0.0215	0.0	.025	86.0	58.1-122	L692965-03	WG715586
Trichloroethene	mg/l	0.0714	0.0566	.025	59.0	44.1-149	L692965-03	WG715586
4-Bromofluorobenzene					89.00	71-126		WG715586
Dibromofluoromethane					102.0	78.3-121		WG715586
Toluene-d8					98.70	88.5-111		WG715586
a,a,a-Trifluorotoluene					92.40	85-114		WG715586

Analyte	Units	MSD	Matrix Spike Duplicate Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
1,1,1,2-Tetrachloroethane	mg/l	0.0233	0.0231	93.4	64-128	0.940	20	L692225-04	WG715889
1,1,1-Trichloroethane	mg/l	0.0262	0.0251	105.	58.7-134	4.27	20	L692225-04	WG715889
1,1,2,2-Tetrachloroethane	mg/l	0.000675	0.000474	2.70*	56-132	35.1*	22.2	L692225-04	WG715889
1,1,2-Trichloroethane	mg/l	0.0216	0.0216	86.4	66.3-125	0.0400	20	L692225-04	WG715889
1,1-Dichloroethane	mg/l	0.0244	0.0232	97.6	58.5-132	4.97	20	L692225-04	WG715889
1,1-Dichloroethene	mg/l	0.0282	0.0265	113.	51.1-140	6.13	20.2	L692225-04	WG715889
1,2,3-Trichloropropane	mg/l	0.0220	0.0217	88.2	61.4-128	1.54	22.4	L692225-04	WG715889
1,2-Dibromo-3-Chloropropane	mg/l	0.0213	0.0210	85.2	57.3-136	1.60	27	L692225-04	WG715889
1,2-Dichlorobenzene	mg/l	0.0229	0.0219	91.6	68.2-123	4.48	20	L692225-04	WG715889
1,2-Dichloroethane	mg/l	0.0223	0.0211	89.2	60-126	5.27	20	L692225-04	WG715889
1,3-Dichlorobenzene	mg/l	0.0235	0.0232	94.2	63.1-131	1.49	20	L692225-04	WG715889
1,4-Dichlorobenzene	mg/l	0.0235	0.0228	94.1	68.6-123	3.32	20	L692225-04	WG715889
2-Butanone (MEK)	mg/l	0.161	0.157	124.	22.4-138	2.81	27	L692225-04	WG715889
2-Hexanone	mg/l	0.141	0.140	112.	43.3-137	1.06	25.5	L692225-04	WG715889
4-Methyl-2-pentanone (MIBK)	mg/l	0.117	0.116	91.0	60.8-140	0.660	25.1	L692225-04	WG715889
Acetone	mg/l	0.227	0.224	156.*	10-130	1.28	27.9	L692225-04	WG715889
Acrolein	mg/l	0.163	0.168	130.	10-200	3.13	27.7	L692225-04	WG715889
Acrylonitrile	mg/l	0.111	0.107	88.3	49.4-133	3.80	25.3	L692225-04	WG715889
Bromodichloromethane	mg/l	0.0204	0.0204	81.4	63.9-121	0.440	20	L692225-04	WG715889
Bromoform	mg/l	0.0213	0.0216	85.4	59.5-134	1.05	20.5	L692225-04	WG715889
Bromomethane	mg/l	0.0274	0.0268	110.	41.7-155	2.11	21.9	L692225-04	WG715889
Carbon disulfide	mg/l	0.0233	0.0224	93.2	43.3-149	3.74	20.3	L692225-04	WG715889
Chlorobenzene	mg/l	0.0233	0.0232	93.3	67-125	0.710	20	L692225-04	WG715889
Chlorodibromomethane	mg/l	0.0215	0.0211	86.1	64.3-125	2.04	20.8	L692225-04	WG715889
Chloroethane	mg/l	0.0245	0.0240	98.1	51.5-136	2.36	40	L692225-04	WG715889
Chloromethane	mg/l	0.0230	0.0220	92.1	42.4-135	4.72	20	L692225-04	WG715889
cis-1,2-Dichloroethene	mg/l	0.0240	0.0230	96.2	59.2-129	4.36	20	L692225-04	WG715889
cis-1,3-Dichloropropene	mg/l	0.0218	0.0218	87.3	66.4-125	0.150	20	L692225-04	WG715889
Dibromomethane	mg/l	0.0221	0.0218	88.5	68.2-124	1.59	20	L692225-04	WG715889
Dichlorodifluoromethane	mg/l	0.0218	0.0211	87.2	40.6-144	3.20	20.2	L692225-04	WG715889
Ethylbenzene	mg/l	0.0249	0.0245	96.9	61.4-133	1.34	20	L692225-04	WG715889
Iodomethane	mg/l	0.129	0.121	103.	49.7-132	6.49	20	L692225-04	WG715889
Styrene	mg/l	0.0276	0.0268	110.	66.8-133	3.05	20	L692225-04	WG715889
Tetrachloroethene	mg/l	0.0261	0.0258	99.9	53-139	0.850	20	L692225-04	WG715889
Toluene	mg/l	0.0232	0.0230	89.6	61.4-130	0.710	20	L692225-04	WG715889
trans-1,2-Dichloroethene	mg/l	0.0245	0.0232	98.1	56.5-129	5.59	20	L692225-04	WG715889
trans-1,3-Dichloropropene	mg/l	0.0209	0.0210	83.7	64.1-128	0.230	20	L692225-04	WG715889
trans-1,4-Dichloro-2-butene	mg/l	0.0189	0.0195	75.8	57.1-130	3.02	23.9	L692225-04	WG715889
Trichlorofluoromethane	mg/l	0.0276	0.0272	110.	49.6-145	1.40	21.2	L692225-04	WG715889
Vinyl acetate	mg/l	0.0	0.0	0*	56.1-149	0.0	22.7	L692225-04	WG715889

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Analyte	Units	Matrix Spike MSD	Ref	Duplicate %Rec	Limit	RPD	Limit	Ref Samp	Batch
Vinyl chloride	mg/l	0.0256	0.0246	103.	47.8-137	4.25	20	L692225-04	WG715889
Xylenes, Total	mg/l	0.0753	0.0745	95.7	63.3-131	1.11	20	L692225-04	WG715889
4-Bromofluorobenzene				97.20	71-126				WG715889
Dibromofluoromethane				76.30*	78.3-121				WG715889
Toluene-d8				97.50	88.5-111				WG715889
a,a,a-Trifluorotoluene				97.60	85-114				WG715889
1,2-Dibromoethane	mg/l	0.0241	0.0228	96.3	67.1-125	5.46	20	L692965-03	WG715586
1,2-Dichloropropane	mg/l	0.0245	0.0233	98.1	64.2-123	5.22	20	L692965-03	WG715586
Benzene	mg/l	0.0256	0.0254	95.2	54.3-133	0.690	20	L692965-03	WG715586
Carbon tetrachloride	mg/l	0.0248	0.0243	99.3	55.7-134	2.10	20	L692965-03	WG715586
Chloroform	mg/l	0.0245	0.0245	97.9	63-129	0.0	20	L692965-03	WG715586
Methylene Chloride	mg/l	0.0223	0.0215	89.1	58.1-122	3.73	20	L692965-03	WG715586
Trichloroethene	mg/l	0.0743	0.0714	70.8	44.1-149	4.02	20	L692965-03	WG715586
4-Bromofluorobenzene				92.30	71-126				WG715586
Dibromofluoromethane				99.60	78.3-121				WG715586
Toluene-d8				100.0	88.5-111				WG715586
a,a,a-Trifluorotoluene				94.60	85-114				WG715586

Batch number /Run number / Sample number cross reference

WG715889: R2904235: L692222-01
WG715586: R2904525: L692222-01

* * Calculations are performed prior to rounding of reported values.
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The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.

Piedmont Geologic

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Billing Information:
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Raleigh, NC 27607

Report to: Mr. Pete Dressel

Email To: pjdressel@piedmontgeologic.com

Project Description: NCSU Lot 86 - Water Treatment System Mon

City/State Collected: Raleigh, NC

Phone: 919-854-9700
Fax: 919-854-9532

Client Project # 1247

Lab Project # PIEGEO-NCSU LOT 86

Collected by (print): Geoffrey Murphey

Site/Facility ID # RALEIGH, NC

P.O. # 1347

Collected by (signature): [signature]

Immediately Packed on Ice N ___ Y ✓

Rush? (Lab MUST Be Notified)
___ Same Day 200%
___ Next Day 100%
___ Two Day 50%
___ Three Day 25%

Date Results Needed

Email? ___No X__Yes
FAX? ___No ___Yes

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	V8260AP9 40mlAmb-HCl									Rem./Contaminant	Sample # (lab only)
GWE INFLUENT	Grab	GW		4/3/14	1115	2	X										-01

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other_____

Remarks:V8260AP9 = V8260 + 1,4-Dioxane (Report 14D to MDL)
Quote PIEGEO080513S

pH _____ Temp _____
Flow _____ Other _____

5851 4720 6843

Hold #

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
[signature]	4/3/14	14:35	[signature]
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)
[signature]	4/4/14	16:05	[signature]

Samples returned via: ☐ UPS ☒ FedEx ☐ Courier ☐ _____

Temp: 2.8 °C Bottles Received: 2 VP+TB

Date: 4/5/14 Time: 0930

Condition: (lab use only) JR

COC Seal Intact: ✓Y ___N ___NA

pH Checked: NCF:

Chain of Custody Page 1 of 1

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L# L692222

C076

Acctnum: PIEGEO
Template: T82911
Prelogin: P463286
TSR: 350 - Jimmy Hunt
PB: 3-27 MS
Shipped Via: FedEx Ground

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Mr. Pete Dressel
Piedmont Geologic
6003 Chapel Hill Road Suite 145
Raleigh, NC 27607

Report Summary

Wednesday May 21, 2014

Report Number: L698793
Samples Received: 05/14/14
Client Project: 1447

Description: NCSU Lot 86 - Water Treatment System Monitoring

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By: Alan Harvill

T. Alan Harvill , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197, FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704/BIO041, ND - R-140. NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1, TX - T104704245-11-3, OK - 9915, PA - 68-02979, IA Lab #364, EPA - TN002

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

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Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

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REPORT OF ANALYSIS

Mr. Pete Dressel
Piedmont Geologic
6003 Chapel Hill Road Suite 145
Raleigh, NC 27607

May 21, 2014

ESC Sample # : L698793-01

Site ID : RALEIGH, NC

Project # : 1447

Date Received : May 14, 2014
Description : NCSU Lot 86 - Water Treatment System Monitoring

Sample ID : GWE INFLUENT

Collected By : P. Dressel
Collection Date : 05/12/14 12:02

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Volatile Organics								
Acetone	430	10.	50.	ug/l		8260B	05/21/14	1
Acrolein	U	8.9	50.	ug/l		8260B	05/21/14	1
Acrylonitrile	U	1.9	10.	ug/l		8260B	05/21/14	1
Benzene	800	33.	100	ug/l		8260B	05/21/14	100
Bromodichloromethane	91.	0.38	1.0	ug/l		8260B	05/21/14	1
Bromoform	3.7	0.47	1.0	ug/l		8260B	05/21/14	1
Bromomethane	U	0.87	5.0	ug/l		8260B	05/21/14	1
Carbon disulfide	1.3	0.28	1.0	ug/l		8260B	05/21/14	1
Carbon tetrachloride	170	0.38	1.0	ug/l		8260B	05/21/14	1
Chlorobenzene	26.	0.35	1.0	ug/l		8260B	05/21/14	1
Chlorodibromomethane	0.52	0.33	1.0	ug/l	J	8260B	05/21/14	1
Chloroethane	U	0.45	5.0	ug/l		8260B	05/21/14	1
Chloroform	12000	32.	500	ug/l		8260B	05/21/14	100
Chloromethane	U	0.28	2.5	ug/l		8260B	05/21/14	1
1,2-Dibromoethane	890	38.	100	ug/l		8260B	05/21/14	100
1,2-Dibromo-3-Chloropropane	190	1.3	5.0	ug/l		8260B	05/21/14	1
Dibromomethane	0.50	0.35	1.0	ug/l	J	8260B	05/21/14	1
1,2-Dichlorobenzene	7.8	0.35	1.0	ug/l		8260B	05/21/14	1
1,3-Dichlorobenzene	0.39	0.22	1.0	ug/l	J	8260B	05/21/14	1
1,4-Dichlorobenzene	1.3	0.27	1.0	ug/l		8260B	05/21/14	1
Dichlorodifluoromethane	1.9	0.55	5.0	ug/l	J	8260B	05/21/14	1
1,1-Dichloroethane	4.5	0.26	1.0	ug/l		8260B	05/21/14	1
1,2-Dichloroethane	70.	0.36	1.0	ug/l		8260B	05/21/14	1
1,1-Dichloroethene	4.1	0.40	1.0	ug/l		8260B	05/21/14	1
cis-1,2-Dichloroethene	0.99	0.26	1.0	ug/l	J	8260B	05/21/14	1
trans-1,2-Dichloroethene	U	0.40	1.0	ug/l		8260B	05/21/14	1
1,2-Dichloropropane	2200	31.	100	ug/l		8260B	05/21/14	100
cis-1,3-Dichloropropene	U	0.42	1.0	ug/l	J4	8260B	05/21/14	1
trans-1,3-Dichloropropene	U	0.42	1.0	ug/l	J4	8260B	05/21/14	1
Ethylbenzene	15.	0.38	1.0	ug/l		8260B	05/21/14	1
2-Hexanone	U	3.8	10.	ug/l		8260B	05/21/14	1
Iodomethane	U	1.7	10.	ug/l		8260B	05/21/14	1
2-Butanone (MEK)	60.	3.9	10.	ug/l		8260B	05/21/14	1
Methylene Chloride	1500	100	500	ug/l		8260B	05/21/14	100
4-Methyl-2-pentanone (MIBK)	190	2.1	10.	ug/l		8260B	05/21/14	1
Pentachloroethane	U	3.6	5.0	ug/l		8260B	05/21/14	1
Styrene	1.0	0.31	1.0	ug/l		8260B	05/21/14	1
1,1,2,2-Tetrachloroethane	24.	0.58	1.0	ug/l		8260B	05/21/14	1
1,1,1,2-Tetrachloroethane	U	0.38	1.0	ug/l		8260B	05/21/14	1
Tetrachloroethene	61.	0.37	1.0	ug/l		8260B	05/21/14	1
Toluene	97.	0.78	5.0	ug/l		8260B	05/21/14	1
1,1,1-Trichloroethane	0.83	0.32	1.0	ug/l	J	8260B	05/21/14	1

U = ND (Not Detected)
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL
MDL = Minimum Detection Limit = LOD = TRRP SDL
Note:
The reported analytical results relate only to the sample submitted.
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REPORT OF ANALYSIS

Mr. Pete Dressel
Piedmont Geologic
6003 Chapel Hill Road Suite 145
Raleigh, NC 27607

May 21, 2014

ESC Sample # : L698793-01

Site ID : RALEIGH, NC

Project # : 1447

Date Received : May 14, 2014
Description : NCSU Lot 86 - Water Treatment System Monitoring

Sample ID : GWE INFLUENT

Collected By : P. Dressel
Collection Date : 05/12/14 12:02

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
1,1,2-Trichloroethane	150	0.38	1.0	ug/l		8260B	05/21/14	1
Trichloroethene	300	40.	100	ug/l		8260B	05/21/14	100
Trichlorofluoromethane	2.0	1.2	5.0	ug/l	J	8260B	05/21/14	1
1,2,3-Trichloropropane	73.	0.81	2.5	ug/l		8260B	05/21/14	1
Vinyl acetate	U	1.6	10.	ug/l		8260B	05/21/14	1
Vinyl chloride	0.60	0.26	1.0	ug/l	J	8260B	05/21/14	1
Xylenes, Total	75.	1.1	3.0	ug/l		8260B	05/21/14	1
Acetonitrile	35.	15.	50	ug/l	J	8260B	05/21/14	1
Allyl chloride	U	1.7	5.0	ug/l		8260B	05/21/14	1
Chloroprene	U	1.7	50.	ug/l		8260B	05/21/14	1
trans-1,4-Dichloro-2-butene	U	0.87	2.5	ug/l		8260B	05/21/14	1
Isobutanol	U	39.	100	ug/l		8260B	05/21/14	1
1,4-Dioxane	1500	36.	100	ug/l		8260B	05/21/14	1
Methacrylonitrile	U	13.	50.	ug/l		8260B	05/21/14	1
Methyl methacrylate	U	1.2	5.0	ug/l		8260B	05/21/14	1
Ethyl methacrylate	U	1.4	5.0	ug/l		8260B	05/21/14	1
Propionitrile	U	13.	50.	ug/l		8260B	05/21/14	1
Surrogate Recovery								
Toluene-d8	99.7			% Rec.		8260B	05/21/14	1
Dibromofluoromethane	91.1			% Rec.		8260B	05/21/14	1
a,a,a-Trifluorotoluene	96.3			% Rec.		8260B	05/21/14	1
4-Bromofluorobenzene	81.7			% Rec.		8260B	05/21/14	1

U = ND (Not Detected)
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL
MDL = Minimum Detection Limit = LOD = TRRP SDL
Note:
The reported analytical results relate only to the sample submitted.
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Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L698793-01	WG721982	SAMP	Chlorodibromomethane	R2925354	J
	WG721982	SAMP	Dibromomethane	R2925354	J
	WG721982	SAMP	1,3-Dichlorobenzene	R2925354	J
	WG721982	SAMP	Dichlorodifluoromethane	R2925354	J
	WG721982	SAMP	cis-1,2-Dichloroethene	R2925354	J
	WG721982	SAMP	cis-1,3-Dichloropropene	R2925354	J4
	WG721982	SAMP	trans-1,3-Dichloropropene	R2925354	J4
	WG721982	SAMP	1,1,1-Trichloroethane	R2925354	J
	WG721982	SAMP	Trichlorofluoromethane	R2925354	J
	WG721982	SAMP	Vinyl chloride	R2925354	J
	WG721982	SAMP	Acetonitrile	R2925354	J

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J	(EPA) - Estimated value below the lowest calibration point. Confidence correlates with concentration.
J4	The associated batch QC was outside the established quality control range for accuracy.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods,it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.

Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Differrence.

Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromotography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.

TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

Summary of Remarks For Samples Printed
05/21/14 at 16:08:27

TSR Signing Reports: 350
R5 - Desired TAT

MDL/RDL; CDG, not CDICP for GW

Sample: L698793-01 Account: PIEGEO Received: 05/14/14 09:30 Due Date: 05/21/14 00:00 RPT Date: 05/21/14 16:08
V8260AP9 = V8260 + 1,4-Dioxane (Report 14D to MDL)

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6003 Chapel Hill Road Suite 145

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Quality Assurance Report
Level II

L698793

May 21, 2014

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
1,1,1,2-Tetrachloroethane	< .001	mg/l			WG721982	05/20/14 22:35
1,1,1-Trichloroethane	< .001	mg/l			WG721982	05/20/14 22:35
1,1,2,2-Tetrachloroethane	< .001	mg/l			WG721982	05/20/14 22:35
1,1,2-Trichloroethane	< .001	mg/l			WG721982	05/20/14 22:35
1,1-Dichloroethane	< .001	mg/l			WG721982	05/20/14 22:35
1,1-Dichloroethene	< .001	mg/l			WG721982	05/20/14 22:35
1,2,3-Trichloropropane	< .001	mg/l			WG721982	05/20/14 22:35
1,2-Dibromo-3-Chloropropane	< .005	mg/l			WG721982	05/20/14 22:35
1,2-Dichlorobenzene	< .001	mg/l			WG721982	05/20/14 22:35
1,2-Dichloroethane	< .001	mg/l			WG721982	05/20/14 22:35
1,3-Dichlorobenzene	< .001	mg/l			WG721982	05/20/14 22:35
1,4-Dichlorobenzene	< .001	mg/l			WG721982	05/20/14 22:35
1,4-Dioxane	< .1	mg/l			WG721982	05/20/14 22:35
2-Butanone (MEK)	< .01	mg/l			WG721982	05/20/14 22:35
2-Hexanone	< .01	mg/l			WG721982	05/20/14 22:35
4-Methyl-2-pentanone (MIBK)	< .01	mg/l			WG721982	05/20/14 22:35
Acetone	< .05	mg/l			WG721982	05/20/14 22:35
Acetonitrile	< .05	mg/l			WG721982	05/20/14 22:35
Acrolein	< .025	mg/l			WG721982	05/20/14 22:35
Acrylonitrile	< .01	mg/l			WG721982	05/20/14 22:35
Allyl chloride	< .005	mg/l			WG721982	05/20/14 22:35
Bromodichloromethane	< .001	mg/l			WG721982	05/20/14 22:35
Bromoform	< .001	mg/l			WG721982	05/20/14 22:35
Bromomethane	< .005	mg/l			WG721982	05/20/14 22:35
Carbon disulfide	< .001	mg/l			WG721982	05/20/14 22:35
Carbon tetrachloride	< .001	mg/l			WG721982	05/20/14 22:35
Chlorobenzene	< .001	mg/l			WG721982	05/20/14 22:35
Chlorodibromomethane	< .001	mg/l			WG721982	05/20/14 22:35
Chloroethane	< .005	mg/l			WG721982	05/20/14 22:35
Chloromethane	< .0025	mg/l			WG721982	05/20/14 22:35
Chloroprene	< .05	mg/l			WG721982	05/20/14 22:35
cis-1,2-Dichloroethene	< .001	mg/l			WG721982	05/20/14 22:35
cis-1,3-Dichloropropene	< .001	mg/l			WG721982	05/20/14 22:35
Dibromomethane	< .001	mg/l			WG721982	05/20/14 22:35
Dichlorodifluoromethane	< .005	mg/l			WG721982	05/20/14 22:35
Ethyl methacrylate	< .005	mg/l			WG721982	05/20/14 22:35
Ethylbenzene	< .001	mg/l			WG721982	05/20/14 22:35
Iodomethane	< .01	mg/l			WG721982	05/20/14 22:35
Isobutanol	< .1	mg/l			WG721982	05/20/14 22:35
Methacrylonitrile	< .05	mg/l			WG721982	05/20/14 22:35
Methyl methacrylate	< .005	mg/l			WG721982	05/20/14 22:35
Pentachloroethane	< .005	mg/l			WG721982	05/20/14 22:35
Propionitrile	< .05	mg/l			WG721982	05/20/14 22:35
Styrene	< .001	mg/l			WG721982	05/20/14 22:35
Tetrachloroethene	< .001	mg/l			WG721982	05/20/14 22:35
Toluene	< .005	mg/l			WG721982	05/20/14 22:35
trans-1,2-Dichloroethene	< .001	mg/l			WG721982	05/20/14 22:35
trans-1,3-Dichloropropene	< .001	mg/l			WG721982	05/20/14 22:35
trans-1,4-Dichloro-2-butene	< .0025	mg/l			WG721982	05/20/14 22:35
Trichlorofluoromethane	< .005	mg/l			WG721982	05/20/14 22:35
Vinyl acetate	< .01	mg/l			WG721982	05/20/14 22:35
Vinyl chloride	< .001	mg/l			WG721982	05/20/14 22:35
Xylenes, Total	< .003	mg/l			WG721982	05/20/14 22:35
4-Bromofluorobenzene		% Rec.	86.90	71-126	WG721982	05/20/14 22:35
Dibromofluoromethane		% Rec.	92.70	78.3-121	WG721982	05/20/14 22:35
Toluene-d8		% Rec.	103.0	88.5-111	WG721982	05/20/14 22:35
a,a,a-Trifluorotoluene		% Rec.	98.20	85-114	WG721982	05/20/14 22:35

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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Raleigh, NC 27607

Quality Assurance Report
Level II

L698793

May 21, 2014

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
1,2-Dibromoethane	< .001	mg/l			WG722115	05/21/14 10:33
1,2-Dichloropropane	< .001	mg/l			WG722115	05/21/14 10:33
Benzene	< .001	mg/l			WG722115	05/21/14 10:33
Chloroform	< .005	mg/l			WG722115	05/21/14 10:33
Methylene Chloride	< .005	mg/l			WG722115	05/21/14 10:33
Trichloroethene	< .001	mg/l			WG722115	05/21/14 10:33
4-Bromofluorobenzene		% Rec.	107.0	71-126	WG722115	05/21/14 10:33
Dibromofluoromethane		% Rec.	103.0	78.3-121	WG722115	05/21/14 10:33
Toluene-d8		% Rec.	102.0	88.5-111	WG722115	05/21/14 10:33
a,a,a-Trifluorotoluene		% Rec.	104.0	85-114	WG722115	05/21/14 10:33

Laboratory Control Sample

Analyte	Units	Known Val	Result	% Rec	Limit	Batch
1,1,1,2-Tetrachloroethane	mg/l	.025	0.0208	83.4	74.2-124	WG721982
1,1,1-Trichloroethane	mg/l	.025	0.0212	84.6	73.2-123	WG721982
1,1,2,2-Tetrachloroethane	mg/l	.025	0.0228	91.1	70.7-122	WG721982
1,1,2-Trichloroethane	mg/l	.025	0.0224	89.5	77.7-118	WG721982
1,1-Dichloroethane	mg/l	.025	0.0230	92.1	70.7-126	WG721982
1,1-Dichloroethene	mg/l	.025	0.0220	88.1	67.8-129	WG721982
1,2,3-Trichloropropane	mg/l	.025	0.0203	81.1	71.8-121	WG721982
1,2-Dibromo-3-Chloropropane	mg/l	.025	0.0268	107.	65.4-128	WG721982
1,2-Dichlorobenzene	mg/l	.025	0.0240	96.2	78.4-117	WG721982
1,2-Dichloroethane	mg/l	.025	0.0228	91.3	68.8-124	WG721982
1,3-Dichlorobenzene	mg/l	.025	0.0210	84.0	70.8-128	WG721982
1,4-Dichlorobenzene	mg/l	.025	0.0235	93.8	78.8-115	WG721982
2-Butanone (MEK)	mg/l	.125	0.132	106.	55-149	WG721982
2-Hexanone	mg/l	.125	0.146	117.	65.6-144	WG721982
4-Methyl-2-pentanone (MIBK)	mg/l	.125	0.147	118.	70.5-133	WG721982
Acetone	mg/l	.125	0.112	89.9	35.6-163	WG721982
Acrolein	mg/l	.125	0.129	103.	10-190	WG721982
Acrylonitrile	mg/l	.125	0.124	99.6	55.2-130	WG721982
Bromodichloromethane	mg/l	.025	0.0246	98.4	75.1-116	WG721982
Bromoform	mg/l	.025	0.0241	96.5	67.5-130	WG721982
Bromomethane	mg/l	.025	0.0211	84.6	49.9-162	WG721982
Carbon disulfide	mg/l	.025	0.0256	102.	64.6-140	WG721982
Carbon tetrachloride	mg/l	.025	0.0210	84.0	70.2-123	WG721982
Chlorobenzene	mg/l	.025	0.0220	87.9	78.1-119	WG721982
Chlorodibromomethane	mg/l	.025	0.0235	93.8	74-121	WG721982
Chloroethane	mg/l	.025	0.0202	80.8	61.7-135	WG721982
Chloromethane	mg/l	.025	0.0259	104.	61.5-129	WG721982
cis-1,2-Dichloroethene	mg/l	.025	0.0222	88.8	76-119	WG721982
cis-1,3-Dichloropropene	mg/l	.025	0.0284	114.	78.2-120	WG721982
Dibromomethane	mg/l	.025	0.0232	92.7	79.5-118	WG721982
Dichlorodifluoromethane	mg/l	.025	0.0204	81.4	54.8-135	WG721982
Ethylbenzene	mg/l	.025	0.0232	92.8	78.8-122	WG721982
Iodomethane	mg/l	.125	0.116	92.5	61-130	WG721982
Styrene	mg/l	.025	0.0240	95.8	80.4-126	WG721982
Tetrachloroethene	mg/l	.025	0.0228	91.1	72.6-126	WG721982
Toluene	mg/l	.025	0.0250	99.8	79.7-116	WG721982
trans-1,2-Dichloroethene	mg/l	.025	0.0210	84.0	72.6-121	WG721982
trans-1,3-Dichloropropene	mg/l	.025	0.0281	112.	74.3-123	WG721982
trans-1,4-Dichloro-2-butene	mg/l	.025	0.0246	98.6	65.1-123	WG721982
Trichlorofluoromethane	mg/l	.025	0.0210	83.8	63.5-135	WG721982
Vinyl acetate	mg/l	.125	0.133	107.	65-138	WG721982
Vinyl chloride	mg/l	.025	0.0210	83.9	65.9-128	WG721982
Xylenes, Total	mg/l	.075	0.0657	87.6	78.7-121	WG721982
4-Bromofluorobenzene				83.60	71-126	WG721982
Dibromofluoromethane				94.30	78.3-121	WG721982

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Quality Assurance Report
Level II

L698793

May 21, 2014

Analyte	Units	Laboratory Control Sample Known Val	Result	% Rec	Limit	Batch
Toluene-d8				106.0	88.5-111	
a,a,a-Trifluorotoluene				97.90	85-114	
1,2-Dibromoethane	mg/l	.025	0.0254	102.	76.6-121	WG722115
1,2-Dichloropropane	mg/l	.025	0.0267	107.	76.5-119	WG722115
Benzene	mg/l	.025	0.0257	103.	74.8-121	WG722115
Chloroform	mg/l	.025	0.0255	102.	76-121	WG722115
Methylene Chloride	mg/l	.025	0.0255	102.	70.3-120	WG722115
Trichloroethene	mg/l	.025	0.0272	109.	77.7-118	WG722115
4-Bromofluorobenzene				103.0	71-126	WG722115
Dibromofluoromethane				98.80	78.3-121	WG722115
Toluene-d8				107.0	88.5-111	WG722115
a,a,a-Trifluorotoluene				106.0	85-114	WG722115

Analyte	Units	Laboratory Control Sample Duplicate Result	Ref	%Rec	Limit	RPD	Limit	Batch
1,1,1,2-Tetrachloroethane	mg/l	0.0248	0.0208	99.0	74.2-124	17.5	20	WG721982
1,1,1-Trichloroethane	mg/l	0.0221	0.0212	88.0	73.2-123	4.53	20	WG721982
1,1,2,2-Tetrachloroethane	mg/l	0.0245	0.0228	98.0	70.7-122	7.25	20	WG721982
1,1,2-Trichloroethane	mg/l	0.0261	0.0224	104.	77.7-118	15.5	20	WG721982
1,1-Dichloroethane	mg/l	0.0246	0.0230	98.0	70.7-126	6.67	20	WG721982
1,1-Dichloroethene	mg/l	0.0232	0.0220	93.0	67.8-129	5.18	20	WG721982
1,2,3-Trichloropropane	mg/l	0.0219	0.0203	88.0	71.8-121	7.88	20	WG721982
1,2-Dibromo-3-Chloropropane	mg/l	0.0287	0.0268	115.	65.4-128	6.66	20	WG721982
1,2-Dichlorobenzene	mg/l	0.0262	0.0240	105.	78.4-117	8.63	20	WG721982
1,2-Dichloroethane	mg/l	0.0244	0.0228	98.0	68.8-124	6.58	20	WG721982
1,3-Dichlorobenzene	mg/l	0.0240	0.0210	96.0	70.8-128	13.2	20	WG721982
1,4-Dichlorobenzene	mg/l	0.0261	0.0235	104.	78.8-115	10.5	20	WG721982
2-Butanone (MEK)	mg/l	0.109	0.132	87.0	55-149	19.3	20	WG721982
2-Hexanone	mg/l	0.158	0.146	126.	65.6-144	8.04	20	WG721982
4-Methyl-2-pentanone (MIBK)	mg/l	0.147	0.147	117.	70.5-133	0.0500	20	WG721982
Acetone	mg/l	0.115	0.112	92.0	35.6-163	2.08	23.9	WG721982
Acrolein	mg/l	0.132	0.129	105.	10-190	1.97	28.1	WG721982
Acrylonitrile	mg/l	0.131	0.124	105.	55.2-130	5.08	20	WG721982
Bromodichloromethane	mg/l	0.0265	0.0246	106.	75.1-116	7.21	20	WG721982
Bromoform	mg/l	0.0267	0.0241	107.	67.5-130	10.1	20	WG721982
Bromomethane	mg/l	0.0225	0.0211	90.0	49.9-162	6.33	20	WG721982
Carbon disulfide	mg/l	0.0266	0.0256	106.	64.6-140	4.04	20	WG721982
Carbon tetrachloride	mg/l	0.0226	0.0210	90.0	70.2-123	7.36	20	WG721982
Chlorobenzene	mg/l	0.0246	0.0220	98.0	78.1-119	11.3	20	WG721982
Chlorodibromomethane	mg/l	0.0262	0.0235	105.	74-121	11.1	20	WG721982
Chloroethane	mg/l	0.0195	0.0202	78.0	61.7-135	3.64	20	WG721982
Chloromethane	mg/l	0.0268	0.0259	107.	61.5-129	3.45	20	WG721982
cis-1,2-Dichloroethene	mg/l	0.0234	0.0222	94.0	76-119	5.34	20	WG721982
cis-1,3-Dichloropropene	mg/l	0.0304	0.0284	122*	78.2-120	6.70	20	WG721982
Dibromomethane	mg/l	0.0262	0.0232	105.	79.5-118	12.4	20	WG721982
Dichlorodifluoromethane	mg/l	0.0214	0.0204	86.0	54.8-135	5.12	20	WG721982
Ethylbenzene	mg/l	0.0254	0.0232	101.	78.8-122	8.90	20	WG721982
Iodomethane	mg/l	0.123	0.116	99.0	61-130	6.44	20	WG721982
Styrene	mg/l	0.0273	0.0240	109.	80.4-126	12.9	20	WG721982
Tetrachloroethene	mg/l	0.0266	0.0228	106.	72.6-126	15.4	20	WG721982
Toluene	mg/l	0.0269	0.0250	107.	79.7-116	7.37	20	WG721982
trans-1,2-Dichloroethene	mg/l	0.0231	0.0210	92.0	72.6-121	9.72	20	WG721982
trans-1,3-Dichloropropene	mg/l	0.0310	0.0281	124*	74.3-123	9.82	20	WG721982
trans-1,4-Dichloro-2-butene	mg/l	0.0281	0.0246	112.	65.1-123	13.1	20	WG721982
Trichlorofluoromethane	mg/l	0.0219	0.0210	87.0	63.5-135	4.18	20	WG721982
Vinyl acetate	mg/l	0.135	0.133	108.	65-138	0.860	20	WG721982
Vinyl chloride	mg/l	0.0227	0.0210	91.0	65.9-128	8.08	20	WG721982
Xylenes, Total	mg/l	0.0744	0.0657	99.0	78.7-121	12.4	20	WG721982

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Quality Assurance Report
Level II

L698793

May 21, 2014

Analyte	Units	Laboratory Control Sample Duplicate Result	Ref	%Rec	Limit	RPD	Limit	Batch
4-Bromofluorobenzene				88.50	71-126			
Dibromofluoromethane				92.10	78.3-121			
Toluene-d8				103.0	88.5-111			
a,a,a-Trifluorotoluene				100.0	85-114			
1,2-Dibromoethane	mg/l	0.0251	0.0254	100.	76.6-121	1.18	20	WG722115
1,2-Dichloropropane	mg/l	0.0277	0.0267	111.	76.5-119	3.66	20	WG722115
Benzene	mg/l	0.0266	0.0257	106.	74.8-121	3.61	20	WG722115
Chloroform	mg/l	0.0264	0.0255	106.	76-121	3.74	20	WG722115
Methylene Chloride	mg/l	0.0266	0.0255	106.	70.3-120	4.11	20	WG722115
Trichloroethene	mg/l	0.0283	0.0272	113.	77.7-118	3.99	20	WG722115
4-Bromofluorobenzene				103.0	71-126			WG722115
Dibromofluoromethane				103.0	78.3-121			WG722115
Toluene-d8				108.0	88.5-111			WG722115
a,a,a-Trifluorotoluene				108.0	85-114			WG722115

Analyte	Units	Matrix Spike MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
1,1,1,2-Tetrachloroethane	mg/l	0.0202	0.0	.025	81.0	64-128	L699848-01	WG721982
1,1,1-Trichloroethane	mg/l	0.0163	0.0	.025	65.0	58.7-134	L699848-01	WG721982
1,1,2,2-Tetrachloroethane	mg/l	0.00182	0.0	.025	7.30*	56-132	L699848-01	WG721982
1,1,2-Trichloroethane	mg/l	0.0223	0.0	.025	89.0	66.3-125	L699848-01	WG721982
1,1-Dichloroethane	mg/l	0.0180	0.0	.025	72.0	58.5-132	L699848-01	WG721982
1,1-Dichloroethene	mg/l	0.0144	0.0	.025	58.0	51.1-140	L699848-01	WG721982
1,2,3-Trichloropropane	mg/l	0.0231	0.0	.025	92.0	61.4-128	L699848-01	WG721982
1,2-Dibromo-3-Chloropropane	mg/l	0.0320	0.0	.025	130.	57.3-136	L699848-01	WG721982
1,2-Dichlorobenzene	mg/l	0.0220	0.0	.025	88.0	68.2-123	L699848-01	WG721982
1,2-Dichloroethane	mg/l	0.0207	0.0	.025	83.0	60-126	L699848-01	WG721982
1,3-Dichlorobenzene	mg/l	0.0188	0.0	.025	75.0	63.1-131	L699848-01	WG721982
1,4-Dichlorobenzene	mg/l	0.0218	0.0	.025	87.0	68.6-123	L699848-01	WG721982
2-Butanone (MEK)	mg/l	0.146	0.00202	.125	120.	22.4-138	L699848-01	WG721982
2-Hexanone	mg/l	0.168	0.0	.125	130.	43.3-137	L699848-01	WG721982
4-Methyl-2-pentanone (MIBK)	mg/l	0.157	0.0	.125	130.	60.8-140	L699848-01	WG721982
Acetone	mg/l	0.139	0.0143	.125	100.	10-130	L699848-01	WG721982
Acrolein	mg/l	0.0329	0.0	.125	26.0	10-200	L699848-01	WG721982
Acrylonitrile	mg/l	0.129	0.0	.125	100.	49.4-133	L699848-01	WG721982
Bromodichloromethane	mg/l	0.0212	0.0	.025	85.0	63.9-121	L699848-01	WG721982
Bromoform	mg/l	0.0245	0.0	.025	98.0	59.5-134	L699848-01	WG721982
Bromomethane	mg/l	0.0136	0.0	.025	54.0	41.7-155	L699848-01	WG721982
Carbon disulfide	mg/l	0.0102	0.0	.025	41.0*	43.3-149	L699848-01	WG721982
Carbon tetrachloride	mg/l	0.0149	0.0	.025	60.0	55.7-134	L699848-01	WG721982
Chlorobenzene	mg/l	0.0190	0.0	.025	76.0	67-125	L699848-01	WG721982
Chlorodibromomethane	mg/l	0.0231	0.0	.025	92.0	64.3-125	L699848-01	WG721982
Chloroethane	mg/l	0.0141	0.0	.025	56.0	51.5-136	L699848-01	WG721982
Chloromethane	mg/l	0.0139	0.0	.025	56.0	42.4-135	L699848-01	WG721982
cis-1,2-Dichloroethene	mg/l	0.0174	0.0	.025	70.0	59.2-129	L699848-01	WG721982
cis-1,3-Dichloropropene	mg/l	0.0243	0.0	.025	97.0	66.4-125	L699848-01	WG721982
Dibromomethane	mg/l	0.0219	0.0	.025	88.0	68.2-124	L699848-01	WG721982
Dichlorodifluoromethane	mg/l	0.0120	0.0	.025	48.0	40.6-144	L699848-01	WG721982
Ethylbenzene	mg/l	0.0191	0.0	.025	76.0	61.4-133	L699848-01	WG721982
Iodomethane	mg/l	0.0767	0.0	.125	61.0	49.7-132	L699848-01	WG721982
Styrene	mg/l	0.0215	0.0	.025	86.0	66.8-133	L699848-01	WG721982
Tetrachloroethene	mg/l	0.0175	0.0	.025	70.0	53-139	L699848-01	WG721982
Toluene	mg/l	0.0200	0.000433	.025	78.0	61.4-130	L699848-01	WG721982
trans-1,2-Dichloroethene	mg/l	0.0144	0.0	.025	58.0	56.5-129	L699848-01	WG721982
trans-1,3-Dichloropropene	mg/l	0.0251	0.0	.025	100.	64.1-128	L699848-01	WG721982
trans-1,4-Dichloro-2-butene	mg/l	0.0258	0.0	.025	100.	57.1-130	L699848-01	WG721982
Trichlorofluoromethane	mg/l	0.0137	0.0	.025	55.0	49.6-145	L699848-01	WG721982
Vinyl acetate	mg/l	0.0	0.0	.125	0.0*	56.1-149	L699848-01	WG721982

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Analyte	Units	MS Res	Matrix Spike Ref Res	TV	% Rec	Limit	Ref Samp	Batch
Vinyl chloride	mg/l	0.0123	0.0	.025	49.0	47.8-137	L699848-01	WG721982
Xylenes, Total	mg/l	0.0562	0.000344	.075	74.0	63.3-131	L699848-01	WG721982
4-Bromofluorobenzene					86.70	71-126		WG721982
Dibromofluoromethane					89.10	78.3-121		WG721982
Toluene-d8					105.0	88.5-111		WG721982
a,a,a-Trifluorotoluene					98.40	85-114		WG721982
1,2-Dibromoethane	mg/l	0.0254	0.0	.025	100.	67.1-125	L699735-07	WG722115
1,2-Dichloropropane	mg/l	0.0266	0.0	.025	110.	64.2-123	L699735-07	WG722115
Benzene	mg/l	0.0257	0.0	.025	100.	54.3-133	L699735-07	WG722115
Chloroform	mg/l	0.0248	0.0	.025	99.0	63-129	L699735-07	WG722115
Methylene Chloride	mg/l	0.0231	0.0	.025	92.0	58.1-122	L699735-07	WG722115
Trichloroethene	mg/l	0.0272	0.0	.025	110.	44.1-149	L699735-07	WG722115
4-Bromofluorobenzene					103.0	71-126		WG722115
Dibromofluoromethane					101.0	78.3-121		WG722115
Toluene-d8					104.0	88.5-111		WG722115
a,a,a-Trifluorotoluene					106.0	85-114		WG722115

Analyte	Units	MSD	Matrix Spike Duplicate Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
1,1,1,2-Tetrachloroethane	mg/l	0.0205	0.0202	81.8	64-128	1.37	20	L699848-01	WG721982
1,1,1-Trichloroethane	mg/l	0.0170	0.0163	68.1	58.7-134	4.02	20	L699848-01	WG721982
1,1,2,2-Tetrachloroethane	mg/l	0.000915	0.00182	3.66*	56-132	66.3*	22.2	L699848-01	WG721982
1,1,2-Trichloroethane	mg/l	0.0231	0.0223	92.2	66.3-125	3.50	20	L699848-01	WG721982
1,1-Dichloroethane	mg/l	0.0187	0.0180	74.8	58.5-132	3.73	20	L699848-01	WG721982
1,1-Dichloroethene	mg/l	0.0157	0.0144	62.8	51.1-140	8.66	20.2	L699848-01	WG721982
1,2,3-Trichloropropane	mg/l	0.0214	0.0231	85.5	61.4-128	7.63	22.4	L699848-01	WG721982
1,2-Dibromo-3-Chloropropane	mg/l	0.0270	0.0320	108.	57.3-136	16.7	27	L699848-01	WG721982
1,2-Dichlorobenzene	mg/l	0.0226	0.0220	90.3	68.2-123	2.79	20	L699848-01	WG721982
1,2-Dichloroethane	mg/l	0.0194	0.0207	77.7	60-126	6.53	20	L699848-01	WG721982
1,3-Dichlorobenzene	mg/l	0.0195	0.0188	78.1	63.1-131	3.83	20	L699848-01	WG721982
1,4-Dichlorobenzene	mg/l	0.0214	0.0218	85.4	68.6-123	2.14	20	L699848-01	WG721982
2-Butanone (MEK)	mg/l	0.135	0.146	106.	22.4-138	7.49	27	L699848-01	WG721982
2-Hexanone	mg/l	0.150	0.168	120.	43.3-137	11.4	25.5	L699848-01	WG721982
4-Methyl-2-pentanone (MIBK)	mg/l	0.145	0.157	116.	60.8-140	8.14	25.1	L699848-01	WG721982
Acetone	mg/l	0.115	0.139	80.8	10-130	18.8	27.9	L699848-01	WG721982
Acrolein	mg/l	0.0219	0.0329	17.5	10-200	40.4*	27.7	L699848-01	WG721982
Acrylonitrile	mg/l	0.113	0.129	90.6	49.4-133	13.2	25.3	L699848-01	WG721982
Bromodichloromethane	mg/l	0.0225	0.0212	90.0	63.9-121	5.92	20	L699848-01	WG721982
Bromoform	mg/l	0.0238	0.0245	95.1	59.5-134	3.00	20.5	L699848-01	WG721982
Bromomethane	mg/l	0.0135	0.0136	54.0	41.7-155	0.640	21.9	L699848-01	WG721982
Carbon disulfide	mg/l	0.0111	0.0102	44.4	43.3-149	8.40	20.3	L699848-01	WG721982
Carbon tetrachloride	mg/l	0.0172	0.0149	69.0	55.7-134	14.5	20	L699848-01	WG721982
Chlorobenzene	mg/l	0.0206	0.0190	82.6	67-125	8.43	20	L699848-01	WG721982
Chlorodibromomethane	mg/l	0.0234	0.0231	93.4	64.3-125	1.26	20.8	L699848-01	WG721982
Chloroethane	mg/l	0.0135	0.0141	54.0	51.5-136	4.24	40	L699848-01	WG721982
Chloromethane	mg/l	0.0152	0.0139	60.9	42.4-135	9.12	20	L699848-01	WG721982
cis-1,2-Dichloroethene	mg/l	0.0179	0.0174	71.5	59.2-129	2.92	20	L699848-01	WG721982
cis-1,3-Dichloropropene	mg/l	0.0249	0.0243	99.7	66.4-125	2.66	20	L699848-01	WG721982
Dibromomethane	mg/l	0.0204	0.0219	81.4	68.2-124	7.41	20	L699848-01	WG721982
Dichlorodifluoromethane	mg/l	0.0136	0.0120	54.2	40.6-144	12.5	20.2	L699848-01	WG721982
Ethylbenzene	mg/l	0.0215	0.0191	86.1	61.4-133	11.9	20	L699848-01	WG721982
Iodomethane	mg/l	0.0785	0.0767	62.8	49.7-132	2.32	20	L699848-01	WG721982
Styrene	mg/l	0.0222	0.0215	88.8	66.8-133	3.34	20	L699848-01	WG721982
Tetrachloroethene	mg/l	0.0204	0.0175	81.6	53-139	15.3	20	L699848-01	WG721982
Toluene	mg/l	0.0215	0.0200	84.4	61.4-130	7.62	20	L699848-01	WG721982
trans-1,2-Dichloroethene	mg/l	0.0150	0.0144	60.2	56.5-129	4.36	20	L699848-01	WG721982

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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Piedmont Geologic
Mr. Pete Dressel
6003 Chapel Hill Road Suite 145

Raleigh, NC 27607

Quality Assurance Report
Level II

L698793

May 21, 2014

Analyte	Units	MSD	Matrix Spike Duplicate Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
trans-1,3-Dichloropropene	mg/l	0.0240	0.0251	96.0	64.1-128	4.34	20	L699848-01	WG721982
trans-1,4-Dichloro-2-butene	mg/l	0.0231	0.0258	92.5	57.1-130	11.0	23.9	L699848-01	WG721982
Trichlorofluoromethane	mg/l	0.0152	0.0137	60.9	49.6-145	10.8	21.2	L699848-01	WG721982
Vinyl acetate	mg/l	0.0	0.0	0*	56.1-149	0.0	22.7	L699848-01	WG721982
Vinyl chloride	mg/l	0.0136	0.0123	54.6	47.8-137	10.6	20	L699848-01	WG721982
Xylenes, Total	mg/l	0.0603	0.0562	80.0	63.3-131	7.07	20	L699848-01	WG721982
4-Bromofluorobenzene				87.00	71-126				WG721982
Dibromofluoromethane				84.20	78.3-121				WG721982
Toluene-d8				107.0	88.5-111				WG721982
a,a,a-Trifluorotoluene				98.60	85-114				WG721982
1,2-Dibromoethane	mg/l	0.0253	0.0254	101.	67.1-125	0.340	20	L699735-07	WG722115
1,2-Dichloropropane	mg/l	0.0261	0.0266	104.	64.2-123	1.97	20	L699735-07	WG722115
Benzene	mg/l	0.0232	0.0257	92.8	54.3-133	10.4	20	L699735-07	WG722115
Chloroform	mg/l	0.0231	0.0248	92.4	63-129	6.97	20	L699735-07	WG722115
Methylene Chloride	mg/l	0.0225	0.0231	90.1	58.1-122	2.56	20	L699735-07	WG722115
Trichloroethene	mg/l	0.0241	0.0272	96.3	44.1-149	12.3	20	L699735-07	WG722115
4-Bromofluorobenzene				103.0	71-126				WG722115
Dibromofluoromethane				99.90	78.3-121				WG722115
Toluene-d8				108.0	88.5-111				WG722115
a,a,a-Trifluorotoluene				105.0	85-114				WG722115

Batch number /Run number / Sample number cross reference

WG721982: R2925354: L698793-01
WG722115: R2925732: L698793-01

* * Calculations are performed prior to rounding of reported values.
* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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Raleigh, NC 27607

Quality Assurance Report
Level II

L698793

May 21, 2014

The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.

Piedmont Geologic

6003 Chapel Hill Road Suite 145
Raleigh, NC 27607

Billing Information:
Accounts Payable
6003 Chapel Hill Rd Ste 145
Raleigh, NC 27607

Report to: Mr. Pete Dressel

Email To: pjdressel@piedmontgeologic.com

Project Description: NCSU Lot 86 - Water Treatment System Mon

City/State Collected: RALEIGH, NC

Phone: 919-854-9700
Fax: 919-854-9532

Client Project # ~~1247~~ 1447

Lab Project # PIEGEO-NCSU LOT 86

Collected by (print): P. DRESSEL

Site/Facility ID # RALEIGH, NC

P.O. # 1347

Collected by (signature): [signature]

Immediately Packed on Ice N ____ Y ✓

Rush? (Lab MUST Be Notified)
____ Same Day 200%
____ Next Day 100%
____ Two Day 50%
____ Three Day 25%

Date Results Needed

Email? ___No X__Yes
FAX? ___No ___Yes

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

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Fax: 615-758-5859

L# L958793
H133

Acctnum: PIEGEO
Template: T82911
Prelogin: P466454
TSR: 350 - Jimmy Hunt
PB: 4-29-14 [illegible]
Shipped Via: FedEx Ground

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	V8260AP9 40mlAmb-HCl	Rem./Contaminant	Sample # (lab only)
GWE INFLUENT	GRAB	GW	—	5/12/14	1202	2	X		01

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other_____

Remarks:V8260AP9 = V8260 + 1,4-Dioxane (Report 14D to MDL)
Quote PIEGEO080513S

pH _____ Temp _____
Flow _____ Other _____

5990113/6357

Hold #

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Samples returned via: ☐ UPS ☑ FedEx ☐ Courier ☐ ____	Condition: (lab use only)
[signature]	5/12/14	16:40	[signature]		OK T01
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 2.7°C Bottles Received: 2 vgt 1773	COC Seal Intact: ___Y ___N ✓NA
[signature]	5/13/14	16:45	[signature]	Date: 5-14-14 Time: 0930	pH Checked: NCF:

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Mr. Pete Dressel
Piedmont Geologic
6003 Chapel Hill Road Suite 145
Raleigh, NC 27607

Report Summary

Tuesday June 17, 2014

Report Number: L703983
Samples Received: 06/11/14
Client Project: 1247

Description: NCSU Lot 86 - Water Treatment System Monitoring

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By: Jimmy Hunt

Jimmy Hunt , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197, FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704/BIO041, ND - R-140. NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1, TX - T104704245-11-3, OK - 9915, PA - 68-02979, IA Lab #364, EPA - TN002

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Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

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REPORT OF ANALYSIS

Mr. Pete Dressel
Piedmont Geologic
6003 Chapel Hill Road Suite 145
Raleigh, NC 27607

June 17, 2014

ESC Sample # : L703983-01

Site ID : RALEIGH, NC

Project # : 1247

Date Received : June 11, 2014
Description : NCSU Lot 86 - Water Treatment System Monitoring

Sample ID : GWE INFLUENT

Collected By : P. Dressel
Collection Date : 06/09/14 12:15

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Volatile Organics								
Acetone	U	1000	5000	ug/l		8260B	06/14/14	100
Acrolein	U	890	5000	ug/l		8260B	06/14/14	100
Acrylonitrile	U	190	1000	ug/l		8260B	06/14/14	100
Benzene	900	33.	100	ug/l		8260B	06/14/14	100
Bromodichloromethane	110	38.	100	ug/l		8260B	06/14/14	100
Bromoform	U	47.	100	ug/l		8260B	06/14/14	100
Bromomethane	U	87.	500	ug/l		8260B	06/14/14	100
Carbon disulfide	U	28.	100	ug/l		8260B	06/14/14	100
Carbon tetrachloride	280	38.	100	ug/l		8260B	06/14/14	100
Chlorobenzene	40.	35.	100	ug/l	J	8260B	06/14/14	100
Chlorodibromomethane	U	33.	100	ug/l		8260B	06/14/14	100
Chloroethane	U	45.	500	ug/l	J4	8260B	06/14/14	100
Chloroform	14000	32.	500	ug/l		8260B	06/14/14	100
Chloromethane	U	28.	250	ug/l		8260B	06/14/14	100
1,2-Dibromoethane	740	38.	100	ug/l		8260B	06/14/14	100
1,2-Dibromo-3-Chloropropane	180	130	500	ug/l	J	8260B	06/14/14	100
Dibromomethane	U	35.	100	ug/l		8260B	06/14/14	100
1,2-Dichlorobenzene	U	35.	100	ug/l		8260B	06/14/14	100
1,3-Dichlorobenzene	U	22.	100	ug/l		8260B	06/14/14	100
1,4-Dichlorobenzene	U	27.	100	ug/l		8260B	06/14/14	100
Dichlorodifluoromethane	U	55.	500	ug/l		8260B	06/14/14	100
1,1-Dichloroethane	U	26.	100	ug/l		8260B	06/14/14	100
1,2-Dichloroethane	79.	36.	100	ug/l	J	8260B	06/14/14	100
1,1-Dichloroethene	U	40.	100	ug/l		8260B	06/14/14	100
cis-1,2-Dichloroethene	U	26.	100	ug/l		8260B	06/14/14	100
trans-1,2-Dichloroethene	U	40.	100	ug/l		8260B	06/14/14	100
1,2-Dichloropropane	2100	31.	100	ug/l		8260B	06/14/14	100
cis-1,3-Dichloropropene	U	42.	100	ug/l		8260B	06/14/14	100
trans-1,3-Dichloropropene	U	42.	100	ug/l		8260B	06/14/14	100
Ethylbenzene	U	38.	100	ug/l		8260B	06/14/14	100
2-Hexanone	U	380	1000	ug/l		8260B	06/14/14	100
Iodomethane	U	170	1000	ug/l		8260B	06/14/14	100
2-Butanone (MEK)	U	390	1000	ug/l		8260B	06/14/14	100
Methylene Chloride	1800	100	500	ug/l		8260B	06/14/14	100
4-Methyl-2-pentanone (MIBK)	U	210	1000	ug/l		8260B	06/14/14	100
Pentachloroethane	U	360	500	ug/l		8260B	06/14/14	100
Styrene	U	31.	100	ug/l		8260B	06/14/14	100
1,1,2,2-Tetrachloroethane	U	58.	100	ug/l		8260B	06/14/14	100
1,1,1,2-Tetrachloroethane	U	38.	100	ug/l		8260B	06/14/14	100
Tetrachloroethene	100	37.	100	ug/l		8260B	06/14/14	100
Toluene	150	78.	500	ug/l	J	8260B	06/14/14	100
1,1,1-Trichloroethane	U	32.	100	ug/l		8260B	06/14/14	100

U = ND (Not Detected)
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL
MDL = Minimum Detection Limit = LOD = TRRP SDL
Note:
The reported analytical results relate only to the sample submitted.
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REPORT OF ANALYSIS

Mr. Pete Dressel
Piedmont Geologic
6003 Chapel Hill Road Suite 145
Raleigh, NC 27607

June 17, 2014

ESC Sample # : L703983-01

Date Received : June 11, 2014
Description : NCSU Lot 86 - Water Treatment System Monitoring

Site ID : RALEIGH, NC

Sample ID : GWE INFLUENT

Project # : 1247

Collected By : P. Dressel
Collection Date : 06/09/14 12:15

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
1,1,2-Trichloroethane	180	38.	100	ug/l		8260B	06/14/14	100
Trichloroethene	320	40.	100	ug/l		8260B	06/14/14	100
Trichlorofluoromethane	U	120	500	ug/l		8260B	06/14/14	100
1,2,3-Trichloropropane	82.	81.	250	ug/l	J	8260B	06/14/14	100
Vinyl acetate	U	160	1000	ug/l		8260B	06/14/14	100
Vinyl chloride	U	26.	100	ug/l		8260B	06/14/14	100
Xylenes, Total	120	110	300	ug/l	J	8260B	06/14/14	100
Acetonitrile	U	1500	5000	ug/l		8260B	06/14/14	100
Allyl chloride	U	170	500	ug/l		8260B	06/14/14	100
Chloroprene	U	170	5000	ug/l		8260B	06/14/14	100
trans-1,4-Dichloro-2-butene	U	87.	250	ug/l		8260B	06/14/14	100
Isobutanol	U	3900	10000	ug/l		8260B	06/14/14	100
1,4-Dioxane	U	3600	10000	ug/l		8260B	06/14/14	100
Methacrylonitrile	U	1300	5000	ug/l		8260B	06/14/14	100
Methyl methacrylate	U	120	500	ug/l		8260B	06/14/14	100
Ethyl methacrylate	U	140	500	ug/l		8260B	06/14/14	100
Propionitrile	U	1300	5000	ug/l		8260B	06/14/14	100
Surrogate Recovery								
Toluene-d8	102.			% Rec.		8260B	06/14/14	100
Dibromofluoromethane	104.			% Rec.		8260B	06/14/14	100
a,a,a-Trifluorotoluene	103.			% Rec.		8260B	06/14/14	100
4-Bromofluorobenzene	98.7			% Rec.		8260B	06/14/14	100

U = ND (Not Detected)
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL
MDL = Minimum Detection Limit = LOD = TRRP SDL
Note:
The reported analytical results relate only to the sample submitted.
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Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L703983-01	WG726196	SAMP	Chlorobenzene	R2942292	J
	WG726196	SAMP	Chloroethane	R2942292	J4
	WG726196	SAMP	1,2-Dibromo-3-Chloropropane	R2942292	J
	WG726196	SAMP	1,2-Dichloroethane	R2942292	J
	WG726196	SAMP	Toluene	R2942292	J
	WG726196	SAMP	1,2,3-Trichloropropane	R2942292	J
	WG726196	SAMP	Xylenes, Total	R2942292	J

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J	(EPA) - Estimated value below the lowest calibration point. Confidence correlates with concentration.
J4	The associated batch QC was outside the established quality control range for accuracy.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods,it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.

Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Differrence.

Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromotography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.

TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

Summary of Remarks For Samples Printed
06/17/14 at 08:40:24

TSR Signing Reports: 350
R5 - Desired TAT

MDL/RDL; CDG, not CDICP for GW

Sample: L703983-01 Account: PIEGEO Received: 06/11/14 09:00 Due Date: 06/18/14 00:00 RPT Date: 06/17/14 08:40
V8260AP9 = V8260 + 1,4-Dioxane (Report 14D to MDL)

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Piedmont Geologic
Mr. Pete Dressel
6003 Chapel Hill Road Suite 145

Raleigh, NC 27607

Quality Assurance Report
Level II

L703983

June 17, 2014

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
1,1,1,2-Tetrachloroethane	< .001	mg/l			WG726196	06/14/14 07:23
1,1,1-Trichloroethane	< .001	mg/l			WG726196	06/14/14 07:23
1,1,2,2-Tetrachloroethane	< .001	mg/l			WG726196	06/14/14 07:23
1,1,2-Trichloroethane	< .001	mg/l			WG726196	06/14/14 07:23
1,1-Dichloroethane	< .001	mg/l			WG726196	06/14/14 07:23
1,1-Dichloroethene	< .001	mg/l			WG726196	06/14/14 07:23
1,2,3-Trichloropropane	< .001	mg/l			WG726196	06/14/14 07:23
1,2-Dibromo-3-Chloropropane	< .005	mg/l			WG726196	06/14/14 07:23
1,2-Dibromoethane	< .001	mg/l			WG726196	06/14/14 07:23
1,2-Dichlorobenzene	< .001	mg/l			WG726196	06/14/14 07:23
1,2-Dichloroethane	< .001	mg/l			WG726196	06/14/14 07:23
1,2-Dichloropropane	< .001	mg/l			WG726196	06/14/14 07:23
1,3-Dichlorobenzene	< .001	mg/l			WG726196	06/14/14 07:23
1,4-Dichlorobenzene	< .001	mg/l			WG726196	06/14/14 07:23
1,4-Dioxane	< .1	mg/l			WG726196	06/14/14 07:23
2-Butanone (MEK)	< .01	mg/l			WG726196	06/14/14 07:23
2-Hexanone	< .01	mg/l			WG726196	06/14/14 07:23
4-Methyl-2-pentanone (MIBK)	< .01	mg/l			WG726196	06/14/14 07:23
Acetone	< .05	mg/l			WG726196	06/14/14 07:23
Acetonitrile	< .05	mg/l			WG726196	06/14/14 07:23
Acrolein	< .025	mg/l			WG726196	06/14/14 07:23
Acrylonitrile	< .01	mg/l			WG726196	06/14/14 07:23
Allyl chloride	< .005	mg/l			WG726196	06/14/14 07:23
Benzene	< .001	mg/l			WG726196	06/14/14 07:23
Bromodichloromethane	< .001	mg/l			WG726196	06/14/14 07:23
Bromoform	< .001	mg/l			WG726196	06/14/14 07:23
Bromomethane	< .005	mg/l			WG726196	06/14/14 07:23
Carbon disulfide	< .001	mg/l			WG726196	06/14/14 07:23
Carbon tetrachloride	< .001	mg/l			WG726196	06/14/14 07:23
Chlorobenzene	< .001	mg/l			WG726196	06/14/14 07:23
Chlorodibromomethane	< .001	mg/l			WG726196	06/14/14 07:23
Chloroethane	< .005	mg/l			WG726196	06/14/14 07:23
Chloroform	< .005	mg/l			WG726196	06/14/14 07:23
Chloromethane	< .0025	mg/l			WG726196	06/14/14 07:23
Chloroprene	< .05	mg/l			WG726196	06/14/14 07:23
cis-1,2-Dichloroethene	< .001	mg/l			WG726196	06/14/14 07:23
cis-1,3-Dichloropropene	< .001	mg/l			WG726196	06/14/14 07:23
Dibromomethane	< .001	mg/l			WG726196	06/14/14 07:23
Dichlorodifluoromethane	< .005	mg/l			WG726196	06/14/14 07:23
Ethyl methacrylate	< .005	mg/l			WG726196	06/14/14 07:23
Ethylbenzene	< .001	mg/l			WG726196	06/14/14 07:23
Iodomethane	< .01	mg/l			WG726196	06/14/14 07:23
Isobutanol	< .1	mg/l			WG726196	06/14/14 07:23
Methacrylonitrile	< .05	mg/l			WG726196	06/14/14 07:23
Methyl methacrylate	< .005	mg/l			WG726196	06/14/14 07:23
Methylene Chloride	< .005	mg/l			WG726196	06/14/14 07:23
Pentachloroethane	< .005	mg/l			WG726196	06/14/14 07:23
Propionitrile	< .05	mg/l			WG726196	06/14/14 07:23
Styrene	< .001	mg/l			WG726196	06/14/14 07:23
Tetrachloroethene	< .001	mg/l			WG726196	06/14/14 07:23
Toluene	< .005	mg/l			WG726196	06/14/14 07:23
trans-1,2-Dichloroethene	< .001	mg/l			WG726196	06/14/14 07:23
trans-1,3-Dichloropropene	< .001	mg/l			WG726196	06/14/14 07:23
trans-1,4-Dichloro-2-butene	< .0025	mg/l			WG726196	06/14/14 07:23
Trichloroethene	< .001	mg/l			WG726196	06/14/14 07:23
Trichlorofluoromethane	< .005	mg/l			WG726196	06/14/14 07:23
Vinyl acetate	< .01	mg/l			WG726196	06/14/14 07:23
Vinyl chloride	< .001	mg/l			WG726196	06/14/14 07:23
Xylenes, Total	< .003	mg/l			WG726196	06/14/14 07:23

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Quality Assurance Report
Level II

L703983

June 17, 2014

Analyte	Units	Laboratory Control Sample Known Val	Result	% Rec	Limit	Batch
4-Bromofluorobenzene		% Rec.	101.0	71-126		06/14/14 07:23
Dibromofluoromethane		% Rec.	101.0	78.3-121		06/14/14 07:23
Toluene-d8		% Rec.	103.0	88.5-111		06/14/14 07:23
a,a,a-Trifluorotoluene		% Rec.	104.0	85-114		06/14/14 07:23

Analyte	Units	Laboratory Control Sample Known Val	Result	% Rec	Limit	Batch
1,1,1,2-Tetrachloroethane	mg/l	.025	0.0243	97.2	74.2-124	WG726196
1,1,1-Trichloroethane	mg/l	.025	0.0224	89.8	73.2-123	WG726196
1,1,2,2-Tetrachloroethane	mg/l	.025	0.0234	93.4	70.7-122	WG726196
1,1,2-Trichloroethane	mg/l	.025	0.0244	97.7	77.7-118	WG726196
1,1-Dichloroethane	mg/l	.025	0.0258	103.	70.7-126	WG726196
1,1-Dichloroethene	mg/l	.025	0.0260	104.	67.8-129	WG726196
1,2,3-Trichloropropane	mg/l	.025	0.0243	97.2	71.8-121	WG726196
1,2-Dibromo-3-Chloropropane	mg/l	.025	0.0238	95.2	65.4-128	WG726196
1,2-Dibromoethane	mg/l	.025	0.0268	107.	76.6-121	WG726196
1,2-Dichlorobenzene	mg/l	.025	0.0251	101.	78.4-117	WG726196
1,2-Dichloroethane	mg/l	.025	0.0231	92.5	68.8-124	WG726196
1,2-Dichloropropane	mg/l	.025	0.0254	102.	76.5-119	WG726196
1,3-Dichlorobenzene	mg/l	.025	0.0252	101.	70.8-128	WG726196
1,4-Dichlorobenzene	mg/l	.025	0.0250	100.	78.8-115	WG726196
2-Butanone (MEK)	mg/l	.125	0.123	98.7	55-149	WG726196
2-Hexanone	mg/l	.125	0.123	98.5	65.6-144	WG726196
4-Methyl-2-pentanone (MIBK)	mg/l	.125	0.121	96.7	70.5-133	WG726196
Acetone	mg/l	.125	0.116	93.0	35.6-163	WG726196
Acrolein	mg/l	.125	0.179	143.	10-190	WG726196
Acrylonitrile	mg/l	.125	0.121	97.1	55.2-130	WG726196
Benzene	mg/l	.025	0.0253	101.	74.8-121	WG726196
Bromodichloromethane	mg/l	.025	0.0222	89.0	75.1-116	WG726196
Bromoform	mg/l	.025	0.0227	90.9	67.5-130	WG726196
Bromomethane	mg/l	.025	0.0273	109.	49.9-162	WG726196
Carbon disulfide	mg/l	.025	0.0283	113.	64.6-140	WG726196
Carbon tetrachloride	mg/l	.025	0.0226	90.5	70.2-123	WG726196
Chlorobenzene	mg/l	.025	0.0259	103.	78.1-119	WG726196
Chlorodibromomethane	mg/l	.025	0.0241	96.6	74-121	WG726196
Chloroethane	mg/l	.025	0.0344	138.*	61.7-135	WG726196
Chloroform	mg/l	.025	0.0240	96.0	76-121	WG726196
Chloromethane	mg/l	.025	0.0286	114.	61.5-129	WG726196
cis-1,2-Dichloroethene	mg/l	.025	0.0257	103.	76-119	WG726196
cis-1,3-Dichloropropene	mg/l	.025	0.0260	104.	78.2-120	WG726196
Dibromomethane	mg/l	.025	0.0247	98.6	79.5-118	WG726196
Dichlorodifluoromethane	mg/l	.025	0.0212	84.8	54.8-135	WG726196
Ethylbenzene	mg/l	.025	0.0264	106.	78.8-122	WG726196
Iodomethane	mg/l	.125	0.144	115.	61-130	WG726196
Methylene Chloride	mg/l	.025	0.0270	108.	70.3-120	WG726196
Styrene	mg/l	.025	0.0267	107.	80.4-126	WG726196
Tetrachloroethene	mg/l	.025	0.0271	108.	72.6-126	WG726196
Toluene	mg/l	.025	0.0250	99.9	79.7-116	WG726196
trans-1,2-Dichloroethene	mg/l	.025	0.0265	106.	72.6-121	WG726196
trans-1,3-Dichloropropene	mg/l	.025	0.0238	95.2	74.3-123	WG726196
trans-1,4-Dichloro-2-butene	mg/l	.025	0.0221	88.5	65.1-123	WG726196
Trichloroethene	mg/l	.025	0.0264	105.	77.7-118	WG726196
Trichlorofluoromethane	mg/l	.025	0.0261	104.	63.5-135	WG726196
Vinyl acetate	mg/l	.125	0.121	97.0	65-138	WG726196
Vinyl chloride	mg/l	.025	0.0256	102.	65.9-128	WG726196
Xylenes, Total	mg/l	.075	0.0755	101.	78.7-121	WG726196
4-Bromofluorobenzene				95.30	71-126	WG726196
Dibromofluoromethane				100.0	78.3-121	WG726196

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L703983

June 17, 2014

Analyte	Laboratory Control Sample Duplicate						
	Units	Result	Ref	%Rec	Limit	RPD	Limit	Batch
Toluene-d8					101.0		88.5-111	
a,a,a-Trifluorotoluene					103.0		85-114	

Analyte	Laboratory Control Sample Duplicate							
	Units	Result	Ref	%Rec	Limit	RPD	Limit	Batch
1,1,1,2-Tetrachloroethane	mg/l	0.0244	0.0243	98.0	74.2-124	0.300	20	WG726196
1,1,1-Trichloroethane	mg/l	0.0245	0.0224	98.0	73.2-123	8.68	20	WG726196
1,1,2,2-Tetrachloroethane	mg/l	0.0231	0.0234	92.0	70.7-122	0.990	20	WG726196
1,1,2-Trichloroethane	mg/l	0.0244	0.0244	98.0	77.7-118	0.180	20	WG726196
1,1-Dichloroethane	mg/l	0.0266	0.0258	106.	70.7-126	2.94	20	WG726196
1,1-Dichloroethene	mg/l	0.0265	0.0260	106.	67.8-129	1.84	20	WG726196
1,2,3-Trichloropropane	mg/l	0.0238	0.0243	95.0	71.8-121	2.31	20	WG726196
1,2-Dibromo-3-Chloropropane	mg/l	0.0252	0.0238	101.	65.4-128	5.74	20	WG726196
1,2-Dibromoethane	mg/l	0.0272	0.0268	109.	76.6-121	1.40	20	WG726196
1,2-Dichlorobenzene	mg/l	0.0259	0.0251	104.	78.4-117	3.03	20	WG726196
1,2-Dichloroethane	mg/l	0.0250	0.0231	100.	68.8-124	7.97	20	WG726196
1,2-Dichloropropane	mg/l	0.0261	0.0254	104.	76.5-119	2.70	20	WG726196
1,3-Dichlorobenzene	mg/l	0.0260	0.0252	104.	70.8-128	3.20	20	WG726196
1,4-Dichlorobenzene	mg/l	0.0267	0.0250	107.	78.8-115	6.42	20	WG726196
2-Butanone (MEK)	mg/l	0.131	0.123	104.	55-149	5.66	20	WG726196
2-Hexanone	mg/l	0.122	0.123	98.0	65.6-144	0.530	20	WG726196
4-Methyl-2-pentanone (MIBK)	mg/l	0.122	0.121	97.0	70.5-133	0.700	20	WG726196
Acetone	mg/l	0.117	0.116	93.0	35.6-163	0.320	23.9	WG726196
Acrolein	mg/l	0.182	0.179	146.	10-190	2.07	28.1	WG726196
Acrylonitrile	mg/l	0.125	0.121	100.	55.2-130	3.11	20	WG726196
Benzene	mg/l	0.0262	0.0253	105.	74.8-121	3.40	20	WG726196
Bromodichloromethane	mg/l	0.0230	0.0222	92.0	75.1-116	3.14	20	WG726196
Bromoform	mg/l	0.0217	0.0227	87.0	67.5-130	4.70	20	WG726196
Bromomethane	mg/l	0.0261	0.0273	104.	49.9-162	4.41	20	WG726196
Carbon disulfide	mg/l	0.0288	0.0283	115.	64.6-140	1.76	20	WG726196
Carbon tetrachloride	mg/l	0.0235	0.0226	94.0	70.2-123	3.90	20	WG726196
Chlorobenzene	mg/l	0.0262	0.0259	105.	78.1-119	1.37	20	WG726196
Chlorodibromomethane	mg/l	0.0236	0.0241	94.0	74-121	2.09	20	WG726196
Chloroethane	mg/l	0.0329	0.0344	132.	61.7-135	4.44	20	WG726196
Chloroform	mg/l	0.0245	0.0240	98.0	76-121	1.86	20	WG726196
Chloromethane	mg/l	0.0286	0.0286	114.	61.5-129	0.0400	20	WG726196
cis-1,2-Dichloroethene	mg/l	0.0266	0.0257	106.	76-119	3.53	20	WG726196
cis-1,3-Dichloropropene	mg/l	0.0267	0.0260	107.	78.2-120	2.92	20	WG726196
Dibromomethane	mg/l	0.0248	0.0247	99.0	79.5-118	0.370	20	WG726196
Dichlorodifluoromethane	mg/l	0.0209	0.0212	83.0	54.8-135	1.60	20	WG726196
Ethylbenzene	mg/l	0.0260	0.0264	104.	78.8-122	1.30	20	WG726196
Iodomethane	mg/l	0.146	0.144	117.	61-130	1.43	20	WG726196
Methylene Chloride	mg/l	0.0275	0.0270	110.	70.3-120	1.78	20	WG726196
Styrene	mg/l	0.0272	0.0267	109.	80.4-126	1.84	20	WG726196
Tetrachloroethene	mg/l	0.0261	0.0271	104.	72.6-126	3.63	20	WG726196
Toluene	mg/l	0.0254	0.0250	102.	79.7-116	1.66	20	WG726196
trans-1,2-Dichloroethene	mg/l	0.0271	0.0265	108.	72.6-121	2.40	20	WG726196
trans-1,3-Dichloropropene	mg/l	0.0236	0.0238	94.0	74.3-123	0.980	20	WG726196
trans-1,4-Dichloro-2-butene	mg/l	0.0224	0.0221	90.0	65.1-123	1.39	20	WG726196
Trichloroethene	mg/l	0.0262	0.0264	105.	77.7-118	0.500	20	WG726196
Trichlorofluoromethane	mg/l	0.0267	0.0261	107.	63.5-135	2.19	20	WG726196
Vinyl acetate	mg/l	0.125	0.121	100.	65-138	3.24	20	WG726196
Vinyl chloride	mg/l	0.0254	0.0256	102.	65.9-128	0.800	20	WG726196
Xylenes, Total	mg/l	0.0770	0.0755	103.	78.7-121	1.98	20	WG726196
4-Bromofluorobenzene				95.50	71-126			WG726196
Dibromofluoromethane				102.0	78.3-121			WG726196
Toluene-d8				103.0	88.5-111			WG726196
a,a,a-Trifluorotoluene				104.0	85-114			WG726196

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June 17, 2014

Analyte	Units	Matrix Spike MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
1,1,1,2-Tetrachloroethane	mg/l	0.0249	0.0	.025	100.	64-128	L704179-02	WG726196
1,1,1-Trichloroethane	mg/l	0.0253	0.0	.025	100.	58.7-134	L704179-02	WG726196
1,1,2,2-Tetrachloroethane	mg/l	0.0255	0.0	.025	100.	56-132	L704179-02	WG726196
1,1,2-Trichloroethane	mg/l	0.0252	0.0	.025	100.	66.3-125	L704179-02	WG726196
1,1-Dichloroethane	mg/l	0.0273	0.0	.025	110.	58.5-132	L704179-02	WG726196
1,1-Dichloroethene	mg/l	0.0281	0.0	.025	110.	51.1-140	L704179-02	WG726196
1,2,3-Trichloropropane	mg/l	0.0267	0.0	.025	110.	61.4-128	L704179-02	WG726196
1,2-Dibromo-3-Chloropropane	mg/l	0.0264	0.0	.025	100.	57.3-136	L704179-02	WG726196
1,2-Dibromoethane	mg/l	0.0279	0.0	.025	110.	67.1-125	L704179-02	WG726196
1,2-Dichlorobenzene	mg/l	0.0260	0.0	.025	100.	68.2-123	L704179-02	WG726196
1,2-Dichloroethane	mg/l	0.0249	0.0	.025	100.	60-126	L704179-02	WG726196
1,2-Dichloropropane	mg/l	0.0258	0.0	.025	100.	64.2-123	L704179-02	WG726196
1,3-Dichlorobenzene	mg/l	0.0269	0.0	.025	110.	63.1-131	L704179-02	WG726196
1,4-Dichlorobenzene	mg/l	0.0267	0.0	.025	110.	68.6-123	L704179-02	WG726196
2-Butanone (MEK)	mg/l	0.146	0.0	.125	120.	22.4-138	L704179-02	WG726196
2-Hexanone	mg/l	0.140	0.0	.125	110.	43.3-137	L704179-02	WG726196
4-Methyl-2-pentanone (MIBK)	mg/l	0.136	0.0	.125	110.	60.8-140	L704179-02	WG726196
Acetone	mg/l	0.135	0.00339	.125	100.	10-130	L704179-02	WG726196
Acrolein	mg/l	0.210	0.0	.125	170.	10-200	L704179-02	WG726196
Acrylonitrile	mg/l	0.138	0.0	.125	110.	49.4-133	L704179-02	WG726196
Benzene	mg/l	0.0268	0.0	.025	110.	54.3-133	L704179-02	WG726196
Bromodichloromethane	mg/l	0.0232	0.0	.025	93.0	63.9-121	L704179-02	WG726196
Bromoform	mg/l	0.0242	0.0	.025	97.0	59.5-134	L704179-02	WG726196
Bromomethane	mg/l	0.0285	0.0	.025	110.	41.7-155	L704179-02	WG726196
Carbon disulfide	mg/l	0.0285	0.0	.025	110.	43.3-149	L704179-02	WG726196
Carbon tetrachloride	mg/l	0.0251	0.0	.025	100.	55.7-134	L704179-02	WG726196
Chlorobenzene	mg/l	0.0268	0.0	.025	110.	67-125	L704179-02	WG726196
Chlorodibromomethane	mg/l	0.0247	0.0	.025	99.0	64.3-125	L704179-02	WG726196
Chloroethane	mg/l	0.0366	0.0	.025	150.*	51.5-136	L704179-02	WG726196
Chloroform	mg/l	0.0258	0.0	.025	100.	63-129	L704179-02	WG726196
Chloromethane	mg/l	0.0309	0.0	.025	120.	42.4-135	L704179-02	WG726196
cis-1,2-Dichloroethene	mg/l	0.0265	0.0	.025	110.	59.2-129	L704179-02	WG726196
cis-1,3-Dichloropropene	mg/l	0.0274	0.0	.025	110.	66.4-125	L704179-02	WG726196
Dibromomethane	mg/l	0.0258	0.0	.025	100.	68.2-124	L704179-02	WG726196
Dichlorodifluoromethane	mg/l	0.0254	0.0	.025	100.	40.6-144	L704179-02	WG726196
Ethylbenzene	mg/l	0.0271	0.0	.025	110.	61.4-133	L704179-02	WG726196
Iodomethane	mg/l	0.151	0.0	.125	120.	49.7-132	L704179-02	WG726196
Methylene Chloride	mg/l	0.0288	0.000832	.025	110.	58.1-122	L704179-02	WG726196
Styrene	mg/l	0.0278	0.0	.025	110.	66.8-133	L704179-02	WG726196
Tetrachloroethene	mg/l	0.0279	0.0	.025	110.	53-139	L704179-02	WG726196
Toluene	mg/l	0.0261	0.0	.025	100.	61.4-130	L704179-02	WG726196
trans-1,2-Dichloroethene	mg/l	0.0276	0.0	.025	110.	56.5-129	L704179-02	WG726196
trans-1,3-Dichloropropene	mg/l	0.0251	0.0	.025	100.	64.1-128	L704179-02	WG726196
trans-1,4-Dichloro-2-butene	mg/l	0.0257	0.0	.025	100.	57.1-130	L704179-02	WG726196
Trichloroethene	mg/l	0.0279	0.0	.025	110.	44.1-149	L704179-02	WG726196
Trichlorofluoromethane	mg/l	0.0279	0.0	.025	110.	49.6-145	L704179-02	WG726196
Vinyl acetate	mg/l	0.133	0.0	.125	110.	56.1-149	L704179-02	WG726196
Vinyl chloride	mg/l	0.0288	0.0	.025	120.	47.8-137	L704179-02	WG726196
Xylenes, Total	mg/l	0.0791	0.0	.075	110.	63.3-131	L704179-02	WG726196
4-Bromofluorobenzene					97.60	71-126		WG726196
Dibromofluoromethane					105.0	78.3-121		WG726196
Toluene-d8					101.0	88.5-111		WG726196
a,a,a-Trifluorotoluene					104.0	85-114		WG726196

Analyte	Units	Matrix Spike Duplicate MSD	Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
1,1,1,2-Tetrachloroethane	mg/l	0.0260	0.0249	104.	64-128	4.36	20	L704179-02	WG726196
1,1,1-Trichloroethane	mg/l	0.0256	0.0253	102.	58.7-134	1.23	20	L704179-02	WG726196

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June 17, 2014

Analyte	Units	Matrix Spike Duplicate MSD	Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
1,1,2,2-Tetrachloroethane	mg/l	0.0269	0.0255	108.	56-132	5.53	22.2	L704179-02	WG726196
1,1,2-Trichloroethane	mg/l	0.0266	0.0252	106.	66.3-125	5.58	20	L704179-02	WG726196
1,1-Dichloroethane	mg/l	0.0275	0.0273	110.	58.5-132	0.800	20	L704179-02	WG726196
1,1-Dichloroethene	mg/l	0.0281	0.0281	112.	51.1-140	0.0200	20.2	L704179-02	WG726196
1,2,3-Trichloropropane	mg/l	0.0275	0.0267	110.	61.4-128	3.22	22.4	L704179-02	WG726196
1,2-Dibromo-3-Chloropropane	mg/l	0.0278	0.0264	111.	57.3-136	5.39	27	L704179-02	WG726196
1,2-Dibromoethane	mg/l	0.0293	0.0279	117.	67.1-125	4.81	20	L704179-02	WG726196
1,2-Dichlorobenzene	mg/l	0.0265	0.0260	106.	68.2-123	1.81	20	L704179-02	WG726196
1,2-Dichloroethane	mg/l	0.0259	0.0249	103.	60-126	3.65	20	L704179-02	WG726196
1,2-Dichloropropane	mg/l	0.0266	0.0258	106.	64.2-123	2.93	20	L704179-02	WG726196
1,3-Dichlorobenzene	mg/l	0.0279	0.0269	112.	63.1-131	3.68	20	L704179-02	WG726196
1,4-Dichlorobenzene	mg/l	0.0273	0.0267	109.	68.6-123	2.08	20	L704179-02	WG726196
2-Butanone (MEK)	mg/l	0.147	0.146	118.	22.4-138	0.580	27	L704179-02	WG726196
2-Hexanone	mg/l	0.145	0.140	116.	43.3-137	3.88	25.5	L704179-02	WG726196
4-Methyl-2-pentanone (MIBK)	mg/l	0.137	0.136	110.	60.8-140	0.750	25.1	L704179-02	WG726196
Acetone	mg/l	0.135	0.135	105.	10-130	0.0800	27.9	L704179-02	WG726196
Acrolein	mg/l	0.208	0.210	166.	10-200	1.17	27.7	L704179-02	WG726196
Acrylonitrile	mg/l	0.140	0.138	112.	49.4-133	1.91	25.3	L704179-02	WG726196
Benzene	mg/l	0.0271	0.0268	108.	54.3-133	1.25	20	L704179-02	WG726196
Bromodichloromethane	mg/l	0.0238	0.0232	95.2	63.9-121	2.46	20	L704179-02	WG726196
Bromoform	mg/l	0.0252	0.0242	101.	59.5-134	4.10	20.5	L704179-02	WG726196
Bromomethane	mg/l	0.0279	0.0285	112.	41.7-155	1.97	21.9	L704179-02	WG726196
Carbon disulfide	mg/l	0.0285	0.0285	114.	43.3-149	0.160	20.3	L704179-02	WG726196
Carbon tetrachloride	mg/l	0.0256	0.0251	102.	55.7-134	2.01	20	L704179-02	WG726196
Chlorobenzene	mg/l	0.0277	0.0268	111.	67-125	3.45	20	L704179-02	WG726196
Chlorodibromomethane	mg/l	0.0253	0.0247	101.	64.3-125	2.19	20.8	L704179-02	WG726196
Chloroethane	mg/l	0.0359	0.0366	144.*	51.5-136	1.96	40	L704179-02	WG726196
Chloroform	mg/l	0.0258	0.0258	103.	63-129	0.0900	20	L704179-02	WG726196
Chloromethane	mg/l	0.0308	0.0309	123.	42.4-135	0.590	20	L704179-02	WG726196
cis-1,2-Dichloroethene	mg/l	0.0272	0.0265	109.	59.2-129	2.71	20	L704179-02	WG726196
cis-1,3-Dichloropropene	mg/l	0.0278	0.0274	111.	66.4-125	1.53	20	L704179-02	WG726196
Dibromomethane	mg/l	0.0270	0.0258	108.	68.2-124	4.39	20	L704179-02	WG726196
Dichlorodifluoromethane	mg/l	0.0251	0.0254	100.	40.6-144	1.38	20.2	L704179-02	WG726196
Ethylbenzene	mg/l	0.0285	0.0271	114.	61.4-133	5.21	20	L704179-02	WG726196
Iodomethane	mg/l	0.146	0.151	116.	49.7-132	3.43	20	L704179-02	WG726196
Methylene Chloride	mg/l	0.0286	0.0288	111.	58.1-122	0.630	20	L704179-02	WG726196
Styrene	mg/l	0.0287	0.0278	115.	66.8-133	3.08	20	L704179-02	WG726196
Tetrachloroethene	mg/l	0.0281	0.0279	112.	53-139	0.760	20	L704179-02	WG726196
Toluene	mg/l	0.0264	0.0261	106.	61.4-130	1.14	20	L704179-02	WG726196
trans-1,2-Dichloroethene	mg/l	0.0275	0.0276	110.	56.5-129	0.360	20	L704179-02	WG726196
trans-1,3-Dichloropropene	mg/l	0.0253	0.0251	101.	64.1-128	0.740	20	L704179-02	WG726196
trans-1,4-Dichloro-2-butene	mg/l	0.0251	0.0257	100.	57.1-130	2.42	23.9	L704179-02	WG726196
Trichloroethene	mg/l	0.0279	0.0279	112.	44.1-149	0.240	20	L704179-02	WG726196
Trichlorofluoromethane	mg/l	0.0291	0.0279	116.	49.6-145	4.02	21.2	L704179-02	WG726196
Vinyl acetate	mg/l	0.135	0.133	108.	56.1-149	1.88	22.7	L704179-02	WG726196
Vinyl chloride	mg/l	0.0278	0.0288	111.	47.8-137	3.55	20	L704179-02	WG726196
Xylenes, Total	mg/l	0.0818	0.0791	109.	63.3-131	3.32	20	L704179-02	WG726196
4-Bromofluorobenzene				99.20	71-126				WG726196
Dibromofluoromethane				105.0	78.3-121				WG726196
Toluene-d8				103.0	88.5-111				WG726196
a,a,a-Trifluorotoluene				104.0	85-114				WG726196

Batch number /Run number / Sample number cross reference

WG726196: R2942292: L703983-01

* * Calculations are performed prior to rounding of reported values.
* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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Est. 1970

Piedmont Geologic
Mr. Pete Dressel
6003 Chapel Hill Road Suite 145

Raleigh, NC 27607

Quality Assurance Report
Level II

L703983

June 17, 2014

The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.

