Periodic Groundwater Report
For Site 15
Hancock Air National Guard Base

Draft Final

Site:

Hancock Air National Guard Base
Syracuse, New York

Prepared for:

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List of Acronyms and Abbreviations

ANG	Air National Guard
ARAR	Applicable or Relevant and Appropriate Requirements
AWQS	Ambient Water Quality Standards
BEX	Benzene, Ethylbenzene, Xylenes
bgs	Below Ground Surface
cfm	Cubic feet per minute
COC	Compounds of Concern
DO	Dissolved Oxygen
DOD	Department of Defense
ELAP	Environmental Laboratory Accreditation Program
ERM	Environmental Resources Management
ERP	Environmental Restoration Program
FFS	Focused Feasibility Study
FSP	Field Sampling Plan
ft	Feet
HANGB	Hancock Air National Guard Base
IRM	Interim Remedial Measure
JP	Jet Propulsion
lbs	Pounds
mg/L	Milligram per liter
µg/L	Micrograms per Liter
MNA	Monitored Natural Attenuation
MW	Monitoring Well
NGB	National Guard Bureau
NYS	New York State
NYSDEC	New York State Department of Environmental Conservation
ORP	Oxidation Reduction Potential
PCB	Polychlorinated Biphenyls
pH	Pondus Hydrogenii
PVC	Polyvinyl Chloride
QAPP	Quality Assurance Project Plan
RAO	Remedial Action Objective
RAWP	Remedial Action Work Plan
ROD	Record of Decision
ROI	Radius of Influence
STARS	Spills Technology and Remediation Series
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound

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1 Introduction

This Periodic Groundwater Report summarizes the progress of the remedial activities implemented to address petroleum hydrocarbon groundwater contamination associated with Environmental Restoration Program (ERP) Site 15 at the 174th Fighter Wing, New York Air National Guard (ANG), Hancock Air National Guard Base (HANGB), Syracuse, New York. A Final Record of Decision (ROD) was issued by the ANG in April 2011 for the remediation of groundwater at Site 15. The remedy selected in the ROD consists of the injection of calcium peroxide to enhance aerobic biodegradation of the dissolved phase petroleum hydrocarbon groundwater plume, coupled with long-term monitoring.

The remedial activities conducted to date at ERP Site 15 under this contract consist of the installation of a biosparging system to address residual contamination in soil in October 2011; and an initial injection of calcium peroxide substrate conducted in October 2012. A baseline groundwater monitoring event was conducted in September 2012 and the first post-injection groundwater monitoring event was conducted in January 2013. This report provides a comparison of pre- and post-injection groundwater conditions at ERP Site 15 including groundwater monitoring results from June and August 2013.

The activities summarized in this report were conducted in accordance with the *Final Remedial Action Work Plan* (WP) submitted to the New York State Department of Environmental Conservation (NYSDEC) in September 2011 and approved by NYSDEC in October 2011. The WP was prepared in accordance with NYSDEC Program Policy, DER-10; Chapter 5, Section 5.3.

1.1 Site Description

HANGB is located in Syracuse, New York and ERP Site 15 comprises approximately 2.5 acres in the southeastern portion of the HANGB. Site 15 was formerly used as a pump house and fuel storage facility where numerous spills of jet propulsion (JP)-4 and JP-8 military aviation fuels and polychlorinated biphenyls (PCBs) occurred during active use. The pump house, tanks, and associated piping and structures have been demolished and the majority of the Site is now a large open field. Site 15 was listed as a Class 2 site on the NYS Inactive Hazardous Waste Disposal Site Registry in 1994 as Site Number 734054. PCBs identified at the site have been successfully remediated. A map illustrating the location of the HANGB and ERP Site 15 is provided as Figure 1.

The recurrent releases of JP-4 and JP-8 at ERP Site 15 resulted in contamination of soil and a dissolved-phase plume of petroleum hydrocarbons with maximum historic dimensions of approximately 1,000 feet (ft) along the axis in the north-south direction and a width of approximately 150 ft. The plume is aligned with groundwater flow at Site 15, which is to the south-southeast towards Ley Creek and Onondaga Lake. The source area is located at the northern end of the plume in the vicinity of monitoring well MW-101; the down-gradient edge of the plume is at the boundary of the General Electric Property. The contaminants of concern (COCs) within the plume are benzene, ethylbenzene, and xylenes (BEX). The historic maximum detection of BEX occurred at MW-19 in September 2005 at a concentration of 1,500 micrograms per liter (µg/L). The first post injection monitoring event was conducted in January 2013, BEX compounds exceeded cleanup criteria in only three (3) of 19 monitoring wells sampled, and in each instance the total BEX concentration was less than 50 µg/L. The most recent sampling event was conducted in August 2013 and there was only one detection of Benzene in excess of the cleanup criteria. ERP Site 15 monitoring well locations are depicted in Figure 2 along with groundwater elevation contours and flow directions. Historic plume dimensions are depicted in Figure 3.

1.1.1 Site Geology

The surficial geology at Site 15 consists of glaciofluvial sediments deposited by glacial melt water underlain by poorly sorted till deposited directly by glaciers. The glaciofluvial sediments include clayey silts, sands and gravels with thickness ranging from 45 to 55 ft. The underlying till consists of gravel, cobbles, and boulders entrained in a clayey silt matrix and ranges in thickness from 30 to 100 ft (Lockheed 1997).

Bedrock is encountered at depths ranging from 75 to 109 ft below ground surface (bgs), and is part of the Upper Silurian Vernon Formation. This formation consists of thinly bedded soft red shale with thin beds of green shale, gypsum, halite and dolomite. Competence varies from soft and crumbly to dense and hard. The degree of competence appears to be proportional to the density of the fractures in the shale. The shale is characterized by enlarged fractures, joints and bedding planes (Lockheed 1997). Significant portions of ERP Site 15 have been re-graded and filled due to previous construction and demolition activities.

1.1.2 Site Hydrogeology

The overburden at Site 15 consists of fine-grained sediments. The subgrade soils are fairly uniform with the upper 10 to 15 ft of the soil characterized by relatively soft, dark yellowish-brown silt and clayey silt. Towards the southeast, the interval thins to approximately 5 ft. Beneath the clayey silt are yellowish brown to dark brown fine to medium-grained sands with silt and trace amounts of clay down to a depth of approximately 20 ft. Underlying these silty sands is a lens of stiff clayey silts (often called glacial till). Till has been encountered as much as 15 ft thick (Lockheed 1997).

Groundwater is generally encountered at depths of 1.5 to 13 ft bgs and, as previously discussed, flows in a south to southeasterly direction towards Ley Creek and eventually into Onondaga Lake. Groundwater contours based on elevation data gathered during the September 2013 performance monitoring event are depicted in Figure 2.

1.2 Previous Remedial Activities

Based on an evaluation of the site conditions, the compounds of concern (COC), and an analysis of applicable or relevant and appropriate requirements (ARARs), the following remedial action objectives (RAOs) were developed for groundwater contaminated with BEX at ERP Site 15:

- Prevent exposure to contaminated groundwater containing BEX concentrations above the NYSDEC Ambient Water Quality Standards (AWQS) and Guidance Values;
- Prevent or minimize further off-site migration of the contaminant plume (plume containment);
- Prevent or minimize further migration of contaminants from source materials to groundwater (source control); and
- Enhance the natural process for the attenuation of BEX compounds on-site and off-site.

Achievement of RAOs will be quantitatively measured by the achievement of NYSDEC AWQS included in *NYS Division of Water Technical and Operational Guidance Series (1.1.1) 1998.* The AWQS for BEX are included on Table 1.

Environmental studies performed from 1990 to 2009 indentified Site 15 and down-gradient off-site areas as having soil and groundwater impacted with petroleum hydrocarbons. A Focused Feasibility Study (FFS) recommended excavation and off-site disposal of the source areas (these were completed in 2003 and 2008) and focused enhanced aerobic bioremediation with monitored natural attenuation (MNA). Two vadose zone source area removals have occurred as interim remedial measures (IRMs):

- **Year 2003:** removal of 5,360 tons of petroleum-impacted soil from the vadose zone, steel tanks and associated piping; and
- **Year 2008:** excavation of 2,890 tons of petroleum-impacted soil from the vadose zone source area followed by application of 4,800 pounds of an oxygen-releasing product (calcium peroxide) within the bottom of the excavation areas.

The location of the IRM soil excavations is presented in Figure 3**.** Calcium peroxide was applied directly to the bottom of the 2008 excavations prior to backfilling with crushed concrete. Post excavation confirmation soil sampling and groundwater monitoring results from wells adjacent to the excavations indicated that there was an area of residual soil contamination as well as a lack of oxygen available in this portion of the aquifer, potentially limiting biodegradation in the residual petroleum impacted soil. Biosparging was selected for accelerated biodegradation of the COCs in the source area as the presence of petroleum hydrocarbons adsorbed to soil in the saturated region can act as a continuous source of dissolved phase contamination; limiting the effectiveness of calcium peroxide injections in achieving RAOs in a reasonable timeframe.

A biosparge system was designed and installed in October 2011 to inject air into the saturated zone to stimulate aerobic biodegradation of residual source area smear zone impacts. Fifteen one-inch diameter polyvinyl chloride (PVC) biosparge wells screened from 18 to 20 ft bgs were installed at Site 15 in accordance with the WP. The biosparge well locations are depicted in Figure 3. The biosparging system was operated from November 2011 through December 2012, when it was shutdown to monitor for contaminant rebound. During operation, filtered atmospheric air was delivered to each well at a rate of 1 to 2 cubic feet per minute (cfm). The radius of influence (ROI) for sparge wells was estimated at up to 30 feet, based on dissolved oxygen measurements taken at IRP Site 15 monitoring wells. The temporary electrical drop to the biosparge system has been removed and the system will be shipped off site at the end of November 2013. The biosparge points will be decommissioned along with the monitoring wells after the site is closed.