Piedmont Geologic

6003 Chapel Hill Road Suite 145
Raleigh, NC 27607

Billing Information:
Accounts Payable
6003 Chapel Hill Rd Ste 145
Raleigh, NC 27607

Report to: Mr. Pete Dressel

Email To: pjdressel@piedmontgeologic.com

Project Description: NCSU Lot 86 - Water Treatment System Mon

City/State Collected: RALEIGH, NC

Phone: 919-854-9700
Fax: 919-854-9532

Client Project # 1247

Lab Project # PIEGEO-NCSU LOT 86

Collected by (print): P. DRESSEL

Site/Facility ID # RALEIGH, NC

P.O. # 1347

Collected by (signature): [signature]

Immediately Packed on Ice N ___ Y ✓

Rush? (Lab MUST Be Notified)
___ Same Day 200%
___ Next Day 100%
___ Two Day 50%
___ Three Day 25%

Date Results Needed

Email? ___No X__Yes
FAX? ___No ___Yes

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	V8260AP9 40mlAmb-HCl									Rem./Contaminant	Sample # (lab only)
GWE INFLUENT	G	GW	—	6-9-14	1215	2	X										-01

* Matrix: SS - Soil GW - Groundwater WW - WaseWater DW - Drinking Water OT - Other_____

Remarks:V8260AP9 = V8260 + 1,4-Dioxane (Report 14D to MDL)
Quote PIEGEO080513S

6051 2426 4119

pH _____ Temp _____
Flow _____ Other _____

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
[signature]	6/9/14	14:00	[signature]
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)
			[signature]

Samples returned via: ☐ UPS ☑ FedEx ☐ Courier ☐ _____

Temp: 3.7 °C Bottles Received: VPX 3

Date: 6-11-14 Time: 0900

Hold #

Condition: (lab use only) OK

COC Seal Intact: ___Y ___N ___NA

pH Checked: NCF:

Chain of Custody Page ___ of ___

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Phone: 800-767-5859
Fax: 615-758-5859

L# L703983

E019

Acctnum: PIEGEO
Template: T82911
Prelogin: P469749
TSR: 350 - Jimmy Hunt
PB: 5/30
Shipped Via: FedEX Ground

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Est. 1970

Mr. Pete Dressel
Piedmont Geologic
6003 Chapel Hill Road Suite 145
Raleigh, NC 27607

Report Summary

Monday July 21, 2014

Report Number: L710067
Samples Received: 07/15/14
Client Project: 1247

Description: NCSU Lot 86 - Water Treatment System Monitoring

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By: Jimmy Hunt

Jimmy Hunt , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197, FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704/BIO041, ND - R-140. NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1, TX - T104704245-11-3, OK - 9915, PA - 68-02979, IA Lab #364, EPA - TN002

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Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

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REPORT OF ANALYSIS

Mr. Pete Dressel
Piedmont Geologic
6003 Chapel Hill Road Suite 145
Raleigh, NC 27607

July 21, 2014

ESC Sample # : L710067-01

Site ID : RALEIGH, NC

Project # : 1247

Date Received : July 15, 2014
Description : NCSU Lot 86 - Water Treatment System Monitoring

Sample ID : GWE INFLUENT

Collected By : P. Dressel
Collection Date : 07/11/14 11:15

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Volatile Organics								
Acetone	U	1000	5000	ug/l		8260B	07/17/14	100
Acrolein	U	890	5000	ug/l		8260B	07/17/14	100
Acrylonitrile	U	190	1000	ug/l		8260B	07/17/14	100
Benzene	770	33.	100	ug/l		8260B	07/17/14	100
Bromodichloromethane	120	38.	100	ug/l		8260B	07/17/14	100
Bromoform	U	47.	100	ug/l		8260B	07/17/14	100
Bromomethane	U	87.	500	ug/l		8260B	07/17/14	100
Carbon disulfide	U	28.	100	ug/l		8260B	07/17/14	100
Carbon tetrachloride	330	38.	100	ug/l		8260B	07/17/14	100
Chlorobenzene	U	35.	100	ug/l		8260B	07/17/14	100
Chlorodibromomethane	U	33.	100	ug/l		8260B	07/17/14	100
Chloroethane	U	45.	500	ug/l		8260B	07/17/14	100
Chloroform	13000	32.	500	ug/l		8260B	07/17/14	100
Chloromethane	U	28.	250	ug/l		8260B	07/17/14	100
1,2-Dibromoethane	650	38.	100	ug/l		8260B	07/17/14	100
1,2-Dibromo-3-Chloropropane	130	130	500	ug/l	J	8260B	07/17/14	100
Dibromomethane	U	35.	100	ug/l		8260B	07/17/14	100
1,2-Dichlorobenzene	U	35.	100	ug/l		8260B	07/17/14	100
1,3-Dichlorobenzene	U	22.	100	ug/l		8260B	07/17/14	100
1,4-Dichlorobenzene	U	27.	100	ug/l		8260B	07/17/14	100
Dichlorodifluoromethane	U	55.	500	ug/l		8260B	07/17/14	100
1,1-Dichloroethane	U	26.	100	ug/l		8260B	07/17/14	100
1,2-Dichloroethane	85.	36.	100	ug/l	J	8260B	07/17/14	100
1,1-Dichloroethene	U	40.	100	ug/l		8260B	07/17/14	100
cis-1,2-Dichloroethene	U	26.	100	ug/l		8260B	07/17/14	100
trans-1,2-Dichloroethene	U	40.	100	ug/l		8260B	07/17/14	100
1,2-Dichloropropane	1900	31.	100	ug/l		8260B	07/17/14	100
cis-1,3-Dichloropropene	U	42.	100	ug/l		8260B	07/17/14	100
trans-1,3-Dichloropropene	U	42.	100	ug/l		8260B	07/17/14	100
Ethylbenzene	U	38.	100	ug/l		8260B	07/17/14	100
2-Hexanone	U	380	1000	ug/l		8260B	07/17/14	100
Iodomethane	U	170	1000	ug/l		8260B	07/17/14	100
2-Butanone (MEK)	U	390	1000	ug/l		8260B	07/17/14	100
Methylene Chloride	1600	100	500	ug/l		8260B	07/17/14	100
4-Methyl-2-pentanone (MIBK)	U	210	1000	ug/l		8260B	07/17/14	100
Pentachloroethane	U	360	500	ug/l		8260B	07/17/14	100
Styrene	U	31.	100	ug/l		8260B	07/17/14	100
1,1,2,2-Tetrachloroethane	U	58.	100	ug/l		8260B	07/17/14	100
1,1,1,2-Tetrachloroethane	U	38.	100	ug/l		8260B	07/17/14	100
Tetrachloroethene	110	37.	100	ug/l		8260B	07/17/14	100
Toluene	110	78.	500	ug/l	J	8260B	07/17/14	100
1,1,1-Trichloroethane	U	32.	100	ug/l		8260B	07/17/14	100

U = ND (Not Detected)
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL
MDL = Minimum Detection Limit = LOD = TRRP SDL
Note:
The reported analytical results relate only to the sample submitted.
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.
Reported: 07/21/14 08:37 Printed: 07/21/14 08:37

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Pete Dressel
Piedmont Geologic
6003 Chapel Hill Road Suite 145
Raleigh, NC 27607

July 21, 2014

ESC Sample # : L710067-01

Date Received : July 15, 2014
Description : NCSU Lot 86 - Water Treatment System Monitoring

Site ID : RALEIGH, NC

Sample ID : GWE INFLUENT

Project # : 1247

Collected By : P. Dressel
Collection Date : 07/11/14 11:15

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
1,1,2-Trichloroethane	150	38.	100	ug/l		8260B	07/17/14	100
Trichloroethene	310	40.	100	ug/l		8260B	07/17/14	100
Trichlorofluoromethane	U	120	500	ug/l		8260B	07/17/14	100
1,2,3-Trichloropropane	U	81.	250	ug/l		8260B	07/17/14	100
Vinyl acetate	U	160	1000	ug/l		8260B	07/17/14	100
Vinyl chloride	U	26.	100	ug/l		8260B	07/17/14	100
Xylenes, Total	U	110	300	ug/l		8260B	07/17/14	100
Acetonitrile	U	1500	5000	ug/l		8260B	07/17/14	100
Allyl chloride	U	170	500	ug/l		8260B	07/17/14	100
Chloroprene	U	170	5000	ug/l		8260B	07/17/14	100
trans-1,4-Dichloro-2-butene	U	87.	250	ug/l		8260B	07/17/14	100
Isobutanol	U	3900	10000	ug/l		8260B	07/17/14	100
1,4-Dioxane	U	3600	10000	ug/l		8260B	07/17/14	100
Methacrylonitrile	U	1300	5000	ug/l		8260B	07/17/14	100
Methyl methacrylate	U	120	500	ug/l		8260B	07/17/14	100
Ethyl methacrylate	U	140	500	ug/l		8260B	07/17/14	100
Propionitrile	U	1300	5000	ug/l		8260B	07/17/14	100
Surrogate Recovery								
Toluene-d8	97.1			% Rec.		8260B	07/17/14	100
Dibromofluoromethane	97.7			% Rec.		8260B	07/17/14	100
a,a,a-Trifluorotoluene	110.			% Rec.		8260B	07/17/14	100
4-Bromofluorobenzene	92.5			% Rec.		8260B	07/17/14	100

U = ND (Not Detected)
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL
MDL = Minimum Detection Limit = LOD = TRRP SDL
Note:
The reported analytical results relate only to the sample submitted.
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Reported: 07/21/14 08:37 Printed: 07/21/14 08:37

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L710067-01	WG732326	SAMP	1,2-Dibromo-3-Chloropropane	R2965068	J
	WG732326	SAMP	1,2-Dichloroethane	R2965068	J
	WG732326	SAMP	Toluene	R2965068	J

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J	(EPA) - Estimated value below the lowest calibration point. Confidence correlates with concentration.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods,it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.

Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Differrence.

Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromotography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.

TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

Summary of Remarks For Samples Printed
07/21/14 at 08:37:54

TSR Signing Reports: 350
R5 - Desired TAT

MDL/RDL; CDG, not CDICP for GW

Sample: L710067-01 Account: PIEGEO Received: 07/15/14 09:00 Due Date: 07/22/14 00:00 RPT Date: 07/21/14 08:37
V8260AP9 = V8260 + 1,4-Dioxane (Report 14D to MDL)

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Est. 1970

Piedmont Geologic
Mr. Pete Dressel
6003 Chapel Hill Road Suite 145

Raleigh, NC 27607

Quality Assurance Report
Level II

L710067

July 21, 2014

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
1,1,1,2-Tetrachloroethane	< .001	mg/l			WG732326	07/17/14 20:38
1,1,1-Trichloroethane	< .001	mg/l			WG732326	07/17/14 20:38
1,1,2,2-Tetrachloroethane	< .001	mg/l			WG732326	07/17/14 20:38
1,1,2-Trichloroethane	< .001	mg/l			WG732326	07/17/14 20:38
1,1-Dichloroethane	< .001	mg/l			WG732326	07/17/14 20:38
1,1-Dichloroethene	< .001	mg/l			WG732326	07/17/14 20:38
1,2,3-Trichloropropane	< .001	mg/l			WG732326	07/17/14 20:38
1,2-Dibromo-3-Chloropropane	< .005	mg/l			WG732326	07/17/14 20:38
1,2-Dibromoethane	< .001	mg/l			WG732326	07/17/14 20:38
1,2-Dichlorobenzene	< .001	mg/l			WG732326	07/17/14 20:38
1,2-Dichloroethane	< .001	mg/l			WG732326	07/17/14 20:38
1,2-Dichloropropane	< .001	mg/l			WG732326	07/17/14 20:38
1,3-Dichlorobenzene	< .001	mg/l			WG732326	07/17/14 20:38
1,4-Dichlorobenzene	< .001	mg/l			WG732326	07/17/14 20:38
1,4-Dioxane	< .1	mg/l			WG732326	07/17/14 20:38
2-Butanone (MEK)	< .01	mg/l			WG732326	07/17/14 20:38
2-Hexanone	< .01	mg/l			WG732326	07/17/14 20:38
4-Methyl-2-pentanone (MIBK)	< .01	mg/l			WG732326	07/17/14 20:38
Acetone	< .05	mg/l			WG732326	07/17/14 20:38
Acetonitrile	< .05	mg/l			WG732326	07/17/14 20:38
Acrolein	< .025	mg/l			WG732326	07/17/14 20:38
Acrylonitrile	< .01	mg/l			WG732326	07/17/14 20:38
Allyl chloride	< .005	mg/l			WG732326	07/17/14 20:38
Benzene	< .001	mg/l			WG732326	07/17/14 20:38
Bromodichloromethane	< .001	mg/l			WG732326	07/17/14 20:38
Bromoform	< .001	mg/l			WG732326	07/17/14 20:38
Bromomethane	< .005	mg/l			WG732326	07/17/14 20:38
Carbon disulfide	< .001	mg/l			WG732326	07/17/14 20:38
Carbon tetrachloride	< .001	mg/l			WG732326	07/17/14 20:38
Chlorobenzene	< .001	mg/l			WG732326	07/17/14 20:38
Chlorodibromomethane	< .001	mg/l			WG732326	07/17/14 20:38
Chloroethane	< .005	mg/l			WG732326	07/17/14 20:38
Chloroform	< .005	mg/l			WG732326	07/17/14 20:38
Chloromethane	< .0025	mg/l			WG732326	07/17/14 20:38
Chloroprene	< .05	mg/l			WG732326	07/17/14 20:38
cis-1,2-Dichloroethene	< .001	mg/l			WG732326	07/17/14 20:38
cis-1,3-Dichloropropene	< .001	mg/l			WG732326	07/17/14 20:38
Dibromomethane	< .001	mg/l			WG732326	07/17/14 20:38
Dichlorodifluoromethane	< .005	mg/l			WG732326	07/17/14 20:38
Ethyl methacrylate	< .005	mg/l			WG732326	07/17/14 20:38
Ethylbenzene	< .001	mg/l			WG732326	07/17/14 20:38
Iodomethane	< .01	mg/l			WG732326	07/17/14 20:38
Isobutanol	< .1	mg/l			WG732326	07/17/14 20:38
Methacrylonitrile	< .05	mg/l			WG732326	07/17/14 20:38
Methyl methacrylate	< .005	mg/l			WG732326	07/17/14 20:38
Methylene Chloride	< .005	mg/l			WG732326	07/17/14 20:38
Pentachloroethane	< .005	mg/l			WG732326	07/17/14 20:38
Propionitrile	< .05	mg/l			WG732326	07/17/14 20:38
Styrene	< .001	mg/l			WG732326	07/17/14 20:38
Tetrachloroethene	< .001	mg/l			WG732326	07/17/14 20:38
Toluene	< .005	mg/l			WG732326	07/17/14 20:38
trans-1,2-Dichloroethene	< .001	mg/l			WG732326	07/17/14 20:38
trans-1,3-Dichloropropene	< .001	mg/l			WG732326	07/17/14 20:38
trans-1,4-Dichloro-2-butene	< .0025	mg/l			WG732326	07/17/14 20:38
Trichloroethene	< .001	mg/l			WG732326	07/17/14 20:38
Trichlorofluoromethane	< .005	mg/l			WG732326	07/17/14 20:38
Vinyl acetate	< .01	mg/l			WG732326	07/17/14 20:38
Vinyl chloride	< .001	mg/l			WG732326	07/17/14 20:38
Xylenes, Total	< .003	mg/l			WG732326	07/17/14 20:38

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Quality Assurance Report
Level II

L710067

July 21, 2014

Analyte	Units	Laboratory Control Sample Known Val	Result	% Rec	Limit	Batch
4-Bromofluorobenzene		% Rec.	98.50	71-126		07/17/14 20:38
Dibromofluoromethane		% Rec.	100.0	78.3-121		07/17/14 20:38
Toluene-d8		% Rec.	97.20	88.5-111		07/17/14 20:38
a,a,a-Trifluorotoluene		% Rec.	110.0	85-114		07/17/14 20:38

Analyte	Units	Laboratory Control Sample Known Val	Result	% Rec	Limit	Batch
1,1,1,2-Tetrachloroethane	mg/l	.025	0.0286	114.	74.2-124	WG732326
1,1,1-Trichloroethane	mg/l	.025	0.0259	104.	73.2-123	WG732326
1,1,2,2-Tetrachloroethane	mg/l	.025	0.0243	97.3	70.7-122	WG732326
1,1,2-Trichloroethane	mg/l	.025	0.0253	101.	77.7-118	WG732326
1,1-Dichloroethane	mg/l	.025	0.0244	97.8	70.7-126	WG732326
1,1-Dichloroethene	mg/l	.025	0.0265	106.	67.8-129	WG732326
1,2,3-Trichloropropane	mg/l	.025	0.0259	103.	71.8-121	WG732326
1,2-Dibromo-3-Chloropropane	mg/l	.025	0.0220	87.8	65.4-128	WG732326
1,2-Dibromoethane	mg/l	.025	0.0266	106.	76.6-121	WG732326
1,2-Dichlorobenzene	mg/l	.025	0.0255	102.	78.4-117	WG732326
1,2-Dichloroethane	mg/l	.025	0.0262	105.	68.8-124	WG732326
1,2-Dichloropropane	mg/l	.025	0.0253	101.	76.5-119	WG732326
1,3-Dichlorobenzene	mg/l	.025	0.0290	116.	70.8-128	WG732326
1,4-Dichlorobenzene	mg/l	.025	0.0253	101.	78.8-115	WG732326
2-Butanone (MEK)	mg/l	.125	0.111	89.0	55-149	WG732326
2-Hexanone	mg/l	.125	0.121	97.0	65.6-144	WG732326
4-Methyl-2-pentanone (MIBK)	mg/l	.125	0.135	108.	70.5-133	WG732326
Acetone	mg/l	.125	0.118	94.8	35.6-163	WG732326
Acrolein	mg/l	.125	0.138	110.	10-190	WG732326
Acrylonitrile	mg/l	.125	0.112	89.6	55.2-130	WG732326
Benzene	mg/l	.025	0.0237	94.6	74.8-121	WG732326
Bromodichloromethane	mg/l	.025	0.0268	107.	75.1-116	WG732326
Bromoform	mg/l	.025	0.0293	117.	67.5-130	WG732326
Bromomethane	mg/l	.025	0.0384	154.	49.9-162	WG732326
Carbon disulfide	mg/l	.025	0.0250	100.	64.6-140	WG732326
Carbon tetrachloride	mg/l	.025	0.0252	101.	70.2-123	WG732326
Chlorobenzene	mg/l	.025	0.0276	110.	78.1-119	WG732326
Chlorodibromomethane	mg/l	.025	0.0271	108.	74-121	WG732326
Chloroethane	mg/l	.025	0.0296	118.	61.7-135	WG732326
Chloroform	mg/l	.025	0.0249	99.7	76-121	WG732326
Chloromethane	mg/l	.025	0.0212	84.8	61.5-129	WG732326
cis-1,2-Dichloroethene	mg/l	.025	0.0251	100.	76-119	WG732326
cis-1,3-Dichloropropene	mg/l	.025	0.0266	106.	78.2-120	WG732326
Dibromomethane	mg/l	.025	0.0267	107.	79.5-118	WG732326
Dichlorodifluoromethane	mg/l	.025	0.0254	102.	54.8-135	WG732326
Ethylbenzene	mg/l	.025	0.0263	105.	78.8-122	WG732326
Iodomethane	mg/l	.125	0.145	116.	61-130	WG732326
Methylene Chloride	mg/l	.025	0.0239	95.4	70.3-120	WG732326
Styrene	mg/l	.025	0.0272	109.	80.4-126	WG732326
Tetrachloroethene	mg/l	.025	0.0303	121.	72.6-126	WG732326
Toluene	mg/l	.025	0.0252	101.	79.7-116	WG732326
trans-1,2-Dichloroethene	mg/l	.025	0.0253	101.	72.6-121	WG732326
trans-1,3-Dichloropropene	mg/l	.025	0.0265	106.	74.3-123	WG732326
trans-1,4-Dichloro-2-butene	mg/l	.025	0.0261	104.	65.1-123	WG732326
Trichloroethene	mg/l	.025	0.0281	113.	77.7-118	WG732326
Trichlorofluoromethane	mg/l	.025	0.0294	118.	63.5-135	WG732326
Vinyl acetate	mg/l	.125	0.0998	79.8	65-138	WG732326
Vinyl chloride	mg/l	.025	0.0258	103.	65.9-128	WG732326
Xylenes, Total	mg/l	.075	0.0773	103.	78.7-121	WG732326
4-Bromofluorobenzene				100.0	71-126	WG732326
Dibromofluoromethane				95.40	78.3-121	WG732326

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Level II

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July 21, 2014

Analyte	Laboratory Control Sample Duplicate						
	Units	Result	Ref	%Rec	Limit	RPD	Limit	Batch
Toluene-d8					99.20		88.5-111	
a,a,a-Trifluorotoluene					109.0		85-114	

Analyte	Laboratory Control Sample Duplicate							
	Units	Result	Ref	%Rec	Limit	RPD	Limit	Batch
1,1,1,2-Tetrachloroethane	mg/l	0.0281	0.0286	112.	74.2-124	1.99	20	WG732326
1,1,1-Trichloroethane	mg/l	0.0254	0.0259	101.	73.2-123	2.12	20	WG732326
1,1,2,2-Tetrachloroethane	mg/l	0.0255	0.0243	102.	70.7-122	4.78	20	WG732326
1,1,2-Trichloroethane	mg/l	0.0262	0.0253	105.	77.7-118	3.58	20	WG732326
1,1-Dichloroethane	mg/l	0.0247	0.0244	99.0	70.7-126	0.890	20	WG732326
1,1-Dichloroethene	mg/l	0.0266	0.0265	106.	67.8-129	0.280	20	WG732326
1,2,3-Trichloropropane	mg/l	0.0268	0.0259	107.	71.8-121	3.63	20	WG732326
1,2-Dibromo-3-Chloropropane	mg/l	0.0242	0.0220	97.0	65.4-128	9.77	20	WG732326
1,2-Dibromoethane	mg/l	0.0275	0.0266	110.	76.6-121	3.36	20	WG732326
1,2-Dichlorobenzene	mg/l	0.0252	0.0255	101.	78.4-117	1.23	20	WG732326
1,2-Dichloroethane	mg/l	0.0265	0.0262	106.	68.8-124	1.10	20	WG732326
1,2-Dichloropropane	mg/l	0.0254	0.0253	101.	76.5-119	0.280	20	WG732326
1,3-Dichlorobenzene	mg/l	0.0292	0.0290	117.	70.8-128	0.690	20	WG732326
1,4-Dichlorobenzene	mg/l	0.0251	0.0253	100.	78.8-115	0.570	20	WG732326
2-Butanone (MEK)	mg/l	0.119	0.111	95.0	55-149	6.79	20	WG732326
2-Hexanone	mg/l	0.131	0.121	105.	65.6-144	7.60	20	WG732326
4-Methyl-2-pentanone (MIBK)	mg/l	0.145	0.135	116.	70.5-133	6.82	20	WG732326
Acetone	mg/l	0.126	0.118	100.	35.6-163	5.82	23.9	WG732326
Acrolein	mg/l	0.141	0.138	113.	10-190	2.63	28.1	WG732326
Acrylonitrile	mg/l	0.117	0.112	93.0	55.2-130	4.13	20	WG732326
Benzene	mg/l	0.0235	0.0237	94.0	74.8-121	0.730	20	WG732326
Bromodichloromethane	mg/l	0.0267	0.0268	107.	75.1-116	0.550	20	WG732326
Bromoform	mg/l	0.0307	0.0293	123.	67.5-130	4.53	20	WG732326
Bromomethane	mg/l	0.0370	0.0384	148.	49.9-162	3.86	20	WG732326
Carbon disulfide	mg/l	0.0245	0.0250	98.0	64.6-140	2.22	20	WG732326
Carbon tetrachloride	mg/l	0.0245	0.0252	98.0	70.2-123	2.67	20	WG732326
Chlorobenzene	mg/l	0.0275	0.0276	110.	78.1-119	0.380	20	WG732326
Chlorodibromomethane	mg/l	0.0276	0.0271	110.	74-121	1.73	20	WG732326
Chloroethane	mg/l	0.0288	0.0296	115.	61.7-135	2.85	20	WG732326
Chloroform	mg/l	0.0246	0.0249	98.0	76-121	1.20	20	WG732326
Chloromethane	mg/l	0.0209	0.0212	84.0	61.5-129	1.40	20	WG732326
cis-1,2-Dichloroethene	mg/l	0.0250	0.0251	100.	76-119	0.550	20	WG732326
cis-1,3-Dichloropropene	mg/l	0.0266	0.0266	106.	78.2-120	0.0700	20	WG732326
Dibromomethane	mg/l	0.0268	0.0267	107.	79.5-118	0.520	20	WG732326
Dichlorodifluoromethane	mg/l	0.0244	0.0254	98.0	54.8-135	4.02	20	WG732326
Ethylbenzene	mg/l	0.0262	0.0263	105.	78.8-122	0.390	20	WG732326
Iodomethane	mg/l	0.142	0.145	114.	61-130	2.10	20	WG732326
Methylene Chloride	mg/l	0.0237	0.0239	95.0	70.3-120	0.800	20	WG732326
Styrene	mg/l	0.0272	0.0272	109.	80.4-126	0.0700	20	WG732326
Tetrachloroethene	mg/l	0.0298	0.0303	119.	72.6-126	1.84	20	WG732326
Toluene	mg/l	0.0250	0.0252	100.	79.7-116	0.990	20	WG732326
trans-1,2-Dichloroethene	mg/l	0.0246	0.0253	98.0	72.6-121	2.58	20	WG732326
trans-1,3-Dichloropropene	mg/l	0.0263	0.0265	105.	74.3-123	0.930	20	WG732326
trans-1,4-Dichloro-2-butene	mg/l	0.0266	0.0261	106.	65.1-123	2.05	20	WG732326
Trichloroethene	mg/l	0.0280	0.0281	112.	77.7-118	0.620	20	WG732326
Trichlorofluoromethane	mg/l	0.0283	0.0294	113.	63.5-135	3.80	20	WG732326
Vinyl acetate	mg/l	0.0995	0.0998	80.0	65-138	0.340	20	WG732326
Vinyl chloride	mg/l	0.0247	0.0258	99.0	65.9-128	4.11	20	WG732326
Xylenes, Total	mg/l	0.0773	0.0773	103.	78.7-121	0.0300	20	WG732326
4-Bromofluorobenzene				99.40	71-126			WG732326
Dibromofluoromethane				93.80	78.3-121			WG732326
Toluene-d8				97.50	88.5-111			WG732326
a,a,a-Trifluorotoluene				108.0	85-114			WG732326

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July 21, 2014

Analyte	Units	Matrix Spike MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
1,1,1,2-Tetrachloroethane	mg/l	0.0294	0.0	.025	120.	64-128	L710569-01	WG732326
1,1,1-Trichloroethane	mg/l	0.0261	0.0	.025	100.	58.7-134	L710569-01	WG732326
1,1,2,2-Tetrachloroethane	mg/l	0.0306	0.0	.025	120.	56-132	L710569-01	WG732326
1,1,2-Trichloroethane	mg/l	0.0312	0.0	.025	120.	66.3-125	L710569-01	WG732326
1,1-Dichloroethane	mg/l	0.0249	0.0	.025	100.	58.5-132	L710569-01	WG732326
1,1-Dichloroethene	mg/l	0.0306	0.0	.025	120.	51.1-140	L710569-01	WG732326
1,2,3-Trichloropropane	mg/l	0.0303	0.0	.025	120.	61.4-128	L710569-01	WG732326
1,2-Dibromo-3-Chloropropane	mg/l	0.0305	0.0	.025	120.	57.3-136	L710569-01	WG732326
1,2-Dibromoethane	mg/l	0.0318	0.0	.025	130.*	67.1-125	L710569-01	WG732326
1,2-Dichlorobenzene	mg/l	0.0289	0.0	.025	120.	68.2-123	L710569-01	WG732326
1,2-Dichloroethane	mg/l	0.0246	0.0	.025	98.0	60-126	L710569-01	WG732326
1,2-Dichloropropane	mg/l	0.0269	0.00112	.025	100.	64.2-123	L710569-01	WG732326
1,3-Dichlorobenzene	mg/l	0.0304	0.0	.025	120.	63.1-131	L710569-01	WG732326
1,4-Dichlorobenzene	mg/l	0.0284	0.0	.025	110.	68.6-123	L710569-01	WG732326
2-Butanone (MEK)	mg/l	0.134	0.0	.125	110.	22.4-138	L710569-01	WG732326
2-Hexanone	mg/l	0.159	0.0	.125	130.	43.3-137	L710569-01	WG732326
4-Methyl-2-pentanone (MIBK)	mg/l	0.158	0.0	.125	130.	60.8-140	L710569-01	WG732326
Acetone	mg/l	0.121	0.00277	.125	94.0	10-130	L710569-01	WG732326
Acrolein	mg/l	0.130	0.0	.125	100.	10-200	L710569-01	WG732326
Acrylonitrile	mg/l	0.145	0.0	.125	120.	49.4-133	L710569-01	WG732326
Benzene	mg/l	0.0243	0.0	.025	97.0	54.3-133	L710569-01	WG732326
Bromodichloromethane	mg/l	0.0276	0.0	.025	110.	63.9-121	L710569-01	WG732326
Bromoform	mg/l	0.0364	0.0	.025	140.*	59.5-134	L710569-01	WG732326
Bromomethane	mg/l	0.0269	0.0	.025	110.	41.7-155	L710569-01	WG732326
Carbon disulfide	mg/l	0.0280	0.0	.025	110.	43.3-149	L710569-01	WG732326
Carbon tetrachloride	mg/l	0.0276	0.0	.025	110.	55.7-134	L710569-01	WG732326
Chlorobenzene	mg/l	0.0315	0.0	.025	130.*	67-125	L710569-01	WG732326
Chlorodibromomethane	mg/l	0.0336	0.0	.025	140.*	64.3-125	L710569-01	WG732326
Chloroethane	mg/l	0.0276	0.000480	.025	110.	51.5-136	L710569-01	WG732326
Chloroform	mg/l	0.0243	0.0	.025	97.0	63-129	L710569-01	WG732326
Chloromethane	mg/l	0.0243	0.0	.025	97.0	42.4-135	L710569-01	WG732326
cis-1,2-Dichloroethene	mg/l	0.0261	0.0	.025	100.	59.2-129	L710569-01	WG732326
cis-1,3-Dichloropropene	mg/l	0.0295	0.0	.025	120.	66.4-125	L710569-01	WG732326
Dibromomethane	mg/l	0.0279	0.0	.025	110.	68.2-124	L710569-01	WG732326
Dichlorodifluoromethane	mg/l	0.0254	0.0	.025	100.	40.6-144	L710569-01	WG732326
Ethylbenzene	mg/l	0.0308	0.0	.025	120.	61.4-133	L710569-01	WG732326
Iodomethane	mg/l	0.135	0.0	.125	110.	49.7-132	L710569-01	WG732326
Methylene Chloride	mg/l	0.0222	0.0	.025	89.0	58.1-122	L710569-01	WG732326
Styrene	mg/l	0.0324	0.0	.025	130.	66.8-133	L710569-01	WG732326
Tetrachloroethene	mg/l	0.0308	0.0	.025	120.	53-139	L710569-01	WG732326
Toluene	mg/l	0.0293	0.0	.025	120.	61.4-130	L710569-01	WG732326
trans-1,2-Dichloroethene	mg/l	0.0251	0.0	.025	100.	56.5-129	L710569-01	WG732326
trans-1,3-Dichloropropene	mg/l	0.0343	0.0	.025	140.*	64.1-128	L710569-01	WG732326
trans-1,4-Dichloro-2-butene	mg/l	0.0270	0.0	.025	110.	57.1-130	L710569-01	WG732326
Trichloroethene	mg/l	0.0274	0.0	.025	110.	44.1-149	L710569-01	WG732326
Trichlorofluoromethane	mg/l	0.0273	0.0	.025	110.	49.6-145	L710569-01	WG732326
Vinyl acetate	mg/l	0.120	0.0	.125	96.0	56.1-149	L710569-01	WG732326
Vinyl chloride	mg/l	0.0258	0.0	.025	100.	47.8-137	L710569-01	WG732326
Xylenes, Total	mg/l	0.0909	0.0	.075	120.	63.3-131	L710569-01	WG732326
4-Bromofluorobenzene					97.80	71-126		WG732326
Dibromofluoromethane					98.40	78.3-121		WG732326
Toluene-d8					104.0	88.5-111		WG732326
a,a,a-Trifluorotoluene					103.0	85-114		WG732326

Analyte	Units	Matrix Spike Duplicate MSD	Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
1,1,1,2-Tetrachloroethane	mg/l	0.0317	0.0294	127.	64-128	7.48	20	L710569-01	WG732326
1,1,1-Trichloroethane	mg/l	0.0259	0.0261	103.	58.7-134	0.930	20	L710569-01	WG732326

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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Mr. Pete Dressel
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Raleigh, NC 27607

Quality Assurance Report
Level II

L710067

July 21, 2014

Analyte	Units	Matrix Spike Duplicate MSD	Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
1,1,2,2-Tetrachloroethane	mg/l	0.0315	0.0306	126.	56-132	2.71	22.2	L710569-01	WG732326
1,1,2-Trichloroethane	mg/l	0.0308	0.0312	123.	66.3-125	1.37	20	L710569-01	WG732326
1,1-Dichloroethane	mg/l	0.0246	0.0249	98.2	58.5-132	1.25	20	L710569-01	WG732326
1,1-Dichloroethene	mg/l	0.0299	0.0306	120.	51.1-140	2.21	20.2	L710569-01	WG732326
1,2,3-Trichloropropane	mg/l	0.0301	0.0303	120.	61.4-128	0.610	22.4	L710569-01	WG732326
1,2-Dibromo-3-Chloropropane	mg/l	0.0314	0.0305	126.	57.3-136	3.17	27	L710569-01	WG732326
1,2-Dibromoethane	mg/l	0.0313	0.0318	125.	67.1-125	1.40	20	L710569-01	WG732326
1,2-Dichlorobenzene	mg/l	0.0295	0.0289	118.	68.2-123	2.19	20	L710569-01	WG732326
1,2-Dichloroethane	mg/l	0.0245	0.0246	98.1	60-126	0.220	20	L710569-01	WG732326
1,2-Dichloropropane	mg/l	0.0264	0.0269	101.	64.2-123	1.77	20	L710569-01	WG732326
1,3-Dichlorobenzene	mg/l	0.0314	0.0304	126.	63.1-131	3.41	20	L710569-01	WG732326
1,4-Dichlorobenzene	mg/l	0.0286	0.0284	114.	68.6-123	0.550	20	L710569-01	WG732326
2-Butanone (MEK)	mg/l	0.125	0.134	100.	22.4-138	6.71	27	L710569-01	WG732326
2-Hexanone	mg/l	0.155	0.159	124.	43.3-137	2.76	25.5	L710569-01	WG732326
4-Methyl-2-pentanone (MIBK)	mg/l	0.147	0.158	118.	60.8-140	7.33	25.1	L710569-01	WG732326
Acetone	mg/l	0.133	0.121	104.	10-130	10.1	27.9	L710569-01	WG732326
Acrolein	mg/l	0.142	0.130	113.	10-200	8.61	27.7	L710569-01	WG732326
Acrylonitrile	mg/l	0.138	0.145	110.	49.4-133	5.28	25.3	L710569-01	WG732326
Benzene	mg/l	0.0240	0.0243	95.9	54.3-133	1.49	20	L710569-01	WG732326
Bromodichloromethane	mg/l	0.0270	0.0276	108.	63.9-121	2.00	20	L710569-01	WG732326
Bromoform	mg/l	0.0360	0.0364	144.*	59.5-134	1.11	20.5	L710569-01	WG732326
Bromomethane	mg/l	0.0288	0.0269	115.	41.7-155	6.62	21.9	L710569-01	WG732326
Carbon disulfide	mg/l	0.0277	0.0280	111.	43.3-149	0.950	20.3	L710569-01	WG732326
Carbon tetrachloride	mg/l	0.0274	0.0276	110.	55.7-134	0.840	20	L710569-01	WG732326
Chlorobenzene	mg/l	0.0306	0.0315	122.	67-125	2.90	20	L710569-01	WG732326
Chlorodibromomethane	mg/l	0.0333	0.0336	133.*	64.3-125	1.12	20.8	L710569-01	WG732326
Chloroethane	mg/l	0.0284	0.0276	112.	51.5-136	2.92	40	L710569-01	WG732326
Chloroform	mg/l	0.0238	0.0243	95.1	63-129	2.22	20	L710569-01	WG732326
Chloromethane	mg/l	0.0243	0.0243	97.1	42.4-135	0.0800	20	L710569-01	WG732326
cis-1,2-Dichloroethene	mg/l	0.0255	0.0261	102.	59.2-129	2.44	20	L710569-01	WG732326
cis-1,3-Dichloropropene	mg/l	0.0273	0.0295	109.	66.4-125	7.80	20	L710569-01	WG732326
Dibromomethane	mg/l	0.0273	0.0279	109.	68.2-124	1.98	20	L710569-01	WG732326
Dichlorodifluoromethane	mg/l	0.0245	0.0254	98.1	40.6-144	3.58	20.2	L710569-01	WG732326
Ethylbenzene	mg/l	0.0296	0.0308	118.	61.4-133	4.05	20	L710569-01	WG732326
Iodomethane	mg/l	0.137	0.135	109.	49.7-132	0.930	20	L710569-01	WG732326
Methylene Chloride	mg/l	0.0245	0.0222	98.2	58.1-122	9.92	20	L710569-01	WG732326
Styrene	mg/l	0.0305	0.0324	122.	66.8-133	6.03	20	L710569-01	WG732326
Tetrachloroethene	mg/l	0.0313	0.0308	125.	53-139	1.62	20	L710569-01	WG732326
Toluene	mg/l	0.0264	0.0293	106.	61.4-130	10.2	20	L710569-01	WG732326
trans-1,2-Dichloroethene	mg/l	0.0251	0.0251	100.	56.5-129	0.130	20	L710569-01	WG732326
trans-1,3-Dichloropropene	mg/l	0.0300	0.0343	120.	64.1-128	13.2	20	L710569-01	WG732326
trans-1,4-Dichloro-2-butene	mg/l	0.0274	0.0270	110.	57.1-130	1.47	23.9	L710569-01	WG732326
Trichloroethene	mg/l	0.0271	0.0274	108.	44.1-149	0.830	20	L710569-01	WG732326
Trichlorofluoromethane	mg/l	0.0280	0.0273	112.	49.6-145	2.62	21.2	L710569-01	WG732326
Vinyl acetate	mg/l	0.119	0.120	95.5	56.1-149	0.150	22.7	L710569-01	WG732326
Vinyl chloride	mg/l	0.0262	0.0258	105.	47.8-137	1.48	20	L710569-01	WG732326
Xylenes, Total	mg/l	0.0874	0.0909	116.	63.3-131	3.86	20	L710569-01	WG732326
4-Bromofluorobenzene				98.90	71-126				WG732326
Dibromofluoromethane				95.20	78.3-121				WG732326
Toluene-d8				96.50	88.5-111				WG732326
a,a,a-Trifluorotoluene				103.0	85-114				WG732326

Batch number /Run number / Sample number cross reference

WG732326: R2965068 R2965826: L710067-01

* * Calculations are performed prior to rounding of reported values.
* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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Quality Assurance Report
Level II

L710067

July 21, 2014

The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.

Piedmont Geologic

6003 Chapel Hill Road Suite 145
Raleigh, NC 27607

Billing Information:
Accounts Payable
6003 Chapel Hill Rd Ste 145
Raleigh, NC 27607

Report to: Mr. Pete Dressel

Email To: pjdressel@piedmontgeologic.com

Project Description: NCSU Lot 86 - Water Treatment System Mon

City/State Collected:

Phone: 919-854-9700
Fax: 919-854-9532

Client Project # 1247

Lab Project # PIEGEO-NCSU LOT 86

Collected by (print): P. DRESSEL

Site/Facility ID # RALEIGH, NC

P.O. # 1347

Collected by (signature): [signature]

Immediately Packed on Ice N ____ Y ✓

Rush? (Lab MUST Be Notified)
____ Same Day 200%
____ Next Day 100%
____ Two Day 50%
____ Three Day 25%

Date Results Needed

Email? ___No X__Yes
FAX? ___No ___Yes

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

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L# L710067
C234

Acctnum: PIEGEO
Template: T82911
Prelogin: P473971
TSR: 350 - Jimmy Hunt
PB: 6-27-14 BR
Shipped Via: FedEx Ground

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	V8260AP9 40mlAmb-HCl	Rem./Contaminant	Sample # (lab only)
GWE INFLUENT	G	GW	—	7-11-14	~~1115~~ 1115	2	X		01

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other_____

Remarks:V8260AP9 = V8260 + 1,4-Dioxane (Report 14D to MDL)

Quote PIEGEO080513S 6089 7168 5868

pH _____ Temp _____
Flow _____ Other _____

Samples returned via: ☐ UPS ☒ FedEx ☐ Courier ☐ _____

Hold #

Condition: (lab use only) UC JWS

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
[signature]	7/11/14	14:00	[signature]
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)
[signature]	7/14/14	17:00	[signature]

Temp: 3.1 °C Bottles Received: 2 VP

Date: 7/15/14 Time: 09:00

COC Seal Intact: ____Y ____N ____NA

pH Checked: NCF:

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Mr. Pete Dressel
Piedmont Geologic
6003 Chapel Hill Road Suite 145
Raleigh, NC 27607

Report Summary

Friday August 15, 2014

Report Number: L714637
Samples Received: 08/08/14
Client Project: 1441

Description: NCSU Lot 86 - Water Treatment System Monitoring

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By: Jimmy Hunt

Jimmy Hunt , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197, FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704/BIO041, ND - R-140. NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1, TX - T104704245-11-3, OK - 9915, PA - 68-02979, IA Lab #364, EPA - TN002

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REPORT OF ANALYSIS

Mr. Pete Dressel
Piedmont Geologic
6003 Chapel Hill Road Suite 145
Raleigh, NC 27607

August 15, 2014

ESC Sample # : L714637-01

Site ID : RALEIGH, NC

Project # : 1441

Date Received : August 08, 2014
Description : NCSU Lot 86 - Water Treatment System Monitoring

Sample ID : GWE INFLUENT

Collected By : P. Dressel
Collection Date : 08/06/14 10:55

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Volatile Organics								
Acetone	U	1000	5000	ug/l		8260B	08/11/14	100
Acrolein	U	890	5000	ug/l		8260B	08/11/14	100
Acrylonitrile	U	190	1000	ug/l		8260B	08/11/14	100
Benzene	650	33.	100	ug/l		8260B	08/11/14	100
Bromodichloromethane	110	38.	100	ug/l		8260B	08/11/14	100
Bromoform	U	47.	100	ug/l		8260B	08/11/14	100
Bromomethane	U	87.	500	ug/l		8260B	08/11/14	100
Carbon disulfide	U	28.	100	ug/l		8260B	08/11/14	100
Carbon tetrachloride	290	38.	100	ug/l		8260B	08/11/14	100
Chlorobenzene	35.	35.	100	ug/l	J	8260B	08/11/14	100
Chlorodibromomethane	U	33.	100	ug/l		8260B	08/11/14	100
Chloroethane	U	45.	500	ug/l		8260B	08/11/14	100
Chloroform	13000	32.	500	ug/l		8260B	08/11/14	100
Chloromethane	U	28.	250	ug/l		8260B	08/11/14	100
1,2-Dibromoethane	610	38.	100	ug/l		8260B	08/11/14	100
1,2-Dibromo-3-Chloropropane	150	130	500	ug/l	J	8260B	08/11/14	100
Dibromomethane	U	35.	100	ug/l		8260B	08/11/14	100
1,2-Dichlorobenzene	U	35.	100	ug/l		8260B	08/11/14	100
1,3-Dichlorobenzene	U	22.	100	ug/l		8260B	08/11/14	100
1,4-Dichlorobenzene	U	27.	100	ug/l		8260B	08/11/14	100
Dichlorodifluoromethane	U	55.	500	ug/l		8260B	08/11/14	100
1,1-Dichloroethane	U	26.	100	ug/l		8260B	08/11/14	100
1,2-Dichloroethane	92.	36.	100	ug/l	J	8260B	08/11/14	100
1,1-Dichloroethene	U	40.	100	ug/l		8260B	08/11/14	100
cis-1,2-Dichloroethene	U	26.	100	ug/l		8260B	08/11/14	100
trans-1,2-Dichloroethene	U	40.	100	ug/l		8260B	08/11/14	100
1,2-Dichloropropane	1800	31.	100	ug/l		8260B	08/11/14	100
cis-1,3-Dichloropropene	U	42.	100	ug/l		8260B	08/11/14	100
trans-1,3-Dichloropropene	U	42.	100	ug/l		8260B	08/11/14	100
Ethylbenzene	U	38.	100	ug/l		8260B	08/11/14	100
2-Hexanone	U	380	1000	ug/l		8260B	08/11/14	100
Iodomethane	U	170	1000	ug/l		8260B	08/11/14	100
2-Butanone (MEK)	U	390	1000	ug/l		8260B	08/11/14	100
Methylene Chloride	1600	100	500	ug/l		8260B	08/11/14	100
4-Methyl-2-pentanone (MIBK)	U	210	1000	ug/l		8260B	08/11/14	100
Pentachloroethane	U	360	500	ug/l		8260B	08/14/14	100
Styrene	U	31.	100	ug/l		8260B	08/11/14	100
1,1,2,2-Tetrachloroethane	U	58.	100	ug/l		8260B	08/11/14	100
1,1,1,2-Tetrachloroethane	U	38.	100	ug/l		8260B	08/11/14	100
Tetrachloroethene	93.	37.	100	ug/l	J	8260B	08/11/14	100
Toluene	110	78.	500	ug/l	J	8260B	08/11/14	100
1,1,1-Trichloroethane	U	32.	100	ug/l		8260B	08/11/14	100

U = ND (Not Detected)
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL
MDL = Minimum Detection Limit = LOD = TRRP SDL
Note:
The reported analytical results relate only to the sample submitted.
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REPORT OF ANALYSIS

Mr. Pete Dressel
Piedmont Geologic
6003 Chapel Hill Road Suite 145
Raleigh, NC 27607

August 15, 2014

ESC Sample # : L714637-01

Site ID : RALEIGH, NC

Project # : 1441

Date Received : August 08, 2014
Description : NCSU Lot 86 - Water Treatment System Monitoring

Sample ID : GWE INFLUENT

Collected By : P. Dressel
Collection Date : 08/06/14 10:55

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
1,1,2-Trichloroethane	160	38.	100	ug/l		8260B	08/11/14	100
Trichloroethene	280	40.	100	ug/l		8260B	08/11/14	100
Trichlorofluoromethane	U	120	500	ug/l		8260B	08/11/14	100
1,2,3-Trichloropropane	U	81.	250	ug/l		8260B	08/11/14	100
Vinyl acetate	U	160	1000	ug/l		8260B	08/11/14	100
Vinyl chloride	U	26.	100	ug/l		8260B	08/11/14	100
Xylenes, Total	U	110	300	ug/l		8260B	08/11/14	100
Acetonitrile	U	1500	5000	ug/l		8260B	08/11/14	100
Allyl chloride	U	170	500	ug/l		8260B	08/11/14	100
Chloroprene	U	170	5000	ug/l		8260B	08/14/14	100
trans-1,4-Dichloro-2-butene	U	87.	250	ug/l		8260B	08/11/14	100
Isobutanol	U	3900	10000	ug/l		8260B	08/11/14	100
1,4-Dioxane	U	3600	10000	ug/l		8260B	08/11/14	100
Methacrylonitrile	U	1300	5000	ug/l		8260B	08/11/14	100
Methyl methacrylate	U	120	500	ug/l		8260B	08/11/14	100
Ethyl methacrylate	U	140	500	ug/l		8260B	08/11/14	100
Propionitrile	U	1300	5000	ug/l		8260B	08/11/14	100
Surrogate Recovery								
Toluene-d8	99.9			% Rec.		8260B	08/11/14	100
Dibromofluoromethane	95.9			% Rec.		8260B	08/11/14	100
a,a,a-Trifluorotoluene	98.7			% Rec.		8260B	08/11/14	100
4-Bromofluorobenzene	96.0			% Rec.		8260B	08/11/14	100

U = ND (Not Detected)
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL
MDL = Minimum Detection Limit = LOD = TRRP SDL
Note:
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Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L714637-01	WG736499	SAMP	Chlorobenzene	R2976289	J
	WG736499	SAMP	1,2-Dibromo-3-Chloropropane	R2976289	J
	WG736499	SAMP	1,2-Dichloroethane	R2976289	J
	WG736499	SAMP	Tetrachloroethene	R2976289	J
	WG736499	SAMP	Toluene	R2976289	J

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J	(EPA) - Estimated value below the lowest calibration point. Confidence correlates with concentration.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods,it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.

Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Differrence.

Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromotography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.

TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

Summary of Remarks For Samples Printed
08/15/14 at 14:54:28

TSR Signing Reports: 350
R5 - Desired TAT

MDL/RDL; CDG, not CDICP for GW

Sample: L714637-01 Account: PIEGEO Received: 08/08/14 09:00 Due Date: 08/15/14 00:00 RPT Date: 08/15/14 14:54
V8260AP9 = V8260 + 1,4-Dioxane (Report 14D to MDL)

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Quality Assurance Report
Level II

L714637

August 15, 2014

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
1,1,1,2-Tetrachloroethane	< .001	mg/l			WG736499	08/10/14 23:07
1,1,1-Trichloroethane	< .001	mg/l			WG736499	08/10/14 23:07
1,1,2,2-Tetrachloroethane	< .001	mg/l			WG736499	08/10/14 23:07
1,1,2-Trichloroethane	< .001	mg/l			WG736499	08/10/14 23:07
1,1-Dichloroethane	< .001	mg/l			WG736499	08/10/14 23:07
1,1-Dichloroethene	< .001	mg/l			WG736499	08/10/14 23:07
1,2,3-Trichloropropane	< .001	mg/l			WG736499	08/10/14 23:07
1,2-Dibromo-3-Chloropropane	< .005	mg/l			WG736499	08/10/14 23:07
1,2-Dibromoethane	< .001	mg/l			WG736499	08/10/14 23:07
1,2-Dichlorobenzene	< .001	mg/l			WG736499	08/10/14 23:07
1,2-Dichloroethane	< .001	mg/l			WG736499	08/10/14 23:07
1,2-Dichloropropane	< .001	mg/l			WG736499	08/10/14 23:07
1,3-Dichlorobenzene	< .001	mg/l			WG736499	08/10/14 23:07
1,4-Dichlorobenzene	< .001	mg/l			WG736499	08/10/14 23:07
1,4-Dioxane	< .1	mg/l			WG736499	08/10/14 23:07
2-Butanone (MEK)	< .01	mg/l			WG736499	08/10/14 23:07
2-Hexanone	< .01	mg/l			WG736499	08/10/14 23:07
4-Methyl-2-pentanone (MIBK)	< .01	mg/l			WG736499	08/10/14 23:07
Acetone	< .05	mg/l			WG736499	08/10/14 23:07
Acetonitrile	< .05	mg/l			WG736499	08/10/14 23:07
Acrolein	< .025	mg/l			WG736499	08/10/14 23:07
Acrylonitrile	< .01	mg/l			WG736499	08/10/14 23:07
Allyl chloride	< .005	mg/l			WG736499	08/10/14 23:07
Benzene	< .001	mg/l			WG736499	08/10/14 23:07
Bromodichloromethane	< .001	mg/l			WG736499	08/10/14 23:07
Bromoform	< .001	mg/l			WG736499	08/10/14 23:07
Bromomethane	< .005	mg/l			WG736499	08/10/14 23:07
Carbon disulfide	< .001	mg/l			WG736499	08/10/14 23:07
Carbon tetrachloride	< .001	mg/l			WG736499	08/10/14 23:07
Chlorobenzene	< .001	mg/l			WG736499	08/10/14 23:07
Chlorodibromomethane	< .001	mg/l			WG736499	08/10/14 23:07
Chloroethane	< .005	mg/l			WG736499	08/10/14 23:07
Chloroform	< .005	mg/l			WG736499	08/10/14 23:07
Chloromethane	< .0025	mg/l			WG736499	08/10/14 23:07
cis-1,2-Dichloroethene	< .001	mg/l			WG736499	08/10/14 23:07
cis-1,3-Dichloropropene	< .001	mg/l			WG736499	08/10/14 23:07
Dibromomethane	< .001	mg/l			WG736499	08/10/14 23:07
Dichlorodifluoromethane	< .005	mg/l			WG736499	08/10/14 23:07
Ethyl methacrylate	< .005	mg/l			WG736499	08/10/14 23:07
Ethylbenzene	< .001	mg/l			WG736499	08/10/14 23:07
Iodomethane	< .01	mg/l			WG736499	08/10/14 23:07
Isobutanol	< .1	mg/l			WG736499	08/10/14 23:07
Methacrylonitrile	< .05	mg/l			WG736499	08/10/14 23:07
Methyl methacrylate	< .005	mg/l			WG736499	08/10/14 23:07
Methylene Chloride	< .005	mg/l			WG736499	08/10/14 23:07
Propionitrile	< .05	mg/l			WG736499	08/10/14 23:07
Styrene	< .001	mg/l			WG736499	08/10/14 23:07
Tetrachloroethene	< .001	mg/l			WG736499	08/10/14 23:07
Toluene	< .005	mg/l			WG736499	08/10/14 23:07
trans-1,2-Dichloroethene	< .001	mg/l			WG736499	08/10/14 23:07
trans-1,3-Dichloropropene	< .001	mg/l			WG736499	08/10/14 23:07
trans-1,4-Dichloro-2-butene	< .0025	mg/l			WG736499	08/10/14 23:07
Trichloroethene	< .001	mg/l			WG736499	08/10/14 23:07
Trichlorofluoromethane	< .005	mg/l			WG736499	08/10/14 23:07
Vinyl acetate	< .01	mg/l			WG736499	08/10/14 23:07
Vinyl chloride	< .001	mg/l			WG736499	08/10/14 23:07
Xylenes, Total	< .003	mg/l			WG736499	08/10/14 23:07
4-Bromofluorobenzene		% Rec.	98.60	71-126	WG736499	08/10/14 23:07
Dibromofluoromethane		% Rec.	93.40	78.3-121	WG736499	08/10/14 23:07

* Performance of this Analyte is outside of established criteria.
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Quality Assurance Report
Level II

L714637

August 15, 2014

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
Toluene-d8		% Rec.	99.00	88.5-111		08/10/14 23:07
a,a,a-Trifluorotoluene		% Rec.	99.50	85-114		08/10/14 23:07
Chloroprene	< .05	mg/l			WG737430	08/14/14 20:57
Pentachloroethane	< .005	mg/l			WG737430	08/14/14 20:57
4-Bromofluorobenzene		% Rec.	99.80	71-126	WG737430	08/14/14 20:57
Dibromofluoromethane		% Rec.	108.0	78.3-121	WG737430	08/14/14 20:57
Toluene-d8		% Rec.	109.0	88.5-111	WG737430	08/14/14 20:57
a,a,a-Trifluorotoluene		% Rec.	97.40	85-114	WG737430	08/14/14 20:57

Laboratory Control Sample

Analyte	Units	Known Val	Result	% Rec	Limit	Batch
1,1,1,2-Tetrachloroethane	mg/l	.025	0.0247	98.9	74.2-124	WG736499
1,1,1-Trichloroethane	mg/l	.025	0.0235	94.2	73.2-123	WG736499
1,1,2,2-Tetrachloroethane	mg/l	.025	0.0269	108.	70.7-122	WG736499
1,1,2-Trichloroethane	mg/l	.025	0.0251	100.	77.7-118	WG736499
1,1-Dichloroethane	mg/l	.025	0.0239	95.5	70.7-126	WG736499
1,1-Dichloroethene	mg/l	.025	0.0232	92.7	67.8-129	WG736499
1,2,3-Trichloropropane	mg/l	.025	0.0261	104.	71.8-121	WG736499
1,2-Dibromo-3-Chloropropane	mg/l	.025	0.0274	109.	65.4-128	WG736499
1,2-Dibromoethane	mg/l	.025	0.0260	104.	76.6-121	WG736499
1,2-Dichlorobenzene	mg/l	.025	0.0243	97.3	78.4-117	WG736499
1,2-Dichloroethane	mg/l	.025	0.0242	96.7	68.8-124	WG736499
1,2-Dichloropropane	mg/l	.025	0.0243	97.3	76.5-119	WG736499
1,3-Dichlorobenzene	mg/l	.025	0.0255	102.	70.8-128	WG736499
1,4-Dichlorobenzene	mg/l	.025	0.0239	95.6	78.8-115	WG736499
2-Butanone (MEK)	mg/l	.125	0.129	104.	55-149	WG736499
2-Hexanone	mg/l	.125	0.142	113.	65.6-144	WG736499
4-Methyl-2-pentanone (MIBK)	mg/l	.125	0.134	107.	70.5-133	WG736499
Acetone	mg/l	.125	0.119	95.5	35.6-163	WG736499
Acrolein	mg/l	.125	0.140	112.	10-190	WG736499
Acrylonitrile	mg/l	.125	0.134	107.	55.2-130	WG736499
Benzene	mg/l	.025	0.0230	92.0	74.8-121	WG736499
Bromodichloromethane	mg/l	.025	0.0243	97.2	75.1-116	WG736499
Bromoform	mg/l	.025	0.0273	109.	67.5-130	WG736499
Bromomethane	mg/l	.025	0.0170	68.2	49.9-162	WG736499
Carbon disulfide	mg/l	.025	0.0210	84.2	64.6-140	WG736499
Carbon tetrachloride	mg/l	.025	0.0236	94.5	70.2-123	WG736499
Chlorobenzene	mg/l	.025	0.0239	95.8	78.1-119	WG736499
Chlorodibromomethane	mg/l	.025	0.0254	102.	74-121	WG736499
Chloroethane	mg/l	.025	0.0207	82.9	61.7-135	WG736499
Chloroform	mg/l	.025	0.0229	91.5	76-121	WG736499
Chloromethane	mg/l	.025	0.0210	84.1	61.5-129	WG736499
cis-1,2-Dichloroethene	mg/l	.025	0.0243	97.4	76-119	WG736499
cis-1,3-Dichloropropene	mg/l	.025	0.0238	95.2	78.2-120	WG736499
Dibromomethane	mg/l	.025	0.0257	103.	79.5-118	WG736499
Dichlorodifluoromethane	mg/l	.025	0.0212	84.7	54.8-135	WG736499
Ethylbenzene	mg/l	.025	0.0244	97.7	78.8-122	WG736499
Iodomethane	mg/l	.125	0.105	83.7	61-130	WG736499
Methylene Chloride	mg/l	.025	0.0223	89.1	70.3-120	WG736499
Styrene	mg/l	.025	0.0253	101.	80.4-126	WG736499
Tetrachloroethene	mg/l	.025	0.0245	98.0	72.6-126	WG736499
Toluene	mg/l	.025	0.0231	92.6	79.7-116	WG736499
trans-1,2-Dichloroethene	mg/l	.025	0.0233	93.4	72.6-121	WG736499
trans-1,3-Dichloropropene	mg/l	.025	0.0254	101.	74.3-123	WG736499
trans-1,4-Dichloro-2-butene	mg/l	.025	0.0272	109.	65.1-123	WG736499
Trichloroethene	mg/l	.025	0.0243	97.2	77.7-118	WG736499
Trichlorofluoromethane	mg/l	.025	0.0221	88.5	63.5-135	WG736499
Vinyl acetate	mg/l	.125	0.123	98.3	65-138	WG736499

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Quality Assurance Report
Level II

L714637

August 15, 2014

Analyte	Units	Laboratory Control Sample Known Val	Result	% Rec	Limit	Batch
Vinyl chloride	mg/l	.025	0.0222	88.9	65.9-128	WG736499
Xylenes, Total	mg/l	.075	0.0724	96.5	78.7-121	WG736499
4-Bromofluorobenzene				99.90	71-126	WG736499
Dibromofluoromethane				95.10	78.3-121	WG736499
Toluene-d8				99.10	88.5-111	WG736499
a,a,a-Trifluorotoluene				99.60	85-114	WG736499

Analyte	Units	Laboratory Control Sample Duplicate Result	Ref	%Rec	Limit	RPD	Limit	Batch
1,1,1,2-Tetrachloroethane	mg/l	0.0255	0.0247	102.	74.2-124	2.97	20	WG736499
1,1,1-Trichloroethane	mg/l	0.0233	0.0235	93.0	73.2-123	0.890	20	WG736499
1,1,2,2-Tetrachloroethane	mg/l	0.0262	0.0269	105.	70.7-122	2.70	20	WG736499
1,1,2-Trichloroethane	mg/l	0.0255	0.0251	102.	77.7-118	1.81	20	WG736499
1,1-Dichloroethane	mg/l	0.0234	0.0239	94.0	70.7-126	2.00	20	WG736499
1,1-Dichloroethene	mg/l	0.0232	0.0232	93.0	67.8-129	0.120	20	WG736499
1,2,3-Trichloropropane	mg/l	0.0248	0.0261	99.0	71.8-121	4.89	20	WG736499
1,2-Dibromo-3-Chloropropane	mg/l	0.0237	0.0274	95.0	65.4-128	14.3	20	WG736499
1,2-Dibromoethane	mg/l	0.0264	0.0260	105.	76.6-121	1.36	20	WG736499
1,2-Dichlorobenzene	mg/l	0.0245	0.0243	98.0	78.4-117	0.920	20	WG736499
1,2-Dichloroethane	mg/l	0.0237	0.0242	95.0	68.8-124	1.92	20	WG736499
1,2-Dichloropropane	mg/l	0.0242	0.0243	97.0	76.5-119	0.570	20	WG736499
1,3-Dichlorobenzene	mg/l	0.0261	0.0255	104.	70.8-128	2.25	20	WG736499
1,4-Dichlorobenzene	mg/l	0.0245	0.0239	98.0	78.8-115	2.49	20	WG736499
2-Butanone (MEK)	mg/l	0.112	0.129	89.0	55-149	14.9	20	WG736499
2-Hexanone	mg/l	0.127	0.142	102.	65.6-144	10.6	20	WG736499
4-Methyl-2-pentanone (MIBK)	mg/l	0.118	0.134	94.0	70.5-133	13.0	20	WG736499
Acetone	mg/l	0.103	0.119	83.0	35.6-163	14.4	23.9	WG736499
Acrolein	mg/l	0.125	0.140	100.	10-190	11.1	28.1	WG736499
Acrylonitrile	mg/l	0.120	0.134	96.0	55.2-130	11.4	20	WG736499
Benzene	mg/l	0.0235	0.0230	94.0	74.8-121	1.94	20	WG736499
Bromodichloromethane	mg/l	0.0242	0.0243	97.0	75.1-116	0.420	20	WG736499
Bromoform	mg/l	0.0265	0.0273	106.	67.5-130	2.81	20	WG736499
Bromomethane	mg/l	0.0172	0.0170	69.0	49.9-162	1.05	20	WG736499
Carbon disulfide	mg/l	0.0214	0.0210	85.0	64.6-140	1.45	20	WG736499
Carbon tetrachloride	mg/l	0.0237	0.0236	95.0	70.2-123	0.510	20	WG736499
Chlorobenzene	mg/l	0.0251	0.0239	100.	78.1-119	4.80	20	WG736499
Chlorodibromomethane	mg/l	0.0260	0.0254	104.	74-121	2.33	20	WG736499
Chloroethane	mg/l	0.0199	0.0207	80.0	61.7-135	4.07	20	WG736499
Chloroform	mg/l	0.0228	0.0229	91.0	76-121	0.570	20	WG736499
Chloromethane	mg/l	0.0210	0.0210	84.0	61.5-129	0.120	20	WG736499
cis-1,2-Dichloroethene	mg/l	0.0244	0.0243	98.0	76-119	0.300	20	WG736499
cis-1,3-Dichloropropene	mg/l	0.0240	0.0238	96.0	78.2-120	0.780	20	WG736499
Dibromomethane	mg/l	0.0249	0.0257	100.	79.5-118	3.02	20	WG736499
Dichlorodifluoromethane	mg/l	0.0213	0.0212	85.0	54.8-135	0.720	20	WG736499
Ethylbenzene	mg/l	0.0255	0.0244	102.	78.8-122	4.34	20	WG736499
Iodomethane	mg/l	0.108	0.105	86.0	61-130	2.87	20	WG736499
Methylene Chloride	mg/l	0.0225	0.0223	90.0	70.3-120	0.820	20	WG736499
Styrene	mg/l	0.0264	0.0253	106.	80.4-126	4.18	20	WG736499
Tetrachloroethene	mg/l	0.0261	0.0245	104.	72.6-126	6.15	20	WG736499
Toluene	mg/l	0.0237	0.0231	95.0	79.7-116	2.19	20	WG736499
trans-1,2-Dichloroethene	mg/l	0.0237	0.0233	95.0	72.6-121	1.37	20	WG736499
trans-1,3-Dichloropropene	mg/l	0.0252	0.0254	101.	74.3-123	0.530	20	WG736499
trans-1,4-Dichloro-2-butene	mg/l	0.0254	0.0272	102.	65.1-123	7.07	20	WG736499
Trichloroethene	mg/l	0.0244	0.0243	98.0	77.7-118	0.320	20	WG736499
Trichlorofluoromethane	mg/l	0.0224	0.0221	90.0	63.5-135	1.15	20	WG736499
Vinyl acetate	mg/l	0.116	0.123	93.0	65-138	5.81	20	WG736499
Vinyl chloride	mg/l	0.0223	0.0222	89.0	65.9-128	0.190	20	WG736499
Xylenes, Total	mg/l	0.0750	0.0724	100.	78.7-121	3.66	20	WG736499

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L714637

August 15, 2014

Analyte	Units	Laboratory Control Sample Duplicate Result	Ref	%Rec	Limit	RPD	Limit	Batch
4-Bromofluorobenzene				102.0	71-126			
Dibromofluoromethane				93.50	78.3-121			
Toluene-d8				99.10	88.5-111			
a,a,a-Trifluorotoluene				100.0	85-114			

Analyte	Units	Matrix Spike MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
1,1,1,2-Tetrachloroethane	mg/l	0.0246	0.0	.025	98.0	64-128	L714919-01	WG736499
1,1,1-Trichloroethane	mg/l	0.0228	0.0	.025	91.0	58.7-134	L714919-01	WG736499
1,1,2,2-Tetrachloroethane	mg/l	0.0264	0.0	.025	110.	56-132	L714919-01	WG736499
1,1,2-Trichloroethane	mg/l	0.0251	0.0	.025	100.	66.3-125	L714919-01	WG736499
1,1-Dichloroethane	mg/l	0.0232	0.0	.025	93.0	58.5-132	L714919-01	WG736499
1,1-Dichloroethene	mg/l	0.0219	0.0	.025	88.0	51.1-140	L714919-01	WG736499
1,2,3-Trichloropropane	mg/l	0.0244	0.0	.025	98.0	61.4-128	L714919-01	WG736499
1,2-Dibromo-3-Chloropropane	mg/l	0.0258	0.0	.025	100.	57.3-136	L714919-01	WG736499
1,2-Dibromoethane	mg/l	0.0251	0.0	.025	100.	67.1-125	L714919-01	WG736499
1,2-Dichlorobenzene	mg/l	0.0244	0.0	.025	97.0	68.2-123	L714919-01	WG736499
1,2-Dichloroethane	mg/l	0.0231	0.0	.025	93.0	60-126	L714919-01	WG736499
1,2-Dichloropropane	mg/l	0.0244	0.0	.025	98.0	64.2-123	L714919-01	WG736499
1,3-Dichlorobenzene	mg/l	0.0249	0.0	.025	99.0	63.1-131	L714919-01	WG736499
1,4-Dichlorobenzene	mg/l	0.0241	0.0	.025	96.0	68.6-123	L714919-01	WG736499
2-Butanone (MEK)	mg/l	0.108	0.0	.125	87.0	22.4-138	L714919-01	WG736499
2-Hexanone	mg/l	0.121	0.0	.125	97.0	43.3-137	L714919-01	WG736499
4-Methyl-2-pentanone (MIBK)	mg/l	0.118	0.0	.125	94.0	60.8-140	L714919-01	WG736499
Acetone	mg/l	0.104	0.00576	.125	79.0	10-130	L714919-01	WG736499
Acrolein	mg/l	0.133	0.0	.125	110.	10-200	L714919-01	WG736499
Acrylonitrile	mg/l	0.124	0.0	.125	100.	49.4-133	L714919-01	WG736499
Benzene	mg/l	0.0223	0.0	.025	89.0	54.3-133	L714919-01	WG736499
Bromodichloromethane	mg/l	0.0246	0.0	.025	98.0	63.9-121	L714919-01	WG736499
Bromoform	mg/l	0.0259	0.0	.025	100.	59.5-134	L714919-01	WG736499
Bromomethane	mg/l	0.0161	0.0	.025	64.0	41.7-155	L714919-01	WG736499
Carbon disulfide	mg/l	0.0171	0.0	.025	68.0	43.3-149	L714919-01	WG736499
Carbon tetrachloride	mg/l	0.0230	0.0	.025	92.0	55.7-134	L714919-01	WG736499
Chlorobenzene	mg/l	0.0238	0.0	.025	95.0	67-125	L714919-01	WG736499
Chlorodibromomethane	mg/l	0.0251	0.0	.025	100.	64.3-125	L714919-01	WG736499
Chloroethane	mg/l	0.0188	0.0	.025	75.0	51.5-136	L714919-01	WG736499
Chloroform	mg/l	0.0227	0.0	.025	91.0	63-129	L714919-01	WG736499
Chloromethane	mg/l	0.0173	0.0	.025	69.0	42.4-135	L714919-01	WG736499
cis-1,2-Dichloroethene	mg/l	0.0235	0.0	.025	94.0	59.2-129	L714919-01	WG736499
cis-1,3-Dichloropropene	mg/l	0.0235	0.0	.025	94.0	66.4-125	L714919-01	WG736499
Dibromomethane	mg/l	0.0249	0.0	.025	100.	68.2-124	L714919-01	WG736499
Dichlorodifluoromethane	mg/l	0.0170	0.0	.025	68.0	40.6-144	L714919-01	WG736499
Ethylbenzene	mg/l	0.0234	0.0	.025	94.0	61.4-133	L714919-01	WG736499
Iodomethane	mg/l	0.0954	0.0	.125	76.0	49.7-132	L714919-01	WG736499
Methylene Chloride	mg/l	0.0220	0.000747	.025	85.0	58.1-122	L714919-01	WG736499
Styrene	mg/l	0.0249	0.0	.025	100.	66.8-133	L714919-01	WG736499
Tetrachloroethene	mg/l	0.0238	0.0	.025	95.0	53-139	L714919-01	WG736499
Toluene	mg/l	0.0228	0.0	.025	91.0	61.4-130	L714919-01	WG736499
trans-1,2-Dichloroethene	mg/l	0.0213	0.0	.025	85.0	56.5-129	L714919-01	WG736499
trans-1,3-Dichloropropene	mg/l	0.0254	0.0	.025	100.	64.1-128	L714919-01	WG736499
trans-1,4-Dichloro-2-butene	mg/l	0.0250	0.0	.025	100.	57.1-130	L714919-01	WG736499
Trichloroethene	mg/l	0.0232	0.0	.025	93.0	44.1-149	L714919-01	WG736499
Trichlorofluoromethane	mg/l	0.0204	0.0	.025	82.0	49.6-145	L714919-01	WG736499
Vinyl acetate	mg/l	0.122	0.0	.125	97.0	56.1-149	L714919-01	WG736499
Vinyl chloride	mg/l	0.0191	0.0	.025	76.0	47.8-137	L714919-01	WG736499
Xylenes, Total	mg/l	0.0703	0.0	.075	94.0	63.3-131	L714919-01	WG736499
4-Bromofluorobenzene					99.20	71-126		WG736499
Dibromofluoromethane					95.20	78.3-121		WG736499

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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Raleigh, NC 27607

Quality Assurance Report
Level II

L714637

August 15, 2014

Analyte	Units	MS Res	Matrix Spike Ref Res	TV	% Rec	Limit	Ref Samp	Batch
Toluene-d8					98.60	88.5-111		
a,a,a-Trifluorotoluene					101.0	85-114		

Analyte	Units	MSD	Matrix Spike Duplicate Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
1,1,1,2-Tetrachloroethane	mg/l	0.0248	0.0246	99.2	64-128	0.720	20	L714919-01	WG736499
1,1,1-Trichloroethane	mg/l	0.0226	0.0228	90.6	58.7-134	0.650	20	L714919-01	WG736499
1,1,2,2-Tetrachloroethane	mg/l	0.0262	0.0264	105.	56-132	0.590	22.2	L714919-01	WG736499
1,1,2-Trichloroethane	mg/l	0.0253	0.0251	101.	66.3-125	0.690	20	L714919-01	WG736499
1,1-Dichloroethane	mg/l	0.0229	0.0232	91.8	58.5-132	1.13	20	L714919-01	WG736499
1,1-Dichloroethene	mg/l	0.0213	0.0219	85.3	51.1-140	2.61	20.2	L714919-01	WG736499
1,2,3-Trichloropropane	mg/l	0.0251	0.0244	100.	61.4-128	2.70	22.4	L714919-01	WG736499
1,2-Dibromo-3-Chloropropane	mg/l	0.0261	0.0258	104.	57.3-136	0.930	27	L714919-01	WG736499
1,2-Dibromoethane	mg/l	0.0252	0.0251	101.	67.1-125	0.300	20	L714919-01	WG736499
1,2-Dichlorobenzene	mg/l	0.0244	0.0244	97.6	68.2-123	0.190	20	L714919-01	WG736499
1,2-Dichloroethane	mg/l	0.0234	0.0231	93.6	60-126	1.07	20	L714919-01	WG736499
1,2-Dichloropropane	mg/l	0.0241	0.0244	96.4	64.2-123	1.17	20	L714919-01	WG736499
1,3-Dichlorobenzene	mg/l	0.0247	0.0249	98.9	63.1-131	0.520	20	L714919-01	WG736499
1,4-Dichlorobenzene	mg/l	0.0240	0.0241	96.0	68.6-123	0.490	20	L714919-01	WG736499
2-Butanone (MEK)	mg/l	0.112	0.108	89.3	22.4-138	3.11	27	L714919-01	WG736499
2-Hexanone	mg/l	0.124	0.121	99.2	43.3-137	2.38	25.5	L714919-01	WG736499
4-Methyl-2-pentanone (MIBK)	mg/l	0.122	0.118	97.6	60.8-140	3.55	25.1	L714919-01	WG736499
Acetone	mg/l	0.107	0.104	80.8	10-130	2.62	27.9	L714919-01	WG736499
Acrolein	mg/l	0.132	0.133	105.	10-200	1.01	27.7	L714919-01	WG736499
Acrylonitrile	mg/l	0.126	0.124	101.	49.4-133	1.46	25.3	L714919-01	WG736499
Benzene	mg/l	0.0222	0.0223	88.6	54.3-133	0.690	20	L714919-01	WG736499
Bromodichloromethane	mg/l	0.0239	0.0246	95.8	63.9-121	2.59	20	L714919-01	WG736499
Bromoform	mg/l	0.0260	0.0259	104.	59.5-134	0.510	20.5	L714919-01	WG736499
Bromomethane	mg/l	0.0160	0.0161	64.2	41.7-155	0.130	21.9	L714919-01	WG736499
Carbon disulfide	mg/l	0.0171	0.0171	68.3	43.3-149	0.110	20.3	L714919-01	WG736499
Carbon tetrachloride	mg/l	0.0229	0.0230	91.8	55.7-134	0.430	20	L714919-01	WG736499
Chlorobenzene	mg/l	0.0236	0.0238	94.2	67-125	1.08	20	L714919-01	WG736499
Chlorodibromomethane	mg/l	0.0253	0.0251	101.	64.3-125	1.03	20.8	L714919-01	WG736499
Chloroethane	mg/l	0.0180	0.0188	72.1	51.5-136	4.16	40	L714919-01	WG736499
Chloroform	mg/l	0.0224	0.0227	89.6	63-129	1.15	20	L714919-01	WG736499
Chloromethane	mg/l	0.0171	0.0173	68.5	42.4-135	0.890	20	L714919-01	WG736499
cis-1,2-Dichloroethene	mg/l	0.0230	0.0235	92.1	59.2-129	1.96	20	L714919-01	WG736499
cis-1,3-Dichloropropene	mg/l	0.0231	0.0235	92.4	66.4-125	1.78	20	L714919-01	WG736499
Dibromomethane	mg/l	0.0242	0.0249	96.6	68.2-124	3.13	20	L714919-01	WG736499
Dichlorodifluoromethane	mg/l	0.0168	0.0170	67.0	40.6-144	1.39	20.2	L714919-01	WG736499
Ethylbenzene	mg/l	0.0235	0.0234	93.8	61.4-133	0.380	20	L714919-01	WG736499
Iodomethane	mg/l	0.0995	0.0954	79.6	49.7-132	4.21	20	L714919-01	WG736499
Methylene Chloride	mg/l	0.0217	0.0220	83.6	58.1-122	1.59	20	L714919-01	WG736499
Styrene	mg/l	0.0245	0.0249	98.1	66.8-133	1.43	20	L714919-01	WG736499
Tetrachloroethene	mg/l	0.0232	0.0238	92.6	53-139	2.71	20	L714919-01	WG736499
Toluene	mg/l	0.0223	0.0228	89.1	61.4-130	2.43	20	L714919-01	WG736499
trans-1,2-Dichloroethene	mg/l	0.0216	0.0213	86.6	56.5-129	1.51	20	L714919-01	WG736499
trans-1,3-Dichloropropene	mg/l	0.0250	0.0254	100.	64.1-128	1.70	20	L714919-01	WG736499
trans-1,4-Dichloro-2-butene	mg/l	0.0248	0.0250	99.4	57.1-130	0.780	23.9	L714919-01	WG736499
Trichloroethene	mg/l	0.0231	0.0232	92.3	44.1-149	0.490	20	L714919-01	WG736499
Trichlorofluoromethane	mg/l	0.0205	0.0204	81.9	49.6-145	0.210	21.2	L714919-01	WG736499
Vinyl acetate	mg/l	0.123	0.122	98.3	56.1-149	0.990	22.7	L714919-01	WG736499
Vinyl chloride	mg/l	0.0187	0.0191	74.9	47.8-137	1.81	20	L714919-01	WG736499
Xylenes, Total	mg/l	0.0694	0.0703	92.6	63.3-131	1.19	20	L714919-01	WG736499
4-Bromofluorobenzene				98.30	71-126				WG736499
Dibromofluoromethane				94.60	78.3-121				WG736499
Toluene-d8				98.70	88.5-111				WG736499
a,a,a-Trifluorotoluene				99.60	85-114				WG736499

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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Est. 1970

Piedmont Geologic
Mr. Pete Dressel
6003 Chapel Hill Road Suite 145

Raleigh, NC 27607

Quality Assurance Report
Level II

L714637

August 15, 2014

Batch number /Run number / Sample number cross reference

WG736499: R2976289: L714637-01
WG737430: R2976645: L714637-01

* * Calculations are performed prior to rounding of reported values.
* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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August 15, 2014

The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.

Piedmont Geologic

6003 Chapel Hill Road Suite 145
Raleigh, NC 27607

Billing Information:
Accounts Payable
6003 Chapel Hill Rd Ste 145
Raleigh, NC 27607

Report to: Mr. Pete Dressel

Email To: pjdressel@piedmontgeologic.com

Project Description: NCSU Lot 86 - Water Treatment System Mon

City/State Collected: RALEIGH, NC

Phone: 919-854-9700
Fax: 919-854-9532

Client Project # ~~1247~~ 1441

Lab Project # PIEGEO-NCSU LOT 86

Collected by (print): P. DRESSEL

Site/Facility ID # RALEIGH, NC

P.O. # ~~1347~~ 1441

Collected by (signature): [signature]

Immediately Packed on Ice N ___ Y ✓

Rush? (Lab MUST be Notified)
___ Same Day 200%
___ Next Day 100%
___ Two Day 50%
___ Three Day 25%

Date Results Needed

Email? ___No X__Yes
FAX? ___No ___Yes

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	V8260AP9 40mlAmb-HCl									Rem./Contaminant	Sample # (lab only)
GWE INFLUENT	GRAB	GW	—	8-6-14	1055	2	X										01

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other_____

Remarks:V8260AP9 = V8260 + 1,4-Dioxane (Report 14D to MDL)
Quote PIEGEO080513S

pH _____ Temp _____
Flow _____ Other _____

Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ _____

Temp: 3.1 °C Bottles Received: 2 vp

Date: 8-8-14 Time: 0900

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
[signature]	8/6/14	17:00	[signature]
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)
[signature]	8/7/14	17:20	[signature]

Chain of Custody Page ___ of ___

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Mount Juliet, TN 37122
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Phone: 800-767-5859
Fax: 615-758-5859

L# L714637

A079

Acctnum: PIEGEO
Template: T82911
Prelogin: P477148
TSR: 350 - Jimmy Hunt
PB: 7-29-14 bm
Shipped Via: FedEx Ground

541347274306

Hold #

Condition: (lab use only) ok MS

COC Seal Intact: ✓ Y ___N ___NA

pH Checked: NCF:

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Mr. Pete Dressel
Piedmont Geologic
6003 Chapel Hill Road Suite 145
Raleigh, NC 27607

Report Summary

Wednesday September 10, 2014

Report Number: L719684
Samples Received: 09/04/14
Client Project: 1441

Description: NCSU Lot 86 - Water Treatment System Monitoring

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By: Jimmy Hunt

Jimmy Hunt , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197, FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704/BIO041, ND - R-140. NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1, TX - T104704245-11-3, OK - 9915, PA - 68-02979, IA Lab #364, EPA - TN002

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REPORT OF ANALYSIS

Mr. Pete Dressel
Piedmont Geologic
6003 Chapel Hill Road Suite 145
Raleigh, NC 27607

September 10, 2014

ESC Sample # : L719684-01

Site ID : RALEIGH, NC

Project # : 1441

Date Received : September 04, 2014
Description : NCSU Lot 86 - Water Treatment System Monitoring

Sample ID : GWE INFLUENT

Collected By : P. Dressel
Collection Date : 09/02/14 14:17

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Volatile Organics								
Acetone	U	1000	5000	ug/l		8260B	09/06/14	100
Acrolein	U	890	5000	ug/l		8260B	09/06/14	100
Acrylonitrile	U	190	1000	ug/l		8260B	09/06/14	100
Benzene	250	33.	100	ug/l		8260B	09/06/14	100
Bromodichloromethane	110	38.	100	ug/l		8260B	09/06/14	100
Bromoform	U	47.	100	ug/l		8260B	09/06/14	100
Bromomethane	U	87.	500	ug/l		8260B	09/06/14	100
Carbon disulfide	U	28.	100	ug/l		8260B	09/06/14	100
Carbon tetrachloride	270	38.	100	ug/l		8260B	09/06/14	100
Chlorobenzene	U	35.	100	ug/l		8260B	09/06/14	100
Chlorodibromomethane	U	33.	100	ug/l		8260B	09/06/14	100
Chloroethane	U	45.	500	ug/l		8260B	09/06/14	100
Chloroform	15000	32.	500	ug/l		8260B	09/06/14	100
Chloromethane	U	28.	250	ug/l		8260B	09/06/14	100
1,2-Dibromoethane	1100	38.	100	ug/l		8260B	09/06/14	100
1,2-Dibromo-3-Chloropropane	180	130	500	ug/l	J	8260B	09/06/14	100
Dibromomethane	U	35.	100	ug/l		8260B	09/06/14	100
1,2-Dichlorobenzene	U	35.	100	ug/l		8260B	09/06/14	100
1,3-Dichlorobenzene	U	22.	100	ug/l		8260B	09/06/14	100
1,4-Dichlorobenzene	U	27.	100	ug/l		8260B	09/06/14	100
Dichlorodifluoromethane	U	55.	500	ug/l		8260B	09/06/14	100
1,1-Dichloroethane	U	26.	100	ug/l		8260B	09/06/14	100
1,2-Dichloroethane	160	36.	100	ug/l		8260B	09/06/14	100
1,1-Dichloroethene	U	40.	100	ug/l		8260B	09/06/14	100
cis-1,2-Dichloroethene	U	26.	100	ug/l		8260B	09/06/14	100
trans-1,2-Dichloroethene	U	40.	100	ug/l		8260B	09/06/14	100
1,2-Dichloropropane	1800	31.	100	ug/l		8260B	09/06/14	100
cis-1,3-Dichloropropene	U	42.	100	ug/l		8260B	09/06/14	100
trans-1,3-Dichloropropene	U	42.	100	ug/l		8260B	09/06/14	100
Ethylbenzene	U	38.	100	ug/l		8260B	09/06/14	100
2-Hexanone	U	380	1000	ug/l		8260B	09/06/14	100
Iodomethane	U	170	1000	ug/l		8260B	09/06/14	100
2-Butanone (MEK)	U	390	1000	ug/l		8260B	09/06/14	100
Methylene Chloride	1800	100	500	ug/l		8260B	09/06/14	100
4-Methyl-2-pentanone (MIBK)	U	210	1000	ug/l		8260B	09/06/14	100
Pentachloroethane	U	360	500	ug/l		8260B	09/10/14	100
Styrene	U	31.	100	ug/l		8260B	09/06/14	100
1,1,2,2-Tetrachloroethane	U	58.	100	ug/l		8260B	09/06/14	100
1,1,1,2-Tetrachloroethane	U	38.	100	ug/l		8260B	09/06/14	100
Tetrachloroethene	140	37.	100	ug/l		8260B	09/06/14	100
Toluene	U	78.	500	ug/l		8260B	09/06/14	100
1,1,1-Trichloroethane	U	32.	100	ug/l		8260B	09/06/14	100

U = ND (Not Detected)
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL
MDL = Minimum Detection Limit = LOD = TRRP SDL
Note:
The reported analytical results relate only to the sample submitted.
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.
Reported: 09/08/14 12:59 Revised: 09/10/14 14:46

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Est. 1970

REPORT OF ANALYSIS

Mr. Pete Dressel
Piedmont Geologic
6003 Chapel Hill Road Suite 145
Raleigh, NC 27607

September 10, 2014

ESC Sample # : L719684-01

Site ID : RALEIGH, NC

Project # : 1441

Date Received : September 04, 2014
Description : NCSU Lot 86 - Water Treatment System Monitoring

Sample ID : GWE INFLUENT

Collected By : P. Dressel
Collection Date : 09/02/14 14:17

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
1,1,2-Trichloroethane	110	38.	100	ug/l		8260B	09/06/14	100
Trichloroethene	400	40.	100	ug/l		8260B	09/06/14	100
Trichlorofluoromethane	U	120	500	ug/l		8260B	09/06/14	100
1,2,3-Trichloropropane	U	81.	250	ug/l		8260B	09/06/14	100
Vinyl acetate	U	160	1000	ug/l		8260B	09/06/14	100
Vinyl chloride	U	26.	100	ug/l		8260B	09/06/14	100
Xylenes, Total	U	110	300	ug/l		8260B	09/06/14	100
Acetonitrile	U	1500	5000	ug/l		8260B	09/06/14	100
Allyl chloride	U	170	500	ug/l		8260B	09/06/14	100
Chloroprene	U	170	5000	ug/l		8260B	09/06/14	100
trans-1,4-Dichloro-2-butene	U	87.	250	ug/l		8260B	09/06/14	100
Isobutanol	U	3900	10000	ug/l		8260B	09/06/14	100
1,4-Dioxane	U	3600	10000	ug/l		8260B	09/06/14	100
Methacrylonitrile	U	1300	5000	ug/l		8260B	09/06/14	100
Methyl methacrylate	U	120	500	ug/l		8260B	09/06/14	100
Ethyl methacrylate	U	140	500	ug/l		8260B	09/06/14	100
Propionitrile	U	1300	5000	ug/l		8260B	09/06/14	100
Surrogate Recovery								
Toluene-d8	102.			% Rec.		8260B	09/06/14	100
Dibromofluoromethane	101.			% Rec.		8260B	09/06/14	100
a,a,a-Trifluorotoluene	96.8			% Rec.		8260B	09/06/14	100
4-Bromofluorobenzene	94.8			% Rec.		8260B	09/06/14	100

U = ND (Not Detected)
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL
MDL = Minimum Detection Limit = LOD = TRRP SDL
Note:
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.
Reported: 09/08/14 12:59 Revised: 09/10/14 14:46

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L719684-01	WG741220	SAMP	1,2-Dibromo-3-Chloropropane	R2986327	J

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J	(EPA) - Estimated value below the lowest calibration point. Confidence correlates with concentration.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods,it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.

Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Differrence.

Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromotography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.

TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

Summary of Remarks For Samples Printed
09/10/14 at 14:46:34

TSR Signing Reports: 350
R5 - Desired TAT

MDL/RDL; CDG, not CDICP for GW

Sample: L719684-01 Account: PIEGEO Received: 09/04/14 09:00 Due Date: 09/11/14 00:00 RPT Date: 09/08/14 12:59
V8260AP9 = V8260 + 1,4-Dioxane (Report 14D to MDL)

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Quality Assurance Report
Level II

L719684

September 10, 2014

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
1,1,1,2-Tetrachloroethane	< .001	mg/l			WG741220	09/06/14 07:24
1,1,1-Trichloroethane	< .001	mg/l			WG741220	09/06/14 07:24
1,1,2,2-Tetrachloroethane	< .001	mg/l			WG741220	09/06/14 07:24
1,1,2-Trichloroethane	< .001	mg/l			WG741220	09/06/14 07:24
1,1-Dichloroethane	< .001	mg/l			WG741220	09/06/14 07:24
1,1-Dichloroethene	< .001	mg/l			WG741220	09/06/14 07:24
1,2,3-Trichloropropane	< .001	mg/l			WG741220	09/06/14 07:24
1,2-Dibromo-3-Chloropropane	< .005	mg/l			WG741220	09/06/14 07:24
1,2-Dibromoethane	< .001	mg/l			WG741220	09/06/14 07:24
1,2-Dichlorobenzene	< .001	mg/l			WG741220	09/06/14 07:24
1,2-Dichloroethane	< .001	mg/l			WG741220	09/06/14 07:24
1,2-Dichloropropane	< .001	mg/l			WG741220	09/06/14 07:24
1,3-Dichlorobenzene	< .001	mg/l			WG741220	09/06/14 07:24
1,4-Dichlorobenzene	< .001	mg/l			WG741220	09/06/14 07:24
1,4-Dioxane	< .1	mg/l			WG741220	09/06/14 07:24
2-Butanone (MEK)	< .01	mg/l			WG741220	09/06/14 07:24
2-Hexanone	< .01	mg/l			WG741220	09/06/14 07:24
4-Methyl-2-pentanone (MIBK)	< .01	mg/l			WG741220	09/06/14 07:24
Acetone	< .05	mg/l			WG741220	09/06/14 07:24
Acetonitrile	< .05	mg/l			WG741220	09/06/14 07:24
Acrolein	< .025	mg/l			WG741220	09/06/14 07:24
Acrylonitrile	< .01	mg/l			WG741220	09/06/14 07:24
Allyl chloride	< .005	mg/l			WG741220	09/06/14 07:24
Benzene	< .001	mg/l			WG741220	09/06/14 07:24
Bromodichloromethane	< .001	mg/l			WG741220	09/06/14 07:24
Bromoform	< .001	mg/l			WG741220	09/06/14 07:24
Bromomethane	< .005	mg/l			WG741220	09/06/14 07:24
Carbon disulfide	< .001	mg/l			WG741220	09/06/14 07:24
Carbon tetrachloride	< .001	mg/l			WG741220	09/06/14 07:24
Chlorobenzene	< .001	mg/l			WG741220	09/06/14 07:24
Chlorodibromomethane	< .001	mg/l			WG741220	09/06/14 07:24
Chloroethane	< .005	mg/l			WG741220	09/06/14 07:24
Chloroform	< .005	mg/l			WG741220	09/06/14 07:24
Chloromethane	< .0025	mg/l			WG741220	09/06/14 07:24
Chloroprene	< .05	mg/l			WG741220	09/06/14 07:24
cis-1,2-Dichloroethene	< .001	mg/l			WG741220	09/06/14 07:24
cis-1,3-Dichloropropene	< .001	mg/l			WG741220	09/06/14 07:24
Dibromomethane	< .001	mg/l			WG741220	09/06/14 07:24
Dichlorodifluoromethane	< .005	mg/l			WG741220	09/06/14 07:24
Ethyl methacrylate	< .005	mg/l			WG741220	09/06/14 07:24
Ethylbenzene	< .001	mg/l			WG741220	09/06/14 07:24
Iodomethane	< .01	mg/l			WG741220	09/06/14 07:24
Isobutanol	< .1	mg/l			WG741220	09/06/14 07:24
Methacrylonitrile	< .05	mg/l			WG741220	09/06/14 07:24
Methyl methacrylate	< .005	mg/l			WG741220	09/06/14 07:24
Methylene Chloride	< .005	mg/l			WG741220	09/06/14 07:24
Propionitrile	< .05	mg/l			WG741220	09/06/14 07:24
Styrene	< .001	mg/l			WG741220	09/06/14 07:24
Tetrachloroethene	< .001	mg/l			WG741220	09/06/14 07:24
Toluene	< .005	mg/l			WG741220	09/06/14 07:24
trans-1,2-Dichloroethene	< .001	mg/l			WG741220	09/06/14 07:24
trans-1,3-Dichloropropene	< .001	mg/l			WG741220	09/06/14 07:24
trans-1,4-Dichloro-2-butene	< .0025	mg/l			WG741220	09/06/14 07:24
Trichloroethene	< .001	mg/l			WG741220	09/06/14 07:24
Trichlorofluoromethane	< .005	mg/l			WG741220	09/06/14 07:24
Vinyl acetate	< .01	mg/l			WG741220	09/06/14 07:24
Vinyl chloride	< .001	mg/l			WG741220	09/06/14 07:24
Xylenes, Total	< .003	mg/l			WG741220	09/06/14 07:24
4-Bromofluorobenzene		% Rec.	92.60	71-126	WG741220	09/06/14 07:24

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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Quality Assurance Report
Level II

L719684

September 10, 2014

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Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
Dibromofluoromethane		% Rec.	96.60	78.3-121		09/06/14 07:24
Toluene-d8		% Rec.	104.0	88.5-111		09/06/14 07:24
a,a,a-Trifluorotoluene		% Rec.	99.70	85-114		09/06/14 07:24
Pentachloroethane	< .005	mg/l			WG741967	09/09/14 22:15
4-Bromofluorobenzene		% Rec.	90.60	71-126	WG741967	09/09/14 22:15
Dibromofluoromethane		% Rec.	96.00	78.3-121	WG741967	09/09/14 22:15
Toluene-d8		% Rec.	97.60	88.5-111	WG741967	09/09/14 22:15
a,a,a-Trifluorotoluene		% Rec.	98.10	85-114	WG741967	09/09/14 22:15

Laboratory Control Sample

Analyte	Units	Known Val	Result	% Rec	Limit	Batch
1,1,1,2-Tetrachloroethane	mg/l	.025	0.0259	104.	74.2-124	WG741220
1,1,1-Trichloroethane	mg/l	.025	0.0226	90.4	73.2-123	WG741220
1,1,2,2-Tetrachloroethane	mg/l	.025	0.0276	110.	70.7-122	WG741220
1,1,2-Trichloroethane	mg/l	.025	0.0266	107.	77.7-118	WG741220
1,1-Dichloroethane	mg/l	.025	0.0202	80.9	70.7-126	WG741220
1,1-Dichloroethene	mg/l	.025	0.0229	91.4	67.8-129	WG741220
1,2,3-Trichloropropane	mg/l	.025	0.0291	116.	71.8-121	WG741220
1,2-Dibromo-3-Chloropropane	mg/l	.025	0.0254	102.	65.4-128	WG741220
1,2-Dibromoethane	mg/l	.025	0.0292	117.	76.6-121	WG741220
1,2-Dichlorobenzene	mg/l	.025	0.0232	93.0	78.4-117	WG741220
1,2-Dichloroethane	mg/l	.025	0.0234	93.4	68.8-124	WG741220
1,2-Dichloropropane	mg/l	.025	0.0235	93.9	76.5-119	WG741220
1,3-Dichlorobenzene	mg/l	.025	0.0273	109.	70.8-128	WG741220
1,4-Dichlorobenzene	mg/l	.025	0.0225	89.9	78.8-115	WG741220
2-Butanone (MEK)	mg/l	.125	0.121	97.0	55-149	WG741220
2-Hexanone	mg/l	.125	0.145	116.	65.6-144	WG741220
4-Methyl-2-pentanone (MIBK)	mg/l	.125	0.130	104.	70.5-133	WG741220
Acetone	mg/l	.125	0.144	115.	35.6-163	WG741220
Acrolein	mg/l	.125	0.124	98.9	10-190	WG741220
Acrylonitrile	mg/l	.125	0.127	101.	55.2-130	WG741220
Benzene	mg/l	.025	0.0201	80.3	74.8-121	WG741220
Bromodichloromethane	mg/l	.025	0.0241	96.4	75.1-116	WG741220
Bromoform	mg/l	.025	0.0322	129.	67.5-130	WG741220
Bromomethane	mg/l	.025	0.0239	95.5	49.9-162	WG741220
Carbon disulfide	mg/l	.025	0.0217	86.8	64.6-140	WG741220
Carbon tetrachloride	mg/l	.025	0.0228	91.2	70.2-123	WG741220
Chlorobenzene	mg/l	.025	0.0249	99.6	78.1-119	WG741220
Chlorodibromomethane	mg/l	.025	0.0293	117.	74-121	WG741220
Chloroethane	mg/l	.025	0.0211	84.3	61.7-135	WG741220
Chloroform	mg/l	.025	0.0214	85.7	76-121	WG741220
Chloromethane	mg/l	.025	0.0191	76.4	61.5-129	WG741220
cis-1,2-Dichloroethene	mg/l	.025	0.0222	88.7	76-119	WG741220
cis-1,3-Dichloropropene	mg/l	.025	0.0244	97.4	78.2-120	WG741220
Dibromomethane	mg/l	.025	0.0268	107.	79.5-118	WG741220
Dichlorodifluoromethane	mg/l	.025	0.0206	82.4	54.8-135	WG741220
Ethylbenzene	mg/l	.025	0.0247	98.7	78.8-122	WG741220
Iodomethane	mg/l	.125	0.141	113.	61-130	WG741220
Methylene Chloride	mg/l	.025	0.0215	86.1	70.3-120	WG741220
Styrene	mg/l	.025	0.0243	97.4	80.4-126	WG741220
Tetrachloroethene	mg/l	.025	0.0277	111.	72.6-126	WG741220
Toluene	mg/l	.025	0.0233	93.1	79.7-116	WG741220
trans-1,2-Dichloroethene	mg/l	.025	0.0213	85.0	72.6-121	WG741220
trans-1,3-Dichloropropene	mg/l	.025	0.0266	107.	74.3-123	WG741220
trans-1,4-Dichloro-2-butene	mg/l	.025	0.0285	114.	65.1-123	WG741220
Trichloroethene	mg/l	.025	0.0260	104.	77.7-118	WG741220
Trichlorofluoromethane	mg/l	.025	0.0253	101.	63.5-135	WG741220
Vinyl acetate	mg/l	.125	0.124	99.1	65-138	WG741220

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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Level II

L719684

September 10, 2014

Analyte	Units	Laboratory Control Sample Known Val	Result	% Rec	Limit	Batch
Vinyl chloride	mg/l	.025	0.0205	81.9	65.9-128	WG741220
Xylenes, Total	mg/l	.075	0.0686	91.4	78.7-121	WG741220
4-Bromofluorobenzene				97.40	71-126	WG741220
Dibromofluoromethane				99.50	78.3-121	WG741220
Toluene-d8				102.0	88.5-111	WG741220
a,a,a-Trifluorotoluene				100.0	85-114	WG741220

Analyte	Units	Laboratory Control Sample Duplicate Result	Ref	%Rec	Limit	RPD	Limit	Batch
1,1,1,2-Tetrachloroethane	mg/l	0.0244	0.0259	98.0	74.2-124	5.93	20	WG741220
1,1,1-Trichloroethane	mg/l	0.0210	0.0226	84.0	73.2-123	7.23	20	WG741220
1,1,2,2-Tetrachloroethane	mg/l	0.0243	0.0276	97.0	70.7-122	12.5	20	WG741220
1,1,2-Trichloroethane	mg/l	0.0246	0.0266	98.0	77.7-118	7.91	20	WG741220
1,1-Dichloroethane	mg/l	0.0193	0.0202	77.0	70.7-126	4.92	20	WG741220
1,1-Dichloroethene	mg/l	0.0223	0.0229	89.0	67.8-129	2.49	20	WG741220
1,2,3-Trichloropropane	mg/l	0.0265	0.0291	106.	71.8-121	9.57	20	WG741220
1,2-Dibromo-3-Chloropropane	mg/l	0.0225	0.0254	90.0	65.4-128	12.0	20	WG741220
1,2-Dibromoethane	mg/l	0.0252	0.0292	101.	76.6-121	14.6	20	WG741220
1,2-Dichlorobenzene	mg/l	0.0223	0.0232	89.0	78.4-117	4.07	20	WG741220
1,2-Dichloroethane	mg/l	0.0212	0.0234	85.0	68.8-124	9.59	20	WG741220
1,2-Dichloropropane	mg/l	0.0216	0.0235	86.0	76.5-119	8.12	20	WG741220
1,3-Dichlorobenzene	mg/l	0.0263	0.0273	105.	70.8-128	3.98	20	WG741220
1,4-Dichlorobenzene	mg/l	0.0218	0.0225	87.0	78.8-115	3.00	20	WG741220
2-Butanone (MEK)	mg/l	0.104	0.121	83.0	55-149	15.0	20	WG741220
2-Hexanone	mg/l	0.130	0.145	104.	65.6-144	10.9	20	WG741220
4-Methyl-2-pentanone (MIBK)	mg/l	0.111	0.130	88.0	70.5-133	16.4	20	WG741220
Acetone	mg/l	0.128	0.144	103.	35.6-163	11.2	23.9	WG741220
Acrolein	mg/l	0.102	0.124	81.0	10-190	19.7	28.1	WG741220
Acrylonitrile	mg/l	0.112	0.127	90.0	55.2-130	12.1	20	WG741220
Benzene	mg/l	0.0188	0.0201	75.0	74.8-121	6.65	20	WG741220
Bromodichloromethane	mg/l	0.0224	0.0241	90.0	75.1-116	7.12	20	WG741220
Bromoform	mg/l	0.0290	0.0322	116.	67.5-130	10.5	20	WG741220
Bromomethane	mg/l	0.0229	0.0239	92.0	49.9-162	3.97	20	WG741220
Carbon disulfide	mg/l	0.0209	0.0217	83.0	64.6-140	3.89	20	WG741220
Carbon tetrachloride	mg/l	0.0218	0.0228	87.0	70.2-123	4.69	20	WG741220
Chlorobenzene	mg/l	0.0237	0.0249	95.0	78.1-119	5.17	20	WG741220
Chlorodibromomethane	mg/l	0.0260	0.0293	104.	74-121	12.1	20	WG741220
Chloroethane	mg/l	0.0192	0.0211	77.0	61.7-135	9.40	20	WG741220
Chloroform	mg/l	0.0204	0.0214	81.0	76-121	5.16	20	WG741220
Chloromethane	mg/l	0.0175	0.0191	70.0	61.5-129	8.95	20	WG741220
cis-1,2-Dichloroethene	mg/l	0.0203	0.0222	81.0	76-119	8.64	20	WG741220
cis-1,3-Dichloropropene	mg/l	0.0224	0.0244	90.0	78.2-120	8.25	20	WG741220
Dibromomethane	mg/l	0.0244	0.0268	98.0	79.5-118	9.51	20	WG741220
Dichlorodifluoromethane	mg/l	0.0197	0.0206	79.0	54.8-135	4.32	20	WG741220
Ethylbenzene	mg/l	0.0231	0.0247	92.0	78.8-122	6.57	20	WG741220
Iodomethane	mg/l	0.134	0.141	107.	61-130	5.40	20	WG741220
Methylene Chloride	mg/l	0.0197	0.0215	79.0	70.3-120	8.79	20	WG741220
Styrene	mg/l	0.0234	0.0243	94.0	80.4-126	3.80	20	WG741220
Tetrachloroethene	mg/l	0.0262	0.0277	105.	72.6-126	5.44	20	WG741220
Toluene	mg/l	0.0218	0.0233	87.0	79.7-116	6.68	20	WG741220
trans-1,2-Dichloroethene	mg/l	0.0194	0.0213	78.0	72.6-121	9.10	20	WG741220
trans-1,3-Dichloropropene	mg/l	0.0231	0.0266	92.0	74.3-123	14.2	20	WG741220
trans-1,4-Dichloro-2-butene	mg/l	0.0262	0.0285	105.	65.1-123	8.34	20	WG741220
Trichloroethene	mg/l	0.0239	0.0260	96.0	77.7-118	8.65	20	WG741220
Trichlorofluoromethane	mg/l	0.0241	0.0253	96.0	63.5-135	4.67	20	WG741220
Vinyl acetate	mg/l	0.106	0.124	85.0	65-138	15.2	20	WG741220
Vinyl chloride	mg/l	0.0195	0.0205	78.0	65.9-128	4.67	20	WG741220
Xylenes, Total	mg/l	0.0650	0.0686	87.0	78.7-121	5.36	20	WG741220

* Performance of this Analyte is outside of established criteria.
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Raleigh, NC 27607

Quality Assurance Report
Level II

L719684

September 10, 2014

Analyte	Units	Laboratory Control Sample Duplicate Result	Ref	%Rec	Limit	RPD	Limit	Batch
4-Bromofluorobenzene				97.90	71-126			
Dibromofluoromethane				96.90	78.3-121			
Toluene-d8				102.0	88.5-111			
a,a,a-Trifluorotoluene				101.0	85-114			

Analyte	Units	Matrix Spike MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
1,1,1,2-Tetrachloroethane	mg/l	0.0229	0.0	.025	92.0	64-128	L719507-04	WG741220
1,1,1-Trichloroethane	mg/l	0.0218	0.0	.025	87.0	58.7-134	L719507-04	WG741220
1,1,2,2-Tetrachloroethane	mg/l	0.0162	0.0	.025	65.0	56-132	L719507-04	WG741220
1,1,2-Trichloroethane	mg/l	0.0250	0.0	.025	100.	66.3-125	L719507-04	WG741220
1,1-Dichloroethane	mg/l	0.0203	0.0	.025	81.0	58.5-132	L719507-04	WG741220
1,1-Dichloroethene	mg/l	0.0230	0.0	.025	92.0	51.1-140	L719507-04	WG741220
1,2,3-Trichloropropane	mg/l	0.0266	0.0	.025	110.	61.4-128	L719507-04	WG741220
1,2-Dibromo-3-Chloropropane	mg/l	0.0223	0.0	.025	89.0	57.3-136	L719507-04	WG741220
1,2-Dibromoethane	mg/l	0.0258	0.0	.025	100.	67.1-125	L719507-04	WG741220
1,2-Dichlorobenzene	mg/l	0.0212	0.0	.025	85.0	68.2-123	L719507-04	WG741220
1,2-Dichloroethane	mg/l	0.0232	0.0	.025	93.0	60-126	L719507-04	WG741220
1,2-Dichloropropane	mg/l	0.0228	0.00150	.025	85.0	64.2-123	L719507-04	WG741220
1,3-Dichlorobenzene	mg/l	0.0225	0.0	.025	90.0	63.1-131	L719507-04	WG741220
1,4-Dichlorobenzene	mg/l	0.0205	0.0	.025	82.0	68.6-123	L719507-04	WG741220
2-Butanone (MEK)	mg/l	0.129	0.00127	.125	100.	22.4-138	L719507-04	WG741220
2-Hexanone	mg/l	0.132	0.0	.125	110.	43.3-137	L719507-04	WG741220
4-Methyl-2-pentanone (MIBK)	mg/l	0.121	0.0	.125	97.0	60.8-140	L719507-04	WG741220
Acetone	mg/l	0.157	0.0138	.125	110.	10-130	L719507-04	WG741220
Acrolein	mg/l	0.0916	0.0	.125	73.0	10-200	L719507-04	WG741220
Acrylonitrile	mg/l	0.123	0.0	.125	99.0	49.4-133	L719507-04	WG741220
Benzene	mg/l	0.0197	0.0	.025	79.0	54.3-133	L719507-04	WG741220
Bromodichloromethane	mg/l	0.0228	0.0	.025	91.0	63.9-121	L719507-04	WG741220
Bromoform	mg/l	0.0286	0.0	.025	110.	59.5-134	L719507-04	WG741220
Bromomethane	mg/l	0.0214	0.0	.025	86.0	41.7-155	L719507-04	WG741220
Carbon disulfide	mg/l	0.0214	0.0	.025	86.0	43.3-149	L719507-04	WG741220
Carbon tetrachloride	mg/l	0.0229	0.0	.025	92.0	55.7-134	L719507-04	WG741220
Chlorobenzene	mg/l	0.0223	0.0	.025	89.0	67-125	L719507-04	WG741220
Chlorodibromomethane	mg/l	0.0268	0.0	.025	110.	64.3-125	L719507-04	WG741220
Chloroethane	mg/l	0.0192	0.0	.025	77.0	51.5-136	L719507-04	WG741220
Chloroform	mg/l	0.0213	0.0	.025	85.0	63-129	L719507-04	WG741220
Chloromethane	mg/l	0.0179	0.0	.025	72.0	42.4-135	L719507-04	WG741220
cis-1,2-Dichloroethene	mg/l	0.0218	0.0	.025	87.0	59.2-129	L719507-04	WG741220
cis-1,3-Dichloropropene	mg/l	0.0232	0.0	.025	93.0	66.4-125	L719507-04	WG741220
Dibromomethane	mg/l	0.0258	0.0	.025	100.	68.2-124	L719507-04	WG741220
Dichlorodifluoromethane	mg/l	0.0192	0.0	.025	77.0	40.6-144	L719507-04	WG741220
Ethylbenzene	mg/l	0.0219	0.0	.025	88.0	61.4-133	L719507-04	WG741220
Iodomethane	mg/l	0.136	0.0	.125	110.	49.7-132	L719507-04	WG741220
Methylene Chloride	mg/l	0.0217	0.0	.025	87.0	58.1-122	L719507-04	WG741220
Styrene	mg/l	0.0218	0.0	.025	87.0	66.8-133	L719507-04	WG741220
Tetrachloroethene	mg/l	0.0259	0.0	.025	100.	53-139	L719507-04	WG741220
Toluene	mg/l	0.0221	0.000314	.025	87.0	61.4-130	L719507-04	WG741220
trans-1,2-Dichloroethene	mg/l	0.0209	0.0	.025	84.0	56.5-129	L719507-04	WG741220
trans-1,3-Dichloropropene	mg/l	0.0245	0.0	.025	98.0	64.1-128	L719507-04	WG741220
trans-1,4-Dichloro-2-butene	mg/l	0.0265	0.0	.025	110.	57.1-130	L719507-04	WG741220
Trichloroethene	mg/l	0.0307	0.0	.025	120.	44.1-149	L719507-04	WG741220
Trichlorofluoromethane	mg/l	0.0248	0.0	.025	99.0	49.6-145	L719507-04	WG741220
Vinyl acetate	mg/l	0.0141	0.0	.125	11.0*	56.1-149	L719507-04	WG741220
Vinyl chloride	mg/l	0.0187	0.0	.025	75.0	47.8-137	L719507-04	WG741220
Xylenes, Total	mg/l	0.0615	0.0	.075	82.0	63.3-131	L719507-04	WG741220
4-Bromofluorobenzene					90.40	71-126		WG741220
Dibromofluoromethane					99.90	78.3-121		WG741220

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Quality Assurance Report
Level II

L719684

September 10, 2014

Analyte	Units	MS Res	Matrix Spike Ref Res	TV	% Rec	Limit	Ref Samp	Batch
Toluene-d8					101.0	88.5-111		
a,a,a-Trifluorotoluene					97.40	85-114		

Analyte	Units	MSD	Matrix Spike Duplicate Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
1,1,1,2-Tetrachloroethane	mg/l	0.0223	0.0229	89.1	64-128	2.88	20	L719507-04	WG741220
1,1,1-Trichloroethane	mg/l	0.0209	0.0218	83.6	58.7-134	4.17	20	L719507-04	WG741220
1,1,2,2-Tetrachloroethane	mg/l	0.00914	0.0162	36.6*	56-132	55.5*	22.2	L719507-04	WG741220
1,1,2-Trichloroethane	mg/l	0.0238	0.0250	95.2	66.3-125	4.82	20	L719507-04	WG741220
1,1-Dichloroethane	mg/l	0.0191	0.0203	76.5	58.5-132	6.22	20	L719507-04	WG741220
1,1-Dichloroethene	mg/l	0.0213	0.0230	85.1	51.1-140	8.01	20.2	L719507-04	WG741220
1,2,3-Trichloropropane	mg/l	0.0274	0.0266	110.	61.4-128	3.06	22.4	L719507-04	WG741220
1,2-Dibromo-3-Chloropropane	mg/l	0.0237	0.0223	95.0	57.3-136	6.44	27	L719507-04	WG741220
1,2-Dibromoethane	mg/l	0.0257	0.0258	103.	67.1-125	0.420	20	L719507-04	WG741220
1,2-Dichlorobenzene	mg/l	0.0217	0.0212	87.0	68.2-123	2.41	20	L719507-04	WG741220
1,2-Dichloroethane	mg/l	0.0229	0.0232	91.4	60-126	1.51	20	L719507-04	WG741220
1,2-Dichloropropane	mg/l	0.0216	0.0228	80.3	64.2-123	5.32	20	L719507-04	WG741220
1,3-Dichlorobenzene	mg/l	0.0240	0.0225	95.9	63.1-131	6.58	20	L719507-04	WG741220
1,4-Dichlorobenzene	mg/l	0.0213	0.0205	85.2	68.6-123	3.57	20	L719507-04	WG741220
2-Butanone (MEK)	mg/l	0.126	0.129	99.7	22.4-138	2.56	27	L719507-04	WG741220
2-Hexanone	mg/l	0.128	0.132	102.	43.3-137	3.55	25.5	L719507-04	WG741220
4-Methyl-2-pentanone (MIBK)	mg/l	0.120	0.121	96.2	60.8-140	0.390	25.1	L719507-04	WG741220
Acetone	mg/l	0.152	0.157	111.	10-130	3.01	27.9	L719507-04	WG741220
Acrolein	mg/l	0.0522	0.0916	41.8	10-200	54.8*	27.7	L719507-04	WG741220
Acrylonitrile	mg/l	0.118	0.123	94.8	49.4-133	4.14	25.3	L719507-04	WG741220
Benzene	mg/l	0.0187	0.0197	74.7	54.3-133	5.22	20	L719507-04	WG741220
Bromodichloromethane	mg/l	0.0226	0.0228	90.5	63.9-121	0.590	20	L719507-04	WG741220
Bromoform	mg/l	0.0294	0.0286	118.	59.5-134	2.91	20.5	L719507-04	WG741220
Bromomethane	mg/l	0.0225	0.0214	89.9	41.7-155	4.95	21.9	L719507-04	WG741220
Carbon disulfide	mg/l	0.0195	0.0214	77.9	43.3-149	9.54	20.3	L719507-04	WG741220
Carbon tetrachloride	mg/l	0.0213	0.0229	85.4	55.7-134	7.07	20	L719507-04	WG741220
Chlorobenzene	mg/l	0.0218	0.0223	87.1	67-125	2.56	20	L719507-04	WG741220
Chlorodibromomethane	mg/l	0.0265	0.0268	106.	64.3-125	1.21	20.8	L719507-04	WG741220
Chloroethane	mg/l	0.0187	0.0192	74.9	51.5-136	2.26	40	L719507-04	WG741220
Chloroform	mg/l	0.0200	0.0213	80.1	63-129	6.40	20	L719507-04	WG741220
Chloromethane	mg/l	0.0181	0.0179	72.4	42.4-135	1.25	20	L719507-04	WG741220
cis-1,2-Dichloroethene	mg/l	0.0201	0.0218	80.4	59.2-129	8.04	20	L719507-04	WG741220
cis-1,3-Dichloropropene	mg/l	0.0227	0.0232	90.9	66.4-125	1.92	20	L719507-04	WG741220
Dibromomethane	mg/l	0.0253	0.0258	101.	68.2-124	1.70	20	L719507-04	WG741220
Dichlorodifluoromethane	mg/l	0.0200	0.0192	79.9	40.6-144	4.17	20.2	L719507-04	WG741220
Ethylbenzene	mg/l	0.0213	0.0219	85.3	61.4-133	2.82	20	L719507-04	WG741220
Iodomethane	mg/l	0.128	0.136	103.	49.7-132	6.02	20	L719507-04	WG741220
Methylene Chloride	mg/l	0.0196	0.0217	78.3	58.1-122	10.4	20	L719507-04	WG741220
Styrene	mg/l	0.0213	0.0218	85.3	66.8-133	2.31	20	L719507-04	WG741220
Tetrachloroethene	mg/l	0.0240	0.0259	96.0	53-139	7.83	20	L719507-04	WG741220
Toluene	mg/l	0.0219	0.0221	86.3	61.4-130	1.13	20	L719507-04	WG741220
trans-1,2-Dichloroethene	mg/l	0.0188	0.0209	75.2	56.5-129	10.5	20	L719507-04	WG741220
trans-1,3-Dichloropropene	mg/l	0.0252	0.0245	101.	64.1-128	2.53	20	L719507-04	WG741220
trans-1,4-Dichloro-2-butene	mg/l	0.0275	0.0265	110.	57.1-130	3.58	23.9	L719507-04	WG741220
Trichloroethene	mg/l	0.0360	0.0307	144.	44.1-149	15.9	20	L719507-04	WG741220
Trichlorofluoromethane	mg/l	0.0249	0.0248	99.7	49.6-145	0.510	21.2	L719507-04	WG741220
Vinyl acetate	mg/l	0.000660	0.0141	0.528*	56.1-149	182.*	22.7	L719507-04	WG741220
Vinyl chloride	mg/l	0.0193	0.0187	77.4	47.8-137	3.41	20	L719507-04	WG741220
Xylenes, Total	mg/l	0.0601	0.0615	80.2	63.3-131	2.25	20	L719507-04	WG741220
4-Bromofluorobenzene				94.80	71-126				WG741220
Dibromofluoromethane				98.60	78.3-121				WG741220
Toluene-d8				103.0	88.5-111				WG741220
a,a,a-Trifluorotoluene				97.70	85-114				WG741220

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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Quality Assurance Report
Level II

L719684

September 10, 2014

Batch number /Run number / Sample number cross reference

WG741220: R2986327: L719684-01
WG741967: R2987627: L719684-01

* * Calculations are performed prior to rounding of reported values.
* Performance of this Analyte is outside of established criteria.
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L719684

September 10, 2014

The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.

Piedmont Geologic

6003 Chapel Hill Road Suite 145
Raleigh, NC 27607

Billing Information:
Accounts Payable
6003 Chapel Hill Rd Ste 145
Raleigh, NC 27607

Report to: Mr. Pete Dressel

Email To: pjdressel@piedmontgeologic.com

Project Description: NCSU Lot 86 - Water Treatment System Mon

City/State Collected: RALEIGH, NC

Phone: 919-854-9700
Fax: 919-854-9532

Client Project # ~~1247~~ 1441

Lab Project # PIEGEO-NCSU LOT 86

Collected by (print): P. DRESSEL

Site/Facility ID # RALEIGH, NC

P.O. # 1347

Collected by (signature): [signature]

Immediately Packed on Ice N ____ Y ✓

Rush? (Lab MUST Be Notified)
___ Same Day 200%
___ Next Day 100%
___ Two Day 50%
___ Three Day 25%

Date Results Needed

Email? ___No X__Yes
FAX? ___No ___Yes

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	V8260AP9 40mlAmb-HCl										Rem./Contaminant	Sample # (lab only)
GWE INFLUENT	GRAB	GW	—	9-2-14	1417	2	X										-01	

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other_____

Remarks:V8260AP9 = V8260 + 1,4-Dioxane (Report 14D to MDL)
Quote PIEGEO080513S

pH _____ Temp _____
Flow _____ Other _____

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
[signature]	9/2/14	16:10	[signature]
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)
[signature]	9/3/14	18:45	[signature]

Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ SWA

Temp: 2.4 °C Bottles Received: 2 ✓

Date: 9-4-14 Time: 0900

Hold #

Condition: OK (lab use only) 583

COC Seal Intact: ✓ Y ___N ___NA

pH Checked: NCF:

Chain of Custody Page ___ of ___

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L # L718684

A012

Acctnum: PIEGEO
Template: T82911
Prelogin: P480382
TSR: 350 - Jimmy Hunt
PB: 8-27-14 MLO
Shipped Via: FedEx Ground

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Raleigh, NC 27607

Report Summary

Tuesday October 14, 2014

Report Number: L726526
Samples Received: 10/09/14
Client Project: 1247

Description: NCSU Lot 86 - Water Treatment System Monitoring

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By: Jimmy Hunt

Jimmy Hunt , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197, FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704/BIO041, ND - R-140. NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1, TX - T104704245-11-3, OK - 9915, PA - 68-02979, IA Lab #364, EPA - TN002

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REPORT OF ANALYSIS

Mr. Pete Dressel
Piedmont Geologic
6003 Chapel Hill Road Suite 145
Raleigh, NC 27607

October 14, 2014

ESC Sample # : L726526-01

Site ID : RALEIGH, NC

Project # : 1247

Date Received : October 09, 2014
Description : NCSU Lot 86 - Water Treatment System Monitoring

Sample ID : GWE INFLUENT

Collected By : Jonathan Murphey
Collection Date : 10/07/14 10:45

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Volatile Organics								
Acetone	U	1000	5000	ug/l		8260B	10/12/14	100
Acrolein	U	890	5000	ug/l		8260B	10/12/14	100
Acrylonitrile	U	190	1000	ug/l		8260B	10/12/14	100
Benzene	140	33.	100	ug/l		8260B	10/12/14	100
Bromodichloromethane	54.	38.	100	ug/l	J	8260B	10/12/14	100
Bromoform	U	47.	100	ug/l		8260B	10/12/14	100
Bromomethane	U	87.	500	ug/l		8260B	10/13/14	100
Carbon disulfide	U	28.	100	ug/l		8260B	10/12/14	100
Carbon tetrachloride	110	38.	100	ug/l		8260B	10/12/14	100
Chlorobenzene	U	35.	100	ug/l		8260B	10/12/14	100
Chlorodibromomethane	U	33.	100	ug/l		8260B	10/12/14	100
Chloroethane	U	45.	500	ug/l		8260B	10/12/14	100
Chloroform	7400	32.	500	ug/l		8260B	10/12/14	100
Chloromethane	U	28.	250	ug/l		8260B	10/12/14	100
1,2-Dibromoethane	560	38.	100	ug/l		8260B	10/12/14	100
1,2-Dibromo-3-Chloropropane	U	130	500	ug/l		8260B	10/12/14	100
Dibromomethane	U	35.	100	ug/l		8260B	10/12/14	100
1,2-Dichlorobenzene	U	35.	100	ug/l		8260B	10/12/14	100
1,3-Dichlorobenzene	U	22.	100	ug/l		8260B	10/12/14	100
1,4-Dichlorobenzene	U	27.	100	ug/l		8260B	10/12/14	100
Dichlorodifluoromethane	U	55.	500	ug/l		8260B	10/12/14	100
1,1-Dichloroethane	U	26.	100	ug/l		8260B	10/12/14	100
1,2-Dichloroethane	65.	36.	100	ug/l	J	8260B	10/12/14	100
1,1-Dichloroethene	U	40.	100	ug/l		8260B	10/12/14	100
cis-1,2-Dichloroethene	U	26.	100	ug/l		8260B	10/12/14	100
trans-1,2-Dichloroethene	U	40.	100	ug/l		8260B	10/12/14	100
1,2-Dichloropropane	1100	31.	100	ug/l		8260B	10/12/14	100
cis-1,3-Dichloropropene	U	42.	100	ug/l		8260B	10/12/14	100
trans-1,3-Dichloropropene	U	42.	100	ug/l		8260B	10/12/14	100
Ethylbenzene	U	38.	100	ug/l		8260B	10/12/14	100
2-Hexanone	U	380	1000	ug/l		8260B	10/12/14	100
Iodomethane	U	170	1000	ug/l		8260B	10/12/14	100
2-Butanone (MEK)	U	390	1000	ug/l		8260B	10/12/14	100
Methylene Chloride	980	100	500	ug/l		8260B	10/12/14	100
4-Methyl-2-pentanone (MIBK)	U	210	1000	ug/l		8260B	10/12/14	100
Pentachloroethane	U	360	500	ug/l		8260B	10/12/14	100
Styrene	U	31.	100	ug/l		8260B	10/12/14	100
1,1,2,2-Tetrachloroethane	U	58.	100	ug/l		8260B	10/12/14	100
1,1,1,2-Tetrachloroethane	U	38.	100	ug/l		8260B	10/12/14	100
Tetrachloroethene	61.	37.	100	ug/l	J	8260B	10/12/14	100
Toluene	U	78.	500	ug/l		8260B	10/12/14	100
1,1,1-Trichloroethane	U	32.	100	ug/l		8260B	10/12/14	100

U = ND (Not Detected)
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL
MDL = Minimum Detection Limit = LOD = TRRP SDL
Note:
The reported analytical results relate only to the sample submitted.
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REPORT OF ANALYSIS

Mr. Pete Dressel
Piedmont Geologic
6003 Chapel Hill Road Suite 145
Raleigh, NC 27607

October 14, 2014

ESC Sample # : L726526-01

Site ID : RALEIGH, NC

Project # : 1247

Date Received : October 09, 2014
Description : NCSU Lot 86 - Water Treatment System Monitoring

Sample ID : GWE INFLUENT

Collected By : Jonathan Murphey
Collection Date : 10/07/14 10:45

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
1,1,2-Trichloroethane	57.	38.	100	ug/l	J	8260B	10/12/14	100
Trichloroethene	180	40.	100	ug/l		8260B	10/12/14	100
Trichlorofluoromethane	U	120	500	ug/l		8260B	10/12/14	100
1,2,3-Trichloropropane	U	81.	250	ug/l		8260B	10/12/14	100
Vinyl acetate	U	160	1000	ug/l		8260B	10/12/14	100
Vinyl chloride	U	26.	100	ug/l		8260B	10/12/14	100
Xylenes, Total	U	110	300	ug/l		8260B	10/12/14	100
Acetonitrile	U	1500	5000	ug/l		8260B	10/12/14	100
Allyl chloride	U	170	500	ug/l		8260B	10/12/14	100
Chloroprene	U	170	5000	ug/l		8260B	10/12/14	100
trans-1,4-Dichloro-2-butene	U	87.	250	ug/l		8260B	10/12/14	100
Isobutanol	U	3900	10000	ug/l		8260B	10/12/14	100
1,4-Dioxane	U	3600	10000	ug/l		8260B	10/12/14	100
Methacrylonitrile	U	1300	5000	ug/l		8260B	10/12/14	100
Methyl methacrylate	U	120	500	ug/l		8260B	10/12/14	100
Ethyl methacrylate	U	140	500	ug/l		8260B	10/12/14	100
Propionitrile	U	1300	5000	ug/l		8260B	10/12/14	100
Surrogate Recovery								
Toluene-d8	101.			% Rec.		8260B	10/12/14	100
Dibromofluoromethane	97.1			% Rec.		8260B	10/12/14	100
a,a,a-Trifluorotoluene	99.0			% Rec.		8260B	10/12/14	100
4-Bromofluorobenzene	99.5			% Rec.		8260B	10/12/14	100

U = ND (Not Detected)
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MDL = Minimum Detection Limit = LOD = TRRP SDL
Note:
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Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L726526-01	WG747783	SAMP	Bromodichloromethane	R2996895	J
	WG747783	SAMP	1,2-Dichloroethane	R2996895	J
	WG747783	SAMP	Tetrachloroethene	R2996895	J
	WG747783	SAMP	1,1,2-Trichloroethane	R2996895	J

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J	(EPA) - Estimated value below the lowest calibration point. Confidence correlates with concentration.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods,it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.

Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Differrence.

Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromotography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.

TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

Summary of Remarks For Samples Printed
10/14/14 at 12:28:32

TSR Signing Reports: 350
R5 - Desired TAT

MDL/RDL; CDG, not CDICP for GW

Sample: L726526-01 Account: PIEGEO Received: 10/09/14 09:00 Due Date: 10/16/14 00:00 RPT Date: 10/14/14 12:28
V8260AP9 = V8260 + 1,4-Dioxane (Report 14D to MDL)

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Quality Assurance Report
Level II

L726526

October 14, 2014

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
1,1,1,2-Tetrachloroethane	< .001	mg/l			WG747783	10/12/14 02:44
1,1,1-Trichloroethane	< .001	mg/l			WG747783	10/12/14 02:44
1,1,2,2-Tetrachloroethane	< .001	mg/l			WG747783	10/12/14 02:44
1,1,2-Trichloroethane	< .001	mg/l			WG747783	10/12/14 02:44
1,1-Dichloroethane	< .001	mg/l			WG747783	10/12/14 02:44
1,1-Dichloroethene	< .001	mg/l			WG747783	10/12/14 02:44
1,2,3-Trichloropropane	< .001	mg/l			WG747783	10/12/14 02:44
1,2-Dibromo-3-Chloropropane	< .005	mg/l			WG747783	10/12/14 02:44
1,2-Dibromoethane	< .001	mg/l			WG747783	10/12/14 02:44
1,2-Dichlorobenzene	< .001	mg/l			WG747783	10/12/14 02:44
1,2-Dichloroethane	< .001	mg/l			WG747783	10/12/14 02:44
1,2-Dichloropropane	< .001	mg/l			WG747783	10/12/14 02:44
1,3-Dichlorobenzene	< .001	mg/l			WG747783	10/12/14 02:44
1,4-Dichlorobenzene	< .001	mg/l			WG747783	10/12/14 02:44
1,4-Dioxane	< .1	mg/l			WG747783	10/12/14 02:44
2-Butanone (MEK)	< .01	mg/l			WG747783	10/12/14 02:44
2-Hexanone	< .01	mg/l			WG747783	10/12/14 02:44
4-Methyl-2-pentanone (MIBK)	< .01	mg/l			WG747783	10/12/14 02:44
Acetone	< .05	mg/l			WG747783	10/12/14 02:44
Acetonitrile	< .05	mg/l			WG747783	10/12/14 02:44
Acrolein	< .025	mg/l			WG747783	10/12/14 02:44
Acrylonitrile	< .01	mg/l			WG747783	10/12/14 02:44
Allyl chloride	< .005	mg/l			WG747783	10/12/14 02:44
Benzene	< .001	mg/l			WG747783	10/12/14 02:44
Bromodichloromethane	< .001	mg/l			WG747783	10/12/14 02:44
Bromoform	< .001	mg/l			WG747783	10/12/14 02:44
Carbon disulfide	< .001	mg/l			WG747783	10/12/14 02:44
Carbon tetrachloride	< .001	mg/l			WG747783	10/12/14 02:44
Chlorobenzene	< .001	mg/l			WG747783	10/12/14 02:44
Chlorodibromomethane	< .001	mg/l			WG747783	10/12/14 02:44
Chloroethane	< .005	mg/l			WG747783	10/12/14 02:44
Chloroform	< .005	mg/l			WG747783	10/12/14 02:44
Chloromethane	< .0025	mg/l			WG747783	10/12/14 02:44
Chloroprene	< .05	mg/l			WG747783	10/12/14 02:44
cis-1,2-Dichloroethene	< .001	mg/l			WG747783	10/12/14 02:44
cis-1,3-Dichloropropene	< .001	mg/l			WG747783	10/12/14 02:44
Dibromomethane	< .001	mg/l			WG747783	10/12/14 02:44
Dichlorodifluoromethane	< .005	mg/l			WG747783	10/12/14 02:44
Ethyl methacrylate	< .005	mg/l			WG747783	10/12/14 02:44
Ethylbenzene	< .001	mg/l			WG747783	10/12/14 02:44
Iodomethane	< .01	mg/l			WG747783	10/12/14 02:44
Isobutanol	< .1	mg/l			WG747783	10/12/14 02:44
Methacrylonitrile	< .05	mg/l			WG747783	10/12/14 02:44
Methyl methacrylate	< .005	mg/l			WG747783	10/12/14 02:44
Methylene Chloride	< .005	mg/l			WG747783	10/12/14 02:44
Pentachloroethane	< .005	mg/l			WG747783	10/12/14 02:44
Propionitrile	< .05	mg/l			WG747783	10/12/14 02:44
Styrene	< .001	mg/l			WG747783	10/12/14 02:44
Tetrachloroethene	< .001	mg/l			WG747783	10/12/14 02:44
Toluene	< .005	mg/l			WG747783	10/12/14 02:44
trans-1,2-Dichloroethene	< .001	mg/l			WG747783	10/12/14 02:44
trans-1,3-Dichloropropene	< .001	mg/l			WG747783	10/12/14 02:44
trans-1,4-Dichloro-2-butene	< .0025	mg/l			WG747783	10/12/14 02:44
Trichloroethene	< .001	mg/l			WG747783	10/12/14 02:44
Trichlorofluoromethane	< .005	mg/l			WG747783	10/12/14 02:44
Vinyl acetate	< .01	mg/l			WG747783	10/12/14 02:44
Vinyl chloride	< .001	mg/l			WG747783	10/12/14 02:44
Xylenes, Total	< .003	mg/l			WG747783	10/12/14 02:44
4-Bromofluorobenzene		% Rec.	98.40	71-126	WG747783	10/12/14 02:44

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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Quality Assurance Report
Level II

L726526

October 14, 2014

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
Dibromofluoromethane		% Rec.	97.20	78.3-121		10/12/14 02:44
Toluene-d8		% Rec.	94.70	88.5-111		10/12/14 02:44
a,a,a-Trifluorotoluene		% Rec.	95.50	85-114		10/12/14 02:44
Bromomethane	< .005	mg/l			WG748200	10/13/14 12:23
4-Bromofluorobenzene		% Rec.	94.30	71-126	WG748200	10/13/14 12:23
Dibromofluoromethane		% Rec.	99.00	78.3-121	WG748200	10/13/14 12:23
Toluene-d8		% Rec.	99.70	88.5-111	WG748200	10/13/14 12:23
a,a,a-Trifluorotoluene		% Rec.	105.0	85-114	WG748200	10/13/14 12:23

Laboratory Control Sample

Analyte	Units	Known Val	Result	% Rec	Limit	Batch
1,1,1,2-Tetrachloroethane	mg/l	.025	0.0243	97.2	74.2-124	WG747783
1,1,1-Trichloroethane	mg/l	.025	0.0202	80.7	73.2-123	WG747783
1,1,2,2-Tetrachloroethane	mg/l	.025	0.0240	96.0	70.7-122	WG747783
1,1,2-Trichloroethane	mg/l	.025	0.0262	105.	77.7-118	WG747783
1,1-Dichloroethane	mg/l	.025	0.0225	90.1	70.7-126	WG747783
1,1-Dichloroethene	mg/l	.025	0.0209	83.6	67.8-129	WG747783
1,2,3-Trichloropropane	mg/l	.025	0.0220	88.1	71.8-121	WG747783
1,2-Dibromo-3-Chloropropane	mg/l	.025	0.0233	93.2	65.4-128	WG747783
1,2-Dibromoethane	mg/l	.025	0.0247	98.7	76.6-121	WG747783
1,2-Dichlorobenzene	mg/l	.025	0.0267	107.	78.4-117	WG747783
1,2-Dichloroethane	mg/l	.025	0.0200	80.0	68.8-124	WG747783
1,2-Dichloropropane	mg/l	.025	0.0249	99.5	76.5-119	WG747783
1,3-Dichlorobenzene	mg/l	.025	0.0237	94.9	70.8-128	WG747783
1,4-Dichlorobenzene	mg/l	.025	0.0254	101.	78.8-115	WG747783
2-Butanone (MEK)	mg/l	.125	0.0865	69.2	55-149	WG747783
2-Hexanone	mg/l	.125	0.111	88.9	65.6-144	WG747783
4-Methyl-2-pentanone (MIBK)	mg/l	.125	0.100	80.0	70.5-133	WG747783
Acetone	mg/l	.125	0.0726	58.1	35.6-163	WG747783
Acrolein	mg/l	.125	0.115	92.3	10-190	WG747783
Acrylonitrile	mg/l	.125	0.106	84.5	55.2-130	WG747783
Benzene	mg/l	.025	0.0209	83.4	74.8-121	WG747783
Bromodichloromethane	mg/l	.025	0.0223	89.0	75.1-116	WG747783
Bromoform	mg/l	.025	0.0220	88.0	67.5-130	WG747783
Carbon disulfide	mg/l	.025	0.0208	83.1	64.6-140	WG747783
Carbon tetrachloride	mg/l	.025	0.0190	76.2	70.2-123	WG747783
Chlorobenzene	mg/l	.025	0.0231	92.2	78.1-119	WG747783
Chlorodibromomethane	mg/l	.025	0.0242	96.8	74-121	WG747783
Chloroethane	mg/l	.025	0.0194	77.7	61.7-135	WG747783
Chloroform	mg/l	.025	0.0216	86.5	76-121	WG747783
Chloromethane	mg/l	.025	0.0209	83.5	61.5-129	WG747783
cis-1,2-Dichloroethene	mg/l	.025	0.0232	92.7	76-119	WG747783
cis-1,3-Dichloropropene	mg/l	.025	0.0234	93.6	78.2-120	WG747783
Dibromomethane	mg/l	.025	0.0223	89.3	79.5-118	WG747783
Dichlorodifluoromethane	mg/l	.025	0.0181	72.5	54.8-135	WG747783
Ethylbenzene	mg/l	.025	0.0236	94.2	78.8-122	WG747783
Iodomethane	mg/l	.125	0.102	81.5	61-130	WG747783
Methylene Chloride	mg/l	.025	0.0217	86.8	70.3-120	WG747783
Styrene	mg/l	.025	0.0256	103.	80.4-126	WG747783
Tetrachloroethene	mg/l	.025	0.0235	93.9	72.6-126	WG747783
Toluene	mg/l	.025	0.0215	86.0	79.7-116	WG747783
trans-1,2-Dichloroethene	mg/l	.025	0.0230	91.8	72.6-121	WG747783
trans-1,3-Dichloropropene	mg/l	.025	0.0234	93.4	74.3-123	WG747783
trans-1,4-Dichloro-2-butene	mg/l	.025	0.0196	78.5	65.1-123	WG747783
Trichloroethene	mg/l	.025	0.0220	87.8	77.7-118	WG747783
Trichlorofluoromethane	mg/l	.025	0.0193	77.4	63.5-135	WG747783
Vinyl acetate	mg/l	.125	0.0941	75.3	65-138	WG747783
Vinyl chloride	mg/l	.025	0.0207	82.9	65.9-128	WG747783

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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Piedmont Geologic
Mr. Pete Dressel
6003 Chapel Hill Road Suite 145

Raleigh, NC 27607

Quality Assurance Report
Level II

L726526

October 14, 2014

Analyte	Units	Laboratory Control Sample Known Val	Result	% Rec	Limit	Batch
Xylenes, Total	mg/l	.075	0.0721	96.2	78.7-121	WG747783
4-Bromofluorobenzene				98.80	71-126	WG747783
Dibromofluoromethane				98.40	78.3-121	WG747783
Toluene-d8				103.0	88.5-111	WG747783
a,a,a-Trifluorotoluene				100.0	85-114	WG747783
Bromomethane	mg/l	.025	0.0301	120.	49.9-162	WG748200
4-Bromofluorobenzene				95.60	71-126	WG748200
Dibromofluoromethane				96.60	78.3-121	WG748200
Toluene-d8				102.0	88.5-111	WG748200
a,a,a-Trifluorotoluene				105.0	85-114	WG748200

Analyte	Units	Laboratory Control Sample Duplicate Result	Ref	%Rec	Limit	RPD	Limit	Batch
1,1,1,2-Tetrachloroethane	mg/l	0.0242	0.0243	97.0	74.2-124	0.570	20	WG747783
1,1,1-Trichloroethane	mg/l	0.0197	0.0202	79.0	73.2-123	2.34	20	WG747783
1,1,2,2-Tetrachloroethane	mg/l	0.0252	0.0240	101.	70.7-122	4.71	20	WG747783
1,1,2-Trichloroethane	mg/l	0.0262	0.0262	105.	77.7-118	0.0700	20	WG747783
1,1-Dichloroethane	mg/l	0.0222	0.0225	89.0	70.7-126	1.53	20	WG747783
1,1-Dichloroethene	mg/l	0.0208	0.0209	83.0	67.8-129	0.540	20	WG747783
1,2,3-Trichloropropane	mg/l	0.0227	0.0220	91.0	71.8-121	2.85	20	WG747783
1,2-Dibromo-3-Chloropropane	mg/l	0.0251	0.0233	100.	65.4-128	7.41	20	WG747783
1,2-Dibromoethane	mg/l	0.0248	0.0247	99.0	76.6-121	0.490	20	WG747783
1,2-Dichlorobenzene	mg/l	0.0268	0.0267	107.	78.4-117	0.400	20	WG747783
1,2-Dichloroethane	mg/l	0.0204	0.0200	81.0	68.8-124	1.87	20	WG747783
1,2-Dichloropropane	mg/l	0.0255	0.0249	102.	76.5-119	2.35	20	WG747783
1,3-Dichlorobenzene	mg/l	0.0232	0.0237	93.0	70.8-128	2.28	20	WG747783
1,4-Dichlorobenzene	mg/l	0.0253	0.0254	101.	78.8-115	0.210	20	WG747783
2-Butanone (MEK)	mg/l	0.0931	0.0865	74.0	55-149	7.32	20	WG747783
2-Hexanone	mg/l	0.116	0.111	93.0	65.6-144	4.43	20	WG747783
4-Methyl-2-pentanone (MIBK)	mg/l	0.107	0.100	85.0	70.5-133	6.34	20	WG747783
Acetone	mg/l	0.0773	0.0726	62.0	35.6-163	6.29	23.9	WG747783
Acrolein	mg/l	0.121	0.115	96.0	10-190	4.43	28.1	WG747783
Acrylonitrile	mg/l	0.111	0.106	89.0	55.2-130	5.29	20	WG747783
Benzene	mg/l	0.0210	0.0209	84.0	74.8-121	0.610	20	WG747783
Bromodichloromethane	mg/l	0.0219	0.0223	87.0	75.1-116	1.79	20	WG747783
Bromoform	mg/l	0.0225	0.0220	90.0	67.5-130	2.00	20	WG747783
Carbon disulfide	mg/l	0.0204	0.0208	82.0	64.6-140	1.60	20	WG747783
Carbon tetrachloride	mg/l	0.0189	0.0190	75.0	70.2-123	0.880	20	WG747783
Chlorobenzene	mg/l	0.0226	0.0231	90.0	78.1-119	2.02	20	WG747783
Chlorodibromomethane	mg/l	0.0245	0.0242	98.0	74-121	1.08	20	WG747783
Chloroethane	mg/l	0.0193	0.0194	77.0	61.7-135	0.720	20	WG747783
Chloroform	mg/l	0.0216	0.0216	86.0	76-121	0.300	20	WG747783
Chloromethane	mg/l	0.0206	0.0209	82.0	61.5-129	1.28	20	WG747783
cis-1,2-Dichloroethene	mg/l	0.0231	0.0232	92.0	76-119	0.510	20	WG747783
cis-1,3-Dichloropropene	mg/l	0.0237	0.0234	95.0	78.2-120	1.05	20	WG747783
Dibromomethane	mg/l	0.0233	0.0223	93.0	79.5-118	4.35	20	WG747783
Dichlorodifluoromethane	mg/l	0.0179	0.0181	72.0	54.8-135	0.990	20	WG747783
Ethylbenzene	mg/l	0.0229	0.0236	92.0	78.8-122	2.82	20	WG747783
Iodomethane	mg/l	0.102	0.102	81.0	61-130	0.240	20	WG747783
Methylene Chloride	mg/l	0.0216	0.0217	86.0	70.3-120	0.320	20	WG747783
Styrene	mg/l	0.0250	0.0256	100.	80.4-126	2.43	20	WG747783
Tetrachloroethene	mg/l	0.0227	0.0235	91.0	72.6-126	3.29	20	WG747783
Toluene	mg/l	0.0216	0.0215	86.0	79.7-116	0.440	20	WG747783
trans-1,2-Dichloroethene	mg/l	0.0232	0.0230	93.0	72.6-121	0.910	20	WG747783
trans-1,3-Dichloropropene	mg/l	0.0245	0.0234	98.0	74.3-123	4.67	20	WG747783
trans-1,4-Dichloro-2-butene	mg/l	0.0204	0.0196	82.0	65.1-123	3.76	20	WG747783

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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Quality Assurance Report
Level II

L726526

October 14, 2014

Analyte	Units	Laboratory Control Sample Duplicate Result	Ref	%Rec	Limit	RPD	Limit	Batch
Trichloroethene	mg/l	0.0218	0.0220	87.0	77.7-118	0.550	20	WG747783
Trichlorofluoromethane	mg/l	0.0192	0.0193	77.0	63.5-135	0.680	20	WG747783
Vinyl acetate	mg/l	0.101	0.0941	81.0	65-138	7.15	20	WG747783
Vinyl chloride	mg/l	0.0207	0.0207	83.0	65.9-128	0.340	20	WG747783
Xylenes, Total	mg/l	0.0706	0.0721	94.0	78.7-121	2.17	20	WG747783
4-Bromofluorobenzene				97.20	71-126			WG747783
Dibromofluoromethane				97.10	78.3-121			WG747783
Toluene-d8				103.0	88.5-111			WG747783
a,a,a-Trifluorotoluene				99.20	85-114			WG747783
Bromomethane	mg/l	0.0303	0.0301	121.	49.9-162	0.740	20	WG748200
4-Bromofluorobenzene				95.70	71-126			WG748200
Dibromofluoromethane				96.50	78.3-121			WG748200
Toluene-d8				101.0	88.5-111			WG748200
a,a,a-Trifluorotoluene				105.0	85-114			WG748200

Analyte	Units	Matrix Spike MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
1,1,1,2-Tetrachloroethane	mg/l	0.0237	0.0	.025	95.0	64-128	L726178-01	WG747783
1,1,1-Trichloroethane	mg/l	0.0194	0.0	.025	78.0	58.7-134	L726178-01	WG747783
1,1,2,2-Tetrachloroethane	mg/l	0.0249	0.0	.025	100.	56-132	L726178-01	WG747783
1,1,2-Trichloroethane	mg/l	0.0257	0.0	.025	100.	66.3-125	L726178-01	WG747783
1,1-Dichloroethane	mg/l	0.0214	0.0	.025	86.0	58.5-132	L726178-01	WG747783
1,1-Dichloroethene	mg/l	0.0203	0.0	.025	81.0	51.1-140	L726178-01	WG747783
1,2,3-Trichloropropane	mg/l	0.0227	0.0	.025	91.0	61.4-128	L726178-01	WG747783
1,2-Dibromo-3-Chloropropane	mg/l	0.0256	0.000540	.025	100.	57.3-136	L726178-01	WG747783
1,2-Dibromoethane	mg/l	0.0247	0.0	.025	99.0	67.1-125	L726178-01	WG747783
1,2-Dichlorobenzene	mg/l	0.0262	0.0	.025	100.	68.2-123	L726178-01	WG747783
1,2-Dichloroethane	mg/l	0.0201	0.0	.025	80.0	60-126	L726178-01	WG747783
1,2-Dichloropropane	mg/l	0.0245	0.0	.025	98.0	64.2-123	L726178-01	WG747783
1,3-Dichlorobenzene	mg/l	0.0229	0.0	.025	92.0	63.1-131	L726178-01	WG747783
1,4-Dichlorobenzene	mg/l	0.0246	0.0	.025	98.0	68.6-123	L726178-01	WG747783
2-Butanone (MEK)	mg/l	0.0874	0.0	.125	70.0	22.4-138	L726178-01	WG747783
2-Hexanone	mg/l	0.114	0.0	.125	91.0	43.3-137	L726178-01	WG747783
4-Methyl-2-pentanone (MIBK)	mg/l	0.108	0.0	.125	86.0	60.8-140	L726178-01	WG747783
Acetone	mg/l	0.0803	0.00803	.125	58.0	10-130	L726178-01	WG747783
Acrolein	mg/l	0.125	0.0	.125	100.	10-200	L726178-01	WG747783
Acrylonitrile	mg/l	0.113	0.0	.125	90.0	49.4-133	L726178-01	WG747783
Benzene	mg/l	0.0205	0.0	.025	82.0	54.3-133	L726178-01	WG747783
Bromodichloromethane	mg/l	0.0221	0.0	.025	88.0	63.9-121	L726178-01	WG747783
Bromoform	mg/l	0.0230	0.0	.025	92.0	59.5-134	L726178-01	WG747783
Carbon disulfide	mg/l	0.0199	0.0	.025	80.0	43.3-149	L726178-01	WG747783
Carbon tetrachloride	mg/l	0.0187	0.0	.025	75.0	55.7-134	L726178-01	WG747783
Chlorobenzene	mg/l	0.0220	0.0	.025	88.0	67-125	L726178-01	WG747783
Chlorodibromomethane	mg/l	0.0240	0.0	.025	96.0	64.3-125	L726178-01	WG747783
Chloroethane	mg/l	0.0182	0.0	.025	73.0	51.5-136	L726178-01	WG747783
Chloroform	mg/l	0.0213	0.0	.025	85.0	63-129	L726178-01	WG747783
Chloromethane	mg/l	0.0201	0.0	.025	80.0	42.4-135	L726178-01	WG747783
cis-1,2-Dichloroethene	mg/l	0.0223	0.0	.025	89.0	59.2-129	L726178-01	WG747783
cis-1,3-Dichloropropene	mg/l	0.0238	0.0	.025	95.0	66.4-125	L726178-01	WG747783
Dibromomethane	mg/l	0.0229	0.0	.025	92.0	68.2-124	L726178-01	WG747783
Dichlorodifluoromethane	mg/l	0.0173	0.0	.025	69.0	40.6-144	L726178-01	WG747783
Ethylbenzene	mg/l	0.0228	0.0	.025	91.0	61.4-133	L726178-01	WG747783
Iodomethane	mg/l	0.0994	0.0	.125	80.0	49.7-132	L726178-01	WG747783
Methylene Chloride	mg/l	0.0213	0.0	.025	85.0	58.1-122	L726178-01	WG747783
Styrene	mg/l	0.0248	0.0	.025	99.0	66.8-133	L726178-01	WG747783
Tetrachloroethene	mg/l	0.0227	0.0	.025	91.0	53-139	L726178-01	WG747783

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Quality Assurance Report
Level II

L726526

October 14, 2014

Analyte	Units	Matrix Spike MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
Toluene	mg/l	0.0215	0.0	.025	86.0	61.4-130	L726178-01	WG747783
trans-1,2-Dichloroethene	mg/l	0.0227	0.0	.025	91.0	56.5-129	L726178-01	WG747783
trans-1,3-Dichloropropene	mg/l	0.0237	0.0	.025	95.0	64.1-128	L726178-01	WG747783
trans-1,4-Dichloro-2-butene	mg/l	0.0202	0.0	.025	81.0	57.1-130	L726178-01	WG747783
Trichloroethene	mg/l	0.0217	0.0	.025	87.0	44.1-149	L726178-01	WG747783
Trichlorofluoromethane	mg/l	0.0188	0.0	.025	75.0	49.6-145	L726178-01	WG747783
Vinyl acetate	mg/l	0.103	0.0	.125	82.0	56.1-149	L726178-01	WG747783
Vinyl chloride	mg/l	0.0204	0.0	.025	82.0	47.8-137	L726178-01	WG747783
Xylenes, Total	mg/l	0.0696	0.0	.075	93.0	63.3-131	L726178-01	WG747783
4-Bromofluorobenzene					98.60	71-126		WG747783
Dibromofluoromethane					96.50	78.3-121		WG747783
Toluene-d8					104.0	88.5-111		WG747783
a,a,a-Trifluorotoluene					101.0	85-114		WG747783
Bromomethane	mg/l	0.0260	0.0	.025	100.	41.7-155	L726061-10	WG748200
4-Bromofluorobenzene					93.20	71-126		WG748200
Dibromofluoromethane					96.80	78.3-121		WG748200
Toluene-d8					101.0	88.5-111		WG748200
a,a,a-Trifluorotoluene					103.0	85-114		WG748200

Analyte	Units	Matrix Spike Duplicate MSD	Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
1,1,1,2-Tetrachloroethane	mg/l	0.0237	0.0237	94.9	64-128	0.0800	20	L726178-01	WG747783
1,1,1-Trichloroethane	mg/l	0.0199	0.0194	79.4	58.7-134	2.16	20	L726178-01	WG747783
1,1,2,2-Tetrachloroethane	mg/l	0.0254	0.0249	102.	56-132	1.84	22.2	L726178-01	WG747783
1,1,2-Trichloroethane	mg/l	0.0261	0.0257	104.	66.3-125	1.71	20	L726178-01	WG747783
1,1-Dichloroethane	mg/l	0.0219	0.0214	87.6	58.5-132	2.27	20	L726178-01	WG747783
1,1-Dichloroethene	mg/l	0.0205	0.0203	82.2	51.1-140	1.19	20.2	L726178-01	WG747783
1,2,3-Trichloropropane	mg/l	0.0233	0.0227	93.2	61.4-128	2.78	22.4	L726178-01	WG747783
1,2-Dibromo-3-Chloropropane	mg/l	0.0257	0.0256	101.	57.3-136	0.320	27	L726178-01	WG747783
1,2-Dibromoethane	mg/l	0.0248	0.0247	99.2	67.1-125	0.370	20	L726178-01	WG747783
1,2-Dichlorobenzene	mg/l	0.0265	0.0262	106.	68.2-123	1.39	20	L726178-01	WG747783
1,2-Dichloroethane	mg/l	0.0203	0.0201	81.0	60-126	0.680	20	L726178-01	WG747783
1,2-Dichloropropane	mg/l	0.0250	0.0245	100.	64.2-123	1.91	20	L726178-01	WG747783
1,3-Dichlorobenzene	mg/l	0.0233	0.0229	93.0	63.1-131	1.45	20	L726178-01	WG747783
1,4-Dichlorobenzene	mg/l	0.0248	0.0246	99.3	68.6-123	0.810	20	L726178-01	WG747783
2-Butanone (MEK)	mg/l	0.0888	0.0874	71.1	22.4-138	1.68	27	L726178-01	WG747783
2-Hexanone	mg/l	0.116	0.114	92.9	43.3-137	2.32	25.5	L726178-01	WG747783
4-Methyl-2-pentanone (MIBK)	mg/l	0.110	0.108	88.2	60.8-140	2.31	25.1	L726178-01	WG747783
Acetone	mg/l	0.0831	0.0803	60.0	10-130	3.39	27.9	L726178-01	WG747783
Acrolein	mg/l	0.126	0.125	101.	10-200	0.930	27.7	L726178-01	WG747783
Acrylonitrile	mg/l	0.112	0.113	89.5	49.4-133	0.960	25.3	L726178-01	WG747783
Benzene	mg/l	0.0207	0.0205	82.8	54.3-133	0.940	20	L726178-01	WG747783
Bromodichloromethane	mg/l	0.0219	0.0221	87.6	63.9-121	0.900	20	L726178-01	WG747783
Bromoform	mg/l	0.0228	0.0230	91.0	59.5-134	1.20	20.5	L726178-01	WG747783
Carbon disulfide	mg/l	0.0204	0.0199	81.8	43.3-149	2.84	20.3	L726178-01	WG747783
Carbon tetrachloride	mg/l	0.0191	0.0187	76.2	55.7-134	1.81	20	L726178-01	WG747783
Chlorobenzene	mg/l	0.0223	0.0220	89.4	67-125	1.75	20	L726178-01	WG747783
Chlorodibromomethane	mg/l	0.0241	0.0240	96.4	64.3-125	0.440	20.8	L726178-01	WG747783
Chloroethane	mg/l	0.0186	0.0182	74.3	51.5-136	2.35	40	L726178-01	WG747783
Chloroform	mg/l	0.0210	0.0213	84.1	63-129	1.44	20	L726178-01	WG747783
Chloromethane	mg/l	0.0201	0.0201	80.3	42.4-135	0.0400	20	L726178-01	WG747783
cis-1,2-Dichloroethene	mg/l	0.0230	0.0223	92.1	59.2-129	3.08	20	L726178-01	WG747783
cis-1,3-Dichloropropene	mg/l	0.0235	0.0238	93.8	66.4-125	1.30	20	L726178-01	WG747783
Dibromomethane	mg/l	0.0225	0.0229	90.0	68.2-124	1.82	20	L726178-01	WG747783
Dichlorodifluoromethane	mg/l	0.0179	0.0173	71.8	40.6-144	3.60	20.2	L726178-01	WG747783
Ethylbenzene	mg/l	0.0230	0.0228	92.0	61.4-133	0.850	20	L726178-01	WG747783

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Analyte	Units	Matrix Spike MSD	Ref	Duplicate %Rec	Limit	RPD	Limit	Ref Samp	Batch
Iodomethane	mg/l	0.101	0.0994	80.8	49.7-132	1.64	20	L726178-01	WG747783
Methylene Chloride	mg/l	0.0210	0.0213	84.0	58.1-122	1.57	20	L726178-01	WG747783
Styrene	mg/l	0.0245	0.0248	98.0	66.8-133	1.10	20	L726178-01	WG747783
Tetrachloroethene	mg/l	0.0231	0.0227	92.5	53-139	1.79	20	L726178-01	WG747783
Toluene	mg/l	0.0215	0.0215	86.1	61.4-130	0.120	20	L726178-01	WG747783
trans-1,2-Dichloroethene	mg/l	0.0227	0.0227	91.0	56.5-129	0.390	20	L726178-01	WG747783
trans-1,3-Dichloropropene	mg/l	0.0244	0.0237	97.5	64.1-128	2.63	20	L726178-01	WG747783
trans-1,4-Dichloro-2-butene	mg/l	0.0208	0.0202	83.4	57.1-130	3.36	23.9	L726178-01	WG747783
Trichloroethene	mg/l	0.0216	0.0217	86.2	44.1-149	0.560	20	L726178-01	WG747783
Trichlorofluoromethane	mg/l	0.0192	0.0188	76.9	49.6-145	2.11	21.2	L726178-01	WG747783
Vinyl acetate	mg/l	0.104	0.103	82.8	56.1-149	0.560	22.7	L726178-01	WG747783
Vinyl chloride	mg/l	0.0208	0.0204	83.3	47.8-137	2.09	20	L726178-01	WG747783
Xylenes, Total	mg/l	0.0697	0.0696	93.0	63.3-131	0.190	20	L726178-01	WG747783
4-Bromofluorobenzene				97.90	71-126				WG747783
Dibromofluoromethane				98.80	78.3-121				WG747783
Toluene-d8				104.0	88.5-111				WG747783
a,a,a-Trifluorotoluene				100.0	85-114				WG747783
Bromomethane	mg/l	0.0247	0.0260	98.9	41.7-155	5.13	21.9	L726061-10	WG748200
4-Bromofluorobenzene				94.40	71-126				WG748200
Dibromofluoromethane				96.70	78.3-121				WG748200
Toluene-d8				100.0	88.5-111				WG748200
a,a,a-Trifluorotoluene				102.0	85-114				WG748200

Batch number /Run number / Sample number cross reference

WG747783: R2996895: L726526-01
WG748200: R2997204: L726526-01

* * Calculations are performed prior to rounding of reported values.
* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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Piedmont Geologic
Mr. Pete Dressel
6003 Chapel Hill Road Suite 145

Raleigh, NC 27607

Quality Assurance Report
Level II

L726526

October 14, 2014

The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.

Piedmont Geologic

6003 Chapel Hill Road Suite 145
Raleigh, NC 27607

Billing Information:
Accounts Payable
6003 Chapel Hill Rd Ste 145
Raleigh, NC 27607

Report to: Mr. Pete Dressel

Email To: pjdressel@piedmontgeologic.com

Project Description: NCSU Lot 86 - Water Treatment System Mon

City/State Collected: Raleigh, NC

Phone: 919-854-9700
Fax: 919-854-9532

Client Project # 1247

Lab Project # PIEGEO-NCSU LOT 86

Collected by (print): Jonathan Murphrey

Site/Facility ID # RALEIGH, NC

P.O. # 1347

Collected by (signature): [signature]

Immediately Packed on Ice N ____ Y ____

Rush? (Lab MUST Be Notified)
____ Same Day 200%
____ Next Day 100%
____ Two Day 50%
____ Three Day 25%

Date Results Needed

Email? ___No X__Yes
FAX? ___No ___Yes

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

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Phone: 800-767-5859
Fax: 615-758-5859

L# L726526

A230

Acctnum: PIEGEO
Template: T82911
Prelogin: P484420
TSR: 350 - Jimmy Hunt
PB: 9-29-14
Shipped Via: FedEX Ground

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	V8260AP9 40mlAmb-HCl	Rem./Contaminant	Sample # (lab only)
GWE INFLUENT	GRAB	GW	/	10/7/14	1045	2	X		-01

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other_____

Remarks:V8260AP9 = V8260 + 1,4-Dioxane (Report 14D to MDL)
Quote PIEGEO080513S

pH _____ Temp _____
Flow _____ Other _____

6194949 23682

Hold #

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
[signature]	10/7/14	1517	[signature]
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)
[signature]	10/8/14	17:35	[signature]

Samples returned via: ☐ UPS ☑ FedEx ☐ Courier ☐ _____

Temp: 10-9-14 °C Bottles Received: 2 vp

Date: 10-9-14 Time: 0900

Condition: (lab use only) OK

COC Seal Intact: ____Y ____N ____NA

pH Checked: NCF:

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Mr. Pete Dressel
Piedmont Geologic
6003 Chapel Hill Road Suite 145
Raleigh, NC 27607

Report Summary

Thursday November 13, 2014

Report Number: L731946
Samples Received: 11/06/14
Client Project: 1247

Description: NCSU Lot 86 - Water Treatment System Monitoring

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By: Jimmy Hunt

Jimmy Hunt , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197, FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704/BIO041, ND - R-140. NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1, TX - T104704245-11-3, OK - 9915, PA - 68-02979, IA Lab #364, EPA - TN002

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

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Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

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REPORT OF ANALYSIS

Mr. Pete Dressel
Piedmont Geologic
6003 Chapel Hill Road Suite 145
Raleigh, NC 27607

November 13, 2014

ESC Sample # : L731946-01

Site ID : RALEIGH, NC

Project # : 1247

Date Received : November 06, 2014
Description : NCSU Lot 86 - Water Treatment System Monitoring

Sample ID : GWE INFLUENT

Collected By : P. Dressel
Collection Date : 11/04/14 13:58

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Volatile Organics								
Acetone	U	1000	5000	ug/l		8260B	11/13/14	100
Acrolein	U	890	5000	ug/l		8260B	11/13/14	100
Acrylonitrile	U	190	1000	ug/l		8260B	11/13/14	100
Benzene	130	33.	100	ug/l		8260B	11/13/14	100
Bromodichloromethane	65.	38.	100	ug/l	J	8260B	11/13/14	100
Bromoform	U	47.	100	ug/l		8260B	11/13/14	100
Bromomethane	U	87.	500	ug/l	J4	8260B	11/13/14	100
Carbon disulfide	U	28.	100	ug/l		8260B	11/13/14	100
Carbon tetrachloride	170	38.	100	ug/l		8260B	11/13/14	100
Chlorobenzene	U	35.	100	ug/l		8260B	11/13/14	100
Chlorodibromomethane	U	33.	100	ug/l		8260B	11/13/14	100
Chloroethane	U	45.	500	ug/l		8260B	11/13/14	100
Chloroform	9300	32.	500	ug/l		8260B	11/13/14	100
Chloromethane	U	28.	250	ug/l		8260B	11/13/14	100
1,2-Dibromoethane	600	38.	100	ug/l		8260B	11/13/14	100
1,2-Dibromo-3-Chloropropane	U	130	500	ug/l		8260B	11/13/14	100
Dibromomethane	U	35.	100	ug/l		8260B	11/13/14	100
1,2-Dichlorobenzene	U	35.	100	ug/l		8260B	11/13/14	100
1,3-Dichlorobenzene	U	22.	100	ug/l		8260B	11/13/14	100
1,4-Dichlorobenzene	U	27.	100	ug/l		8260B	11/13/14	100
Dichlorodifluoromethane	U	55.	500	ug/l		8260B	11/13/14	100
1,1-Dichloroethane	U	26.	100	ug/l		8260B	11/13/14	100
1,2-Dichloroethane	82.	36.	100	ug/l	J	8260B	11/13/14	100
1,1-Dichloroethene	U	40.	100	ug/l		8260B	11/13/14	100
cis-1,2-Dichloroethene	U	26.	100	ug/l		8260B	11/13/14	100
trans-1,2-Dichloroethene	U	40.	100	ug/l		8260B	11/13/14	100
1,2-Dichloropropane	1200	31.	100	ug/l		8260B	11/13/14	100
cis-1,3-Dichloropropene	U	42.	100	ug/l		8260B	11/13/14	100
trans-1,3-Dichloropropene	U	42.	100	ug/l		8260B	11/13/14	100
Ethylbenzene	U	38.	100	ug/l		8260B	11/13/14	100
2-Hexanone	U	380	1000	ug/l		8260B	11/13/14	100
Iodomethane	U	170	1000	ug/l		8260B	11/13/14	100
2-Butanone (MEK)	U	390	1000	ug/l		8260B	11/13/14	100
Methylene Chloride	1200	100	500	ug/l		8260B	11/13/14	100
4-Methyl-2-pentanone (MIBK)	U	210	1000	ug/l		8260B	11/13/14	100
Pentachloroethane	U	360	500	ug/l		8260B	11/13/14	100
Styrene	U	31.	100	ug/l		8260B	11/13/14	100
1,1,2,2-Tetrachloroethane	U	58.	100	ug/l		8260B	11/13/14	100
1,1,1,2-Tetrachloroethane	U	38.	100	ug/l		8260B	11/13/14	100
Tetrachloroethene	65.	37.	100	ug/l	J	8260B	11/13/14	100
Toluene	U	78.	500	ug/l		8260B	11/13/14	100
1,1,1-Trichloroethane	U	32.	100	ug/l		8260B	11/13/14	100

U = ND (Not Detected)
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL
MDL = Minimum Detection Limit = LOD = TRRP SDL
Note:
The reported analytical results relate only to the sample submitted.
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REPORT OF ANALYSIS

Mr. Pete Dressel
Piedmont Geologic
6003 Chapel Hill Road Suite 145
Raleigh, NC 27607

November 13, 2014

ESC Sample # : L731946-01

Site ID : RALEIGH, NC

Project # : 1247

Date Received : November 06, 2014
Description : NCSU Lot 86 - Water Treatment System Monitoring

Sample ID : GWE INFLUENT

Collected By : P. Dressel
Collection Date : 11/04/14 13:58

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
1,1,2-Trichloroethane	67.	38.	100	ug/l	J	8260B	11/13/14	100
Trichloroethene	220	40.	100	ug/l		8260B	11/13/14	100
Trichlorofluoromethane	U	120	500	ug/l		8260B	11/13/14	100
1,2,3-Trichloropropane	U	81.	250	ug/l		8260B	11/13/14	100
Vinyl acetate	U	160	1000	ug/l		8260B	11/13/14	100
Vinyl chloride	U	26.	100	ug/l		8260B	11/13/14	100
Xylenes, Total	U	110	300	ug/l		8260B	11/13/14	100
Acetonitrile	U	1500	5000	ug/l		8260B	11/13/14	100
Allyl chloride	U	170	500	ug/l		8260B	11/13/14	100
Chloroprene	U	170	5000	ug/l		8260B	11/13/14	100
trans-1,4-Dichloro-2-butene	U	87.	250	ug/l		8260B	11/13/14	100
Isobutanol	U	3900	10000	ug/l		8260B	11/13/14	100
1,4-Dioxane	U	3600	10000	ug/l		8260B	11/13/14	100
Methacrylonitrile	U	1300	5000	ug/l		8260B	11/13/14	100
Methyl methacrylate	U	120	500	ug/l		8260B	11/13/14	100
Ethyl methacrylate	U	140	500	ug/l		8260B	11/13/14	100
Propionitrile	U	1300	5000	ug/l		8260B	11/13/14	100
Surrogate Recovery								
Toluene-d8	105.			% Rec.		8260B	11/13/14	100
Dibromofluoromethane	105.			% Rec.		8260B	11/13/14	100
a,a,a-Trifluorotoluene	94.5			% Rec.		8260B	11/13/14	100
4-Bromofluorobenzene	91.5			% Rec.		8260B	11/13/14	100

U = ND (Not Detected)
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL
MDL = Minimum Detection Limit = LOD = TRRP SDL
Note:
The reported analytical results relate only to the sample submitted.
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Reported: 11/13/14 16:18 Printed: 11/13/14 16:18

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L731946-01	WG753798	SAMP	Bromodichloromethane	R3004305	J
	WG753798	SAMP	Bromomethane	R3004305	J4
	WG753798	SAMP	1,2-Dichloroethane	R3004305	J
	WG753798	SAMP	Tetrachloroethene	R3004305	J
	WG753798	SAMP	1,1,2-Trichloroethane	R3004305	J

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J	(EPA) - Estimated value below the lowest calibration point. Confidence correlates with concentration.
J4	The associated batch QC was outside the established quality control range for accuracy.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods,it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.

Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Differrence.

Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromotography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.

TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

Summary of Remarks For Samples Printed
11/13/14 at 16:19:00

TSR Signing Reports: 350
R5 - Desired TAT

MDL/RDL; CDG, not CDICP for GW

Sample: L731946-01 Account: PIEGEO Received: 11/06/14 09:00 Due Date: 11/13/14 00:00 RPT Date: 11/13/14 16:18
V8260AP9 = V8260 + 1,4-Dioxane (Report 14D to MDL)

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Mr. Pete Dressel
6003 Chapel Hill Road Suite 145

Raleigh, NC 27607

Quality Assurance Report
Level II

L731946

November 13, 2014

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
1,1,1,2-Tetrachloroethane	< .001	mg/l			WG753798	11/13/14 14:03
1,1,1-Trichloroethane	< .001	mg/l			WG753798	11/13/14 14:03
1,1,2,2-Tetrachloroethane	< .001	mg/l			WG753798	11/13/14 14:03
1,1,2-Trichloroethane	< .001	mg/l			WG753798	11/13/14 14:03
1,1-Dichloroethane	< .001	mg/l			WG753798	11/13/14 14:03
1,1-Dichloroethene	< .001	mg/l			WG753798	11/13/14 14:03
1,2,3-Trichloropropane	< .001	mg/l			WG753798	11/13/14 14:03
1,2-Dibromo-3-Chloropropane	< .005	mg/l			WG753798	11/13/14 14:03
1,2-Dibromoethane	< .001	mg/l			WG753798	11/13/14 14:03
1,2-Dichlorobenzene	< .001	mg/l			WG753798	11/13/14 14:03
1,2-Dichloroethane	< .001	mg/l			WG753798	11/13/14 14:03
1,2-Dichloropropane	< .001	mg/l			WG753798	11/13/14 14:03
1,3-Dichlorobenzene	< .001	mg/l			WG753798	11/13/14 14:03
1,4-Dichlorobenzene	< .001	mg/l			WG753798	11/13/14 14:03
1,4-Dioxane	< .1	mg/l			WG753798	11/13/14 14:03
2-Butanone (MEK)	< .01	mg/l			WG753798	11/13/14 14:03
2-Hexanone	< .01	mg/l			WG753798	11/13/14 14:03
4-Methyl-2-pentanone (MIBK)	< .01	mg/l			WG753798	11/13/14 14:03
Acetone	< .05	mg/l			WG753798	11/13/14 14:03
Acetonitrile	< .05	mg/l			WG753798	11/13/14 14:03
Acrolein	< .025	mg/l			WG753798	11/13/14 14:03
Acrylonitrile	< .01	mg/l			WG753798	11/13/14 14:03
Allyl chloride	< .005	mg/l			WG753798	11/13/14 14:03
Benzene	< .001	mg/l			WG753798	11/13/14 14:03
Bromodichloromethane	< .001	mg/l			WG753798	11/13/14 14:03
Bromoform	< .001	mg/l			WG753798	11/13/14 14:03
Bromomethane	< .005	mg/l			WG753798	11/13/14 14:03
Carbon disulfide	< .001	mg/l			WG753798	11/13/14 14:03
Carbon tetrachloride	< .001	mg/l			WG753798	11/13/14 14:03
Chlorobenzene	< .001	mg/l			WG753798	11/13/14 14:03
Chlorodibromomethane	< .001	mg/l			WG753798	11/13/14 14:03
Chloroethane	< .005	mg/l			WG753798	11/13/14 14:03
Chloroform	< .005	mg/l			WG753798	11/13/14 14:03
Chloromethane	< .0025	mg/l			WG753798	11/13/14 14:03
Chloroprene	< .05	mg/l			WG753798	11/13/14 14:03
cis-1,2-Dichloroethene	< .001	mg/l			WG753798	11/13/14 14:03
cis-1,3-Dichloropropene	< .001	mg/l			WG753798	11/13/14 14:03
Dibromomethane	< .001	mg/l			WG753798	11/13/14 14:03
Dichlorodifluoromethane	< .005	mg/l			WG753798	11/13/14 14:03
Ethyl methacrylate	< .005	mg/l			WG753798	11/13/14 14:03
Ethylbenzene	< .001	mg/l			WG753798	11/13/14 14:03
Iodomethane	< .01	mg/l			WG753798	11/13/14 14:03
Isobutanol	< .1	mg/l			WG753798	11/13/14 14:03
Methacrylonitrile	< .05	mg/l			WG753798	11/13/14 14:03
Methyl methacrylate	< .005	mg/l			WG753798	11/13/14 14:03
Methylene Chloride	< .005	mg/l			WG753798	11/13/14 14:03
Pentachloroethane	< .005	mg/l			WG753798	11/13/14 14:03
Propionitrile	< .05	mg/l			WG753798	11/13/14 14:03
Styrene	< .001	mg/l			WG753798	11/13/14 14:03
Tetrachloroethene	< .001	mg/l			WG753798	11/13/14 14:03
Toluene	< .005	mg/l			WG753798	11/13/14 14:03
trans-1,2-Dichloroethene	< .001	mg/l			WG753798	11/13/14 14:03
trans-1,3-Dichloropropene	< .001	mg/l			WG753798	11/13/14 14:03
trans-1,4-Dichloro-2-butene	< .0025	mg/l			WG753798	11/13/14 14:03
Trichloroethene	< .001	mg/l			WG753798	11/13/14 14:03
Trichlorofluoromethane	< .005	mg/l			WG753798	11/13/14 14:03
Vinyl acetate	< .01	mg/l			WG753798	11/13/14 14:03
Vinyl chloride	< .001	mg/l			WG753798	11/13/14 14:03
Xylenes, Total	< .003	mg/l			WG753798	11/13/14 14:03

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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Raleigh, NC 27607

Quality Assurance Report
Level II

L731946

November 13, 2014

Analyte	Units	Laboratory Control Sample Known Val	Result	% Rec	Limit	Batch
4-Bromofluorobenzene		% Rec.	90.50	71-126		11/13/14 14:03
Dibromofluoromethane		% Rec.	106.0	78.3-121		11/13/14 14:03
Toluene-d8		% Rec.	106.0	88.5-111		11/13/14 14:03
a,a,a-Trifluorotoluene		% Rec.	94.60	85-114		11/13/14 14:03

Analyte	Units	Laboratory Control Sample Known Val	Result	% Rec	Limit	Batch
1,1,1,2-Tetrachloroethane	mg/l	.025	0.0247	98.8	74.2-124	WG753798
1,1,1-Trichloroethane	mg/l	.025	0.0207	82.8	73.2-123	WG753798
1,1,2,2-Tetrachloroethane	mg/l	.025	0.0244	97.5	70.7-122	WG753798
1,1,2-Trichloroethane	mg/l	.025	0.0252	101.	77.7-118	WG753798
1,1-Dichloroethane	mg/l	.025	0.0234	93.7	70.7-126	WG753798
1,1-Dichloroethene	mg/l	.025	0.0214	85.7	67.8-129	WG753798
1,2,3-Trichloropropane	mg/l	.025	0.0242	97.0	71.8-121	WG753798
1,2-Dibromo-3-Chloropropane	mg/l	.025	0.0215	86.0	65.4-128	WG753798
1,2-Dibromoethane	mg/l	.025	0.0238	95.1	76.6-121	WG753798
1,2-Dichlorobenzene	mg/l	.025	0.0256	102.	78.4-117	WG753798
1,2-Dichloroethane	mg/l	.025	0.0226	90.5	68.8-124	WG753798
1,2-Dichloropropane	mg/l	.025	0.0264	106.	76.5-119	WG753798
1,3-Dichlorobenzene	mg/l	.025	0.0234	93.4	70.8-128	WG753798
1,4-Dichlorobenzene	mg/l	.025	0.0260	104.	78.8-115	WG753798
2-Butanone (MEK)	mg/l	.125	0.0999	79.9	55-149	WG753798
2-Hexanone	mg/l	.125	0.116	93.1	65.6-144	WG753798
4-Methyl-2-pentanone (MIBK)	mg/l	.125	0.113	90.0	70.5-133	WG753798
Acetone	mg/l	.125	0.0981	78.5	35.6-163	WG753798
Acrolein	mg/l	.125	0.115	92.3	10-190	WG753798
Acrylonitrile	mg/l	.125	0.115	92.3	55.2-130	WG753798
Benzene	mg/l	.025	0.0220	88.0	74.8-121	WG753798
Bromodichloromethane	mg/l	.025	0.0235	94.0	75.1-116	WG753798
Bromoform	mg/l	.025	0.0233	93.2	67.5-130	WG753798
Bromomethane	mg/l	.025	0.0425	170.*	49.9-162	WG753798
Carbon disulfide	mg/l	.025	0.0197	78.9	64.6-140	WG753798
Carbon tetrachloride	mg/l	.025	0.0209	83.6	70.2-123	WG753798
Chlorobenzene	mg/l	.025	0.0236	94.2	78.1-119	WG753798
Chlorodibromomethane	mg/l	.025	0.0248	99.2	74-121	WG753798
Chloroethane	mg/l	.025	0.0260	104.	61.7-135	WG753798
Chloroform	mg/l	.025	0.0224	89.5	76-121	WG753798
Chloromethane	mg/l	.025	0.0230	92.2	61.5-129	WG753798
cis-1,2-Dichloroethene	mg/l	.025	0.0218	87.1	76-119	WG753798
cis-1,3-Dichloropropene	mg/l	.025	0.0245	98.2	78.2-120	WG753798
Dibromomethane	mg/l	.025	0.0234	93.5	79.5-118	WG753798
Dichlorodifluoromethane	mg/l	.025	0.0227	90.7	54.8-135	WG753798
Ethylbenzene	mg/l	.025	0.0231	92.2	78.8-122	WG753798
Iodomethane	mg/l	.125	0.0965	77.2	61-130	WG753798
Methylene Chloride	mg/l	.025	0.0220	87.8	70.3-120	WG753798
Styrene	mg/l	.025	0.0248	99.0	80.4-126	WG753798
Tetrachloroethene	mg/l	.025	0.0230	92.0	72.6-126	WG753798
Toluene	mg/l	.025	0.0222	89.0	79.7-116	WG753798
trans-1,2-Dichloroethene	mg/l	.025	0.0217	86.6	72.6-121	WG753798
trans-1,3-Dichloropropene	mg/l	.025	0.0239	95.5	74.3-123	WG753798
trans-1,4-Dichloro-2-butene	mg/l	.025	0.0231	92.3	65.1-123	WG753798
Trichloroethene	mg/l	.025	0.0228	91.3	77.7-118	WG753798
Trichlorofluoromethane	mg/l	.025	0.0248	99.1	63.5-135	WG753798
Vinyl acetate	mg/l	.125	0.103	82.2	65-138	WG753798
Vinyl chloride	mg/l	.025	0.0247	98.7	65.9-128	WG753798
Xylenes, Total	mg/l	.075	0.0699	93.2	78.7-121	WG753798
4-Bromofluorobenzene				92.40	71-126	WG753798
Dibromofluoromethane				101.0	78.3-121	WG753798

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Quality Assurance Report
Level II

L731946

November 13, 2014

Analyte	Laboratory Control Sample Duplicate							
	Units	Result	Ref	%Rec	Limit	RPD	Limit	Batch
Toluene-d8					105.0		88.5-111	
a,a,a-Trifluorotoluene					94.80		85-114	

Analyte	Laboratory Control Sample Duplicate							
	Units	Result	Ref	%Rec	Limit	RPD	Limit	Batch
1,1,1,2-Tetrachloroethane	mg/l	0.0240	0.0247	96.0	74.2-124	2.88	20	WG753798
1,1,1-Trichloroethane	mg/l	0.0207	0.0207	83.0	73.2-123	0.130	20	WG753798
1,1,2,2-Tetrachloroethane	mg/l	0.0243	0.0244	97.0	70.7-122	0.320	20	WG753798
1,1,2-Trichloroethane	mg/l	0.0251	0.0252	100.	77.7-118	0.500	20	WG753798
1,1-Dichloroethane	mg/l	0.0236	0.0234	94.0	70.7-126	0.700	20	WG753798
1,1-Dichloroethene	mg/l	0.0216	0.0214	86.0	67.8-129	0.970	20	WG753798
1,2,3-Trichloropropane	mg/l	0.0237	0.0242	95.0	71.8-121	2.35	20	WG753798
1,2-Dibromo-3-Chloropropane	mg/l	0.0220	0.0215	88.0	65.4-128	2.48	20	WG753798
1,2-Dibromoethane	mg/l	0.0238	0.0238	95.0	76.6-121	0.110	20	WG753798
1,2-Dichlorobenzene	mg/l	0.0254	0.0256	102.	78.4-117	0.650	20	WG753798
1,2-Dichloroethane	mg/l	0.0229	0.0226	92.0	68.8-124	1.35	20	WG753798
1,2-Dichloropropane	mg/l	0.0264	0.0264	106.	76.5-119	0.180	20	WG753798
1,3-Dichlorobenzene	mg/l	0.0229	0.0234	92.0	70.8-128	1.77	20	WG753798
1,4-Dichlorobenzene	mg/l	0.0253	0.0260	101.	78.8-115	2.84	20	WG753798
2-Butanone (MEK)	mg/l	0.102	0.0999	81.0	55-149	1.82	20	WG753798
2-Hexanone	mg/l	0.118	0.116	94.0	65.6-144	1.14	20	WG753798
4-Methyl-2-pentanone (MIBK)	mg/l	0.116	0.113	92.0	70.5-133	2.63	20	WG753798
Acetone	mg/l	0.101	0.0981	80.0	35.6-163	2.42	23.9	WG753798
Acrolein	mg/l	0.116	0.115	93.0	10-190	0.410	28.1	WG753798
Acrylonitrile	mg/l	0.120	0.115	96.0	55.2-130	3.86	20	WG753798
Benzene	mg/l	0.0219	0.0220	88.0	74.8-121	0.260	20	WG753798
Bromodichloromethane	mg/l	0.0231	0.0235	92.0	75.1-116	1.90	20	WG753798
Bromoform	mg/l	0.0227	0.0233	91.0	67.5-130	2.40	20	WG753798
Bromomethane	mg/l	0.0421	0.0425	168*	49.9-162	1.07	20	WG753798
Carbon disulfide	mg/l	0.0198	0.0197	79.0	64.6-140	0.190	20	WG753798
Carbon tetrachloride	mg/l	0.0209	0.0209	84.0	70.2-123	0.260	20	WG753798
Chlorobenzene	mg/l	0.0228	0.0236	91.0	78.1-119	3.10	20	WG753798
Chlorodibromomethane	mg/l	0.0243	0.0248	97.0	74-121	1.92	20	WG753798
Chloroethane	mg/l	0.0267	0.0260	107.	61.7-135	2.31	20	WG753798
Chloroform	mg/l	0.0224	0.0224	90.0	76-121	0.0	20	WG753798
Chloromethane	mg/l	0.0230	0.0230	92.0	61.5-129	0.0900	20	WG753798
cis-1,2-Dichloroethene	mg/l	0.0222	0.0218	89.0	76-119	1.80	20	WG753798
cis-1,3-Dichloropropene	mg/l	0.0240	0.0245	96.0	78.2-120	2.24	20	WG753798
Dibromomethane	mg/l	0.0234	0.0234	94.0	79.5-118	0.0400	20	WG753798
Dichlorodifluoromethane	mg/l	0.0230	0.0227	92.0	54.8-135	1.40	20	WG753798
Ethylbenzene	mg/l	0.0226	0.0231	90.0	78.8-122	2.00	20	WG753798
Iodomethane	mg/l	0.0974	0.0965	78.0	61-130	0.950	20	WG753798
Methylene Chloride	mg/l	0.0219	0.0220	87.0	70.3-120	0.450	20	WG753798
Styrene	mg/l	0.0240	0.0248	96.0	80.4-126	3.09	20	WG753798
Tetrachloroethene	mg/l	0.0221	0.0230	88.0	72.6-126	4.22	20	WG753798
Toluene	mg/l	0.0222	0.0222	89.0	79.7-116	0.310	20	WG753798
trans-1,2-Dichloroethene	mg/l	0.0218	0.0217	87.0	72.6-121	0.480	20	WG753798
trans-1,3-Dichloropropene	mg/l	0.0235	0.0239	94.0	74.3-123	1.47	20	WG753798
trans-1,4-Dichloro-2-butene	mg/l	0.0229	0.0231	92.0	65.1-123	0.830	20	WG753798
Trichloroethene	mg/l	0.0226	0.0228	90.0	77.7-118	0.740	20	WG753798
Trichlorofluoromethane	mg/l	0.0249	0.0248	99.0	63.5-135	0.410	20	WG753798
Vinyl acetate	mg/l	0.0925	0.103	74.0	65-138	10.5	20	WG753798
Vinyl chloride	mg/l	0.0249	0.0247	99.0	65.9-128	0.730	20	WG753798
Xylenes, Total	mg/l	0.0690	0.0699	92.0	78.7-121	1.28	20	WG753798
4-Bromofluorobenzene				92.80	71-126			WG753798
Dibromofluoromethane				101.0	78.3-121			WG753798
Toluene-d8				106.0	88.5-111			WG753798
a,a,a-Trifluorotoluene				95.00	85-114			WG753798

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Quality Assurance Report
Level II

L731946

November 13, 2014

Analyte	Units	Matrix Spike MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
1,1,1,2-Tetrachloroethane	mg/l	0.0217	0.0	.025	87.0	64-128	L732454-01	WG753798
1,1,1-Trichloroethane	mg/l	0.0184	0.0	.025	74.0	58.7-134	L732454-01	WG753798
1,1,2,2-Tetrachloroethane	mg/l	0.0237	0.0	.025	95.0	56-132	L732454-01	WG753798
1,1,2-Trichloroethane	mg/l	0.0234	0.0	.025	94.0	66.3-125	L732454-01	WG753798
1,1-Dichloroethane	mg/l	0.0209	0.0	.025	84.0	58.5-132	L732454-01	WG753798
1,1-Dichloroethene	mg/l	0.0192	0.0	.025	77.0	51.1-140	L732454-01	WG753798
1,2,3-Trichloropropane	mg/l	0.0224	0.0	.025	90.0	61.4-128	L732454-01	WG753798
1,2-Dibromo-3-Chloropropane	mg/l	0.0211	0.0	.025	84.0	57.3-136	L732454-01	WG753798
1,2-Dibromoethane	mg/l	0.0222	0.0	.025	89.0	67.1-125	L732454-01	WG753798
1,2-Dichlorobenzene	mg/l	0.0229	0.0	.025	92.0	68.2-123	L732454-01	WG753798
1,2-Dichloroethane	mg/l	0.0205	0.0	.025	82.0	60-126	L732454-01	WG753798
1,2-Dichloropropane	mg/l	0.0238	0.0	.025	95.0	64.2-123	L732454-01	WG753798
1,3-Dichlorobenzene	mg/l	0.0211	0.0	.025	84.0	63.1-131	L732454-01	WG753798
1,4-Dichlorobenzene	mg/l	0.0235	0.0	.025	94.0	68.6-123	L732454-01	WG753798
2-Butanone (MEK)	mg/l	0.0963	0.0	.125	77.0	22.4-138	L732454-01	WG753798
2-Hexanone	mg/l	0.112	0.0	.125	89.0	43.3-137	L732454-01	WG753798
4-Methyl-2-pentanone (MIBK)	mg/l	0.109	0.0	.125	87.0	60.8-140	L732454-01	WG753798
Acetone	mg/l	0.0879	0.00224	.125	68.0	10-130	L732454-01	WG753798
Acrolein	mg/l	0.123	0.0	.125	98.0	10-200	L732454-01	WG753798
Acrylonitrile	mg/l	0.113	0.0	.125	90.0	49.4-133	L732454-01	WG753798
Benzene	mg/l	0.0196	0.0	.025	78.0	54.3-133	L732454-01	WG753798
Bromodichloromethane	mg/l	0.0209	0.0	.025	83.0	63.9-121	L732454-01	WG753798
Bromoform	mg/l	0.0218	0.0	.025	87.0	59.5-134	L732454-01	WG753798
Bromomethane	mg/l	0.0365	0.0	.025	150.	41.7-155	L732454-01	WG753798
Carbon disulfide	mg/l	0.0174	0.0	.025	70.0	43.3-149	L732454-01	WG753798
Carbon tetrachloride	mg/l	0.0186	0.0	.025	75.0	55.7-134	L732454-01	WG753798
Chlorobenzene	mg/l	0.0206	0.0	.025	82.0	67-125	L732454-01	WG753798
Chlorodibromomethane	mg/l	0.0222	0.0	.025	89.0	64.3-125	L732454-01	WG753798
Chloroethane	mg/l	0.0233	0.0	.025	93.0	51.5-136	L732454-01	WG753798
Chloroform	mg/l	0.0197	0.0	.025	79.0	63-129	L732454-01	WG753798
Chloromethane	mg/l	0.0205	0.0	.025	82.0	42.4-135	L732454-01	WG753798
cis-1,2-Dichloroethene	mg/l	0.0196	0.0	.025	78.0	59.2-129	L732454-01	WG753798
cis-1,3-Dichloropropene	mg/l	0.0222	0.0	.025	89.0	66.4-125	L732454-01	WG753798
Dibromomethane	mg/l	0.0218	0.0	.025	87.0	68.2-124	L732454-01	WG753798
Dichlorodifluoromethane	mg/l	0.0206	0.0	.025	82.0	40.6-144	L732454-01	WG753798
Ethylbenzene	mg/l	0.0203	0.0	.025	81.0	61.4-133	L732454-01	WG753798
Iodomethane	mg/l	0.0852	0.0	.125	68.0	49.7-132	L732454-01	WG753798
Methylene Chloride	mg/l	0.0195	0.0	.025	78.0	58.1-122	L732454-01	WG753798
Styrene	mg/l	0.0216	0.0	.025	86.0	66.8-133	L732454-01	WG753798
Tetrachloroethene	mg/l	0.0199	0.0	.025	80.0	53-139	L732454-01	WG753798
Toluene	mg/l	0.0201	0.0	.025	80.0	61.4-130	L732454-01	WG753798
trans-1,2-Dichloroethene	mg/l	0.0191	0.0	.025	76.0	56.5-129	L732454-01	WG753798
trans-1,3-Dichloropropene	mg/l	0.0218	0.0	.025	87.0	64.1-128	L732454-01	WG753798
trans-1,4-Dichloro-2-butene	mg/l	0.0219	0.0	.025	88.0	57.1-130	L732454-01	WG753798
Trichloroethene	mg/l	0.0198	0.0	.025	79.0	44.1-149	L732454-01	WG753798
Trichlorofluoromethane	mg/l	0.0222	0.0	.025	89.0	49.6-145	L732454-01	WG753798
Vinyl acetate	mg/l	0.117	0.0	.125	94.0	56.1-149	L732454-01	WG753798
Vinyl chloride	mg/l	0.0221	0.0	.025	88.0	47.8-137	L732454-01	WG753798
Xylenes, Total	mg/l	0.0622	0.0	.075	83.0	63.3-131	L732454-01	WG753798
4-Bromofluorobenzene					92.80	71-126		WG753798
Dibromofluoromethane					103.0	78.3-121		WG753798
Toluene-d8					106.0	88.5-111		WG753798
a,a,a-Trifluorotoluene					94.20	85-114		WG753798

Analyte	Units	Matrix Spike Duplicate MSD	Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
1,1,1,2-Tetrachloroethane	mg/l	0.0232	0.0217	92.7	64-128	6.41	20	L732454-01	WG753798
1,1,1-Trichloroethane	mg/l	0.0201	0.0184	80.3	58.7-134	8.95	20	L732454-01	WG753798

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Analyte	Units	MSD	Matrix Spike Duplicate Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
1,1,2,2-Tetrachloroethane	mg/l	0.0255	0.0237	102.	56-132	7.14	22.2	L732454-01	WG753798
1,1,2-Trichloroethane	mg/l	0.0244	0.0234	97.4	66.3-125	4.10	20	L732454-01	WG753798
1,1-Dichloroethane	mg/l	0.0226	0.0209	90.5	58.5-132	7.95	20	L732454-01	WG753798
1,1-Dichloroethene	mg/l	0.0206	0.0192	82.4	51.1-140	7.19	20.2	L732454-01	WG753798
1,2,3-Trichloropropane	mg/l	0.0234	0.0224	93.5	61.4-128	4.14	22.4	L732454-01	WG753798
1,2-Dibromo-3-Chloropropane	mg/l	0.0236	0.0211	94.6	57.3-136	11.4	27	L732454-01	WG753798
1,2-Dibromoethane	mg/l	0.0239	0.0222	95.6	67.1-125	7.16	20	L732454-01	WG753798
1,2-Dichlorobenzene	mg/l	0.0248	0.0229	99.3	68.2-123	8.18	20	L732454-01	WG753798
1,2-Dichloroethane	mg/l	0.0225	0.0205	89.9	60-126	9.11	20	L732454-01	WG753798
1,2-Dichloropropane	mg/l	0.0260	0.0238	104.	64.2-123	8.68	20	L732454-01	WG753798
1,3-Dichlorobenzene	mg/l	0.0223	0.0211	89.2	63.1-131	5.49	20	L732454-01	WG753798
1,4-Dichlorobenzene	mg/l	0.0254	0.0235	101.	68.6-123	7.54	20	L732454-01	WG753798
2-Butanone (MEK)	mg/l	0.106	0.0963	84.9	22.4-138	9.71	27	L732454-01	WG753798
2-Hexanone	mg/l	0.120	0.112	95.9	43.3-137	7.10	25.5	L732454-01	WG753798
4-Methyl-2-pentanone (MIBK)	mg/l	0.120	0.109	95.7	60.8-140	9.37	25.1	L732454-01	WG753798
Acetone	mg/l	0.0944	0.0879	73.8	10-130	7.21	27.9	L732454-01	WG753798
Acrolein	mg/l	0.134	0.123	108.	10-200	8.96	27.7	L732454-01	WG753798
Acrylonitrile	mg/l	0.123	0.113	98.6	49.4-133	8.75	25.3	L732454-01	WG753798
Benzene	mg/l	0.0211	0.0196	84.6	54.3-133	7.62	20	L732454-01	WG753798
Bromodichloromethane	mg/l	0.0234	0.0209	93.6	63.9-121	11.5	20	L732454-01	WG753798
Bromoform	mg/l	0.0228	0.0218	91.1	59.5-134	4.58	20.5	L732454-01	WG753798
Bromomethane	mg/l	0.0392	0.0365	157.*	41.7-155	7.11	21.9	L732454-01	WG753798
Carbon disulfide	mg/l	0.0184	0.0174	73.6	43.3-149	5.68	20.3	L732454-01	WG753798
Carbon tetrachloride	mg/l	0.0203	0.0186	81.1	55.7-134	8.33	20	L732454-01	WG753798
Chlorobenzene	mg/l	0.0218	0.0206	87.1	67-125	5.62	20	L732454-01	WG753798
Chlorodibromomethane	mg/l	0.0238	0.0222	95.1	64.3-125	6.71	20.8	L732454-01	WG753798
Chloroethane	mg/l	0.0249	0.0233	99.6	51.5-136	6.48	40	L732454-01	WG753798
Chloroform	mg/l	0.0215	0.0197	85.8	63-129	8.59	20	L732454-01	WG753798
Chloromethane	mg/l	0.0218	0.0205	87.2	42.4-135	6.33	20	L732454-01	WG753798
cis-1,2-Dichloroethene	mg/l	0.0216	0.0196	86.2	59.2-129	9.55	20	L732454-01	WG753798
cis-1,3-Dichloropropene	mg/l	0.0242	0.0222	96.7	66.4-125	8.56	20	L732454-01	WG753798
Dibromomethane	mg/l	0.0239	0.0218	95.5	68.2-124	9.35	20	L732454-01	WG753798
Dichlorodifluoromethane	mg/l	0.0223	0.0206	89.2	40.6-144	7.81	20.2	L732454-01	WG753798
Ethylbenzene	mg/l	0.0217	0.0203	86.8	61.4-133	6.51	20	L732454-01	WG753798
Iodomethane	mg/l	0.0936	0.0852	74.9	49.7-132	9.37	20	L732454-01	WG753798
Methylene Chloride	mg/l	0.0214	0.0195	85.5	58.1-122	9.34	20	L732454-01	WG753798
Styrene	mg/l	0.0228	0.0216	91.4	66.8-133	5.60	20	L732454-01	WG753798
Tetrachloroethene	mg/l	0.0210	0.0199	84.1	53-139	5.65	20	L732454-01	WG753798
Toluene	mg/l	0.0216	0.0201	86.6	61.4-130	7.61	20	L732454-01	WG753798
trans-1,2-Dichloroethene	mg/l	0.0211	0.0191	84.4	56.5-129	10.0	20	L732454-01	WG753798
trans-1,3-Dichloropropene	mg/l	0.0239	0.0218	95.7	64.1-128	9.05	20	L732454-01	WG753798
trans-1,4-Dichloro-2-butene	mg/l	0.0237	0.0219	94.8	57.1-130	7.92	23.9	L732454-01	WG753798
Trichloroethene	mg/l	0.0217	0.0198	86.6	44.1-149	8.83	20	L732454-01	WG753798
Trichlorofluoromethane	mg/l	0.0239	0.0222	95.7	49.6-145	7.67	21.2	L732454-01	WG753798
Vinyl acetate	mg/l	0.128	0.117	102.	56.1-149	8.44	22.7	L732454-01	WG753798
Vinyl chloride	mg/l	0.0239	0.0221	95.6	47.8-137	8.01	20	L732454-01	WG753798
Xylenes, Total	mg/l	0.0655	0.0622	87.4	63.3-131	5.20	20	L732454-01	WG753798
4-Bromofluorobenzene				90.40	71-126				WG753798
Dibromofluoromethane				102.0	78.3-121				WG753798
Toluene-d8				106.0	88.5-111				WG753798
a,a,a-Trifluorotoluene				94.30	85-114				WG753798

Batch number /Run number / Sample number cross reference

WG753798: R3004305: L731946-01

* * Calculations are performed prior to rounding of reported values.
* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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Piedmont Geologic
Mr. Pete Dressel
6003 Chapel Hill Road Suite 145

Raleigh, NC 27607

Quality Assurance Report
Level II

L731946

November 13, 2014

The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.