2 Calcium Peroxide Injections

The prescribed remedy for remediation of BTEX impacted groundwater is enhanced aerobic biodegradation via calcium peroxide injection. The injection of calcium peroxide provides and extended release of oxygen into the subsurface to maintain an aerobic environment; enhancing microbial activity which results in the degradation of petroleum compounds. Delivery of calcium peroxide to the aquifer is accomplished by pressure injection, which ensures a uniform distribution across the injection interval and allows for delivery of the substrate at a faster rate. Distribution of calcium within the aquifer is by advection along the natural hydraulic gradient.

An initial calcium peroxide injection event was conducted from October 2-5, 2012. A total of 2,200 pounds of calcium peroxide were injected at 44 injection locations. Each injection location received 50 pounds of calcium peroxide, which was injected as a 40-percent slurry comprised of 9 gallons of water and 50 pounds of calcium peroxide. Substrate was injected using direct-push technology (DPT) techniques. Substrate was injected using a 'bottom up' approach across a 15-foot injection interval at each location. Injection intervals ranged from 3- to 18-feet bgs to 15- to 30-feet bgs, dependent on the water table elevation in monitoring wells located adjacent to the injection locations. The injection locations are depicted in Figure 4.

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3 Groundwater Monitoring

3.1 Groundwater Monitoring Program Overview

3.1.1 Rationale

The groundwater monitoring program at ERP Site 15 was developed to provide baseline characterization of the BEX plume by sampling the 30 existing monitoring wells; and for performance monitoring to assess the effectiveness of biosparging and calcium peroxide injection in remediating BEX contamination. Performance monitoring will consist of sampling up to 30 monitoring wells on a quarterly basis for two years after the initial injection event, followed by semi-annual sampling of up to 20 monitoring wells for two additional years. Samples are analyzed for VOCs and geochemical data is also collected to assess the performance of the remedial action. After four quarters of non-detect or detections below the NYSDEC AGWQS at any particular well, it will be proposed that the well be removed from the sampling network.

3.2 Sampling Methodology

3.2.1 Sample Collection

Groundwater samples are collected using low-flow (minimal drawdown) sampling techniques. Wells are gauged with an oil-water interface probe prior to sampling to determine the water level, total well depth and the presence/absence of non-aqueous phase liquids (NAPL). Water level data is utilized to develop potentiometric surface maps. Following gauging, the wells are purged using a peristaltic pump and dedicated tubing. During purging, the depth to water is monitored as well as geochemical and physical parameters including temperature, pH, dissolved oxygen (DO), oxidation-reduction potential (ORP), specific conductivity and turbidity. The geochemical and physical parameters are utilized to determine well stabilization which indicates that the water being purged is from the formation surrounding the well and will provide a representative sample. VOC samples are collected in 40 milliliter (mL) vials preserved with hydrochloric acid provided by the analytical laboratory and shipped on ice to the laboratory for analysis. Geochemical and physical parameter readings are recorded on field sheets; and the geochemical data, particularly DO and ORP, are evaluated as indicators of the favorability of the aquifer for promoting aerobic biodegradation of BEX. In some instances, the hydraulic conductivity at a given well is insufficient to allow for low-flow sampling. In such cases, the well was purged dry, allowed to recharge and sampled with a disposable bailer. Additional information regarding sampling techniques can be found in the *Final Field Sampling Plan* (AECOM, 2011), which is included as an appendix of the WP.

3.2.2 Sample Analysis

Samples are analyzed for BEX using United States Environmental Protection Agency (USEPA) Method 8260. Samples are analyzed at a Spectrum Analytical, Inc. laboratories in North Kingstown, Rhode Island; a Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP) certified facility. In addition to environmental samples, quality assurance/quality control (QA/QC) samples are also submitted to the laboratory. These include duplicates, matrix spike and matrix spike duplicate (MS/MSD) samples, trip blanks, and ambient blanks. Additional information on analytical procedures and QA/QC procedures can be found in the Quality Assurance Program Plan (QAPP), which is included as an appendix of the WP.

3.2.3 Sample Locations

Sample locations are selected from the existing 30 well monitoring network at ERP Site 15. All 30 wells were sampled during the October 2012 and January 13 events. Wells in which BEX was not detected in these events as well as previous events were dropped from future events as proposed in the April 2013 Periodic Groundwater Report. During the June and August 2013 sampling events 10 monitoring wells were sampled. These wells had detections of VOCs following the calcium peroxide injections. Future events will include fewer locations as wells are dropped from the network based on contaminant trends. The sampling locations and historic plume dimensions are depicted in Figure 5.

3.3 Groundwater Monitoring Results

The following sections present groundwater monitoring results from five sampling events. The October 2010 event was conducted by Environmental Resources Management (ERM) and predates the installation of the biosparge system and calcium peroxide injection. The second event, conducted by AECOM, occurred in September 2012, following 10 months of biosparging and prior to the initial calcium peroxide injection event. The third event presented in this report occurred in January 2013,

approximately three months after the initial calcium peroxide injection event. The fourth event discussed in this report was from a sampling event that occurred in June 2013, eight months after initial calcium peroxide injection, and the final event discussed in this report details the results from the most recent, August 2013, sampling event.

3.3.1 October 2010 Groundwater Monitoring Results

Thirty (30) monitoring wells were sampled by ERM in October 2010. COCs were detected in 10 of the 30 wells sampled; with detections at 6 wells exceeding the NYSDEC AWQS. Benzene was detected in samples from six (6) monitoring wells at concentrations ranging from 0.36J-µg/L to 26-µg/L. Five of the six detections of benzene exceeded the NYSDEC AWQS of 1-µg/L. The maximum detection of benzene occurred at MW-11. Ethylbenzene was detected in samples from six wells at concentrations ranging from 3.8-µg/L to 100-µg/L. Five of the six detections of ethylbenzene exceeded the NYSDEC AWQS of 5-µg/L. The maximum detection of ethylbenzene occurred at MW-19. Xylenes were detected in samples from eight wells at concentrations ranging from 0.72J-µg/L to 92-µg/L. Three of the eight detections of xylenes exceeded the NYSDEC AWQS of 5-µg/L. The maximum detection of xylenes occurred at MW-105. MW-112 was the furthest down-gradient monitoring well with detections of COCs in October 2010. Benzene, ethylbenzene, and xylenes were detected at MW-112 at concentrations of 0.36J-µg/L, 10-µg/L, and 2.7-µg/L, respectively. The detection of ethylbenzene at MW-112 exceeded the NYSDEC AWQS. Groundwater analytical data is summarized in Table 1 and the extent of the BEX plume during the October 2010 monitoring event is depicted in Figure 5.

Geochemical parameter monitoring conducted during sampling indicated that conditions were generally anaerobic (DO less than 1-mg/L) and reducing (ORP below 0 mV) throughout ERP Site 15. These conditions are typically of sites contaminated with petroleum hydrocarbons that have not undergone chemical or biological amendment. Geochemical data for the October 2010 monitoring event is summarized in Table 2.

3.3.2 September 2012 Groundwater Monitoring Results

Thirty (30) monitoring wells were sampled in September 2012. The intent of this monitoring event was to serve as a baseline for evaluating the effectiveness of the calcium peroxide injections to be conducted in October 2012. The biosparging system had been operational for approximately 10 months at the time of the September 2012 monitoring event. COCs were detected in samples from seven wells during the September 2012 monitoring event. Benzene was detected in samples from three monitoring wells at concentrations ranging from 1.4-µg/L to 5.9-µg/L. All three detections of benzene exceeded the NYSDEC AWQS of 1-µg/L. The maximum detection of benzene occurred at MW-103. Ethylbenzene was detected in samples from four wells at concentrations ranging from 1.7-µg/L to 53-µg/L. Three detections exceeded the NYSDEC AWQS of 5-µg/L. The maximum detection of ethylbenzene occurred at MW-112. Xylenes were detected at three monitoring wells at concentrations ranging from 26-µg/L to 67-µg/L; all of which exceeded the NYSDEC AWQS of 5-µg/L. The maximum detection of xylenes occurred at MW-112. As during the October 2010 event, MW-112 was the furthest down-gradient monitoring well with detections of COCs. Ethylbenzene was detected in the sample from MW-112 at 29-µg/L and xylenes were detected at 18-µg/L. Both of these detections exceed their respective NYSDEC AWQS of 5-µg/L. Groundwater analytical data is summarized in Table 1 and the extent of the BEX plume during the September 2012 monitoring event is depicted in Figure 5.

Geochemical parameter monitoring conducted during sampling indicated that dissolved-oxygen concentrations had increased in many areas since the October 2010 monitoring event, as would be expected following 10 months of biosparging. ORP readings were still within the reducing range throughout the majority of ERP Site 15. Geochemical data for the September 2012 monitoring event is summarized in Table 2.