Piedmont Geologic

6003 Chapel Hill Road Suite 145
Raleigh, NC 27607

Billing Information:
Accounts Payable
6003 Chapel Hill Rd Ste 145
Raleigh, NC 27607

Report to: Mr. Pete Dressel

Email To: pjdressel@piedmontgeologic.com

Project Description: NCSU Lot 86 - Water Treatment System Mon

City/State Collected: RALEIGH, NC

Phone: 919-854-9700
Fax: 919-854-9532

Client Project # 1247

Lab Project # PIEGEO-NCSU LOT 86

Collected by (print): P. DRESSEL

Site/Facility ID # RALEIGH, NC

P.O. # 1347

Collected by (signature): [signature]

Immediately Packed on Ice N ___ Y ✓

Rush? (Lab MUST Be Notified)
___ Same Day 200%
___ Next Day 100%
___ Two Day 50%
___ Three Day 25%

Date Results Needed

Email? ___No X__Yes
FAX? ___No ___Yes

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	V8260AP9 40mlAmb-HCl	Rem./Contaminant	Sample # (lab only)
GWE INFLUENT	GRAB	GW	—	11-4-14	1358	2	X		61

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other_____

Remarks:V8260AP9 = V8260 + 1,4-Dioxane (Report 14D to MDL)
Quote PIEGEO080513S

pH _____ Temp _____
Flow _____ Other _____

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
[signature]	11-4-14	15:20	[signature]
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)
[signature]	11/5/14	17:35	[signature]

Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ SWA

Temp: 2.9 °C Bottles Received: 2 = up

Date: 11/6/14 Time: 09 00

Chain of Custody Page ___ of ___

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Mount Juliet, TN 37122
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Phone: 800-767-5859
Fax: 615-758-5859

L # 673154
D091

Acctnum: PIEGEO
Template: T82911
Prelogin: P487481
TSR: 350 - Jimmy Hunt
PB: 10/27/14 [initials]
Shipped Via: FedEx Ground

Hold #

Condition: (lab use only) ✓ NS

COC Seal Intact: ___Y ___N ___NA

pH Checked: NCF:

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Mr. Pete Dressel
Piedmont Geologic
6003 Chapel Hill Road Suite 145
Raleigh, NC 27607

Report Summary

Thursday December 11, 2014

Report Number: L737383
Samples Received: 12/05/14
Client Project: 1247

Description: NCSU Lot 86 - Water Treatment System Monitoring

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By: Jimmy Hunt

Jimmy Hunt , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197, FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704/BIO041, ND - R-140. NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1, TX - T104704245-11-3, OK - 9915, PA - 68-02979, IA Lab #364, EPA - TN002

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

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Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

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REPORT OF ANALYSIS

Mr. Pete Dressel
Piedmont Geologic
6003 Chapel Hill Road Suite 145
Raleigh, NC 27607

December 11, 2014

ESC Sample # : L737383-01

Date Received : December 05, 2014
Description : NCSU Lot 86 - Water Treatment System Monitoring

Site ID : RALEIGH, NC

Sample ID : GWE INFLUENT

Project # : 1247

Collected By : P. Dressel
Collection Date : 12/03/14 12:41

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Volatile Organics								
Acetone	U	1000	5000	ug/l	**	8260B	12/06/14	100
Acrolein	U	890	5000	ug/l		8260B	12/06/14	100
Acrylonitrile	U	190	1000	ug/l		8260B	12/06/14	100
Benzene	240	33.	100	ug/l		8260B	12/06/14	100
Bromodichloromethane	57.	38.	100	ug/l	J	8260B	12/06/14	100
Bromoform	U	47.	100	ug/l		8260B	12/06/14	100
Bromomethane	U	87.	500	ug/l		8260B	12/06/14	100
Carbon disulfide	U	28.	100	ug/l		8260B	12/06/14	100
Carbon tetrachloride	150	38.	100	ug/l		8260B	12/06/14	100
Chlorobenzene	U	35.	100	ug/l		8260B	12/06/14	100
Chlorodibromomethane	U	33.	100	ug/l		8260B	12/06/14	100
Chloroethane	U	45.	500	ug/l		8260B	12/06/14	100
Chloroform	10000	32.	500	ug/l		8260B	12/06/14	100
Chloromethane	U	28.	250	ug/l		8260B	12/06/14	100
1,2-Dibromoethane	570	38.	100	ug/l		8260B	12/06/14	100
1,2-Dibromo-3-Chloropropane	U	130	500	ug/l		8260B	12/06/14	100
Dibromomethane	U	35.	100	ug/l		8260B	12/06/14	100
1,2-Dichlorobenzene	U	35.	100	ug/l		8260B	12/06/14	100
1,3-Dichlorobenzene	U	22.	100	ug/l		8260B	12/06/14	100
1,4-Dichlorobenzene	U	27.	100	ug/l		8260B	12/06/14	100
Dichlorodifluoromethane	U	55.	500	ug/l		8260B	12/06/14	100
1,1-Dichloroethane	U	26.	100	ug/l		8260B	12/06/14	100
1,2-Dichloroethane	86.	36.	100	ug/l	J	8260B	12/06/14	100
1,1-Dichloroethene	U	40.	100	ug/l		8260B	12/06/14	100
cis-1,2-Dichloroethene	U	26.	100	ug/l		8260B	12/06/14	100
trans-1,2-Dichloroethene	U	40.	100	ug/l		8260B	12/06/14	100
1,2-Dichloropropane	1200	31.	100	ug/l		8260B	12/06/14	100
cis-1,3-Dichloropropene	U	42.	100	ug/l		8260B	12/06/14	100
trans-1,3-Dichloropropene	U	42.	100	ug/l		8260B	12/06/14	100
Ethylbenzene	U	38.	100	ug/l		8260B	12/06/14	100
2-Hexanone	U	380	1000	ug/l		8260B	12/06/14	100
Iodomethane	U	170	1000	ug/l		8260B	12/06/14	100
2-Butanone (MEK)	U	390	1000	ug/l		8260B	12/06/14	100
Methylene Chloride	1400	100	500	ug/l		8260B	12/06/14	100
4-Methyl-2-pentanone (MIBK)	U	210	1000	ug/l		8260B	12/06/14	100
Pentachloroethane	U	360	500	ug/l		8260B	12/06/14	100
Styrene	U	31.	100	ug/l		8260B	12/06/14	100
1,1,2,2-Tetrachloroethane	U	13.	100	ug/l		8260B	12/06/14	100
1,1,1,2-Tetrachloroethane	U	38.	100	ug/l		8260B	12/06/14	100
Tetrachloroethene	58.	37.	100	ug/l	J	8260B	12/06/14	100
Toluene	U	78.	500	ug/l		8260B	12/06/14	100
1,1,1-Trichloroethane	U	32.	100	ug/l		8260B	12/06/14	100

U = ND (Not Detected)
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL
MDL = Minimum Detection Limit = LOD = TRRP SDL
Note:
The reported analytical results relate only to the sample submitted.
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.
Reported: 12/11/14 09:29 Printed: 12/11/14 09:30

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REPORT OF ANALYSIS

Mr. Pete Dressel
Piedmont Geologic
6003 Chapel Hill Road Suite 145
Raleigh, NC 27607

December 11, 2014

ESC Sample # : L737383-01

Date Received : December 05, 2014
Description : NCSU Lot 86 - Water Treatment System Monitoring

Site ID : RALEIGH, NC

Sample ID : GWE INFLUENT

Project # : 1247

Collected By : P. Dressel
Collection Date : 12/03/14 12:41

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
1,1,2-Trichloroethane	44.	38.	100	ug/l	J	8260B	12/06/14	100
Trichloroethene	230	40.	100	ug/l		8260B	12/06/14	100
Trichlorofluoromethane	U	120	500	ug/l		8260B	12/06/14	100
1,2,3-Trichloropropane	U	81.	250	ug/l		8260B	12/06/14	100
Vinyl acetate	U	160	1000	ug/l		8260B	12/06/14	100
Vinyl chloride	U	26.	100	ug/l		8260B	12/06/14	100
Xylenes, Total	U	110	300	ug/l		8260B	12/06/14	100
Acetonitrile	U	1500	5000	ug/l		8260B	12/06/14	100
Allyl chloride	U	170	500	ug/l		8260B	12/06/14	100
Chloroprene	U	170	5000	ug/l		8260B	12/06/14	100
trans-1,4-Dichloro-2-butene	U	87.	250	ug/l		8260B	12/06/14	100
Isobutanol	U	3900	10000	ug/l		8260B	12/06/14	100
1,4-Dioxane	U	3600	10000	ug/l		8260B	12/06/14	100
Methacrylonitrile	U	1300	5000	ug/l		8260B	12/06/14	100
Methyl methacrylate	U	120	500	ug/l		8260B	12/06/14	100
Ethyl methacrylate	U	140	500	ug/l		8260B	12/06/14	100
Propionitrile	U	1300	5000	ug/l		8260B	12/06/14	100
Surrogate Recovery								
Toluene-d8	103.			% Rec.		8260B	12/06/14	100
Dibromofluoromethane	108.			% Rec.		8260B	12/06/14	100
a,a,a-Trifluorotoluene	97.7			% Rec.		8260B	12/06/14	100
4-Bromofluorobenzene	100.			% Rec.		8260B	12/06/14	100

U = ND (Not Detected)
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL
MDL = Minimum Detection Limit = LOD = TRRP SDL
Note:
The reported analytical results relate only to the sample submitted.
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Reported: 12/11/14 09:29 Printed: 12/11/14 09:30

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L737383-01	WG758501	SAMP	Acetone	R3008961	**
	WG758501	SAMP	Bromodichloromethane	R3008961	J
	WG758501	SAMP	1,2-Dichloroethane	R3008961	J
	WG758501	SAMP	Tetrachloroethene	R3008961	J
	WG758501	SAMP	1,1,2-Trichloroethane	R3008961	J

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J	(EPA) - Estimated value below the lowest calibration point. Confidence correlates with concentration.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods,it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.

Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Differrence.

Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromotography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.

TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

Summary of Remarks For Samples Printed
12/11/14 at 09:30:40

TSR Signing Reports: 350
R5 - Desired TAT

MDL/RDL; CDG, not CDICP for GW

Sample: L737383-01 Account: PIEGEO Received: 12/05/14 09:30 Due Date: 12/12/14 00:00 RPT Date: 12/11/14 09:29
V8260AP9 = V8260 + 1,4-Dioxane (Report 14D to MDL)

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Piedmont Geologic
Mr. Pete Dressel
6003 Chapel Hill Road Suite 145

Raleigh, NC 27607

Quality Assurance Report
Level II

L737383

December 11, 2014

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
1,1,1,2-Tetrachloroethane	< .001	mg/l			WG758501	12/06/14 14:03
1,1,1-Trichloroethane	< .001	mg/l			WG758501	12/06/14 14:03
1,1,2,2-Tetrachloroethane	< .001	mg/l			WG758501	12/06/14 14:03
1,1,2-Trichloroethane	< .001	mg/l			WG758501	12/06/14 14:03
1,1-Dichloroethane	< .001	mg/l			WG758501	12/06/14 14:03
1,1-Dichloroethene	< .001	mg/l			WG758501	12/06/14 14:03
1,2,3-Trichloropropane	< .001	mg/l			WG758501	12/06/14 14:03
1,2-Dibromo-3-Chloropropane	< .005	mg/l			WG758501	12/06/14 14:03
1,2-Dibromoethane	< .001	mg/l			WG758501	12/06/14 14:03
1,2-Dichlorobenzene	< .001	mg/l			WG758501	12/06/14 14:03
1,2-Dichloroethane	< .001	mg/l			WG758501	12/06/14 14:03
1,2-Dichloropropane	< .001	mg/l			WG758501	12/06/14 14:03
1,3-Dichlorobenzene	< .001	mg/l			WG758501	12/06/14 14:03
1,4-Dichlorobenzene	< .001	mg/l			WG758501	12/06/14 14:03
1,4-Dioxane	< .1	mg/l			WG758501	12/06/14 14:03
2-Butanone (MEK)	< .01	mg/l			WG758501	12/06/14 14:03
2-Hexanone	< .01	mg/l			WG758501	12/06/14 14:03
4-Methyl-2-pentanone (MIBK)	< .01	mg/l			WG758501	12/06/14 14:03
Acetone	< .05	mg/l			WG758501	12/06/14 14:03
Acetonitrile	< .05	mg/l			WG758501	12/06/14 14:03
Acrolein	< .025	mg/l			WG758501	12/06/14 14:03
Acrylonitrile	< .01	mg/l			WG758501	12/06/14 14:03
Allyl chloride	< .005	mg/l			WG758501	12/06/14 14:03
Benzene	< .001	mg/l			WG758501	12/06/14 14:03
Bromodichloromethane	< .001	mg/l			WG758501	12/06/14 14:03
Bromoform	< .001	mg/l			WG758501	12/06/14 14:03
Bromomethane	< .005	mg/l			WG758501	12/06/14 14:03
Carbon disulfide	< .001	mg/l			WG758501	12/06/14 14:03
Carbon tetrachloride	< .001	mg/l			WG758501	12/06/14 14:03
Chlorobenzene	< .001	mg/l			WG758501	12/06/14 14:03
Chlorodibromomethane	< .001	mg/l			WG758501	12/06/14 14:03
Chloroethane	< .005	mg/l			WG758501	12/06/14 14:03
Chloroform	< .005	mg/l			WG758501	12/06/14 14:03
Chloromethane	< .0025	mg/l			WG758501	12/06/14 14:03
Chloroprene	< .05	mg/l			WG758501	12/06/14 14:03
cis-1,2-Dichloroethene	< .001	mg/l			WG758501	12/06/14 14:03
cis-1,3-Dichloropropene	< .001	mg/l			WG758501	12/06/14 14:03
Dibromomethane	< .001	mg/l			WG758501	12/06/14 14:03
Dichlorodifluoromethane	< .005	mg/l			WG758501	12/06/14 14:03
Ethyl methacrylate	< .005	mg/l			WG758501	12/06/14 14:03
Ethylbenzene	< .001	mg/l			WG758501	12/06/14 14:03
Iodomethane	< .01	mg/l			WG758501	12/06/14 14:03
Isobutanol	< .1	mg/l			WG758501	12/06/14 14:03
Methacrylonitrile	< .05	mg/l			WG758501	12/06/14 14:03
Methyl methacrylate	< .005	mg/l			WG758501	12/06/14 14:03
Methylene Chloride	< .005	mg/l			WG758501	12/06/14 14:03
Pentachloroethane	< .005	mg/l			WG758501	12/06/14 14:03
Propionitrile	< .05	mg/l			WG758501	12/06/14 14:03
Styrene	< .001	mg/l			WG758501	12/06/14 14:03
Tetrachloroethene	< .001	mg/l			WG758501	12/06/14 14:03
Toluene	< .005	mg/l			WG758501	12/06/14 14:03
trans-1,2-Dichloroethene	< .001	mg/l			WG758501	12/06/14 14:03
trans-1,3-Dichloropropene	< .001	mg/l			WG758501	12/06/14 14:03
trans-1,4-Dichloro-2-butene	< .0025	mg/l			WG758501	12/06/14 14:03
Trichloroethene	< .001	mg/l			WG758501	12/06/14 14:03
Trichlorofluoromethane	< .005	mg/l			WG758501	12/06/14 14:03
Vinyl acetate	< .01	mg/l			WG758501	12/06/14 14:03
Vinyl chloride	< .001	mg/l			WG758501	12/06/14 14:03
Xylenes, Total	< .003	mg/l			WG758501	12/06/14 14:03

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Quality Assurance Report
Level II

L737383

December 11, 2014

Analyte	Units	Laboratory Control Sample Known Val	Result	% Rec	Limit	Batch
4-Bromofluorobenzene		% Rec.	99.50	71-126		12/06/14 14:03
Dibromofluoromethane		% Rec.	105.0	78.3-121		12/06/14 14:03
Toluene-d8		% Rec.	103.0	88.5-111		12/06/14 14:03
a,a,a-Trifluorotoluene		% Rec.	97.70	85-114		12/06/14 14:03

Analyte	Units	Laboratory Control Sample Known Val	Result	% Rec	Limit	Batch
1,1,1,2-Tetrachloroethane	mg/l	.025	0.0243	97.0	74.2-124	WG758501
1,1,1-Trichloroethane	mg/l	.025	0.0274	110.	73.2-123	WG758501
1,1,2,2-Tetrachloroethane	mg/l	.025	0.0254	102.	70.7-122	WG758501
1,1,2-Trichloroethane	mg/l	.025	0.0254	102.	77.7-118	WG758501
1,1-Dichloroethane	mg/l	.025	0.0293	117.	70.7-126	WG758501
1,1-Dichloroethene	mg/l	.025	0.0281	112.	67.8-129	WG758501
1,2,3-Trichloropropane	mg/l	.025	0.0231	92.5	71.8-121	WG758501
1,2-Dibromo-3-Chloropropane	mg/l	.025	0.0248	99.1	65.4-128	WG758501
1,2-Dibromoethane	mg/l	.025	0.0252	101.	76.6-121	WG758501
1,2-Dichlorobenzene	mg/l	.025	0.0256	102.	78.4-117	WG758501
1,2-Dichloroethane	mg/l	.025	0.0259	104.	68.8-124	WG758501
1,2-Dichloropropane	mg/l	.025	0.0279	111.	76.5-119	WG758501
1,3-Dichlorobenzene	mg/l	.025	0.0229	91.6	70.8-128	WG758501
1,4-Dichlorobenzene	mg/l	.025	0.0251	101.	78.8-115	WG758501
2-Butanone (MEK)	mg/l	.125	0.153	123.	55-149	WG758501
2-Hexanone	mg/l	.125	0.130	104.	65.6-144	WG758501
4-Methyl-2-pentanone (MIBK)	mg/l	.125	0.141	112.	70.5-133	WG758501
Acetone	mg/l	.125	0.143	114.	35.6-163	WG758501
Acrolein	mg/l	.125	0.158	127.	10-190	WG758501
Acrylonitrile	mg/l	.125	0.147	118.	55.2-130	WG758501
Benzene	mg/l	.025	0.0288	115.	74.8-121	WG758501
Bromodichloromethane	mg/l	.025	0.0251	100.	75.1-116	WG758501
Bromoform	mg/l	.025	0.0225	89.8	67.5-130	WG758501
Bromomethane	mg/l	.025	0.0283	113.	49.9-162	WG758501
Carbon disulfide	mg/l	.025	0.0261	105.	64.6-140	WG758501
Carbon tetrachloride	mg/l	.025	0.0267	107.	70.2-123	WG758501
Chlorobenzene	mg/l	.025	0.0245	98.2	78.1-119	WG758501
Chlorodibromomethane	mg/l	.025	0.0234	93.7	74-121	WG758501
Chloroethane	mg/l	.025	0.0298	119.	61.7-135	WG758501
Chloroform	mg/l	.025	0.0281	113.	76-121	WG758501
Chloromethane	mg/l	.025	0.0290	116.	61.5-129	WG758501
cis-1,2-Dichloroethene	mg/l	.025	0.0291	117.	76-119	WG758501
cis-1,3-Dichloropropene	mg/l	.025	0.0272	109.	78.2-120	WG758501
Dibromomethane	mg/l	.025	0.0266	107.	79.5-118	WG758501
Dichlorodifluoromethane	mg/l	.025	0.0275	110.	54.8-135	WG758501
Ethylbenzene	mg/l	.025	0.0245	98.0	78.8-122	WG758501
Iodomethane	mg/l	.125	0.117	93.2	61-130	WG758501
Methylene Chloride	mg/l	.025	0.0278	111.	70.3-120	WG758501
Styrene	mg/l	.025	0.0240	95.8	80.4-126	WG758501
Tetrachloroethene	mg/l	.025	0.0219	87.7	72.6-126	WG758501
Toluene	mg/l	.025	0.0256	102.	79.7-116	WG758501
trans-1,2-Dichloroethene	mg/l	.025	0.0301	121.	72.6-121	WG758501
trans-1,3-Dichloropropene	mg/l	.025	0.0265	106.	74.3-123	WG758501
trans-1,4-Dichloro-2-butene	mg/l	.025	0.0222	88.9	65.1-123	WG758501
Trichloroethene	mg/l	.025	0.0251	100.	77.7-118	WG758501
Trichlorofluoromethane	mg/l	.025	0.0289	115.	63.5-135	WG758501
Vinyl acetate	mg/l	.125	0.165	132.	65-138	WG758501
Vinyl chloride	mg/l	.025	0.0305	122.	65.9-128	WG758501
Xylenes, Total	mg/l	.075	0.0741	98.8	78.7-121	WG758501
4-Bromofluorobenzene				95.60	71-126	WG758501
Dibromofluoromethane				102.0	78.3-121	WG758501

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Quality Assurance Report
Level II

L737383

December 11, 2014

Analyte	Laboratory Control Sample Duplicate Result	Ref	%Rec	Limit	RPD	Limit	Batch
Toluene-d8				103.0		88.5-111	
a,a,a-Trifluorotoluene				97.60		85-114	

Analyte	Units	Laboratory Control Sample Duplicate Result	Ref	%Rec	Limit	RPD	Limit	Batch
1,1,1,2-Tetrachloroethane	mg/l	0.0223	0.0243	89.0	74.2-124	8.43	20	WG758501
1,1,1-Trichloroethane	mg/l	0.0264	0.0274	106.	73.2-123	3.77	20	WG758501
1,1,2,2-Tetrachloroethane	mg/l	0.0242	0.0254	97.0	70.7-122	4.82	20	WG758501
1,1,2-Trichloroethane	mg/l	0.0237	0.0254	95.0	77.7-118	6.90	20	WG758501
1,1-Dichloroethane	mg/l	0.0278	0.0293	111.	70.7-126	5.03	20	WG758501
1,1-Dichloroethene	mg/l	0.0264	0.0281	106.	67.8-129	6.11	20	WG758501
1,2,3-Trichloropropane	mg/l	0.0220	0.0231	88.0	71.8-121	4.82	20	WG758501
1,2-Dibromo-3-Chloropropane	mg/l	0.0227	0.0248	91.0	65.4-128	8.79	20	WG758501
1,2-Dibromoethane	mg/l	0.0236	0.0252	94.0	76.6-121	6.39	20	WG758501
1,2-Dichlorobenzene	mg/l	0.0233	0.0256	93.0	78.4-117	9.10	20	WG758501
1,2-Dichloroethane	mg/l	0.0248	0.0259	99.0	68.8-124	4.48	20	WG758501
1,2-Dichloropropane	mg/l	0.0266	0.0279	106.	76.5-119	4.57	20	WG758501
1,3-Dichlorobenzene	mg/l	0.0220	0.0229	88.0	70.8-128	3.94	20	WG758501
1,4-Dichlorobenzene	mg/l	0.0228	0.0251	91.0	78.8-115	9.87	20	WG758501
2-Butanone (MEK)	mg/l	0.154	0.153	123.	55-149	0.410	20	WG758501
2-Hexanone	mg/l	0.124	0.130	100.	65.6-144	4.65	20	WG758501
4-Methyl-2-pentanone (MIBK)	mg/l	0.131	0.141	105.	70.5-133	6.80	20	WG758501
Acetone	mg/l	0.138	0.143	110.	35.6-163	3.91	23.9	WG758501
Acrolein	mg/l	0.157	0.158	126.	10-190	0.920	28.1	WG758501
Acrylonitrile	mg/l	0.139	0.147	111.	55.2-130	5.93	20	WG758501
Benzene	mg/l	0.0270	0.0288	108.	74.8-121	6.45	20	WG758501
Bromodichloromethane	mg/l	0.0234	0.0251	94.0	75.1-116	7.12	20	WG758501
Bromoform	mg/l	0.0215	0.0225	86.0	67.5-130	4.39	20	WG758501
Bromomethane	mg/l	0.0253	0.0283	101.	49.9-162	11.2	20	WG758501
Carbon disulfide	mg/l	0.0247	0.0261	99.0	64.6-140	5.70	20	WG758501
Carbon tetrachloride	mg/l	0.0253	0.0267	101.	70.2-123	5.19	20	WG758501
Chlorobenzene	mg/l	0.0234	0.0245	94.0	78.1-119	4.78	20	WG758501
Chlorodibromomethane	mg/l	0.0225	0.0234	90.0	74-121	4.03	20	WG758501
Chloroethane	mg/l	0.0281	0.0298	112.	61.7-135	5.64	20	WG758501
Chloroform	mg/l	0.0264	0.0281	106.	76-121	6.37	20	WG758501
Chloromethane	mg/l	0.0243	0.0290	97.0	61.5-129	17.7	20	WG758501
cis-1,2-Dichloroethene	mg/l	0.0279	0.0291	112.	76-119	4.42	20	WG758501
cis-1,3-Dichloropropene	mg/l	0.0253	0.0272	101.	78.2-120	7.04	20	WG758501
Dibromomethane	mg/l	0.0249	0.0266	100.	79.5-118	6.79	20	WG758501
Dichlorodifluoromethane	mg/l	0.0261	0.0275	104.	54.8-135	5.18	20	WG758501
Ethylbenzene	mg/l	0.0236	0.0245	94.0	78.8-122	3.59	20	WG758501
Iodomethane	mg/l	0.126	0.117	100.	61-130	7.53	20	WG758501
Methylene Chloride	mg/l	0.0261	0.0278	104.	70.3-120	6.32	20	WG758501
Styrene	mg/l	0.0228	0.0240	91.0	80.4-126	5.18	20	WG758501
Tetrachloroethene	mg/l	0.0209	0.0219	84.0	72.6-126	4.79	20	WG758501
Toluene	mg/l	0.0241	0.0256	96.0	79.7-116	5.93	20	WG758501
trans-1,2-Dichloroethene	mg/l	0.0282	0.0301	113.	72.6-121	6.61	20	WG758501
trans-1,3-Dichloropropene	mg/l	0.0251	0.0265	100.	74.3-123	5.51	20	WG758501
trans-1,4-Dichloro-2-butene	mg/l	0.0211	0.0222	84.0	65.1-123	5.20	20	WG758501
Trichloroethene	mg/l	0.0239	0.0251	96.0	77.7-118	4.74	20	WG758501
Trichlorofluoromethane	mg/l	0.0267	0.0289	107.	63.5-135	7.94	20	WG758501
Vinyl acetate	mg/l	0.150	0.165	120.	65-138	9.19	20	WG758501
Vinyl chloride	mg/l	0.0288	0.0305	115.	65.9-128	5.54	20	WG758501
Xylenes, Total	mg/l	0.0702	0.0741	94.0	78.7-121	5.35	20	WG758501
4-Bromofluorobenzene				98.60	71-126			WG758501
Dibromofluoromethane				105.0	78.3-121			WG758501
Toluene-d8				105.0	88.5-111			WG758501
a,a,a-Trifluorotoluene				97.70	85-114			WG758501

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Analyte	Units	Matrix Spike MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
1,1,1,2-Tetrachloroethane	mg/l	0.0221	0.0	.025	88.0	64-128	L736883-01	WG758501
1,1,1-Trichloroethane	mg/l	0.0254	0.0	.025	100.	58.7-134	L736883-01	WG758501
1,1,2,2-Tetrachloroethane	mg/l	0.0254	0.0	.025	100.	56-132	L736883-01	WG758501
1,1,2-Trichloroethane	mg/l	0.0240	0.0	.025	96.0	66.3-125	L736883-01	WG758501
1,1-Dichloroethane	mg/l	0.0282	0.0	.025	110.	58.5-132	L736883-01	WG758501
1,1-Dichloroethene	mg/l	0.0268	0.0	.025	110.	51.1-140	L736883-01	WG758501
1,2,3-Trichloropropane	mg/l	0.0226	0.0	.025	90.0	61.4-128	L736883-01	WG758501
1,2-Dibromo-3-Chloropropane	mg/l	0.0284	0.00390	.025	98.0	57.3-136	L736883-01	WG758501
1,2-Dibromoethane	mg/l	0.0240	0.0	.025	96.0	67.1-125	L736883-01	WG758501
1,2-Dichlorobenzene	mg/l	0.0238	0.0	.025	95.0	68.2-123	L736883-01	WG758501
1,2-Dichloroethane	mg/l	0.0260	0.0	.025	100.	60-126	L736883-01	WG758501
1,2-Dichloropropane	mg/l	0.0267	0.0	.025	110.	64.2-123	L736883-01	WG758501
1,3-Dichlorobenzene	mg/l	0.0214	0.0	.025	86.0	63.1-131	L736883-01	WG758501
1,4-Dichlorobenzene	mg/l	0.0228	0.0	.025	91.0	68.6-123	L736883-01	WG758501
2-Butanone (MEK)	mg/l	0.166	0.0	.125	130.	22.4-138	L736883-01	WG758501
2-Hexanone	mg/l	0.127	0.0	.125	100.	43.3-137	L736883-01	WG758501
4-Methyl-2-pentanone (MIBK)	mg/l	0.141	0.0	.125	110.	60.8-140	L736883-01	WG758501
Acetone	mg/l	0.156	0.0246	.125	100.	10-130	L736883-01	WG758501
Acrolein	mg/l	0.167	0.0	.125	130.	10-200	L736883-01	WG758501
Acrylonitrile	mg/l	0.154	0.0	.125	120.	49.4-133	L736883-01	WG758501
Benzene	mg/l	0.0275	0.0	.025	110.	54.3-133	L736883-01	WG758501
Bromodichloromethane	mg/l	0.0240	0.0	.025	96.0	63.9-121	L736883-01	WG758501
Bromoform	mg/l	0.0218	0.0	.025	87.0	59.5-134	L736883-01	WG758501
Bromomethane	mg/l	0.0262	0.0	.025	100.	41.7-155	L736883-01	WG758501
Carbon disulfide	mg/l	0.0244	0.0	.025	98.0	43.3-149	L736883-01	WG758501
Carbon tetrachloride	mg/l	0.0249	0.0	.025	100.	55.7-134	L736883-01	WG758501
Chlorobenzene	mg/l	0.0230	0.0	.025	92.0	67-125	L736883-01	WG758501
Chlorodibromomethane	mg/l	0.0222	0.0	.025	89.0	64.3-125	L736883-01	WG758501
Chloroethane	mg/l	0.0277	0.0	.025	110.	51.5-136	L736883-01	WG758501
Chloroform	mg/l	0.0274	0.000336	.025	110.	63-129	L736883-01	WG758501
Chloromethane	mg/l	0.0279	0.0	.025	110.	42.4-135	L736883-01	WG758501
cis-1,2-Dichloroethene	mg/l	0.0282	0.0	.025	110.	59.2-129	L736883-01	WG758501
cis-1,3-Dichloropropene	mg/l	0.0261	0.0	.025	100.	66.4-125	L736883-01	WG758501
Dibromomethane	mg/l	0.0262	0.0	.025	100.	68.2-124	L736883-01	WG758501
Dichlorodifluoromethane	mg/l	0.0258	0.0	.025	100.	40.6-144	L736883-01	WG758501
Ethylbenzene	mg/l	0.0229	0.0	.025	92.0	61.4-133	L736883-01	WG758501
Iodomethane	mg/l	0.111	0.0	.125	89.0	49.7-132	L736883-01	WG758501
Methylene Chloride	mg/l	0.0273	0.0	.025	110.	58.1-122	L736883-01	WG758501
Styrene	mg/l	0.0229	0.0	.025	92.0	66.8-133	L736883-01	WG758501
Tetrachloroethene	mg/l	0.0198	0.0	.025	79.0	53-139	L736883-01	WG758501
Toluene	mg/l	0.0240	0.0	.025	96.0	61.4-130	L736883-01	WG758501
trans-1,2-Dichloroethene	mg/l	0.0288	0.0	.025	120.	56.5-129	L736883-01	WG758501
trans-1,3-Dichloropropene	mg/l	0.0263	0.0	.025	100.	64.1-128	L736883-01	WG758501
trans-1,4-Dichloro-2-butene	mg/l	0.0222	0.0	.025	89.0	57.1-130	L736883-01	WG758501
Trichloroethene	mg/l	0.0232	0.0	.025	93.0	44.1-149	L736883-01	WG758501
Trichlorofluoromethane	mg/l	0.0266	0.0	.025	110.	49.6-145	L736883-01	WG758501
Vinyl acetate	mg/l	0.175	0.0	.125	140.	56.1-149	L736883-01	WG758501
Vinyl chloride	mg/l	0.0283	0.0	.025	110.	47.8-137	L736883-01	WG758501
Xylenes, Total	mg/l	0.0685	0.0	.075	91.0	63.3-131	L736883-01	WG758501
4-Bromofluorobenzene					98.50	71-126		WG758501
Dibromofluoromethane					107.0	78.3-121		WG758501
Toluene-d8					104.0	88.5-111		WG758501
a,a,a-Trifluorotoluene					98.70	85-114		WG758501

Analyte	Units	Matrix Spike Duplicate MSD	Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
1,1,1,2-Tetrachloroethane	mg/l	0.0232	0.0221	92.9	64-128	4.99	20	L736883-01	WG758501
1,1,1-Trichloroethane	mg/l	0.0262	0.0254	105.	58.7-134	3.29	20	L736883-01	WG758501

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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Est. 1970

Piedmont Geologic
Mr. Pete Dressel
6003 Chapel Hill Road Suite 145

Raleigh, NC 27607

Quality Assurance Report
Level II

L737383

December 11, 2014

Analyte	Units	MSD	Matrix Spike Duplicate Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
1,1,2,2-Tetrachloroethane	mg/l	0.0267	0.0254	107.	56-132	5.15	22.2	L736883-01	WG758501
1,1,2-Trichloroethane	mg/l	0.0257	0.0240	103.	66.3-125	6.86	20	L736883-01	WG758501
1,1-Dichloroethane	mg/l	0.0286	0.0282	114.	58.5-132	1.26	20	L736883-01	WG758501
1,1-Dichloroethene	mg/l	0.0264	0.0268	106.	51.1-140	1.29	20.2	L736883-01	WG758501
1,2,3-Trichloropropane	mg/l	0.0242	0.0226	96.7	61.4-128	6.86	22.4	L736883-01	WG758501
1,2-Dibromo-3-Chloropropane	mg/l	0.0301	0.0284	105.	57.3-136	5.88	27	L736883-01	WG758501
1,2-Dibromoethane	mg/l	0.0256	0.0240	102.	67.1-125	6.60	20	L736883-01	WG758501
1,2-Dichlorobenzene	mg/l	0.0243	0.0238	97.2	68.2-123	2.02	20	L736883-01	WG758501
1,2-Dichloroethane	mg/l	0.0263	0.0260	105.	60-126	0.920	20	L736883-01	WG758501
1,2-Dichloropropane	mg/l	0.0270	0.0267	108.	64.2-123	1.37	20	L736883-01	WG758501
1,3-Dichlorobenzene	mg/l	0.0223	0.0214	89.2	63.1-131	4.23	20	L736883-01	WG758501
1,4-Dichlorobenzene	mg/l	0.0238	0.0228	95.4	68.6-123	4.40	20	L736883-01	WG758501
2-Butanone (MEK)	mg/l	0.168	0.166	135.	22.4-138	1.13	27	L736883-01	WG758501
2-Hexanone	mg/l	0.140	0.127	112.	43.3-137	9.40	25.5	L736883-01	WG758501
4-Methyl-2-pentanone (MIBK)	mg/l	0.149	0.141	119.	60.8-140	5.50	25.1	L736883-01	WG758501
Acetone	mg/l	0.157	0.156	106.	10-130	1.08	27.9	L736883-01	WG758501
Acrolein	mg/l	0.176	0.167	140.	10-200	4.90	27.7	L736883-01	WG758501
Acrylonitrile	mg/l	0.159	0.154	128.	49.4-133	3.11	25.3	L736883-01	WG758501
Benzene	mg/l	0.0276	0.0275	110.	54.3-133	0.540	20	L736883-01	WG758501
Bromodichloromethane	mg/l	0.0247	0.0240	99.0	63.9-121	2.98	20	L736883-01	WG758501
Bromoform	mg/l	0.0231	0.0218	92.5	59.5-134	5.93	20.5	L736883-01	WG758501
Bromomethane	mg/l	0.0259	0.0262	104.	41.7-155	1.12	21.9	L736883-01	WG758501
Carbon disulfide	mg/l	0.0243	0.0244	97.1	43.3-149	0.500	20.3	L736883-01	WG758501
Carbon tetrachloride	mg/l	0.0247	0.0249	98.8	55.7-134	0.740	20	L736883-01	WG758501
Chlorobenzene	mg/l	0.0239	0.0230	95.5	67-125	3.74	20	L736883-01	WG758501
Chlorodibromomethane	mg/l	0.0234	0.0222	93.7	64.3-125	5.56	20.8	L736883-01	WG758501
Chloroethane	mg/l	0.0285	0.0277	114.	51.5-136	2.97	40	L736883-01	WG758501
Chloroform	mg/l	0.0278	0.0274	110.	63-129	1.28	20	L736883-01	WG758501
Chloromethane	mg/l	0.0279	0.0279	112.	42.4-135	0.0800	20	L736883-01	WG758501
cis-1,2-Dichloroethene	mg/l	0.0290	0.0282	116.	59.2-129	2.80	20	L736883-01	WG758501
cis-1,3-Dichloropropene	mg/l	0.0265	0.0261	106.	66.4-125	1.45	20	L736883-01	WG758501
Dibromomethane	mg/l	0.0270	0.0262	108.	68.2-124	2.92	20	L736883-01	WG758501
Dichlorodifluoromethane	mg/l	0.0255	0.0258	102.	40.6-144	1.10	20.2	L736883-01	WG758501
Ethylbenzene	mg/l	0.0234	0.0229	93.7	61.4-133	2.20	20	L736883-01	WG758501
Iodomethane	mg/l	0.112	0.111	89.7	49.7-132	1.25	20	L736883-01	WG758501
Methylene Chloride	mg/l	0.0274	0.0273	110.	58.1-122	0.240	20	L736883-01	WG758501
Styrene	mg/l	0.0244	0.0229	97.4	66.8-133	6.29	20	L736883-01	WG758501
Tetrachloroethene	mg/l	0.0205	0.0198	81.9	53-139	3.55	20	L736883-01	WG758501
Toluene	mg/l	0.0244	0.0240	97.6	61.4-130	1.59	20	L736883-01	WG758501
trans-1,2-Dichloroethene	mg/l	0.0286	0.0288	114.	56.5-129	0.730	20	L736883-01	WG758501
trans-1,3-Dichloropropene	mg/l	0.0263	0.0263	105.	64.1-128	0.0900	20	L736883-01	WG758501
trans-1,4-Dichloro-2-butene	mg/l	0.0239	0.0222	95.8	57.1-130	7.68	23.9	L736883-01	WG758501
Trichloroethene	mg/l	0.0241	0.0232	96.4	44.1-149	4.06	20	L736883-01	WG758501
Trichlorofluoromethane	mg/l	0.0264	0.0266	106.	49.6-145	0.550	21.2	L736883-01	WG758501
Vinyl acetate	mg/l	0.175	0.175	140.	56.1-149	0.0400	22.7	L736883-01	WG758501
Vinyl chloride	mg/l	0.0287	0.0283	115.	47.8-137	1.62	20	L736883-01	WG758501
Xylenes, Total	mg/l	0.0704	0.0685	93.9	63.3-131	2.75	20	L736883-01	WG758501
4-Bromofluorobenzene				99.70	71-126				WG758501
Dibromofluoromethane				106.0	78.3-121				WG758501
Toluene-d8				104.0	88.5-111				WG758501
a,a,a-Trifluorotoluene				98.30	85-114				WG758501

Batch number /Run number / Sample number cross reference

WG758501: R3008961: L737383-01

* * Calculations are performed prior to rounding of reported values.
* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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Piedmont Geologic
Mr. Pete Dressel
6003 Chapel Hill Road Suite 145

Raleigh, NC 27607

Quality Assurance Report
Level II

L737383

December 11, 2014

The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.

Piedmont Geologic

6003 Chapel Hill Road Suite 145
Raleigh, NC 27607

Billing Information:
Accounts Payable
6003 Chapel Hill Rd Ste 145
Raleigh, NC 27607

Report to: Mr. Pete Dressel

Email To: pjdressel@piedmontgeologic.com

Project Description: NCSU Lot 86 - Water Treatment System Mon

City/State Collected: RALEIGH, NC

Phone: 919-854-9700
Fax: 919-854-9532

Client Project # 1247

Lab Project # PIEGEO-NCSU LOT 86

Collected by (print): P. DRESSEL

Site/Facility ID # RALEIGH, NC

P.O. # 1347

Collected by (signature): [signature]

Immediately Packed on Ice N ___ Y ✓

Rush? (Lab MUST Be Notified)
___ Same Day 200%
___ Next Day 100%
___ Two Day 50%
___ Three Day 25%

Date Results Needed

Email? ___No X__Yes
FAX? ___No ___Yes

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

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YOUR LAB OF CHOICE
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Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# L737383

F050

Acctnum: PIEGEO
Template: T82911
Prelogin: P490464
TSR: 350 - Jimmy Hunt
PB: 11.26 MB
Shipped Via: FedEX Ground

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	V8260AP9 40mlAmb-HCl									Rem./Contaminant	Sample # (lab only)
GWE INFLUENT	GRAB	GW	—	12-3-14	1241	2	X										01

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other_____

Remarks: V8260AP9 = V8260 + 1,4-Dioxane (Report 14D to MDL)
Quote PIEGEO080513S

pH _____ Temp _____
Flow _____ Other _____

Hold #

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
[signature]	12/3/14	16:25	[signature]
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
			6194 4943 5995
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)
[signature]	12/4/14	17:30	[signature]

Samples returned via: ☐ UPS ☑ FedEx ☐ Courier ☐ _____

Temp: 3.1 °C Bottles Received: 2

Date: 12-5-14 Time: 0930

Condition: (lab use only) JB3

COC Seal Intact: ✓ Y ___N ___NA

pH Checked: NCF:

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

September 12, 2014

Mr. Pete Dressel
Piedmont Geologic
6003 Chapel Hill Road
Suite 109
Raleigh, NC 27607

RE: Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Dear Mr. Dressel:
Enclosed are the analytical results for sample(s) received by the laboratory on August 20, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

The laboratory report is being resubmitted on September 12, 2014, due to a compound list revision.

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

Sincerely,

Angela M. Baioni

Angela Baioni
angela.baioni@pacelabs.com
Project Manager

Enclosures

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(704)875-9092

CERTIFICATIONS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Charlotte Certification IDs

9800 Kincey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
West Virginia Certification #: 357
Virginia/VELAP Certification #: 460221

Asheville Certification IDs

2225 Riverside Dr., Asheville, NC 28804
Florida/NELAP Certification #: E87648
Massachusetts Certification #: M-NC030
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
West Virginia Certification #: 356
Virginia/VELAP Certification #: 460222

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SAMPLE SUMMARY

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92214233001	**MW-34DR**	Water	08/11/14 17:30	08/20/14 16:30
92214233002	**MW-12D**	Water	08/12/14 09:34	08/20/14 16:30
92214233003	**MW-38**	Water	08/13/14 11:20	08/20/14 16:30
92214233004	**MW-11I**	Water	08/13/14 12:57	08/20/14 16:30
92214233005	**MW-46**	Water	08/13/14 13:40	08/20/14 16:30
92214233006	**MW-41I**	Water	08/13/14 14:22	08/20/14 16:30
92214233007	**MW-42S**	Water	08/13/14 14:50	08/20/14 16:30
92214233008	**MW-43D**	Water	08/13/14 16:09	08/20/14 16:30
92214233009	**MW-47**	Water	08/14/14 09:30	08/20/14 16:30
92214233010	**MW-16D**	Water	08/14/14 11:05	08/20/14 16:30
92214233011	**MW-13D**	Water	08/14/14 12:10	08/20/14 16:30
92214233012	**MW-43S**	Water	08/14/14 13:14	08/20/14 16:30
92214233013	**MW-45R**	Water	08/14/14 14:05	08/20/14 16:30
92214233014	**MW-35D**	Water	08/14/14 16:20	08/20/14 16:30
92214233015	**MW-35S**	Water	08/15/14 09:04	08/20/14 16:30
92214233016	**MW-41S**	Water	08/15/14 10:02	08/20/14 16:30
92214233017	**MW-41D**	Water	08/15/14 11:35	08/20/14 16:30
92214233018	**MW-16I**	Water	08/15/14 13:35	08/20/14 16:30
92214233019	**MW-27**	Water	08/15/14 14:15	08/20/14 16:30
92214233020	**MW-42I**	Water	08/15/14 15:05	08/20/14 16:30
92214233021	**MW-8**	Water	08/15/14 16:15	08/20/14 16:30
92214233022	**MW-63**	Water	08/15/14 16:30	08/20/14 16:30
92214233023	**MW-36S**	Water	08/18/14 09:27	08/20/14 16:30
92214233024	**MW-36D**	Water	08/18/14 10:48	08/20/14 16:30
92214233025	**MW-61**	Water	08/18/14 10:48	08/20/14 16:30
92214233026	**MW-17D**	Water	08/18/14 14:10	08/20/14 16:30
92214233027	**MW-17I**	Water	08/18/14 13:00	08/20/14 16:30
92214233028	**MW-12I**	Water	08/18/14 15:37	08/20/14 16:30
92214233029	**MW-62**	Water	08/18/14 15:37	08/20/14 16:30
92214233030	**MW-16S**	Water	08/19/14 08:40	08/20/14 16:30
92214233031	**MW-12S**	Water	08/19/14 09:10	08/20/14 16:30
92214233032	**RW-6**	Water	08/19/14 09:35	08/20/14 16:30
92214233033	**RW-6**	Water	08/12/14 15:25	08/20/14 16:30
92214233034	**RW-10**	Water	08/19/14 10:15	08/20/14 16:30
92214233035	**MW-37**	Water	08/19/14 10:50	08/20/14 16:30
92214233036	**MW-3**	Water	08/19/14 11:35	08/20/14 16:30
92214233037	**MW-64**	Water	08/19/14 12:00	08/20/14 16:30

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SAMPLE SUMMARY

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92214233038	**RW-1**	Water	08/19/14 14:45	08/20/14 16:30
92214233039	**RW-8**	Water	08/12/14 16:00	08/20/14 16:30
92214233040	**RW-7**	Water	08/12/14 15:45	08/20/14 16:30

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SAMPLE ANALYTE COUNT

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92214233001	**MW-34DR**	SM 6200B	MCK	63	PASI-C
92214233002	**MW-12D**	EPA 6010	JMW	7	PASI-A
		EPA 7470	HVK	1	PASI-A
		SM 6200B	MCK	63	PASI-C
92214233003	**MW-38**	SM 6200B	MCK	63	PASI-C
92214233004	**MW-11I**	EPA 6010	JMW	7	PASI-A
		EPA 7470	HVK	1	PASI-A
		SM 6200B	MCK	63	PASI-C
92214233005	**MW-46**	EPA 6010	JMW	7	PASI-A
		EPA 7470	HVK	1	PASI-A
		SM 6200B	MCK	63	PASI-C
92214233006	**MW-41I**	EPA 6010	JMW	7	PASI-A
		EPA 7470	HVK	1	PASI-A
		SM 6200B	MCK	63	PASI-C
92214233007	**MW-42S**	SM 6200B	MCK	63	PASI-C
92214233008	**MW-43D**	EPA 6010	JMW	7	PASI-A
		EPA 7470	HVK	1	PASI-A
		SM 6200B	MCK	63	PASI-C
92214233009	**MW-47**	EPA 6010	JMW	7	PASI-A
		EPA 7470	HVK	1	PASI-A
		SM 6200B	MCK	63	PASI-C
92214233010	**MW-16D**	EPA 6010	JMW	7	PASI-A
		EPA 7470	HVK	1	PASI-A
		SM 6200B	MCK	63	PASI-C
92214233011	**MW-13D**	EPA 6010	JMW	7	PASI-A
		EPA 7470	HVK	1	PASI-A
		SM 6200B	MCK	63	PASI-C
92214233012	**MW-43S**	SM 6200B	MCK	63	PASI-C
92214233013	**MW-45R**	EPA 6010	JMW	7	PASI-A
		EPA 7470	HVK	1	PASI-A
		SM 6200B	MCK	63	PASI-C
92214233014	**MW-35D**	EPA 6010	JMW	7	PASI-A
		EPA 7470	HVK	1	PASI-A
		SM 6200B	MCK	63	PASI-C
92214233015	**MW-35S**	SM 6200B	MCK	63	PASI-C
92214233016	**MW-41S**	EPA 6010	JMW	7	PASI-A
		EPA 7470	HVK	1	PASI-A

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SAMPLE ANALYTE COUNT

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 6200B	MCK	63	PASI-C
92214233017	**MW-41D**	EPA 6010	JMW	7	PASI-A
		EPA 7470	HVK	1	PASI-A
		SM 6200B	MCK	63	PASI-C
92214233018	**MW-16I**	SM 6200B	MCK	63	PASI-C
92214233019	**MW-27**	SM 6200B	MCK	63	PASI-C
92214233020	**MW-42I**	EPA 6010	JMW	7	PASI-A
		EPA 7470	HVK	1	PASI-A
		SM 6200B	MCK	63	PASI-C
92214233021	**MW-8**	SM 6200B	MCK	63	PASI-C
92214233022	**MW-63**	EPA 6010	JMW	7	PASI-A
		EPA 7470	HVK	1	PASI-A
		SM 6200B	MCK	63	PASI-C
92214233023	**MW-36S**	SM 6200B	MCK	63	PASI-C
92214233024	**MW-36D**	EPA 6010	JMW	7	PASI-A
		EPA 7470	HVK	1	PASI-A
		SM 6200B	MCK	63	PASI-C
92214233025	**MW-61**	EPA 6010	JMW	7	PASI-A
		EPA 7470	HVK	1	PASI-A
		SM 6200B	MCK	63	PASI-C
92214233026	**MW-17D**	EPA 6010	SH1	7	PASI-A
		EPA 7470	HVK	1	PASI-A
		SM 6200B	MCK	63	PASI-C
92214233027	**MW-17I**	EPA 6010	SH1	7	PASI-A
		EPA 7470	HVK	1	PASI-A
		SM 6200B	MCK	63	PASI-C
92214233028	**MW-12I**	EPA 6010	SH1	7	PASI-A
		EPA 7470	HVK	1	PASI-A
		SM 6200B	MCK	63	PASI-C
92214233029	**MW-62**	EPA 6010	SH1	7	PASI-A
		EPA 7470	HVK	1	PASI-A
		SM 6200B	MCK	63	PASI-C
92214233030	**MW-16S**	EPA 6010	SH1	7	PASI-A
		EPA 7470	HVK	1	PASI-A
		SM 6200B	MCK	63	PASI-C
92214233031	**MW-12S**	SM 6200B	MCK	63	PASI-C
92214233032	**RW-6**	EPA 6010	SH1	7	PASI-A

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SAMPLE ANALYTE COUNT

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 7470	HVK	1	PASI-A
92214233033	**RW-6**	SM 6200B	MCK	63	PASI-C
92214233034	**RW-10**	EPA 6010	SH1	7	PASI-A
		EPA 7470	HVK	1	PASI-A
		SM 6200B	MCK	63	PASI-C
92214233035	**MW-37**	EPA 6010	SH1	7	PASI-A
		EPA 7470	HVK	1	PASI-A
		SM 6200B	MCK	63	PASI-C
92214233036	**MW-3**	EPA 6010	SH1	7	PASI-A
		EPA 7470	HVK	1	PASI-A
		SM 6200B	MCK	63	PASI-C
92214233037	**MW-64**	EPA 6010	SH1	7	PASI-A
		EPA 7470	HVK	1	PASI-A
		SM 6200B	MCK	63	PASI-C
92214233038	**RW-1**	EPA 6010	SH1	7	PASI-A
		EPA 7470	HVK	1	PASI-A
		SM 6200B	MCK	63	PASI-C
92214233039	**RW-8**	SM 6200B	MCK	63	PASI-C
92214233040	**RW-7**	SM 6200B	MCK	63	PASI-C

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-34DR **Lab ID: 92214233001** Collected: 08/11/14 17:30 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV	Analytical Method: SM 6200B							
Benzene	ND	ug/L	0.50	1		08/21/14 18:40	71-43-2	
Bromobenzene	ND	ug/L	0.50	1		08/21/14 18:40	108-86-1	
Bromochloromethane	ND	ug/L	0.50	1		08/21/14 18:40	74-97-5	
Bromodichloromethane	ND	ug/L	0.50	1		08/21/14 18:40	75-27-4	
Bromoform	ND	ug/L	0.50	1		08/21/14 18:40	75-25-2	
Bromomethane	ND	ug/L	5.0	1		08/21/14 18:40	74-83-9	
n-Butylbenzene	ND	ug/L	0.50	1		08/21/14 18:40	104-51-8	
sec-Butylbenzene	ND	ug/L	0.50	1		08/21/14 18:40	135-98-8	
tert-Butylbenzene	ND	ug/L	0.50	1		08/21/14 18:40	98-06-6	
Carbon tetrachloride	ND	ug/L	0.50	1		08/21/14 18:40	56-23-5	
Chlorobenzene	ND	ug/L	0.50	1		08/21/14 18:40	108-90-7	
Chloroethane	ND	ug/L	1.0	1		08/21/14 18:40	75-00-3	
Chloroform	ND	ug/L	0.50	1		08/21/14 18:40	67-66-3	
Chloromethane	ND	ug/L	1.0	1		08/21/14 18:40	74-87-3	
2-Chlorotoluene	ND	ug/L	0.50	1		08/21/14 18:40	95-49-8	
4-Chlorotoluene	ND	ug/L	0.50	1		08/21/14 18:40	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	1		08/21/14 18:40	96-12-8	
Dibromochloromethane	ND	ug/L	0.50	1		08/21/14 18:40	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	1		08/21/14 18:40	106-93-4	
Dibromomethane	ND	ug/L	0.50	1		08/21/14 18:40	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	0.50	1		08/21/14 18:40	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	0.50	1		08/21/14 18:40	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	0.50	1		08/21/14 18:40	106-46-7	
Dichlorodifluoromethane	ND	ug/L	0.50	1		08/21/14 18:40	75-71-8	
1,1-Dichloroethane	ND	ug/L	0.50	1		08/21/14 18:40	75-34-3	
1,2-Dichloroethane	ND	ug/L	0.50	1		08/21/14 18:40	107-06-2	
1,1-Dichloroethene	ND	ug/L	0.50	1		08/21/14 18:40	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		08/21/14 18:40	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	0.50	1		08/21/14 18:40	156-60-5	
1,2-Dichloropropane	ND	ug/L	0.50	1		08/21/14 18:40	78-87-5	
1,3-Dichloropropane	ND	ug/L	0.50	1		08/21/14 18:40	142-28-9	
2,2-Dichloropropane	ND	ug/L	0.50	1		08/21/14 18:40	594-20-7	
1,1-Dichloropropene	ND	ug/L	0.50	1		08/21/14 18:40	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		08/21/14 18:40	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	0.50	1		08/21/14 18:40	10061-02-6	
Diisopropyl ether	ND	ug/L	0.50	1		08/21/14 18:40	108-20-3	
Ethylbenzene	ND	ug/L	0.50	1		08/21/14 18:40	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	2.0	1		08/21/14 18:40	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/L	0.50	1		08/21/14 18:40	98-82-8	
Methylene Chloride	ND	ug/L	2.0	1		08/21/14 18:40	75-09-2	
Methyl-tert-butyl ether	ND	ug/L	0.50	1		08/21/14 18:40	1634-04-4	
Naphthalene	ND	ug/L	2.0	1		08/21/14 18:40	91-20-3	
n-Propylbenzene	ND	ug/L	0.50	1		08/21/14 18:40	103-65-1	
Styrene	ND	ug/L	0.50	1		08/21/14 18:40	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1		08/21/14 18:40	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	1		08/21/14 18:40	79-34-5	
Tetrachloroethene	ND	ug/L	0.50	1		08/21/14 18:40	127-18-4	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-34DR **Lab ID: 92214233001** Collected: 08/11/14 17:30 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV	Analytical Method: SM 6200B							
Toluene	ND	ug/L	0.50	1		08/21/14 18:40	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	2.0	1		08/21/14 18:40	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	2.0	1		08/21/14 18:40	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	0.50	1		08/21/14 18:40	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	0.50	1		08/21/14 18:40	79-00-5	
Trichloroethene	ND	ug/L	0.50	1		08/21/14 18:40	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		08/21/14 18:40	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	0.50	1		08/21/14 18:40	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	1		08/21/14 18:40	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	1		08/21/14 18:40	108-67-8	
Vinyl chloride	ND	ug/L	1.0	1		08/21/14 18:40	75-01-4	
m&p-Xylene	ND	ug/L	1.0	1		08/21/14 18:40	179601-23-1	
o-Xylene	ND	ug/L	0.50	1		08/21/14 18:40	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	94	%	70-130	1		08/21/14 18:40	17060-07-0	
4-Bromofluorobenzene (S)	102	%	70-130	1		08/21/14 18:40	460-00-4	
Toluene-d8 (S)	99	%	70-130	1		08/21/14 18:40	2037-26-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-12D **Lab ID: 92214233002** Collected: 08/12/14 09:34 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic	ND	ug/L	10.0	1	08/21/14 16:35	08/22/14 16:39	7440-38-2	
Barium	**23.8**	ug/L	5.0	1	08/21/14 16:35	08/22/14 16:39	7440-39-3	
Cadmium	ND	ug/L	1.0	1	08/21/14 16:35	08/22/14 16:39	7440-43-9	
Chromium	**145**	ug/L	5.0	1	08/21/14 16:35	08/22/14 16:39	7440-47-3	
Lead	ND	ug/L	5.0	1	08/21/14 16:35	08/22/14 16:39	7439-92-1	
Manganese	**124**	ug/L	5.0	1	08/21/14 16:35	08/22/14 16:39	7439-96-5	
Selenium	ND	ug/L	10.0	1	08/21/14 16:35	08/22/14 16:39	7782-49-2	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	08/21/14 18:00	08/23/14 18:05	7439-97-6	
6200B MSV	Analytical Method: SM 6200B							
Benzene	ND	ug/L	0.50	1		08/21/14 18:56	71-43-2	
Bromobenzene	ND	ug/L	0.50	1		08/21/14 18:56	108-86-1	
Bromochloromethane	ND	ug/L	0.50	1		08/21/14 18:56	74-97-5	
Bromodichloromethane	ND	ug/L	0.50	1		08/21/14 18:56	75-27-4	
Bromoform	ND	ug/L	0.50	1		08/21/14 18:56	75-25-2	
Bromomethane	ND	ug/L	5.0	1		08/21/14 18:56	74-83-9	
n-Butylbenzene	ND	ug/L	0.50	1		08/21/14 18:56	104-51-8	
sec-Butylbenzene	ND	ug/L	0.50	1		08/21/14 18:56	135-98-8	
tert-Butylbenzene	ND	ug/L	0.50	1		08/21/14 18:56	98-06-6	
Carbon tetrachloride	ND	ug/L	0.50	1		08/21/14 18:56	56-23-5	
Chlorobenzene	ND	ug/L	0.50	1		08/21/14 18:56	108-90-7	
Chloroethane	ND	ug/L	1.0	1		08/21/14 18:56	75-00-3	
Chloroform	**0.63**	ug/L	0.50	1		08/21/14 18:56	67-66-3	
Chloromethane	ND	ug/L	1.0	1		08/21/14 18:56	74-87-3	
2-Chlorotoluene	ND	ug/L	0.50	1		08/21/14 18:56	95-49-8	
4-Chlorotoluene	ND	ug/L	0.50	1		08/21/14 18:56	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	1		08/21/14 18:56	96-12-8	
Dibromochloromethane	ND	ug/L	0.50	1		08/21/14 18:56	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	1		08/21/14 18:56	106-93-4	
Dibromomethane	ND	ug/L	0.50	1		08/21/14 18:56	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	0.50	1		08/21/14 18:56	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	0.50	1		08/21/14 18:56	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	0.50	1		08/21/14 18:56	106-46-7	
Dichlorodifluoromethane	ND	ug/L	0.50	1		08/21/14 18:56	75-71-8	
1,1-Dichloroethane	ND	ug/L	0.50	1		08/21/14 18:56	75-34-3	
1,2-Dichloroethane	ND	ug/L	0.50	1		08/21/14 18:56	107-06-2	
1,1-Dichloroethene	ND	ug/L	0.50	1		08/21/14 18:56	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		08/21/14 18:56	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	0.50	1		08/21/14 18:56	156-60-5	
1,2-Dichloropropane	ND	ug/L	0.50	1		08/21/14 18:56	78-87-5	
1,3-Dichloropropane	ND	ug/L	0.50	1		08/21/14 18:56	142-28-9	
2,2-Dichloropropane	ND	ug/L	0.50	1		08/21/14 18:56	594-20-7	
1,1-Dichloropropene	ND	ug/L	0.50	1		08/21/14 18:56	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		08/21/14 18:56	10061-01-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-12D **Lab ID: 92214233002** Collected: 08/12/14 09:34 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV	Analytical Method: SM 6200B							
trans-1,3-Dichloropropene	ND	ug/L	0.50	1		08/21/14 18:56	10061-02-6	
Diisopropyl ether	ND	ug/L	0.50	1		08/21/14 18:56	108-20-3	
Ethylbenzene	ND	ug/L	0.50	1		08/21/14 18:56	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	2.0	1		08/21/14 18:56	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/L	0.50	1		08/21/14 18:56	98-82-8	
Methylene Chloride	ND	ug/L	2.0	1		08/21/14 18:56	75-09-2	
Methyl-tert-butyl ether	ND	ug/L	0.50	1		08/21/14 18:56	1634-04-4	
Naphthalene	ND	ug/L	2.0	1		08/21/14 18:56	91-20-3	
n-Propylbenzene	ND	ug/L	0.50	1		08/21/14 18:56	103-65-1	
Styrene	ND	ug/L	0.50	1		08/21/14 18:56	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1		08/21/14 18:56	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	1		08/21/14 18:56	79-34-5	
Tetrachloroethene	ND	ug/L	0.50	1		08/21/14 18:56	127-18-4	
Toluene	ND	ug/L	0.50	1		08/21/14 18:56	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	2.0	1		08/21/14 18:56	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	2.0	1		08/21/14 18:56	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	0.50	1		08/21/14 18:56	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	0.50	1		08/21/14 18:56	79-00-5	
Trichloroethene	ND	ug/L	0.50	1		08/21/14 18:56	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		08/21/14 18:56	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	0.50	1		08/21/14 18:56	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	1		08/21/14 18:56	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	1		08/21/14 18:56	108-67-8	
Vinyl chloride	ND	ug/L	1.0	1		08/21/14 18:56	75-01-4	
m&p-Xylene	ND	ug/L	1.0	1		08/21/14 18:56	179601-23-1	
o-Xylene	ND	ug/L	0.50	1		08/21/14 18:56	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	92	%	70-130	1		08/21/14 18:56	17060-07-0	
4-Bromofluorobenzene (S)	102	%	70-130	1		08/21/14 18:56	460-00-4	
Toluene-d8 (S)	98	%	70-130	1		08/21/14 18:56	2037-26-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-38 **Lab ID: 92214233003** Collected: 08/13/14 11:20 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV	Analytical Method: SM 6200B							
Benzene	ND	ug/L	0.50	1		08/21/14 19:11	71-43-2	
Bromobenzene	ND	ug/L	0.50	1		08/21/14 19:11	108-86-1	
Bromochloromethane	ND	ug/L	0.50	1		08/21/14 19:11	74-97-5	
Bromodichloromethane	ND	ug/L	0.50	1		08/21/14 19:11	75-27-4	
Bromoform	ND	ug/L	0.50	1		08/21/14 19:11	75-25-2	
Bromomethane	ND	ug/L	5.0	1		08/21/14 19:11	74-83-9	
n-Butylbenzene	ND	ug/L	0.50	1		08/21/14 19:11	104-51-8	
sec-Butylbenzene	ND	ug/L	0.50	1		08/21/14 19:11	135-98-8	
tert-Butylbenzene	ND	ug/L	0.50	1		08/21/14 19:11	98-06-6	
Carbon tetrachloride	ND	ug/L	0.50	1		08/21/14 19:11	56-23-5	
Chlorobenzene	ND	ug/L	0.50	1		08/21/14 19:11	108-90-7	
Chloroethane	ND	ug/L	1.0	1		08/21/14 19:11	75-00-3	
Chloroform	ND	ug/L	0.50	1		08/21/14 19:11	67-66-3	
Chloromethane	ND	ug/L	1.0	1		08/21/14 19:11	74-87-3	
2-Chlorotoluene	ND	ug/L	0.50	1		08/21/14 19:11	95-49-8	
4-Chlorotoluene	ND	ug/L	0.50	1		08/21/14 19:11	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	1		08/21/14 19:11	96-12-8	
Dibromochloromethane	ND	ug/L	0.50	1		08/21/14 19:11	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	1		08/21/14 19:11	106-93-4	
Dibromomethane	ND	ug/L	0.50	1		08/21/14 19:11	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	0.50	1		08/21/14 19:11	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	0.50	1		08/21/14 19:11	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	0.50	1		08/21/14 19:11	106-46-7	
Dichlorodifluoromethane	ND	ug/L	0.50	1		08/21/14 19:11	75-71-8	
1,1-Dichloroethane	ND	ug/L	0.50	1		08/21/14 19:11	75-34-3	
1,2-Dichloroethane	ND	ug/L	0.50	1		08/21/14 19:11	107-06-2	
1,1-Dichloroethene	ND	ug/L	0.50	1		08/21/14 19:11	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		08/21/14 19:11	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	0.50	1		08/21/14 19:11	156-60-5	
1,2-Dichloropropane	ND	ug/L	0.50	1		08/21/14 19:11	78-87-5	
1,3-Dichloropropane	ND	ug/L	0.50	1		08/21/14 19:11	142-28-9	
2,2-Dichloropropane	ND	ug/L	0.50	1		08/21/14 19:11	594-20-7	
1,1-Dichloropropene	ND	ug/L	0.50	1		08/21/14 19:11	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		08/21/14 19:11	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	0.50	1		08/21/14 19:11	10061-02-6	
Diisopropyl ether	ND	ug/L	0.50	1		08/21/14 19:11	108-20-3	
Ethylbenzene	ND	ug/L	0.50	1		08/21/14 19:11	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	2.0	1		08/21/14 19:11	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/L	0.50	1		08/21/14 19:11	98-82-8	
Methylene Chloride	ND	ug/L	2.0	1		08/21/14 19:11	75-09-2	
Methyl-tert-butyl ether	ND	ug/L	0.50	1		08/21/14 19:11	1634-04-4	
Naphthalene	ND	ug/L	2.0	1		08/21/14 19:11	91-20-3	
n-Propylbenzene	ND	ug/L	0.50	1		08/21/14 19:11	103-65-1	
Styrene	ND	ug/L	0.50	1		08/21/14 19:11	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1		08/21/14 19:11	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	1		08/21/14 19:11	79-34-5	
Tetrachloroethene	ND	ug/L	0.50	1		08/21/14 19:11	127-18-4	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-38 **Lab ID: 92214233003** Collected: 08/13/14 11:20 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV	Analytical Method: SM 6200B							
Toluene	ND	ug/L	0.50	1		08/21/14 19:11	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	2.0	1		08/21/14 19:11	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	2.0	1		08/21/14 19:11	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	0.50	1		08/21/14 19:11	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	0.50	1		08/21/14 19:11	79-00-5	
Trichloroethene	ND	ug/L	0.50	1		08/21/14 19:11	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		08/21/14 19:11	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	0.50	1		08/21/14 19:11	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	1		08/21/14 19:11	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	1		08/21/14 19:11	108-67-8	
Vinyl chloride	ND	ug/L	1.0	1		08/21/14 19:11	75-01-4	
m&p-Xylene	ND	ug/L	1.0	1		08/21/14 19:11	179601-23-1	
o-Xylene	ND	ug/L	0.50	1		08/21/14 19:11	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	94	%	70-130	1		08/21/14 19:11	17060-07-0	
4-Bromofluorobenzene (S)	103	%	70-130	1		08/21/14 19:11	460-00-4	
Toluene-d8 (S)	98	%	70-130	1		08/21/14 19:11	2037-26-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-11I **Lab ID: 92214233004** Collected: 08/13/14 12:57 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic	ND	ug/L	10.0	1	08/21/14 16:35	08/22/14 16:52	7440-38-2	
Barium	**28.8**	ug/L	5.0	1	08/21/14 16:35	08/22/14 16:52	7440-39-3	
Cadmium	ND	ug/L	1.0	1	08/21/14 16:35	08/22/14 16:52	7440-43-9	
Chromium	ND	ug/L	5.0	1	08/21/14 16:35	08/22/14 16:52	7440-47-3	
Lead	ND	ug/L	5.0	1	08/21/14 16:35	08/22/14 16:52	7439-92-1	
Manganese	**176**	ug/L	5.0	1	08/21/14 16:35	08/22/14 16:52	7439-96-5	
Selenium	ND	ug/L	10.0	1	08/21/14 16:35	08/22/14 16:52	7782-49-2	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	08/21/14 18:00	08/23/14 18:13	7439-97-6	
6200B MSV	Analytical Method: SM 6200B							
Benzene	ND	ug/L	0.50	1		08/21/14 19:27	71-43-2	
Bromobenzene	ND	ug/L	0.50	1		08/21/14 19:27	108-86-1	
Bromochloromethane	ND	ug/L	0.50	1		08/21/14 19:27	74-97-5	
Bromodichloromethane	ND	ug/L	0.50	1		08/21/14 19:27	75-27-4	
Bromoform	ND	ug/L	0.50	1		08/21/14 19:27	75-25-2	
Bromomethane	ND	ug/L	5.0	1		08/21/14 19:27	74-83-9	
n-Butylbenzene	ND	ug/L	0.50	1		08/21/14 19:27	104-51-8	
sec-Butylbenzene	ND	ug/L	0.50	1		08/21/14 19:27	135-98-8	
tert-Butylbenzene	ND	ug/L	0.50	1		08/21/14 19:27	98-06-6	
Carbon tetrachloride	ND	ug/L	0.50	1		08/21/14 19:27	56-23-5	
Chlorobenzene	ND	ug/L	0.50	1		08/21/14 19:27	108-90-7	
Chloroethane	ND	ug/L	1.0	1		08/21/14 19:27	75-00-3	
Chloroform	ND	ug/L	0.50	1		08/21/14 19:27	67-66-3	
Chloromethane	ND	ug/L	1.0	1		08/21/14 19:27	74-87-3	
2-Chlorotoluene	ND	ug/L	0.50	1		08/21/14 19:27	95-49-8	
4-Chlorotoluene	ND	ug/L	0.50	1		08/21/14 19:27	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	1		08/21/14 19:27	96-12-8	
Dibromochloromethane	ND	ug/L	0.50	1		08/21/14 19:27	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	1		08/21/14 19:27	106-93-4	
Dibromomethane	ND	ug/L	0.50	1		08/21/14 19:27	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	0.50	1		08/21/14 19:27	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	0.50	1		08/21/14 19:27	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	0.50	1		08/21/14 19:27	106-46-7	
Dichlorodifluoromethane	ND	ug/L	0.50	1		08/21/14 19:27	75-71-8	
1,1-Dichloroethane	ND	ug/L	0.50	1		08/21/14 19:27	75-34-3	
1,2-Dichloroethane	ND	ug/L	0.50	1		08/21/14 19:27	107-06-2	
1,1-Dichloroethene	ND	ug/L	0.50	1		08/21/14 19:27	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		08/21/14 19:27	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	0.50	1		08/21/14 19:27	156-60-5	
1,2-Dichloropropane	ND	ug/L	0.50	1		08/21/14 19:27	78-87-5	
1,3-Dichloropropane	ND	ug/L	0.50	1		08/21/14 19:27	142-28-9	
2,2-Dichloropropane	ND	ug/L	0.50	1		08/21/14 19:27	594-20-7	
1,1-Dichloropropene	ND	ug/L	0.50	1		08/21/14 19:27	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		08/21/14 19:27	10061-01-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-11I **Lab ID: 92214233004** Collected: 08/13/14 12:57 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV	Analytical Method: SM 6200B							
trans-1,3-Dichloropropene	ND	ug/L	0.50	1		08/21/14 19:27	10061-02-6	
Diisopropyl ether	ND	ug/L	0.50	1		08/21/14 19:27	108-20-3	
Ethylbenzene	ND	ug/L	0.50	1		08/21/14 19:27	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	2.0	1		08/21/14 19:27	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/L	0.50	1		08/21/14 19:27	98-82-8	
Methylene Chloride	ND	ug/L	2.0	1		08/21/14 19:27	75-09-2	
Methyl-tert-butyl ether	ND	ug/L	0.50	1		08/21/14 19:27	1634-04-4	
Naphthalene	ND	ug/L	2.0	1		08/21/14 19:27	91-20-3	
n-Propylbenzene	ND	ug/L	0.50	1		08/21/14 19:27	103-65-1	
Styrene	ND	ug/L	0.50	1		08/21/14 19:27	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1		08/21/14 19:27	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	1		08/21/14 19:27	79-34-5	
Tetrachloroethene	ND	ug/L	0.50	1		08/21/14 19:27	127-18-4	
Toluene	ND	ug/L	0.50	1		08/21/14 19:27	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	2.0	1		08/21/14 19:27	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	2.0	1		08/21/14 19:27	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	0.50	1		08/21/14 19:27	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	0.50	1		08/21/14 19:27	79-00-5	
Trichloroethene	ND	ug/L	0.50	1		08/21/14 19:27	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		08/21/14 19:27	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	0.50	1		08/21/14 19:27	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	1		08/21/14 19:27	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	1		08/21/14 19:27	108-67-8	
Vinyl chloride	ND	ug/L	1.0	1		08/21/14 19:27	75-01-4	
m&p-Xylene	ND	ug/L	1.0	1		08/21/14 19:27	179601-23-1	
o-Xylene	ND	ug/L	0.50	1		08/21/14 19:27	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	94	%	70-130	1		08/21/14 19:27	17060-07-0	
4-Bromofluorobenzene (S)	101	%	70-130	1		08/21/14 19:27	460-00-4	
Toluene-d8 (S)	99	%	70-130	1		08/21/14 19:27	2037-26-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-46 **Lab ID: 92214233005** Collected: 08/13/14 13:40 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic	ND	ug/L	10.0	1	08/21/14 16:35	08/22/14 16:55	7440-38-2	
Barium	**26.9**	ug/L	5.0	1	08/21/14 16:35	08/22/14 16:55	7440-39-3	
Cadmium	ND	ug/L	1.0	1	08/21/14 16:35	08/22/14 16:55	7440-43-9	
Chromium	**11.6**	ug/L	5.0	1	08/21/14 16:35	08/22/14 16:55	7440-47-3	
Lead	ND	ug/L	5.0	1	08/21/14 16:35	08/22/14 16:55	7439-92-1	
Manganese	**103**	ug/L	5.0	1	08/21/14 16:35	08/22/14 16:55	7439-96-5	
Selenium	ND	ug/L	10.0	1	08/21/14 16:35	08/22/14 16:55	7782-49-2	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	08/21/14 18:00	08/23/14 18:16	7439-97-6	
6200B MSV	Analytical Method: SM 6200B							
Benzene	ND	ug/L	0.50	1		08/21/14 19:43	71-43-2	
Bromobenzene	ND	ug/L	0.50	1		08/21/14 19:43	108-86-1	
Bromochloromethane	ND	ug/L	0.50	1		08/21/14 19:43	74-97-5	
Bromodichloromethane	ND	ug/L	0.50	1		08/21/14 19:43	75-27-4	
Bromoform	ND	ug/L	0.50	1		08/21/14 19:43	75-25-2	
Bromomethane	ND	ug/L	5.0	1		08/21/14 19:43	74-83-9	
n-Butylbenzene	ND	ug/L	0.50	1		08/21/14 19:43	104-51-8	
sec-Butylbenzene	ND	ug/L	0.50	1		08/21/14 19:43	135-98-8	
tert-Butylbenzene	ND	ug/L	0.50	1		08/21/14 19:43	98-06-6	
Carbon tetrachloride	ND	ug/L	0.50	1		08/21/14 19:43	56-23-5	
Chlorobenzene	ND	ug/L	0.50	1		08/21/14 19:43	108-90-7	
Chloroethane	ND	ug/L	1.0	1		08/21/14 19:43	75-00-3	
Chloroform	ND	ug/L	0.50	1		08/21/14 19:43	67-66-3	
Chloromethane	ND	ug/L	1.0	1		08/21/14 19:43	74-87-3	
2-Chlorotoluene	ND	ug/L	0.50	1		08/21/14 19:43	95-49-8	
4-Chlorotoluene	ND	ug/L	0.50	1		08/21/14 19:43	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	1		08/21/14 19:43	96-12-8	
Dibromochloromethane	ND	ug/L	0.50	1		08/21/14 19:43	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	1		08/21/14 19:43	106-93-4	
Dibromomethane	ND	ug/L	0.50	1		08/21/14 19:43	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	0.50	1		08/21/14 19:43	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	0.50	1		08/21/14 19:43	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	0.50	1		08/21/14 19:43	106-46-7	
Dichlorodifluoromethane	ND	ug/L	0.50	1		08/21/14 19:43	75-71-8	
1,1-Dichloroethane	ND	ug/L	0.50	1		08/21/14 19:43	75-34-3	
1,2-Dichloroethane	ND	ug/L	0.50	1		08/21/14 19:43	107-06-2	
1,1-Dichloroethene	ND	ug/L	0.50	1		08/21/14 19:43	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		08/21/14 19:43	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	0.50	1		08/21/14 19:43	156-60-5	
1,2-Dichloropropane	ND	ug/L	0.50	1		08/21/14 19:43	78-87-5	
1,3-Dichloropropane	ND	ug/L	0.50	1		08/21/14 19:43	142-28-9	
2,2-Dichloropropane	ND	ug/L	0.50	1		08/21/14 19:43	594-20-7	
1,1-Dichloropropene	ND	ug/L	0.50	1		08/21/14 19:43	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		08/21/14 19:43	10061-01-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-46 **Lab ID: 92214233005** Collected: 08/13/14 13:40 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV	Analytical Method: SM 6200B							
trans-1,3-Dichloropropene	ND	ug/L	0.50	1		08/21/14 19:43	10061-02-6	
Diisopropyl ether	ND	ug/L	0.50	1		08/21/14 19:43	108-20-3	
Ethylbenzene	ND	ug/L	0.50	1		08/21/14 19:43	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	2.0	1		08/21/14 19:43	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/L	0.50	1		08/21/14 19:43	98-82-8	
Methylene Chloride	ND	ug/L	2.0	1		08/21/14 19:43	75-09-2	
Methyl-tert-butyl ether	ND	ug/L	0.50	1		08/21/14 19:43	1634-04-4	
Naphthalene	ND	ug/L	2.0	1		08/21/14 19:43	91-20-3	
n-Propylbenzene	ND	ug/L	0.50	1		08/21/14 19:43	103-65-1	
Styrene	ND	ug/L	0.50	1		08/21/14 19:43	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1		08/21/14 19:43	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	1		08/21/14 19:43	79-34-5	
Tetrachloroethene	ND	ug/L	0.50	1		08/21/14 19:43	127-18-4	
Toluene	ND	ug/L	0.50	1		08/21/14 19:43	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	2.0	1		08/21/14 19:43	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	2.0	1		08/21/14 19:43	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	0.50	1		08/21/14 19:43	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	0.50	1		08/21/14 19:43	79-00-5	
Trichloroethene	ND	ug/L	0.50	1		08/21/14 19:43	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		08/21/14 19:43	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	0.50	1		08/21/14 19:43	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	1		08/21/14 19:43	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	1		08/21/14 19:43	108-67-8	
Vinyl chloride	ND	ug/L	1.0	1		08/21/14 19:43	75-01-4	
m&p-Xylene	ND	ug/L	1.0	1		08/21/14 19:43	179601-23-1	
o-Xylene	ND	ug/L	0.50	1		08/21/14 19:43	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	95	%	70-130	1		08/21/14 19:43	17060-07-0	
4-Bromofluorobenzene (S)	102	%	70-130	1		08/21/14 19:43	460-00-4	
Toluene-d8 (S)	99	%	70-130	1		08/21/14 19:43	2037-26-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-41I **Lab ID: 92214233006** Collected: 08/13/14 14:22 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic	ND	ug/L	10.0	1	08/21/14 16:35	08/22/14 16:59	7440-38-2	
Barium	**21.7**	ug/L	5.0	1	08/21/14 16:35	08/22/14 16:59	7440-39-3	
Cadmium	ND	ug/L	1.0	1	08/21/14 16:35	08/22/14 16:59	7440-43-9	
Chromium	**16.0**	ug/L	5.0	1	08/21/14 16:35	08/22/14 16:59	7440-47-3	
Lead	ND	ug/L	5.0	1	08/21/14 16:35	08/22/14 16:59	7439-92-1	
Manganese	**35.9**	ug/L	5.0	1	08/21/14 16:35	08/22/14 16:59	7439-96-5	
Selenium	ND	ug/L	10.0	1	08/21/14 16:35	08/22/14 16:59	7782-49-2	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	08/21/14 18:00	08/23/14 18:19	7439-97-6	
6200B MSV	Analytical Method: SM 6200B							
Benzene	ND	ug/L	0.50	1		08/21/14 19:59	71-43-2	
Bromobenzene	ND	ug/L	0.50	1		08/21/14 19:59	108-86-1	
Bromochloromethane	ND	ug/L	0.50	1		08/21/14 19:59	74-97-5	
Bromodichloromethane	ND	ug/L	0.50	1		08/21/14 19:59	75-27-4	
Bromoform	ND	ug/L	0.50	1		08/21/14 19:59	75-25-2	
Bromomethane	ND	ug/L	5.0	1		08/21/14 19:59	74-83-9	
n-Butylbenzene	ND	ug/L	0.50	1		08/21/14 19:59	104-51-8	
sec-Butylbenzene	ND	ug/L	0.50	1		08/21/14 19:59	135-98-8	
tert-Butylbenzene	ND	ug/L	0.50	1		08/21/14 19:59	98-06-6	
Carbon tetrachloride	ND	ug/L	0.50	1		08/21/14 19:59	56-23-5	
Chlorobenzene	ND	ug/L	0.50	1		08/21/14 19:59	108-90-7	
Chloroethane	ND	ug/L	1.0	1		08/21/14 19:59	75-00-3	
Chloroform	ND	ug/L	0.50	1		08/21/14 19:59	67-66-3	
Chloromethane	ND	ug/L	1.0	1		08/21/14 19:59	74-87-3	
2-Chlorotoluene	ND	ug/L	0.50	1		08/21/14 19:59	95-49-8	
4-Chlorotoluene	ND	ug/L	0.50	1		08/21/14 19:59	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	1		08/21/14 19:59	96-12-8	
Dibromochloromethane	ND	ug/L	0.50	1		08/21/14 19:59	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	1		08/21/14 19:59	106-93-4	
Dibromomethane	ND	ug/L	0.50	1		08/21/14 19:59	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	0.50	1		08/21/14 19:59	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	0.50	1		08/21/14 19:59	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	0.50	1		08/21/14 19:59	106-46-7	
Dichlorodifluoromethane	ND	ug/L	0.50	1		08/21/14 19:59	75-71-8	
1,1-Dichloroethane	ND	ug/L	0.50	1		08/21/14 19:59	75-34-3	
1,2-Dichloroethane	ND	ug/L	0.50	1		08/21/14 19:59	107-06-2	
1,1-Dichloroethene	ND	ug/L	0.50	1		08/21/14 19:59	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		08/21/14 19:59	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	0.50	1		08/21/14 19:59	156-60-5	
1,2-Dichloropropane	ND	ug/L	0.50	1		08/21/14 19:59	78-87-5	
1,3-Dichloropropane	ND	ug/L	0.50	1		08/21/14 19:59	142-28-9	
2,2-Dichloropropane	ND	ug/L	0.50	1		08/21/14 19:59	594-20-7	
1,1-Dichloropropene	ND	ug/L	0.50	1		08/21/14 19:59	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		08/21/14 19:59	10061-01-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-41I **Lab ID: 92214233006** Collected: 08/13/14 14:22 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV	Analytical Method: SM 6200B							
trans-1,3-Dichloropropene	ND	ug/L	0.50	1		08/21/14 19:59	10061-02-6	
Diisopropyl ether	ND	ug/L	0.50	1		08/21/14 19:59	108-20-3	
Ethylbenzene	ND	ug/L	0.50	1		08/21/14 19:59	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	2.0	1		08/21/14 19:59	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/L	0.50	1		08/21/14 19:59	98-82-8	
Methylene Chloride	ND	ug/L	2.0	1		08/21/14 19:59	75-09-2	
Methyl-tert-butyl ether	ND	ug/L	0.50	1		08/21/14 19:59	1634-04-4	
Naphthalene	ND	ug/L	2.0	1		08/21/14 19:59	91-20-3	
n-Propylbenzene	ND	ug/L	0.50	1		08/21/14 19:59	103-65-1	
Styrene	ND	ug/L	0.50	1		08/21/14 19:59	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1		08/21/14 19:59	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	1		08/21/14 19:59	79-34-5	
Tetrachloroethene	ND	ug/L	0.50	1		08/21/14 19:59	127-18-4	
Toluene	ND	ug/L	0.50	1		08/21/14 19:59	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	2.0	1		08/21/14 19:59	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	2.0	1		08/21/14 19:59	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	0.50	1		08/21/14 19:59	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	0.50	1		08/21/14 19:59	79-00-5	
Trichloroethene	ND	ug/L	0.50	1		08/21/14 19:59	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		08/21/14 19:59	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	0.50	1		08/21/14 19:59	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	1		08/21/14 19:59	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	1		08/21/14 19:59	108-67-8	
Vinyl chloride	ND	ug/L	1.0	1		08/21/14 19:59	75-01-4	
m&p-Xylene	ND	ug/L	1.0	1		08/21/14 19:59	179601-23-1	
o-Xylene	ND	ug/L	0.50	1		08/21/14 19:59	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	94	%	70-130	1		08/21/14 19:59	17060-07-0	
4-Bromofluorobenzene (S)	102	%	70-130	1		08/21/14 19:59	460-00-4	
Toluene-d8 (S)	99	%	70-130	1		08/21/14 19:59	2037-26-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-42S **Lab ID: 92214233007** Collected: 08/13/14 14:50 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV	Analytical Method: SM 6200B							
Benzene	ND	ug/L	0.50	1		08/21/14 20:14	71-43-2	
Bromobenzene	ND	ug/L	0.50	1		08/21/14 20:14	108-86-1	
Bromochloromethane	ND	ug/L	0.50	1		08/21/14 20:14	74-97-5	
Bromodichloromethane	ND	ug/L	0.50	1		08/21/14 20:14	75-27-4	
Bromoform	ND	ug/L	0.50	1		08/21/14 20:14	75-25-2	
Bromomethane	ND	ug/L	5.0	1		08/21/14 20:14	74-83-9	
n-Butylbenzene	ND	ug/L	0.50	1		08/21/14 20:14	104-51-8	
sec-Butylbenzene	ND	ug/L	0.50	1		08/21/14 20:14	135-98-8	
tert-Butylbenzene	ND	ug/L	0.50	1		08/21/14 20:14	98-06-6	
Carbon tetrachloride	ND	ug/L	0.50	1		08/21/14 20:14	56-23-5	
Chlorobenzene	ND	ug/L	0.50	1		08/21/14 20:14	108-90-7	
Chloroethane	ND	ug/L	1.0	1		08/21/14 20:14	75-00-3	
Chloroform	ND	ug/L	0.50	1		08/21/14 20:14	67-66-3	
Chloromethane	ND	ug/L	1.0	1		08/21/14 20:14	74-87-3	
2-Chlorotoluene	ND	ug/L	0.50	1		08/21/14 20:14	95-49-8	
4-Chlorotoluene	ND	ug/L	0.50	1		08/21/14 20:14	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	1		08/21/14 20:14	96-12-8	
Dibromochloromethane	ND	ug/L	0.50	1		08/21/14 20:14	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	1		08/21/14 20:14	106-93-4	
Dibromomethane	ND	ug/L	0.50	1		08/21/14 20:14	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	0.50	1		08/21/14 20:14	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	0.50	1		08/21/14 20:14	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	0.50	1		08/21/14 20:14	106-46-7	
Dichlorodifluoromethane	ND	ug/L	0.50	1		08/21/14 20:14	75-71-8	
1,1-Dichloroethane	ND	ug/L	0.50	1		08/21/14 20:14	75-34-3	
1,2-Dichloroethane	ND	ug/L	0.50	1		08/21/14 20:14	107-06-2	
1,1-Dichloroethene	ND	ug/L	0.50	1		08/21/14 20:14	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		08/21/14 20:14	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	0.50	1		08/21/14 20:14	156-60-5	
1,2-Dichloropropane	ND	ug/L	0.50	1		08/21/14 20:14	78-87-5	
1,3-Dichloropropane	ND	ug/L	0.50	1		08/21/14 20:14	142-28-9	
2,2-Dichloropropane	ND	ug/L	0.50	1		08/21/14 20:14	594-20-7	
1,1-Dichloropropene	ND	ug/L	0.50	1		08/21/14 20:14	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		08/21/14 20:14	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	0.50	1		08/21/14 20:14	10061-02-6	
Diisopropyl ether	ND	ug/L	0.50	1		08/21/14 20:14	108-20-3	
Ethylbenzene	ND	ug/L	0.50	1		08/21/14 20:14	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	2.0	1		08/21/14 20:14	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/L	0.50	1		08/21/14 20:14	98-82-8	
Methylene Chloride	ND	ug/L	2.0	1		08/21/14 20:14	75-09-2	
Methyl-tert-butyl ether	ND	ug/L	0.50	1		08/21/14 20:14	1634-04-4	
Naphthalene	ND	ug/L	2.0	1		08/21/14 20:14	91-20-3	
n-Propylbenzene	ND	ug/L	0.50	1		08/21/14 20:14	103-65-1	
Styrene	ND	ug/L	0.50	1		08/21/14 20:14	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1		08/21/14 20:14	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	1		08/21/14 20:14	79-34-5	
Tetrachloroethene	ND	ug/L	0.50	1		08/21/14 20:14	127-18-4	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-42S **Lab ID: 92214233007** Collected: 08/13/14 14:50 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV	Analytical Method: SM 6200B							
Toluene	ND	ug/L	0.50	1		08/21/14 20:14	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	2.0	1		08/21/14 20:14	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	2.0	1		08/21/14 20:14	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	0.50	1		08/21/14 20:14	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	0.50	1		08/21/14 20:14	79-00-5	
Trichloroethene	ND	ug/L	0.50	1		08/21/14 20:14	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		08/21/14 20:14	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	0.50	1		08/21/14 20:14	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	1		08/21/14 20:14	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	1		08/21/14 20:14	108-67-8	
Vinyl chloride	ND	ug/L	1.0	1		08/21/14 20:14	75-01-4	
m&p-Xylene	ND	ug/L	1.0	1		08/21/14 20:14	179601-23-1	
o-Xylene	ND	ug/L	0.50	1		08/21/14 20:14	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	93	%	70-130	1		08/21/14 20:14	17060-07-0	
4-Bromofluorobenzene (S)	102	%	70-130	1		08/21/14 20:14	460-00-4	
Toluene-d8 (S)	99	%	70-130	1		08/21/14 20:14	2037-26-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-43D **Lab ID: 92214233008** Collected: 08/13/14 16:09 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic	ND	ug/L	10.0	1	08/21/14 16:35	08/22/14 17:02	7440-38-2	
Barium	**12.9**	ug/L	5.0	1	08/21/14 16:35	08/22/14 17:02	7440-39-3	
Cadmium	ND	ug/L	1.0	1	08/21/14 16:35	08/22/14 17:02	7440-43-9	
Chromium	ND	ug/L	5.0	1	08/21/14 16:35	08/22/14 17:02	7440-47-3	
Lead	ND	ug/L	5.0	1	08/21/14 16:35	08/22/14 17:02	7439-92-1	
Manganese	**8.6**	ug/L	5.0	1	08/21/14 16:35	08/22/14 17:02	7439-96-5	
Selenium	ND	ug/L	10.0	1	08/21/14 16:35	08/22/14 17:02	7782-49-2	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	08/21/14 18:00	08/23/14 18:21	7439-97-6	
6200B MSV	Analytical Method: SM 6200B							
Benzene	ND	ug/L	0.50	1		08/21/14 20:30	71-43-2	
Bromobenzene	ND	ug/L	0.50	1		08/21/14 20:30	108-86-1	
Bromochloromethane	ND	ug/L	0.50	1		08/21/14 20:30	74-97-5	
Bromodichloromethane	ND	ug/L	0.50	1		08/21/14 20:30	75-27-4	
Bromoform	ND	ug/L	0.50	1		08/21/14 20:30	75-25-2	
Bromomethane	ND	ug/L	5.0	1		08/21/14 20:30	74-83-9	
n-Butylbenzene	ND	ug/L	0.50	1		08/21/14 20:30	104-51-8	
sec-Butylbenzene	ND	ug/L	0.50	1		08/21/14 20:30	135-98-8	
tert-Butylbenzene	ND	ug/L	0.50	1		08/21/14 20:30	98-06-6	
Carbon tetrachloride	ND	ug/L	0.50	1		08/21/14 20:30	56-23-5	
Chlorobenzene	ND	ug/L	0.50	1		08/21/14 20:30	108-90-7	
Chloroethane	ND	ug/L	1.0	1		08/21/14 20:30	75-00-3	
Chloroform	**3.9**	ug/L	0.50	1		08/21/14 20:30	67-66-3	
Chloromethane	ND	ug/L	1.0	1		08/21/14 20:30	74-87-3	
2-Chlorotoluene	ND	ug/L	0.50	1		08/21/14 20:30	95-49-8	
4-Chlorotoluene	ND	ug/L	0.50	1		08/21/14 20:30	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	1		08/21/14 20:30	96-12-8	
Dibromochloromethane	ND	ug/L	0.50	1		08/21/14 20:30	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	1		08/21/14 20:30	106-93-4	
Dibromomethane	ND	ug/L	0.50	1		08/21/14 20:30	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	0.50	1		08/21/14 20:30	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	0.50	1		08/21/14 20:30	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	0.50	1		08/21/14 20:30	106-46-7	
Dichlorodifluoromethane	ND	ug/L	0.50	1		08/21/14 20:30	75-71-8	
1,1-Dichloroethane	ND	ug/L	0.50	1		08/21/14 20:30	75-34-3	
1,2-Dichloroethane	ND	ug/L	0.50	1		08/21/14 20:30	107-06-2	
1,1-Dichloroethene	ND	ug/L	0.50	1		08/21/14 20:30	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		08/21/14 20:30	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	0.50	1		08/21/14 20:30	156-60-5	
1,2-Dichloropropane	ND	ug/L	0.50	1		08/21/14 20:30	78-87-5	
1,3-Dichloropropane	ND	ug/L	0.50	1		08/21/14 20:30	142-28-9	
2,2-Dichloropropane	ND	ug/L	0.50	1		08/21/14 20:30	594-20-7	
1,1-Dichloropropene	ND	ug/L	0.50	1		08/21/14 20:30	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		08/21/14 20:30	10061-01-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-43D **Lab ID: 92214233008** Collected: 08/13/14 16:09 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV	Analytical Method: SM 6200B							
trans-1,3-Dichloropropene	ND	ug/L	0.50	1		08/21/14 20:30	10061-02-6	
Diisopropyl ether	ND	ug/L	0.50	1		08/21/14 20:30	108-20-3	
Ethylbenzene	ND	ug/L	0.50	1		08/21/14 20:30	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	2.0	1		08/21/14 20:30	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/L	0.50	1		08/21/14 20:30	98-82-8	
Methylene Chloride	ND	ug/L	2.0	1		08/21/14 20:30	75-09-2	
Methyl-tert-butyl ether	ND	ug/L	0.50	1		08/21/14 20:30	1634-04-4	
Naphthalene	ND	ug/L	2.0	1		08/21/14 20:30	91-20-3	
n-Propylbenzene	ND	ug/L	0.50	1		08/21/14 20:30	103-65-1	
Styrene	ND	ug/L	0.50	1		08/21/14 20:30	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1		08/21/14 20:30	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	1		08/21/14 20:30	79-34-5	
Tetrachloroethene	ND	ug/L	0.50	1		08/21/14 20:30	127-18-4	
Toluene	ND	ug/L	0.50	1		08/21/14 20:30	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	2.0	1		08/21/14 20:30	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	2.0	1		08/21/14 20:30	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	0.50	1		08/21/14 20:30	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	0.50	1		08/21/14 20:30	79-00-5	
Trichloroethene	ND	ug/L	0.50	1		08/21/14 20:30	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		08/21/14 20:30	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	0.50	1		08/21/14 20:30	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	1		08/21/14 20:30	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	1		08/21/14 20:30	108-67-8	
Vinyl chloride	ND	ug/L	1.0	1		08/21/14 20:30	75-01-4	
m&p-Xylene	ND	ug/L	1.0	1		08/21/14 20:30	179601-23-1	
o-Xylene	ND	ug/L	0.50	1		08/21/14 20:30	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	94	%	70-130	1		08/21/14 20:30	17060-07-0	
4-Bromofluorobenzene (S)	105	%	70-130	1		08/21/14 20:30	460-00-4	
Toluene-d8 (S)	99	%	70-130	1		08/21/14 20:30	2037-26-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-47 **Lab ID: 92214233009** Collected: 08/14/14 09:30 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic	ND	ug/L	10.0	1	08/21/14 16:35	08/22/14 17:05	7440-38-2	
Barium	**19.4**	ug/L	5.0	1	08/21/14 16:35	08/22/14 17:05	7440-39-3	
Cadmium	ND	ug/L	1.0	1	08/21/14 16:35	08/22/14 17:05	7440-43-9	
Chromium	**8.6**	ug/L	5.0	1	08/21/14 16:35	08/22/14 17:05	7440-47-3	
Lead	ND	ug/L	5.0	1	08/21/14 16:35	08/22/14 17:05	7439-92-1	
Manganese	**16.0**	ug/L	5.0	1	08/21/14 16:35	08/22/14 17:05	7439-96-5	
Selenium	ND	ug/L	10.0	1	08/21/14 16:35	08/22/14 17:05	7782-49-2	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	08/21/14 18:00	08/23/14 18:24	7439-97-6	
6200B MSV	Analytical Method: SM 6200B							
Benzene	ND	ug/L	0.50	1		08/21/14 20:46	71-43-2	
Bromobenzene	ND	ug/L	0.50	1		08/21/14 20:46	108-86-1	
Bromochloromethane	ND	ug/L	0.50	1		08/21/14 20:46	74-97-5	
Bromodichloromethane	ND	ug/L	0.50	1		08/21/14 20:46	75-27-4	
Bromoform	ND	ug/L	0.50	1		08/21/14 20:46	75-25-2	
Bromomethane	ND	ug/L	5.0	1		08/21/14 20:46	74-83-9	
n-Butylbenzene	ND	ug/L	0.50	1		08/21/14 20:46	104-51-8	
sec-Butylbenzene	ND	ug/L	0.50	1		08/21/14 20:46	135-98-8	
tert-Butylbenzene	ND	ug/L	0.50	1		08/21/14 20:46	98-06-6	
Carbon tetrachloride	ND	ug/L	0.50	1		08/21/14 20:46	56-23-5	
Chlorobenzene	ND	ug/L	0.50	1		08/21/14 20:46	108-90-7	
Chloroethane	ND	ug/L	1.0	1		08/21/14 20:46	75-00-3	
Chloroform	**20.0**	ug/L	0.50	1		08/21/14 20:46	67-66-3	
Chloromethane	ND	ug/L	1.0	1		08/21/14 20:46	74-87-3	
2-Chlorotoluene	ND	ug/L	0.50	1		08/21/14 20:46	95-49-8	
4-Chlorotoluene	ND	ug/L	0.50	1		08/21/14 20:46	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	1		08/21/14 20:46	96-12-8	
Dibromochloromethane	ND	ug/L	0.50	1		08/21/14 20:46	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	1		08/21/14 20:46	106-93-4	
Dibromomethane	ND	ug/L	0.50	1		08/21/14 20:46	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	0.50	1		08/21/14 20:46	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	0.50	1		08/21/14 20:46	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	0.50	1		08/21/14 20:46	106-46-7	
Dichlorodifluoromethane	ND	ug/L	0.50	1		08/21/14 20:46	75-71-8	
1,1-Dichloroethane	ND	ug/L	0.50	1		08/21/14 20:46	75-34-3	
1,2-Dichloroethane	ND	ug/L	0.50	1		08/21/14 20:46	107-06-2	
1,1-Dichloroethene	ND	ug/L	0.50	1		08/21/14 20:46	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		08/21/14 20:46	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	0.50	1		08/21/14 20:46	156-60-5	
1,2-Dichloropropane	ND	ug/L	0.50	1		08/21/14 20:46	78-87-5	
1,3-Dichloropropane	ND	ug/L	0.50	1		08/21/14 20:46	142-28-9	
2,2-Dichloropropane	ND	ug/L	0.50	1		08/21/14 20:46	594-20-7	
1,1-Dichloropropene	ND	ug/L	0.50	1		08/21/14 20:46	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		08/21/14 20:46	10061-01-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-47 **Lab ID: 92214233009** Collected: 08/14/14 09:30 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV	Analytical Method: SM 6200B							
trans-1,3-Dichloropropene	ND	ug/L	0.50	1		08/21/14 20:46	10061-02-6	
Diisopropyl ether	ND	ug/L	0.50	1		08/21/14 20:46	108-20-3	
Ethylbenzene	ND	ug/L	0.50	1		08/21/14 20:46	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	2.0	1		08/21/14 20:46	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/L	0.50	1		08/21/14 20:46	98-82-8	
Methylene Chloride	ND	ug/L	2.0	1		08/21/14 20:46	75-09-2	
Methyl-tert-butyl ether	ND	ug/L	0.50	1		08/21/14 20:46	1634-04-4	
Naphthalene	ND	ug/L	2.0	1		08/21/14 20:46	91-20-3	
n-Propylbenzene	ND	ug/L	0.50	1		08/21/14 20:46	103-65-1	
Styrene	ND	ug/L	0.50	1		08/21/14 20:46	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1		08/21/14 20:46	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	1		08/21/14 20:46	79-34-5	
Tetrachloroethene	ND	ug/L	0.50	1		08/21/14 20:46	127-18-4	
Toluene	ND	ug/L	0.50	1		08/21/14 20:46	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	2.0	1		08/21/14 20:46	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	2.0	1		08/21/14 20:46	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	0.50	1		08/21/14 20:46	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	0.50	1		08/21/14 20:46	79-00-5	
Trichloroethene	ND	ug/L	0.50	1		08/21/14 20:46	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		08/21/14 20:46	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	0.50	1		08/21/14 20:46	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	1		08/21/14 20:46	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	1		08/21/14 20:46	108-67-8	
Vinyl chloride	ND	ug/L	1.0	1		08/21/14 20:46	75-01-4	
m&p-Xylene	ND	ug/L	1.0	1		08/21/14 20:46	179601-23-1	
o-Xylene	ND	ug/L	0.50	1		08/21/14 20:46	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	94	%	70-130	1		08/21/14 20:46	17060-07-0	
4-Bromofluorobenzene (S)	101	%	70-130	1		08/21/14 20:46	460-00-4	
Toluene-d8 (S)	98	%	70-130	1		08/21/14 20:46	2037-26-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-16D **Lab ID: 92214233010** Collected: 08/14/14 11:05 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic	ND	ug/L	10.0	1	08/21/14 16:35	08/22/14 17:08	7440-38-2	
Barium	**16.8**	ug/L	5.0	1	08/21/14 16:35	08/22/14 17:08	7440-39-3	
Cadmium	ND	ug/L	1.0	1	08/21/14 16:35	08/22/14 17:08	7440-43-9	
Chromium	ND	ug/L	5.0	1	08/21/14 16:35	08/22/14 17:08	7440-47-3	
Lead	ND	ug/L	5.0	1	08/21/14 16:35	08/22/14 17:08	7439-92-1	
Manganese	ND	ug/L	5.0	1	08/21/14 16:35	08/22/14 17:08	7439-96-5	
Selenium	ND	ug/L	10.0	1	08/21/14 16:35	08/22/14 17:08	7782-49-2	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	08/21/14 18:00	08/23/14 18:32	7439-97-6	
6200B MSV	Analytical Method: SM 6200B							
Benzene	**1.0**	ug/L	0.50	1		08/21/14 21:02	71-43-2	
Bromobenzene	ND	ug/L	0.50	1		08/21/14 21:02	108-86-1	
Bromochloromethane	ND	ug/L	0.50	1		08/21/14 21:02	74-97-5	
Bromodichloromethane	ND	ug/L	0.50	1		08/21/14 21:02	75-27-4	
Bromoform	ND	ug/L	0.50	1		08/21/14 21:02	75-25-2	
Bromomethane	ND	ug/L	5.0	1		08/21/14 21:02	74-83-9	
n-Butylbenzene	ND	ug/L	0.50	1		08/21/14 21:02	104-51-8	
sec-Butylbenzene	ND	ug/L	0.50	1		08/21/14 21:02	135-98-8	
tert-Butylbenzene	ND	ug/L	0.50	1		08/21/14 21:02	98-06-6	
Carbon tetrachloride	ND	ug/L	0.50	1		08/21/14 21:02	56-23-5	
Chlorobenzene	ND	ug/L	0.50	1		08/21/14 21:02	108-90-7	
Chloroethane	ND	ug/L	1.0	1		08/21/14 21:02	75-00-3	
Chloroform	**0.60**	ug/L	0.50	1		08/21/14 21:02	67-66-3	
Chloromethane	ND	ug/L	1.0	1		08/21/14 21:02	74-87-3	
2-Chlorotoluene	ND	ug/L	0.50	1		08/21/14 21:02	95-49-8	
4-Chlorotoluene	ND	ug/L	0.50	1		08/21/14 21:02	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	1		08/21/14 21:02	96-12-8	
Dibromochloromethane	ND	ug/L	0.50	1		08/21/14 21:02	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	1		08/21/14 21:02	106-93-4	
Dibromomethane	ND	ug/L	0.50	1		08/21/14 21:02	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	0.50	1		08/21/14 21:02	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	0.50	1		08/21/14 21:02	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	0.50	1		08/21/14 21:02	106-46-7	
Dichlorodifluoromethane	ND	ug/L	0.50	1		08/21/14 21:02	75-71-8	
1,1-Dichloroethane	ND	ug/L	0.50	1		08/21/14 21:02	75-34-3	
1,2-Dichloroethane	ND	ug/L	0.50	1		08/21/14 21:02	107-06-2	
1,1-Dichloroethene	ND	ug/L	0.50	1		08/21/14 21:02	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		08/21/14 21:02	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	0.50	1		08/21/14 21:02	156-60-5	
1,2-Dichloropropane	**2.6**	ug/L	0.50	1		08/21/14 21:02	78-87-5	
1,3-Dichloropropane	ND	ug/L	0.50	1		08/21/14 21:02	142-28-9	
2,2-Dichloropropane	ND	ug/L	0.50	1		08/21/14 21:02	594-20-7	
1,1-Dichloropropene	ND	ug/L	0.50	1		08/21/14 21:02	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		08/21/14 21:02	10061-01-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-16D **Lab ID: 92214233010** Collected: 08/14/14 11:05 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV	Analytical Method: SM 6200B							
trans-1,3-Dichloropropene	ND	ug/L	0.50	1		08/21/14 21:02	10061-02-6	
Diisopropyl ether	ND	ug/L	0.50	1		08/21/14 21:02	108-20-3	
Ethylbenzene	ND	ug/L	0.50	1		08/21/14 21:02	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	2.0	1		08/21/14 21:02	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/L	0.50	1		08/21/14 21:02	98-82-8	
Methylene Chloride	ND	ug/L	2.0	1		08/21/14 21:02	75-09-2	
Methyl-tert-butyl ether	ND	ug/L	0.50	1		08/21/14 21:02	1634-04-4	
Naphthalene	ND	ug/L	2.0	1		08/21/14 21:02	91-20-3	
n-Propylbenzene	ND	ug/L	0.50	1		08/21/14 21:02	103-65-1	
Styrene	ND	ug/L	0.50	1		08/21/14 21:02	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1		08/21/14 21:02	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	1		08/21/14 21:02	79-34-5	
Tetrachloroethene	ND	ug/L	0.50	1		08/21/14 21:02	127-18-4	
Toluene	ND	ug/L	0.50	1		08/21/14 21:02	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	2.0	1		08/21/14 21:02	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	2.0	1		08/21/14 21:02	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	0.50	1		08/21/14 21:02	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	0.50	1		08/21/14 21:02	79-00-5	
Trichloroethene	ND	ug/L	0.50	1		08/21/14 21:02	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		08/21/14 21:02	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	0.50	1		08/21/14 21:02	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	1		08/21/14 21:02	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	1		08/21/14 21:02	108-67-8	
Vinyl chloride	ND	ug/L	1.0	1		08/21/14 21:02	75-01-4	
m&p-Xylene	ND	ug/L	1.0	1		08/21/14 21:02	179601-23-1	
o-Xylene	ND	ug/L	0.50	1		08/21/14 21:02	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	93	%	70-130	1		08/21/14 21:02	17060-07-0	
4-Bromofluorobenzene (S)	104	%	70-130	1		08/21/14 21:02	460-00-4	
Toluene-d8 (S)	99	%	70-130	1		08/21/14 21:02	2037-26-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-13D **Lab ID: 92214233011** Collected: 08/14/14 12:10 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic	ND	ug/L	10.0	1	08/21/14 16:35	08/22/14 17:11	7440-38-2	
Barium	**11.7**	ug/L	5.0	1	08/21/14 16:35	08/22/14 17:11	7440-39-3	
Cadmium	ND	ug/L	1.0	1	08/21/14 16:35	08/22/14 17:11	7440-43-9	
Chromium	ND	ug/L	5.0	1	08/21/14 16:35	08/22/14 17:11	7440-47-3	
Lead	ND	ug/L	5.0	1	08/21/14 16:35	08/22/14 17:11	7439-92-1	
Manganese	**56.5**	ug/L	5.0	1	08/21/14 16:35	08/22/14 17:11	7439-96-5	
Selenium	ND	ug/L	10.0	1	08/21/14 16:35	08/22/14 17:11	7782-49-2	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	08/21/14 18:00	08/23/14 18:34	7439-97-6	
6200B MSV	Analytical Method: SM 6200B							
Benzene	ND	ug/L	0.50	1		08/21/14 21:17	71-43-2	
Bromobenzene	ND	ug/L	0.50	1		08/21/14 21:17	108-86-1	
Bromochloromethane	ND	ug/L	0.50	1		08/21/14 21:17	74-97-5	
Bromodichloromethane	ND	ug/L	0.50	1		08/21/14 21:17	75-27-4	
Bromoform	ND	ug/L	0.50	1		08/21/14 21:17	75-25-2	
Bromomethane	ND	ug/L	5.0	1		08/21/14 21:17	74-83-9	
n-Butylbenzene	ND	ug/L	0.50	1		08/21/14 21:17	104-51-8	
sec-Butylbenzene	ND	ug/L	0.50	1		08/21/14 21:17	135-98-8	
tert-Butylbenzene	ND	ug/L	0.50	1		08/21/14 21:17	98-06-6	
Carbon tetrachloride	ND	ug/L	0.50	1		08/21/14 21:17	56-23-5	
Chlorobenzene	ND	ug/L	0.50	1		08/21/14 21:17	108-90-7	
Chloroethane	ND	ug/L	1.0	1		08/21/14 21:17	75-00-3	
Chloroform	**0.99**	ug/L	0.50	1		08/21/14 21:17	67-66-3	
Chloromethane	ND	ug/L	1.0	1		08/21/14 21:17	74-87-3	
2-Chlorotoluene	ND	ug/L	0.50	1		08/21/14 21:17	95-49-8	
4-Chlorotoluene	ND	ug/L	0.50	1		08/21/14 21:17	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	1		08/21/14 21:17	96-12-8	
Dibromochloromethane	ND	ug/L	0.50	1		08/21/14 21:17	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	1		08/21/14 21:17	106-93-4	
Dibromomethane	ND	ug/L	0.50	1		08/21/14 21:17	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	0.50	1		08/21/14 21:17	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	0.50	1		08/21/14 21:17	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	0.50	1		08/21/14 21:17	106-46-7	
Dichlorodifluoromethane	ND	ug/L	0.50	1		08/21/14 21:17	75-71-8	
1,1-Dichloroethane	ND	ug/L	0.50	1		08/21/14 21:17	75-34-3	
1,2-Dichloroethane	ND	ug/L	0.50	1		08/21/14 21:17	107-06-2	
1,1-Dichloroethene	ND	ug/L	0.50	1		08/21/14 21:17	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		08/21/14 21:17	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	0.50	1		08/21/14 21:17	156-60-5	
1,2-Dichloropropane	ND	ug/L	0.50	1		08/21/14 21:17	78-87-5	
1,3-Dichloropropane	ND	ug/L	0.50	1		08/21/14 21:17	142-28-9	
2,2-Dichloropropane	ND	ug/L	0.50	1		08/21/14 21:17	594-20-7	
1,1-Dichloropropene	ND	ug/L	0.50	1		08/21/14 21:17	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		08/21/14 21:17	10061-01-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-13D **Lab ID: 92214233011** Collected: 08/14/14 12:10 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV	Analytical Method: SM 6200B							
trans-1,3-Dichloropropene	ND	ug/L	0.50	1		08/21/14 21:17	10061-02-6	
Diisopropyl ether	ND	ug/L	0.50	1		08/21/14 21:17	108-20-3	
Ethylbenzene	ND	ug/L	0.50	1		08/21/14 21:17	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	2.0	1		08/21/14 21:17	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/L	0.50	1		08/21/14 21:17	98-82-8	
Methylene Chloride	ND	ug/L	2.0	1		08/21/14 21:17	75-09-2	
Methyl-tert-butyl ether	ND	ug/L	0.50	1		08/21/14 21:17	1634-04-4	
Naphthalene	ND	ug/L	2.0	1		08/21/14 21:17	91-20-3	
n-Propylbenzene	ND	ug/L	0.50	1		08/21/14 21:17	103-65-1	
Styrene	ND	ug/L	0.50	1		08/21/14 21:17	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1		08/21/14 21:17	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	1		08/21/14 21:17	79-34-5	
Tetrachloroethene	ND	ug/L	0.50	1		08/21/14 21:17	127-18-4	
Toluene	ND	ug/L	0.50	1		08/21/14 21:17	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	2.0	1		08/21/14 21:17	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	2.0	1		08/21/14 21:17	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	0.50	1		08/21/14 21:17	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	0.50	1		08/21/14 21:17	79-00-5	
Trichloroethene	ND	ug/L	0.50	1		08/21/14 21:17	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		08/21/14 21:17	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	0.50	1		08/21/14 21:17	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	1		08/21/14 21:17	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	1		08/21/14 21:17	108-67-8	
Vinyl chloride	ND	ug/L	1.0	1		08/21/14 21:17	75-01-4	
m&p-Xylene	ND	ug/L	1.0	1		08/21/14 21:17	179601-23-1	
o-Xylene	ND	ug/L	0.50	1		08/21/14 21:17	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	94	%	70-130	1		08/21/14 21:17	17060-07-0	
4-Bromofluorobenzene (S)	103	%	70-130	1		08/21/14 21:17	460-00-4	
Toluene-d8 (S)	99	%	70-130	1		08/21/14 21:17	2037-26-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-43S **Lab ID: 92214233012** Collected: 08/14/14 13:14 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV	Analytical Method: SM 6200B							
Benzene	ND	ug/L	0.50	1		08/21/14 21:33	71-43-2	
Bromobenzene	ND	ug/L	0.50	1		08/21/14 21:33	108-86-1	
Bromochloromethane	ND	ug/L	0.50	1		08/21/14 21:33	74-97-5	
Bromodichloromethane	ND	ug/L	0.50	1		08/21/14 21:33	75-27-4	
Bromoform	ND	ug/L	0.50	1		08/21/14 21:33	75-25-2	
Bromomethane	ND	ug/L	5.0	1		08/21/14 21:33	74-83-9	
n-Butylbenzene	ND	ug/L	0.50	1		08/21/14 21:33	104-51-8	
sec-Butylbenzene	ND	ug/L	0.50	1		08/21/14 21:33	135-98-8	
tert-Butylbenzene	ND	ug/L	0.50	1		08/21/14 21:33	98-06-6	
Carbon tetrachloride	ND	ug/L	0.50	1		08/21/14 21:33	56-23-5	
Chlorobenzene	ND	ug/L	0.50	1		08/21/14 21:33	108-90-7	
Chloroethane	ND	ug/L	1.0	1		08/21/14 21:33	75-00-3	
Chloroform	**17.7**	ug/L	0.50	1		08/21/14 21:33	67-66-3	
Chloromethane	ND	ug/L	1.0	1		08/21/14 21:33	74-87-3	
2-Chlorotoluene	ND	ug/L	0.50	1		08/21/14 21:33	95-49-8	
4-Chlorotoluene	ND	ug/L	0.50	1		08/21/14 21:33	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	1		08/21/14 21:33	96-12-8	
Dibromochloromethane	ND	ug/L	0.50	1		08/21/14 21:33	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	1		08/21/14 21:33	106-93-4	
Dibromomethane	ND	ug/L	0.50	1		08/21/14 21:33	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	0.50	1		08/21/14 21:33	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	0.50	1		08/21/14 21:33	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	0.50	1		08/21/14 21:33	106-46-7	
Dichlorodifluoromethane	ND	ug/L	0.50	1		08/21/14 21:33	75-71-8	
1,1-Dichloroethane	ND	ug/L	0.50	1		08/21/14 21:33	75-34-3	
1,2-Dichloroethane	ND	ug/L	0.50	1		08/21/14 21:33	107-06-2	
1,1-Dichloroethene	ND	ug/L	0.50	1		08/21/14 21:33	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		08/21/14 21:33	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	0.50	1		08/21/14 21:33	156-60-5	
1,2-Dichloropropane	ND	ug/L	0.50	1		08/21/14 21:33	78-87-5	
1,3-Dichloropropane	ND	ug/L	0.50	1		08/21/14 21:33	142-28-9	
2,2-Dichloropropane	ND	ug/L	0.50	1		08/21/14 21:33	594-20-7	
1,1-Dichloropropene	ND	ug/L	0.50	1		08/21/14 21:33	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		08/21/14 21:33	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	0.50	1		08/21/14 21:33	10061-02-6	
Diisopropyl ether	ND	ug/L	0.50	1		08/21/14 21:33	108-20-3	
Ethylbenzene	ND	ug/L	0.50	1		08/21/14 21:33	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	2.0	1		08/21/14 21:33	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/L	0.50	1		08/21/14 21:33	98-82-8	
Methylene Chloride	ND	ug/L	2.0	1		08/21/14 21:33	75-09-2	
Methyl-tert-butyl ether	ND	ug/L	0.50	1		08/21/14 21:33	1634-04-4	
Naphthalene	ND	ug/L	2.0	1		08/21/14 21:33	91-20-3	
n-Propylbenzene	ND	ug/L	0.50	1		08/21/14 21:33	103-65-1	
Styrene	ND	ug/L	0.50	1		08/21/14 21:33	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1		08/21/14 21:33	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	1		08/21/14 21:33	79-34-5	
Tetrachloroethene	ND	ug/L	0.50	1		08/21/14 21:33	127-18-4	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-43S **Lab ID: 92214233012** Collected: 08/14/14 13:14 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV	Analytical Method: SM 6200B							
Toluene	ND	ug/L	0.50	1		08/21/14 21:33	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	2.0	1		08/21/14 21:33	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	2.0	1		08/21/14 21:33	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	0.50	1		08/21/14 21:33	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	0.50	1		08/21/14 21:33	79-00-5	
Trichloroethene	ND	ug/L	0.50	1		08/21/14 21:33	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		08/21/14 21:33	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	0.50	1		08/21/14 21:33	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	1		08/21/14 21:33	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	1		08/21/14 21:33	108-67-8	
Vinyl chloride	ND	ug/L	1.0	1		08/21/14 21:33	75-01-4	
m&p-Xylene	ND	ug/L	1.0	1		08/21/14 21:33	179601-23-1	
o-Xylene	ND	ug/L	0.50	1		08/21/14 21:33	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	94	%	70-130	1		08/21/14 21:33	17060-07-0	
4-Bromofluorobenzene (S)	102	%	70-130	1		08/21/14 21:33	460-00-4	
Toluene-d8 (S)	99	%	70-130	1		08/21/14 21:33	2037-26-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-45R **Lab ID: 92214233013** Collected: 08/14/14 14:05 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic	ND	ug/L	10.0	1	08/21/14 16:35	08/22/14 17:14	7440-38-2	
Barium	**102**	ug/L	5.0	1	08/21/14 16:35	08/22/14 17:14	7440-39-3	
Cadmium	ND	ug/L	1.0	1	08/21/14 16:35	08/22/14 17:14	7440-43-9	
Chromium	**7.8**	ug/L	5.0	1	08/21/14 16:35	08/22/14 17:14	7440-47-3	
Lead	**11.7**	ug/L	5.0	1	08/21/14 16:35	08/22/14 17:14	7439-92-1	
Manganese	**1030**	ug/L	5.0	1	08/21/14 16:35	08/22/14 17:14	7439-96-5	
Selenium	ND	ug/L	10.0	1	08/21/14 16:35	08/22/14 17:14	7782-49-2	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	08/21/14 18:00	08/23/14 18:37	7439-97-6	
6200B MSV	Analytical Method: SM 6200B							
Benzene	ND	ug/L	0.50	1		08/22/14 20:39	71-43-2	
Bromobenzene	ND	ug/L	0.50	1		08/22/14 20:39	108-86-1	
Bromochloromethane	ND	ug/L	0.50	1		08/22/14 20:39	74-97-5	
Bromodichloromethane	ND	ug/L	0.50	1		08/22/14 20:39	75-27-4	
Bromoform	ND	ug/L	0.50	1		08/22/14 20:39	75-25-2	
Bromomethane	ND	ug/L	5.0	1		08/22/14 20:39	74-83-9	
n-Butylbenzene	ND	ug/L	0.50	1		08/22/14 20:39	104-51-8	
sec-Butylbenzene	ND	ug/L	0.50	1		08/22/14 20:39	135-98-8	
tert-Butylbenzene	ND	ug/L	0.50	1		08/22/14 20:39	98-06-6	
Carbon tetrachloride	ND	ug/L	0.50	1		08/22/14 20:39	56-23-5	
Chlorobenzene	ND	ug/L	0.50	1		08/22/14 20:39	108-90-7	
Chloroethane	ND	ug/L	1.0	1		08/22/14 20:39	75-00-3	
Chloroform	ND	ug/L	0.50	1		08/22/14 20:39	67-66-3	
Chloromethane	ND	ug/L	1.0	1		08/22/14 20:39	74-87-3	
2-Chlorotoluene	ND	ug/L	0.50	1		08/22/14 20:39	95-49-8	
4-Chlorotoluene	ND	ug/L	0.50	1		08/22/14 20:39	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	1		08/22/14 20:39	96-12-8	
Dibromochloromethane	ND	ug/L	0.50	1		08/22/14 20:39	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	1		08/22/14 20:39	106-93-4	
Dibromomethane	ND	ug/L	0.50	1		08/22/14 20:39	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	0.50	1		08/22/14 20:39	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	0.50	1		08/22/14 20:39	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	0.50	1		08/22/14 20:39	106-46-7	
Dichlorodifluoromethane	ND	ug/L	0.50	1		08/22/14 20:39	75-71-8	
1,1-Dichloroethane	ND	ug/L	0.50	1		08/22/14 20:39	75-34-3	
1,2-Dichloroethane	ND	ug/L	0.50	1		08/22/14 20:39	107-06-2	
1,1-Dichloroethene	ND	ug/L	0.50	1		08/22/14 20:39	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		08/22/14 20:39	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	0.50	1		08/22/14 20:39	156-60-5	
1,2-Dichloropropane	ND	ug/L	0.50	1		08/22/14 20:39	78-87-5	
1,3-Dichloropropane	ND	ug/L	0.50	1		08/22/14 20:39	142-28-9	
2,2-Dichloropropane	ND	ug/L	0.50	1		08/22/14 20:39	594-20-7	
1,1-Dichloropropene	ND	ug/L	0.50	1		08/22/14 20:39	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		08/22/14 20:39	10061-01-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-45R **Lab ID: 92214233013** Collected: 08/14/14 14:05 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV	Analytical Method: SM 6200B							
trans-1,3-Dichloropropene	ND	ug/L	0.50	1		08/22/14 20:39	10061-02-6	
Diisopropyl ether	ND	ug/L	0.50	1		08/22/14 20:39	108-20-3	
Ethylbenzene	ND	ug/L	0.50	1		08/22/14 20:39	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	2.0	1		08/22/14 20:39	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/L	0.50	1		08/22/14 20:39	98-82-8	
Methylene Chloride	ND	ug/L	2.0	1		08/22/14 20:39	75-09-2	
Methyl-tert-butyl ether	ND	ug/L	0.50	1		08/22/14 20:39	1634-04-4	
Naphthalene	ND	ug/L	2.0	1		08/22/14 20:39	91-20-3	
n-Propylbenzene	ND	ug/L	0.50	1		08/22/14 20:39	103-65-1	
Styrene	ND	ug/L	0.50	1		08/22/14 20:39	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1		08/22/14 20:39	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	1		08/22/14 20:39	79-34-5	
Tetrachloroethene	ND	ug/L	0.50	1		08/22/14 20:39	127-18-4	
Toluene	ND	ug/L	0.50	1		08/22/14 20:39	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	2.0	1		08/22/14 20:39	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	2.0	1		08/22/14 20:39	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	0.50	1		08/22/14 20:39	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	0.50	1		08/22/14 20:39	79-00-5	
Trichloroethene	ND	ug/L	0.50	1		08/22/14 20:39	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		08/22/14 20:39	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	0.50	1		08/22/14 20:39	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	1		08/22/14 20:39	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	1		08/22/14 20:39	108-67-8	
Vinyl chloride	ND	ug/L	1.0	1		08/22/14 20:39	75-01-4	
m&p-Xylene	ND	ug/L	1.0	1		08/22/14 20:39	179601-23-1	
o-Xylene	ND	ug/L	0.50	1		08/22/14 20:39	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	92	%	70-130	1		08/22/14 20:39	17060-07-0	
4-Bromofluorobenzene (S)	102	%	70-130	1		08/22/14 20:39	460-00-4	
Toluene-d8 (S)	99	%	70-130	1		08/22/14 20:39	2037-26-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-35D **Lab ID: 92214233014** Collected: 08/14/14 16:20 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic	ND	ug/L	10.0	1	08/21/14 16:35	08/22/14 17:17	7440-38-2	
Barium	ND	ug/L	5.0	1	08/21/14 16:35	08/22/14 17:17	7440-39-3	
Cadmium	**1.4**	ug/L	1.0	1	08/21/14 16:35	08/22/14 17:17	7440-43-9	
Chromium	**8.6**	ug/L	5.0	1	08/21/14 16:35	08/22/14 17:17	7440-47-3	
Lead	ND	ug/L	5.0	1	08/21/14 16:35	08/22/14 17:17	7439-92-1	
Manganese	**23.2**	ug/L	5.0	1	08/21/14 16:35	08/22/14 17:17	7439-96-5	
Selenium	ND	ug/L	10.0	1	08/21/14 16:35	08/22/14 17:17	7782-49-2	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	08/21/14 18:00	08/23/14 18:40	7439-97-6	
6200B MSV	Analytical Method: SM 6200B							
Benzene	ND	ug/L	0.50	1		08/21/14 21:49	71-43-2	
Bromobenzene	ND	ug/L	0.50	1		08/21/14 21:49	108-86-1	
Bromochloromethane	ND	ug/L	0.50	1		08/21/14 21:49	74-97-5	
Bromodichloromethane	ND	ug/L	0.50	1		08/21/14 21:49	75-27-4	
Bromoform	ND	ug/L	0.50	1		08/21/14 21:49	75-25-2	
Bromomethane	ND	ug/L	5.0	1		08/21/14 21:49	74-83-9	
n-Butylbenzene	ND	ug/L	0.50	1		08/21/14 21:49	104-51-8	
sec-Butylbenzene	ND	ug/L	0.50	1		08/21/14 21:49	135-98-8	
tert-Butylbenzene	ND	ug/L	0.50	1		08/21/14 21:49	98-06-6	
Carbon tetrachloride	**2.1**	ug/L	0.50	1		08/21/14 21:49	56-23-5	
Chlorobenzene	ND	ug/L	0.50	1		08/21/14 21:49	108-90-7	
Chloroethane	ND	ug/L	1.0	1		08/21/14 21:49	75-00-3	
Chloroform	**18.3**	ug/L	0.50	1		08/21/14 21:49	67-66-3	
Chloromethane	ND	ug/L	1.0	1		08/21/14 21:49	74-87-3	
2-Chlorotoluene	ND	ug/L	0.50	1		08/21/14 21:49	95-49-8	
4-Chlorotoluene	ND	ug/L	0.50	1		08/21/14 21:49	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	1		08/21/14 21:49	96-12-8	
Dibromochloromethane	ND	ug/L	0.50	1		08/21/14 21:49	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	1		08/21/14 21:49	106-93-4	
Dibromomethane	ND	ug/L	0.50	1		08/21/14 21:49	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	0.50	1		08/21/14 21:49	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	0.50	1		08/21/14 21:49	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	0.50	1		08/21/14 21:49	106-46-7	
Dichlorodifluoromethane	ND	ug/L	0.50	1		08/21/14 21:49	75-71-8	
1,1-Dichloroethane	ND	ug/L	0.50	1		08/21/14 21:49	75-34-3	
1,2-Dichloroethane	ND	ug/L	0.50	1		08/21/14 21:49	107-06-2	
1,1-Dichloroethene	ND	ug/L	0.50	1		08/21/14 21:49	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		08/21/14 21:49	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	0.50	1		08/21/14 21:49	156-60-5	
1,2-Dichloropropane	ND	ug/L	0.50	1		08/21/14 21:49	78-87-5	
1,3-Dichloropropane	ND	ug/L	0.50	1		08/21/14 21:49	142-28-9	
2,2-Dichloropropane	ND	ug/L	0.50	1		08/21/14 21:49	594-20-7	
1,1-Dichloropropene	ND	ug/L	0.50	1		08/21/14 21:49	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		08/21/14 21:49	10061-01-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-35D **Lab ID: 92214233014** Collected: 08/14/14 16:20 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV	Analytical Method: SM 6200B							
trans-1,3-Dichloropropene	ND	ug/L	0.50	1		08/21/14 21:49	10061-02-6	
Diisopropyl ether	ND	ug/L	0.50	1		08/21/14 21:49	108-20-3	
Ethylbenzene	ND	ug/L	0.50	1		08/21/14 21:49	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	2.0	1		08/21/14 21:49	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/L	0.50	1		08/21/14 21:49	98-82-8	
Methylene Chloride	ND	ug/L	2.0	1		08/21/14 21:49	75-09-2	
Methyl-tert-butyl ether	ND	ug/L	0.50	1		08/21/14 21:49	1634-04-4	
Naphthalene	ND	ug/L	2.0	1		08/21/14 21:49	91-20-3	
n-Propylbenzene	ND	ug/L	0.50	1		08/21/14 21:49	103-65-1	
Styrene	ND	ug/L	0.50	1		08/21/14 21:49	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1		08/21/14 21:49	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	1		08/21/14 21:49	79-34-5	
Tetrachloroethene	ND	ug/L	0.50	1		08/21/14 21:49	127-18-4	
Toluene	ND	ug/L	0.50	1		08/21/14 21:49	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	2.0	1		08/21/14 21:49	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	2.0	1		08/21/14 21:49	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	0.50	1		08/21/14 21:49	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	0.50	1		08/21/14 21:49	79-00-5	
Trichloroethene	ND	ug/L	0.50	1		08/21/14 21:49	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		08/21/14 21:49	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	0.50	1		08/21/14 21:49	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	1		08/21/14 21:49	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	1		08/21/14 21:49	108-67-8	
Vinyl chloride	ND	ug/L	1.0	1		08/21/14 21:49	75-01-4	
m&p-Xylene	ND	ug/L	1.0	1		08/21/14 21:49	179601-23-1	
o-Xylene	ND	ug/L	0.50	1		08/21/14 21:49	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	94	%	70-130	1		08/21/14 21:49	17060-07-0	
4-Bromofluorobenzene (S)	104	%	70-130	1		08/21/14 21:49	460-00-4	
Toluene-d8 (S)	98	%	70-130	1		08/21/14 21:49	2037-26-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-35S **Lab ID: 92214233015** Collected: 08/15/14 09:04 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV	Analytical Method: SM 6200B							
Benzene	ND	ug/L	0.50	1		08/21/14 22:05	71-43-2	
Bromobenzene	ND	ug/L	0.50	1		08/21/14 22:05	108-86-1	
Bromochloromethane	ND	ug/L	0.50	1		08/21/14 22:05	74-97-5	
Bromodichloromethane	ND	ug/L	0.50	1		08/21/14 22:05	75-27-4	
Bromoform	ND	ug/L	0.50	1		08/21/14 22:05	75-25-2	
Bromomethane	ND	ug/L	5.0	1		08/21/14 22:05	74-83-9	
n-Butylbenzene	ND	ug/L	0.50	1		08/21/14 22:05	104-51-8	
sec-Butylbenzene	ND	ug/L	0.50	1		08/21/14 22:05	135-98-8	
tert-Butylbenzene	ND	ug/L	0.50	1		08/21/14 22:05	98-06-6	
Carbon tetrachloride	ND	ug/L	0.50	1		08/21/14 22:05	56-23-5	
Chlorobenzene	ND	ug/L	0.50	1		08/21/14 22:05	108-90-7	
Chloroethane	ND	ug/L	1.0	1		08/21/14 22:05	75-00-3	
Chloroform	ND	ug/L	0.50	1		08/21/14 22:05	67-66-3	
Chloromethane	ND	ug/L	1.0	1		08/21/14 22:05	74-87-3	
2-Chlorotoluene	ND	ug/L	0.50	1		08/21/14 22:05	95-49-8	
4-Chlorotoluene	ND	ug/L	0.50	1		08/21/14 22:05	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	1		08/21/14 22:05	96-12-8	
Dibromochloromethane	ND	ug/L	0.50	1		08/21/14 22:05	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	1		08/21/14 22:05	106-93-4	
Dibromomethane	ND	ug/L	0.50	1		08/21/14 22:05	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	0.50	1		08/21/14 22:05	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	0.50	1		08/21/14 22:05	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	0.50	1		08/21/14 22:05	106-46-7	
Dichlorodifluoromethane	ND	ug/L	0.50	1		08/21/14 22:05	75-71-8	
1,1-Dichloroethane	ND	ug/L	0.50	1		08/21/14 22:05	75-34-3	
1,2-Dichloroethane	ND	ug/L	0.50	1		08/21/14 22:05	107-06-2	
1,1-Dichloroethene	ND	ug/L	0.50	1		08/21/14 22:05	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		08/21/14 22:05	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	0.50	1		08/21/14 22:05	156-60-5	
1,2-Dichloropropane	ND	ug/L	0.50	1		08/21/14 22:05	78-87-5	
1,3-Dichloropropane	ND	ug/L	0.50	1		08/21/14 22:05	142-28-9	
2,2-Dichloropropane	ND	ug/L	0.50	1		08/21/14 22:05	594-20-7	
1,1-Dichloropropene	ND	ug/L	0.50	1		08/21/14 22:05	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		08/21/14 22:05	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	0.50	1		08/21/14 22:05	10061-02-6	
Diisopropyl ether	ND	ug/L	0.50	1		08/21/14 22:05	108-20-3	
Ethylbenzene	ND	ug/L	0.50	1		08/21/14 22:05	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	2.0	1		08/21/14 22:05	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/L	0.50	1		08/21/14 22:05	98-82-8	
Methylene Chloride	ND	ug/L	2.0	1		08/21/14 22:05	75-09-2	
Methyl-tert-butyl ether	ND	ug/L	0.50	1		08/21/14 22:05	1634-04-4	
Naphthalene	ND	ug/L	2.0	1		08/21/14 22:05	91-20-3	
n-Propylbenzene	ND	ug/L	0.50	1		08/21/14 22:05	103-65-1	
Styrene	ND	ug/L	0.50	1		08/21/14 22:05	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1		08/21/14 22:05	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	1		08/21/14 22:05	79-34-5	
Tetrachloroethene	ND	ug/L	0.50	1		08/21/14 22:05	127-18-4	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-35S **Lab ID: 92214233015** Collected: 08/15/14 09:04 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV	Analytical Method: SM 6200B							
Toluene	ND	ug/L	0.50	1		08/21/14 22:05	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	2.0	1		08/21/14 22:05	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	2.0	1		08/21/14 22:05	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	0.50	1		08/21/14 22:05	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	0.50	1		08/21/14 22:05	79-00-5	
Trichloroethene	ND	ug/L	0.50	1		08/21/14 22:05	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		08/21/14 22:05	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	0.50	1		08/21/14 22:05	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	1		08/21/14 22:05	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	1		08/21/14 22:05	108-67-8	
Vinyl chloride	ND	ug/L	1.0	1		08/21/14 22:05	75-01-4	
m&p-Xylene	ND	ug/L	1.0	1		08/21/14 22:05	179601-23-1	
o-Xylene	ND	ug/L	0.50	1		08/21/14 22:05	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	94	%	70-130	1		08/21/14 22:05	17060-07-0	
4-Bromofluorobenzene (S)	104	%	70-130	1		08/21/14 22:05	460-00-4	
Toluene-d8 (S)	99	%	70-130	1		08/21/14 22:05	2037-26-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-41S **Lab ID: 92214233016** Collected: 08/15/14 10:02 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic	ND	ug/L	10.0	1	08/21/14 16:35	08/22/14 17:20	7440-38-2	
Barium	**56.3**	ug/L	5.0	1	08/21/14 16:35	08/22/14 17:20	7440-39-3	
Cadmium	ND	ug/L	1.0	1	08/21/14 16:35	08/22/14 17:20	7440-43-9	
Chromium	**55.1**	ug/L	5.0	1	08/21/14 16:35	08/22/14 17:20	7440-47-3	
Lead	ND	ug/L	5.0	1	08/21/14 16:35	08/22/14 17:20	7439-92-1	
Manganese	**214**	ug/L	5.0	1	08/21/14 16:35	08/22/14 17:20	7439-96-5	
Selenium	ND	ug/L	10.0	1	08/21/14 16:35	08/22/14 17:20	7782-49-2	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	08/21/14 18:00	08/23/14 18:42	7439-97-6	
6200B MSV	Analytical Method: SM 6200B							
Benzene	ND	ug/L	0.50	1		08/21/14 22:20	71-43-2	
Bromobenzene	ND	ug/L	0.50	1		08/21/14 22:20	108-86-1	
Bromochloromethane	ND	ug/L	0.50	1		08/21/14 22:20	74-97-5	
Bromodichloromethane	ND	ug/L	0.50	1		08/21/14 22:20	75-27-4	
Bromoform	ND	ug/L	0.50	1		08/21/14 22:20	75-25-2	
Bromomethane	ND	ug/L	5.0	1		08/21/14 22:20	74-83-9	
n-Butylbenzene	ND	ug/L	0.50	1		08/21/14 22:20	104-51-8	
sec-Butylbenzene	ND	ug/L	0.50	1		08/21/14 22:20	135-98-8	
tert-Butylbenzene	ND	ug/L	0.50	1		08/21/14 22:20	98-06-6	
Carbon tetrachloride	ND	ug/L	0.50	1		08/21/14 22:20	56-23-5	
Chlorobenzene	ND	ug/L	0.50	1		08/21/14 22:20	108-90-7	
Chloroethane	ND	ug/L	1.0	1		08/21/14 22:20	75-00-3	
Chloroform	ND	ug/L	0.50	1		08/21/14 22:20	67-66-3	
Chloromethane	ND	ug/L	1.0	1		08/21/14 22:20	74-87-3	
2-Chlorotoluene	ND	ug/L	0.50	1		08/21/14 22:20	95-49-8	
4-Chlorotoluene	ND	ug/L	0.50	1		08/21/14 22:20	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	1		08/21/14 22:20	96-12-8	
Dibromochloromethane	ND	ug/L	0.50	1		08/21/14 22:20	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	1		08/21/14 22:20	106-93-4	
Dibromomethane	ND	ug/L	0.50	1		08/21/14 22:20	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	0.50	1		08/21/14 22:20	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	0.50	1		08/21/14 22:20	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	0.50	1		08/21/14 22:20	106-46-7	
Dichlorodifluoromethane	ND	ug/L	0.50	1		08/21/14 22:20	75-71-8	
1,1-Dichloroethane	ND	ug/L	0.50	1		08/21/14 22:20	75-34-3	
1,2-Dichloroethane	ND	ug/L	0.50	1		08/21/14 22:20	107-06-2	
1,1-Dichloroethene	ND	ug/L	0.50	1		08/21/14 22:20	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		08/21/14 22:20	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	0.50	1		08/21/14 22:20	156-60-5	
1,2-Dichloropropane	ND	ug/L	0.50	1		08/21/14 22:20	78-87-5	
1,3-Dichloropropane	ND	ug/L	0.50	1		08/21/14 22:20	142-28-9	
2,2-Dichloropropane	ND	ug/L	0.50	1		08/21/14 22:20	594-20-7	
1,1-Dichloropropene	ND	ug/L	0.50	1		08/21/14 22:20	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		08/21/14 22:20	10061-01-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-41S **Lab ID: 92214233016** Collected: 08/15/14 10:02 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV	Analytical Method: SM 6200B							
trans-1,3-Dichloropropene	ND	ug/L	0.50	1		08/21/14 22:20	10061-02-6	
Diisopropyl ether	ND	ug/L	0.50	1		08/21/14 22:20	108-20-3	
Ethylbenzene	ND	ug/L	0.50	1		08/21/14 22:20	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	2.0	1		08/21/14 22:20	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/L	0.50	1		08/21/14 22:20	98-82-8	
Methylene Chloride	ND	ug/L	2.0	1		08/21/14 22:20	75-09-2	
Methyl-tert-butyl ether	ND	ug/L	0.50	1		08/21/14 22:20	1634-04-4	
Naphthalene	ND	ug/L	2.0	1		08/21/14 22:20	91-20-3	
n-Propylbenzene	ND	ug/L	0.50	1		08/21/14 22:20	103-65-1	
Styrene	ND	ug/L	0.50	1		08/21/14 22:20	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1		08/21/14 22:20	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	1		08/21/14 22:20	79-34-5	
Tetrachloroethene	ND	ug/L	0.50	1		08/21/14 22:20	127-18-4	
Toluene	ND	ug/L	0.50	1		08/21/14 22:20	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	2.0	1		08/21/14 22:20	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	2.0	1		08/21/14 22:20	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	0.50	1		08/21/14 22:20	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	0.50	1		08/21/14 22:20	79-00-5	
Trichloroethene	ND	ug/L	0.50	1		08/21/14 22:20	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		08/21/14 22:20	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	0.50	1		08/21/14 22:20	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	1		08/21/14 22:20	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	1		08/21/14 22:20	108-67-8	
Vinyl chloride	ND	ug/L	1.0	1		08/21/14 22:20	75-01-4	
m&p-Xylene	ND	ug/L	1.0	1		08/21/14 22:20	179601-23-1	
o-Xylene	ND	ug/L	0.50	1		08/21/14 22:20	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	93	%	70-130	1		08/21/14 22:20	17060-07-0	
4-Bromofluorobenzene (S)	104	%	70-130	1		08/21/14 22:20	460-00-4	
Toluene-d8 (S)	99	%	70-130	1		08/21/14 22:20	2037-26-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-41D **Lab ID: 92214233017** Collected: 08/15/14 11:35 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic	ND	ug/L	10.0	1	08/21/14 16:35	08/22/14 17:39	7440-38-2	
Barium	**14.9**	ug/L	5.0	1	08/21/14 16:35	08/22/14 17:39	7440-39-3	
Cadmium	ND	ug/L	1.0	1	08/21/14 16:35	08/22/14 17:39	7440-43-9	
Chromium	**8.2**	ug/L	5.0	1	08/21/14 16:35	08/22/14 17:39	7440-47-3	
Lead	ND	ug/L	5.0	1	08/21/14 16:35	08/22/14 17:39	7439-92-1	
Manganese	**50.8**	ug/L	5.0	1	08/21/14 16:35	08/22/14 17:39	7439-96-5	
Selenium	ND	ug/L	10.0	1	08/21/14 16:35	08/22/14 17:39	7782-49-2	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	08/21/14 18:00	08/23/14 18:45	7439-97-6	
6200B MSV	Analytical Method: SM 6200B							
Benzene	ND	ug/L	0.50	1		08/21/14 22:36	71-43-2	
Bromobenzene	ND	ug/L	0.50	1		08/21/14 22:36	108-86-1	
Bromochloromethane	ND	ug/L	0.50	1		08/21/14 22:36	74-97-5	
Bromodichloromethane	ND	ug/L	0.50	1		08/21/14 22:36	75-27-4	
Bromoform	ND	ug/L	0.50	1		08/21/14 22:36	75-25-2	
Bromomethane	ND	ug/L	5.0	1		08/21/14 22:36	74-83-9	
n-Butylbenzene	ND	ug/L	0.50	1		08/21/14 22:36	104-51-8	
sec-Butylbenzene	ND	ug/L	0.50	1		08/21/14 22:36	135-98-8	
tert-Butylbenzene	ND	ug/L	0.50	1		08/21/14 22:36	98-06-6	
Carbon tetrachloride	**7.4**	ug/L	0.50	1		08/21/14 22:36	56-23-5	
Chlorobenzene	ND	ug/L	0.50	1		08/21/14 22:36	108-90-7	
Chloroethane	ND	ug/L	1.0	1		08/21/14 22:36	75-00-3	
Chloroform	**35.3**	ug/L	0.50	1		08/21/14 22:36	67-66-3	
Chloromethane	ND	ug/L	1.0	1		08/21/14 22:36	74-87-3	
2-Chlorotoluene	ND	ug/L	0.50	1		08/21/14 22:36	95-49-8	
4-Chlorotoluene	ND	ug/L	0.50	1		08/21/14 22:36	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	1		08/21/14 22:36	96-12-8	
Dibromochloromethane	ND	ug/L	0.50	1		08/21/14 22:36	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	1		08/21/14 22:36	106-93-4	
Dibromomethane	ND	ug/L	0.50	1		08/21/14 22:36	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	0.50	1		08/21/14 22:36	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	0.50	1		08/21/14 22:36	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	0.50	1		08/21/14 22:36	106-46-7	
Dichlorodifluoromethane	ND	ug/L	0.50	1		08/21/14 22:36	75-71-8	
1,1-Dichloroethane	ND	ug/L	0.50	1		08/21/14 22:36	75-34-3	
1,2-Dichloroethane	ND	ug/L	0.50	1		08/21/14 22:36	107-06-2	
1,1-Dichloroethene	ND	ug/L	0.50	1		08/21/14 22:36	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		08/21/14 22:36	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	0.50	1		08/21/14 22:36	156-60-5	
1,2-Dichloropropane	**2.6**	ug/L	0.50	1		08/21/14 22:36	78-87-5	
1,3-Dichloropropane	ND	ug/L	0.50	1		08/21/14 22:36	142-28-9	
2,2-Dichloropropane	ND	ug/L	0.50	1		08/21/14 22:36	594-20-7	
1,1-Dichloropropene	ND	ug/L	0.50	1		08/21/14 22:36	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		08/21/14 22:36	10061-01-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-41D **Lab ID: 92214233017** Collected: 08/15/14 11:35 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV	Analytical Method: SM 6200B							
trans-1,3-Dichloropropene	ND	ug/L	0.50	1		08/21/14 22:36	10061-02-6	
Diisopropyl ether	ND	ug/L	0.50	1		08/21/14 22:36	108-20-3	
Ethylbenzene	ND	ug/L	0.50	1		08/21/14 22:36	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	2.0	1		08/21/14 22:36	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/L	0.50	1		08/21/14 22:36	98-82-8	
Methylene Chloride	ND	ug/L	2.0	1		08/21/14 22:36	75-09-2	
Methyl-tert-butyl ether	ND	ug/L	0.50	1		08/21/14 22:36	1634-04-4	
Naphthalene	ND	ug/L	2.0	1		08/21/14 22:36	91-20-3	
n-Propylbenzene	ND	ug/L	0.50	1		08/21/14 22:36	103-65-1	
Styrene	ND	ug/L	0.50	1		08/21/14 22:36	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1		08/21/14 22:36	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	1		08/21/14 22:36	79-34-5	
Tetrachloroethene	**0.90**	ug/L	0.50	1		08/21/14 22:36	127-18-4	
Toluene	ND	ug/L	0.50	1		08/21/14 22:36	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	2.0	1		08/21/14 22:36	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	2.0	1		08/21/14 22:36	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	0.50	1		08/21/14 22:36	71-55-6	
1,1,2-Trichloroethane	**0.51**	ug/L	0.50	1		08/21/14 22:36	79-00-5	
Trichloroethene	**1.8**	ug/L	0.50	1		08/21/14 22:36	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		08/21/14 22:36	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	0.50	1		08/21/14 22:36	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	1		08/21/14 22:36	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	1		08/21/14 22:36	108-67-8	
Vinyl chloride	ND	ug/L	1.0	1		08/21/14 22:36	75-01-4	
m&p-Xylene	ND	ug/L	1.0	1		08/21/14 22:36	179601-23-1	
o-Xylene	ND	ug/L	0.50	1		08/21/14 22:36	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	93	%	70-130	1		08/21/14 22:36	17060-07-0	
4-Bromofluorobenzene (S)	101	%	70-130	1		08/21/14 22:36	460-00-4	
Toluene-d8 (S)	98	%	70-130	1		08/21/14 22:36	2037-26-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-16I **Lab ID: 92214233018** Collected: 08/15/14 13:35 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV	Analytical Method: SM 6200B							
Benzene	**7.7**	ug/L	0.50	1		08/23/14 06:03	71-43-2	
Bromobenzene	ND	ug/L	0.50	1		08/23/14 06:03	108-86-1	
Bromochloromethane	ND	ug/L	0.50	1		08/23/14 06:03	74-97-5	
Bromodichloromethane	ND	ug/L	0.50	1		08/23/14 06:03	75-27-4	
Bromoform	ND	ug/L	0.50	1		08/23/14 06:03	75-25-2	
Bromomethane	ND	ug/L	5.0	1		08/23/14 06:03	74-83-9	
n-Butylbenzene	ND	ug/L	0.50	1		08/23/14 06:03	104-51-8	
sec-Butylbenzene	ND	ug/L	0.50	1		08/23/14 06:03	135-98-8	
tert-Butylbenzene	ND	ug/L	0.50	1		08/23/14 06:03	98-06-6	
Carbon tetrachloride	**1.5**	ug/L	0.50	1		08/23/14 06:03	56-23-5	
Chlorobenzene	**0.59**	ug/L	0.50	1		08/23/14 06:03	108-90-7	
Chloroethane	ND	ug/L	1.0	1		08/23/14 06:03	75-00-3	
Chloroform	**106**	ug/L	0.50	1		08/23/14 06:03	67-66-3	
Chloromethane	ND	ug/L	1.0	1		08/23/14 06:03	74-87-3	
2-Chlorotoluene	ND	ug/L	0.50	1		08/23/14 06:03	95-49-8	
4-Chlorotoluene	ND	ug/L	0.50	1		08/23/14 06:03	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	1		08/23/14 06:03	96-12-8	
Dibromochloromethane	ND	ug/L	0.50	1		08/23/14 06:03	124-48-1	
1,2-Dibromoethane (EDB)	**0.91**	ug/L	0.50	1		08/23/14 06:03	106-93-4	
Dibromomethane	ND	ug/L	0.50	1		08/23/14 06:03	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	0.50	1		08/23/14 06:03	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	0.50	1		08/23/14 06:03	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	0.50	1		08/23/14 06:03	106-46-7	
Dichlorodifluoromethane	ND	ug/L	0.50	1		08/23/14 06:03	75-71-8	
1,1-Dichloroethane	ND	ug/L	0.50	1		08/23/14 06:03	75-34-3	
1,2-Dichloroethane	**1.8**	ug/L	0.50	1		08/23/14 06:03	107-06-2	
1,1-Dichloroethene	ND	ug/L	0.50	1		08/23/14 06:03	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		08/23/14 06:03	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	0.50	1		08/23/14 06:03	156-60-5	
1,2-Dichloropropane	**66.5**	ug/L	0.50	1		08/23/14 06:03	78-87-5	
1,3-Dichloropropane	ND	ug/L	0.50	1		08/23/14 06:03	142-28-9	
2,2-Dichloropropane	ND	ug/L	0.50	1		08/23/14 06:03	594-20-7	
1,1-Dichloropropene	ND	ug/L	0.50	1		08/23/14 06:03	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		08/23/14 06:03	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	0.50	1		08/23/14 06:03	10061-02-6	
Diisopropyl ether	**0.84**	ug/L	0.50	1		08/23/14 06:03	108-20-3	
Ethylbenzene	ND	ug/L	0.50	1		08/23/14 06:03	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	2.0	1		08/23/14 06:03	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/L	0.50	1		08/23/14 06:03	98-82-8	
Methylene Chloride	ND	ug/L	2.0	1		08/23/14 06:03	75-09-2	
Methyl-tert-butyl ether	ND	ug/L	0.50	1		08/23/14 06:03	1634-04-4	
Naphthalene	ND	ug/L	2.0	1		08/23/14 06:03	91-20-3	
n-Propylbenzene	ND	ug/L	0.50	1		08/23/14 06:03	103-65-1	
Styrene	ND	ug/L	0.50	1		08/23/14 06:03	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1		08/23/14 06:03	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	1		08/23/14 06:03	79-34-5	
Tetrachloroethene	**17.4**	ug/L	0.50	1		08/23/14 06:03	127-18-4	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-16I **Lab ID: 92214233018** Collected: 08/15/14 13:35 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV	Analytical Method: SM 6200B							
Toluene	ND	ug/L	0.50	1		08/23/14 06:03	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	2.0	1		08/23/14 06:03	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	2.0	1		08/23/14 06:03	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	0.50	1		08/23/14 06:03	71-55-6	
1,1,2-Trichloroethane	**3.3**	ug/L	0.50	1		08/23/14 06:03	79-00-5	
Trichloroethene	**15.6**	ug/L	0.50	1		08/23/14 06:03	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		08/23/14 06:03	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	0.50	1		08/23/14 06:03	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	1		08/23/14 06:03	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	1		08/23/14 06:03	108-67-8	
Vinyl chloride	**2.7**	ug/L	1.0	1		08/23/14 06:03	75-01-4	
m&p-Xylene	ND	ug/L	1.0	1		08/23/14 06:03	179601-23-1	
o-Xylene	**0.71**	ug/L	0.50	1		08/23/14 06:03	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	91	%	70-130	1		08/23/14 06:03	17060-07-0	
4-Bromofluorobenzene (S)	103	%	70-130	1		08/23/14 06:03	460-00-4	
Toluene-d8 (S)	98	%	70-130	1		08/23/14 06:03	2037-26-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-27 **Lab ID: 92214233019** Collected: 08/15/14 14:15 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV	Analytical Method: SM 6200B							
Benzene	ND	ug/L	0.50	1		08/21/14 23:07	71-43-2	
Bromobenzene	ND	ug/L	0.50	1		08/21/14 23:07	108-86-1	
Bromochloromethane	ND	ug/L	0.50	1		08/21/14 23:07	74-97-5	
Bromodichloromethane	ND	ug/L	0.50	1		08/21/14 23:07	75-27-4	
Bromoform	ND	ug/L	0.50	1		08/21/14 23:07	75-25-2	
Bromomethane	ND	ug/L	5.0	1		08/21/14 23:07	74-83-9	
n-Butylbenzene	ND	ug/L	0.50	1		08/21/14 23:07	104-51-8	
sec-Butylbenzene	ND	ug/L	0.50	1		08/21/14 23:07	135-98-8	
tert-Butylbenzene	ND	ug/L	0.50	1		08/21/14 23:07	98-06-6	
Carbon tetrachloride	**9.4**	ug/L	0.50	1		08/21/14 23:07	56-23-5	
Chlorobenzene	ND	ug/L	0.50	1		08/21/14 23:07	108-90-7	
Chloroethane	ND	ug/L	1.0	1		08/21/14 23:07	75-00-3	
Chloroform	**22.4**	ug/L	0.50	1		08/21/14 23:07	67-66-3	
Chloromethane	ND	ug/L	1.0	1		08/21/14 23:07	74-87-3	
2-Chlorotoluene	ND	ug/L	0.50	1		08/21/14 23:07	95-49-8	
4-Chlorotoluene	ND	ug/L	0.50	1		08/21/14 23:07	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	1		08/21/14 23:07	96-12-8	
Dibromochloromethane	ND	ug/L	0.50	1		08/21/14 23:07	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	1		08/21/14 23:07	106-93-4	
Dibromomethane	ND	ug/L	0.50	1		08/21/14 23:07	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	0.50	1		08/21/14 23:07	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	0.50	1		08/21/14 23:07	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	0.50	1		08/21/14 23:07	106-46-7	
Dichlorodifluoromethane	ND	ug/L	0.50	1		08/21/14 23:07	75-71-8	
1,1-Dichloroethane	ND	ug/L	0.50	1		08/21/14 23:07	75-34-3	
1,2-Dichloroethane	ND	ug/L	0.50	1		08/21/14 23:07	107-06-2	
1,1-Dichloroethene	ND	ug/L	0.50	1		08/21/14 23:07	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		08/21/14 23:07	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	0.50	1		08/21/14 23:07	156-60-5	
1,2-Dichloropropane	**17.1**	ug/L	0.50	1		08/21/14 23:07	78-87-5	
1,3-Dichloropropane	ND	ug/L	0.50	1		08/21/14 23:07	142-28-9	
2,2-Dichloropropane	ND	ug/L	0.50	1		08/21/14 23:07	594-20-7	
1,1-Dichloropropene	ND	ug/L	0.50	1		08/21/14 23:07	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		08/21/14 23:07	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	0.50	1		08/21/14 23:07	10061-02-6	
Diisopropyl ether	ND	ug/L	0.50	1		08/21/14 23:07	108-20-3	
Ethylbenzene	ND	ug/L	0.50	1		08/21/14 23:07	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	2.0	1		08/21/14 23:07	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/L	0.50	1		08/21/14 23:07	98-82-8	
Methylene Chloride	ND	ug/L	2.0	1		08/21/14 23:07	75-09-2	
Methyl-tert-butyl ether	ND	ug/L	0.50	1		08/21/14 23:07	1634-04-4	
Naphthalene	ND	ug/L	2.0	1		08/21/14 23:07	91-20-3	
n-Propylbenzene	ND	ug/L	0.50	1		08/21/14 23:07	103-65-1	
Styrene	ND	ug/L	0.50	1		08/21/14 23:07	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1		08/21/14 23:07	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	1		08/21/14 23:07	79-34-5	
Tetrachloroethene	**1.3**	ug/L	0.50	1		08/21/14 23:07	127-18-4	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-27 **Lab ID: 92214233019** Collected: 08/15/14 14:15 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV	Analytical Method: SM 6200B							
Toluene	ND	ug/L	0.50	1		08/21/14 23:07	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	2.0	1		08/21/14 23:07	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	2.0	1		08/21/14 23:07	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	0.50	1		08/21/14 23:07	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	0.50	1		08/21/14 23:07	79-00-5	
Trichloroethene	**7.8**	ug/L	0.50	1		08/21/14 23:07	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		08/21/14 23:07	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	0.50	1		08/21/14 23:07	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	1		08/21/14 23:07	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	1		08/21/14 23:07	108-67-8	
Vinyl chloride	ND	ug/L	1.0	1		08/21/14 23:07	75-01-4	
m&p-Xylene	ND	ug/L	1.0	1		08/21/14 23:07	179601-23-1	
o-Xylene	ND	ug/L	0.50	1		08/21/14 23:07	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	94	%	70-130	1		08/21/14 23:07	17060-07-0	
4-Bromofluorobenzene (S)	103	%	70-130	1		08/21/14 23:07	460-00-4	
Toluene-d8 (S)	98	%	70-130	1		08/21/14 23:07	2037-26-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-42I **Lab ID: 92214233020** Collected: 08/15/14 15:05 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic	ND	ug/L	10.0	1	08/21/14 16:35	08/22/14 17:42	7440-38-2	
Barium	**24.0**	ug/L	5.0	1	08/21/14 16:35	08/22/14 17:42	7440-39-3	
Cadmium	ND	ug/L	1.0	1	08/21/14 16:35	08/22/14 17:42	7440-43-9	
Chromium	ND	ug/L	5.0	1	08/21/14 16:35	08/22/14 17:42	7440-47-3	
Lead	ND	ug/L	5.0	1	08/21/14 16:35	08/22/14 17:42	7439-92-1	
Manganese	**329**	ug/L	5.0	1	08/21/14 16:35	08/22/14 17:42	7439-96-5	
Selenium	ND	ug/L	10.0	1	08/21/14 16:35	08/22/14 17:42	7782-49-2	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	08/21/14 18:00	08/23/14 18:48	7439-97-6	
6200B MSV	Analytical Method: SM 6200B							
Benzene	**0.95**	ug/L	0.50	1		08/21/14 23:23	71-43-2	
Bromobenzene	ND	ug/L	0.50	1		08/21/14 23:23	108-86-1	
Bromochloromethane	ND	ug/L	0.50	1		08/21/14 23:23	74-97-5	
Bromodichloromethane	ND	ug/L	0.50	1		08/21/14 23:23	75-27-4	
Bromoform	ND	ug/L	0.50	1		08/21/14 23:23	75-25-2	
Bromomethane	ND	ug/L	5.0	1		08/21/14 23:23	74-83-9	
n-Butylbenzene	ND	ug/L	0.50	1		08/21/14 23:23	104-51-8	
sec-Butylbenzene	ND	ug/L	0.50	1		08/21/14 23:23	135-98-8	
tert-Butylbenzene	ND	ug/L	0.50	1		08/21/14 23:23	98-06-6	
Carbon tetrachloride	ND	ug/L	0.50	1		08/21/14 23:23	56-23-5	
Chlorobenzene	ND	ug/L	0.50	1		08/21/14 23:23	108-90-7	
Chloroethane	ND	ug/L	1.0	1		08/21/14 23:23	75-00-3	
Chloroform	**2.3**	ug/L	0.50	1		08/21/14 23:23	67-66-3	
Chloromethane	ND	ug/L	1.0	1		08/21/14 23:23	74-87-3	
2-Chlorotoluene	ND	ug/L	0.50	1		08/21/14 23:23	95-49-8	
4-Chlorotoluene	ND	ug/L	0.50	1		08/21/14 23:23	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	1		08/21/14 23:23	96-12-8	
Dibromochloromethane	ND	ug/L	0.50	1		08/21/14 23:23	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	1		08/21/14 23:23	106-93-4	
Dibromomethane	ND	ug/L	0.50	1		08/21/14 23:23	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	0.50	1		08/21/14 23:23	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	0.50	1		08/21/14 23:23	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	0.50	1		08/21/14 23:23	106-46-7	
Dichlorodifluoromethane	ND	ug/L	0.50	1		08/21/14 23:23	75-71-8	
1,1-Dichloroethane	ND	ug/L	0.50	1		08/21/14 23:23	75-34-3	
1,2-Dichloroethane	**1.0**	ug/L	0.50	1		08/21/14 23:23	107-06-2	
1,1-Dichloroethene	ND	ug/L	0.50	1		08/21/14 23:23	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		08/21/14 23:23	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	0.50	1		08/21/14 23:23	156-60-5	
1,2-Dichloropropane	**9.2**	ug/L	0.50	1		08/21/14 23:23	78-87-5	
1,3-Dichloropropane	ND	ug/L	0.50	1		08/21/14 23:23	142-28-9	
2,2-Dichloropropane	ND	ug/L	0.50	1		08/21/14 23:23	594-20-7	
1,1-Dichloropropene	ND	ug/L	0.50	1		08/21/14 23:23	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		08/21/14 23:23	10061-01-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-42I **Lab ID: 92214233020** Collected: 08/15/14 15:05 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV	Analytical Method: SM 6200B							
trans-1,3-Dichloropropene	ND	ug/L	0.50	1		08/21/14 23:23	10061-02-6	
Diisopropyl ether	ND	ug/L	0.50	1		08/21/14 23:23	108-20-3	
Ethylbenzene	ND	ug/L	0.50	1		08/21/14 23:23	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	2.0	1		08/21/14 23:23	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/L	0.50	1		08/21/14 23:23	98-82-8	
Methylene Chloride	ND	ug/L	2.0	1		08/21/14 23:23	75-09-2	
Methyl-tert-butyl ether	ND	ug/L	0.50	1		08/21/14 23:23	1634-04-4	
Naphthalene	ND	ug/L	2.0	1		08/21/14 23:23	91-20-3	
n-Propylbenzene	ND	ug/L	0.50	1		08/21/14 23:23	103-65-1	
Styrene	ND	ug/L	0.50	1		08/21/14 23:23	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1		08/21/14 23:23	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	1		08/21/14 23:23	79-34-5	
Tetrachloroethene	**1.1**	ug/L	0.50	1		08/21/14 23:23	127-18-4	