3.3.3 January 2013 Groundwater Monitoring Results

Thirty (30) monitoring wells were sampled at ERP Site 15 in January 2013 to assess the performance of calcium peroxide injections and biosparging at reducing dissolved-phase BEX contamination. COCs were detected in samples from four monitoring wells, with at least one COC exceeding the NYSDEC AWQS at three wells. This represents a significant decrease from October 2010, when COCs were detected in ten wells and exceeded the NYSDEC AWQS at six wells. The frequency of COC detections and exceedances of the NYSDEC AWQS also decreased from the September 2012 monitoring event. Benzene was detected in samples from two wells at concentrations of 0.78J-µg/L and 4.7-µg/L. The detection of 4.7-µg/L, at MW-11, exceeded the NYSDEC AWQS of 1-µg/L. Ethylbenzene was detected in samples from three monitoring wells at concentrations of 0.63J-µg/L to 29-µg/L. The detection of ethylbenzene at 29-µg/L, which occurred at MW-112, exceeded the NYSDEC AWQS of 1-µg/L. Xylenes were detected at MW-112 and MW-101 at concentrations of 18-µg/L and 26-µg/L, respectively. Both detections of xylene exceeded the NYSDEC AWQS of 1-µg/L. As in the previous monitoring events, MW-112 was the furthest down-gradient well with BEX impacts. The data from the January 2013 monitoring indicate that there is no longer a contiguous BEX plume at ERP Site 15 but rather pockets of residual groundwater contamination.

DO and ORP measurements taken while sampling show increases in DO at numerous wells when compared to October 2010 and September 2012 data. While DO concentrations decreased at some wells from September 2012, the values were generally

higher than those in October 2010, prior to the implementation of biosparging and calcium peroxide injection. ORP data shows many wells still within the reducing range.

3.3.4 June 2013 Groundwater Monitoring Results

During the June 2013 sampling event, 10 monitoring wells were sampled (MW-14, MW-101, RW-01, MW-11, MW-15, MW-17, MW-19, MW-103, MW-105, MW-106, and MW-112). The other 19 wells showed no sign of contamination for four consecutive sampling events, therefore, were no longer sampled. This change to the monitoring network was proposed in the April 2013 Periodic Groundwater Report, Table 3. Out of the 11 wells sampled, COCs were detected in the sample from one well, MW-101. Contaminants found included Ethyl Benzene (5.7 µg/L) and Total Xylene (7.2 µg/L), both in exceedance of NYSDEC standard of 5 µg/L.

DO measurements taken during this sampling event showed both increases and decreases in many of the wells. Monitoring wells that showed a decrease in DO (MW-11, MW-15, MW-101, MW-112, and RW-1) dropped much more significantly than the monitoring wells that showed an increase (MW-14, MW-19, MW-103, MW-105, and MW-106,) went up in value. Wells with a decreasing DO dropped on an average of 2.775 mg/l, while monitoring wells that increased only rose 0.506 mg/l on average. ORP continued to fluctuate as it has in the past, but showed an overall increasing trend. The decreasing trend in DO is expected as the calcium peroxide is depleted.

3.3.5 August 2013 Groundwater Monitoring Results

A total of 10 monitoring wells were sampled on August 29, 2013 (MW-14, MW-101, RW-01, MW-11, MW-15, MW-19, MW-103, MW-105, MW-106, and MW-112). The sample from MW-11 contained benzene at a concentration of 9.6 µg/L which is above the NYSDEC standard of 1 µg/L. The result for the June 2013 sample from MW-11 was non-detect for benzene. The COCs ethyl-benzene (3.1 µg/L) and xylene (1.9 µg/L) were detected below NYSDEC standards in the sample from MW-101. These COCs had been detected above NYSDEC standards in the previous three quarterly samples. COCs were not detected in samples from the other 9 wells which were sampled during this event.

DO concentrations have stabilized below 1 mg/L in all of the wells sampling. This suggests that the calcium peroxide injected in the fall of 2012 has been depleted. The ORP measurements from this round of sampling continues to fluctuate but overall is showing a negative trend which is consistent with the depletion of the calcium peroxide.

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4 Conclusions and Recommendations

The post remedial groundwater monitoring data collected in September 2012, January 2013, June 2013, and August 2013 indicates that the addition of oxygen to the saturated zone at ERP Site 15 via biosparging and calcium peroxide injection has resulted in a significant decrease in BEX contamination within the aquifer, as evidenced by decreases in the frequency and magnitude of BEX detections over time. The current data indicates that the plume is no longer contiguous and that BEX impacts are isolated to one monitoring well, MW-11. The rebound seen in this well is typical and monitoring will be ongoing.

Calcium peroxide is typically effective in providing dissolved-oxygen to an aquifer for a period of 6 to 12 months, depending on groundwater flow rates, contaminant concentrations and utilization rates. The falling DO level in the monitoring wells suggests that the calcium peroxide injected in the fall of 2012 is nearing depletion. The next performance monitoring event is scheduled for December 2013. Should monitoring results indicate that BEX is still present at concentrations in excess of the NYSDEC AWQS, a second calcium peroxide injection will be conducted. This injection would possibly be augmented using a sodium-persulfate product, which degrades contaminants chemically; while the calcium peroxide would persist to stimulate biodegradation.

Quarterly groundwater monitoring should be continued until BEX concentrations are below the AWQS for four consecutive quarters as specified in DER-10 Section 6.4. The monitoring well network for December 2013 and subsequent events will include all wells where BEX compounds were detected in any of the three previous quarterly sampling events. The proposed monitoring well network is provided in Table 3.

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5 References

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Figures

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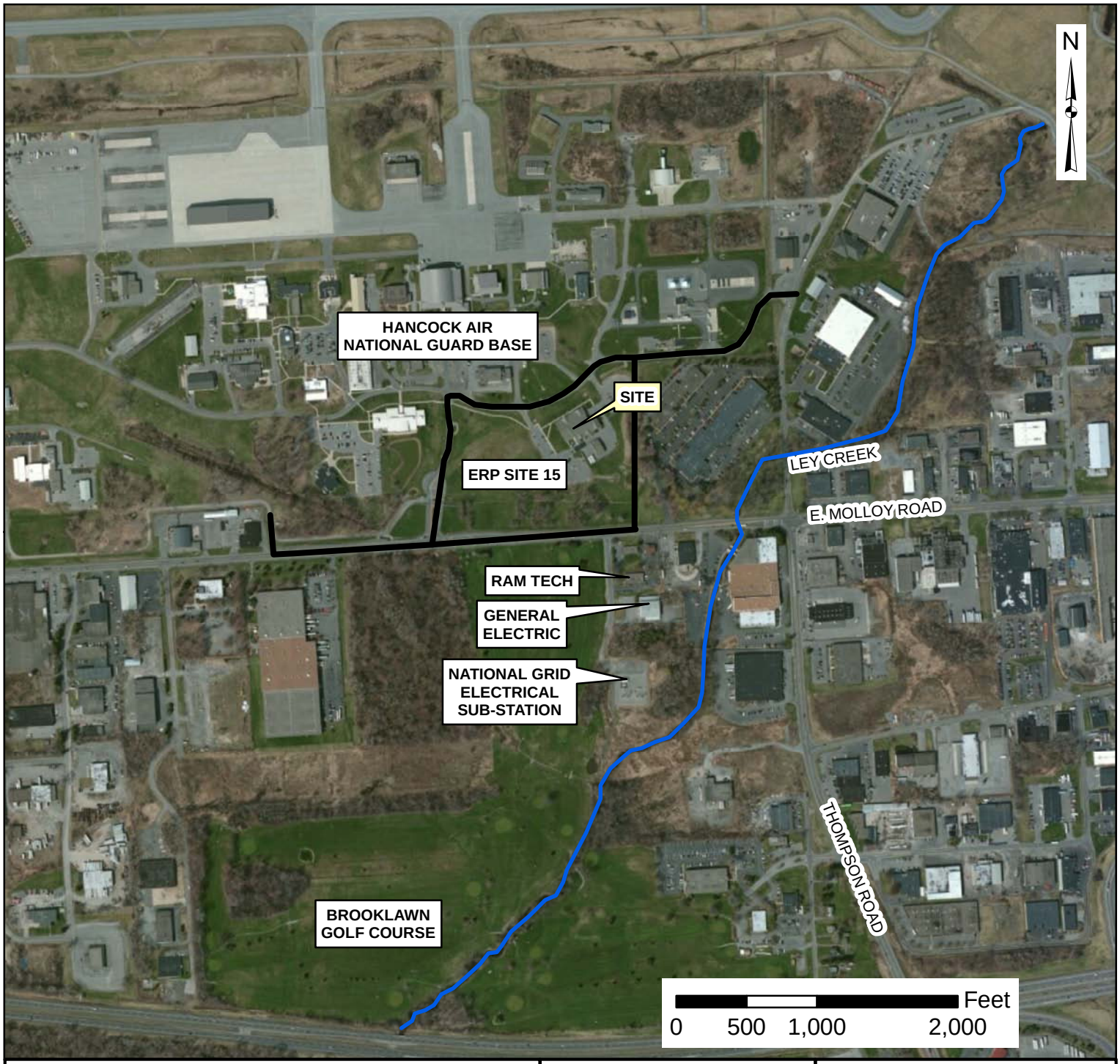