Toluene	ND	ug/L	0.50	1		08/21/14 23:23	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	2.0	1		08/21/14 23:23	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	2.0	1		08/21/14 23:23	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	0.50	1		08/21/14 23:23	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	0.50	1		08/21/14 23:23	79-00-5	
Trichloroethene	**0.92**	ug/L	0.50	1		08/21/14 23:23	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		08/21/14 23:23	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	0.50	1		08/21/14 23:23	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	1		08/21/14 23:23	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	1		08/21/14 23:23	108-67-8	
Vinyl chloride	ND	ug/L	1.0	1		08/21/14 23:23	75-01-4	
m&p-Xylene	ND	ug/L	1.0	1		08/21/14 23:23	179601-23-1	
o-Xylene	ND	ug/L	0.50	1		08/21/14 23:23	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	93	%	70-130	1		08/21/14 23:23	17060-07-0	
4-Bromofluorobenzene (S)	102	%	70-130	1		08/21/14 23:23	460-00-4	
Toluene-d8 (S)	99	%	70-130	1		08/21/14 23:23	2037-26-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-8 **Lab ID: 92214233021** Collected: 08/15/14 16:15 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV	Analytical Method: SM 6200B							
Benzene	**49.6**	ug/L	10.0	20		08/21/14 23:39	71-43-2	
Bromobenzene	ND	ug/L	10.0	20		08/21/14 23:39	108-86-1	
Bromochloromethane	ND	ug/L	10.0	20		08/21/14 23:39	74-97-5	
Bromodichloromethane	ND	ug/L	10.0	20		08/21/14 23:39	75-27-4	
Bromoform	ND	ug/L	10.0	20		08/21/14 23:39	75-25-2	
Bromomethane	ND	ug/L	100	20		08/21/14 23:39	74-83-9	
n-Butylbenzene	ND	ug/L	10.0	20		08/21/14 23:39	104-51-8	
sec-Butylbenzene	ND	ug/L	10.0	20		08/21/14 23:39	135-98-8	
tert-Butylbenzene	ND	ug/L	10.0	20		08/21/14 23:39	98-06-6	
Carbon tetrachloride	**110**	ug/L	10.0	20		08/21/14 23:39	56-23-5	
Chlorobenzene	ND	ug/L	10.0	20		08/21/14 23:39	108-90-7	
Chloroethane	ND	ug/L	20.0	20		08/21/14 23:39	75-00-3	
Chloroform	**5800**	ug/L	50.0	100		08/23/14 08:09	67-66-3	
Chloromethane	ND	ug/L	20.0	20		08/21/14 23:39	74-87-3	
2-Chlorotoluene	ND	ug/L	10.0	20		08/21/14 23:39	95-49-8	
4-Chlorotoluene	ND	ug/L	10.0	20		08/21/14 23:39	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	20.0	20		08/21/14 23:39	96-12-8	
Dibromochloromethane	ND	ug/L	10.0	20		08/21/14 23:39	124-48-1	
1,2-Dibromoethane (EDB)	**373**	ug/L	10.0	20		08/21/14 23:39	106-93-4	
Dibromomethane	ND	ug/L	10.0	20		08/21/14 23:39	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	10.0	20		08/21/14 23:39	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	10.0	20		08/21/14 23:39	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	10.0	20		08/21/14 23:39	106-46-7	
Dichlorodifluoromethane	ND	ug/L	10.0	20		08/21/14 23:39	75-71-8	
1,1-Dichloroethane	ND	ug/L	10.0	20		08/21/14 23:39	75-34-3	
1,2-Dichloroethane	ND	ug/L	10.0	20		08/21/14 23:39	107-06-2	
1,1-Dichloroethene	ND	ug/L	10.0	20		08/21/14 23:39	75-35-4	
cis-1,2-Dichloroethene	**11.5**	ug/L	10.0	20		08/21/14 23:39	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	10.0	20		08/21/14 23:39	156-60-5	
1,2-Dichloropropane	**854**	ug/L	10.0	20		08/21/14 23:39	78-87-5	
1,3-Dichloropropane	ND	ug/L	10.0	20		08/21/14 23:39	142-28-9	
2,2-Dichloropropane	ND	ug/L	10.0	20		08/21/14 23:39	594-20-7	
1,1-Dichloropropene	ND	ug/L	10.0	20		08/21/14 23:39	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	10.0	20		08/21/14 23:39	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	10.0	20		08/21/14 23:39	10061-02-6	
Diisopropyl ether	ND	ug/L	10.0	20		08/21/14 23:39	108-20-3	
Ethylbenzene	**10.2**	ug/L	10.0	20		08/21/14 23:39	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	40.0	20		08/21/14 23:39	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/L	10.0	20		08/21/14 23:39	98-82-8	
Methylene Chloride	**47.8**	ug/L	40.0	20		08/21/14 23:39	75-09-2	
Methyl-tert-butyl ether	ND	ug/L	10.0	20		08/21/14 23:39	1634-04-4	
Naphthalene	ND	ug/L	40.0	20		08/21/14 23:39	91-20-3	
n-Propylbenzene	ND	ug/L	10.0	20		08/21/14 23:39	103-65-1	
Styrene	ND	ug/L	10.0	20		08/21/14 23:39	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	10.0	20		08/21/14 23:39	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	10.0	20		08/21/14 23:39	79-34-5	
Tetrachloroethene	**104**	ug/L	10.0	20		08/21/14 23:39	127-18-4	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-8 **Lab ID: 92214233021** Collected: 08/15/14 16:15 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV	Analytical Method: SM 6200B							
Toluene	**124**	ug/L	10.0	20		08/21/14 23:39	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	40.0	20		08/21/14 23:39	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	40.0	20		08/21/14 23:39	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	10.0	20		08/21/14 23:39	71-55-6	
1,1,2-Trichloroethane	**12.0**	ug/L	10.0	20		08/21/14 23:39	79-00-5	
Trichloroethene	**63.5**	ug/L	10.0	20		08/21/14 23:39	79-01-6	
Trichlorofluoromethane	ND	ug/L	20.0	20		08/21/14 23:39	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	10.0	20		08/21/14 23:39	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	10.0	20		08/21/14 23:39	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	10.0	20		08/21/14 23:39	108-67-8	
Vinyl chloride	ND	ug/L	20.0	20		08/21/14 23:39	75-01-4	
m&p-Xylene	**41.6**	ug/L	20.0	20		08/21/14 23:39	179601-23-1	
o-Xylene	**12.7**	ug/L	10.0	20		08/21/14 23:39	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	94	%	70-130	20		08/21/14 23:39	17060-07-0	
4-Bromofluorobenzene (S)	102	%	70-130	20		08/21/14 23:39	460-00-4	
Toluene-d8 (S)	99	%	70-130	20		08/21/14 23:39	2037-26-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-63 **Lab ID: 92214233022** Collected: 08/15/14 16:30 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic	ND	ug/L	10.0	1	08/21/14 16:35	08/22/14 17:45	7440-38-2	
Barium	ND	ug/L	5.0	1	08/21/14 16:35	08/22/14 17:45	7440-39-3	
Cadmium	ND	ug/L	1.0	1	08/21/14 16:35	08/22/14 17:45	7440-43-9	
Chromium	ND	ug/L	5.0	1	08/21/14 16:35	08/22/14 17:45	7440-47-3	
Lead	ND	ug/L	5.0	1	08/21/14 16:35	08/22/14 17:45	7439-92-1	
Manganese	ND	ug/L	5.0	1	08/21/14 16:35	08/22/14 17:45	7439-96-5	
Selenium	ND	ug/L	10.0	1	08/21/14 16:35	08/22/14 17:45	7782-49-2	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	08/21/14 18:00	08/23/14 18:50	7439-97-6	
6200B MSV	Analytical Method: SM 6200B							
Benzene	ND	ug/L	0.50	1		08/22/14 10:08	71-43-2	
Bromobenzene	ND	ug/L	0.50	1		08/22/14 10:08	108-86-1	
Bromochloromethane	ND	ug/L	0.50	1		08/22/14 10:08	74-97-5	
Bromodichloromethane	ND	ug/L	0.50	1		08/22/14 10:08	75-27-4	
Bromoform	ND	ug/L	0.50	1		08/22/14 10:08	75-25-2	
Bromomethane	ND	ug/L	5.0	1		08/22/14 10:08	74-83-9	
n-Butylbenzene	ND	ug/L	0.50	1		08/22/14 10:08	104-51-8	
sec-Butylbenzene	ND	ug/L	0.50	1		08/22/14 10:08	135-98-8	
tert-Butylbenzene	ND	ug/L	0.50	1		08/22/14 10:08	98-06-6	
Carbon tetrachloride	ND	ug/L	0.50	1		08/22/14 10:08	56-23-5	
Chlorobenzene	ND	ug/L	0.50	1		08/22/14 10:08	108-90-7	
Chloroethane	ND	ug/L	1.0	1		08/22/14 10:08	75-00-3	
Chloroform	ND	ug/L	0.50	1		08/22/14 10:08	67-66-3	
Chloromethane	ND	ug/L	1.0	1		08/22/14 10:08	74-87-3	
2-Chlorotoluene	ND	ug/L	0.50	1		08/22/14 10:08	95-49-8	
4-Chlorotoluene	ND	ug/L	0.50	1		08/22/14 10:08	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	1		08/22/14 10:08	96-12-8	
Dibromochloromethane	ND	ug/L	0.50	1		08/22/14 10:08	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	1		08/22/14 10:08	106-93-4	
Dibromomethane	ND	ug/L	0.50	1		08/22/14 10:08	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	0.50	1		08/22/14 10:08	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	0.50	1		08/22/14 10:08	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	0.50	1		08/22/14 10:08	106-46-7	
Dichlorodifluoromethane	ND	ug/L	0.50	1		08/22/14 10:08	75-71-8	
1,1-Dichloroethane	ND	ug/L	0.50	1		08/22/14 10:08	75-34-3	
1,2-Dichloroethane	ND	ug/L	0.50	1		08/22/14 10:08	107-06-2	
1,1-Dichloroethene	ND	ug/L	0.50	1		08/22/14 10:08	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		08/22/14 10:08	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	0.50	1		08/22/14 10:08	156-60-5	
1,2-Dichloropropane	ND	ug/L	0.50	1		08/22/14 10:08	78-87-5	
1,3-Dichloropropane	ND	ug/L	0.50	1		08/22/14 10:08	142-28-9	
2,2-Dichloropropane	ND	ug/L	0.50	1		08/22/14 10:08	594-20-7	
1,1-Dichloropropene	ND	ug/L	0.50	1		08/22/14 10:08	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		08/22/14 10:08	10061-01-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-63 **Lab ID: 92214233022** Collected: 08/15/14 16:30 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV	Analytical Method: SM 6200B							
trans-1,3-Dichloropropene	ND	ug/L	0.50	1		08/22/14 10:08	10061-02-6	
Diisopropyl ether	ND	ug/L	0.50	1		08/22/14 10:08	108-20-3	
Ethylbenzene	ND	ug/L	0.50	1		08/22/14 10:08	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	2.0	1		08/22/14 10:08	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/L	0.50	1		08/22/14 10:08	98-82-8	
Methylene Chloride	ND	ug/L	2.0	1		08/22/14 10:08	75-09-2	
Methyl-tert-butyl ether	ND	ug/L	0.50	1		08/22/14 10:08	1634-04-4	
Naphthalene	ND	ug/L	2.0	1		08/22/14 10:08	91-20-3	
n-Propylbenzene	ND	ug/L	0.50	1		08/22/14 10:08	103-65-1	
Styrene	ND	ug/L	0.50	1		08/22/14 10:08	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1		08/22/14 10:08	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	1		08/22/14 10:08	79-34-5	
Tetrachloroethene	ND	ug/L	0.50	1		08/22/14 10:08	127-18-4	
Toluene	ND	ug/L	0.50	1		08/22/14 10:08	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	2.0	1		08/22/14 10:08	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	2.0	1		08/22/14 10:08	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	0.50	1		08/22/14 10:08	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	0.50	1		08/22/14 10:08	79-00-5	
Trichloroethene	ND	ug/L	0.50	1		08/22/14 10:08	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		08/22/14 10:08	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	0.50	1		08/22/14 10:08	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	1		08/22/14 10:08	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	1		08/22/14 10:08	108-67-8	
Vinyl chloride	ND	ug/L	1.0	1		08/22/14 10:08	75-01-4	
m&p-Xylene	ND	ug/L	1.0	1		08/22/14 10:08	179601-23-1	
o-Xylene	ND	ug/L	0.50	1		08/22/14 10:08	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	94	%	70-130	1		08/22/14 10:08	17060-07-0	
4-Bromofluorobenzene (S)	102	%	70-130	1		08/22/14 10:08	460-00-4	
Toluene-d8 (S)	98	%	70-130	1		08/22/14 10:08	2037-26-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-36S **Lab ID: 92214233023** Collected: 08/18/14 09:27 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV	Analytical Method: SM 6200B							
Benzene	**5.3**	ug/L	5.0	10		08/22/14 21:10	71-43-2	
Bromobenzene	ND	ug/L	5.0	10		08/22/14 21:10	108-86-1	
Bromochloromethane	ND	ug/L	5.0	10		08/22/14 21:10	74-97-5	
Bromodichloromethane	ND	ug/L	5.0	10		08/22/14 21:10	75-27-4	
Bromoform	ND	ug/L	5.0	10		08/22/14 21:10	75-25-2	
Bromomethane	ND	ug/L	50.0	10		08/22/14 21:10	74-83-9	
n-Butylbenzene	ND	ug/L	5.0	10		08/22/14 21:10	104-51-8	
sec-Butylbenzene	ND	ug/L	5.0	10		08/22/14 21:10	135-98-8	
tert-Butylbenzene	ND	ug/L	5.0	10		08/22/14 21:10	98-06-6	
Carbon tetrachloride	**31.0**	ug/L	5.0	10		08/22/14 21:10	56-23-5	
Chlorobenzene	ND	ug/L	5.0	10		08/22/14 21:10	108-90-7	
Chloroethane	ND	ug/L	10.0	10		08/22/14 21:10	75-00-3	
Chloroform	**928**	ug/L	5.0	10		08/22/14 21:10	67-66-3	
Chloromethane	ND	ug/L	10.0	10		08/22/14 21:10	74-87-3	
2-Chlorotoluene	ND	ug/L	5.0	10		08/22/14 21:10	95-49-8	
4-Chlorotoluene	ND	ug/L	5.0	10		08/22/14 21:10	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	10.0	10		08/22/14 21:10	96-12-8	
Dibromochloromethane	ND	ug/L	5.0	10		08/22/14 21:10	124-48-1	
1,2-Dibromoethane (EDB)	**58.7**	ug/L	5.0	10		08/22/14 21:10	106-93-4	
Dibromomethane	ND	ug/L	5.0	10		08/22/14 21:10	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	10		08/22/14 21:10	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	5.0	10		08/22/14 21:10	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	5.0	10		08/22/14 21:10	106-46-7	
Dichlorodifluoromethane	ND	ug/L	5.0	10		08/22/14 21:10	75-71-8	
1,1-Dichloroethane	ND	ug/L	5.0	10		08/22/14 21:10	75-34-3	
1,2-Dichloroethane	**30.0**	ug/L	5.0	10		08/22/14 21:10	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	10		08/22/14 21:10	75-35-4	
cis-1,2-Dichloroethene	**5.2**	ug/L	5.0	10		08/22/14 21:10	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	10		08/22/14 21:10	156-60-5	
1,2-Dichloropropane	**392**	ug/L	5.0	10		08/22/14 21:10	78-87-5	
1,3-Dichloropropane	ND	ug/L	5.0	10		08/22/14 21:10	142-28-9	
2,2-Dichloropropane	ND	ug/L	5.0	10		08/22/14 21:10	594-20-7	
1,1-Dichloropropene	ND	ug/L	5.0	10		08/22/14 21:10	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	5.0	10		08/22/14 21:10	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	5.0	10		08/22/14 21:10	10061-02-6	
Diisopropyl ether	ND	ug/L	5.0	10		08/22/14 21:10	108-20-3	
Ethylbenzene	ND	ug/L	5.0	10		08/22/14 21:10	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	20.0	10		08/22/14 21:10	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/L	5.0	10		08/22/14 21:10	98-82-8	
Methylene Chloride	**23.0**	ug/L	20.0	10		08/22/14 21:10	75-09-2	
Methyl-tert-butyl ether	ND	ug/L	5.0	10		08/22/14 21:10	1634-04-4	
Naphthalene	ND	ug/L	20.0	10		08/22/14 21:10	91-20-3	
n-Propylbenzene	ND	ug/L	5.0	10		08/22/14 21:10	103-65-1	
Styrene	ND	ug/L	5.0	10		08/22/14 21:10	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	10		08/22/14 21:10	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0	10		08/22/14 21:10	79-34-5	
Tetrachloroethene	**8.7**	ug/L	5.0	10		08/22/14 21:10	127-18-4	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-36S **Lab ID: 92214233023** Collected: 08/18/14 09:27 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV	Analytical Method: SM 6200B							
Toluene	**8.3**	ug/L	5.0	10		08/22/14 21:10	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	20.0	10		08/22/14 21:10	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	20.0	10		08/22/14 21:10	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	5.0	10		08/22/14 21:10	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	5.0	10		08/22/14 21:10	79-00-5	
Trichloroethene	**68.3**	ug/L	5.0	10		08/22/14 21:10	79-01-6	
Trichlorofluoromethane	ND	ug/L	10.0	10		08/22/14 21:10	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	5.0	10		08/22/14 21:10	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	5.0	10		08/22/14 21:10	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	5.0	10		08/22/14 21:10	108-67-8	
Vinyl chloride	ND	ug/L	10.0	10		08/22/14 21:10	75-01-4	
m&p-Xylene	ND	ug/L	10.0	10		08/22/14 21:10	179601-23-1	
o-Xylene	ND	ug/L	5.0	10		08/22/14 21:10	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	91	%	70-130	10		08/22/14 21:10	17060-07-0	
4-Bromofluorobenzene (S)	104	%	70-130	10		08/22/14 21:10	460-00-4	
Toluene-d8 (S)	98	%	70-130	10		08/22/14 21:10	2037-26-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-36D **Lab ID: 92214233024** Collected: 08/18/14 10:48 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic	**35.9**	ug/L	10.0	1	08/21/14 16:35	08/22/14 17:48	7440-38-2	
Barium	ND	ug/L	5.0	1	08/21/14 16:35	08/22/14 17:48	7440-39-3	
Cadmium	ND	ug/L	1.0	1	08/21/14 16:35	08/22/14 17:48	7440-43-9	
Chromium	**5.3**	ug/L	5.0	1	08/21/14 16:35	08/22/14 17:48	7440-47-3	
Lead	ND	ug/L	5.0	1	08/21/14 16:35	08/22/14 17:48	7439-92-1	
Manganese	**34.9**	ug/L	5.0	1	08/21/14 16:35	08/22/14 17:48	7439-96-5	
Selenium	ND	ug/L	10.0	1	08/21/14 16:35	08/22/14 17:48	7782-49-2	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	08/21/14 18:00	08/23/14 18:53	7439-97-6	
6200B MSV	Analytical Method: SM 6200B							
Benzene	ND	ug/L	1.0	2		08/25/14 16:58	71-43-2	
Bromobenzene	ND	ug/L	1.0	2		08/25/14 16:58	108-86-1	
Bromochloromethane	ND	ug/L	1.0	2		08/25/14 16:58	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	2		08/25/14 16:58	75-27-4	
Bromoform	ND	ug/L	1.0	2		08/25/14 16:58	75-25-2	
Bromomethane	ND	ug/L	10.0	2		08/25/14 16:58	74-83-9	
n-Butylbenzene	ND	ug/L	1.0	2		08/25/14 16:58	104-51-8	
sec-Butylbenzene	ND	ug/L	1.0	2		08/25/14 16:58	135-98-8	
tert-Butylbenzene	ND	ug/L	1.0	2		08/25/14 16:58	98-06-6	
Carbon tetrachloride	**5.5**	ug/L	1.0	2		08/25/14 16:58	56-23-5	
Chlorobenzene	ND	ug/L	1.0	2		08/25/14 16:58	108-90-7	
Chloroethane	ND	ug/L	2.0	2		08/25/14 16:58	75-00-3	
Chloroform	**337**	ug/L	1.0	2		08/25/14 16:58	67-66-3	
Chloromethane	ND	ug/L	2.0	2		08/25/14 16:58	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	2		08/25/14 16:58	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	2		08/25/14 16:58	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	2		08/25/14 16:58	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	2		08/25/14 16:58	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	2		08/25/14 16:58	106-93-4	
Dibromomethane	ND	ug/L	1.0	2		08/25/14 16:58	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	2		08/25/14 16:58	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	2		08/25/14 16:58	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	2		08/25/14 16:58	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	2		08/25/14 16:58	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	2		08/25/14 16:58	75-34-3	
1,2-Dichloroethane	**1.1**	ug/L	1.0	2		08/25/14 16:58	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	2		08/25/14 16:58	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	2		08/25/14 16:58	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	2		08/25/14 16:58	156-60-5	
1,2-Dichloropropane	**13.7**	ug/L	1.0	2		08/25/14 16:58	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	2		08/25/14 16:58	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	2		08/25/14 16:58	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	2		08/25/14 16:58	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	2		08/25/14 16:58	10061-01-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-36D **Lab ID: 92214233024** Collected: 08/18/14 10:48 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV	Analytical Method: SM 6200B							
trans-1,3-Dichloropropene	ND	ug/L	1.0	2		08/25/14 16:58	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	2		08/25/14 16:58	108-20-3	
Ethylbenzene	ND	ug/L	1.0	2		08/25/14 16:58	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	4.0	2		08/25/14 16:58	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	2		08/25/14 16:58	98-82-8	
Methylene Chloride	ND	ug/L	4.0	2		08/25/14 16:58	75-09-2	
Methyl-tert-butyl ether	ND	ug/L	1.0	2		08/25/14 16:58	1634-04-4	
Naphthalene	ND	ug/L	4.0	2		08/25/14 16:58	91-20-3	
n-Propylbenzene	ND	ug/L	1.0	2		08/25/14 16:58	103-65-1	
Styrene	ND	ug/L	1.0	2		08/25/14 16:58	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	2		08/25/14 16:58	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	2		08/25/14 16:58	79-34-5	
Tetrachloroethene	**1.5**	ug/L	1.0	2		08/25/14 16:58	127-18-4	
Toluene	ND	ug/L	1.0	2		08/25/14 16:58	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	4.0	2		08/25/14 16:58	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	4.0	2		08/25/14 16:58	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	2		08/25/14 16:58	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	2		08/25/14 16:58	79-00-5	
Trichloroethene	**3.8**	ug/L	1.0	2		08/25/14 16:58	79-01-6	
Trichlorofluoromethane	ND	ug/L	2.0	2		08/25/14 16:58	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	2		08/25/14 16:58	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	1.0	2		08/25/14 16:58	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	1.0	2		08/25/14 16:58	108-67-8	
Vinyl chloride	ND	ug/L	2.0	2		08/25/14 16:58	75-01-4	
m&p-Xylene	ND	ug/L	2.0	2		08/25/14 16:58	179601-23-1	
o-Xylene	ND	ug/L	1.0	2		08/25/14 16:58	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	93	%	70-130	2		08/25/14 16:58	17060-07-0	
4-Bromofluorobenzene (S)	102	%	70-130	2		08/25/14 16:58	460-00-4	
Toluene-d8 (S)	100	%	70-130	2		08/25/14 16:58	2037-26-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-61 **Lab ID: 92214233025** Collected: 08/18/14 10:48 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic	**38.3**	ug/L	10.0	1	08/21/14 16:35	08/22/14 17:51	7440-38-2	
Barium	ND	ug/L	5.0	1	08/21/14 16:35	08/22/14 17:51	7440-39-3	
Cadmium	ND	ug/L	1.0	1	08/21/14 16:35	08/22/14 17:51	7440-43-9	
Chromium	ND	ug/L	5.0	1	08/21/14 16:35	08/22/14 17:51	7440-47-3	
Lead	ND	ug/L	5.0	1	08/21/14 16:35	08/22/14 17:51	7439-92-1	
Manganese	**32.4**	ug/L	5.0	1	08/21/14 16:35	08/22/14 17:51	7439-96-5	
Selenium	ND	ug/L	10.0	1	08/21/14 16:35	08/22/14 17:51	7782-49-2	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	08/21/14 18:00	08/23/14 18:56	7439-97-6	
6200B MSV	Analytical Method: SM 6200B							
Benzene	ND	ug/L	1.0	2		08/25/14 17:14	71-43-2	
Bromobenzene	ND	ug/L	1.0	2		08/25/14 17:14	108-86-1	
Bromochloromethane	ND	ug/L	1.0	2		08/25/14 17:14	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	2		08/25/14 17:14	75-27-4	
Bromoform	ND	ug/L	1.0	2		08/25/14 17:14	75-25-2	
Bromomethane	ND	ug/L	10.0	2		08/25/14 17:14	74-83-9	
n-Butylbenzene	ND	ug/L	1.0	2		08/25/14 17:14	104-51-8	
sec-Butylbenzene	ND	ug/L	1.0	2		08/25/14 17:14	135-98-8	
tert-Butylbenzene	ND	ug/L	1.0	2		08/25/14 17:14	98-06-6	
Carbon tetrachloride	**5.6**	ug/L	1.0	2		08/25/14 17:14	56-23-5	
Chlorobenzene	ND	ug/L	1.0	2		08/25/14 17:14	108-90-7	
Chloroethane	ND	ug/L	2.0	2		08/25/14 17:14	75-00-3	
Chloroform	**353**	ug/L	1.0	2		08/25/14 17:14	67-66-3	
Chloromethane	ND	ug/L	2.0	2		08/25/14 17:14	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	2		08/25/14 17:14	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	2		08/25/14 17:14	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	2		08/25/14 17:14	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	2		08/25/14 17:14	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	2		08/25/14 17:14	106-93-4	
Dibromomethane	ND	ug/L	1.0	2		08/25/14 17:14	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	2		08/25/14 17:14	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	2		08/25/14 17:14	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	2		08/25/14 17:14	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	2		08/25/14 17:14	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	2		08/25/14 17:14	75-34-3	
1,2-Dichloroethane	**1.2**	ug/L	1.0	2		08/25/14 17:14	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	2		08/25/14 17:14	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	2		08/25/14 17:14	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	2		08/25/14 17:14	156-60-5	
1,2-Dichloropropane	**13.3**	ug/L	1.0	2		08/25/14 17:14	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	2		08/25/14 17:14	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	2		08/25/14 17:14	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	2		08/25/14 17:14	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	2		08/25/14 17:14	10061-01-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-61 **Lab ID: 92214233025** Collected: 08/18/14 10:48 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV	Analytical Method: SM 6200B							
trans-1,3-Dichloropropene	ND	ug/L	1.0	2		08/25/14 17:14	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	2		08/25/14 17:14	108-20-3	
Ethylbenzene	ND	ug/L	1.0	2		08/25/14 17:14	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	4.0	2		08/25/14 17:14	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	2		08/25/14 17:14	98-82-8	
Methylene Chloride	ND	ug/L	4.0	2		08/25/14 17:14	75-09-2	
Methyl-tert-butyl ether	ND	ug/L	1.0	2		08/25/14 17:14	1634-04-4	
Naphthalene	ND	ug/L	4.0	2		08/25/14 17:14	91-20-3	
n-Propylbenzene	ND	ug/L	1.0	2		08/25/14 17:14	103-65-1	
Styrene	ND	ug/L	1.0	2		08/25/14 17:14	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	2		08/25/14 17:14	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	2		08/25/14 17:14	79-34-5	
Tetrachloroethene	**1.3**	ug/L	1.0	2		08/25/14 17:14	127-18-4	
Toluene	ND	ug/L	1.0	2		08/25/14 17:14	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	4.0	2		08/25/14 17:14	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	4.0	2		08/25/14 17:14	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	2		08/25/14 17:14	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	2		08/25/14 17:14	79-00-5	
Trichloroethene	**3.6**	ug/L	1.0	2		08/25/14 17:14	79-01-6	
Trichlorofluoromethane	ND	ug/L	2.0	2		08/25/14 17:14	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	2		08/25/14 17:14	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	1.0	2		08/25/14 17:14	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	1.0	2		08/25/14 17:14	108-67-8	
Vinyl chloride	ND	ug/L	2.0	2		08/25/14 17:14	75-01-4	
m&p-Xylene	ND	ug/L	2.0	2		08/25/14 17:14	179601-23-1	
o-Xylene	ND	ug/L	1.0	2		08/25/14 17:14	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	91	%	70-130	2		08/25/14 17:14	17060-07-0	
4-Bromofluorobenzene (S)	103	%	70-130	2		08/25/14 17:14	460-00-4	
Toluene-d8 (S)	99	%	70-130	2		08/25/14 17:14	2037-26-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-17D **Lab ID: 92214233026** Collected: 08/18/14 14:10 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic	ND	ug/L	10.0	1	08/21/14 16:35	08/25/14 22:19	7440-38-2	
Barium	ND	ug/L	5.0	1	08/21/14 16:35	08/25/14 22:19	7440-39-3	
Cadmium	ND	ug/L	1.0	1	08/21/14 16:35	08/25/14 22:19	7440-43-9	
Chromium	ND	ug/L	5.0	1	08/21/14 16:35	08/25/14 22:19	7440-47-3	
Lead	ND	ug/L	5.0	1	08/21/14 16:35	08/25/14 22:19	7439-92-1	
Manganese	ND	ug/L	5.0	1	08/21/14 16:35	08/25/14 22:19	7439-96-5	
Selenium	ND	ug/L	10.0	1	08/21/14 16:35	08/25/14 22:19	7782-49-2	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	08/21/14 18:00	08/23/14 19:05	7439-97-6	
6200B MSV	Analytical Method: SM 6200B							
Benzene	**18.9**	ug/L	10.0	20		08/22/14 21:57	71-43-2	
Bromobenzene	ND	ug/L	10.0	20		08/22/14 21:57	108-86-1	
Bromochloromethane	ND	ug/L	10.0	20		08/22/14 21:57	74-97-5	
Bromodichloromethane	ND	ug/L	10.0	20		08/22/14 21:57	75-27-4	
Bromoform	ND	ug/L	10.0	20		08/22/14 21:57	75-25-2	
Bromomethane	ND	ug/L	100	20		08/22/14 21:57	74-83-9	
n-Butylbenzene	ND	ug/L	10.0	20		08/22/14 21:57	104-51-8	
sec-Butylbenzene	ND	ug/L	10.0	20		08/22/14 21:57	135-98-8	
tert-Butylbenzene	ND	ug/L	10.0	20		08/22/14 21:57	98-06-6	
Carbon tetrachloride	**190**	ug/L	10.0	20		08/22/14 21:57	56-23-5	
Chlorobenzene	ND	ug/L	10.0	20		08/22/14 21:57	108-90-7	
Chloroethane	ND	ug/L	20.0	20		08/22/14 21:57	75-00-3	
Chloroform	**1840**	ug/L	10.0	20		08/22/14 21:57	67-66-3	
Chloromethane	ND	ug/L	20.0	20		08/22/14 21:57	74-87-3	
2-Chlorotoluene	ND	ug/L	10.0	20		08/22/14 21:57	95-49-8	
4-Chlorotoluene	ND	ug/L	10.0	20		08/22/14 21:57	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	20.0	20		08/22/14 21:57	96-12-8	
Dibromochloromethane	ND	ug/L	10.0	20		08/22/14 21:57	124-48-1	
1,2-Dibromoethane (EDB)	**10.2**	ug/L	10.0	20		08/22/14 21:57	106-93-4	
Dibromomethane	ND	ug/L	10.0	20		08/22/14 21:57	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	10.0	20		08/22/14 21:57	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	10.0	20		08/22/14 21:57	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	10.0	20		08/22/14 21:57	106-46-7	
Dichlorodifluoromethane	ND	ug/L	10.0	20		08/22/14 21:57	75-71-8	
1,1-Dichloroethane	ND	ug/L	10.0	20		08/22/14 21:57	75-34-3	
1,2-Dichloroethane	ND	ug/L	10.0	20		08/22/14 21:57	107-06-2	
1,1-Dichloroethene	ND	ug/L	10.0	20		08/22/14 21:57	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	10.0	20		08/22/14 21:57	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	10.0	20		08/22/14 21:57	156-60-5	
1,2-Dichloropropane	**217**	ug/L	10.0	20		08/22/14 21:57	78-87-5	
1,3-Dichloropropane	ND	ug/L	10.0	20		08/22/14 21:57	142-28-9	
2,2-Dichloropropane	ND	ug/L	10.0	20		08/22/14 21:57	594-20-7	
1,1-Dichloropropene	ND	ug/L	10.0	20		08/22/14 21:57	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	10.0	20		08/22/14 21:57	10061-01-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-17D **Lab ID: 92214233026** Collected: 08/18/14 14:10 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV	Analytical Method: SM 6200B							
trans-1,3-Dichloropropene	ND	ug/L	10.0	20		08/22/14 21:57	10061-02-6	
Diisopropyl ether	ND	ug/L	10.0	20		08/22/14 21:57	108-20-3	
Ethylbenzene	ND	ug/L	10.0	20		08/22/14 21:57	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	40.0	20		08/22/14 21:57	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/L	10.0	20		08/22/14 21:57	98-82-8	
Methylene Chloride	ND	ug/L	40.0	20		08/22/14 21:57	75-09-2	
Methyl-tert-butyl ether	ND	ug/L	10.0	20		08/22/14 21:57	1634-04-4	
Naphthalene	ND	ug/L	40.0	20		08/22/14 21:57	91-20-3	
n-Propylbenzene	ND	ug/L	10.0	20		08/22/14 21:57	103-65-1	
Styrene	ND	ug/L	10.0	20		08/22/14 21:57	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	10.0	20		08/22/14 21:57	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	10.0	20		08/22/14 21:57	79-34-5	
Tetrachloroethene	**52.6**	ug/L	10.0	20		08/22/14 21:57	127-18-4	
Toluene	**12.0**	ug/L	10.0	20		08/22/14 21:57	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	40.0	20		08/22/14 21:57	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	40.0	20		08/22/14 21:57	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	10.0	20		08/22/14 21:57	71-55-6	
1,1,2-Trichloroethane	**51.0**	ug/L	10.0	20		08/22/14 21:57	79-00-5	
Trichloroethene	**107**	ug/L	10.0	20		08/22/14 21:57	79-01-6	
Trichlorofluoromethane	ND	ug/L	20.0	20		08/22/14 21:57	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	10.0	20		08/22/14 21:57	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	10.0	20		08/22/14 21:57	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	10.0	20		08/22/14 21:57	108-67-8	
Vinyl chloride	ND	ug/L	20.0	20		08/22/14 21:57	75-01-4	
m&p-Xylene	ND	ug/L	20.0	20		08/22/14 21:57	179601-23-1	
o-Xylene	ND	ug/L	10.0	20		08/22/14 21:57	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	92	%	70-130	20		08/22/14 21:57	17060-07-0	
4-Bromofluorobenzene (S)	103	%	70-130	20		08/22/14 21:57	460-00-4	
Toluene-d8 (S)	98	%	70-130	20		08/22/14 21:57	2037-26-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-17I **Lab ID: 92214233027** Collected: 08/18/14 13:00 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic	ND	ug/L	10.0	1	08/21/14 16:35	08/25/14 22:39	7440-38-2	
Barium	**13.8**	ug/L	5.0	1	08/21/14 16:35	08/25/14 22:39	7440-39-3	
Cadmium	ND	ug/L	1.0	1	08/21/14 16:35	08/25/14 22:39	7440-43-9	
Chromium	ND	ug/L	5.0	1	08/21/14 16:35	08/26/14 17:37	7440-47-3	
Lead	ND	ug/L	5.0	1	08/21/14 16:35	08/25/14 22:39	7439-92-1	
Manganese	**126**	ug/L	5.0	1	08/21/14 16:35	08/25/14 22:39	7439-96-5	
Selenium	ND	ug/L	10.0	1	08/21/14 16:35	08/25/14 22:39	7782-49-2	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	08/21/14 18:00	08/23/14 19:08	7439-97-6	
6200B MSV	Analytical Method: SM 6200B							
Benzene	**2150**	ug/L	10.0	20		08/22/14 22:13	71-43-2	
Bromobenzene	ND	ug/L	10.0	20		08/22/14 22:13	108-86-1	
Bromochloromethane	ND	ug/L	10.0	20		08/22/14 22:13	74-97-5	
Bromodichloromethane	**37.6**	ug/L	10.0	20		08/22/14 22:13	75-27-4	
Bromoform	ND	ug/L	10.0	20		08/22/14 22:13	75-25-2	
Bromomethane	ND	ug/L	100	20		08/22/14 22:13	74-83-9	
n-Butylbenzene	ND	ug/L	10.0	20		08/22/14 22:13	104-51-8	
sec-Butylbenzene	ND	ug/L	10.0	20		08/22/14 22:13	135-98-8	
tert-Butylbenzene	ND	ug/L	10.0	20		08/22/14 22:13	98-06-6	
Carbon tetrachloride	**78.2**	ug/L	10.0	20		08/22/14 22:13	56-23-5	
Chlorobenzene	ND	ug/L	10.0	20		08/22/14 22:13	108-90-7	
Chloroethane	ND	ug/L	20.0	20		08/22/14 22:13	75-00-3	
Chloroform	**3060**	ug/L	10.0	20		08/22/14 22:13	67-66-3	
Chloromethane	ND	ug/L	20.0	20		08/22/14 22:13	74-87-3	
2-Chlorotoluene	ND	ug/L	10.0	20		08/22/14 22:13	95-49-8	
4-Chlorotoluene	ND	ug/L	10.0	20		08/22/14 22:13	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	20.0	20		08/22/14 22:13	96-12-8	
Dibromochloromethane	ND	ug/L	10.0	20		08/22/14 22:13	124-48-1	
1,2-Dibromoethane (EDB)	**18.7**	ug/L	10.0	20		08/22/14 22:13	106-93-4	
Dibromomethane	ND	ug/L	10.0	20		08/22/14 22:13	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	10.0	20		08/22/14 22:13	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	10.0	20		08/22/14 22:13	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	10.0	20		08/22/14 22:13	106-46-7	
Dichlorodifluoromethane	ND	ug/L	10.0	20		08/22/14 22:13	75-71-8	
1,1-Dichloroethane	ND	ug/L	10.0	20		08/22/14 22:13	75-34-3	
1,2-Dichloroethane	ND	ug/L	10.0	20		08/22/14 22:13	107-06-2	
1,1-Dichloroethene	ND	ug/L	10.0	20		08/22/14 22:13	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	10.0	20		08/22/14 22:13	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	10.0	20		08/22/14 22:13	156-60-5	
1,2-Dichloropropane	**410**	ug/L	10.0	20		08/22/14 22:13	78-87-5	
1,3-Dichloropropane	ND	ug/L	10.0	20		08/22/14 22:13	142-28-9	
2,2-Dichloropropane	ND	ug/L	10.0	20		08/22/14 22:13	594-20-7	
1,1-Dichloropropene	ND	ug/L	10.0	20		08/22/14 22:13	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	10.0	20		08/22/14 22:13	10061-01-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-17I **Lab ID: 92214233027** Collected: 08/18/14 13:00 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV	Analytical Method: SM 6200B							
trans-1,3-Dichloropropene	ND	ug/L	10.0	20		08/22/14 22:13	10061-02-6	
Diisopropyl ether	ND	ug/L	10.0	20		08/22/14 22:13	108-20-3	
Ethylbenzene	ND	ug/L	10.0	20		08/22/14 22:13	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	40.0	20		08/22/14 22:13	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/L	10.0	20		08/22/14 22:13	98-82-8	
Methylene Chloride	**133**	ug/L	40.0	20		08/22/14 22:13	75-09-2	
Methyl-tert-butyl ether	ND	ug/L	10.0	20		08/22/14 22:13	1634-04-4	
Naphthalene	ND	ug/L	40.0	20		08/22/14 22:13	91-20-3	
n-Propylbenzene	ND	ug/L	10.0	20		08/22/14 22:13	103-65-1	
Styrene	ND	ug/L	10.0	20		08/22/14 22:13	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	10.0	20		08/22/14 22:13	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	10.0	20		08/22/14 22:13	79-34-5	
Tetrachloroethene	ND	ug/L	10.0	20		08/22/14 22:13	127-18-4	
Toluene	**15.3**	ug/L	10.0	20		08/22/14 22:13	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	40.0	20		08/22/14 22:13	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	40.0	20		08/22/14 22:13	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	10.0	20		08/22/14 22:13	71-55-6	
1,1,2-Trichloroethane	**17.4**	ug/L	10.0	20		08/22/14 22:13	79-00-5	
Trichloroethene	**134**	ug/L	10.0	20		08/22/14 22:13	79-01-6	
Trichlorofluoromethane	ND	ug/L	20.0	20		08/22/14 22:13	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	10.0	20		08/22/14 22:13	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	10.0	20		08/22/14 22:13	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	10.0	20		08/22/14 22:13	108-67-8	
Vinyl chloride	ND	ug/L	20.0	20		08/22/14 22:13	75-01-4	
m&p-Xylene	ND	ug/L	20.0	20		08/22/14 22:13	179601-23-1	
o-Xylene	ND	ug/L	10.0	20		08/22/14 22:13	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	91	%	70-130	20		08/22/14 22:13	17060-07-0	
4-Bromofluorobenzene (S)	102	%	70-130	20		08/22/14 22:13	460-00-4	
Toluene-d8 (S)	99	%	70-130	20		08/22/14 22:13	2037-26-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-12I **Lab ID: 92214233028** Collected: 08/18/14 15:37 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic	ND	ug/L	10.0	1	08/21/14 16:35	08/25/14 22:42	7440-38-2	
Barium	**24.7**	ug/L	5.0	1	08/21/14 16:35	08/25/14 22:42	7440-39-3	
Cadmium	ND	ug/L	1.0	1	08/21/14 16:35	08/25/14 22:42	7440-43-9	
Chromium	ND	ug/L	5.0	1	08/21/14 16:35	08/26/14 17:40	7440-47-3	
Lead	ND	ug/L	5.0	1	08/21/14 16:35	08/25/14 22:42	7439-92-1	
Manganese	**84.2**	ug/L	5.0	1	08/21/14 16:35	08/25/14 22:42	7439-96-5	
Selenium	ND	ug/L	10.0	1	08/21/14 16:35	08/25/14 22:42	7782-49-2	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	08/21/14 18:00	08/23/14 19:11	7439-97-6	
6200B MSV	Analytical Method: SM 6200B							
Benzene	**87.4**	ug/L	25.0	50		08/22/14 22:29	71-43-2	
Bromobenzene	ND	ug/L	25.0	50		08/22/14 22:29	108-86-1	
Bromochloromethane	ND	ug/L	25.0	50		08/22/14 22:29	74-97-5	
Bromodichloromethane	ND	ug/L	25.0	50		08/22/14 22:29	75-27-4	
Bromoform	ND	ug/L	25.0	50		08/22/14 22:29	75-25-2	
Bromomethane	ND	ug/L	250	50		08/22/14 22:29	74-83-9	
n-Butylbenzene	ND	ug/L	25.0	50		08/22/14 22:29	104-51-8	
sec-Butylbenzene	ND	ug/L	25.0	50		08/22/14 22:29	135-98-8	
tert-Butylbenzene	ND	ug/L	25.0	50		08/22/14 22:29	98-06-6	
Carbon tetrachloride	**46.1**	ug/L	25.0	50		08/22/14 22:29	56-23-5	
Chlorobenzene	ND	ug/L	25.0	50		08/22/14 22:29	108-90-7	
Chloroethane	ND	ug/L	50.0	50		08/22/14 22:29	75-00-3	
Chloroform	**4850**	ug/L	25.0	50		08/22/14 22:29	67-66-3	
Chloromethane	ND	ug/L	50.0	50		08/22/14 22:29	74-87-3	
2-Chlorotoluene	ND	ug/L	25.0	50		08/22/14 22:29	95-49-8	
4-Chlorotoluene	ND	ug/L	25.0	50		08/22/14 22:29	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	50.0	50		08/22/14 22:29	96-12-8	
Dibromochloromethane	ND	ug/L	25.0	50		08/22/14 22:29	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	25.0	50		08/22/14 22:29	106-93-4	
Dibromomethane	ND	ug/L	25.0	50		08/22/14 22:29	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	25.0	50		08/22/14 22:29	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	25.0	50		08/22/14 22:29	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	25.0	50		08/22/14 22:29	106-46-7	
Dichlorodifluoromethane	ND	ug/L	25.0	50		08/22/14 22:29	75-71-8	
1,1-Dichloroethane	ND	ug/L	25.0	50		08/22/14 22:29	75-34-3	
1,2-Dichloroethane	ND	ug/L	25.0	50		08/22/14 22:29	107-06-2	
1,1-Dichloroethene	ND	ug/L	25.0	50		08/22/14 22:29	75-35-4	
cis-1,2-Dichloroethene	**32.2**	ug/L	25.0	50		08/22/14 22:29	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	25.0	50		08/22/14 22:29	156-60-5	
1,2-Dichloropropane	**174**	ug/L	25.0	50		08/22/14 22:29	78-87-5	
1,3-Dichloropropane	ND	ug/L	25.0	50		08/22/14 22:29	142-28-9	
2,2-Dichloropropane	ND	ug/L	25.0	50		08/22/14 22:29	594-20-7	
1,1-Dichloropropene	ND	ug/L	25.0	50		08/22/14 22:29	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	25.0	50		08/22/14 22:29	10061-01-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-12I **Lab ID: 92214233028** Collected: 08/18/14 15:37 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV	Analytical Method: SM 6200B							
trans-1,3-Dichloropropene	ND	ug/L	25.0	50		08/22/14 22:29	10061-02-6	
Diisopropyl ether	ND	ug/L	25.0	50		08/22/14 22:29	108-20-3	
Ethylbenzene	ND	ug/L	25.0	50		08/22/14 22:29	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	100	50		08/22/14 22:29	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/L	25.0	50		08/22/14 22:29	98-82-8	
Methylene Chloride	**119**	ug/L	100	50		08/22/14 22:29	75-09-2	
Methyl-tert-butyl ether	ND	ug/L	25.0	50		08/22/14 22:29	1634-04-4	
Naphthalene	ND	ug/L	100	50		08/22/14 22:29	91-20-3	
n-Propylbenzene	ND	ug/L	25.0	50		08/22/14 22:29	103-65-1	
Styrene	ND	ug/L	25.0	50		08/22/14 22:29	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	25.0	50		08/22/14 22:29	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	25.0	50		08/22/14 22:29	79-34-5	
Tetrachloroethene	**93.2**	ug/L	25.0	50		08/22/14 22:29	127-18-4	
Toluene	**48.1**	ug/L	25.0	50		08/22/14 22:29	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	100	50		08/22/14 22:29	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	100	50		08/22/14 22:29	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	25.0	50		08/22/14 22:29	71-55-6	
1,1,2-Trichloroethane	**72.6**	ug/L	25.0	50		08/22/14 22:29	79-00-5	
Trichloroethene	**94.4**	ug/L	25.0	50		08/22/14 22:29	79-01-6	
Trichlorofluoromethane	ND	ug/L	50.0	50		08/22/14 22:29	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	25.0	50		08/22/14 22:29	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	25.0	50		08/22/14 22:29	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	25.0	50		08/22/14 22:29	108-67-8	
Vinyl chloride	ND	ug/L	50.0	50		08/22/14 22:29	75-01-4	
m&p-Xylene	ND	ug/L	50.0	50		08/22/14 22:29	179601-23-1	
o-Xylene	ND	ug/L	25.0	50		08/22/14 22:29	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	93	%	70-130	50		08/22/14 22:29	17060-07-0	
4-Bromofluorobenzene (S)	102	%	70-130	50		08/22/14 22:29	460-00-4	
Toluene-d8 (S)	99	%	70-130	50		08/22/14 22:29	2037-26-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-62 **Lab ID: 92214233029** Collected: 08/18/14 15:37 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic	ND	ug/L	10.0	1	08/21/14 16:35	08/25/14 22:45	7440-38-2	
Barium	**22.9**	ug/L	5.0	1	08/21/14 16:35	08/25/14 22:45	7440-39-3	
Cadmium	ND	ug/L	1.0	1	08/21/14 16:35	08/25/14 22:45	7440-43-9	
Chromium	ND	ug/L	5.0	1	08/21/14 16:35	08/26/14 17:43	7440-47-3	
Lead	ND	ug/L	5.0	1	08/21/14 16:35	08/25/14 22:45	7439-92-1	
Manganese	**81.8**	ug/L	5.0	1	08/21/14 16:35	08/25/14 22:45	7439-96-5	
Selenium	ND	ug/L	10.0	1	08/21/14 16:35	08/25/14 22:45	7782-49-2	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	08/21/14 18:00	08/23/14 19:13	7439-97-6	
6200B MSV	Analytical Method: SM 6200B							
Benzene	**68.5**	ug/L	25.0	50		08/25/14 17:30	71-43-2	
Bromobenzene	ND	ug/L	25.0	50		08/25/14 17:30	108-86-1	
Bromochloromethane	ND	ug/L	25.0	50		08/25/14 17:30	74-97-5	
Bromodichloromethane	ND	ug/L	25.0	50		08/25/14 17:30	75-27-4	
Bromoform	ND	ug/L	25.0	50		08/25/14 17:30	75-25-2	
Bromomethane	ND	ug/L	250	50		08/25/14 17:30	74-83-9	
n-Butylbenzene	ND	ug/L	25.0	50		08/25/14 17:30	104-51-8	
sec-Butylbenzene	ND	ug/L	25.0	50		08/25/14 17:30	135-98-8	
tert-Butylbenzene	ND	ug/L	25.0	50		08/25/14 17:30	98-06-6	
Carbon tetrachloride	**59.8**	ug/L	25.0	50		08/25/14 17:30	56-23-5	
Chlorobenzene	ND	ug/L	25.0	50		08/25/14 17:30	108-90-7	
Chloroethane	ND	ug/L	50.0	50		08/25/14 17:30	75-00-3	
Chloroform	**5370**	ug/L	25.0	50		08/25/14 17:30	67-66-3	
Chloromethane	ND	ug/L	50.0	50		08/25/14 17:30	74-87-3	
2-Chlorotoluene	ND	ug/L	25.0	50		08/25/14 17:30	95-49-8	
4-Chlorotoluene	ND	ug/L	25.0	50		08/25/14 17:30	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	50.0	50		08/25/14 17:30	96-12-8	
Dibromochloromethane	ND	ug/L	25.0	50		08/25/14 17:30	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	25.0	50		08/25/14 17:30	106-93-4	
Dibromomethane	ND	ug/L	25.0	50		08/25/14 17:30	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	25.0	50		08/25/14 17:30	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	25.0	50		08/25/14 17:30	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	25.0	50		08/25/14 17:30	106-46-7	
Dichlorodifluoromethane	ND	ug/L	25.0	50		08/25/14 17:30	75-71-8	
1,1-Dichloroethane	ND	ug/L	25.0	50		08/25/14 17:30	75-34-3	
1,2-Dichloroethane	ND	ug/L	25.0	50		08/25/14 17:30	107-06-2	
1,1-Dichloroethene	ND	ug/L	25.0	50		08/25/14 17:30	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	25.0	50		08/25/14 17:30	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	25.0	50		08/25/14 17:30	156-60-5	
1,2-Dichloropropane	**185**	ug/L	25.0	50		08/25/14 17:30	78-87-5	
1,3-Dichloropropane	ND	ug/L	25.0	50		08/25/14 17:30	142-28-9	
2,2-Dichloropropane	ND	ug/L	25.0	50		08/25/14 17:30	594-20-7	
1,1-Dichloropropene	ND	ug/L	25.0	50		08/25/14 17:30	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	25.0	50		08/25/14 17:30	10061-01-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-62 **Lab ID: 92214233029** Collected: 08/18/14 15:37 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV	Analytical Method: SM 6200B							
trans-1,3-Dichloropropene	ND	ug/L	25.0	50		08/25/14 17:30	10061-02-6	
Diisopropyl ether	ND	ug/L	25.0	50		08/25/14 17:30	108-20-3	
Ethylbenzene	ND	ug/L	25.0	50		08/25/14 17:30	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	100	50		08/25/14 17:30	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/L	25.0	50		08/25/14 17:30	98-82-8	
Methylene Chloride	**108**	ug/L	100	50		08/25/14 17:30	75-09-2	
Methyl-tert-butyl ether	ND	ug/L	25.0	50		08/25/14 17:30	1634-04-4	
Naphthalene	ND	ug/L	100	50		08/25/14 17:30	91-20-3	
n-Propylbenzene	ND	ug/L	25.0	50		08/25/14 17:30	103-65-1	
Styrene	ND	ug/L	25.0	50		08/25/14 17:30	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	25.0	50		08/25/14 17:30	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	25.0	50		08/25/14 17:30	79-34-5	
Tetrachloroethene	**106**	ug/L	25.0	50		08/25/14 17:30	127-18-4	
Toluene	ND	ug/L	25.0	50		08/25/14 17:30	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	100	50		08/25/14 17:30	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	100	50		08/25/14 17:30	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	25.0	50		08/25/14 17:30	71-55-6	
1,1,2-Trichloroethane	**73.5**	ug/L	25.0	50		08/25/14 17:30	79-00-5	
Trichloroethene	**106**	ug/L	25.0	50		08/25/14 17:30	79-01-6	
Trichlorofluoromethane	ND	ug/L	50.0	50		08/25/14 17:30	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	25.0	50		08/25/14 17:30	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	25.0	50		08/25/14 17:30	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	25.0	50		08/25/14 17:30	108-67-8	
Vinyl chloride	ND	ug/L	50.0	50		08/25/14 17:30	75-01-4	
m&p-Xylene	ND	ug/L	50.0	50		08/25/14 17:30	179601-23-1	
o-Xylene	ND	ug/L	25.0	50		08/25/14 17:30	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	92	%	70-130	50		08/25/14 17:30	17060-07-0	
4-Bromofluorobenzene (S)	103	%	70-130	50		08/25/14 17:30	460-00-4	
Toluene-d8 (S)	98	%	70-130	50		08/25/14 17:30	2037-26-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-16S **Lab ID: 92214233030** Collected: 08/19/14 08:40 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic	**68.0**	ug/L	50.0	5	08/21/14 16:35	08/25/14 23:24	7440-38-2	
Barium	**1800**	ug/L	25.0	5	08/21/14 16:35	08/25/14 23:24	7440-39-3	
Cadmium	**62.5**	ug/L	5.0	5	08/21/14 16:35	08/25/14 23:24	7440-43-9	
Chromium	**272**	ug/L	25.0	5	08/21/14 16:35	08/26/14 17:46	7440-47-3	
Lead	**315**	ug/L	25.0	5	08/21/14 16:35	08/25/14 23:24	7439-92-1	
Manganese	**23600**	ug/L	25.0	5	08/21/14 16:35	08/25/14 23:24	7439-96-5	
Selenium	ND	ug/L	50.0	5	08/21/14 16:35	08/25/14 23:24	7782-49-2	D3
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury	**0.70**	ug/L	0.20	1	08/21/14 18:00	08/22/14 15:05	7439-97-6	M1
6200B MSV	Analytical Method: SM 6200B							
Benzene	ND	ug/L	5.0	10		08/25/14 17:46	71-43-2	
Bromobenzene	ND	ug/L	5.0	10		08/25/14 17:46	108-86-1	
Bromochloromethane	ND	ug/L	5.0	10		08/25/14 17:46	74-97-5	
Bromodichloromethane	ND	ug/L	5.0	10		08/25/14 17:46	75-27-4	
Bromoform	ND	ug/L	5.0	10		08/25/14 17:46	75-25-2	
Bromomethane	ND	ug/L	50.0	10		08/25/14 17:46	74-83-9	
n-Butylbenzene	ND	ug/L	5.0	10		08/25/14 17:46	104-51-8	
sec-Butylbenzene	ND	ug/L	5.0	10		08/25/14 17:46	135-98-8	
tert-Butylbenzene	ND	ug/L	5.0	10		08/25/14 17:46	98-06-6	
Carbon tetrachloride	ND	ug/L	5.0	10		08/25/14 17:46	56-23-5	
Chlorobenzene	ND	ug/L	5.0	10		08/25/14 17:46	108-90-7	
Chloroethane	ND	ug/L	10.0	10		08/25/14 17:46	75-00-3	
Chloroform	**1930**	ug/L	25.0	50		08/22/14 23:00	67-66-3	
Chloromethane	ND	ug/L	10.0	10		08/25/14 17:46	74-87-3	
2-Chlorotoluene	ND	ug/L	5.0	10		08/25/14 17:46	95-49-8	
4-Chlorotoluene	ND	ug/L	5.0	10		08/25/14 17:46	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	10.0	10		08/25/14 17:46	96-12-8	
Dibromochloromethane	ND	ug/L	5.0	10		08/25/14 17:46	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	5.0	10		08/25/14 17:46	106-93-4	
Dibromomethane	ND	ug/L	5.0	10		08/25/14 17:46	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	10		08/25/14 17:46	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	5.0	10		08/25/14 17:46	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	5.0	10		08/25/14 17:46	106-46-7	
Dichlorodifluoromethane	ND	ug/L	5.0	10		08/25/14 17:46	75-71-8	
1,1-Dichloroethane	ND	ug/L	5.0	10		08/25/14 17:46	75-34-3	
1,2-Dichloroethane	ND	ug/L	5.0	10		08/25/14 17:46	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	10		08/25/14 17:46	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	10		08/25/14 17:46	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	10		08/25/14 17:46	156-60-5	
1,2-Dichloropropane	**239**	ug/L	5.0	10		08/25/14 17:46	78-87-5	
1,3-Dichloropropane	ND	ug/L	5.0	10		08/25/14 17:46	142-28-9	
2,2-Dichloropropane	ND	ug/L	5.0	10		08/25/14 17:46	594-20-7	
1,1-Dichloropropene	ND	ug/L	5.0	10		08/25/14 17:46	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	5.0	10		08/25/14 17:46	10061-01-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-16S **Lab ID: 92214233030** Collected: 08/19/14 08:40 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV	Analytical Method: SM 6200B							
trans-1,3-Dichloropropene	ND	ug/L	5.0	10		08/25/14 17:46	10061-02-6	
Diisopropyl ether	ND	ug/L	5.0	10		08/25/14 17:46	108-20-3	
Ethylbenzene	ND	ug/L	5.0	10		08/25/14 17:46	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	20.0	10		08/25/14 17:46	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/L	5.0	10		08/25/14 17:46	98-82-8	
Methylene Chloride	ND	ug/L	20.0	10		08/25/14 17:46	75-09-2	
Methyl-tert-butyl ether	ND	ug/L	5.0	10		08/25/14 17:46	1634-04-4	
Naphthalene	ND	ug/L	20.0	10		08/25/14 17:46	91-20-3	
n-Propylbenzene	ND	ug/L	5.0	10		08/25/14 17:46	103-65-1	
Styrene	ND	ug/L	5.0	10		08/25/14 17:46	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	10		08/25/14 17:46	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0	10		08/25/14 17:46	79-34-5	
Tetrachloroethene	**177**	ug/L	5.0	10		08/25/14 17:46	127-18-4	
Toluene	ND	ug/L	5.0	10		08/25/14 17:46	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	20.0	10		08/25/14 17:46	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	20.0	10		08/25/14 17:46	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	5.0	10		08/25/14 17:46	71-55-6	
1,1,2-Trichloroethane	**199**	ug/L	5.0	10		08/25/14 17:46	79-00-5	
Trichloroethene	**161**	ug/L	5.0	10		08/25/14 17:46	79-01-6	
Trichlorofluoromethane	ND	ug/L	10.0	10		08/25/14 17:46	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	5.0	10		08/25/14 17:46	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	5.0	10		08/25/14 17:46	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	5.0	10		08/25/14 17:46	108-67-8	
Vinyl chloride	ND	ug/L	10.0	10		08/25/14 17:46	75-01-4	
m&p-Xylene	ND	ug/L	10.0	10		08/25/14 17:46	179601-23-1	
o-Xylene	ND	ug/L	5.0	10		08/25/14 17:46	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	93	%	70-130	10		08/25/14 17:46	17060-07-0	
4-Bromofluorobenzene (S)	102	%	70-130	10		08/25/14 17:46	460-00-4	
Toluene-d8 (S)	99	%	70-130	10		08/25/14 17:46	2037-26-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-12S **Lab ID: 92214233031** Collected: 08/19/14 09:10 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV	Analytical Method: SM 6200B							
Benzene	**318**	ug/L	50.0	100		08/25/14 18:02	71-43-2	
Bromobenzene	ND	ug/L	50.0	100		08/25/14 18:02	108-86-1	
Bromochloromethane	ND	ug/L	50.0	100		08/25/14 18:02	74-97-5	
Bromodichloromethane	ND	ug/L	50.0	100		08/25/14 18:02	75-27-4	
Bromoform	ND	ug/L	50.0	100		08/25/14 18:02	75-25-2	
Bromomethane	ND	ug/L	500	100		08/25/14 18:02	74-83-9	
n-Butylbenzene	ND	ug/L	50.0	100		08/25/14 18:02	104-51-8	
sec-Butylbenzene	ND	ug/L	50.0	100		08/25/14 18:02	135-98-8	
tert-Butylbenzene	ND	ug/L	50.0	100		08/25/14 18:02	98-06-6	
Carbon tetrachloride	**221**	ug/L	50.0	100		08/25/14 18:02	56-23-5	
Chlorobenzene	**85.8**	ug/L	50.0	100		08/25/14 18:02	108-90-7	
Chloroethane	ND	ug/L	100	100		08/25/14 18:02	75-00-3	
Chloroform	**12500**	ug/L	50.0	100		08/25/14 18:02	67-66-3	
Chloromethane	ND	ug/L	100	100		08/25/14 18:02	74-87-3	
2-Chlorotoluene	ND	ug/L	50.0	100		08/25/14 18:02	95-49-8	
4-Chlorotoluene	ND	ug/L	50.0	100		08/25/14 18:02	106-43-4	
1,2-Dibromo-3-chloropropane	**5880**	ug/L	100	100		08/25/14 18:02	96-12-8	
Dibromochloromethane	ND	ug/L	50.0	100		08/25/14 18:02	124-48-1	
1,2-Dibromoethane (EDB)	**7540**	ug/L	50.0	100		08/25/14 18:02	106-93-4	
Dibromomethane	ND	ug/L	50.0	100		08/25/14 18:02	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	50.0	100		08/25/14 18:02	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	50.0	100		08/25/14 18:02	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	50.0	100		08/25/14 18:02	106-46-7	
Dichlorodifluoromethane	ND	ug/L	50.0	100		08/25/14 18:02	75-71-8	
1,1-Dichloroethane	ND	ug/L	50.0	100		08/25/14 18:02	75-34-3	
1,2-Dichloroethane	**105**	ug/L	50.0	100		08/25/14 18:02	107-06-2	
1,1-Dichloroethene	ND	ug/L	50.0	100		08/25/14 18:02	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	50.0	100		08/25/14 18:02	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	50.0	100		08/25/14 18:02	156-60-5	
1,2-Dichloropropane	**18400**	ug/L	50.0	100		08/25/14 18:02	78-87-5	
1,3-Dichloropropane	**206**	ug/L	50.0	100		08/25/14 18:02	142-28-9	
2,2-Dichloropropane	ND	ug/L	50.0	100		08/25/14 18:02	594-20-7	
1,1-Dichloropropene	ND	ug/L	50.0	100		08/25/14 18:02	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	50.0	100		08/25/14 18:02	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	50.0	100		08/25/14 18:02	10061-02-6	
Diisopropyl ether	ND	ug/L	50.0	100		08/25/14 18:02	108-20-3	
Ethylbenzene	ND	ug/L	50.0	100		08/25/14 18:02	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	200	100		08/25/14 18:02	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/L	50.0	100		08/25/14 18:02	98-82-8	
Methylene Chloride	**1050**	ug/L	200	100		08/25/14 18:02	75-09-2	
Methyl-tert-butyl ether	ND	ug/L	50.0	100		08/25/14 18:02	1634-04-4	
Naphthalene	ND	ug/L	200	100		08/25/14 18:02	91-20-3	
n-Propylbenzene	ND	ug/L	50.0	100		08/25/14 18:02	103-65-1	
Styrene	ND	ug/L	50.0	100		08/25/14 18:02	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	50.0	100		08/25/14 18:02	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	50.0	100		08/25/14 18:02	79-34-5	
Tetrachloroethene	**126**	ug/L	50.0	100		08/25/14 18:02	127-18-4	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-12S **Lab ID: 92214233031** Collected: 08/19/14 09:10 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV	Analytical Method: SM 6200B							
Toluene	**279**	ug/L	50.0	100		08/25/14 18:02	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	200	100		08/25/14 18:02	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	200	100		08/25/14 18:02	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	50.0	100		08/25/14 18:02	71-55-6	
1,1,2-Trichloroethane	**1930**	ug/L	50.0	100		08/25/14 18:02	79-00-5	
Trichloroethene	**310**	ug/L	50.0	100		08/25/14 18:02	79-01-6	
Trichlorofluoromethane	ND	ug/L	100	100		08/25/14 18:02	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	50.0	100		08/25/14 18:02	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	50.0	100		08/25/14 18:02	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	50.0	100		08/25/14 18:02	108-67-8	
Vinyl chloride	ND	ug/L	100	100		08/25/14 18:02	75-01-4	
m&p-Xylene	ND	ug/L	100	100		08/25/14 18:02	179601-23-1	
o-Xylene	**82.4**	ug/L	50.0	100		08/25/14 18:02	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	91	%	70-130	100		08/25/14 18:02	17060-07-0	
4-Bromofluorobenzene (S)	105	%	70-130	100		08/25/14 18:02	460-00-4	
Toluene-d8 (S)	98	%	70-130	100		08/25/14 18:02	2037-26-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: RW-6 **Lab ID: 92214233032** Collected: 08/19/14 09:35 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic	ND	ug/L	10.0	1	08/21/14 16:35	08/25/14 22:52	7440-38-2	
Barium	**40.6**	ug/L	5.0	1	08/21/14 16:35	08/25/14 22:52	7440-39-3	
Cadmium	ND	ug/L	1.0	1	08/21/14 16:35	08/25/14 22:52	7440-43-9	
Chromium	ND	ug/L	5.0	1	08/21/14 16:35	08/26/14 17:49	7440-47-3	
Lead	ND	ug/L	5.0	1	08/21/14 16:35	08/25/14 22:52	7439-92-1	
Manganese	**1540**	ug/L	5.0	1	08/21/14 16:35	08/25/14 22:52	7439-96-5	
Selenium	ND	ug/L	10.0	1	08/21/14 16:35	08/25/14 22:52	7782-49-2	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	08/21/14 18:00	08/22/14 15:13	7439-97-6	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: RW-6 **Lab ID: 92214233033** Collected: 08/12/14 15:25 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV	Analytical Method: SM 6200B							
Benzene	ND	ug/L	0.50	1		08/22/14 23:31	71-43-2	
Bromobenzene	ND	ug/L	0.50	1		08/22/14 23:31	108-86-1	
Bromochloromethane	ND	ug/L	0.50	1		08/22/14 23:31	74-97-5	
Bromodichloromethane	ND	ug/L	0.50	1		08/22/14 23:31	75-27-4	
Bromoform	ND	ug/L	0.50	1		08/22/14 23:31	75-25-2	
Bromomethane	ND	ug/L	5.0	1		08/22/14 23:31	74-83-9	
n-Butylbenzene	ND	ug/L	0.50	1		08/22/14 23:31	104-51-8	
sec-Butylbenzene	ND	ug/L	0.50	1		08/22/14 23:31	135-98-8	
tert-Butylbenzene	ND	ug/L	0.50	1		08/22/14 23:31	98-06-6	
Carbon tetrachloride	ND	ug/L	0.50	1		08/22/14 23:31	56-23-5	
Chlorobenzene	ND	ug/L	0.50	1		08/22/14 23:31	108-90-7	
Chloroethane	ND	ug/L	1.0	1		08/22/14 23:31	75-00-3	
Chloroform	**27.7**	ug/L	0.50	1		08/22/14 23:31	67-66-3	
Chloromethane	ND	ug/L	1.0	1		08/22/14 23:31	74-87-3	
2-Chlorotoluene	ND	ug/L	0.50	1		08/22/14 23:31	95-49-8	
4-Chlorotoluene	ND	ug/L	0.50	1		08/22/14 23:31	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	1		08/22/14 23:31	96-12-8	
Dibromochloromethane	ND	ug/L	0.50	1		08/22/14 23:31	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	1		08/22/14 23:31	106-93-4	
Dibromomethane	ND	ug/L	0.50	1		08/22/14 23:31	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	0.50	1		08/22/14 23:31	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	0.50	1		08/22/14 23:31	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	0.50	1		08/22/14 23:31	106-46-7	
Dichlorodifluoromethane	ND	ug/L	0.50	1		08/22/14 23:31	75-71-8	
1,1-Dichloroethane	ND	ug/L	0.50	1		08/22/14 23:31	75-34-3	
1,2-Dichloroethane	ND	ug/L	0.50	1		08/22/14 23:31	107-06-2	
1,1-Dichloroethene	ND	ug/L	0.50	1		08/22/14 23:31	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		08/22/14 23:31	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	0.50	1		08/22/14 23:31	156-60-5	
1,2-Dichloropropane	ND	ug/L	0.50	1		08/22/14 23:31	78-87-5	
1,3-Dichloropropane	ND	ug/L	0.50	1		08/22/14 23:31	142-28-9	
2,2-Dichloropropane	ND	ug/L	0.50	1		08/22/14 23:31	594-20-7	
1,1-Dichloropropene	ND	ug/L	0.50	1		08/22/14 23:31	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		08/22/14 23:31	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	0.50	1		08/22/14 23:31	10061-02-6	
Diisopropyl ether	ND	ug/L	0.50	1		08/22/14 23:31	108-20-3	
Ethylbenzene	ND	ug/L	0.50	1		08/22/14 23:31	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	2.0	1		08/22/14 23:31	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/L	0.50	1		08/22/14 23:31	98-82-8	
Methylene Chloride	ND	ug/L	2.0	1		08/22/14 23:31	75-09-2	
Methyl-tert-butyl ether	ND	ug/L	0.50	1		08/22/14 23:31	1634-04-4	
Naphthalene	ND	ug/L	2.0	1		08/22/14 23:31	91-20-3	
n-Propylbenzene	ND	ug/L	0.50	1		08/22/14 23:31	103-65-1	
Styrene	ND	ug/L	0.50	1		08/22/14 23:31	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1		08/22/14 23:31	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	1		08/22/14 23:31	79-34-5	
Tetrachloroethene	ND	ug/L	0.50	1		08/22/14 23:31	127-18-4	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: RW-6 **Lab ID: 92214233033** Collected: 08/12/14 15:25 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV	Analytical Method: SM 6200B							
Toluene	ND	ug/L	0.50	1		08/22/14 23:31	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	2.0	1		08/22/14 23:31	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	2.0	1		08/22/14 23:31	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	0.50	1		08/22/14 23:31	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	0.50	1		08/22/14 23:31	79-00-5	
Trichloroethene	ND	ug/L	0.50	1		08/22/14 23:31	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		08/22/14 23:31	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	0.50	1		08/22/14 23:31	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	1		08/22/14 23:31	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	1		08/22/14 23:31	108-67-8	
Vinyl chloride	ND	ug/L	1.0	1		08/22/14 23:31	75-01-4	
m&p-Xylene	ND	ug/L	1.0	1		08/22/14 23:31	179601-23-1	
o-Xylene	ND	ug/L	0.50	1		08/22/14 23:31	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	93	%	70-130	1		08/22/14 23:31	17060-07-0	
4-Bromofluorobenzene (S)	102	%	70-130	1		08/22/14 23:31	460-00-4	
Toluene-d8 (S)	100	%	70-130	1		08/22/14 23:31	2037-26-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: RW-10 **Lab ID: 92214233034** Collected: 08/19/14 10:15 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic	ND	ug/L	10.0	1	08/21/14 16:35	08/25/14 22:55	7440-38-2	
Barium	**418**	ug/L	5.0	1	08/21/14 16:35	08/25/14 22:55	7440-39-3	
Cadmium	ND	ug/L	1.0	1	08/21/14 16:35	08/25/14 22:55	7440-43-9	
Chromium	ND	ug/L	5.0	1	08/21/14 16:35	08/26/14 18:02	7440-47-3	
Lead	**9.6**	ug/L	5.0	1	08/21/14 16:35	08/25/14 22:55	7439-92-1	
Manganese	**8430**	ug/L	5.0	1	08/21/14 16:35	08/25/14 22:55	7439-96-5	
Selenium	ND	ug/L	10.0	1	08/21/14 16:35	08/25/14 22:55	7782-49-2	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	08/21/14 18:00	08/22/14 15:16	7439-97-6	
6200B MSV	Analytical Method: SM 6200B							
Benzene	**1770**	ug/L	25.0	50		08/22/14 23:47	71-43-2	
Bromobenzene	ND	ug/L	25.0	50		08/22/14 23:47	108-86-1	
Bromochloromethane	ND	ug/L	25.0	50		08/22/14 23:47	74-97-5	
Bromodichloromethane	ND	ug/L	25.0	50		08/22/14 23:47	75-27-4	
Bromoform	ND	ug/L	25.0	50		08/22/14 23:47	75-25-2	
Bromomethane	ND	ug/L	250	50		08/22/14 23:47	74-83-9	
n-Butylbenzene	ND	ug/L	25.0	50		08/22/14 23:47	104-51-8	
sec-Butylbenzene	ND	ug/L	25.0	50		08/22/14 23:47	135-98-8	
tert-Butylbenzene	ND	ug/L	25.0	50		08/22/14 23:47	98-06-6	
Carbon tetrachloride	ND	ug/L	25.0	50		08/22/14 23:47	56-23-5	
Chlorobenzene	**135**	ug/L	25.0	50		08/22/14 23:47	108-90-7	
Chloroethane	ND	ug/L	50.0	50		08/22/14 23:47	75-00-3	
Chloroform	**29700**	ug/L	125	250		08/25/14 22:13	67-66-3	
Chloromethane	ND	ug/L	50.0	50		08/22/14 23:47	74-87-3	
2-Chlorotoluene	ND	ug/L	25.0	50		08/22/14 23:47	95-49-8	
4-Chlorotoluene	ND	ug/L	25.0	50		08/22/14 23:47	106-43-4	
1,2-Dibromo-3-chloropropane	**135**	ug/L	50.0	50		08/22/14 23:47	96-12-8	
Dibromochloromethane	ND	ug/L	25.0	50		08/22/14 23:47	124-48-1	
1,2-Dibromoethane (EDB)	**199**	ug/L	25.0	50		08/22/14 23:47	106-93-4	
Dibromomethane	ND	ug/L	25.0	50		08/22/14 23:47	74-95-3	
1,2-Dichlorobenzene	**149**	ug/L	25.0	50		08/22/14 23:47	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	25.0	50		08/22/14 23:47	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	25.0	50		08/22/14 23:47	106-46-7	
Dichlorodifluoromethane	ND	ug/L	25.0	50		08/22/14 23:47	75-71-8	
1,1-Dichloroethane	ND	ug/L	25.0	50		08/22/14 23:47	75-34-3	
1,2-Dichloroethane	**461**	ug/L	25.0	50		08/22/14 23:47	107-06-2	
1,1-Dichloroethene	ND	ug/L	25.0	50		08/22/14 23:47	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	25.0	50		08/22/14 23:47	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	25.0	50		08/22/14 23:47	156-60-5	
1,2-Dichloropropane	**852**	ug/L	25.0	50		08/22/14 23:47	78-87-5	
1,3-Dichloropropane	ND	ug/L	25.0	50		08/22/14 23:47	142-28-9	
2,2-Dichloropropane	ND	ug/L	25.0	50		08/22/14 23:47	594-20-7	
1,1-Dichloropropene	ND	ug/L	25.0	50		08/22/14 23:47	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	25.0	50		08/22/14 23:47	10061-01-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: RW-10 **Lab ID: 92214233034** Collected: 08/19/14 10:15 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV	Analytical Method: SM 6200B							
trans-1,3-Dichloropropene	ND	ug/L	25.0	50		08/22/14 23:47	10061-02-6	
Diisopropyl ether	ND	ug/L	25.0	50		08/22/14 23:47	108-20-3	
Ethylbenzene	**73.7**	ug/L	25.0	50		08/22/14 23:47	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	100	50		08/22/14 23:47	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/L	25.0	50		08/22/14 23:47	98-82-8	
Methylene Chloride	**3630**	ug/L	100	50		08/22/14 23:47	75-09-2	
Methyl-tert-butyl ether	ND	ug/L	25.0	50		08/22/14 23:47	1634-04-4	
Naphthalene	ND	ug/L	100	50		08/22/14 23:47	91-20-3	
n-Propylbenzene	ND	ug/L	25.0	50		08/22/14 23:47	103-65-1	
Styrene	ND	ug/L	25.0	50		08/22/14 23:47	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	25.0	50		08/22/14 23:47	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	25.0	50		08/22/14 23:47	79-34-5	
Tetrachloroethene	**106**	ug/L	25.0	50		08/22/14 23:47	127-18-4	
Toluene	**135**	ug/L	25.0	50		08/22/14 23:47	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	100	50		08/22/14 23:47	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	100	50		08/22/14 23:47	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	25.0	50		08/22/14 23:47	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	25.0	50		08/22/14 23:47	79-00-5	
Trichloroethene	**545**	ug/L	25.0	50		08/22/14 23:47	79-01-6	
Trichlorofluoromethane	ND	ug/L	50.0	50		08/22/14 23:47	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	25.0	50		08/22/14 23:47	96-18-4	
1,2,4-Trimethylbenzene	**39.6**	ug/L	25.0	50		08/22/14 23:47	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	25.0	50		08/22/14 23:47	108-67-8	
Vinyl chloride	ND	ug/L	50.0	50		08/22/14 23:47	75-01-4	
m&p-Xylene	**143**	ug/L	50.0	50		08/22/14 23:47	179601-23-1	
o-Xylene	**196**	ug/L	25.0	50		08/22/14 23:47	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	91	%	70-130	50		08/22/14 23:47	17060-07-0	
4-Bromofluorobenzene (S)	104	%	70-130	50		08/22/14 23:47	460-00-4	
Toluene-d8 (S)	99	%	70-130	50		08/22/14 23:47	2037-26-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-37 **Lab ID: 92214233035** Collected: 08/19/14 10:50 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic	ND	ug/L	10.0	1	08/21/14 16:35	08/25/14 22:58	7440-38-2	
Barium	**816**	ug/L	5.0	1	08/21/14 16:35	08/25/14 22:58	7440-39-3	
Cadmium	ND	ug/L	1.0	1	08/21/14 16:35	08/25/14 22:58	7440-43-9	
Chromium	ND	ug/L	5.0	1	08/21/14 16:35	08/26/14 18:05	7440-47-3	
Lead	ND	ug/L	5.0	1	08/21/14 16:35	08/25/14 22:58	7439-92-1	
Manganese	**48300**	ug/L	25.0	5	08/21/14 16:35	08/25/14 23:27	7439-96-5	
Selenium	ND	ug/L	10.0	1	08/21/14 16:35	08/25/14 22:58	7782-49-2	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	08/21/14 18:00	08/22/14 15:18	7439-97-6	
6200B MSV	Analytical Method: SM 6200B							
Benzene	**9470**	ug/L	500	1000		08/23/14 00:03	71-43-2	
Bromobenzene	ND	ug/L	500	1000		08/23/14 00:03	108-86-1	
Bromochloromethane	ND	ug/L	500	1000		08/23/14 00:03	74-97-5	
Bromodichloromethane	ND	ug/L	500	1000		08/23/14 00:03	75-27-4	
Bromoform	ND	ug/L	500	1000		08/23/14 00:03	75-25-2	
Bromomethane	ND	ug/L	5000	1000		08/23/14 00:03	74-83-9	
n-Butylbenzene	ND	ug/L	500	1000		08/23/14 00:03	104-51-8	
sec-Butylbenzene	ND	ug/L	500	1000		08/23/14 00:03	135-98-8	
tert-Butylbenzene	ND	ug/L	500	1000		08/23/14 00:03	98-06-6	
Carbon tetrachloride	ND	ug/L	500	1000		08/23/14 00:03	56-23-5	
Chlorobenzene	ND	ug/L	500	1000		08/23/14 00:03	108-90-7	
Chloroethane	ND	ug/L	1000	1000		08/23/14 00:03	75-00-3	
Chloroform	**102000**	ug/L	500	1000		08/23/14 00:03	67-66-3	
Chloromethane	ND	ug/L	1000	1000		08/23/14 00:03	74-87-3	
2-Chlorotoluene	ND	ug/L	500	1000		08/23/14 00:03	95-49-8	
4-Chlorotoluene	ND	ug/L	500	1000		08/23/14 00:03	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	1000	1000		08/23/14 00:03	96-12-8	
Dibromochloromethane	ND	ug/L	500	1000		08/23/14 00:03	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	500	1000		08/23/14 00:03	106-93-4	
Dibromomethane	ND	ug/L	500	1000		08/23/14 00:03	74-95-3	
1,2-Dichlorobenzene	**504**	ug/L	500	1000		08/23/14 00:03	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	500	1000		08/23/14 00:03	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	500	1000		08/23/14 00:03	106-46-7	
Dichlorodifluoromethane	ND	ug/L	500	1000		08/23/14 00:03	75-71-8	
1,1-Dichloroethane	ND	ug/L	500	1000		08/23/14 00:03	75-34-3	
1,2-Dichloroethane	**1000**	ug/L	500	1000		08/23/14 00:03	107-06-2	
1,1-Dichloroethene	ND	ug/L	500	1000		08/23/14 00:03	75-35-4	
cis-1,2-Dichloroethene	**522**	ug/L	500	1000		08/23/14 00:03	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	500	1000		08/23/14 00:03	156-60-5	
1,2-Dichloropropane	**3180**	ug/L	500	1000		08/23/14 00:03	78-87-5	
1,3-Dichloropropane	ND	ug/L	500	1000		08/23/14 00:03	142-28-9	
2,2-Dichloropropane	ND	ug/L	500	1000		08/23/14 00:03	594-20-7	
1,1-Dichloropropene	ND	ug/L	500	1000		08/23/14 00:03	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	500	1000		08/23/14 00:03	10061-01-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-37 **Lab ID: 92214233035** Collected: 08/19/14 10:50 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV	Analytical Method: SM 6200B							
trans-1,3-Dichloropropene	ND	ug/L	500	1000		08/23/14 00:03	10061-02-6	
Diisopropyl ether	ND	ug/L	500	1000		08/23/14 00:03	108-20-3	
Ethylbenzene	ND	ug/L	500	1000		08/23/14 00:03	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	2000	1000		08/23/14 00:03	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/L	500	1000		08/23/14 00:03	98-82-8	
Methylene Chloride	**14800**	ug/L	2000	1000		08/23/14 00:03	75-09-2	
Methyl-tert-butyl ether	ND	ug/L	500	1000		08/23/14 00:03	1634-04-4	
Naphthalene	ND	ug/L	2000	1000		08/23/14 00:03	91-20-3	
n-Propylbenzene	ND	ug/L	500	1000		08/23/14 00:03	103-65-1	
Styrene	ND	ug/L	500	1000		08/23/14 00:03	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	500	1000		08/23/14 00:03	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	500	1000		08/23/14 00:03	79-34-5	
Tetrachloroethene	ND	ug/L	500	1000		08/23/14 00:03	127-18-4	
Toluene	**1740**	ug/L	500	1000		08/23/14 00:03	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	2000	1000		08/23/14 00:03	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	2000	1000		08/23/14 00:03	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	500	1000		08/23/14 00:03	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	500	1000		08/23/14 00:03	79-00-5	
Trichloroethene	**1100**	ug/L	500	1000		08/23/14 00:03	79-01-6	
Trichlorofluoromethane	ND	ug/L	1000	1000		08/23/14 00:03	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	500	1000		08/23/14 00:03	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	500	1000		08/23/14 00:03	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	500	1000		08/23/14 00:03	108-67-8	
Vinyl chloride	ND	ug/L	1000	1000		08/23/14 00:03	75-01-4	
m&p-Xylene	ND	ug/L	1000	1000		08/23/14 00:03	179601-23-1	
o-Xylene	ND	ug/L	500	1000		08/23/14 00:03	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	91	%	70-130	1000		08/23/14 00:03	17060-07-0	
4-Bromofluorobenzene (S)	104	%	70-130	1000		08/23/14 00:03	460-00-4	
Toluene-d8 (S)	99	%	70-130	1000		08/23/14 00:03	2037-26-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-3 **Lab ID: 92214233036** Collected: 08/19/14 11:35 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic	ND	ug/L	10.0	1	08/21/14 16:35	08/25/14 23:02	7440-38-2	
Barium	**420**	ug/L	5.0	1	08/21/14 16:35	08/25/14 23:02	7440-39-3	
Cadmium	**1.2**	ug/L	1.0	1	08/21/14 16:35	08/25/14 23:02	7440-43-9	
Chromium	ND	ug/L	5.0	1	08/21/14 16:35	08/26/14 18:09	7440-47-3	
Lead	ND	ug/L	5.0	1	08/21/14 16:35	08/25/14 23:02	7439-92-1	
Manganese	**6440**	ug/L	5.0	1	08/21/14 16:35	08/25/14 23:02	7439-96-5	
Selenium	ND	ug/L	10.0	1	08/21/14 16:35	08/25/14 23:02	7782-49-2	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	08/21/14 18:00	08/22/14 15:21	7439-97-6	
6200B MSV	Analytical Method: SM 6200B							
Benzene	**30.5**	ug/L	10.0	20		08/23/14 00:18	71-43-2	
Bromobenzene	ND	ug/L	10.0	20		08/23/14 00:18	108-86-1	
Bromochloromethane	ND	ug/L	10.0	20		08/23/14 00:18	74-97-5	
Bromodichloromethane	**35.6**	ug/L	10.0	20		08/23/14 00:18	75-27-4	
Bromoform	**125**	ug/L	10.0	20		08/23/14 00:18	75-25-2	
Bromomethane	ND	ug/L	100	20		08/23/14 00:18	74-83-9	
n-Butylbenzene	ND	ug/L	10.0	20		08/23/14 00:18	104-51-8	
sec-Butylbenzene	ND	ug/L	10.0	20		08/23/14 00:18	135-98-8	
tert-Butylbenzene	ND	ug/L	10.0	20		08/23/14 00:18	98-06-6	
Carbon tetrachloride	**264**	ug/L	10.0	20		08/23/14 00:18	56-23-5	
Chlorobenzene	**16.2**	ug/L	10.0	20		08/23/14 00:18	108-90-7	
Chloroethane	ND	ug/L	20.0	20		08/23/14 00:18	75-00-3	
Chloroform	**5970**	ug/L	50.0	100		08/25/14 22:29	67-66-3	
Chloromethane	ND	ug/L	20.0	20		08/23/14 00:18	74-87-3	
2-Chlorotoluene	ND	ug/L	10.0	20		08/23/14 00:18	95-49-8	
4-Chlorotoluene	ND	ug/L	10.0	20		08/23/14 00:18	106-43-4	
1,2-Dibromo-3-chloropropane	**76.8**	ug/L	20.0	20		08/23/14 00:18	96-12-8	
Dibromochloromethane	ND	ug/L	10.0	20		08/23/14 00:18	124-48-1	
1,2-Dibromoethane (EDB)	**7380**	ug/L	50.0	100		08/25/14 22:29	106-93-4	
Dibromomethane	ND	ug/L	10.0	20		08/23/14 00:18	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	10.0	20		08/23/14 00:18	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	10.0	20		08/23/14 00:18	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	10.0	20		08/23/14 00:18	106-46-7	
Dichlorodifluoromethane	ND	ug/L	10.0	20		08/23/14 00:18	75-71-8	
1,1-Dichloroethane	ND	ug/L	10.0	20		08/23/14 00:18	75-34-3	
1,2-Dichloroethane	**135**	ug/L	10.0	20		08/23/14 00:18	107-06-2	
1,1-Dichloroethene	**13.6**	ug/L	10.0	20		08/23/14 00:18	75-35-4	
cis-1,2-Dichloroethene	**19.2**	ug/L	10.0	20		08/23/14 00:18	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	10.0	20		08/23/14 00:18	156-60-5	
1,2-Dichloropropane	**6610**	ug/L	50.0	100		08/25/14 22:29	78-87-5	
1,3-Dichloropropane	**40.5**	ug/L	10.0	20		08/23/14 00:18	142-28-9	
2,2-Dichloropropane	ND	ug/L	10.0	20		08/23/14 00:18	594-20-7	
1,1-Dichloropropene	ND	ug/L	10.0	20		08/23/14 00:18	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	10.0	20		08/23/14 00:18	10061-01-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-3 **Lab ID: 92214233036** Collected: 08/19/14 11:35 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV	Analytical Method: SM 6200B							
trans-1,3-Dichloropropene	ND	ug/L	10.0	20		08/23/14 00:18	10061-02-6	
Diisopropyl ether	ND	ug/L	10.0	20		08/23/14 00:18	108-20-3	
Ethylbenzene	ND	ug/L	10.0	20		08/23/14 00:18	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	40.0	20		08/23/14 00:18	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/L	10.0	20		08/23/14 00:18	98-82-8	
Methylene Chloride	**414**	ug/L	40.0	20		08/23/14 00:18	75-09-2	
Methyl-tert-butyl ether	ND	ug/L	10.0	20		08/23/14 00:18	1634-04-4	
Naphthalene	ND	ug/L	40.0	20		08/23/14 00:18	91-20-3	
n-Propylbenzene	ND	ug/L	10.0	20		08/23/14 00:18	103-65-1	
Styrene	ND	ug/L	10.0	20		08/23/14 00:18	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	10.0	20		08/23/14 00:18	630-20-6	
1,1,2,2-Tetrachloroethane	**319**	ug/L	10.0	20		08/23/14 00:18	79-34-5	
Tetrachloroethene	**52.7**	ug/L	10.0	20		08/23/14 00:18	127-18-4	
Toluene	**15.1**	ug/L	10.0	20		08/23/14 00:18	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	40.0	20		08/23/14 00:18	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	40.0	20		08/23/14 00:18	120-82-1	
1,1,1-Trichloroethane	**13.1**	ug/L	10.0	20		08/23/14 00:18	71-55-6	
1,1,2-Trichloroethane	**20.0**	ug/L	10.0	20		08/23/14 00:18	79-00-5	
Trichloroethene	**944**	ug/L	10.0	20		08/23/14 00:18	79-01-6	
Trichlorofluoromethane	ND	ug/L	20.0	20		08/23/14 00:18	75-69-4	
1,2,3-Trichloropropane	**252**	ug/L	10.0	20		08/23/14 00:18	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	10.0	20		08/23/14 00:18	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	10.0	20		08/23/14 00:18	108-67-8	
Vinyl chloride	ND	ug/L	20.0	20		08/23/14 00:18	75-01-4	
m&p-Xylene	ND	ug/L	20.0	20		08/23/14 00:18	179601-23-1	
o-Xylene	ND	ug/L	10.0	20		08/23/14 00:18	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	91	%	70-130	20		08/23/14 00:18	17060-07-0	
4-Bromofluorobenzene (S)	102	%	70-130	20		08/23/14 00:18	460-00-4	
Toluene-d8 (S)	97	%	70-130	20		08/23/14 00:18	2037-26-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-64 **Lab ID: 92214233037** Collected: 08/19/14 12:00 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic	ND	ug/L	10.0	1	08/21/14 16:35	08/25/14 23:14	7440-38-2	
Barium	ND	ug/L	5.0	1	08/21/14 16:35	08/25/14 23:14	7440-39-3	
Cadmium	ND	ug/L	1.0	1	08/21/14 16:35	08/25/14 23:14	7440-43-9	
Chromium	ND	ug/L	5.0	1	08/21/14 16:35	08/26/14 18:12	7440-47-3	
Lead	ND	ug/L	5.0	1	08/21/14 16:35	08/25/14 23:14	7439-92-1	
Manganese	ND	ug/L	5.0	1	08/21/14 16:35	08/25/14 23:14	7439-96-5	
Selenium	ND	ug/L	10.0	1	08/21/14 16:35	08/25/14 23:14	7782-49-2	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	08/21/14 18:00	08/22/14 15:24	7439-97-6	
6200B MSV	Analytical Method: SM 6200B							
Benzene	ND	ug/L	0.50	1		08/23/14 00:34	71-43-2	
Bromobenzene	ND	ug/L	0.50	1		08/23/14 00:34	108-86-1	
Bromochloromethane	ND	ug/L	0.50	1		08/23/14 00:34	74-97-5	
Bromodichloromethane	ND	ug/L	0.50	1		08/23/14 00:34	75-27-4	
Bromoform	ND	ug/L	0.50	1		08/23/14 00:34	75-25-2	
Bromomethane	ND	ug/L	5.0	1		08/23/14 00:34	74-83-9	
n-Butylbenzene	ND	ug/L	0.50	1		08/23/14 00:34	104-51-8	
sec-Butylbenzene	ND	ug/L	0.50	1		08/23/14 00:34	135-98-8	
tert-Butylbenzene	ND	ug/L	0.50	1		08/23/14 00:34	98-06-6	
Carbon tetrachloride	ND	ug/L	0.50	1		08/23/14 00:34	56-23-5	
Chlorobenzene	ND	ug/L	0.50	1		08/23/14 00:34	108-90-7	
Chloroethane	ND	ug/L	1.0	1		08/23/14 00:34	75-00-3	
Chloroform	ND	ug/L	0.50	1		08/23/14 00:34	67-66-3	
Chloromethane	ND	ug/L	1.0	1		08/23/14 00:34	74-87-3	
2-Chlorotoluene	ND	ug/L	0.50	1		08/23/14 00:34	95-49-8	
4-Chlorotoluene	ND	ug/L	0.50	1		08/23/14 00:34	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	1		08/23/14 00:34	96-12-8	
Dibromochloromethane	ND	ug/L	0.50	1		08/23/14 00:34	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	1		08/23/14 00:34	106-93-4	
Dibromomethane	ND	ug/L	0.50	1		08/23/14 00:34	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	0.50	1		08/23/14 00:34	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	0.50	1		08/23/14 00:34	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	0.50	1		08/23/14 00:34	106-46-7	
Dichlorodifluoromethane	ND	ug/L	0.50	1		08/23/14 00:34	75-71-8	
1,1-Dichloroethane	ND	ug/L	0.50	1		08/23/14 00:34	75-34-3	
1,2-Dichloroethane	ND	ug/L	0.50	1		08/23/14 00:34	107-06-2	
1,1-Dichloroethene	ND	ug/L	0.50	1		08/23/14 00:34	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		08/23/14 00:34	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	0.50	1		08/23/14 00:34	156-60-5	
1,2-Dichloropropane	ND	ug/L	0.50	1		08/23/14 00:34	78-87-5	
1,3-Dichloropropane	ND	ug/L	0.50	1		08/23/14 00:34	142-28-9	
2,2-Dichloropropane	ND	ug/L	0.50	1		08/23/14 00:34	594-20-7	
1,1-Dichloropropene	ND	ug/L	0.50	1		08/23/14 00:34	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		08/23/14 00:34	10061-01-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: MW-64 **Lab ID: 92214233037** Collected: 08/19/14 12:00 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV	Analytical Method: SM 6200B							
trans-1,3-Dichloropropene	ND	ug/L	0.50	1		08/23/14 00:34	10061-02-6	
Diisopropyl ether	ND	ug/L	0.50	1		08/23/14 00:34	108-20-3	
Ethylbenzene	ND	ug/L	0.50	1		08/23/14 00:34	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	2.0	1		08/23/14 00:34	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/L	0.50	1		08/23/14 00:34	98-82-8	
Methylene Chloride	ND	ug/L	2.0	1		08/23/14 00:34	75-09-2	
Methyl-tert-butyl ether	ND	ug/L	0.50	1		08/23/14 00:34	1634-04-4	
Naphthalene	ND	ug/L	2.0	1		08/23/14 00:34	91-20-3	
n-Propylbenzene	ND	ug/L	0.50	1		08/23/14 00:34	103-65-1	
Styrene	ND	ug/L	0.50	1		08/23/14 00:34	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1		08/23/14 00:34	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	1		08/23/14 00:34	79-34-5	
Tetrachloroethene	ND	ug/L	0.50	1		08/23/14 00:34	127-18-4	
Toluene	ND	ug/L	0.50	1		08/23/14 00:34	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	2.0	1		08/23/14 00:34	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	2.0	1		08/23/14 00:34	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	0.50	1		08/23/14 00:34	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	0.50	1		08/23/14 00:34	79-00-5	
Trichloroethene	ND	ug/L	0.50	1		08/23/14 00:34	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		08/23/14 00:34	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	0.50	1		08/23/14 00:34	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	1		08/23/14 00:34	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	1		08/23/14 00:34	108-67-8	
Vinyl chloride	ND	ug/L	1.0	1		08/23/14 00:34	75-01-4	
m&p-Xylene	ND	ug/L	1.0	1		08/23/14 00:34	179601-23-1	
o-Xylene	ND	ug/L	0.50	1		08/23/14 00:34	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	93	%	70-130	1		08/23/14 00:34	17060-07-0	
4-Bromofluorobenzene (S)	104	%	70-130	1		08/23/14 00:34	460-00-4	
Toluene-d8 (S)	98	%	70-130	1		08/23/14 00:34	2037-26-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: RW-1 **Lab ID: 92214233038** Collected: 08/19/14 14:45 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic	ND	ug/L	10.0	1	08/21/14 16:35	08/25/14 23:18	7440-38-2	
Barium	**15.9**	ug/L	5.0	1	08/21/14 16:35	08/25/14 23:18	7440-39-3	
Cadmium	ND	ug/L	1.0	1	08/21/14 16:35	08/25/14 23:18	7440-43-9	
Chromium	ND	ug/L	5.0	1	08/21/14 16:35	08/26/14 18:39	7440-47-3	
Lead	ND	ug/L	5.0	1	08/21/14 16:35	08/25/14 23:18	7439-92-1	
Manganese	**32.9**	ug/L	5.0	1	08/21/14 16:35	08/25/14 23:18	7439-96-5	
Selenium	ND	ug/L	10.0	1	08/21/14 16:35	08/25/14 23:18	7782-49-2	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	08/21/14 18:00	08/22/14 15:32	7439-97-6	
6200B MSV	Analytical Method: SM 6200B							
Benzene	**1820**	ug/L	12.5	25		08/25/14 22:44	71-43-2	
Bromobenzene	ND	ug/L	0.50	1		08/23/14 00:50	108-86-1	
Bromochloromethane	ND	ug/L	0.50	1		08/23/14 00:50	74-97-5	
Bromodichloromethane	**5.0**	ug/L	0.50	1		08/23/14 00:50	75-27-4	
Bromoform	ND	ug/L	0.50	1		08/23/14 00:50	75-25-2	
Bromomethane	ND	ug/L	5.0	1		08/23/14 00:50	74-83-9	
n-Butylbenzene	ND	ug/L	0.50	1		08/23/14 00:50	104-51-8	
sec-Butylbenzene	ND	ug/L	0.50	1		08/23/14 00:50	135-98-8	
tert-Butylbenzene	ND	ug/L	0.50	1		08/23/14 00:50	98-06-6	
Carbon tetrachloride	**41.1**	ug/L	0.50	1		08/23/14 00:50	56-23-5	
Chlorobenzene	**0.59**	ug/L	0.50	1		08/23/14 00:50	108-90-7	
Chloroethane	ND	ug/L	1.0	1		08/23/14 00:50	75-00-3	
Chloroform	**659**	ug/L	12.5	25		08/25/14 22:44	67-66-3	
Chloromethane	ND	ug/L	1.0	1		08/23/14 00:50	74-87-3	
2-Chlorotoluene	ND	ug/L	0.50	1		08/23/14 00:50	95-49-8	
4-Chlorotoluene	ND	ug/L	0.50	1		08/23/14 00:50	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	1		08/23/14 00:50	96-12-8	
Dibromochloromethane	ND	ug/L	0.50	1		08/23/14 00:50	124-48-1	
1,2-Dibromoethane (EDB)	**13.8**	ug/L	0.50	1		08/23/14 00:50	106-93-4	
Dibromomethane	ND	ug/L	0.50	1		08/23/14 00:50	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	0.50	1		08/23/14 00:50	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	0.50	1		08/23/14 00:50	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	0.50	1		08/23/14 00:50	106-46-7	
Dichlorodifluoromethane	ND	ug/L	0.50	1		08/23/14 00:50	75-71-8	
1,1-Dichloroethane	**0.83**	ug/L	0.50	1		08/23/14 00:50	75-34-3	
1,2-Dichloroethane	**1.9**	ug/L	0.50	1		08/23/14 00:50	107-06-2	
1,1-Dichloroethene	ND	ug/L	0.50	1		08/23/14 00:50	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		08/23/14 00:50	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	0.50	1		08/23/14 00:50	156-60-5	
1,2-Dichloropropane	**179**	ug/L	12.5	25		08/25/14 22:44	78-87-5	
1,3-Dichloropropane	ND	ug/L	0.50	1		08/23/14 00:50	142-28-9	
2,2-Dichloropropane	ND	ug/L	0.50	1		08/23/14 00:50	594-20-7	
1,1-Dichloropropene	ND	ug/L	0.50	1		08/23/14 00:50	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		08/23/14 00:50	10061-01-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: RW-1 **Lab ID: 92214233038** Collected: 08/19/14 14:45 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV	Analytical Method: SM 6200B							
trans-1,3-Dichloropropene	ND	ug/L	0.50	1		08/23/14 00:50	10061-02-6	
Diisopropyl ether	ND	ug/L	0.50	1		08/23/14 00:50	108-20-3	
Ethylbenzene	ND	ug/L	0.50	1		08/23/14 00:50	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	2.0	1		08/23/14 00:50	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/L	0.50	1		08/23/14 00:50	98-82-8	
Methylene Chloride	**43.4**	ug/L	2.0	1		08/23/14 00:50	75-09-2	
Methyl-tert-butyl ether	ND	ug/L	0.50	1		08/23/14 00:50	1634-04-4	
Naphthalene	ND	ug/L	2.0	1		08/23/14 00:50	91-20-3	
n-Propylbenzene	ND	ug/L	0.50	1		08/23/14 00:50	103-65-1	
Styrene	ND	ug/L	0.50	1		08/23/14 00:50	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1		08/23/14 00:50	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	1		08/23/14 00:50	79-34-5	
Tetrachloroethene	**1.7**	ug/L	0.50	1		08/23/14 00:50	127-18-4	
Toluene	ND	ug/L	0.50	1		08/23/14 00:50	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	2.0	1		08/23/14 00:50	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	2.0	1		08/23/14 00:50	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	0.50	1		08/23/14 00:50	71-55-6	
1,1,2-Trichloroethane	**5.0**	ug/L	0.50	1		08/23/14 00:50	79-00-5	
Trichloroethene	**61.5**	ug/L	0.50	1		08/23/14 00:50	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		08/23/14 00:50	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	0.50	1		08/23/14 00:50	96-18-4	
1,2,4-Trimethylbenzene	**0.73**	ug/L	0.50	1		08/23/14 00:50	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	1		08/23/14 00:50	108-67-8	
Vinyl chloride	ND	ug/L	1.0	1		08/23/14 00:50	75-01-4	
m&p-Xylene	**2.1**	ug/L	1.0	1		08/23/14 00:50	179601-23-1	
o-Xylene	**1.3**	ug/L	0.50	1		08/23/14 00:50	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	90	%	70-130	1		08/23/14 00:50	17060-07-0	
4-Bromofluorobenzene (S)	103	%	70-130	1		08/23/14 00:50	460-00-4	
Toluene-d8 (S)	99	%	70-130	1		08/23/14 00:50	2037-26-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: RW-8 **Lab ID: 92214233039** Collected: 08/12/14 16:00 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV	Analytical Method: SM 6200B							
Benzene	ND	ug/L	0.50	1		08/25/14 16:42	71-43-2	
Bromobenzene	ND	ug/L	0.50	1		08/25/14 16:42	108-86-1	
Bromochloromethane	ND	ug/L	0.50	1		08/25/14 16:42	74-97-5	
Bromodichloromethane	ND	ug/L	0.50	1		08/25/14 16:42	75-27-4	
Bromoform	ND	ug/L	0.50	1		08/25/14 16:42	75-25-2	
Bromomethane	ND	ug/L	5.0	1		08/25/14 16:42	74-83-9	
n-Butylbenzene	ND	ug/L	0.50	1		08/25/14 16:42	104-51-8	
sec-Butylbenzene	ND	ug/L	0.50	1		08/25/14 16:42	135-98-8	
tert-Butylbenzene	ND	ug/L	0.50	1		08/25/14 16:42	98-06-6	
Carbon tetrachloride	ND	ug/L	0.50	1		08/25/14 16:42	56-23-5	
Chlorobenzene	ND	ug/L	0.50	1		08/25/14 16:42	108-90-7	
Chloroethane	ND	ug/L	1.0	1		08/25/14 16:42	75-00-3	
Chloroform	**2.1**	ug/L	0.50	1		08/25/14 16:42	67-66-3	
Chloromethane	ND	ug/L	1.0	1		08/25/14 16:42	74-87-3	
2-Chlorotoluene	ND	ug/L	0.50	1		08/25/14 16:42	95-49-8	
4-Chlorotoluene	ND	ug/L	0.50	1		08/25/14 16:42	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	1		08/25/14 16:42	96-12-8	
Dibromochloromethane	ND	ug/L	0.50	1		08/25/14 16:42	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	1		08/25/14 16:42	106-93-4	
Dibromomethane	ND	ug/L	0.50	1		08/25/14 16:42	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	0.50	1		08/25/14 16:42	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	0.50	1		08/25/14 16:42	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	0.50	1		08/25/14 16:42	106-46-7	
Dichlorodifluoromethane	ND	ug/L	0.50	1		08/25/14 16:42	75-71-8	
1,1-Dichloroethane	ND	ug/L	0.50	1		08/25/14 16:42	75-34-3	
1,2-Dichloroethane	ND	ug/L	0.50	1		08/25/14 16:42	107-06-2	
1,1-Dichloroethene	ND	ug/L	0.50	1		08/25/14 16:42	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		08/25/14 16:42	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	0.50	1		08/25/14 16:42	156-60-5	
1,2-Dichloropropane	ND	ug/L	0.50	1		08/25/14 16:42	78-87-5	
1,3-Dichloropropane	ND	ug/L	0.50	1		08/25/14 16:42	142-28-9	
2,2-Dichloropropane	ND	ug/L	0.50	1		08/25/14 16:42	594-20-7	
1,1-Dichloropropene	ND	ug/L	0.50	1		08/25/14 16:42	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		08/25/14 16:42	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	0.50	1		08/25/14 16:42	10061-02-6	
Diisopropyl ether	ND	ug/L	0.50	1		08/25/14 16:42	108-20-3	
Ethylbenzene	ND	ug/L	0.50	1		08/25/14 16:42	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	2.0	1		08/25/14 16:42	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/L	0.50	1		08/25/14 16:42	98-82-8	
Methylene Chloride	ND	ug/L	2.0	1		08/25/14 16:42	75-09-2	
Methyl-tert-butyl ether	ND	ug/L	0.50	1		08/25/14 16:42	1634-04-4	
Naphthalene	ND	ug/L	2.0	1		08/25/14 16:42	91-20-3	
n-Propylbenzene	ND	ug/L	0.50	1		08/25/14 16:42	103-65-1	
Styrene	ND	ug/L	0.50	1		08/25/14 16:42	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1		08/25/14 16:42	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	1		08/25/14 16:42	79-34-5	
Tetrachloroethene	ND	ug/L	0.50	1		08/25/14 16:42	127-18-4	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: RW-8 **Lab ID: 92214233039** Collected: 08/12/14 16:00 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV	Analytical Method: SM 6200B							
Toluene	ND	ug/L	0.50	1		08/25/14 16:42	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	2.0	1		08/25/14 16:42	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	2.0	1		08/25/14 16:42	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	0.50	1		08/25/14 16:42	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	0.50	1		08/25/14 16:42	79-00-5	
Trichloroethene	ND	ug/L	0.50	1		08/25/14 16:42	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		08/25/14 16:42	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	0.50	1		08/25/14 16:42	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	1		08/25/14 16:42	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	1		08/25/14 16:42	108-67-8	
Vinyl chloride	ND	ug/L	1.0	1		08/25/14 16:42	75-01-4	
m&p-Xylene	ND	ug/L	1.0	1		08/25/14 16:42	179601-23-1	
o-Xylene	ND	ug/L	0.50	1		08/25/14 16:42	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	93	%	70-130	1		08/25/14 16:42	17060-07-0	
4-Bromofluorobenzene (S)	103	%	70-130	1		08/25/14 16:42	460-00-4	
Toluene-d8 (S)	99	%	70-130	1		08/25/14 16:42	2037-26-5	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: RW-7 **Lab ID: 92214233040** Collected: 08/12/14 15:45 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV	Analytical Method: SM 6200B							
Benzene	ND	ug/L	0.50	1		08/23/14 01:21	71-43-2	
Bromobenzene	ND	ug/L	0.50	1		08/23/14 01:21	108-86-1	
Bromochloromethane	ND	ug/L	0.50	1		08/23/14 01:21	74-97-5	
Bromodichloromethane	ND	ug/L	0.50	1		08/23/14 01:21	75-27-4	
Bromoform	ND	ug/L	0.50	1		08/23/14 01:21	75-25-2	
Bromomethane	ND	ug/L	5.0	1		08/23/14 01:21	74-83-9	
n-Butylbenzene	ND	ug/L	0.50	1		08/23/14 01:21	104-51-8	
sec-Butylbenzene	ND	ug/L	0.50	1		08/23/14 01:21	135-98-8	
tert-Butylbenzene	ND	ug/L	0.50	1		08/23/14 01:21	98-06-6	
Carbon tetrachloride	ND	ug/L	0.50	1		08/23/14 01:21	56-23-5	
Chlorobenzene	ND	ug/L	0.50	1		08/23/14 01:21	108-90-7	
Chloroethane	ND	ug/L	1.0	1		08/23/14 01:21	75-00-3	
Chloroform	**197**	ug/L	0.50	1		08/23/14 01:21	67-66-3	
Chloromethane	ND	ug/L	1.0	1		08/23/14 01:21	74-87-3	
2-Chlorotoluene	ND	ug/L	0.50	1		08/23/14 01:21	95-49-8	
4-Chlorotoluene	ND	ug/L	0.50	1		08/23/14 01:21	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	1		08/23/14 01:21	96-12-8	
Dibromochloromethane	ND	ug/L	0.50	1		08/23/14 01:21	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	1		08/23/14 01:21	106-93-4	
Dibromomethane	ND	ug/L	0.50	1		08/23/14 01:21	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	0.50	1		08/23/14 01:21	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	0.50	1		08/23/14 01:21	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	0.50	1		08/23/14 01:21	106-46-7	
Dichlorodifluoromethane	ND	ug/L	0.50	1		08/23/14 01:21	75-71-8	
1,1-Dichloroethane	ND	ug/L	0.50	1		08/23/14 01:21	75-34-3	
1,2-Dichloroethane	ND	ug/L	0.50	1		08/23/14 01:21	107-06-2	
1,1-Dichloroethene	ND	ug/L	0.50	1		08/23/14 01:21	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		08/23/14 01:21	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	0.50	1		08/23/14 01:21	156-60-5	
1,2-Dichloropropane	**0.56**	ug/L	0.50	1		08/23/14 01:21	78-87-5	
1,3-Dichloropropane	ND	ug/L	0.50	1		08/23/14 01:21	142-28-9	
2,2-Dichloropropane	ND	ug/L	0.50	1		08/23/14 01:21	594-20-7	
1,1-Dichloropropene	ND	ug/L	0.50	1		08/23/14 01:21	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		08/23/14 01:21	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	0.50	1		08/23/14 01:21	10061-02-6	
Diisopropyl ether	ND	ug/L	0.50	1		08/23/14 01:21	108-20-3	
Ethylbenzene	ND	ug/L	0.50	1		08/23/14 01:21	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	2.0	1		08/23/14 01:21	87-68-3	
Isopropylbenzene (Cumene)	ND	ug/L	0.50	1		08/23/14 01:21	98-82-8	
Methylene Chloride	ND	ug/L	2.0	1		08/23/14 01:21	75-09-2	
Methyl-tert-butyl ether	ND	ug/L	0.50	1		08/23/14 01:21	1634-04-4	
Naphthalene	ND	ug/L	2.0	1		08/23/14 01:21	91-20-3	
n-Propylbenzene	ND	ug/L	0.50	1		08/23/14 01:21	103-65-1	
Styrene	ND	ug/L	0.50	1		08/23/14 01:21	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1		08/23/14 01:21	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	1		08/23/14 01:21	79-34-5	
Tetrachloroethene	ND	ug/L	0.50	1		08/23/14 01:21	127-18-4	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Sample: RW-7 **Lab ID: 92214233040** Collected: 08/12/14 15:45 Received: 08/20/14 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV	Analytical Method: SM 6200B							
Toluene	ND	ug/L	0.50	1		08/23/14 01:21	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	2.0	1		08/23/14 01:21	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	2.0	1		08/23/14 01:21	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	0.50	1		08/23/14 01:21	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	0.50	1		08/23/14 01:21	79-00-5	
Trichloroethene	ND	ug/L	0.50	1		08/23/14 01:21	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		08/23/14 01:21	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	0.50	1		08/23/14 01:21	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	1		08/23/14 01:21	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	1		08/23/14 01:21	108-67-8	
Vinyl chloride	ND	ug/L	1.0	1		08/23/14 01:21	75-01-4	
m&p-Xylene	ND	ug/L	1.0	1		08/23/14 01:21	179601-23-1	
o-Xylene	ND	ug/L	0.50	1		08/23/14 01:21	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	93	%	70-130	1		08/23/14 01:21	17060-07-0	
4-Bromofluorobenzene (S)	102	%	70-130	1		08/23/14 01:21	460-00-4	
Toluene-d8 (S)	98	%	70-130	1		08/23/14 01:21	2037-26-5	