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FIGURE 1

SITE LOCATION MAP

HANCOCK AIR NATIONAL GUARD
SYRACUSE, NEW YORK

Source: ArcGIS World Imagery

MARCH 2013

60214697

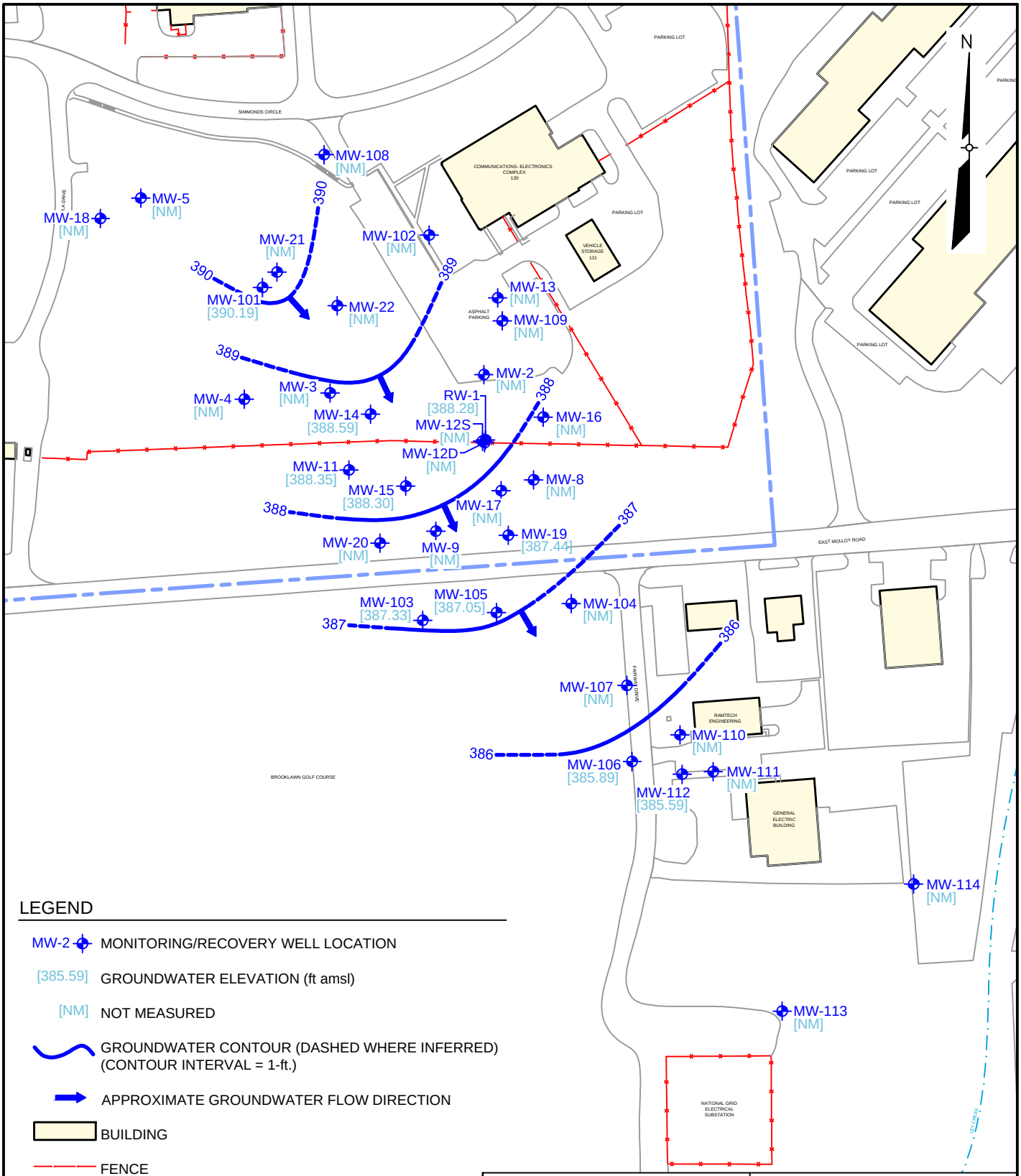

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FIGURE 2
STATIC GROUNDWATER CONTOUR MAP
AUGUST 29, 2013

HANCOCK AIR NATIONAL GUARD BASE
SYRACUSE, NEW YORK

NOVEMBER 2013 60214697

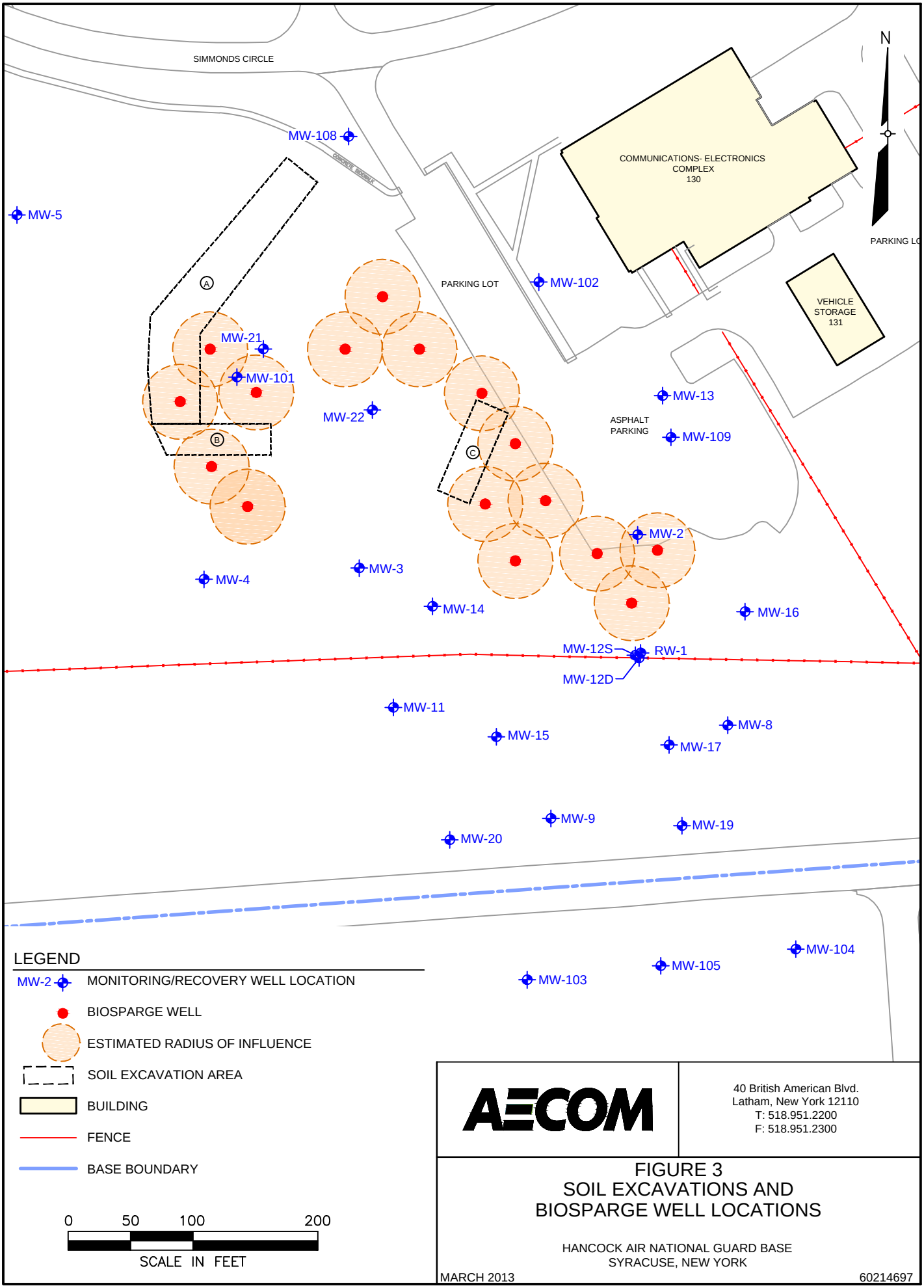

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FIGURE 3
SOIL EXCAVATIONS AND BIOSPARGE WELL LOCATIONS

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SYRACUSE, NEW YORK

MARCH 2013 60214697

L:\Group\earth\Latham NY Work\Hancock\60214697_004 Soil Excavations and Biosparge Well Locs.dwg, 3/12/2013 9:33:16 AM, Splawnm

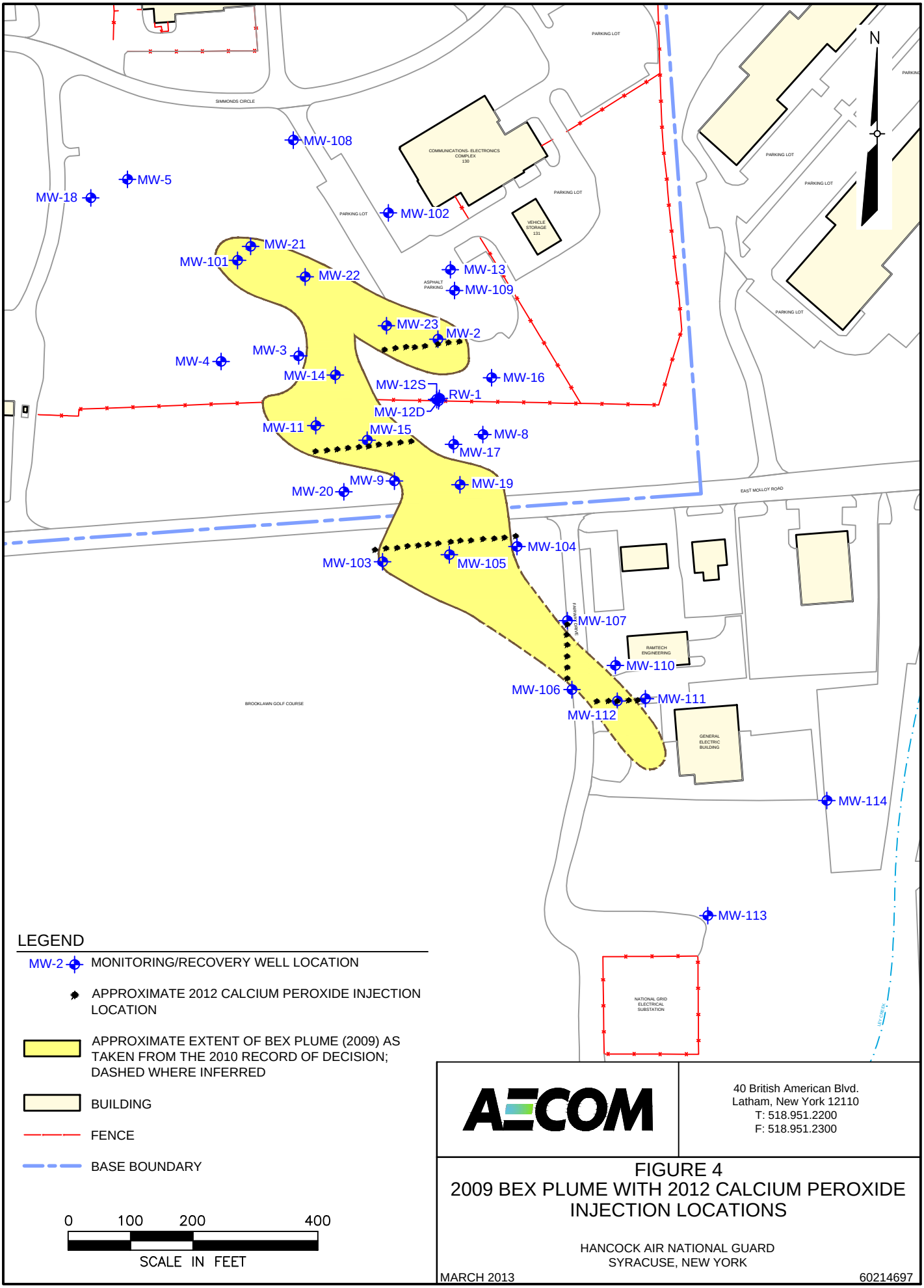

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FIGURE 4
2009 BEX PLUME WITH 2012 CALCIUM PEROXIDE INJECTION LOCATIONS

HANCOCK AIR NATIONAL GUARD
SYRACUSE, NEW YORK

MARCH 2013 60214697

L:\Group\earth\Latham NY Work\Hancock\60214697_003 2009 BEX Plume w 2012 Calcium Peroxide Injection Locs.dwg, 3/6/2013 4:45:02 PM, Splawnm

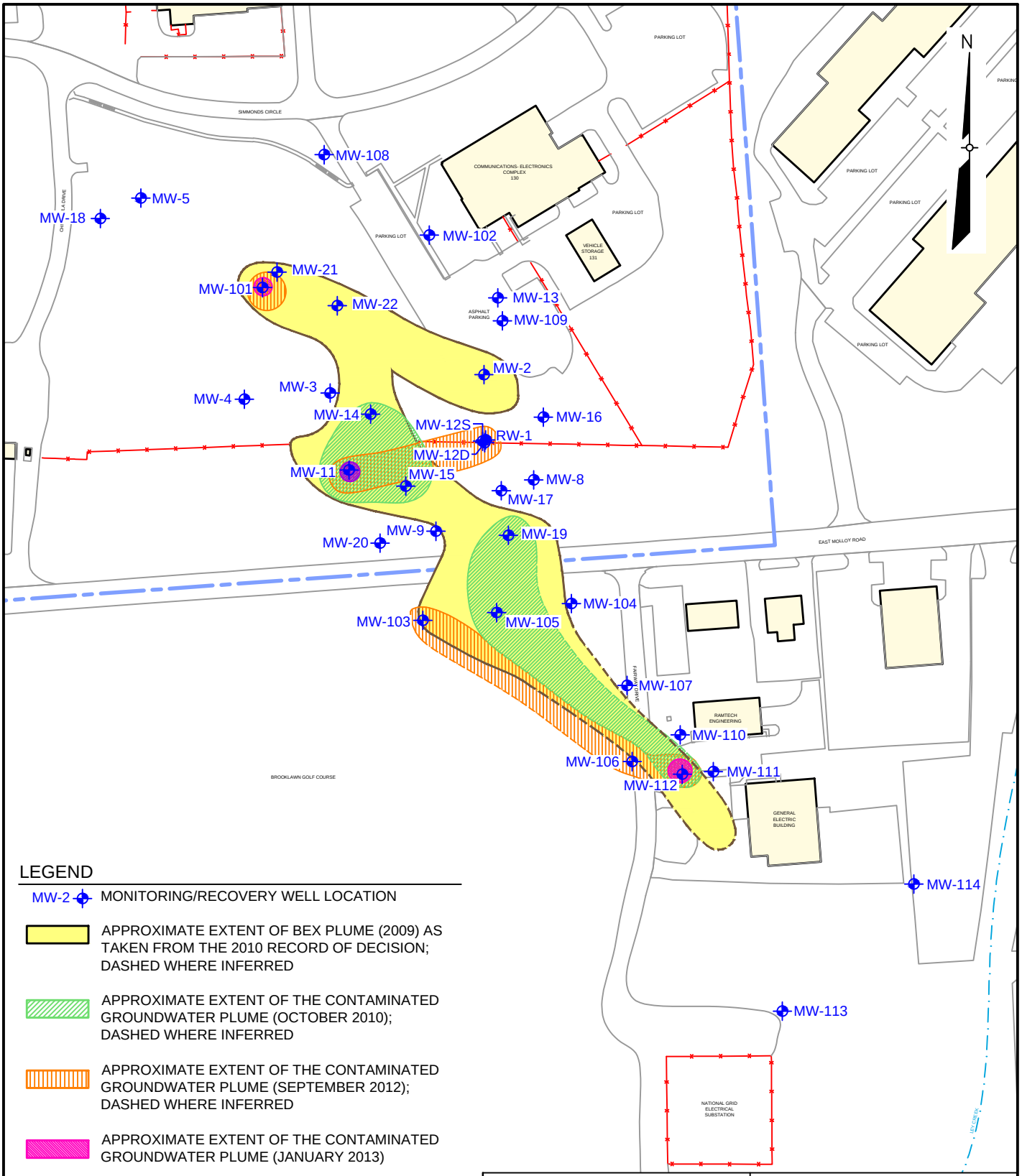

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FIGURE 5
GROUNDWATER CONTAMINATION PLUMES 2009 THROUGH PRESENT

HANCOCK AIR NATIONAL GUARD BASE
SYRACUSE, NEW YORK

NOVEMBER 2013 60214697

L:\Group\earth\Latham NY Work\Hancock\60214697_002 GW Contamination Plumes 2009_Present.dwg, 11/7/2013 6:06:53 PM, Splawnm

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Tables

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Table 1
Groundwater Sampling Results
Hancock Air National Guard Base

Well ID	NYSDEC Std	MW-112					MW-106					MW-19					MW-15					MW-11				
Sample Date	**or GV**	Oct-10	Sep-12	Jan-13	Jun-13	Aug-13	Oct-10	Sep-12	Jan-13	Jun-13	Aug-13	Oct-10	Sep-12	Jan-13	Jun-13	Aug-13	Oct-10	Sep-12	Jan-13	Jun-13	Aug-13	Oct-10	Sep-12	Jan-13	Jun-13	Aug-13
VOCs µg/L																										
Benzene	1	0.36 J	-	-	-	-	-	1.4	-	-	-	6.2	-	-	-	-	5.3	-	-	-	-	26	3.1	4.7	-	9.6
Ethyl Benzene	5	10	53	29	-	-	-	-	-	-	-	100	-	-	-	-	9.8	-	0.63 J	-	-	7.8	-	-	-	-
Total Xylene	5	2.7	67	18	-	-	-	-	-	-	-	18	-	-	-	-	0.72 J	-	-	-	-	9.5	-	-	-	-

Well ID	NYSDEC Std	MW-103					MW-105					RW-1					MW-14					MW-101				
Sample Date	**or GV**	Oct-10	Sep-12	Jan-13	Jun-13	Aug-13	Oct-10	Sep-12	Jan-13	Jun-13	Aug-13	Oct-10	Sep-12	Jan-13	Jun-13	Aug-13	Oct-10	Sep-12	Jan-13	Jun-13	Aug-13	Oct-10	Sep-12	Jan-13	Jun-13	Aug-13
VOCs µg/L																										
Benzene	1	-	5.9	-	-	-	5.5	-	-	-	0.95 J	-	-	-	-	-	1.7	0.98 J	-	-	-	-	-	-	-	-
Ethyl Benzene	5	0.24 J	-	-	-	-	97	1.7	-	-	-	3.8	13	-	-	-	-	-	-	-	-	3.2	5.2	1.9	5.7	3.1
Total Xylene	5	-	-	-	-	-	92	-	-	-	-	2.8	27	-	-	-	-	-	-	-	-	2.0	26	26	7.2	1.9

Notes:
NYSDEC GV or Std - Results compared to the New York State Department of Environmental Conservations (NYSDEC) Division of Water Technical and Operational Guidance Series (TOGS 1.1.1), 1998, standards (Stnd) and guidance values (GV)
VOCs - Volatile organic compounds determined by United States Environmental Protection Agency (USEPA) Method 8260
µg/L - Micrograms per liter
-- - The compound was not detected at a concentration above the laboratory reporting limit
Blank cells indicate that the compound was not analyzed for
Shading indicates compounds detected above NYSDEC standards/guidance values
J - The analyte was positively identified, the quantitation is an approximation

Table 2
Groundwater Field Parameters
Hancock Air National Guard Base

	MW-2		MW-3		MW-4		MW-5		MW-8		MW-9		MW-11		MW-14	
Date	DO (mg/L)	ORP (mV)	DO (mg/L)	ORP (mV)	DO (mg/L)	ORP (mV)	DO (mg/L)	ORP (mV)	DO (mg/L)	ORP (mV)	DO (mg/L)	ORP (mV)	DO (mg/L)	ORP (mV)	DO (mg/L)	ORP (mV)
Oct-10	0.45	42.1	1.22	83.9	2.93	6.2	3.23	66	0.32	-97.4	0.85	43.8	0.36	-24.9	0.44	23.1
Nov-11	5.31	-318.8	2.32	-218.8	1.5	-210.2	5.83	-277.5	-	-	-	-	-	-	0.7	-268.6
Sep-12	6.3	-57	0.58	-79.5	0.66	-2.2	-	-	3.9	-88.2	4.34	-69.1	0.72	-122	1.04	-94.5
Dec-12	5.11	-133.1	7.06	-93.8	2.91	-87.7	4	27.1	4.1	-10.8	4.81	47.2	3.73	-99.4	3.04	-46.5
Jan-13	1.34	-88	-0.03	-1.3	-	-	-	-	-	-	10.76	-8	4.75	-106.9	0.25	-52.9
Jun-13	-	-	-	-	-	-	-	-	-	-	-	-	0.23	-72.3	0.42	-9
Aug-13	-	-	-	-	-	-	-	-	-	-	-	-	0.18	-100	0.19	-43.6

	MW-15		MW-16		MW-17		MW-18		MW-19		MW-20		MW-22		MW-101		MW-102	
Date	DO (mg/L)	ORP (mV)	DO (mg/L)	ORP (mV)	DO (mg/L)	ORP (mV)	DO (mg/L)	ORP (mV)	DO (mg/L)	ORP (mV)	DO (mg/L)	ORP (mV)	DO (mg/L)	ORP (mV)	DO (mg/L)	ORP (mV)	DO (mg/L)	ORP (mV)
Oct-10	0.42	-7.1	0.84	114.8	0.58	-6.5	3.86	61.7	0.45	-66	0.61	8.9	1.87	-17.7	0.58	-5.5	0.45	30.7
Nov-11	-	-	-	-	-	-	4.86	-277.9	-	-	-	-	3.82	-249.2	-	-	0.14	-334.5
Sep-12	4.04	-142.9	1.04	214.4	0.38	-111	0.79	-93.6	0.34	-103.5	1.08	-94.2	9.31	9.1	1.23	-128.1	3.37	-89.3
Dec-12	2.96	-75.7	5.82	-14.2	8.02	-54.6	6.17	67.6	5.23	-67.1	3.4	-78.1	10.69	-24.9	4.13	-71.8	0.68	-52.8
Jan-13	2.39	-111.3	-	-	3.11	-96.3	-	-	-0.36	-47.4	-	-	3.88	168.8	2.65	-102	-	-
Jun-13	0.9	-103.6	-	-	0.26	-134	-	-	0.65	-66.2	-	-	-	-	0.4	-172.4	-	-
Aug-13	0.31	-101.6	-	-	-	-	-	-	0.2	-80	-	-	-	-	0.13	-129.9	-	-

	MW-103		MW-104		MW-105		MW-106		MW-107		MW-110		MW-111		MW-112		RW-1	
Date	DO (mg/L)	ORP (mV)	DO (mg/L)	ORP (mV)	DO (mg/L)	ORP (mV)	DO (mg/L)	ORP (mV)	DO (mg/L)	ORP (mV)	DO (mg/L)	ORP (mV)	DO (mg/L)	ORP (mV)	DO (mg/L)	ORP (mV)	DO (mg/L)	ORP (mV)
Oct-10	0.51	3.3	1.75	25.9	0.68	2.6	0.68	30.3	2.57	34.2	0.5	25.3	0.69	-35.7	0.82	-106.9	0.46	-145.8
Nov-11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sep-12	2.75	-66.4	1.66	-38.9	4.09	-139.5	1.9	0.8	3.63	-124.4	-	-	-	-	-	-	0.4	-101.1
Dec-12	4.1	-70.9	3.77	46.8	3.46	-112.4	2.04	-70.3	11.43	-53.8	-	-	-	-	-	-	3.08	-115.6
Jan-13	-0.1	-78.9	5.24	-15.4	0.01	-119.8	1.14	-68.4	5.09	14.8	0.24	70.9	1.78	-1.1	2.47	-146	2.62	6.2
Jun-13	0.17	-43.6	-	-	0.83	-91.2	1.61	-44.8	-	-	-	-	-	-	0.27	-82.7	0.57	-131.3
Aug-13	0.33	-83.8	-	-	0.11	-112.8	0.61	-35.9	-	-	-	-	-	-	0.19	-89.4	0.33	-107.9

Table 3
Proposed Groundwater Monitoring Well Network
Hancock Air National Guard Base, Syracuse, NY

Previous Groundwater Monitoring Well Network	Proposed Groundwater Monitoring Well Network
MW-2	--
MW-3	--
MW-4	--
MW-5	--
MW-8	--
MW-9	--
MW-11	MW-11
MW-14	--
MW-15	--
MW-16	--
MW-17	--
MW-18	--
MW-19	--
MW-20	--
MW-22	--
MW-101	MW-101
MW-102	--
MW-103	MW-103
MW-104	--
MW-105	--
MW-106	MW-106
MW-107	--
MW-108	--
MW-109	--
MW-110	--
MW-111	--
MW-112	MW-112
MW-113	--
MW-114	--
RW-1	RW-1

Notes:

The proposed groundwater monitoring well network is based on the results of the baseline (September 2012) and performance monitoring (Jan, Jun, Sep 2013) groundwater sampling events. Wells that did not have any compounds of concern detected above laboratory reporting limits for four consecutive quarters (--) are proposed to be dropped from the sampling plan.

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Appendix A

Well Inspection Forms

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SITE NAME: Hancock

SITE ID.: 6071469?
INSPECTOR: GW/AV
DATE/TIME: 11/30/11
WEll ID.: MW-2

MONITORING WELL FIELD INSPECTION LOG

	YES	NO
WELL VISIBLE? (If not, provide directions below)	X	

WELL COORDINATES? NYTM X_____ NYTM Y_____
PDOP Reading from Trimble Pathfinder:_____ Satelites:_____
GPS Method (circle) Trimble And/Or Magellan

	YES	NO
WELL I.D. VISIBLE?		X
WELL LOCATION MATCH SITE MAP? (if not, sketch actual location on back)	X	

WELL I.D. AS IT APPEARS ON PROTECTIVE CASING OR WELL: .....

	YES	NO
SURFACE SEAL PRESENT?	X	
SURFACE SEAL COMPETENT? (If cracked, heaved etc., describe below)	X	
PROTECTIVE CASING IN GOOD CONDITION? (If damaged, describe below) ...3 bolts missing	X	

HEADSPACE READING (ppm) AND INSTRUMENT USED: NA
TYPE OF PROTECTIVE CASING AND HEIGHT OF STICKUP IN FEET (If applicable): flushmount
PROTECTIVE CASING MATERIAL TYPE: steel
MEASURE PROTECTIVE CASING INSIDE DIAMETER (Inches): .....

	YES	NO
LOCK PRESENT?	X	
LOCK FUNCTIONAL?		X
DID YOU REPLACE THE LOCK?		X
IS THERE EVIDENCE THAT THE WELL IS DOUBLE CASED? (If yes,describe below)		X
WELL MEASURING POINT VISIBLE?	X	

MEASURE WELL DEPTH FROM MEASURING POINT (Feet): 13.35
MEASURE DEPTH TO WATER FROM MEASURING POINT (Feet): 9.08
MEASURE WELL DIAMETER (Inches): 2"
WELL CASING MATERIAL: steel
PHYSICAL CONDITION OF VISIBLE WELL CASING: good
ATTACH ID MARKER (if well ID is confirmed) and IDENTIFY MARKER TYPE .....
PROXIMITY TO UNDERGROUND OR OVERHEAD UTILITIES: NA

DESCRIBE ACCESS TO WELL: (Include accessibility to truck mounted rig, natural obstructions, overhead power lines, proximity to permanent structures, etc.); ADD SKETCH OF LOCATION ON BACK, IF NECESSARY.
Good

DESCRIBE WELL SETTING (For example, located in a field, in a playground, on pavement, in a garden, etc.) AND ASSESS THE TYPE OF RESTORATION REQUIRED.
Open grassy field

IDENTIFY ANY NEARBY POTENTIAL SOURCES OF CONTAMINATION, IF PRESENT (e.g. Gas station, salt pile, etc.):

REMARKS:

Temp	15.99	DO%	54.2	pH	6.69
Spec Cond	1.521	DO	5.32	ORP	-318.8
Spec Cond	1.260				

Sketch

SITE NAME: Hancock

SITE ID.: 602146.97
INSPECTOR: CWC/AV
DATE/TIME: 11/30
WELL ID.: ~~MW-4~~ MW-3

MONITORING WELL FIELD INSPECTION LOG

	YES	NO
WELL VISIBLE? (If not, provide directions below)	X	

WELL COORDINATES? NYTM X_____ NYTM Y_____
PDOP Reading from Trimble Pathfinder:_____ Satelites:_____
GPS Method (circle) Trimble And/Or Magellan

	YES	NO
WELL I.D. VISIBLE?	X	
WELL LOCATION MATCH SITE MAP? (if not, sketch actual location on back)	X	

WELL I.D. AS IT APPEARS ON PROTECTIVE CASING OR WELL: MW-3

	YES	NO
SURFACE SEAL PRESENT?	X	
SURFACE SEAL COMPETENT? (If cracked, heaved etc., describe below)	X	
PROTECTIVE CASING IN GOOD CONDITION? (If damaged, describe below) 2 bolts missing	X	

HEADSPACE READING (ppm) AND INSTRUMENT USED: N/A
TYPE OF PROTECTIVE CASING AND HEIGHT OF STICKUP IN FEET (If applicable): flushmount
PROTECTIVE CASING MATERIAL TYPE: Steel
MEASURE PROTECTIVE CASING INSIDE DIAMETER (Inches): _____