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QUALITY CONTROL DATA

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

QC Batch: MERP/6992 Analysis Method: EPA 7470
QC Batch Method: EPA 7470 Analysis Description: 7470 Mercury
Associated Lab Samples: 92214233002, 92214233004, 92214233005, 92214233006, 92214233008, 92214233009, 92214233010, 92214233011, 92214233013, 92214233014, 92214233016, 92214233017, 92214233020, 92214233022, 92214233024, 92214233025, 92214233026, 92214233027, 92214233028, 92214233029

METHOD BLANK: 1269495 Matrix: Water
Associated Lab Samples: 92214233002, 92214233004, 92214233005, 92214233006, 92214233008, 92214233009, 92214233010, 92214233011, 92214233013, 92214233014, 92214233016, 92214233017, 92214233020, 92214233022, 92214233024, 92214233025, 92214233026, 92214233027, 92214233028, 92214233029

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	08/23/14 18:00	

LABORATORY CONTROL SAMPLE: 1269496

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	2.5	2.5	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1269497 1269498

Parameter	Units	92214233002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	2.5	2.5	2.6	2.5	105	102	75-125	3	25	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

QC Batch: MERP/6993 Analysis Method: EPA 7470
QC Batch Method: EPA 7470 Analysis Description: 7470 Mercury
Associated Lab Samples: 92214233030, 92214233032, 92214233034, 92214233035, 92214233036, 92214233037, 92214233038

METHOD BLANK: 1269504 Matrix: Water
Associated Lab Samples: 92214233030, 92214233032, 92214233034, 92214233035, 92214233036, 92214233037, 92214233038

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	08/22/14 14:56	

LABORATORY CONTROL SAMPLE: 1269505

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	2.5	2.4	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1269506 1269507

Parameter	Units	92214233030 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	0.70	2.5	2.5	2.3	2.3	63	65	75-125	3	25	M1

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QUALITY CONTROL DATA

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

QC Batch: MPRP/16730 — Analysis Method: EPA 6010
QC Batch Method: EPA 3010 — Analysis Description: 6010 MET
Associated Lab Samples: 92214233002, 92214233004, 92214233005, 92214233006, 92214233008, 92214233009, 92214233010, 92214233011, 92214233013, 92214233014, 92214233016, 92214233017, 92214233020, 92214233022, 92214233024, 92214233025

METHOD BLANK: 1269342 — Matrix: Water
Associated Lab Samples: 92214233002, 92214233004, 92214233005, 92214233006, 92214233008, 92214233009, 92214233010, 92214233011, 92214233013, 92214233014, 92214233016, 92214233017, 92214233020, 92214233022, 92214233024, 92214233025

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	ug/L	ND	10.0	08/22/14 16:07	
Barium	ug/L	ND	5.0	08/22/14 16:07	
Cadmium	ug/L	ND	1.0	08/22/14 16:07	
Chromium	ug/L	ND	5.0	08/22/14 16:07	
Lead	ug/L	ND	5.0	08/22/14 16:07	
Manganese	ug/L	ND	5.0	08/22/14 16:07	
Selenium	ug/L	ND	10.0	08/22/14 16:07	

LABORATORY CONTROL SAMPLE: 1269343

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	500	493	99	80-120	
Barium	ug/L	500	507	101	80-120	
Cadmium	ug/L	500	506	101	80-120	
Chromium	ug/L	500	508	102	80-120	
Lead	ug/L	500	509	102	80-120	
Manganese	ug/L	500	507	101	80-120	
Selenium	ug/L	500	500	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1269344 — 1269345

Parameter	Units	92214013001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	ND	500	500	510	510	102	102	75-125	0	20	
Barium	ug/L	284	500	500	772	767	98	97	75-125	1	20	
Cadmium	ug/L	ND	500	500	489	493	98	99	75-125	1	20	
Chromium	ug/L	ND	500	500	494	498	99	99	75-125	1	20	
Lead	ug/L	ND	500	500	498	501	99	100	75-125	1	20	
Manganese	ug/L	677	500	500	1170	1160	99	96	75-125	1	20	
Selenium	ug/L	15.0	500	500	524	530	102	103	75-125	1	20	

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QUALITY CONTROL DATA

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

QC Batch: MPRP/16731 — Analysis Method: EPA 6010
QC Batch Method: EPA 3010 — Analysis Description: 6010 MET
Associated Lab Samples: 92214233026, 92214233027, 92214233028, 92214233029, 92214233030, 92214233032, 92214233034, 92214233035, 92214233036, 92214233037, 92214233038

METHOD BLANK: 1269357 — Matrix: Water
Associated Lab Samples: 92214233026, 92214233027, 92214233028, 92214233029, 92214233030, 92214233032, 92214233034, 92214233035, 92214233036, 92214233037, 92214233038

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	ug/L	ND	10.0	08/25/14 22:13	
Barium	ug/L	ND	5.0	08/25/14 22:13	
Cadmium	ug/L	ND	1.0	08/25/14 22:13	
Chromium	ug/L	ND	5.0	08/25/14 22:13	
Lead	ug/L	ND	5.0	08/25/14 22:13	
Manganese	ug/L	ND	5.0	08/25/14 22:13	
Selenium	ug/L	ND	10.0	08/25/14 22:13	

LABORATORY CONTROL SAMPLE: 1269358

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	500	478	96	80-120	
Barium	ug/L	500	490	98	80-120	
Cadmium	ug/L	500	502	100	80-120	
Chromium	ug/L	500	494	99	80-120	
Lead	ug/L	500	485	97	80-120	
Manganese	ug/L	500	493	99	80-120	
Selenium	ug/L	500	493	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1269359 — 1269360

Parameter	Units	92214233026 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	ND	500	500	459	474	91	94	75-125	3	20	
Barium	ug/L	ND	500	500	471	482	94	96	75-125	2	20	
Cadmium	ug/L	ND	500	500	475	489	95	98	75-125	3	20	
Chromium	ug/L	ND	500	500	487	489	97	97	75-125	0	20	
Lead	ug/L	ND	500	500	461	469	92	93	75-125	2	20	
Manganese	ug/L	ND	500	500	477	488	95	97	75-125	2	20	
Selenium	ug/L	ND	500	500	461	471	92	94	75-125	2	20	

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QUALITY CONTROL DATA

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

QC Batch: MSV/28198 Analysis Method: SM 6200B
QC Batch Method: SM 6200B Analysis Description: 6200B MSV
Associated Lab Samples: 92214233001, 92214233002, 92214233003, 92214233004, 92214233005, 92214233006, 92214233007, 92214233008, 92214233009, 92214233010, 92214233011, 92214233012, 92214233014, 92214233015, 92214233016, 92214233017, 92214233019, 92214233020, 92214233021

METHOD BLANK: 1278279 Matrix: Water
Associated Lab Samples: 92214233001, 92214233002, 92214233003, 92214233004, 92214233005, 92214233006, 92214233007, 92214233008, 92214233009, 92214233010, 92214233011, 92214233012, 92214233014, 92214233015, 92214233016, 92214233017, 92214233019, 92214233020, 92214233021

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	0.50	08/21/14 13:07	
1,1,1-Trichloroethane	ug/L	ND	0.50	08/21/14 13:07	
1,1,2,2-Tetrachloroethane	ug/L	ND	0.50	08/21/14 13:07	
1,1,2-Trichloroethane	ug/L	ND	0.50	08/21/14 13:07	
1,1-Dichloroethane	ug/L	ND	0.50	08/21/14 13:07	
1,1-Dichloroethene	ug/L	ND	0.50	08/21/14 13:07	
1,1-Dichloropropene	ug/L	ND	0.50	08/21/14 13:07	
1,2,3-Trichlorobenzene	ug/L	ND	2.0	08/21/14 13:07	
1,2,3-Trichloropropane	ug/L	ND	0.50	08/21/14 13:07	
1,2,4-Trichlorobenzene	ug/L	ND	2.0	08/21/14 13:07	
1,2,4-Trimethylbenzene	ug/L	ND	0.50	08/21/14 13:07	
1,2-Dibromo-3-chloropropane	ug/L	ND	1.0	08/21/14 13:07	
1,2-Dibromoethane (EDB)	ug/L	ND	0.50	08/21/14 13:07	
1,2-Dichlorobenzene	ug/L	ND	0.50	08/21/14 13:07	
1,2-Dichloroethane	ug/L	ND	0.50	08/21/14 13:07	
1,2-Dichloropropane	ug/L	ND	0.50	08/21/14 13:07	
1,3,5-Trimethylbenzene	ug/L	ND	0.50	08/21/14 13:07	
1,3-Dichlorobenzene	ug/L	ND	0.50	08/21/14 13:07	
1,3-Dichloropropane	ug/L	ND	0.50	08/21/14 13:07	
1,4-Dichlorobenzene	ug/L	ND	0.50	08/21/14 13:07	
2,2-Dichloropropane	ug/L	ND	0.50	08/21/14 13:07	
2-Chlorotoluene	ug/L	ND	0.50	08/21/14 13:07	
4-Chlorotoluene	ug/L	ND	0.50	08/21/14 13:07	
Benzene	ug/L	ND	0.50	08/21/14 13:07	
Bromobenzene	ug/L	ND	0.50	08/21/14 13:07	
Bromochloromethane	ug/L	ND	0.50	08/21/14 13:07	
Bromodichloromethane	ug/L	ND	0.50	08/21/14 13:07	
Bromoform	ug/L	ND	0.50	08/21/14 13:07	
Bromomethane	ug/L	ND	5.0	08/21/14 13:07	
Carbon tetrachloride	ug/L	ND	0.50	08/21/14 13:07	
Chlorobenzene	ug/L	ND	0.50	08/21/14 13:07	
Chloroethane	ug/L	ND	1.0	08/21/14 13:07	
Chloroform	ug/L	ND	0.50	08/21/14 13:07	
Chloromethane	ug/L	ND	1.0	08/21/14 13:07	
cis-1,2-Dichloroethene	ug/L	ND	0.50	08/21/14 13:07	
cis-1,3-Dichloropropene	ug/L	ND	0.50	08/21/14 13:07	
Dibromochloromethane	ug/L	ND	0.50	08/21/14 13:07	
Dibromomethane	ug/L	ND	0.50	08/21/14 13:07	

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QUALITY CONTROL DATA

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

METHOD BLANK: 1278279 Matrix: Water

Associated Lab Samples: 92214233001, 92214233002, 92214233003, 92214233004, 92214233005, 92214233006, 92214233007, 92214233008, 92214233009, 92214233010, 92214233011, 92214233012, 92214233014, 92214233015, 92214233016, 92214233017, 92214233019, 92214233020, 92214233021

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dichlorodifluoromethane	ug/L	ND	0.50	08/21/14 13:07	
Diisopropyl ether	ug/L	ND	0.50	08/21/14 13:07	
Ethylbenzene	ug/L	ND	0.50	08/21/14 13:07	
Hexachloro-1,3-butadiene	ug/L	ND	2.0	08/21/14 13:07	
Isopropylbenzene (Cumene)	ug/L	ND	0.50	08/21/14 13:07	
m&p-Xylene	ug/L	ND	1.0	08/21/14 13:07	
Methyl-tert-butyl ether	ug/L	ND	0.50	08/21/14 13:07	
Methylene Chloride	ug/L	ND	2.0	08/21/14 13:07	
n-Butylbenzene	ug/L	ND	0.50	08/21/14 13:07	
n-Propylbenzene	ug/L	ND	0.50	08/21/14 13:07	
Naphthalene	ug/L	ND	2.0	08/21/14 13:07	
o-Xylene	ug/L	ND	0.50	08/21/14 13:07	
sec-Butylbenzene	ug/L	ND	0.50	08/21/14 13:07	
Styrene	ug/L	ND	0.50	08/21/14 13:07	
tert-Butylbenzene	ug/L	ND	0.50	08/21/14 13:07	
Tetrachloroethene	ug/L	ND	0.50	08/21/14 13:07	
Toluene	ug/L	ND	0.50	08/21/14 13:07	
trans-1,2-Dichloroethene	ug/L	ND	0.50	08/21/14 13:07	
trans-1,3-Dichloropropene	ug/L	ND	0.50	08/21/14 13:07	
Trichloroethene	ug/L	ND	0.50	08/21/14 13:07	
Trichlorofluoromethane	ug/L	ND	1.0	08/21/14 13:07	
Vinyl chloride	ug/L	ND	1.0	08/21/14 13:07	
1,2-Dichloroethane-d4 (S)	%	93	70-130	08/21/14 13:07	
4-Bromofluorobenzene (S)	%	103	70-130	08/21/14 13:07	
Toluene-d8 (S)	%	99	70-130	08/21/14 13:07	

LABORATORY CONTROL SAMPLE: 1278280

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	49.0	98	60-140	
1,1,1-Trichloroethane	ug/L	50	46.1	92	60-140	
1,1,2,2-Tetrachloroethane	ug/L	50	49.5	99	60-140	
1,1,2-Trichloroethane	ug/L	50	52.1	104	60-140	
1,1-Dichloroethane	ug/L	50	44.1	88	60-140	
1,1-Dichloroethene	ug/L	50	49.6	99	60-140	
1,1-Dichloropropene	ug/L	50	50.0	100	60-140	
1,2,3-Trichlorobenzene	ug/L	50	48.4	97	60-140	
1,2,3-Trichloropropane	ug/L	50	51.8	104	60-140	
1,2,4-Trichlorobenzene	ug/L	50	49.4	99	60-140	
1,2,4-Trimethylbenzene	ug/L	50	48.9	98	60-140	
1,2-Dibromo-3-chloropropane	ug/L	50	46.5	93	60-140	
1,2-Dibromoethane (EDB)	ug/L	50	50.9	102	60-140	

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QUALITY CONTROL DATA

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

LABORATORY CONTROL SAMPLE: 1278280

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichlorobenzene	ug/L	50	49.6	99	60-140	
1,2-Dichloroethane	ug/L	50	44.4	89	60-140	
1,2-Dichloropropane	ug/L	50	49.5	99	60-140	
1,3,5-Trimethylbenzene	ug/L	50	48.9	98	60-140	
1,3-Dichlorobenzene	ug/L	50	49.4	99	60-140	
1,3-Dichloropropane	ug/L	50	49.7	99	60-140	
1,4-Dichlorobenzene	ug/L	50	49.8	100	60-140	
2,2-Dichloropropane	ug/L	50	45.8	92	60-140	
2-Chlorotoluene	ug/L	50	47.7	95	60-140	
4-Chlorotoluene	ug/L	50	48.8	98	60-140	
Benzene	ug/L	50	49.9	100	60-140	
Bromobenzene	ug/L	50	47.4	95	60-140	
Bromochloromethane	ug/L	50	52.1	104	60-140	
Bromodichloromethane	ug/L	50	53.4	107	60-140	
Bromoform	ug/L	50	56.9	114	60-140	
Bromomethane	ug/L	50	41.5	83	60-140	
Carbon tetrachloride	ug/L	50	53.4	107	60-140	
Chlorobenzene	ug/L	50	50.2	100	60-140	
Chloroethane	ug/L	50	44.0	88	60-140	
Chloroform	ug/L	50	52.6	105	60-140	
Chloromethane	ug/L	50	34.6	69	60-140	
cis-1,2-Dichloroethene	ug/L	50	49.7	99	60-140	
cis-1,3-Dichloropropene	ug/L	50	51.4	103	60-140	
Dibromochloromethane	ug/L	50	58.2	116	60-140	
Dibromomethane	ug/L	50	54.8	110	60-140	
Dichlorodifluoromethane	ug/L	50	44.8	90	60-140	
Diisopropyl ether	ug/L	50	43.2	86	60-140	
Ethylbenzene	ug/L	50	49.9	100	60-140	
Hexachloro-1,3-butadiene	ug/L	50	53.2	106	60-140	
Isopropylbenzene (Cumene)	ug/L	50	52.3	105	60-140	
m&p-Xylene	ug/L	100	101	101	60-140	
Methyl-tert-butyl ether	ug/L	50	45.6	91	60-140	
Methylene Chloride	ug/L	50	44.5	89	60-140	
n-Butylbenzene	ug/L	50	51.1	102	60-140	
n-Propylbenzene	ug/L	50	49.2	98	60-140	
Naphthalene	ug/L	50	45.5	91	60-140	
o-Xylene	ug/L	50	49.2	98	60-140	
sec-Butylbenzene	ug/L	50	50.1	100	60-140	
Styrene	ug/L	50	52.4	105	60-140	
tert-Butylbenzene	ug/L	50	50.0	100	60-140	
Tetrachloroethene	ug/L	50	54.1	108	60-140	
Toluene	ug/L	50	49.7	99	60-140	
trans-1,2-Dichloroethene	ug/L	50	49.6	99	60-140	
trans-1,3-Dichloropropene	ug/L	50	50.0	100	60-140	
Trichloroethene	ug/L	50	52.3	105	60-140	
Trichlorofluoromethane	ug/L	50	48.2	96	60-140	
Vinyl chloride	ug/L	50	41.6	83	60-140	

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QUALITY CONTROL DATA

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

LABORATORY CONTROL SAMPLE: 1278280

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane-d4 (S)	%			90	70-130	
4-Bromofluorobenzene (S)	%			104	70-130	
Toluene-d8 (S)	%			99	70-130	

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(704)875-9092

QUALITY CONTROL DATA

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

QC Batch: MSV/28201
QC Batch Method: SM 6200B
Analysis Method: SM 6200B
Analysis Description: 6200B MSV
Associated Lab Samples: 92214233022

METHOD BLANK: 1278310
Matrix: Water
Associated Lab Samples: 92214233022

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	0.50	08/22/14 01:28	
1,1,1-Trichloroethane	ug/L	ND	0.50	08/22/14 01:28	
1,1,2,2-Tetrachloroethane	ug/L	ND	0.50	08/22/14 01:28	
1,1,2-Trichloroethane	ug/L	ND	0.50	08/22/14 01:28	
1,1-Dichloroethane	ug/L	ND	0.50	08/22/14 01:28	
1,1-Dichloroethene	ug/L	ND	0.50	08/22/14 01:28	
1,1-Dichloropropene	ug/L	ND	0.50	08/22/14 01:28	
1,2,3-Trichlorobenzene	ug/L	ND	2.0	08/22/14 01:28	
1,2,3-Trichloropropane	ug/L	ND	0.50	08/22/14 01:28	
1,2,4-Trichlorobenzene	ug/L	ND	2.0	08/22/14 01:28	
1,2,4-Trimethylbenzene	ug/L	ND	0.50	08/22/14 01:28	
1,2-Dibromo-3-chloropropane	ug/L	ND	1.0	08/22/14 01:28	
1,2-Dibromoethane (EDB)	ug/L	ND	0.50	08/22/14 01:28	
1,2-Dichlorobenzene	ug/L	ND	0.50	08/22/14 01:28	
1,2-Dichloroethane	ug/L	ND	0.50	08/22/14 01:28	
1,2-Dichloropropane	ug/L	ND	0.50	08/22/14 01:28	
1,3,5-Trimethylbenzene	ug/L	ND	0.50	08/22/14 01:28	
1,3-Dichlorobenzene	ug/L	ND	0.50	08/22/14 01:28	
1,3-Dichloropropane	ug/L	ND	0.50	08/22/14 01:28	
1,4-Dichlorobenzene	ug/L	ND	0.50	08/22/14 01:28	
2,2-Dichloropropane	ug/L	ND	0.50	08/22/14 01:28	
2-Chlorotoluene	ug/L	ND	0.50	08/22/14 01:28	
4-Chlorotoluene	ug/L	ND	0.50	08/22/14 01:28	
Benzene	ug/L	ND	0.50	08/22/14 01:28	
Bromobenzene	ug/L	ND	0.50	08/22/14 01:28	
Bromochloromethane	ug/L	ND	0.50	08/22/14 01:28	
Bromodichloromethane	ug/L	ND	0.50	08/22/14 01:28	
Bromoform	ug/L	ND	0.50	08/22/14 01:28	
Bromomethane	ug/L	ND	5.0	08/22/14 01:28	
Carbon tetrachloride	ug/L	ND	0.50	08/22/14 01:28	
Chlorobenzene	ug/L	ND	0.50	08/22/14 01:28	
Chloroethane	ug/L	ND	1.0	08/22/14 01:28	
Chloroform	ug/L	ND	0.50	08/22/14 01:28	
Chloromethane	ug/L	ND	1.0	08/22/14 01:28	
cis-1,2-Dichloroethene	ug/L	ND	0.50	08/22/14 01:28	
cis-1,3-Dichloropropene	ug/L	ND	0.50	08/22/14 01:28	
Dibromochloromethane	ug/L	ND	0.50	08/22/14 01:28	
Dibromomethane	ug/L	ND	0.50	08/22/14 01:28	
Dichlorodifluoromethane	ug/L	ND	0.50	08/22/14 01:28	
Diisopropyl ether	ug/L	ND	0.50	08/22/14 01:28	
Ethylbenzene	ug/L	ND	0.50	08/22/14 01:28	

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QUALITY CONTROL DATA

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

METHOD BLANK: 1278310 Matrix: Water
Associated Lab Samples: 92214233022

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Hexachloro-1,3-butadiene	ug/L	ND	2.0	08/22/14 01:28	
Isopropylbenzene (Cumene)	ug/L	ND	0.50	08/22/14 01:28	
m&p-Xylene	ug/L	ND	1.0	08/22/14 01:28	
Methyl-tert-butyl ether	ug/L	ND	0.50	08/22/14 01:28	
Methylene Chloride	ug/L	ND	2.0	08/22/14 01:28	
n-Butylbenzene	ug/L	ND	0.50	08/22/14 01:28	
n-Propylbenzene	ug/L	ND	0.50	08/22/14 01:28	
Naphthalene	ug/L	ND	2.0	08/22/14 01:28	
o-Xylene	ug/L	ND	0.50	08/22/14 01:28	
sec-Butylbenzene	ug/L	ND	0.50	08/22/14 01:28	
Styrene	ug/L	ND	0.50	08/22/14 01:28	
tert-Butylbenzene	ug/L	ND	0.50	08/22/14 01:28	
Tetrachloroethene	ug/L	ND	0.50	08/22/14 01:28	
Toluene	ug/L	ND	0.50	08/22/14 01:28	
trans-1,2-Dichloroethene	ug/L	ND	0.50	08/22/14 01:28	
trans-1,3-Dichloropropene	ug/L	ND	0.50	08/22/14 01:28	
Trichloroethene	ug/L	ND	0.50	08/22/14 01:28	
Trichlorofluoromethane	ug/L	ND	1.0	08/22/14 01:28	
Vinyl chloride	ug/L	ND	1.0	08/22/14 01:28	
1,2-Dichloroethane-d4 (S)	%	92	70-130	08/22/14 01:28	
4-Bromofluorobenzene (S)	%	103	70-130	08/22/14 01:28	
Toluene-d8 (S)	%	99	70-130	08/22/14 01:28	

LABORATORY CONTROL SAMPLE: 1278311

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	49.1	98	60-140	
1,1,1-Trichloroethane	ug/L	50	45.1	90	60-140	
1,1,2,2-Tetrachloroethane	ug/L	50	48.7	97	60-140	
1,1,2-Trichloroethane	ug/L	50	52.1	104	60-140	
1,1-Dichloroethane	ug/L	50	43.3	87	60-140	
1,1-Dichloroethene	ug/L	50	48.5	97	60-140	
1,1-Dichloropropene	ug/L	50	48.4	97	60-140	
1,2,3-Trichlorobenzene	ug/L	50	45.7	91	60-140	
1,2,3-Trichloropropane	ug/L	50	50.9	102	60-140	
1,2,4-Trichlorobenzene	ug/L	50	46.6	93	60-140	
1,2,4-Trimethylbenzene	ug/L	50	47.5	95	60-140	
1,2-Dibromo-3-chloropropane	ug/L	50	45.6	91	60-140	
1,2-Dibromoethane (EDB)	ug/L	50	50.5	101	60-140	
1,2-Dichlorobenzene	ug/L	50	48.7	97	60-140	
1,2-Dichloroethane	ug/L	50	44.4	89	60-140	
1,2-Dichloropropane	ug/L	50	49.8	100	60-140	
1,3,5-Trimethylbenzene	ug/L	50	47.1	94	60-140	
1,3-Dichlorobenzene	ug/L	50	47.7	95	60-140	

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QUALITY CONTROL DATA

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

LABORATORY CONTROL SAMPLE: 1278311

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,3-Dichloropropane	ug/L	50	49.2	98	60-140	
1,4-Dichlorobenzene	ug/L	50	48.4	97	60-140	
2,2-Dichloropropane	ug/L	50	37.9	76	60-140	
2-Chlorotoluene	ug/L	50	46.4	93	60-140	
4-Chlorotoluene	ug/L	50	47.3	95	60-140	
Benzene	ug/L	50	49.3	99	60-140	
Bromobenzene	ug/L	50	46.4	93	60-140	
Bromochloromethane	ug/L	50	52.1	104	60-140	
Bromodichloromethane	ug/L	50	54.1	108	60-140	
Bromoform	ug/L	50	56.6	113	60-140	
Bromomethane	ug/L	50	53.9	108	60-140	
Carbon tetrachloride	ug/L	50	51.5	103	60-140	
Chlorobenzene	ug/L	50	49.6	99	60-140	
Chloroethane	ug/L	50	44.4	89	60-140	
Chloroform	ug/L	50	52.5	105	60-140	
Chloromethane	ug/L	50	37.8	76	60-140	
cis-1,2-Dichloroethene	ug/L	50	49.2	98	60-140	
cis-1,3-Dichloropropene	ug/L	50	49.5	99	60-140	
Dibromochloromethane	ug/L	50	57.8	116	60-140	
Dibromomethane	ug/L	50	55.5	111	60-140	
Dichlorodifluoromethane	ug/L	50	42.7	85	60-140	
Diisopropyl ether	ug/L	50	43.7	87	60-140	
Ethylbenzene	ug/L	50	49.2	98	60-140	
Hexachloro-1,3-butadiene	ug/L	50	47.8	96	60-140	
Isopropylbenzene (Cumene)	ug/L	50	51.2	102	60-140	
m&p-Xylene	ug/L	100	98.5	99	60-140	
Methyl-tert-butyl ether	ug/L	50	45.3	91	60-140	
Methylene Chloride	ug/L	50	45.5	91	60-140	
n-Butylbenzene	ug/L	50	46.8	94	60-140	
n-Propylbenzene	ug/L	50	47.8	96	60-140	
Naphthalene	ug/L	50	45.0	90	60-140	
o-Xylene	ug/L	50	48.9	98	60-140	
sec-Butylbenzene	ug/L	50	48.3	97	60-140	
Styrene	ug/L	50	51.3	103	60-140	
tert-Butylbenzene	ug/L	50	47.9	96	60-140	
Tetrachloroethene	ug/L	50	52.8	106	60-140	
Toluene	ug/L	50	49.2	98	60-140	
trans-1,2-Dichloroethene	ug/L	50	47.5	95	60-140	
trans-1,3-Dichloropropene	ug/L	50	48.6	97	60-140	
Trichloroethene	ug/L	50	51.1	102	60-140	
Trichlorofluoromethane	ug/L	50	46.2	92	60-140	
Vinyl chloride	ug/L	50	41.4	83	60-140	
1,2-Dichloroethane-d4 (S)	%			89	70-130	
4-Bromofluorobenzene (S)	%			104	70-130	
Toluene-d8 (S)	%			100	70-130	

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QUALITY CONTROL DATA

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

QC Batch: MSV/28202 Analysis Method: SM 6200B
QC Batch Method: SM 6200B Analysis Description: 6200B MSV
Associated Lab Samples: 92214233013, 92214233023, 92214233026, 92214233027, 92214233028, 92214233033, 92214233034, 92214233035, 92214233036, 92214233037, 92214233038, 92214233040

METHOD BLANK: 1278325 Matrix: Water
Associated Lab Samples: 92214233013, 92214233023, 92214233026, 92214233027, 92214233028, 92214233033, 92214233034, 92214233035, 92214233036, 92214233037, 92214233038, 92214233040

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	0.50	08/22/14 15:40	
1,1,1-Trichloroethane	ug/L	ND	0.50	08/22/14 15:40	
1,1,2,2-Tetrachloroethane	ug/L	ND	0.50	08/22/14 15:40	
1,1,2-Trichloroethane	ug/L	ND	0.50	08/22/14 15:40	
1,1-Dichloroethane	ug/L	ND	0.50	08/22/14 15:40	
1,1-Dichloroethene	ug/L	ND	0.50	08/22/14 15:40	
1,1-Dichloropropene	ug/L	ND	0.50	08/22/14 15:40	
1,2,3-Trichlorobenzene	ug/L	ND	2.0	08/22/14 15:40	
1,2,3-Trichloropropane	ug/L	ND	0.50	08/22/14 15:40	
1,2,4-Trichlorobenzene	ug/L	ND	2.0	08/22/14 15:40	
1,2,4-Trimethylbenzene	ug/L	ND	0.50	08/22/14 15:40	
1,2-Dibromo-3-chloropropane	ug/L	ND	1.0	08/22/14 15:40	
1,2-Dibromoethane (EDB)	ug/L	ND	0.50	08/22/14 15:40	
1,2-Dichlorobenzene	ug/L	ND	0.50	08/22/14 15:40	
1,2-Dichloroethane	ug/L	ND	0.50	08/22/14 15:40	
1,2-Dichloropropane	ug/L	ND	0.50	08/22/14 15:40	
1,3,5-Trimethylbenzene	ug/L	ND	0.50	08/22/14 15:40	
1,3-Dichlorobenzene	ug/L	ND	0.50	08/22/14 15:40	
1,3-Dichloropropane	ug/L	ND	0.50	08/22/14 15:40	
1,4-Dichlorobenzene	ug/L	ND	0.50	08/22/14 15:40	
2,2-Dichloropropane	ug/L	ND	0.50	08/22/14 15:40	
2-Chlorotoluene	ug/L	ND	0.50	08/22/14 15:40	
4-Chlorotoluene	ug/L	ND	0.50	08/22/14 15:40	
Benzene	ug/L	ND	0.50	08/22/14 15:40	
Bromobenzene	ug/L	ND	0.50	08/22/14 15:40	
Bromochloromethane	ug/L	ND	0.50	08/22/14 15:40	
Bromodichloromethane	ug/L	ND	0.50	08/22/14 15:40	
Bromoform	ug/L	ND	0.50	08/22/14 15:40	
Bromomethane	ug/L	ND	5.0	08/22/14 15:40	
Carbon tetrachloride	ug/L	ND	0.50	08/22/14 15:40	
Chlorobenzene	ug/L	ND	0.50	08/22/14 15:40	
Chloroethane	ug/L	ND	1.0	08/22/14 15:40	
Chloroform	ug/L	ND	0.50	08/22/14 15:40	
Chloromethane	ug/L	ND	1.0	08/22/14 15:40	
cis-1,2-Dichloroethene	ug/L	ND	0.50	08/22/14 15:40	
cis-1,3-Dichloropropene	ug/L	ND	0.50	08/22/14 15:40	
Dibromochloromethane	ug/L	ND	0.50	08/22/14 15:40	
Dibromomethane	ug/L	ND	0.50	08/22/14 15:40	
Dichlorodifluoromethane	ug/L	ND	0.50	08/22/14 15:40	
Diisopropyl ether	ug/L	ND	0.50	08/22/14 15:40	

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QUALITY CONTROL DATA

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

METHOD BLANK: 1278325 Matrix: Water

Associated Lab Samples: 92214233013, 92214233023, 92214233026, 92214233027, 92214233028, 92214233033, 92214233034, 92214233035, 92214233036, 92214233037, 92214233038, 92214233040

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethylbenzene	ug/L	ND	0.50	08/22/14 15:40	
Hexachloro-1,3-butadiene	ug/L	ND	2.0	08/22/14 15:40	
Isopropylbenzene (Cumene)	ug/L	ND	0.50	08/22/14 15:40	
m&p-Xylene	ug/L	ND	1.0	08/22/14 15:40	
Methyl-tert-butyl ether	ug/L	ND	0.50	08/22/14 15:40	
Methylene Chloride	ug/L	ND	2.0	08/22/14 15:40	
n-Butylbenzene	ug/L	ND	0.50	08/22/14 15:40	
n-Propylbenzene	ug/L	ND	0.50	08/22/14 15:40	
Naphthalene	ug/L	ND	2.0	08/22/14 15:40	
o-Xylene	ug/L	ND	0.50	08/22/14 15:40	
sec-Butylbenzene	ug/L	ND	0.50	08/22/14 15:40	
Styrene	ug/L	ND	0.50	08/22/14 15:40	
tert-Butylbenzene	ug/L	ND	0.50	08/22/14 15:40	
Tetrachloroethene	ug/L	ND	0.50	08/22/14 15:40	
Toluene	ug/L	ND	0.50	08/22/14 15:40	
trans-1,2-Dichloroethene	ug/L	ND	0.50	08/22/14 15:40	
trans-1,3-Dichloropropene	ug/L	ND	0.50	08/22/14 15:40	
Trichloroethene	ug/L	ND	0.50	08/22/14 15:40	
Trichlorofluoromethane	ug/L	ND	1.0	08/22/14 15:40	
Vinyl chloride	ug/L	ND	1.0	08/22/14 15:40	
1,2-Dichloroethane-d4 (S)	%	91	70-130	08/22/14 15:40	
4-Bromofluorobenzene (S)	%	103	70-130	08/22/14 15:40	
Toluene-d8 (S)	%	98	70-130	08/22/14 15:40	

LABORATORY CONTROL SAMPLE: 1278326

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	50.7	101	60-140	
1,1,1-Trichloroethane	ug/L	50	46.1	92	60-140	
1,1,2,2-Tetrachloroethane	ug/L	50	48.8	98	60-140	
1,1,2-Trichloroethane	ug/L	50	53.1	106	60-140	
1,1-Dichloroethane	ug/L	50	45.0	90	60-140	
1,1-Dichloroethene	ug/L	50	51.0	102	60-140	
1,1-Dichloropropene	ug/L	50	50.5	101	60-140	
1,2,3-Trichlorobenzene	ug/L	50	47.5	95	60-140	
1,2,3-Trichloropropane	ug/L	50	51.8	104	60-140	
1,2,4-Trichlorobenzene	ug/L	50	50.8	102	60-140	
1,2,4-Trimethylbenzene	ug/L	50	49.0	98	60-140	
1,2-Dibromo-3-chloropropane	ug/L	50	44.7	89	60-140	
1,2-Dibromoethane (EDB)	ug/L	50	50.6	101	60-140	
1,2-Dichlorobenzene	ug/L	50	51.0	102	60-140	
1,2-Dichloroethane	ug/L	50	44.3	89	60-140	
1,2-Dichloropropane	ug/L	50	51.5	103	60-140	

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QUALITY CONTROL DATA

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

LABORATORY CONTROL SAMPLE: 1278326

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,3,5-Trimethylbenzene	ug/L	50	49.8	100	60-140	
1,3-Dichlorobenzene	ug/L	50	50.0	100	60-140	
1,3-Dichloropropane	ug/L	50	49.8	100	60-140	
1,4-Dichlorobenzene	ug/L	50	51.0	102	60-140	
2,2-Dichloropropane	ug/L	50	46.2	92	60-140	
2-Chlorotoluene	ug/L	50	48.3	97	60-140	
4-Chlorotoluene	ug/L	50	49.1	98	60-140	
Benzene	ug/L	50	51.2	102	60-140	
Bromobenzene	ug/L	50	48.2	96	60-140	
Bromochloromethane	ug/L	50	53.3	107	60-140	
Bromodichloromethane	ug/L	50	54.9	110	60-140	
Bromoform	ug/L	50	58.0	116	60-140	
Bromomethane	ug/L	50	56.5	113	60-140	
Carbon tetrachloride	ug/L	50	53.0	106	60-140	
Chlorobenzene	ug/L	50	51.3	103	60-140	
Chloroethane	ug/L	50	47.4	95	60-140	
Chloroform	ug/L	50	53.9	108	60-140	
Chloromethane	ug/L	50	41.9	84	60-140	
cis-1,2-Dichloroethene	ug/L	50	50.9	102	60-140	
cis-1,3-Dichloropropene	ug/L	50	52.4	105	60-140	
Dibromochloromethane	ug/L	50	59.1	118	60-140	
Dibromomethane	ug/L	50	56.2	112	60-140	
Dichlorodifluoromethane	ug/L	50	53.2	106	60-140	
Diisopropyl ether	ug/L	50	44.7	89	60-140	
Ethylbenzene	ug/L	50	51.1	102	60-140	
Hexachloro-1,3-butadiene	ug/L	50	52.2	104	60-140	
Isopropylbenzene (Cumene)	ug/L	50	52.6	105	60-140	
m&p-Xylene	ug/L	100	102	102	60-140	
Methyl-tert-butyl ether	ug/L	50	45.3	91	60-140	
Methylene Chloride	ug/L	50	48.2	96	60-140	
n-Butylbenzene	ug/L	50	50.4	101	60-140	
n-Propylbenzene	ug/L	50	49.6	99	60-140	
Naphthalene	ug/L	50	45.0	90	60-140	
o-Xylene	ug/L	50	50.3	101	60-140	
sec-Butylbenzene	ug/L	50	49.8	100	60-140	
Styrene	ug/L	50	53.3	107	60-140	
tert-Butylbenzene	ug/L	50	50.3	101	60-140	
Tetrachloroethene	ug/L	50	54.5	109	60-140	
Toluene	ug/L	50	50.9	102	60-140	
trans-1,2-Dichloroethene	ug/L	50	50.2	100	60-140	
trans-1,3-Dichloropropene	ug/L	50	50.7	101	60-140	
Trichloroethene	ug/L	50	52.8	106	60-140	
Trichlorofluoromethane	ug/L	50	49.1	98	60-140	
Vinyl chloride	ug/L	50	45.8	92	60-140	
1,2-Dichloroethane-d4 (S)	%			87	70-130	
4-Bromofluorobenzene (S)	%			104	70-130	
Toluene-d8 (S)	%			100	70-130	

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QUALITY CONTROL DATA

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

QC Batch: MSV/28203
QC Batch Method: SM 6200B
Analysis Method: SM 6200B
Analysis Description: 6200B MSV
Associated Lab Samples: 92214233018

METHOD BLANK: 1278334
Matrix: Water
Associated Lab Samples: 92214233018

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	0.50	08/23/14 04:29	
1,1,1-Trichloroethane	ug/L	ND	0.50	08/23/14 04:29	
1,1,2,2-Tetrachloroethane	ug/L	ND	0.50	08/23/14 04:29	
1,1,2-Trichloroethane	ug/L	ND	0.50	08/23/14 04:29	
1,1-Dichloroethane	ug/L	ND	0.50	08/23/14 04:29	
1,1-Dichloroethene	ug/L	ND	0.50	08/23/14 04:29	
1,1-Dichloropropene	ug/L	ND	0.50	08/23/14 04:29	
1,2,3-Trichlorobenzene	ug/L	ND	2.0	08/23/14 04:29	
1,2,3-Trichloropropane	ug/L	ND	0.50	08/23/14 04:29	
1,2,4-Trichlorobenzene	ug/L	ND	2.0	08/23/14 04:29	
1,2,4-Trimethylbenzene	ug/L	ND	0.50	08/23/14 04:29	
1,2-Dibromo-3-chloropropane	ug/L	ND	1.0	08/23/14 04:29	
1,2-Dibromoethane (EDB)	ug/L	ND	0.50	08/23/14 04:29	
1,2-Dichlorobenzene	ug/L	ND	0.50	08/23/14 04:29	
1,2-Dichloroethane	ug/L	ND	0.50	08/23/14 04:29	
1,2-Dichloropropane	ug/L	ND	0.50	08/23/14 04:29	
1,3,5-Trimethylbenzene	ug/L	ND	0.50	08/23/14 04:29	
1,3-Dichlorobenzene	ug/L	ND	0.50	08/23/14 04:29	
1,3-Dichloropropane	ug/L	ND	0.50	08/23/14 04:29	
1,4-Dichlorobenzene	ug/L	ND	0.50	08/23/14 04:29	
2,2-Dichloropropane	ug/L	ND	0.50	08/23/14 04:29	
2-Chlorotoluene	ug/L	ND	0.50	08/23/14 04:29	
4-Chlorotoluene	ug/L	ND	0.50	08/23/14 04:29	
Benzene	ug/L	ND	0.50	08/23/14 04:29	
Bromobenzene	ug/L	ND	0.50	08/23/14 04:29	
Bromochloromethane	ug/L	ND	0.50	08/23/14 04:29	
Bromodichloromethane	ug/L	ND	0.50	08/23/14 04:29	
Bromoform	ug/L	ND	0.50	08/23/14 04:29	
Bromomethane	ug/L	ND	5.0	08/23/14 04:29	
Carbon tetrachloride	ug/L	ND	0.50	08/23/14 04:29	
Chlorobenzene	ug/L	ND	0.50	08/23/14 04:29	
Chloroethane	ug/L	ND	1.0	08/23/14 04:29	
Chloroform	ug/L	ND	0.50	08/23/14 04:29	
Chloromethane	ug/L	ND	1.0	08/23/14 04:29	
cis-1,2-Dichloroethene	ug/L	ND	0.50	08/23/14 04:29	
cis-1,3-Dichloropropene	ug/L	ND	0.50	08/23/14 04:29	
Dibromochloromethane	ug/L	ND	0.50	08/23/14 04:29	
Dibromomethane	ug/L	ND	0.50	08/23/14 04:29	
Dichlorodifluoromethane	ug/L	ND	0.50	08/23/14 04:29	
Diisopropyl ether	ug/L	ND	0.50	08/23/14 04:29	
Ethylbenzene	ug/L	ND	0.50	08/23/14 04:29	

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QUALITY CONTROL DATA

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

METHOD BLANK: 1278334 Matrix: Water
Associated Lab Samples: 92214233018

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Hexachloro-1,3-butadiene	ug/L	ND	2.0	08/23/14 04:29	
Isopropylbenzene (Cumene)	ug/L	ND	0.50	08/23/14 04:29	
m&p-Xylene	ug/L	ND	1.0	08/23/14 04:29	
Methyl-tert-butyl ether	ug/L	ND	0.50	08/23/14 04:29	
Methylene Chloride	ug/L	ND	2.0	08/23/14 04:29	
n-Butylbenzene	ug/L	ND	0.50	08/23/14 04:29	
n-Propylbenzene	ug/L	ND	0.50	08/23/14 04:29	
Naphthalene	ug/L	ND	2.0	08/23/14 04:29	
o-Xylene	ug/L	ND	0.50	08/23/14 04:29	
sec-Butylbenzene	ug/L	ND	0.50	08/23/14 04:29	
Styrene	ug/L	ND	0.50	08/23/14 04:29	
tert-Butylbenzene	ug/L	ND	0.50	08/23/14 04:29	
Tetrachloroethene	ug/L	ND	0.50	08/23/14 04:29	
Toluene	ug/L	ND	0.50	08/23/14 04:29	
trans-1,2-Dichloroethene	ug/L	ND	0.50	08/23/14 04:29	
trans-1,3-Dichloropropene	ug/L	ND	0.50	08/23/14 04:29	
Trichloroethene	ug/L	ND	0.50	08/23/14 04:29	
Trichlorofluoromethane	ug/L	ND	1.0	08/23/14 04:29	
Vinyl chloride	ug/L	ND	1.0	08/23/14 04:29	
1,2-Dichloroethane-d4 (S)	%	90	70-130	08/23/14 04:29	
4-Bromofluorobenzene (S)	%	103	70-130	08/23/14 04:29	
Toluene-d8 (S)	%	98	70-130	08/23/14 04:29	

LABORATORY CONTROL SAMPLE: 1278335

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	50.3	101	60-140	
1,1,1-Trichloroethane	ug/L	50	45.8	92	60-140	
1,1,2,2-Tetrachloroethane	ug/L	50	48.3	97	60-140	
1,1,2-Trichloroethane	ug/L	50	51.7	103	60-140	
1,1-Dichloroethane	ug/L	50	44.5	89	60-140	
1,1-Dichloroethene	ug/L	50	50.8	102	60-140	
1,1-Dichloropropene	ug/L	50	50.4	101	60-140	
1,2,3-Trichlorobenzene	ug/L	50	45.8	92	60-140	
1,2,3-Trichloropropane	ug/L	50	49.7	99	60-140	
1,2,4-Trichlorobenzene	ug/L	50	48.6	97	60-140	
1,2,4-Trimethylbenzene	ug/L	50	49.1	98	60-140	
1,2-Dibromo-3-chloropropane	ug/L	50	43.0	86	60-140	
1,2-Dibromoethane (EDB)	ug/L	50	49.7	99	60-140	
1,2-Dichlorobenzene	ug/L	50	50.1	100	60-140	
1,2-Dichloroethane	ug/L	50	43.8	88	60-140	
1,2-Dichloropropane	ug/L	50	51.1	102	60-140	
1,3,5-Trimethylbenzene	ug/L	50	49.2	98	60-140	
1,3-Dichlorobenzene	ug/L	50	49.5	99	60-140	

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QUALITY CONTROL DATA

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

LABORATORY CONTROL SAMPLE: 1278335

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,3-Dichloropropane	ug/L	50	50.2	100	60-140	
1,4-Dichlorobenzene	ug/L	50	50.4	101	60-140	
2,2-Dichloropropane	ug/L	50	39.0	78	60-140	
2-Chlorotoluene	ug/L	50	48.3	97	60-140	
4-Chlorotoluene	ug/L	50	48.8	98	60-140	
Benzene	ug/L	50	51.0	102	60-140	
Bromobenzene	ug/L	50	47.1	94	60-140	
Bromochloromethane	ug/L	50	52.7	105	60-140	
Bromodichloromethane	ug/L	50	54.3	109	60-140	
Bromoform	ug/L	50	56.4	113	60-140	
Bromomethane	ug/L	50	52.0	104	60-140	
Carbon tetrachloride	ug/L	50	51.8	104	60-140	
Chlorobenzene	ug/L	50	51.2	102	60-140	
Chloroethane	ug/L	50	47.5	95	60-140	
Chloroform	ug/L	50	52.9	106	60-140	
Chloromethane	ug/L	50	41.6	83	60-140	
cis-1,2-Dichloroethene	ug/L	50	50.1	100	60-140	
cis-1,3-Dichloropropene	ug/L	50	50.6	101	60-140	
Dibromochloromethane	ug/L	50	58.0	116	60-140	
Dibromomethane	ug/L	50	55.0	110	60-140	
Dichlorodifluoromethane	ug/L	50	51.9	104	60-140	
Diisopropyl ether	ug/L	50	44.2	88	60-140	
Ethylbenzene	ug/L	50	50.7	101	60-140	
Hexachloro-1,3-butadiene	ug/L	50	49.7	99	60-140	
Isopropylbenzene (Cumene)	ug/L	50	52.6	105	60-140	
m&p-Xylene	ug/L	100	102	102	60-140	
Methyl-tert-butyl ether	ug/L	50	44.1	88	60-140	
Methylene Chloride	ug/L	50	46.9	94	60-140	
n-Butylbenzene	ug/L	50	48.7	97	60-140	
n-Propylbenzene	ug/L	50	49.3	99	60-140	
Naphthalene	ug/L	50	44.0	88	60-140	
o-Xylene	ug/L	50	49.9	100	60-140	
sec-Butylbenzene	ug/L	50	49.7	99	60-140	
Styrene	ug/L	50	53.3	107	60-140	
tert-Butylbenzene	ug/L	50	49.8	100	60-140	
Tetrachloroethene	ug/L	50	54.2	108	60-140	
Toluene	ug/L	50	50.7	101	60-140	
trans-1,2-Dichloroethene	ug/L	50	50.3	101	60-140	
trans-1,3-Dichloropropene	ug/L	50	47.9	96	60-140	
Trichloroethene	ug/L	50	53.3	107	60-140	
Trichlorofluoromethane	ug/L	50	48.4	97	60-140	
Vinyl chloride	ug/L	50	45.6	91	60-140	
1,2-Dichloroethane-d4 (S)	%			86	70-130	
4-Bromofluorobenzene (S)	%			104	70-130	
Toluene-d8 (S)	%			99	70-130	

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QUALITY CONTROL DATA

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

QC Batch: MSV/28204 Analysis Method: SM 6200B
QC Batch Method: SM 6200B Analysis Description: 6200B MSV
Associated Lab Samples: 92214233024, 92214233025, 92214233029, 92214233030, 92214233031, 92214233039

METHOD BLANK: 1278342 Matrix: Water
Associated Lab Samples: 92214233024, 92214233025, 92214233029, 92214233030, 92214233031, 92214233039

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	0.50	08/25/14 12:13	
1,1,1-Trichloroethane	ug/L	ND	0.50	08/25/14 12:13	
1,1,2,2-Tetrachloroethane	ug/L	ND	0.50	08/25/14 12:13	
1,1,2-Trichloroethane	ug/L	ND	0.50	08/25/14 12:13	
1,1-Dichloroethane	ug/L	ND	0.50	08/25/14 12:13	
1,1-Dichloroethene	ug/L	ND	0.50	08/25/14 12:13	
1,1-Dichloropropene	ug/L	ND	0.50	08/25/14 12:13	
1,2,3-Trichlorobenzene	ug/L	ND	2.0	08/25/14 12:13	
1,2,3-Trichloropropane	ug/L	ND	0.50	08/25/14 12:13	
1,2,4-Trichlorobenzene	ug/L	ND	2.0	08/25/14 12:13	
1,2,4-Trimethylbenzene	ug/L	ND	0.50	08/25/14 12:13	
1,2-Dibromo-3-chloropropane	ug/L	ND	1.0	08/25/14 12:13	
1,2-Dibromoethane (EDB)	ug/L	ND	0.50	08/25/14 12:13	
1,2-Dichlorobenzene	ug/L	ND	0.50	08/25/14 12:13	
1,2-Dichloroethane	ug/L	ND	0.50	08/25/14 12:13	
1,2-Dichloropropane	ug/L	ND	0.50	08/25/14 12:13	
1,3,5-Trimethylbenzene	ug/L	ND	0.50	08/25/14 12:13	
1,3-Dichlorobenzene	ug/L	ND	0.50	08/25/14 12:13	
1,3-Dichloropropane	ug/L	ND	0.50	08/25/14 12:13	
1,4-Dichlorobenzene	ug/L	ND	0.50	08/25/14 12:13	
2,2-Dichloropropane	ug/L	ND	0.50	08/25/14 12:13	
2-Chlorotoluene	ug/L	ND	0.50	08/25/14 12:13	
4-Chlorotoluene	ug/L	ND	0.50	08/25/14 12:13	
Benzene	ug/L	ND	0.50	08/25/14 12:13	
Bromobenzene	ug/L	ND	0.50	08/25/14 12:13	
Bromochloromethane	ug/L	ND	0.50	08/25/14 12:13	
Bromodichloromethane	ug/L	ND	0.50	08/25/14 12:13	
Bromoform	ug/L	ND	0.50	08/25/14 12:13	
Bromomethane	ug/L	ND	5.0	08/25/14 12:13	
Carbon tetrachloride	ug/L	ND	0.50	08/25/14 12:13	
Chlorobenzene	ug/L	ND	0.50	08/25/14 12:13	
Chloroethane	ug/L	ND	1.0	08/25/14 12:13	
Chloroform	ug/L	ND	0.50	08/25/14 12:13	
Chloromethane	ug/L	ND	1.0	08/25/14 12:13	
cis-1,2-Dichloroethene	ug/L	ND	0.50	08/25/14 12:13	
cis-1,3-Dichloropropene	ug/L	ND	0.50	08/25/14 12:13	
Dibromochloromethane	ug/L	ND	0.50	08/25/14 12:13	
Dibromomethane	ug/L	ND	0.50	08/25/14 12:13	
Dichlorodifluoromethane	ug/L	ND	0.50	08/25/14 12:13	
Diisopropyl ether	ug/L	ND	0.50	08/25/14 12:13	
Ethylbenzene	ug/L	ND	0.50	08/25/14 12:13	

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QUALITY CONTROL DATA

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

METHOD BLANK: 1278342 Matrix: Water
Associated Lab Samples: 92214233024, 92214233025, 92214233029, 92214233030, 92214233031, 92214233039

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Hexachloro-1,3-butadiene	ug/L	ND	2.0	08/25/14 12:13	
Isopropylbenzene (Cumene)	ug/L	ND	0.50	08/25/14 12:13	
m&p-Xylene	ug/L	ND	1.0	08/25/14 12:13	
Methyl-tert-butyl ether	ug/L	ND	0.50	08/25/14 12:13	
Methylene Chloride	ug/L	ND	2.0	08/25/14 12:13	
n-Butylbenzene	ug/L	ND	0.50	08/25/14 12:13	
n-Propylbenzene	ug/L	ND	0.50	08/25/14 12:13	
Naphthalene	ug/L	ND	2.0	08/25/14 12:13	
o-Xylene	ug/L	ND	0.50	08/25/14 12:13	
sec-Butylbenzene	ug/L	ND	0.50	08/25/14 12:13	
Styrene	ug/L	ND	0.50	08/25/14 12:13	
tert-Butylbenzene	ug/L	ND	0.50	08/25/14 12:13	
Tetrachloroethene	ug/L	ND	0.50	08/25/14 12:13	
Toluene	ug/L	ND	0.50	08/25/14 12:13	
trans-1,2-Dichloroethene	ug/L	ND	0.50	08/25/14 12:13	
trans-1,3-Dichloropropene	ug/L	ND	0.50	08/25/14 12:13	
Trichloroethene	ug/L	ND	0.50	08/25/14 12:13	
Trichlorofluoromethane	ug/L	ND	1.0	08/25/14 12:13	
Vinyl chloride	ug/L	ND	1.0	08/25/14 12:13	
1,2-Dichloroethane-d4 (S)	%	90	70-130	08/25/14 12:13	
4-Bromofluorobenzene (S)	%	103	70-130	08/25/14 12:13	
Toluene-d8 (S)	%	98	70-130	08/25/14 12:13	

LABORATORY CONTROL SAMPLE: 1278343

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	52.2	104	60-140	
1,1,1-Trichloroethane	ug/L	50	47.0	94	60-140	
1,1,2,2-Tetrachloroethane	ug/L	50	49.4	99	60-140	
1,1,2-Trichloroethane	ug/L	50	53.9	108	60-140	
1,1-Dichloroethane	ug/L	50	46.5	93	60-140	
1,1-Dichloroethene	ug/L	50	52.1	104	60-140	
1,1-Dichloropropene	ug/L	50	51.5	103	60-140	
1,2,3-Trichlorobenzene	ug/L	50	50.1	100	60-140	
1,2,3-Trichloropropane	ug/L	50	51.0	102	60-140	
1,2,4-Trichlorobenzene	ug/L	50	52.3	105	60-140	
1,2,4-Trimethylbenzene	ug/L	50	50.6	101	60-140	
1,2-Dibromo-3-chloropropane	ug/L	50	45.1	90	60-140	
1,2-Dibromoethane (EDB)	ug/L	50	51.9	104	60-140	
1,2-Dichlorobenzene	ug/L	50	51.8	104	60-140	
1,2-Dichloroethane	ug/L	50	44.4	89	60-140	
1,2-Dichloropropane	ug/L	50	53.3	107	60-140	
1,3,5-Trimethylbenzene	ug/L	50	50.9	102	60-140	
1,3-Dichlorobenzene	ug/L	50	51.9	104	60-140	

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QUALITY CONTROL DATA

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

LABORATORY CONTROL SAMPLE: 1278343

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,3-Dichloropropane	ug/L	50	51.0	102	60-140	
1,4-Dichlorobenzene	ug/L	50	52.8	106	60-140	
2,2-Dichloropropane	ug/L	50	47.4	95	60-140	
2-Chlorotoluene	ug/L	50	49.7	99	60-140	
4-Chlorotoluene	ug/L	50	50.9	102	60-140	
Benzene	ug/L	50	52.6	105	60-140	
Bromobenzene	ug/L	50	49.2	98	60-140	
Bromochloromethane	ug/L	50	55.0	110	60-140	
Bromodichloromethane	ug/L	50	57.0	114	60-140	
Bromoform	ug/L	50	60.6	121	60-140	
Bromomethane	ug/L	50	56.8	114	60-140	
Carbon tetrachloride	ug/L	50	53.1	106	60-140	
Chlorobenzene	ug/L	50	52.7	105	60-140	
Chloroethane	ug/L	50	48.3	97	60-140	
Chloroform	ug/L	50	54.7	109	60-140	
Chloromethane	ug/L	50	42.6	85	60-140	
cis-1,2-Dichloroethene	ug/L	50	52.0	104	60-140	
cis-1,3-Dichloropropene	ug/L	50	54.5	109	60-140	
Dibromochloromethane	ug/L	50	61.2	122	60-140	
Dibromomethane	ug/L	50	57.3	115	60-140	
Dichlorodifluoromethane	ug/L	50	47.7	95	60-140	
Diisopropyl ether	ug/L	50	46.7	93	60-140	
Ethylbenzene	ug/L	50	51.9	104	60-140	
Hexachloro-1,3-butadiene	ug/L	50	55.1	110	60-140	
Isopropylbenzene (Cumene)	ug/L	50	53.9	108	60-140	
m&p-Xylene	ug/L	100	105	105	60-140	
Methyl-tert-butyl ether	ug/L	50	47.4	95	60-140	
Methylene Chloride	ug/L	50	48.3	97	60-140	
n-Butylbenzene	ug/L	50	52.0	104	60-140	
n-Propylbenzene	ug/L	50	50.8	102	60-140	
Naphthalene	ug/L	50	47.0	94	60-140	
o-Xylene	ug/L	50	51.1	102	60-140	
sec-Butylbenzene	ug/L	50	51.2	102	60-140	
Styrene	ug/L	50	55.0	110	60-140	
tert-Butylbenzene	ug/L	50	51.4	103	60-140	
Tetrachloroethene	ug/L	50	55.7	111	60-140	
Toluene	ug/L	50	52.1	104	60-140	
trans-1,2-Dichloroethene	ug/L	50	51.7	103	60-140	
trans-1,3-Dichloropropene	ug/L	50	52.9	106	60-140	
Trichloroethene	ug/L	50	54.7	109	60-140	
Trichlorofluoromethane	ug/L	50	49.4	99	60-140	
Vinyl chloride	ug/L	50	46.2	92	60-140	
1,2-Dichloroethane-d4 (S)	%			85	70-130	
4-Bromofluorobenzene (S)	%			104	70-130	
Toluene-d8 (S)	%			100	70-130	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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

QUALIFIERS

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

Acid preservation may not be appropriate for 2-Chloroethylvinyl ether, Styrene, and Vinyl chloride.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-A	Pace Analytical Services - Asheville
PASI-C	Pace Analytical Services - Charlotte

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

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Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92214233002	**MW-12D**	EPA 3010	MPRP/16730	EPA 6010	ICP/15105
92214233004	**MW-11I**	EPA 3010	MPRP/16730	EPA 6010	ICP/15105
92214233005	**MW-46**	EPA 3010	MPRP/16730	EPA 6010	ICP/15105
92214233006	**MW-41I**	EPA 3010	MPRP/16730	EPA 6010	ICP/15105
92214233008	**MW-43D**	EPA 3010	MPRP/16730	EPA 6010	ICP/15105
92214233009	**MW-47**	EPA 3010	MPRP/16730	EPA 6010	ICP/15105
92214233010	**MW-16D**	EPA 3010	MPRP/16730	EPA 6010	ICP/15105
92214233011	**MW-13D**	EPA 3010	MPRP/16730	EPA 6010	ICP/15105
92214233013	**MW-45R**	EPA 3010	MPRP/16730	EPA 6010	ICP/15105
92214233014	**MW-35D**	EPA 3010	MPRP/16730	EPA 6010	ICP/15105
92214233016	**MW-41S**	EPA 3010	MPRP/16730	EPA 6010	ICP/15105
92214233017	**MW-41D**	EPA 3010	MPRP/16730	EPA 6010	ICP/15105
92214233020	**MW-42I**	EPA 3010	MPRP/16730	EPA 6010	ICP/15105
92214233022	**MW-63**	EPA 3010	MPRP/16730	EPA 6010	ICP/15105
92214233024	**MW-36D**	EPA 3010	MPRP/16730	EPA 6010	ICP/15105
92214233025	**MW-61**	EPA 3010	MPRP/16730	EPA 6010	ICP/15105
92214233026	**MW-17D**	EPA 3010	MPRP/16731	EPA 6010	ICP/15106
92214233027	**MW-17I**	EPA 3010	MPRP/16731	EPA 6010	ICP/15106
92214233028	**MW-12I**	EPA 3010	MPRP/16731	EPA 6010	ICP/15106
92214233029	**MW-62**	EPA 3010	MPRP/16731	EPA 6010	ICP/15106
92214233030	**MW-16S**	EPA 3010	MPRP/16731	EPA 6010	ICP/15106
92214233032	**RW-6**	EPA 3010	MPRP/16731	EPA 6010	ICP/15106
92214233034	**RW-10**	EPA 3010	MPRP/16731	EPA 6010	ICP/15106
92214233035	**MW-37**	EPA 3010	MPRP/16731	EPA 6010	ICP/15106
92214233036	**MW-3**	EPA 3010	MPRP/16731	EPA 6010	ICP/15106
92214233037	**MW-64**	EPA 3010	MPRP/16731	EPA 6010	ICP/15106
92214233038	**RW-1**	EPA 3010	MPRP/16731	EPA 6010	ICP/15106
92214233002	**MW-12D**	EPA 7470	MERP/6992	EPA 7470	MERC/6731
92214233004	**MW-11I**	EPA 7470	MERP/6992	EPA 7470	MERC/6731
92214233005	**MW-46**	EPA 7470	MERP/6992	EPA 7470	MERC/6731
92214233006	**MW-41I**	EPA 7470	MERP/6992	EPA 7470	MERC/6731
92214233008	**MW-43D**	EPA 7470	MERP/6992	EPA 7470	MERC/6731
92214233009	**MW-47**	EPA 7470	MERP/6992	EPA 7470	MERC/6731
92214233010	**MW-16D**	EPA 7470	MERP/6992	EPA 7470	MERC/6731
92214233011	**MW-13D**	EPA 7470	MERP/6992	EPA 7470	MERC/6731
92214233013	**MW-45R**	EPA 7470	MERP/6992	EPA 7470	MERC/6731
92214233014	**MW-35D**	EPA 7470	MERP/6992	EPA 7470	MERC/6731
92214233016	**MW-41S**	EPA 7470	MERP/6992	EPA 7470	MERC/6731
92214233017	**MW-41D**	EPA 7470	MERP/6992	EPA 7470	MERC/6731
92214233020	**MW-42I**	EPA 7470	MERP/6992	EPA 7470	MERC/6731
92214233022	**MW-63**	EPA 7470	MERP/6992	EPA 7470	MERC/6731
92214233024	**MW-36D**	EPA 7470	MERP/6992	EPA 7470	MERC/6731
92214233025	**MW-61**	EPA 7470	MERP/6992	EPA 7470	MERC/6731
92214233026	**MW-17D**	EPA 7470	MERP/6992	EPA 7470	MERC/6731
92214233027	**MW-17I**	EPA 7470	MERP/6992	EPA 7470	MERC/6731
92214233028	**MW-12I**	EPA 7470	MERP/6992	EPA 7470	MERC/6731
92214233029	**MW-62**	EPA 7470	MERP/6992	EPA 7470	MERC/6731

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92214233030	**MW-16S**	EPA 7470	MERP/6993	EPA 7470	MERC/6732
92214233032	**RW-6**	EPA 7470	MERP/6993	EPA 7470	MERC/6732
92214233034	**RW-10**	EPA 7470	MERP/6993	EPA 7470	MERC/6732
92214233035	**MW-37**	EPA 7470	MERP/6993	EPA 7470	MERC/6732
92214233036	**MW-3**	EPA 7470	MERP/6993	EPA 7470	MERC/6732
92214233037	**MW-64**	EPA 7470	MERP/6993	EPA 7470	MERC/6732
92214233038	**RW-1**	EPA 7470	MERP/6993	EPA 7470	MERC/6732
92214233001	**MW-34DR**	SM 6200B	MSV/28198		
92214233002	**MW-12D**	SM 6200B	MSV/28198		
92214233003	**MW-38**	SM 6200B	MSV/28198		
92214233004	**MW-11I**	SM 6200B	MSV/28198		
92214233005	**MW-46**	SM 6200B	MSV/28198		
92214233006	**MW-41I**	SM 6200B	MSV/28198		
92214233007	**MW-42S**	SM 6200B	MSV/28198		
92214233008	**MW-43D**	SM 6200B	MSV/28198		
92214233009	**MW-47**	SM 6200B	MSV/28198		
92214233010	**MW-16D**	SM 6200B	MSV/28198		
92214233011	**MW-13D**	SM 6200B	MSV/28198		
92214233012	**MW-43S**	SM 6200B	MSV/28198		
92214233013	**MW-45R**	SM 6200B	MSV/28202		
92214233014	**MW-35D**	SM 6200B	MSV/28198		
92214233015	**MW-35S**	SM 6200B	MSV/28198		
92214233016	**MW-41S**	SM 6200B	MSV/28198		
92214233017	**MW-41D**	SM 6200B	MSV/28198		
92214233018	**MW-16I**	SM 6200B	MSV/28203		
92214233019	**MW-27**	SM 6200B	MSV/28198		
92214233020	**MW-42I**	SM 6200B	MSV/28198		
92214233021	**MW-8**	SM 6200B	MSV/28198		
92214233022	**MW-63**	SM 6200B	MSV/28201		
92214233023	**MW-36S**	SM 6200B	MSV/28202		
92214233024	**MW-36D**	SM 6200B	MSV/28204		
92214233025	**MW-61**	SM 6200B	MSV/28204		
92214233026	**MW-17D**	SM 6200B	MSV/28202		
92214233027	**MW-17I**	SM 6200B	MSV/28202		
92214233028	**MW-12I**	SM 6200B	MSV/28202		
92214233029	**MW-62**	SM 6200B	MSV/28204		
92214233030	**MW-16S**	SM 6200B	MSV/28204		
92214233031	**MW-12S**	SM 6200B	MSV/28204		
92214233033	**RW-6**	SM 6200B	MSV/28202		
92214233034	**RW-10**	SM 6200B	MSV/28202		
92214233035	**MW-37**	SM 6200B	MSV/28202		
92214233036	**MW-3**	SM 6200B	MSV/28202		
92214233037	**MW-64**	SM 6200B	MSV/28202		

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Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: NCSU LOT 86 1441
Pace Project No.: 92214233

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92214233038	**RW-1**	SM 6200B	MSV/28202		
92214233039	**RW-8**	SM 6200B	MSV/28204		
92214233040	**RW-7**	SM 6200B	MSV/28202		

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Pace Analytical	Document Name: **Sample Condition Upon Receipt (SCUR)**	Document Revised: April 07. 2014 Page 1 of 2
	Document Number: **F-CHR-CS-003-rev.14**	Issuing Authority: Pace Huntersville Quality Office

Client Name: Piedmont Geologic

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ (Pace) Other_____

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Packing Material: ☑ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other_____

Thermometer Used: IR Gun T1102 (T1401) **Type of Ice:** (Wet) Blue None ☑ Samples on ice, cooling process has begun

Temp Correction Factor **T1102**: No Correction **T1301**: No Correction

Corrected Cooler Temp.: 0.8 °C **Biological Tissue is Frozen:** Yes No (N/A)

Temp should be above freezing to 6°C

Date and Initials of person examining contents: CE 8/20/14

Optional
Proj. Due Date:
Proj. Name:

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7. → 8/12/14 @ 1600 water
Sufficient Volume:	☑Yes ☐No ☐N/A	8. Extra vials = 3 RW-8 (8260)
Correct Containers Used:	☑Yes ☐No ☐N/A	9. ↳ 3 RW-7 (8260)
-Pace Containers Used:	☑Yes ☐No ☐N/A	↳ 8/12/14 @ 1545 water
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix:_____	☑Yes ☐No ☐N/A	12.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	13. Pg. 1 #10 (~~to~~ MW-16D) is 5.0 = pH CE 8/20/14
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes (☑No) ☐N/A	↳ Metals test
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☑Yes ☐No	
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	(☑Yes) ☐No ☐N/A	15. Pg. 3 #10 RW-6 8260 = 2 vials
Trip Blank Present:	☐Yes ☐No ☑N/A	16. have headspace
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):_____		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: Geoffrey Murphrey Date/Time: 8-20-14

Comments/ Resolution: Don't run metals for MW-8, MW-12S, MW-16I, MW-27, MW-34DR, MW-35S, MW-36S, MW-38, MW-42S, MW-43S

SCURF Review: AMB **Date:** 8-20-14

SRF Review: AMB **Date:** 8-20-14

Place label here

OR

Handwrite project number (if no label available)

92214233

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 4

1843167

Section A Required Client Information:

Company: Piedmont Geologic
Address: 6003-145 Chapel Hill Rd, Raleigh, NC 27607
Email To: psdressel@piedmontgeologic.com
Phone: 919-854-9700 Fax:
Requested Due Date/TAT:

Section B Required Project Information:

Report To: Pete Dressel
Copy To:
Purchase Order No.:
Project Name: NCSU Lot 86
Project Number: 1441

Section C Invoice Information:

Attention: same
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager: Angela Baioni
Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☒ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: Raleigh NC

Section D Required Client Information

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

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start DATE	COLLECTED Composite Start TIME	COLLECTED Composite End/Grab DATE	COLLECTED Composite End/Grab TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N) VOCs by 8260	Metals by 6000/7000	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 92214233
1	MW-34DR	WT	G			8/11/14	1730		4			X	X					X	X		001
2	MW-12D					8/12/14	934														002
3	MW-38					8/13/14	1120														003
4	MW-11I						1257														004
5	MW-46						1340														005
6	MW-41I						1422														006
7	MW-42S						1450														007
8	MW-43D						1609														008
9	MW-47					8/14/14	930														009
10	MW-16D						1105														010
11	MW-13D						1210														011
12	MW-43S						1314														012

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
metals = As, Ba, Cd, Cr, Pb, Se, Mn, Hg	[signature]	8/20/14	850	[signature] / Pace	8/20	850				
	[signature] Pace	8/20/14	1630	[signature] / Pace	8/20/14	1630	0.8	Y	N	Y

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Geoffrey Murphey

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 08/19/14

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 2 of 4

1843168

Section A Required Client Information:

Company: Piedmont Geologic
Address: 6003-145 Chapel Hill Rd. Raleigh, NC 27607
Email To: pdressel@piedmontgeologic.com
Phone: 919-854-9700 Fax:
Requested Due Date/TAT:

Section B Required Project Information:

Report To: Pete Dressel
Copy To:
Purchase Order No.:
Project Name: NCSU Lot 86
Project Number: 1441

Section C Invoice Information:

Attention: Same
Company Name: ↓
Address: ↓
Pace Quote Reference:
Pace Project Manager: Angela Baioni
Pace Profile #:

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

Site Location STATE: Raleigh NC

Section D Required Client Information

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

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start DATE	COLLECTED Composite Start TIME	COLLECTED Composite End/Grab DATE	COLLECTED Composite End/Grab TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N): VOCs by 8260	Metals by 6000/7000	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 92214233
1	MW-45R	WT	G			8/19/14	1405		4			X	X					X	X		013
2	MW-35D	↓	↓			↓	1620		↓			↓	↓					↓	↓		014
3	MW-35S	↓	↓			8/15/14	904		↓			↓	↓					↓	↓		015
4	MW-41S	↓	↓			↓	1002		↓			↓	↓					↓	↓		016
5	MW-41D	↓	↓			↓	1135		↓			↓	↓					↓	↓		017
6	MW-16I	↓	↓			↓	1335		↓			↓	↓					↓	↓		018
7	MW-27	↓	↓			↓	1415		↓			↓	↓					↓	↓		019
8	MW-42I	↓	↓			↓	1505		↓			↓	↓					↓	↓		020
9	MW-8	↓	↓			↓	1615		↓			↓	↓					↓	↓		021
10	MW-63	↓	↓			↓	1630		↓			↓	↓					↓	↓		022
11	MW-36S	↓	↓			8/18/14	927		↓			↓	↓					↓	↓		023
12	MW-36D	↓	↓			↓	1048		↓			↓	↓					↓	↓		024

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
Metals = As, Ba, Cd, Cr, Pb,	[signature]	8/20/14	850	[signature] / Pace	8/20/14	850				
Se, Mn, Hg	[signature] / Pace	8/20/14	1630	[signature] / Pace	8/20/14	1630	0.8	Y	N	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Geoffrey Murphrey

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 08/19/14

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

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1843169

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Address: 6003-145 Chapel Hill Rd. Raleigh, NC 27607
Email To: pjdressel@piedmontgeologic.com
Phone: 919-854-9700 Fax:
Requested Due Date/TAT:

Section B Required Project Information:

Report To: Pete Dressel
Copy To:
Purchase Order No.:
Project Name: NCSU Lot 86
Project Number: 1441

Section C Invoice Information:

Attention: Same
Company Name: ↓
Address: ↓
Pace Quote Reference:
Pace Project Manager: Angela Baioni
Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☒ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: Raleigh NC

Section D Required Client Information

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

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

Requested Analysis Filtered (Y/N): VOCs by 8260; Metals by 6000/7000

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start Date	Composite Start Time	Composite End/Grab Date	Composite End/Grab Time	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	VOCs by 8260	Metals by 6000/7000	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-61	WT	G			8/18/14	1048		4			X	X					X	X		025
2	~~MW-17I~~	~~WT~~	~~G~~			~~8/18/14~~	~~1048~~		~~4~~			~~X~~	~~X~~					~~X~~	~~X~~		
3	MW-17D	WT	G			8/18/14	1410		4			X	X					X	X		026
4	MW-17I	↓	↓			↓	1300		↓			↓	↓					↓	↓		027
5	MW-12I	↓	↓			↓	1537		↓			↓	↓					↓	↓		028
6	MW-62	↓	↓			↓	1537		↓			↓	↓					↓	↓		029
7	MW-16S	↓	↓			8/19/14	840		↓			↓	↓					↓	↓		030
8	MW-12S	↓	↓			↓	910		↓			↓	↓					↓	↓		031
9	RW-6	↓	↓			↓	935		1			X							X		AMBER 032
10	RW-6	↓	↓			8/12/14	1525		3				X					X			033
11	RW-10	↓	↓			8/19/14	1015		4			X	X					X	X		034
12	MW-37	↓	↓			↓	1050		↓			↓	↓					↓	↓		035

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Metals = As, Ba, Cd, Cr, Pb, Se, Mn, Hg	[signature]	8/20/14	850	[signature] / Pace	8/20	850
	[signature] / Pace	8/20	1630	[signature] / Pace	8/20/14	1630

SAMPLE CONDITIONS	Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	0.8	Y	N	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Geoffrey Murphey

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 08/19/14

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

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CHAIN-OF-CUSTODY / Analytical Request Document

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

1843170

Section A Required Client Information:

Company: Piedmont Geologic
Address: 6003-145 Chapel Hill Rd, Raleigh, NC 27607
Email To: pdressel@piedmontgeologic.com
Phone: 919-854-9700 Fax:
Requested Due Date/TAT:

Section B Required Project Information:

Report To: Pete Dressel
Copy To:
Purchase Order No.:
Project Name: NCSu Lot 86
Project Number: 1441

Section C Invoice Information:

Attention: Same
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager: Angela Baloni
Pace Profile #:

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

Site Location STATE: Raleigh NC

Section D Required Client Information

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

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start Date	Composite Start Time	Composite End/Grab Date	Composite End/Grab Time	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N) VOCs by 8260	Metals by 6000/7000	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-3	WT	G			8/19/14	1135		4			X	X					X	X		92214233 034
2	MW-64	↓	↓			↓	1200		↓			↓	↓					↓	↓		037
3	RW-1	↓	↓			↓	~~1015~~ 1445		↓			↓	↓					↓	↓		038
4																					039
5																					040
6																					
7																					
8																					
9																					
10																					
11																					
12																					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Metals: As, Ba, Cd, Cr, Pb,	[signature]	8/20/14	830	[signature] / Pace	8/20	8:50				
Se, Mn, Hg	[signature] / Pace	8/20/14	1630	[signature] / Pace	8/20/14	1630	0.8	Y	N	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Geoffrey Murphey

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 08/19/14

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

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(704)875-9092

September 04, 2014

Mr. Pete Dressel
Piedmont Geologic
6003 Chapel Hill Road
Suite 109
Raleigh, NC 27607

RE: Project: NCSU LOT 86 1441
Pace Project No.: 92214429

Dear Mr. Dressel:
Enclosed are the analytical results for sample(s) received by the laboratory on August 21, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

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

Sincerely,

Angela M. Baioni

Angela Baioni
angela.baioni@pacelabs.com
Project Manager

Enclosures

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CERTIFICATIONS

Project: NCSU LOT 86 1441
Pace Project No.: 92214429

Charlotte Certification IDs
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
West Virginia Certification #: 357
Virginia/VELAP Certification #: 460221

Asheville Certification IDs
2225 Riverside Dr., Asheville, NC 28804
Florida/NELAP Certification #: E87648
Massachusetts Certification #: M-NC030
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
West Virginia Certification #: 356
Virginia/VELAP Certification #: 460222