	YES	NO
LOCK PRESENT?	X	
LOCK FUNCTIONAL?		X
DID YOU REPLACE THE LOCK?		X
IS THERE EVIDENCE THAT THE WELL IS DOUBLE CASED? (If yes,describe below) Steel (4")	X	
WELL MEASURING POINT VISIBLE?	X	

MEASURE WELL DEPTH FROM MEASURING POINT (Feet): 13.70
MEASURE DEPTH TO WATER FROM MEASURING POINT (Feet): 8.51
MEASURE WELL DIAMETER (Inches): 2"
WELL CASING MATERIAL: Sched 40
PHYSICAL CONDITION OF VISIBLE WELL CASING: good
ATTACH ID MARKER (if well ID is confirmed) and IDENTIFY MARKER TYPE _____
PROXIMITY TO UNDERGROUND OR OVERHEAD UTILITIES: NA

DESCRIBE ACCESS TO WELL: (Include accessibility to truck mounted rig, natural obstructions, overhead power lines, proximity to permanent structures, etc.); ADD SKETCH OF LOCATION ON BACK, IF NECESSARY.

good

DESCRIBE WELL SETTING (For example, located in a field, in a playground, on pavement, in a garden, etc.) AND ASSESS THE TYPE OF RESTORATION REQUIRED.

open field

IDENTIFY ANY NEARBY POTENTIAL SOURCES OF CONTAMINATION, IF PRESENT (e.g. Gas station, salt pile, etc.):

NA

REMARKS:
2 Steel casings
Temp 13.06 DO% 22.1 ORP -218.8
Spec Cond .34 DO 2.32 pH 5.97
Spec Cond .242

Sketch

SITE NAME: Hancock

SITE ID.: 60214697
INSPECTOR: GC/AL
DATE/TIME: 11/30/11
WELL ID.: MW-4

MONITORING WELL FIELD INSPECTION LOG

	YES	NO
WELL VISIBLE? (If not, provide directions below)	X	
WELL COORDINATES? NYTM X_____ NYTM Y_____		
PDOP Reading from Trimble Pathfinder:_____ Satelites:_____		
GPS Method (circle) Trimble And/Or Magellan		
WELL I.D. VISIBLE?		X
WELL LOCATION MATCH SITE MAP? (if not, sketch actual location on back)	X	
WELL I.D. AS IT APPEARS ON PROTECTIVE CASING OR WELL:		
SURFACE SEAL PRESENT?	X	
SURFACE SEAL COMPETENT? (If cracked, heaved etc., describe below)	X	
PROTECTIVE CASING IN GOOD CONDITION? (If damaged, describe below) 2 bolts missing	X	
HEADSPACE READING (ppm) AND INSTRUMENT USED	NA	
TYPE OF PROTECTIVE CASING AND HEIGHT OF STICKUP IN FEET (If applicable)	flushmount	
PROTECTIVE CASING MATERIAL TYPE:		
MEASURE PROTECTIVE CASING INSIDE DIAMETER (Inches):		
LOCK PRESENT?	X	
LOCK FUNCTIONAL?		X
DID YOU REPLACE THE LOCK?		X
IS THERE EVIDENCE THAT THE WELL IS DOUBLE CASED? (If yes,describe below)		X
WELL MEASURING POINT VISIBLE?	~~X~~	X
MEASURE WELL DEPTH FROM MEASURING POINT (Feet):	15.60	
MEASURE DEPTH TO WATER FROM MEASURING POINT (Feet):	8.59	
MEASURE WELL DIAMETER (Inches):	2"	
WELL CASING MATERIAL:	4" Steel	
PHYSICAL CONDITION OF VISIBLE WELL CASING:	(rust)	
ATTACH ID MARKER (if well ID is confirmed) and IDENTIFY MARKER TYPE	NA	
PROXIMITY TO UNDERGROUND OR OVERHEAD UTILITIES	No	

DESCRIBE ACCESS TO WELL: (Include accessibility to truck mounted rig, natural obstructions, overhead power lines, proximity to permanent structures, etc.); ADD SKETCH OF LOCATION ON BACK, IF NECESSARY.

Good → In open field

DESCRIBE WELL SETTING (For example, located in a field, in a playground, on pavement, in a garden, etc.) AND ASSESS THE TYPE OF RESTORATION REQUIRED.

Open grassy field

IDENTIFY ANY NEARBY POTENTIAL SOURCES OF CONTAMINATION, IF PRESENT (e.g. Gas station, salt pile, etc.):

REMARKS:

Double cased → Steel casing Temp: 12.93°C Spec Cond: 0.434 ms/cm
DO: 14.5% DO: 1.50 mg/L 0.335 ms/cm
pH: 6.58 ORP: -202

Sketch

SITE NAME: Hancock

SITE ID.: 6021697
INSPECTOR: GW/BV
DATE/TIME: 11/30/11
WELL ID.: MW-5

MONITORING WELL FIELD INSPECTION LOG

	YES	NO
WELL VISIBLE? (If not, provide directions below)	X	
WELL COORDINATES? NYTM X_____ NYTM Y_____		
PDOP Reading from Trimble Pathfinder:_____ Satelites:_____		
GPS Method (circle) Trimble And/Or Magellan		

	YES	NO
WELL I.D. VISIBLE?		X
WELL LOCATION MATCH SITE MAP? (if not, sketch actual location on back)		

WELL I.D. AS IT APPEARS ON PROTECTIVE CASING OR WELL:

	YES	NO
SURFACE SEAL PRESENT?	X	
SURFACE SEAL COMPETENT? (If cracked, heaved etc., describe below)	X	
PROTECTIVE CASING IN GOOD CONDITION? (If damaged, describe below) many bolts	X	

HEADSPACE READING (ppm) AND INSTRUMENT USED: NA

TYPE OF PROTECTIVE CASING AND HEIGHT OF STICKUP IN FEET (If applicable)

PROTECTIVE CASING MATERIAL TYPE:

MEASURE PROTECTIVE CASING INSIDE DIAMETER (Inches):

	YES	NO
LOCK PRESENT?	X	
LOCK FUNCTIONAL?		X
DID YOU REPLACE THE LOCK?		X
IS THERE EVIDENCE THAT THE WELL IS DOUBLE CASED? (If yes,describe below)		X
WELL MEASURING POINT VISIBLE?		X

MEASURE WELL DEPTH FROM MEASURING POINT (Feet): 15.22

MEASURE DEPTH TO WATER FROM MEASURING POINT (Feet): 5.75

MEASURE WELL DIAMETER (Inches): 2"

WELL CASING MATERIAL: ~~steel~~ PVC

PHYSICAL CONDITION OF VISIBLE WELL CASING:

ATTACH ID MARKER (if well ID is confirmed) and IDENTIFY MARKER TYPE

PROXIMITY TO UNDERGROUND OR OVERHEAD UTILITIES

DESCRIBE ACCESS TO WELL: (Include accessibility to truck mounted rig, natural obstructions, overhead power lines, proximity to permanent structures, etc.); ADD SKETCH OF LOCATION ON BACK, IF NECESSARY.

Good

DESCRIBE WELL SETTING (For example, located in a field, in a playground, on pavement, in a garden, etc.) AND ASSESS THE TYPE OF RESTORATION REQUIRED.

Open, grassy field

IDENTIFY ANY NEARBY POTENTIAL SOURCES OF CONTAMINATION, IF PRESENT (e.g. Gas station, salt pile, etc.):

NA

REMARKS:

Temp 12.60 DO%10 50.7 pH 6.68

Spec Cond .549 DO 5.83 ORP -277.5

Spec Cond .419

Sketch

SITE NAME: Hancock

SITE ID.: 602146 97
INSPECTOR: GW/AV
DATE/TIME: 11/30/11
WEll ID.: MW-11

MONITORING WELL FIELD INSPECTION LOG

	YES	NO
WELL VISIBLE? (If not, provide directions below)	X	
WELL COORDINATES? NYTM X_____ NYTM Y_____		
PDOP Reading from Trimble Pathfinder:_____ Satelites:_____		
GPS Method (circle) Trimble And/Or Magellan		
WELL I.D. VISIBLE?	X	
WELL LOCATION MATCH SITE MAP? (if not, sketch actual location on back)	X	
WELL I.D. AS IT APPEARS ON PROTECTIVE CASING OR WELL:		
SURFACE SEAL PRESENT?	X	
SURFACE SEAL COMPETENT? (If cracked, heaved etc., describe below)	X	
PROTECTIVE CASING IN GOOD CONDITION? (If damaged, describe below)	X	

HEADSPACE READING (ppm) AND INSTRUMENT USED	
TYPE OF PROTECTIVE CASING AND HEIGHT OF STICKUP IN FEET (If applicable)	3 ft Stickup
PROTECTIVE CASING MATERIAL TYPE:	Steel
MEASURE PROTECTIVE CASING INSIDE DIAMETER (Inches):	

	YES	NO
LOCK PRESENT?	X	X
LOCK FUNCTIONAL?		X
DID YOU REPLACE THE LOCK?		X
IS THERE EVIDENCE THAT THE WELL IS DOUBLE CASED? (If yes,describe below)		X
WELL MEASURING POINT VISIBLE?		X

MEASURE WELL DEPTH FROM MEASURING POINT (Feet):	17.74
MEASURE DEPTH TO WATER FROM MEASURING POINT (Feet):	11.90
MEASURE WELL DIAMETER (Inches):	2"
WELL CASING MATERIAL:	Steel
PHYSICAL CONDITION OF VISIBLE WELL CASING:	Good
ATTACH ID MARKER (if well ID is confirmed) and IDENTIFY MARKER TYPE	NA
PROXIMITY TO UNDERGROUND OR OVERHEAD UTILITIES	Far, new system trenching

DESCRIBE ACCESS TO WELL: (Include accessibility to truck mounted rig, natural obstructions, overhead power lines, proximity to permanent structures, etc.); ADD SKETCH OF LOCATION ON BACK, IF NECESSARY.

Good → In open field

DESCRIBE WELL SETTING (For example, located in a field, in a playground, on pavement, in a garden, etc.) AND ASSESS THE TYPE OF RESTORATION REQUIRED.

Open grassy field

IDENTIFY ANY NEARBY POTENTIAL SOURCES OF CONTAMINATION, IF PRESENT (e.g. Gas station, salt pile, etc.):

REMARKS:

Temp 12.50 DO% 4.5 pH 6.51
Spec Cond 1.077 DO 0.47 ORP -355.3
Spec Cond 0.520

Sketch

SITE NAME: Hancock

SITE ID.: 6024697
INSPECTOR: GW/AV
DATE/TIME: 11/30/11
WELL ID.: MW-12D

MONITORING WELL FIELD INSPECTION LOG

	YES	NO
WELL VISIBLE? (If not, provide directions below)	X	

WELL COORDINATES? NYTM X_____ NYTM Y_____
PDOP Reading from Trimble Pathfinder:_____ Satelites:_____
GPS Method (circle) Trimble And/Or Magellan

	YES	NO
WELL I.D. VISIBLE?		X
WELL LOCATION MATCH SITE MAP? (if not, sketch actual location on back)	X	

WELL I.D. AS IT APPEARS ON PROTECTIVE CASING OR WELL: .....

	YES	NO
SURFACE SEAL PRESENT?	X	
SURFACE SEAL COMPETENT? (If cracked, heaved etc., describe below) ..... heaved off the well to the East ~ 1 ft.		X
PROTECTIVE CASING IN GOOD CONDITION? (If damaged, describe below)		X

HEADSPACE READING (ppm) AND INSTRUMENT USED.....
TYPE OF PROTECTIVE CASING AND HEIGHT OF STICKUP IN FEET (If applicable)
PROTECTIVE CASING MATERIAL TYPE: .....
MEASURE PROTECTIVE CASING INSIDE DIAMETER (Inches): .....

	YES	NO
LOCK PRESENT?		X
LOCK FUNCTIONAL?		X
DID YOU REPLACE THE LOCK?		X
IS THERE EVIDENCE THAT THE WELL IS DOUBLE CASED? (If yes,describe below)		X
WELL MEASURING POINT VISIBLE?		X

MEASURE WELL DEPTH FROM MEASURING POINT (Feet): 53.45
MEASURE DEPTH TO WATER FROM MEASURING POINT (Feet): 7.90
MEASURE WELL DIAMETER (Inches): ..... 2"
WELL CASING MATERIAL: ..... Steel
PHYSICAL CONDITION OF VISIBLE WELL CASING: ..... Bad
ATTACH ID MARKER (if well ID is confirmed) and IDENTIFY MARKER TYPE .....
PROXIMITY TO UNDERGROUND OR OVERHEAD UTILITIES.....

DESCRIBE ACCESS TO WELL: (Include accessibility to truck mounted rig, natural obstructions, overhead power lines, proximity to permanent structures, etc.); ADD SKETCH OF LOCATION ON BACK, IF NECESSARY.
Good

DESCRIBE WELL SETTING (For example, located in a field, in a playground, on pavement, in a garden, etc.) AND ASSESS THE TYPE OF RESTORATION REQUIRED.
Open, grassy field

IDENTIFY ANY NEARBY POTENTIAL SOURCES OF CONTAMINATION, IF PRESENT (e.g. Gas station, salt pile, etc.):
NA

REMARKS:
Well in acceptable shape. Temp 11.50 DO% 19.7 pH 6.49
Spec Cond 1.313 DO 2.05 ORP -341.6
Spec Cond 0.781

Sketch

SITE NAME: Hancock

SITE ID.: 6021697
INSPECTOR: GW/AV
DATE/TIME: 11/30/11
WELL ID.: MW-12S

MONITORING WELL FIELD INSPECTION LOG

	YES	NO
WELL VISIBLE? (If not, provide directions below)	X	

WELL COORDINATES? NYTM X_____ NYTM Y_____
PDOP Reading from Trimble Pathfinder:_____ Satelites:_____
GPS Method (circle) Trimble And/Or Magellan

	YES	NO
WELL I.D. VISIBLE?		X
WELL LOCATION MATCH SITE MAP? (if not, sketch actual location on back)	X	

WELL I.D. AS IT APPEARS ON PROTECTIVE CASING OR WELL:

	YES	NO
SURFACE SEAL PRESENT?	X	
SURFACE SEAL COMPETENT? (If cracked, heaved etc., describe below)	X	
PROTECTIVE CASING IN GOOD CONDITION? (If damaged, describe below)		X

Stickup casing is bent to be almost parallel to ground. Well rendered useless due to damage.

HEADSPACE READING (ppm) AND INSTRUMENT USED:
TYPE OF PROTECTIVE CASING AND HEIGHT OF STICKUP IN FEET (If applicable): Stick-up
PROTECTIVE CASING MATERIAL TYPE:
MEASURE PROTECTIVE CASING INSIDE DIAMETER (Inches):

	YES	NO
LOCK PRESENT?	X	
LOCK FUNCTIONAL?		X
DID YOU REPLACE THE LOCK?		X
IS THERE EVIDENCE THAT THE WELL IS DOUBLE CASED? (If yes,describe below)		X
WELL MEASURING POINT VISIBLE?		X

MEASURE WELL DEPTH FROM MEASURING POINT (Feet):
MEASURE DEPTH TO WATER FROM MEASURING POINT (Feet):
MEASURE WELL DIAMETER (Inches):
WELL CASING MATERIAL:
PHYSICAL CONDITION OF VISIBLE WELL CASING:
ATTACH ID MARKER (if well ID is confirmed) and IDENTIFY MARKER TYPE
PROXIMITY TO UNDERGROUND OR OVERHEAD UTILITIES

DESCRIBE ACCESS TO WELL: (Include accessibility to truck mounted rig, natural obstructions, overhead power lines, proximity to permanent structures, etc.); ADD SKETCH OF LOCATION ON BACK, IF NECESSARY.

Good

DESCRIBE WELL SETTING (For example, located in a field, in a playground, on pavement, in a garden, etc.) AND ASSESS THE TYPE OF RESTORATION REQUIRED.

Open, grassy field

IDENTIFY ANY NEARBY POTENTIAL SOURCES OF CONTAMINATION, IF PRESENT (e.g. Gas station, salt pile, etc.):

NA

REMARKS:

Temp DO% pH
Spec Cond DO ORP
Spec Cond

Sketch

SITE NAME: Hancock

SITE ID.: 6021697
INSPECTOR: GW/AV
DATE/TIME: 11/30/11
WELL ID.: MW-13

MONITORING WELL FIELD INSPECTION LOG

	YES	NO
WELL VISIBLE? (If not, provide directions below)	X	

WELL COORDINATES? NYTM X_____ NYTM Y_____
PDOP Reading from Trimble Pathfinder:_____ Satelites:_____
GPS Method (circle) Trimble And/Or Magellan

	YES	NO
WELL I.D. VISIBLE?		X
WELL LOCATION MATCH SITE MAP? (if not, sketch actual location on back)	X	

WELL I.D. AS IT APPEARS ON PROTECTIVE CASING OR WELL: Sewer Co.

	YES	NO
SURFACE SEAL PRESENT?	X	
SURFACE SEAL COMPETENT? (If cracked, heaved etc., describe below)	X	
PROTECTIVE CASING IN GOOD CONDITION? (If damaged, describe below)	X	

HEADSPACE READING (ppm) AND INSTRUMENT USED: NA
TYPE OF PROTECTIVE CASING AND HEIGHT OF STICKUP IN FEET (If applicable): flush
PROTECTIVE CASING MATERIAL TYPE:
MEASURE PROTECTIVE CASING INSIDE DIAMETER (Inches):

	YES	NO
LOCK PRESENT?	X	
LOCK FUNCTIONAL?		X
DID YOU REPLACE THE LOCK?		X
IS THERE EVIDENCE THAT THE WELL IS DOUBLE CASED? (If yes,describe below)		X
WELL MEASURING POINT VISIBLE?		

MEASURE WELL DEPTH FROM MEASURING POINT (Feet): 16.70
MEASURE DEPTH TO WATER FROM MEASURING POINT (Feet): 8.96
MEASURE WELL DIAMETER (Inches): 2"
WELL CASING MATERIAL: Steel
PHYSICAL CONDITION OF VISIBLE WELL CASING: good
ATTACH ID MARKER (if well ID is confirmed) and IDENTIFY MARKER TYPE
PROXIMITY TO UNDERGROUND OR OVERHEAD UTILITIES: NA

DESCRIBE ACCESS TO WELL: (Include accessibility to truck mounted rig, natural obstructions, overhead power lines, proximity to permanent structures, etc.); ADD SKETCH OF LOCATION ON BACK, IF NECESSARY.
Good

DESCRIBE WELL SETTING (For example, located in a field, in a playground, on pavement, in a garden, etc.) AND ASSESS THE TYPE OF RESTORATION REQUIRED.
Open, grassy field

IDENTIFY ANY NEARBY POTENTIAL SOURCES OF CONTAMINATION, IF PRESENT (e.g. Gas station, salt pile, etc.):

REMARKS:
Casing causes depression in pavement where H2O pools over well
Temp 14.96
Spec cond 4.374 DO% Sketch 23.3 pH 6.75
Spec Cond 3.555 DO 2.33 ORP -293.0

SITE NAME: Hancock

SITE ID.: 60214697
INSPECTOR: GW/BV
DATE/TIME: 11/30/11
WELL