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SAMPLE SUMMARY

Project: NCSU LOT 86 1441
Pace Project No.: 92214429

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92214429001	**MW-34DR**	Water	08/20/14 12:30	08/21/14 16:35
92214429002	**MW-27**	Water	08/20/14 12:40	08/21/14 16:35
92214429003	**MW-8**	Water	08/20/14 12:57	08/21/14 16:35
92214429004	**MW-38**	Water	08/20/14 13:10	08/21/14 16:35
92214429005	**MW-36S**	Water	08/20/14 13:20	08/21/14 16:35
92214429006	**MW-35S**	Water	08/20/14 13:58	08/21/14 16:35
92214429007	**MW-12S**	Water	08/20/14 14:10	08/21/14 16:35
92214429008	**MW-16I**	Water	08/20/14 14:20	08/21/14 16:35
92214429009	**MW-42S**	Water	08/20/14 14:37	08/21/14 16:35
92214429010	**MW-43S**	Water	08/20/14 14:53	08/21/14 16:35
92214429011	**TRP BLANK**	Water	08/20/14 14:53	08/21/14 16:35

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SAMPLE ANALYTE COUNT

Project: NCSU LOT 86 1441
Pace Project No.: 92214429

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92214429001	**MW-34DR**	EPA 6010	SH1	8	PASI-A
		EPA 7470	HVK	1	PASI-A
92214429002	**MW-27**	EPA 6010	SH1	8	PASI-A
		EPA 7470	HVK	1	PASI-A
92214429003	**MW-8**	EPA 6010	SH1	8	PASI-A
		EPA 7470	HVK	1	PASI-A
92214429004	**MW-38**	EPA 6010	SH1	8	PASI-A
		EPA 7470	HVK	1	PASI-A
92214429005	**MW-36S**	EPA 6010	SH1	8	PASI-A
		EPA 7470	HVK	1	PASI-A
92214429006	**MW-35S**	EPA 6010	SH1	8	PASI-A
		EPA 7470	HVK	1	PASI-A
92214429007	**MW-12S**	EPA 6010	SH1	8	PASI-A
		EPA 7470	HVK	1	PASI-A
92214429008	**MW-16I**	EPA 6010	SH1	8	PASI-A
		EPA 7470	HVK	1	PASI-A
92214429009	**MW-42S**	EPA 6010	SH1	8	PASI-A
		EPA 7470	HVK	1	PASI-A
92214429010	**MW-43S**	EPA 6010	SH1	8	PASI-A
		EPA 7470	HVK	1	PASI-A
92214429011	**TRP BLANK**	EPA 8260	MCK	63	PASI-C
		EPA 8260B Mod.	DLK	3	PASI-C

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214429

Sample: MW-34DR **Lab ID: 92214429001** Collected: 08/20/14 12:30 Received: 08/21/14 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic	ND	ug/L	10.0	1	08/22/14 16:00	08/25/14 19:04	7440-38-2	
Barium	**32.1**	ug/L	5.0	1	08/22/14 16:00	08/25/14 19:04	7440-39-3	
Cadmium	**3.0**	ug/L	1.0	1	08/22/14 16:00	08/25/14 19:04	7440-43-9	
Chromium	**7.0**	ug/L	5.0	1	08/22/14 16:00	08/25/14 19:04	7440-47-3	
Lead	ND	ug/L	5.0	1	08/22/14 16:00	08/25/14 19:04	7439-92-1	
Manganese	**26.3**	ug/L	5.0	1	08/22/14 16:00	08/25/14 19:04	7439-96-5	
Selenium	ND	ug/L	10.0	1	08/22/14 16:00	08/25/14 19:04	7782-49-2	
Silver	ND	ug/L	5.0	1	08/22/14 16:00	08/25/14 19:04	7440-22-4	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	08/23/14 14:50	08/27/14 12:24	7439-97-6	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214429

Sample: MW-27 **Lab ID: 92214429002** Collected: 08/20/14 12:40 Received: 08/21/14 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic	ND	ug/L	10.0	1	08/22/14 16:00	08/25/14 19:17	7440-38-2	
Barium	**30.4**	ug/L	5.0	1	08/22/14 16:00	08/25/14 19:17	7440-39-3	
Cadmium	ND	ug/L	1.0	1	08/22/14 16:00	08/25/14 19:17	7440-43-9	
Chromium	**5.6**	ug/L	5.0	1	08/22/14 16:00	08/25/14 19:17	7440-47-3	
Lead	ND	ug/L	5.0	1	08/22/14 16:00	08/25/14 19:17	7439-92-1	
Manganese	**239**	ug/L	5.0	1	08/22/14 16:00	08/25/14 19:17	7439-96-5	
Selenium	ND	ug/L	10.0	1	08/22/14 16:00	08/25/14 19:17	7782-49-2	
Silver	ND	ug/L	5.0	1	08/22/14 16:00	08/25/14 19:17	7440-22-4	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	08/23/14 14:50	08/27/14 12:37	7439-97-6	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214429

Sample: MW-8 **Lab ID: 92214429003** Collected: 08/20/14 12:57 Received: 08/21/14 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic	ND	ug/L	10.0	1	08/22/14 16:00	08/25/14 19:20	7440-38-2	
Barium	**16.3**	ug/L	5.0	1	08/22/14 16:00	08/25/14 19:20	7440-39-3	
Cadmium	ND	ug/L	1.0	1	08/22/14 16:00	08/25/14 19:20	7440-43-9	
Chromium	ND	ug/L	5.0	1	08/22/14 16:00	08/25/14 19:20	7440-47-3	
Lead	ND	ug/L	5.0	1	08/22/14 16:00	08/25/14 19:20	7439-92-1	
Manganese	**27.7**	ug/L	5.0	1	08/22/14 16:00	08/25/14 19:20	7439-96-5	
Selenium	ND	ug/L	10.0	1	08/22/14 16:00	08/25/14 19:20	7782-49-2	
Silver	ND	ug/L	5.0	1	08/22/14 16:00	08/25/14 19:20	7440-22-4	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	08/23/14 14:50	08/27/14 12:40	7439-97-6	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214429

Sample: MW-38 **Lab ID: 92214429004** Collected: 08/20/14 13:10 Received: 08/21/14 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic	ND	ug/L	10.0	1	08/22/14 16:00	08/25/14 19:23	7440-38-2	
Barium	**18.9**	ug/L	5.0	1	08/22/14 16:00	08/25/14 19:23	7440-39-3	
Cadmium	ND	ug/L	1.0	1	08/22/14 16:00	08/25/14 19:23	7440-43-9	
Chromium	**29.8**	ug/L	5.0	1	08/22/14 16:00	08/25/14 19:23	7440-47-3	
Lead	ND	ug/L	5.0	1	08/22/14 16:00	08/25/14 19:23	7439-92-1	
Manganese	**40.2**	ug/L	5.0	1	08/22/14 16:00	08/25/14 19:23	7439-96-5	
Selenium	ND	ug/L	10.0	1	08/22/14 16:00	08/25/14 19:23	7782-49-2	
Silver	ND	ug/L	5.0	1	08/22/14 16:00	08/25/14 19:23	7440-22-4	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	08/23/14 14:50	08/27/14 12:43	7439-97-6	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214429

Sample: MW-36S **Lab ID: 92214429005** Collected: 08/20/14 13:20 Received: 08/21/14 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic	ND	ug/L	10.0	1	08/22/14 16:00	08/25/14 19:27	7440-38-2	
Barium	**114**	ug/L	5.0	1	08/22/14 16:00	08/25/14 19:27	7440-39-3	
Cadmium	ND	ug/L	1.0	1	08/22/14 16:00	08/25/14 19:27	7440-43-9	
Chromium	ND	ug/L	5.0	1	08/22/14 16:00	08/25/14 19:27	7440-47-3	
Lead	ND	ug/L	5.0	1	08/22/14 16:00	08/25/14 19:27	7439-92-1	
Manganese	**3480**	ug/L	5.0	1	08/22/14 16:00	08/25/14 19:27	7439-96-5	
Selenium	ND	ug/L	10.0	1	08/22/14 16:00	08/25/14 19:27	7782-49-2	
Silver	ND	ug/L	5.0	1	08/22/14 16:00	08/25/14 19:27	7440-22-4	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	08/23/14 14:50	08/27/14 12:45	7439-97-6	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214429

Sample: MW-35S **Lab ID: 92214429006** Collected: 08/20/14 13:58 Received: 08/21/14 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic	ND	ug/L	10.0	1	08/22/14 16:00	08/25/14 19:30	7440-38-2	
Barium	**53.7**	ug/L	5.0	1	08/22/14 16:00	08/25/14 19:30	7440-39-3	
Cadmium	**1.4**	ug/L	1.0	1	08/22/14 16:00	08/25/14 19:30	7440-43-9	
Chromium	**32.1**	ug/L	5.0	1	08/22/14 16:00	08/25/14 19:30	7440-47-3	
Lead	ND	ug/L	5.0	1	08/22/14 16:00	08/25/14 19:30	7439-92-1	
Manganese	**161**	ug/L	5.0	1	08/22/14 16:00	08/25/14 19:30	7439-96-5	
Selenium	ND	ug/L	10.0	1	08/22/14 16:00	08/25/14 19:30	7782-49-2	
Silver	ND	ug/L	5.0	1	08/22/14 16:00	08/25/14 19:30	7440-22-4	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	08/23/14 14:50	08/27/14 12:48	7439-97-6	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214429

Sample: MW-12S **Lab ID: 92214429007** Collected: 08/20/14 14:10 Received: 08/21/14 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic	ND	ug/L	10.0	1	08/22/14 16:00	08/25/14 19:33	7440-38-2	
Barium	**650**	ug/L	5.0	1	08/22/14 16:00	08/25/14 19:33	7440-39-3	
Cadmium	**7.9**	ug/L	1.0	1	08/22/14 16:00	08/25/14 19:33	7440-43-9	
Chromium	ND	ug/L	5.0	1	08/22/14 16:00	08/25/14 19:33	7440-47-3	
Lead	ND	ug/L	5.0	1	08/22/14 16:00	08/25/14 19:33	7439-92-1	
Manganese	**37800**	ug/L	50.0	10	08/22/14 16:00	08/26/14 18:49	7439-96-5	
Selenium	ND	ug/L	10.0	1	08/22/14 16:00	08/25/14 19:33	7782-49-2	
Silver	ND	ug/L	5.0	1	08/22/14 16:00	08/25/14 19:33	7440-22-4	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury	**0.55**	ug/L	0.20	1	08/23/14 14:50	08/27/14 12:51	7439-97-6	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214429

Sample: MW-16I **Lab ID: 92214429008** Collected: 08/20/14 14:20 Received: 08/21/14 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic	ND	ug/L	10.0	1	08/22/14 16:00	08/25/14 19:36	7440-38-2	
Barium	**15.2**	ug/L	5.0	1	08/22/14 16:00	08/25/14 19:36	7440-39-3	
Cadmium	ND	ug/L	1.0	1	08/22/14 16:00	08/25/14 19:36	7440-43-9	
Chromium	ND	ug/L	5.0	1	08/22/14 16:00	08/25/14 19:36	7440-47-3	
Lead	ND	ug/L	5.0	1	08/22/14 16:00	08/25/14 19:36	7439-92-1	
Manganese	**98.6**	ug/L	5.0	1	08/22/14 16:00	08/25/14 19:36	7439-96-5	
Selenium	ND	ug/L	10.0	1	08/22/14 16:00	08/25/14 19:36	7782-49-2	
Silver	ND	ug/L	5.0	1	08/22/14 16:00	08/25/14 19:36	7440-22-4	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	08/23/14 14:50	08/27/14 12:53	7439-97-6	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214429

Sample: MW-42S **Lab ID: 92214429009** Collected: 08/20/14 14:37 Received: 08/21/14 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic	ND	ug/L	10.0	1	08/22/14 16:00	08/25/14 19:40	7440-38-2	
Barium	**22.5**	ug/L	5.0	1	08/22/14 16:00	08/25/14 19:40	7440-39-3	
Cadmium	ND	ug/L	1.0	1	08/22/14 16:00	08/25/14 19:40	7440-43-9	
Chromium	**44.6**	ug/L	5.0	1	08/22/14 16:00	08/25/14 19:40	7440-47-3	
Lead	ND	ug/L	5.0	1	08/22/14 16:00	08/25/14 19:40	7439-92-1	
Manganese	**78.8**	ug/L	5.0	1	08/22/14 16:00	08/25/14 19:40	7439-96-5	
Selenium	ND	ug/L	10.0	1	08/22/14 16:00	08/25/14 19:40	7782-49-2	
Silver	ND	ug/L	5.0	1	08/22/14 16:00	08/25/14 19:40	7440-22-4	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	08/23/14 14:50	08/27/14 12:56	7439-97-6	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214429

Sample: MW-43S **Lab ID: 92214429010** Collected: 08/20/14 14:53 Received: 08/21/14 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic	ND	ug/L	10.0	1	08/22/14 16:00	08/25/14 19:43	7440-38-2	
Barium	**19.4**	ug/L	5.0	1	08/22/14 16:00	08/25/14 19:43	7440-39-3	
Cadmium	ND	ug/L	1.0	1	08/22/14 16:00	08/25/14 19:43	7440-43-9	
Chromium	**18.1**	ug/L	5.0	1	08/22/14 16:00	08/25/14 19:43	7440-47-3	
Lead	ND	ug/L	5.0	1	08/22/14 16:00	08/25/14 19:43	7439-92-1	
Manganese	**9.1**	ug/L	5.0	1	08/22/14 16:00	08/25/14 19:43	7439-96-5	
Selenium	ND	ug/L	10.0	1	08/22/14 16:00	08/25/14 19:43	7782-49-2	
Silver	ND	ug/L	5.0	1	08/22/14 16:00	08/25/14 19:43	7440-22-4	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	08/23/14 14:50	08/27/14 12:59	7439-97-6	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214429

Sample: TRP BLANK **Lab ID: 92214429011** Collected: 08/20/14 14:53 Received: 08/21/14 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		08/25/14 19:41	67-64-1	
Benzene	ND	ug/L	1.0	1		08/25/14 19:41	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		08/25/14 19:41	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		08/25/14 19:41	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		08/25/14 19:41	75-27-4	
Bromoform	ND	ug/L	1.0	1		08/25/14 19:41	75-25-2	
Bromomethane	ND	ug/L	2.0	1		08/25/14 19:41	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		08/25/14 19:41	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		08/25/14 19:41	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		08/25/14 19:41	108-90-7	
Chloroethane	ND	ug/L	1.0	1		08/25/14 19:41	75-00-3	
Chloroform	ND	ug/L	1.0	1		08/25/14 19:41	67-66-3	
Chloromethane	ND	ug/L	1.0	1		08/25/14 19:41	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		08/25/14 19:41	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		08/25/14 19:41	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	1		08/25/14 19:41	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		08/25/14 19:41	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		08/25/14 19:41	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		08/25/14 19:41	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		08/25/14 19:41	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		08/25/14 19:41	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		08/25/14 19:41	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		08/25/14 19:41	75-71-8	L3
1,1-Dichloroethane	ND	ug/L	1.0	1		08/25/14 19:41	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		08/25/14 19:41	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		08/25/14 19:41	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		08/25/14 19:41	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		08/25/14 19:41	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		08/25/14 19:41	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		08/25/14 19:41	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		08/25/14 19:41	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		08/25/14 19:41	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		08/25/14 19:41	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		08/25/14 19:41	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		08/25/14 19:41	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		08/25/14 19:41	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		08/25/14 19:41	87-68-3	
2-Hexanone	**6.0**	ug/L	5.0	1		08/25/14 19:41	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		08/25/14 19:41	99-87-6	
Methylene Chloride	ND	ug/L	2.0	1		08/25/14 19:41	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		08/25/14 19:41	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		08/25/14 19:41	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		08/25/14 19:41	91-20-3	
Styrene	ND	ug/L	1.0	1		08/25/14 19:41	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		08/25/14 19:41	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		08/25/14 19:41	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		08/25/14 19:41	127-18-4	

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ANALYTICAL RESULTS

Project: NCSU LOT 86 1441
Pace Project No.: 92214429

Sample: TRP BLANK **Lab ID: 92214429011** Collected: 08/20/14 14:53 Received: 08/21/14 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
Toluene	ND	ug/L	1.0	1		08/25/14 19:41	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		08/25/14 19:41	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		08/25/14 19:41	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		08/25/14 19:41	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		08/25/14 19:41	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		08/25/14 19:41	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		08/25/14 19:41	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		08/25/14 19:41	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		08/25/14 19:41	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		08/25/14 19:41	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		08/25/14 19:41	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		08/25/14 19:41	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		08/25/14 19:41	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	100	%	70-130	1		08/25/14 19:41	460-00-4	
1,2-Dichloroethane-d4 (S)	113	%	70-130	1		08/25/14 19:41	17060-07-0	
Toluene-d8 (S)	99	%	70-130	1		08/25/14 19:41	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.							
1,4-Dioxane (p-Dioxane)	ND	ug/L	2.0	1		08/31/14 14:05	123-91-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	108	%	50-150	1		08/31/14 14:05	17060-07-0	
Toluene-d8 (S)	90	%	50-150	1		08/31/14 14:05	2037-26-5	

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QUALITY CONTROL DATA

Project: NCSU LOT 86 1441
Pace Project No.: 92214429

QC Batch: MERP/7003 Analysis Method: EPA 7470
QC Batch Method: EPA 7470 Analysis Description: 7470 Mercury
Associated Lab Samples: 92214429001, 92214429002, 92214429003, 92214429004, 92214429005, 92214429006, 92214429007, 92214429008, 92214429009, 92214429010

METHOD BLANK: 1270849 Matrix: Water
Associated Lab Samples: 92214429001, 92214429002, 92214429003, 92214429004, 92214429005, 92214429006, 92214429007, 92214429008, 92214429009, 92214429010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	08/27/14 12:08	

LABORATORY CONTROL SAMPLE: 1270850

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	2.5	2.4	94	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1270851 1270852

Parameter	Units	92214429001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	2.5	2.5	2.4	2.4	93	94	75-125	1	25	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: NCSU LOT 86 1441
Pace Project No.: 92214429

QC Batch: MPRP/16743 — Analysis Method: EPA 6010
QC Batch Method: EPA 3010 — Analysis Description: 6010 MET
Associated Lab Samples: 92214429001, 92214429002, 92214429003, 92214429004, 92214429005, 92214429006, 92214429007, 92214429008, 92214429009, 92214429010

METHOD BLANK: 1270370 — Matrix: Water
Associated Lab Samples: 92214429001, 92214429002, 92214429003, 92214429004, 92214429005, 92214429006, 92214429007, 92214429008, 92214429009, 92214429010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	ug/L	ND	10.0	08/25/14 18:06	
Barium	ug/L	ND	5.0	08/25/14 18:06	
Cadmium	ug/L	ND	1.0	08/25/14 18:06	
Chromium	ug/L	ND	5.0	08/25/14 18:06	
Lead	ug/L	ND	5.0	08/25/14 18:06	
Manganese	ug/L	ND	5.0	08/25/14 18:06	
Selenium	ug/L	ND	10.0	08/25/14 18:06	
Silver	ug/L	ND	5.0	08/25/14 18:06	

LABORATORY CONTROL SAMPLE: 1270371

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	500	486	97	80-120	
Barium	ug/L	500	491	98	80-120	
Cadmium	ug/L	500	506	101	80-120	
Chromium	ug/L	500	503	101	80-120	
Lead	ug/L	500	496	99	80-120	
Manganese	ug/L	500	499	100	80-120	
Selenium	ug/L	500	484	97	80-120	
Silver	ug/L	250	252	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1270372 1270373

Parameter	Units	92214260002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	ND	500	500	488	494	98	99	75-125	1	20	
Barium	ug/L	37.3	500	500	525	523	98	97	75-125	0	20	
Cadmium	ug/L	ND	500	500	490	489	98	98	75-125	0	20	
Chromium	ug/L	ND	500	500	495	493	99	99	75-125	0	20	
Lead	ug/L	ND	500	500	485	480	96	95	75-125	1	20	
Manganese	ug/L	386	500	500	875	865	98	96	75-125	1	20	
Selenium	ug/L	ND	500	500	497	488	98	96	75-125	2	20	
Silver	ug/L	ND	250	250	252	251	101	100	75-125	0	20	

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QUALITY CONTROL DATA

Project: NCSU LOT 86 1441
Pace Project No.: 92214429

QC Batch: MSV/28072
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV Low Level
Associated Lab Samples: 92214429011

METHOD BLANK: 1271304
Matrix: Water
Associated Lab Samples: 92214429011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	08/25/14 19:24	
1,1,1-Trichloroethane	ug/L	ND	1.0	08/25/14 19:24	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	08/25/14 19:24	
1,1,2-Trichloroethane	ug/L	ND	1.0	08/25/14 19:24	
1,1-Dichloroethane	ug/L	ND	1.0	08/25/14 19:24	
1,1-Dichloroethene	ug/L	ND	1.0	08/25/14 19:24	
1,1-Dichloropropene	ug/L	ND	1.0	08/25/14 19:24	
1,2,3-Trichlorobenzene	ug/L	ND	1.0	08/25/14 19:24	
1,2,3-Trichloropropane	ug/L	ND	1.0	08/25/14 19:24	
1,2,4-Trichlorobenzene	ug/L	ND	1.0	08/25/14 19:24	
1,2-Dibromo-3-chloropropane	ug/L	ND	2.0	08/25/14 19:24	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	08/25/14 19:24	
1,2-Dichlorobenzene	ug/L	ND	1.0	08/25/14 19:24	
1,2-Dichloroethane	ug/L	ND	1.0	08/25/14 19:24	
1,2-Dichloropropane	ug/L	ND	1.0	08/25/14 19:24	
1,3-Dichlorobenzene	ug/L	ND	1.0	08/25/14 19:24	
1,3-Dichloropropane	ug/L	ND	1.0	08/25/14 19:24	
1,4-Dichlorobenzene	ug/L	ND	1.0	08/25/14 19:24	
2,2-Dichloropropane	ug/L	ND	1.0	08/25/14 19:24	
2-Butanone (MEK)	ug/L	ND	5.0	08/25/14 19:24	
2-Chlorotoluene	ug/L	ND	1.0	08/25/14 19:24	
2-Hexanone	ug/L	ND	5.0	08/25/14 19:24	
4-Chlorotoluene	ug/L	ND	1.0	08/25/14 19:24	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	08/25/14 19:24	
Acetone	ug/L	ND	25.0	08/25/14 19:24	
Benzene	ug/L	ND	1.0	08/25/14 19:24	
Bromobenzene	ug/L	ND	1.0	08/25/14 19:24	
Bromochloromethane	ug/L	ND	1.0	08/25/14 19:24	
Bromodichloromethane	ug/L	ND	1.0	08/25/14 19:24	
Bromoform	ug/L	ND	1.0	08/25/14 19:24	
Bromomethane	ug/L	ND	2.0	08/25/14 19:24	
Carbon tetrachloride	ug/L	ND	1.0	08/25/14 19:24	
Chlorobenzene	ug/L	ND	1.0	08/25/14 19:24	
Chloroethane	ug/L	ND	1.0	08/25/14 19:24	
Chloroform	ug/L	ND	1.0	08/25/14 19:24	
Chloromethane	ug/L	ND	1.0	08/25/14 19:24	
cis-1,2-Dichloroethene	ug/L	ND	1.0	08/25/14 19:24	
cis-1,3-Dichloropropene	ug/L	ND	1.0	08/25/14 19:24	
Dibromochloromethane	ug/L	ND	1.0	08/25/14 19:24	
Dibromomethane	ug/L	ND	1.0	08/25/14 19:24	
Dichlorodifluoromethane	ug/L	ND	1.0	08/25/14 19:24	

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QUALITY CONTROL DATA

Project: NCSU LOT 86 1441
Pace Project No.: 92214429

METHOD BLANK: 1271304 Matrix: Water
Associated Lab Samples: 92214429011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diisopropyl ether	ug/L	ND	1.0	08/25/14 19:24	
Ethylbenzene	ug/L	ND	1.0	08/25/14 19:24	
Hexachloro-1,3-butadiene	ug/L	ND	1.0	08/25/14 19:24	
m&p-Xylene	ug/L	ND	2.0	08/25/14 19:24	
Methyl-tert-butyl ether	ug/L	ND	1.0	08/25/14 19:24	
Methylene Chloride	ug/L	ND	2.0	08/25/14 19:24	
Naphthalene	ug/L	ND	1.0	08/25/14 19:24	
o-Xylene	ug/L	ND	1.0	08/25/14 19:24	
p-Isopropyltoluene	ug/L	ND	1.0	08/25/14 19:24	
Styrene	ug/L	ND	1.0	08/25/14 19:24	
Tetrachloroethene	ug/L	ND	1.0	08/25/14 19:24	
Toluene	ug/L	ND	1.0	08/25/14 19:24	
trans-1,2-Dichloroethene	ug/L	ND	1.0	08/25/14 19:24	
trans-1,3-Dichloropropene	ug/L	ND	1.0	08/25/14 19:24	
Trichloroethene	ug/L	ND	1.0	08/25/14 19:24	
Trichlorofluoromethane	ug/L	ND	1.0	08/25/14 19:24	
Vinyl acetate	ug/L	ND	2.0	08/25/14 19:24	
Vinyl chloride	ug/L	ND	1.0	08/25/14 19:24	
Xylene (Total)	ug/L	ND	2.0	08/25/14 19:24	
1,2-Dichloroethane-d4 (S)	%	111	70-130	08/25/14 19:24	
4-Bromofluorobenzene (S)	%	106	70-130	08/25/14 19:24	
Toluene-d8 (S)	%	101	70-130	08/25/14 19:24	

LABORATORY CONTROL SAMPLE: 1271305

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	53.1	106	70-130	
1,1,1-Trichloroethane	ug/L	50	55.9	112	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	52.8	106	70-130	
1,1,2-Trichloroethane	ug/L	50	55.3	111	70-130	
1,1-Dichloroethane	ug/L	50	54.9	110	70-130	
1,1-Dichloroethene	ug/L	50	61.2	122	70-132	
1,1-Dichloropropene	ug/L	50	60.9	122	70-130	
1,2,3-Trichlorobenzene	ug/L	50	49.8	100	70-135	
1,2,3-Trichloropropane	ug/L	50	53.5	107	70-130	
1,2,4-Trichlorobenzene	ug/L	50	49.1	98	70-134	
1,2-Dibromo-3-chloropropane	ug/L	50	46.6	93	70-130	
1,2-Dibromoethane (EDB)	ug/L	50	50.6	101	70-130	
1,2-Dichlorobenzene	ug/L	50	49.8	100	70-130	
1,2-Dichloroethane	ug/L	50	55.1	110	70-130	
1,2-Dichloropropane	ug/L	50	53.7	107	70-130	
1,3-Dichlorobenzene	ug/L	50	49.0	98	70-130	
1,3-Dichloropropane	ug/L	50	50.3	101	70-130	
1,4-Dichlorobenzene	ug/L	50	51.1	102	70-130	

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(704)875-9092

QUALITY CONTROL DATA

Project: NCSU LOT 86 1441
Pace Project No.: 92214429

LABORATORY CONTROL SAMPLE: 1271305

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,2-Dichloropropane	ug/L	50	50.6	101	58-145	
2-Butanone (MEK)	ug/L	100	119	119	70-145	
2-Chlorotoluene	ug/L	50	49.3	99	70-130	
2-Hexanone	ug/L	100	103	103	70-144	
4-Chlorotoluene	ug/L	50	50.6	101	70-130	
4-Methyl-2-pentanone (MIBK)	ug/L	100	112	112	70-140	
Acetone	ug/L	100	103	103	50-175	
Benzene	ug/L	50	52.2	104	70-130	
Bromobenzene	ug/L	50	48.9	98	70-130	
Bromochloromethane	ug/L	50	53.9	108	70-130	
Bromodichloromethane	ug/L	50	59.3	119	70-130	
Bromoform	ug/L	50	51.2	102	70-130	
Bromomethane	ug/L	50	61.0	122	54-130	
Carbon tetrachloride	ug/L	50	55.7	111	70-132	
Chlorobenzene	ug/L	50	52.2	104	70-130	
Chloroethane	ug/L	50	64.2	128	64-134	
Chloroform	ug/L	50	64.9	130	70-130	
Chloromethane	ug/L	50	60.6	121	64-130	
cis-1,2-Dichloroethene	ug/L	50	60.7	121	70-131	
cis-1,3-Dichloropropene	ug/L	50	54.0	108	70-130	
Dibromochloromethane	ug/L	50	62.1	124	70-130	
Dibromomethane	ug/L	50	50.6	101	70-131	
Dichlorodifluoromethane	ug/L	50	76.3	153	56-130	F3,L0
Diisopropyl ether	ug/L	50	56.2	112	70-130	
Ethylbenzene	ug/L	50	53.5	107	70-130	
Hexachloro-1,3-butadiene	ug/L	50	53.0	106	70-130	
m&p-Xylene	ug/L	100	105	105	70-130	
Methyl-tert-butyl ether	ug/L	50	55.2	110	70-130	
Methylene Chloride	ug/L	50	54.3	109	63-130	
Naphthalene	ug/L	50	51.7	103	70-138	
o-Xylene	ug/L	50	54.3	109	70-130	
p-Isopropyltoluene	ug/L	50	52.7	105	70-130	
Styrene	ug/L	50	53.8	108	70-130	
Tetrachloroethene	ug/L	50	56.9	114	70-130	
Toluene	ug/L	50	55.6	111	70-130	
trans-1,2-Dichloroethene	ug/L	50	61.4	123	70-130	
trans-1,3-Dichloropropene	ug/L	50	56.7	113	70-132	
Trichloroethene	ug/L	50	55.1	110	70-130	
Trichlorofluoromethane	ug/L	50	66.6	133	62-133	
Vinyl acetate	ug/L	100	130	130	66-157	
Vinyl chloride	ug/L	50	58.8	118	50-150	
Xylene (Total)	ug/L	150	159	106	70-130	
1,2-Dichloroethane-d4 (S)	%			114	70-130	
4-Bromofluorobenzene (S)	%			101	70-130	
Toluene-d8 (S)	%			105	70-130	

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QUALITY CONTROL DATA

Project: NCSU LOT 86 1441
Pace Project No.: 92214429

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1271306 1271307

Parameter	Units	92214611001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1,2-Tetrachloroethane	ug/L	ND	20	20	10.6	17.4	53	87	70-130	48	30	M1,R1
1,1,1-Trichloroethane	ug/L	ND	20	20	10.2	16.2	51	81	70-130	46	30	M1,R1
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20	10.6	16.1	53	80	70-130	41	30	M1,R1
1,1,2-Trichloroethane	ug/L	ND	20	20	11.0	18.0	55	90	70-130	48	30	M1,R1
1,1-Dichloroethane	ug/L	ND	20	20	10.0	16.0	50	80	70-130	46	30	M1,R1
1,1-Dichloroethene	ug/L	ND	20	20	11.6	18.4	58	92	70-166	45	30	M1,R1
1,1-Dichloropropene	ug/L	ND	20	20	11.6	18.2	58	91	70-130	44	30	M1,R1
1,2,3-Trichlorobenzene	ug/L	ND	20	20	10.6	14.6	53	73	70-130	31	30	M1,R1
1,2,3-Trichloropropane	ug/L	ND	20	20	11.3	17.1	57	86	70-130	41	30	M1,R1
1,2,4-Trichlorobenzene	ug/L	ND	20	20	11.2	16.0	56	80	70-130	35	30	M1,R1
1,2-Dibromo-3-chloropropane	ug/L	ND	20	20	8.8	14.1	44	71	70-130	47	30	M1,R1
1,2-Dibromoethane (EDB)	ug/L	ND	20	20	11.0	17.1	55	86	70-130	43	30	M1,R1
1,2-Dichlorobenzene	ug/L	ND	20	20	11.3	17.4	56	87	70-130	43	30	M1,R1
1,2-Dichloroethane	ug/L	ND	20	20	9.5	15.5	48	77	70-130	48	30	M1,R1
1,2-Dichloropropane	ug/L	ND	20	20	10.7	17.7	53	88	70-130	49	30	M1,R1
1,3-Dichlorobenzene	ug/L	ND	20	20	11.2	17.5	56	87	70-130	44	30	M1,R1
1,3-Dichloropropane	ug/L	ND	20	20	10.8	17.5	54	88	70-130	47	30	M1,R1
1,4-Dichlorobenzene	ug/L	ND	20	20	11.5	17.8	57	89	70-130	43	30	M1,R1
2,2-Dichloropropane	ug/L	ND	20	20	9.2	14.7	46	74	70-130	46	30	M1,R1
2-Butanone (MEK)	ug/L	ND	40	40	19.9	29.0	50	73	70-130	37	30	M1,R1
2-Chlorotoluene	ug/L	ND	20	20	11.1	17.0	55	85	70-130	42	30	M1,R1
2-Hexanone	ug/L	ND	40	40	20.4	30.2	51	75	70-130	39	30	M1,R1
4-Chlorotoluene	ug/L	ND	20	20	10.9	17.1	55	86	70-130	44	30	M1,R1
4-Methyl-2-pentanone (MIBK)	ug/L	ND	40	40	19.8	30.4	50	76	70-130	42	30	M1,R1
Acetone	ug/L	ND	40	40	29.3	35.5	44	60	70-130	19	30	M1
Benzene	ug/L	ND	20	20	11.6	18.3	58	92	70-148	45	30	M1,R1
Bromobenzene	ug/L	ND	20	20	10.7	16.9	54	84	70-130	44	30	M1,R1
Bromochloromethane	ug/L	ND	20	20	10.8	17.9	54	90	70-130	50	30	M1,R1
Bromodichloromethane	ug/L	ND	20	20	11.4	18.5	57	92	70-130	47	30	M1,R1
Bromoform	ug/L	ND	20	20	11.3	18.1	56	91	70-130	47	30	M1,R1
Bromomethane	ug/L	ND	20	20	10.8	16.6	54	83	70-130	42	30	M1,R1
Carbon tetrachloride	ug/L	ND	20	20	11.9	18.6	60	93	70-130	44	30	M1,R1
Chlorobenzene	ug/L	ND	20	20	11.5	18.1	57	90	70-146	45	30	M1,R1
Chloroethane	ug/L	ND	20	20	10.9	16.4	55	82	70-130	40	30	M1,R1
Chloroform	ug/L	ND	20	20	11.4	18.4	57	92	70-130	47	30	M1,R1
Chloromethane	ug/L	ND	20	20	9.8	14.8	49	74	70-130	41	30	M1,R1
cis-1,2-Dichloroethene	ug/L	ND	20	20	11.1	18.0	55	90	70-130	47	30	M1,R1
cis-1,3-Dichloropropene	ug/L	ND	20	20	10.4	16.7	52	83	70-130	47	30	M1,R1
Dibromochloromethane	ug/L	ND	20	20	12.0	19.4	60	97	70-130	47	30	M1,R1
Dibromomethane	ug/L	ND	20	20	11.6	18.7	58	94	70-130	47	30	M1,R1
Dichlorodifluoromethane	ug/L	ND	20	20	11.8	19.1	59	95	70-130	47	30	M0,R1
Diisopropyl ether	ug/L	ND	20	20	9.1	15.1	45	76	70-130	50	30	M1,R1
Ethylbenzene	ug/L	ND	20	20	11.4	17.8	57	89	70-130	43	30	M1,R1
Hexachloro-1,3-butadiene	ug/L	ND	20	20	13.1	18.8	65	94	70-130	36	30	M1,R1

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QUALITY CONTROL DATA

Project: NCSU LOT 86 1441
Pace Project No.: 92214429

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1271306 1271307

Parameter	Units	92214611001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
m&p-Xylene	ug/L	ND	40	40	23.1	36.2	57	90	70-130	44	30	M1,R1
Methyl-tert-butyl ether	ug/L	ND	20	20	9.4	14.9	47	74	70-130	45	30	M1,R1
Methylene Chloride	ug/L	ND	20	20	9.2	15.7	40	72	70-130	52	30	M1,R1
Naphthalene	ug/L	ND	20	20	9.7	13.6	48	68	70-130	34	30	M1,R1
o-Xylene	ug/L	ND	20	20	11.3	17.3	57	87	70-130	42	30	M1,R1
p-Isopropyltoluene	ug/L	ND	20	20	11.7	17.7	58	89	70-130	41	30	M1,R1
Styrene	ug/L	ND	20	20	11.2	18.0	56	90	70-130	47	30	M1,R1
Tetrachloroethene	ug/L	ND	20	20	12.5	19.2	63	96	70-130	42	30	M1,R1
Toluene	ug/L	ND	20	20	11.4	17.9	57	90	70-155	45	30	M1,R1
trans-1,2-Dichloroethene	ug/L	ND	20	20	11.3	17.7	57	89	70-130	44	30	M1,R1
trans-1,3-Dichloropropene	ug/L	ND	20	20	9.9	16.3	50	82	70-130	49	30	M1,R1
Trichloroethene	ug/L	ND	20	20	11.8	18.3	59	92	69-151	43	30	M1,R1
Trichlorofluoromethane	ug/L	ND	20	20	11.5	18.3	57	92	70-130	46	30	M1,R1
Vinyl acetate	ug/L	ND	40	40	17.6	27.0	44	67	70-130	42	30	M1,R1
Vinyl chloride	ug/L	ND	20	20	11.0	17.0	55	85	70-130	43	30	M1,R1
1,2-Dichloroethane-d4 (S)	%						89	87	70-130			
4-Bromofluorobenzene (S)	%						104	104	70-130			
Toluene-d8 (S)	%						97	98	70-130			

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QUALITY CONTROL DATA

Project: NCSU LOT 86 1441
Pace Project No.: 92214429

QC Batch: MSV/28156
QC Batch Method: EPA 8260B Mod.
Analysis Method: EPA 8260B Mod.
Analysis Description: 8260 MSV SIM
Associated Lab Samples: 92214429011

METHOD BLANK: 1276085
Matrix: Water
Associated Lab Samples: 92214429011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	ND	2.0	08/31/14 13:45	
1,2-Dichloroethane-d4 (S)	%	105	50-150	08/31/14 13:45	
Toluene-d8 (S)	%	92	50-150	08/31/14 13:45	

LABORATORY CONTROL SAMPLE: 1276086

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	20	20.3	101	71-125	
1,2-Dichloroethane-d4 (S)	%			102	50-150	
Toluene-d8 (S)	%			96	50-150	

MATRIX SPIKE SAMPLE: 1276087

Parameter	Units	92214429011 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	ND	20	19.5	98	50-150	
1,2-Dichloroethane-d4 (S)	%				102	50-150	
Toluene-d8 (S)	%				70	50-150	

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QUALIFIERS

Project: NCSU LOT 86 1441
Pace Project No.: 92214429

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

Acid preservation may not be appropriate for 2-Chloroethylvinyl ether, Styrene, and Vinyl chloride.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-A	Pace Analytical Services - Asheville
PASI-C	Pace Analytical Services - Charlotte

ANALYTE QUALIFIERS

F3	The recovery of the second source standard used to verify the initial calibration curve for this analyte is outside the laboratory's control limits. The result is estimated.
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L3	Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: NCSU LOT 86 1441
Pace Project No.: 92214429

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92214429001	**MW-34DR**	EPA 3010	MPRP/16743	EPA 6010	ICP/15118
92214429002	**MW-27**	EPA 3010	MPRP/16743	EPA 6010	ICP/15118
92214429003	**MW-8**	EPA 3010	MPRP/16743	EPA 6010	ICP/15118
92214429004	**MW-38**	EPA 3010	MPRP/16743	EPA 6010	ICP/15118
92214429005	**MW-36S**	EPA 3010	MPRP/16743	EPA 6010	ICP/15118
92214429006	**MW-35S**	EPA 3010	MPRP/16743	EPA 6010	ICP/15118
92214429007	**MW-12S**	EPA 3010	MPRP/16743	EPA 6010	ICP/15118
92214429008	**MW-16I**	EPA 3010	MPRP/16743	EPA 6010	ICP/15118
92214429009	**MW-42S**	EPA 3010	MPRP/16743	EPA 6010	ICP/15118
92214429010	**MW-43S**	EPA 3010	MPRP/16743	EPA 6010	ICP/15118
92214429001	**MW-34DR**	EPA 7470	MERP/7003	EPA 7470	MERC/6741
92214429002	**MW-27**	EPA 7470	MERP/7003	EPA 7470	MERC/6741
92214429003	**MW-8**	EPA 7470	MERP/7003	EPA 7470	MERC/6741
92214429004	**MW-38**	EPA 7470	MERP/7003	EPA 7470	MERC/6741
92214429005	**MW-36S**	EPA 7470	MERP/7003	EPA 7470	MERC/6741
92214429006	**MW-35S**	EPA 7470	MERP/7003	EPA 7470	MERC/6741
92214429007	**MW-12S**	EPA 7470	MERP/7003	EPA 7470	MERC/6741
92214429008	**MW-16I**	EPA 7470	MERP/7003	EPA 7470	MERC/6741
92214429009	**MW-42S**	EPA 7470	MERP/7003	EPA 7470	MERC/6741
92214429010	**MW-43S**	EPA 7470	MERP/7003	EPA 7470	MERC/6741
92214429011	**TRP BLANK**	EPA 8260	MSV/28072		
92214429011	**TRP BLANK**	EPA 8260B Mod.	MSV/28156		

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Pace Analytical	Document Name: **Sample Condition Upon Receipt (SCUR)**	Document Revised: April 07. 2014 Page 1 of 2
	Document Number: **F-CHR-CS-003-rev.14**	Issuing Authority: Pace Huntersville Quality Office

Client Name: Piedmont Geologic

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other_____

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other_____

Thermometer Used: IR Gun T1102 (T1401) **Type of Ice:** (Wet) Blue None ☒ Samples on ice, cooling process has begun

Temp Correction Factor **T1102**: No Correction **T1301**: No Correction

Corrected Cooler Temp.: 3.4 °C **Biological Tissue is Frozen:** Yes No (N/A)

Temp should be above freezing to 6°C

Comments:

Optional
Proj. Due Date:
Proj. Name:

Date and Initials of person examining contents: JMW 8/21/14

Chain of Custody Present:	☒Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☒Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☒Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☒Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☒Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☒No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☒No ☐N/A	7.
Sufficient Volume:	☒Yes ☐No ☐N/A	8.
Correct Containers Used:	☒Yes ☐No ☐N/A	9.
-Pace Containers Used:	☐Yes ☒No ☐N/A	
Containers Intact:	☒Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☒N/A	11.
Sample Labels match COC:	☒Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: Water		
All containers needing preservation have been checked.	☒Yes ☐No ☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☒Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☒Yes ☐No	
Samples checked for dechlorination:	☐Yes ☐No ☒N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☒No ☐N/A	15.
Trip Blank Present:	☒Yes ☐No ☐N/A	16.
Trip Blank Custody Seals Present	☐Yes ☒No ☐N/A	
Pace Trip Blank Lot # (if purchased):_____		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

SCURF Review:	JDB	**Date:**	8/21/14
SRF Review:	AMB	**Date:**	8-22-14

Place label here

WO#: 92214429

92214429

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical®
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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1

1838231

Section A Required Client Information:

Company: Piedmont Geologic
Address: 6003-145 Chapel Hill Rd. Raleigh, NC 27607
Email To: pjdressel@piedmontgeologic.com
Phone: 919-854-9700 Fax:
Requested Due Date/TAT:

Section B Required Project Information:

Report To: Pete Dressel
Copy To:
Purchase Order No.:
Project Name: NCSU Lot 86
Project Number: 1441

Section C Invoice Information:

Attention: Same
Company Name: ↓
Address: ↓
Pace Quote Reference:
Pace Project Manager: Angela Baioni
Pace Profile #:

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

Site Location STATE: Raleigh NC

Section D Required Client Information

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

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start DATE	COLLECTED Composite Start TIME	COLLECTED Composite End/Grab DATE	COLLECTED Composite End/Grab TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N): Metals by 6000/7000	Analysis Test (Y/N): VOCs by 8260	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 92214429
1	MW-34DR					8/20/14	1230		1			X						X	X		001
2	MW-27					↓	1240		↓			↓						↓			002
3	MW-8						1257														003
4	MW-38						1310														004
5	MW-36S						1320														005
6	MW-35S						1358														006
7	MW-12S						1410														007
8	MW-16I						1420														008
9	MW-42S						1437														009
10	MW-35S					↓	1453		↓			↓						↓			010
11	Trip Blank					8/20/14	1700		2				X						X		011
12																					012

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Metals = As, Ba, Cd, Cr, Pb,	[signature]	8/21/14	903	[signature] PACE	8-21-14	0903				
Se, Mn, Hg	[signature] PACE	8-21-14	1635	Jaclyn Wilson / Pace	8-21-14	1635	3.4	Y	N	Y

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Geoffrey Murphey

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 08/20/14

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

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Mr. Pete Dressel
Piedmont Geologic
6003 Chapel Hill Road Suite 145
Raleigh, NC 27607

Report Summary

Wednesday August 27, 2014

Report Number: L717546
Samples Received: 08/22/14
Client Project: 1441

Description: NCSU Lot 86 - Water Treatment System Monitoring

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By: Jimmy Hunt

Jimmy Hunt , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197, FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704/BIO041, ND - R-140. NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1, TX - T104704245-11-3, OK - 9915, PA - 68-02979, IA Lab #364, EPA - TN002

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REPORT OF ANALYSIS

Mr. Pete Dressel
Piedmont Geologic
6003 Chapel Hill Road Suite 145
Raleigh, NC 27607

August 27, 2014

ESC Sample # : L717546-01

Site ID : RALEIGH, NC

Project # : 1441

Date Received : August 22, 2014
Description : NCSU Lot 86 - Water Treatment System Monitoring

Sample ID : MW-34DR

Collected By : Geoffrey Murphey
Collection Date : 08/11/14 17:30

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Volatile Organics								
1,4-Dioxane	0.015	0.00060	0.0030	mg/l		8260B	08/24/14	1
Surrogate Recovery								
Toluene-d8	91.8			% Rec.		8260B	08/24/14	1

U = ND (Not Detected)
MDL = Minimum Detection Limit = LOD = TRRP SDL
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL
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REPORT OF ANALYSIS

Mr. Pete Dressel
Piedmont Geologic
6003 Chapel Hill Road Suite 145
Raleigh, NC 27607

August 27, 2014

ESC Sample # : L717546-02

Site ID : RALEIGH, NC

Project # : 1441

Date Received : August 22, 2014
Description : NCSU Lot 86 - Water Treatment System Monitoring

Sample ID : MW-12D

Collected By : Geoffrey Murphey
Collection Date : 08/12/14 09:34

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Volatile Organics								
1,4-Dioxane	0.0073	0.00060	0.0030	mg/l		8260B	08/24/14	1
Surrogate Recovery								
Toluene-d8	91.8			% Rec.		8260B	08/24/14	1

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REPORT OF ANALYSIS

Mr. Pete Dressel
Piedmont Geologic
6003 Chapel Hill Road Suite 145
Raleigh, NC 27607

August 27, 2014

ESC Sample # : L717546-03

Date Received : August 22, 2014
Description : NCSU Lot 86 - Water Treatment System Monitoring

Site ID : RALEIGH, NC

Sample ID : RW-6

Project # : 1441

Collected By : Geoffrey Murphey
Collection Date : 08/12/14 15:25

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Volatile Organics								
1,4-Dioxane	0.74	0.0030	0.015	mg/l		8260B	08/25/14	5
Surrogate Recovery								
Toluene-d8	91.3			% Rec.		8260B	08/25/14	5

U = ND (Not Detected)
MDL = Minimum Detection Limit = LOD = TRRP SDL
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REPORT OF ANALYSIS

Mr. Pete Dressel
Piedmont Geologic
6003 Chapel Hill Road Suite 145
Raleigh, NC 27607

August 27, 2014

ESC Sample # : L717546-04

Date Received : August 22, 2014
Description : NCSU Lot 86 - Water Treatment System Monitoring

Site ID : RALEIGH, NC

Sample ID : MW-38

Project # : 1441

Collected By : Geoffrey Murphey
Collection Date : 08/13/14 11:20

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Volatile Organics								
1,4-Dioxane	0.0042	0.00060	0.0030	mg/l		8260B	08/25/14	1
Surrogate Recovery								
Toluene-d8	91.0			% Rec.		8260B	08/25/14	1

U = ND (Not Detected)
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REPORT OF ANALYSIS

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Piedmont Geologic
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Raleigh, NC 27607

August 27, 2014

ESC Sample # : L717546-05

Site ID : RALEIGH, NC

Project # : 1441

Date Received : August 22, 2014
Description : NCSU Lot 86 - Water Treatment System Monitoring

Sample ID : MW-11I

Collected By : Geoffrey Murphey
Collection Date : 08/13/14 12:57

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Volatile Organics								
1,4-Dioxane	0.084	0.00060	0.0030	mg/l		8260B	08/24/14	1
Surrogate Recovery								
Toluene-d8	91.5			% Rec.		8260B	08/24/14	1

U = ND (Not Detected)
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REPORT OF ANALYSIS

Mr. Pete Dressel
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August 27, 2014

ESC Sample # : L717546-06

Site ID : RALEIGH, NC

Project # : 1441

Date Received : August 22, 2014
Description : NCSU Lot 86 - Water Treatment System Monitoring

Sample ID : MW-46

Collected By : Geoffrey Murphey
Collection Date : 08/13/14 13:40

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Volatile Organics								
1,4-Dioxane	0.0030	0.00060	0.0030	mg/l		8260B	08/24/14	1
Surrogate Recovery								
Toluene-d8	91.3			% Rec.		8260B	08/24/14	1

U = ND (Not Detected)
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REPORT OF ANALYSIS

Mr. Pete Dressel
Piedmont Geologic
6003 Chapel Hill Road Suite 145
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August 27, 2014

ESC Sample # : L717546-07

Site ID : RALEIGH, NC

Project # : 1441

Date Received : August 22, 2014
Description : NCSU Lot 86 - Water Treatment System Monitoring

Sample ID : MW-41I

Collected By : Geoffrey Murphey
Collection Date : 08/13/14 14:22

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Volatile Organics								
1,4-Dioxane	0.00085	0.00060	0.0030	mg/l	J	8260B	08/24/14	1
Surrogate Recovery								
Toluene-d8	91.3			% Rec.		8260B	08/24/14	1

U = ND (Not Detected)
MDL = Minimum Detection Limit = LOD = TRRP SDL
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REPORT OF ANALYSIS

Mr. Pete Dressel
Piedmont Geologic
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August 27, 2014

ESC Sample # : L717546-08

Date Received : August 22, 2014
Description : NCSU Lot 86 - Water Treatment System Monitoring

Site ID : RALEIGH, NC

Sample ID : MW-42S

Project # : 1441

Collected By : Geoffrey Murphey
Collection Date : 08/13/14 14:50

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Volatile Organics								
1,4-Dioxane	0.0014	0.00060	0.0030	mg/l	J	8260B	08/24/14	1
Surrogate Recovery								
Toluene-d8	91.2			% Rec.		8260B	08/24/14	1

U = ND (Not Detected)
MDL = Minimum Detection Limit = LOD = TRRP SDL
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August 27, 2014

ESC Sample # : L717546-09

Site ID : RALEIGH, NC

Project # : 1441

Date Received : August 22, 2014
Description : NCSU Lot 86 - Water Treatment System Monitoring

Sample ID : MW-43D

Collected By : Geoffrey Murphey
Collection Date : 08/13/14 16:09

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Volatile Organics								
1,4-Dioxane	U	0.00060	0.0030	mg/l		8260B	08/24/14	1
Surrogate Recovery								
Toluene-d8	91.2			% Rec.		8260B	08/24/14	1

U = ND (Not Detected)
MDL = Minimum Detection Limit = LOD = TRRP SDL
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REPORT OF ANALYSIS

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Piedmont Geologic
6003 Chapel Hill Road Suite 145
Raleigh, NC 27607

August 27, 2014

ESC Sample # : L717546-10

Date Received : August 22, 2014
Description : NCSU Lot 86 - Water Treatment System Monitoring

Site ID : RALEIGH, NC

Sample ID : MW-47

Project # : 1441

Collected By : Geoffrey Murphey
Collection Date : 08/14/14 09:30

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Volatile Organics								
1,4-Dioxane	0.00060	0.00060	0.0030	mg/l	J	8260B	08/25/14	1
Surrogate Recovery								
Toluene-d8	91.1			% Rec.		8260B	08/25/14	1

U = ND (Not Detected)
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REPORT OF ANALYSIS

Mr. Pete Dressel
Piedmont Geologic
6003 Chapel Hill Road Suite 145
Raleigh, NC 27607

August 27, 2014

ESC Sample # : L717546-11

Date Received : August 22, 2014
Description : NCSU Lot 86 - Water Treatment System Monitoring

Site ID : RALEIGH, NC

Sample ID : MW-16D

Project # : 1441

Collected By : Geoffrey Murphey
Collection Date : 08/14/14 11:05

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Volatile Organics								
1,4-Dioxane	0.55	0.00060	0.0030	mg/l		8260B	08/25/14	1
Surrogate Recovery								
Toluene-d8	91.2			% Rec.		8260B	08/25/14	1

U = ND (Not Detected)
MDL = Minimum Detection Limit = LOD = TRRP SDL
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REPORT OF ANALYSIS

Mr. Pete Dressel
Piedmont Geologic
6003 Chapel Hill Road Suite 145
Raleigh, NC 27607

August 27, 2014

ESC Sample # : L717546-12

Date Received : August 22, 2014
Description : NCSU Lot 86 - Water Treatment System Monitoring

Site ID : RALEIGH, NC

Sample ID : MW-13D

Project # : 1441

Collected By : Geoffrey Murphey
Collection Date : 08/14/14 12:10

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Volatile Organics								
1,4-Dioxane	0.0075	0.00060	0.0030	mg/l		8260B	08/25/14	1
Surrogate Recovery								
Toluene-d8	90.9			% Rec.		8260B	08/25/14	1

U = ND (Not Detected)
MDL = Minimum Detection Limit = LOD = TRRP SDL
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL
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REPORT OF ANALYSIS

Mr. Pete Dressel
Piedmont Geologic
6003 Chapel Hill Road Suite 145
Raleigh, NC 27607

August 27, 2014

ESC Sample # : L717546-13

Site ID : RALEIGH, NC

Project # : 1441

Date Received : August 22, 2014
Description : NCSU Lot 86 - Water Treatment System Monitoring

Sample ID : MW-43S

Collected By : Geoffrey Murphey
Collection Date : 08/14/14 13:14

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Volatile Organics								
1,4-Dioxane	U	0.00060	0.0030	mg/l		8260B	08/25/14	1
Surrogate Recovery								
Toluene-d8	90.9			% Rec.		8260B	08/25/14	1

U = ND (Not Detected)
MDL = Minimum Detection Limit = LOD = TRRP SDL
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REPORT OF ANALYSIS

Mr. Pete Dressel
Piedmont Geologic
6003 Chapel Hill Road Suite 145
Raleigh, NC 27607

August 27, 2014

ESC Sample # : L717546-14

Date Received : August 22, 2014
Description : NCSU Lot 86 - Water Treatment System Monitoring

Site ID : RALEIGH, NC

Sample ID : MW-45R

Project # : 1441

Collected By : Geoffrey Murphey
Collection Date : 08/14/14 14:05

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Volatile Organics								
1,4-Dioxane	U	0.00060	0.0030	mg/l		8260B	08/25/14	1
Surrogate Recovery								
Toluene-d8	90.9			% Rec.		8260B	08/25/14	1

U = ND (Not Detected)
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REPORT OF ANALYSIS

Mr. Pete Dressel
Piedmont Geologic
6003 Chapel Hill Road Suite 145
Raleigh, NC 27607

August 27, 2014

ESC Sample # : L717546-15

Site ID : RALEIGH, NC

Project # : 1441

Date Received : August 22, 2014
Description : NCSU Lot 86 - Water Treatment System Monitoring

Sample ID : MW-35D

Collected By : Geoffrey Murphey
Collection Date : 08/14/14 16:20

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Volatile Organics								
1,4-Dioxane	U	0.00060	0.0030	mg/l		8260B	08/25/14	1
Surrogate Recovery								
Toluene-d8	90.9			% Rec.		8260B	08/25/14	1

U = ND (Not Detected)
MDL = Minimum Detection Limit = LOD = TRRP SDL
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REPORT OF ANALYSIS

Mr. Pete Dressel
Piedmont Geologic
6003 Chapel Hill Road Suite 145
Raleigh, NC 27607

August 27, 2014

ESC Sample # : L717546-16

Site ID : RALEIGH, NC

Project # : 1441

Date Received : August 22, 2014
Description : NCSU Lot 86 - Water Treatment System Monitoring

Sample ID : MW-35S

Collected By : Geoffrey Murphey
Collection Date : 08/15/14 09:04

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Volatile Organics								
1,4-Dioxane	U	0.00060	0.0030	mg/l		8260B	08/25/14	1
Surrogate Recovery								
Toluene-d8	90.8			% Rec.		8260B	08/25/14	1

U = ND (Not Detected)
MDL = Minimum Detection Limit = LOD = TRRP SDL
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL
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REPORT OF ANALYSIS

Mr. Pete Dressel
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Raleigh, NC 27607

August 27, 2014

ESC Sample # : L717546-17

Site ID : RALEIGH, NC

Project # : 1441

Date Received : August 22, 2014
Description : NCSU Lot 86 - Water Treatment System Monitoring

Sample ID : MW-41S

Collected By : Geoffrey Murphey
Collection Date : 08/15/14 10:02

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Volatile Organics								
1,4-Dioxane	U	0.00060	0.0030	mg/l		8260B	08/25/14	1
Surrogate Recovery								
Toluene-d8	91.0			% Rec.		8260B	08/25/14	1

U = ND (Not Detected)
MDL = Minimum Detection Limit = LOD = TRRP SDL
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL
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REPORT OF ANALYSIS

Mr. Pete Dressel
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August 27, 2014

ESC Sample # : L717546-18

Site ID : RALEIGH, NC

Project # : 1441

Date Received : August 22, 2014
Description : NCSU Lot 86 - Water Treatment System Monitoring

Sample ID : MW-41D

Collected By : Geoffrey Murphey
Collection Date : 08/15/14 11:35

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Volatile Organics								
1,4-Dioxane	0.0028	0.00060	0.0030	mg/l	J	8260B	08/25/14	1
Surrogate Recovery								
Toluene-d8	90.7			% Rec.		8260B	08/25/14	1

U = ND (Not Detected)
MDL = Minimum Detection Limit = LOD = TRRP SDL
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL
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REPORT OF ANALYSIS

Mr. Pete Dressel
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August 27, 2014

ESC Sample # : L717546-19

Site ID : RALEIGH, NC

Project # : 1441

Date Received : August 22, 2014
Description : NCSU Lot 86 - Water Treatment System Monitoring

Sample ID : MW-16I

Collected By : Geoffrey Murphey
Collection Date : 08/15/14 13:35

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Volatile Organics								
1,4-Dioxane	1.4	0.012	0.060	mg/l		8260B	08/27/14	20
Surrogate Recovery								
Toluene-d8	89.2			% Rec.		8260B	08/27/14	20

U = ND (Not Detected)
MDL = Minimum Detection Limit = LOD = TRRP SDL
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL
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August 27, 2014

ESC Sample # : L717546-20

Site ID : RALEIGH, NC

Project # : 1441

Date Received : August 22, 2014
Description : NCSU Lot 86 - Water Treatment System Monitoring

Sample ID : MW-27

Collected By : Geoffrey Murphey
Collection Date : 08/15/14 14:15

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Volatile Organics								
1,4-Dioxane	0.14	0.00060	0.0030	mg/l		8260B	08/25/14	1
Surrogate Recovery								
Toluene-d8	90.4			% Rec.		8260B	08/25/14	1

U = ND (Not Detected)
MDL = Minimum Detection Limit = LOD = TRRP SDL
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL
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REPORT OF ANALYSIS

Mr. Pete Dressel
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August 27, 2014

ESC Sample # : L717546-21

Site ID : RALEIGH, NC

Project # : 1441

Date Received : August 22, 2014
Description : NCSU Lot 86 - Water Treatment System Monitoring

Sample ID : MW-42I

Collected By : Geoffrey Murphey
Collection Date : 08/15/14 15:05

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Volatile Organics								
1,4-Dioxane	0.76	0.00060	0.0030	mg/l		8260B	08/25/14	1
Surrogate Recovery								
Toluene-d8	91.0			% Rec.		8260B	08/25/14	1

U = ND (Not Detected)
MDL = Minimum Detection Limit = LOD = TRRP SDL
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL
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Mr. Pete Dressel
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August 27, 2014

ESC Sample # : L717546-22

Site ID : RALEIGH, NC

Project # : 1441

Date Received : August 22, 2014
Description : NCSU Lot 86 - Water Treatment System Monitoring

Sample ID : MW-8

Collected By : Geoffrey Murphey
Collection Date : 08/15/14 16:15

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Volatile Organics								
1,4-Dioxane	0.0072	0.00060	0.0030	mg/l		8260B	08/25/14	1
Surrogate Recovery								
Toluene-d8	88.1			% Rec.		8260B	08/25/14	1

U = ND (Not Detected)
MDL = Minimum Detection Limit = LOD = TRRP SDL
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL
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August 27, 2014

ESC Sample # : L717546-23

Site ID : RALEIGH, NC

Project # : 1441

Date Received : August 22, 2014
Description : NCSU Lot 86 - Water Treatment System Monitoring

Sample ID : MW-63

Collected By : Geoffrey Murphey
Collection Date : 08/15/14 16:30

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Volatile Organics								
1,4-Dioxane	0.0010	0.00060	0.0030	mg/l	J	8260B	08/25/14	1
Surrogate Recovery								
Toluene-d8	90.0			% Rec.		8260B	08/25/14	1

U = ND (Not Detected)
MDL = Minimum Detection Limit = LOD = TRRP SDL
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August 27, 2014

ESC Sample # : L717546-24

Site ID : RALEIGH, NC

Project # : 1441

Date Received : August 22, 2014
Description : NCSU Lot 86 - Water Treatment System Monitoring

Sample ID : MW-36S

Collected By : Geoffrey Murphey
Collection Date : 08/18/14 09:27

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Volatile Organics								
1,4-Dioxane	0.025	0.00060	0.0030	mg/l		8260B	08/25/14	1
Surrogate Recovery								
Toluene-d8	87.8			% Rec.		8260B	08/25/14	1

U = ND (Not Detected)
MDL = Minimum Detection Limit = LOD = TRRP SDL
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August 27, 2014

ESC Sample # : L717546-25

Site ID : RALEIGH, NC

Project # : 1441

Date Received : August 22, 2014
Description : NCSU Lot 86 - Water Treatment System Monitoring

Sample ID : MW-36D

Collected By : Geoffrey Murphey
Collection Date : 08/18/14 10:48

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Volatile Organics								
1,4-Dioxane	0.0034	0.00060	0.0030	mg/l		8260B	08/25/14	1
Surrogate Recovery								
Toluene-d8	90.1			% Rec.		8260B	08/25/14	1

U = ND (Not Detected)
MDL = Minimum Detection Limit = LOD = TRRP SDL
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL
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REPORT OF ANALYSIS

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August 27, 2014

ESC Sample # : L717546-26

Site ID : RALEIGH, NC

Project # : 1441

Date Received : August 22, 2014
Description : NCSU Lot 86 - Water Treatment System Monitoring

Sample ID : MW-61

Collected By : Geoffrey Murphey
Collection Date : 08/18/14 10:48

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Volatile Organics								
1,4-Dioxane	U	0.00060	0.0030	mg/l		8260B	08/25/14	1
Surrogate Recovery								
Toluene-d8	90.1			% Rec.		8260B	08/25/14	1

U = ND (Not Detected)
MDL = Minimum Detection Limit = LOD = TRRP SDL
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL
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REPORT OF ANALYSIS

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August 27, 2014

ESC Sample # : L717546-27

Site ID : RALEIGH, NC

Project # : 1441

Date Received : August 22, 2014
Description : NCSU Lot 86 - Water Treatment System Monitoring

Sample ID : MW-17I

Collected By : Geoffrey Murphey
Collection Date : 08/18/14 13:00

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Volatile Organics								
1,4-Dioxane	0.25	0.00060	0.0030	mg/l		8260B	08/25/14	1
Surrogate Recovery								
Toluene-d8	84.3			% Rec.		8260B	08/25/14	1

U = ND (Not Detected)
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REPORT OF ANALYSIS

Mr. Pete Dressel
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August 27, 2014

ESC Sample # : L717546-28

Site ID : RALEIGH, NC

Project # : 1441

Date Received : August 22, 2014
Description : NCSU Lot 86 - Water Treatment System Monitoring

Sample ID : MW-17D

Collected By : Geoffrey Murphey
Collection Date : 08/18/14 14:10

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Volatile Organics								
1,4-Dioxane	0.019	0.00060	0.0030	mg/l		8260B	08/27/14	1
Surrogate Recovery								
Toluene-d8	86.6			% Rec.		8260B	08/27/14	1

U = ND (Not Detected)
MDL = Minimum Detection Limit = LOD = TRRP SDL
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REPORT OF ANALYSIS

Mr. Pete Dressel
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August 27, 2014

ESC Sample # : L717546-29

Site ID : RALEIGH, NC

Project # : 1441

Date Received : August 22, 2014
Description : NCSU Lot 86 - Water Treatment System Monitoring

Sample ID : MW-12I

Collected By : Geoffrey Murphey
Collection Date : 08/18/14 15:37

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Volatile Organics								
1,4-Dioxane	10.	0.12	0.60	mg/l		8260B	08/27/14	200
Surrogate Recovery								
Toluene-d8	89.4			% Rec.		8260B	08/27/14	200

U = ND (Not Detected)
MDL = Minimum Detection Limit = LOD = TRRP SDL
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL
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REPORT OF ANALYSIS

Mr. Pete Dressel
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6003 Chapel Hill Road Suite 145
Raleigh, NC 27607

August 27, 2014

ESC Sample # : L717546-30

Date Received : August 22, 2014
Description : NCSU Lot 86 - Water Treatment System Monitoring

Site ID : RALEIGH, NC

Sample ID : MW-62

Project # : 1441

Collected By : Geoffrey Murphey
Collection Date : 08/18/14 15:37

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Volatile Organics								
1,4-Dioxane	13.	0.12	0.60	mg/l		8260B	08/24/14	200
Surrogate Recovery								
Toluene-d8	91.2			% Rec.		8260B	08/24/14	200

U = ND (Not Detected)
MDL = Minimum Detection Limit = LOD = TRRP SDL
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL
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REPORT OF ANALYSIS

Mr. Pete Dressel
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August 27, 2014

ESC Sample # : L717546-31

Date Received : August 22, 2014
Description : NCSU Lot 86 - Water Treatment System Monitoring

Site ID : RALEIGH, NC

Sample ID : MW-16S

Project # : 1441

Collected By : Geoffrey Murphey
Collection Date : 08/19/14 08:40

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Volatile Organics								
1,4-Dioxane	0.10	0.00060	0.0030	mg/l		8260B	08/24/14	1
Surrogate Recovery								
Toluene-d8	87.2			% Rec.		8260B	08/24/14	1

U = ND (Not Detected)
MDL = Minimum Detection Limit = LOD = TRRP SDL
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL
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REPORT OF ANALYSIS

Mr. Pete Dressel
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6003 Chapel Hill Road Suite 145
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August 27, 2014

ESC Sample # : L717546-32

Site ID : RALEIGH, NC

Project # : 1441

Date Received : August 22, 2014
Description : NCSU Lot 86 - Water Treatment System Monitoring

Sample ID : MW-12S

Collected By : Geoffrey Murphey
Collection Date : 08/19/14 09:10

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Volatile Organics								
1,4-Dioxane	0.15	0.012	0.060	mg/l		8260B	08/24/14	20
Surrogate Recovery								
Toluene-d8	91.5			% Rec.		8260B	08/24/14	20

U = ND (Not Detected)
MDL = Minimum Detection Limit = LOD = TRRP SDL
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL
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REPORT OF ANALYSIS

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August 27, 2014

ESC Sample # : L717546-33

Site ID : RALEIGH, NC

Project # : 1441

Date Received : August 22, 2014
Description : NCSU Lot 86 - Water Treatment System Monitoring

Sample ID : RW-10

Collected By : Geoffrey Murphey
Collection Date : 08/19/14 10:15

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Volatile Organics								
1,4-Dioxane	1.6	0.012	0.060	mg/l		8260B	08/24/14	20
Surrogate Recovery								
Toluene-d8	89.7			% Rec.		8260B	08/24/14	20

U = ND (Not Detected)
MDL = Minimum Detection Limit = LOD = TRRP SDL
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL
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REPORT OF ANALYSIS

Mr. Pete Dressel
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August 27, 2014

ESC Sample # : L717546-34

Site ID : RALEIGH, NC

Project # : 1441

Date Received : August 22, 2014
Description : NCSU Lot 86 - Water Treatment System Monitoring

Sample ID : MW-37

Collected By : Geoffrey Murphey
Collection Date : 08/19/14 10:50

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Volatile Organics								
1,4-Dioxane	10.	0.12	0.60	mg/l		8260B	08/24/14	200
Surrogate Recovery								
Toluene-d8	90.6			% Rec.		8260B	08/24/14	200

U = ND (Not Detected)
MDL = Minimum Detection Limit = LOD = TRRP SDL
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL
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August 27, 2014

ESC Sample # : L717546-35

Site ID : RALEIGH, NC

Project # : 1441

Date Received : August 22, 2014
Description : NCSU Lot 86 - Water Treatment System Monitoring

Sample ID : MW-3

Collected By : Geoffrey Murphey
Collection Date : 08/19/14 11:35

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Volatile Organics								
1,4-Dioxane	0.62	0.00060	0.0030	mg/l		8260B	08/27/14	1
Surrogate Recovery								
Toluene-d8	60.2			% Rec.	J2	8260B	08/27/14	1

U = ND (Not Detected)
MDL = Minimum Detection Limit = LOD = TRRP SDL
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL
Note:
The reported analytical results relate only to the sample submitted.
This report shall not be reproduced, except in full, without the written approval from ESC.
.
Reported: 08/27/14 13:29 Printed: 08/27/14 13:30
L717546-35 (V8260LL14D) - surrogate failure confirmed from previous run

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Pete Dressel
Piedmont Geologic
6003 Chapel Hill Road Suite 145
Raleigh, NC 27607

August 27, 2014

ESC Sample # : L717546-36

Date Received : August 22, 2014
Description : NCSU Lot 86 - Water Treatment System Monitoring

Site ID : RALEIGH, NC

Sample ID : MW-64

Project # : 1441

Collected By : Geoffrey Murphey
Collection Date : 08/19/14 12:00

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Volatile Organics								
1,4-Dioxane	0.0090	0.00060	0.0030	mg/l		8260B	08/24/14	1
Surrogate Recovery								
Toluene-d8	90.6			% Rec.		8260B	08/24/14	1

U = ND (Not Detected)
MDL = Minimum Detection Limit = LOD = TRRP SDL
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL
Note:
The reported analytical results relate only to the sample submitted.
This report shall not be reproduced, except in full, without the written approval from ESC.
.
Reported: 08/27/14 13:29 Printed: 08/27/14 13:30

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(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Pete Dressel
Piedmont Geologic
6003 Chapel Hill Road Suite 145
Raleigh, NC 27607

August 27, 2014

ESC Sample # : L717546-37

Site ID : RALEIGH, NC

Project # : 1441

Date Received : August 22, 2014
Description : NCSU Lot 86 - Water Treatment System Monitoring

Sample ID : RW-1

Collected By : Geoffrey Murphey
Collection Date : 08/19/14 14:45

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Volatile Organics								
1,4-Dioxane	0.050	0.00060	0.0030	mg/l		8260B	08/24/14	1
Surrogate Recovery								
Toluene-d8	87.0			% Rec.		8260B	08/24/14	1

U = ND (Not Detected)
MDL = Minimum Detection Limit = LOD = TRRP SDL
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL
Note:
The reported analytical results relate only to the sample submitted.
This report shall not be reproduced, except in full, without the written approval from ESC.
.
Reported: 08/27/14 13:29 Printed: 08/27/14 13:30

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L717546-07	WG739002	SAMP	1,4-Dioxane	R2980270	J
L717546-08	WG739002	SAMP	1,4-Dioxane	R2980270	J
L717546-10	WG739001	SAMP	1,4-Dioxane	R2980805	J
L717546-18	WG739001	SAMP	1,4-Dioxane	R2980805	J
L717546-23	WG739001	SAMP	1,4-Dioxane	R2980805	J
L717546-35	WG739204	SAMP	Toluene-d8	R2981711	J2

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J	(EPA) - Estimated value below the lowest calibration point. Confidence correlates with concentration.
J2	Surrogate recovery limits have been exceeded; values are outside lower control limits

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods,it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.

Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Differrence.

Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromotography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.

TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

Summary of Remarks For Samples Printed
08/27/14 at 13:30:19

TSR Signing Reports: 350
R5 - Desired TAT

MDL/RDL; CDG, not CDICP for GW

Sample: L717546-01 Account: PIEGEO Received: 08/22/14 09:00 Due Date: 08/29/14 00:00 RPT Date: 08/27/14 13:29
PIEGEO070714S
Sample: L717546-02 Account: PIEGEO Received: 08/22/14 09:00 Due Date: 08/29/14 00:00 RPT Date: 08/27/14 13:29
PIEGEO070714S
Sample: L717546-03 Account: PIEGEO Received: 08/22/14 09:00 Due Date: 08/29/14 00:00 RPT Date: 08/27/14 13:29
PIEGEO070714S
Sample: L717546-04 Account: PIEGEO Received: 08/22/14 09:00 Due Date: 08/29/14 00:00 RPT Date: 08/27/14 13:29
PIEGEO070714S
Sample: L717546-05 Account: PIEGEO Received: 08/22/14 09:00 Due Date: 08/29/14 00:00 RPT Date: 08/27/14 13:29
PIEGEO070714S
Sample: L717546-06 Account: PIEGEO Received: 08/22/14 09:00 Due Date: 08/29/14 00:00 RPT Date: 08/27/14 13:29
PIEGEO070714S
Sample: L717546-07 Account: PIEGEO Received: 08/22/14 09:00 Due Date: 08/29/14 00:00 RPT Date: 08/27/14 13:29
PIEGEO070714S
Sample: L717546-08 Account: PIEGEO Received: 08/22/14 09:00 Due Date: 08/29/14 00:00 RPT Date: 08/27/14 13:29
PIEGEO070714S
Sample: L717546-09 Account: PIEGEO Received: 08/22/14 09:00 Due Date: 08/29/14 00:00 RPT Date: 08/27/14 13:29
PIEGEO070714S
Sample: L717546-10 Account: PIEGEO Received: 08/22/14 09:00 Due Date: 08/29/14 00:00 RPT Date: 08/27/14 13:29
PIEGEO070714S
Sample: L717546-11 Account: PIEGEO Received: 08/22/14 09:00 Due Date: 08/29/14 00:00 RPT Date: 08/27/14 13:29
PIEGEO070714S
Sample: L717546-12 Account: PIEGEO Received: 08/22/14 09:00 Due Date: 08/29/14 00:00 RPT Date: 08/27/14 13:29
PIEGEO070714S
Sample: L717546-13 Account: PIEGEO Received: 08/22/14 09:00 Due Date: 08/29/14 00:00 RPT Date: 08/27/14 13:29
PIEGEO070714S
Sample: L717546-14 Account: PIEGEO Received: 08/22/14 09:00 Due Date: 08/29/14 00:00 RPT Date: 08/27/14 13:29
PIEGEO070714S
Sample: L717546-15 Account: PIEGEO Received: 08/22/14 09:00 Due Date: 08/29/14 00:00 RPT Date: 08/27/14 13:29
PIEGEO070714S
Sample: L717546-16 Account: PIEGEO Received: 08/22/14 09:00 Due Date: 08/29/14 00:00 RPT Date: 08/27/14 13:29
PIEGEO070714S
Sample: L717546-17 Account: PIEGEO Received: 08/22/14 09:00 Due Date: 08/29/14 00:00 RPT Date: 08/27/14 13:29
PIEGEO070714S
Sample: L717546-18 Account: PIEGEO Received: 08/22/14 09:00 Due Date: 08/29/14 00:00 RPT Date: 08/27/14 13:29
PIEGEO070714S
Sample: L717546-19 Account: PIEGEO Received: 08/22/14 09:00 Due Date: 08/29/14 00:00 RPT Date: 08/27/14 13:29
PIEGEO070714S
Sample: L717546-20 Account: PIEGEO Received: 08/22/14 09:00 Due Date: 08/29/14 00:00 RPT Date: 08/27/14 13:29
PIEGEO070714S
Sample: L717546-21 Account: PIEGEO Received: 08/22/14 09:00 Due Date: 08/29/14 00:00 RPT Date: 08/27/14 13:29
PIEGEO070714S
Sample: L717546-22 Account: PIEGEO Received: 08/22/14 09:00 Due Date: 08/29/14 00:00 RPT Date: 08/27/14 13:29
PIEGEO070714S
Sample: L717546-23 Account: PIEGEO Received: 08/22/14 09:00 Due Date: 08/29/14 00:00 RPT Date: 08/27/14 13:29
PIEGEO070714S
Sample: L717546-24 Account: PIEGEO Received: 08/22/14 09:00 Due Date: 08/29/14 00:00 RPT Date: 08/27/14 13:29
PIEGEO070714S
Sample: L717546-25 Account: PIEGEO Received: 08/22/14 09:00 Due Date: 08/29/14 00:00 RPT Date: 08/27/14 13:29
PIEGEO070714S
Sample: L717546-26 Account: PIEGEO Received: 08/22/14 09:00 Due Date: 08/29/14 00:00 RPT Date: 08/27/14 13:29
PIEGEO070714S
Sample: L717546-27 Account: PIEGEO Received: 08/22/14 09:00 Due Date: 08/29/14 00:00 RPT Date: 08/27/14 13:29
PIEGEO070714S
Sample: L717546-28 Account: PIEGEO Received: 08/22/14 09:00 Due Date: 08/29/14 00:00 RPT Date: 08/27/14 13:29
PIEGEO070714S
Sample: L717546-29 Account: PIEGEO Received: 08/22/14 09:00 Due Date: 08/29/14 00:00 RPT Date: 08/27/14 13:29
PIEGEO070714S
Sample: L717546-30 Account: PIEGEO Received: 08/22/14 09:00 Due Date: 08/29/14 00:00 RPT Date: 08/27/14 13:29
PIEGEO070714S
Sample: L717546-31 Account: PIEGEO Received: 08/22/14 09:00 Due Date: 08/29/14 00:00 RPT Date: 08/27/14 13:29
PIEGEO070714S
Sample: L717546-32 Account: PIEGEO Received: 08/22/14 09:00 Due Date: 08/29/14 00:00 RPT Date: 08/27/14 13:29
PIEGEO070714S
Sample: L717546-33 Account: PIEGEO Received: 08/22/14 09:00 Due Date: 08/29/14 00:00 RPT Date: 08/27/14 13:29
PIEGEO070714S
Sample: L717546-34 Account: PIEGEO Received: 08/22/14 09:00 Due Date: 08/29/14 00:00 RPT Date: 08/27/14 13:29
PIEGEO070714S
Sample: L717546-35 Account: PIEGEO Received: 08/22/14 09:00 Due Date: 08/29/14 00:00 RPT Date: 08/27/14 13:29
PIEGEO070714S
Sample: L717546-36 Account: PIEGEO Received: 08/22/14 09:00 Due Date: 08/29/14 00:00 RPT Date: 08/27/14 13:29
PIEGEO070714S
Sample: L717546-37 Account: PIEGEO Received: 08/22/14 09:00 Due Date: 08/29/14 00:00 RPT Date: 08/27/14 13:29
PIEGEO070714S

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Est. 1970

Piedmont Geologic
Mr. Pete Dressel
6003 Chapel Hill Road Suite 145

Raleigh, NC 27607

Quality Assurance Report
Level II

L717546

August 27, 2014

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
1,4-Dioxane	< .003	mg/l			WG739002	08/24/14 14:14
Toluene-d8		% Rec.	91.30	70-130	WG739002	08/24/14 14:14
1,4-Dioxane	< .003	mg/l			WG739001	08/25/14 10:30
Toluene-d8		% Rec.	90.70	70-130	WG739001	08/25/14 10:30
1,4-Dioxane	< .003	mg/l			WG739204	08/27/14 09:31
Toluene-d8		% Rec.	89.80	70-130	WG739204	08/27/14 09:31

Laboratory Control Sample

Analyte	Units	Known Val	Result	% Rec	Limit	Batch
1,4-Dioxane	mg/l	.05	0.0444	88.8	70-130	WG739002
Toluene-d8				91.50	70-130	WG739002
1,4-Dioxane	mg/l	.05	0.0385	77.0	70-130	WG739001
Toluene-d8				91.00	70-130	WG739001
1,4-Dioxane	mg/l	.05	0.0482	96.4	70-130	WG739204
Toluene-d8				89.50	70-130	WG739204

Laboratory Control Sample Duplicate

Analyte	Units	Result	Ref	%Rec	Limit	RPD	Limit	Batch
1,4-Dioxane	mg/l	0.0404	0.0444	81.0	70-130	9.29	25	WG739002
Toluene-d8				91.40	70-130			WG739002
1,4-Dioxane	mg/l	0.0413	0.0385	82.0	70-130	6.90	25	WG739001
Toluene-d8				90.90	70-130			WG739001
1,4-Dioxane	mg/l	0.0554	0.0482	111.	70-130	14.0	25	WG739204
Toluene-d8				89.70	70-130			WG739204

Matrix Spike

Analyte	Units	MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
1,4-Dioxane	mg/l	0.0484	0.0149	.05	67.0	0-200	L717546-01	WG739002
Toluene-d8					91.80	70-130		WG739002
1,4-Dioxane	mg/l	0.0421	0.000604	.05	83.0	0-200	L717546-10	WG739001
Toluene-d8					91.10	70-130		WG739001
1,4-Dioxane	mg/l	7.61	3.15	.05	89.0	0-200	L717379-20	WG739204
Toluene-d8					90.00	70-130		WG739204

Matrix Spike Duplicate

Analyte	Units	MSD	Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
1,4-Dioxane	mg/l	0.0437	0.0484	57.6	0-200	10.1	42	L717546-01	WG739002
Toluene-d8				91.60	70-130				WG739002

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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Piedmont Geologic
Mr. Pete Dressel
6003 Chapel Hill Road Suite 145

Raleigh, NC 27607

Quality Assurance Report
Level II

L717546

August 27, 2014

Analyte	Units	MSD	Matrix Spike Duplicate Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
1,4-Dioxane	mg/l	0.0433	0.0421	85.5	0-200	3.02	42	L717546-10	WG739001
Toluene-d8				91.00	70-130				WG739001
1,4-Dioxane	mg/l	8.32	7.61	103.	0-200	8.95	42	L717379-20	WG739204
Toluene-d8				89.70	70-130				WG739204

Batch number /Run number / Sample number cross reference

WG739002: R2980270: L717546-01 02 05 06 07 08 09 30 31 32 33 34 36 37
WG739001: R2980805: L717546-03 04 10 11 12 13 14 15 16 17 18 20 21 22 23 24 25 26 27
WG739204: R2981711: L717546-19 28 29 35

* * Calculations are performed prior to rounding of reported values.
* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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Piedmont Geologic
Mr. Pete Dressel
6003 Chapel Hill Road Suite 145

Raleigh, NC 27607

Quality Assurance Report
Level II

L717546

August 27, 2014

The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.

Piedmont Geologic

6003 Chapel Hill Road Suite 145
Raleigh, NC 27607

Billing Information:
Accounts Payable
6003 Chapel Hill Rd Ste 145
Raleigh, NC 27607

Report to: Mr. Pete Dressel

Email To: pjdressel@piedmontgeologic.com

Project Description: NCSU Lot 86 - Water Treatment System Mon

City/State Collected: Raleigh, NC

Phone: 919-854-9700
Fax: 919-854-9532

Client Project # ~~1347~~ 1441

Lab Project # PIEGEO-NCSU LOT 86

Collected by (print): Geoffrey Murphey

Site/Facility ID # RALEIGH, NC

P.O. # ~~1347~~ 1441

Collected by (signature):

Immediately Packed on Ice N___ Y___

Rush? (Lab MUST Be Notified)
___ Same Day 200%
___ Next Day 100%
___ Two Day 50%
___ Three Day 25%

Date Results Needed

Email? ___No X__Yes
FAX? ___No ___Yes

Analysis / Container / Preservative

Chain of Custody Page 1 of 4

ESC LAB SCIENCES
YOUR LAB OF CHOICE
12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# L717546

A173

Acctnum: PIEGEO
Template: T95813
Prelogin: P477207
TSR: 350 - Jimmy Hunt
PB: 7/28/14 MG
Shipped Via: FedEx Ground

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	V8260AP9+1,4-Dioxane 40mlAmb-HCl	V8260LL14D 40mlAmb-HCl (1,4-D 8260SIM)									Rem./Contaminant	Sample # (lab only)
MW-34DR	Grab	GW		8/11/14	1730	2		X										-01
MW-12D		GW		8/12/14	934	2		X										-02
RW-6		GW		↓	1525	2		X										-03
MW-38		GW		8/13/14	1120	2		X										-04
MW-11I		GW			1257	2		X										-05
MW-46		GW			1340	2		X										-06
MW-41I		GW			1422	2		X										-07
MW-42S		GW			1450	2		X										-08
MW-43D		GW		↓	1609	2		X										-09
MW-47	↓	GW		8/14/14	930	2		X										-10

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Hold #

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	8/21/14	16:10	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)
	8/21/14	17:45	

Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☑ Sub

Temp: 2.7 °C Bottles Received: 7 4oz + TB

Date: 8-22-14 Time: 0900

Condition: (lab use only) SR3

COC Seal Intact: ___Y ___N ___NA

pH Checked: NCF:

Piedmont Geologic

6003 Chapel Hill Road Suite 145
Raleigh, NC 27607

Billing Information:
Accounts Payable
6003 Chapel Hill Rd Ste 145
Raleigh, NC 27607

Report to: Mr. Pete Dressel

Email To: pjdressel@piedmontgeologic.com

Project Description: NCSU Lot 86 - Water Treatment System Mon

City/State Collected: Raleigh, NC

Phone: 919-854-9700
Fax: 919-854-9532

Client Project # ~~1347~~ 1441

Lab Project # PIEGEO-NCSU LOT 86

Collected by (print): Geoffrey Murphey

Site/Facility ID # RALEIGH, NC

P.O. # ~~1347~~ 1441

Collected by (signature): [signature]
Immediately Packed on Ice N ___ Y ___

Rush? (Lab MUST Be Notified)
___ Same Day 200%
___ Next Day 100%
___ Two Day 50%
___ Three Day 25%

Date Results Needed

Email? ___No X__Yes
FAX? ___No ___Yes

Analysis / Container / Preservative

Chain of Custody Page 2 of 4

ESC LAB SCIENCES
YOUR LAB OF CHOICE
12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# L717546

Table #

Acctnum: PIEGEO
Template: T95813
Prelogin: P477207
TSR: 350 - Jimmy Hunt
PB: 7/28/14 MO

Shipped Via: FedEx Ground

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	V8260AP91,4-Dioxane 40mlAmb-HCl	V8260LL14D 40mlAmb-HCl (1,4-D 8260 SIM)								Rem./Contaminant	Sample # (lab only)
MW-16D	Grab	GW		8/14/14	1105	2	X	X									-11
MW-13D		GW			1210	2	X										-12
MW-43S		GW			1314	2	X										-13
MW-45R		GW			1405	2	X										-14
MW-35D		GW			1620	2	X										-15
MW-35S		GW		8/15/14	904	2	X										-16
MW-41S		GW			1002	2	X										-17
MW-41D		GW			1135	2	X										-18
MW-16I		GW			1335	2	X										-19
MW-27		GW			1415	2	X										-20

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Hold #

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☑ Sub	Condition: (lab use only)
[signature]	8/20/14	15:10	[signature]		
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 2.7 °C Bottles Received: 74 vp + 17 AG	COC Seal Intact: ✓ Y ___N ___NA
Relinquished by : (Signature) [signature]	Date: 8/21/14	Time: 07:45	Received for lab by: (Signature) [signature]	Date: 8-22-14 Time: 0900	pH Checked: / NCF:

Piedmont Geologic

6003 Chapel Hill Road Suite 145
Raleigh, NC 27607

Billing Information:
Accounts Payable
6003 Chapel Hill Rd Ste 145
Raleigh, NC 27607

Report to: Mr. Pete Dressel

Email To: pjdressel@piedmontgeologic.com

Project Description: NCSU Lot 86 - Water Treatment System Mon

City/State Collected: Raleigh, NC

Phone: 919-854-9700
Fax: 919-854-9532

Client Project # ~~1347~~ 1441

Lab Project # PIEGEO-NCSU LOT 86

Collected by (print): Geoffrey Murphrey

Site/Facility ID # RALEIGH, NC

P.O. # ~~1347~~ 1441

Collected by (signature): [signature]

Immediately Packed on Ice N ___ Y ___

Rush? (Lab MUST Be Notified)
___ Same Day 200%
___ Next Day 100%
___ Two Day 50%
___ Three Day 25%

Date Results Needed

Email? ___No X__Yes
FAX? ___No ___Yes

Analysis / Container / Preservative

Chain of Custody Page 3 of 4

ESC LAB SCIENCES
YOUR LAB OF CHOICE
12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# L717546

Table #

Acctnum: PIEGEO
Template: T95813
Prelogin: P477207
TSR: 350 - Jimmy Hunt
PB: 7/28/14 [initials]
Shipped Via: FedEx Ground

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	V8260AP9+1,4-Dioxane 40mlAmb-HCl	V8260LL14D 40mlAmb-HCl (1,4-D 8260 SIM)									Rem./Contaminant	Sample # (lab only)
MW-42I	Grab	GW		8/15/14	1505	2		X										-21
MW-8		GW			1615	2		X										-22
MW-63		GW			1630	2		X										-23
MW-36S		GW		8/18/14	927	2		X										-24
MW-36D		GW			1048	2		X										-25
MW-61		GW			1048	2		X										-26
MW-17I		GW			1300	2		X										-27
MW-17D		GW			1410	2		X										-28
MW-12I		GW			1537	2		X										-29
MW-62		GW			1537	2		X										-30

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Hold #

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
[signature]	8/21/14	16:10	[signature]
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)
[signature]	8/21/14	17:45	[signature]

Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ Sub

Temp: 2.7 °C Bottles Received: 24vp + 1TB

Date: 8-22-14 Time: 0900

Condition: (lab use only) 523 OK

COC Seal Intact: ___Y ___N ___NA

pH Checked: NCF:

Piedmont Geologic

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Raleigh, NC 27607

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Raleigh, NC 27607

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Email To: pjdressel@piedmontgeologic.com

Project Description: NCSU Lot 86 - Water Treatment System Mon

City/State Collected: Raleigh, NC

Phone: 919-854-9700
Fax: 919-854-9532

Client Project # ~~1347~~ 1491

Lab Project # PIEGEO-NCSU LOT 86

Collected by (print): Geoffrey Murphey

Site/Facility ID # RALEIGH, NC

P.O. # ~~1347~~ 1441

Collected by (signature): [signature]
Immediately Packed on Ice N ___ Y ___

Rush? (Lab MUST Be Notified)
___ Same Day 200%
___ Next Day 100%
___ Two Day 50%
___ Three Day 25%

Date Results Needed

Email? ___No X__Yes
FAX? ___No ___Yes

Analysis / Container / Preservative

Chain of Custody Page 4 of 4

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12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# L717546

Table #

Acctnum: PIEGEO
Template: T95813
Prelogin: P477207
TSR: 350 - Jimmy Hunt
PB: 7/28/14 WG
Shipped Via: FedEx Ground

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	V8260AP9+1,4-Dioxane 40mlAmb-HCl	V8260LL14D 40mlAmb-HCl (1,4-D 8260 SIM)									Rem./Contaminant	Sample # (lab only)
MW-16S	Grab	GW		8/19/14	840	2		X										-31
MW-12S		GW			910	2		X										-32
RW-10		GW			1015	2		X										-33
MW-37		GW			1050	2		X										-34
MW-3		GW			1135	2		X										-35
MW-64		GW			1200	2		X										-36
RW-1		GW			1445	2		X										-37
		~~GW~~				~~2~~		~~X~~										
		~~GW~~				~~2~~		~~X~~										
		~~GW~~				~~2~~		~~X~~										

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Hold #

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ Sub	Condition: (lab use only) 5023
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 2.7 °C Bottles Received: 74+1TB	COC Seal Intact: ✓ Y ___N ___NA
Relinquished by : (Signature)	Date: 8/21/14	Time: 17:45	Received for lab by: (Signature)	Date: 8-22-14 Time: 0900	pH Checked: NCF: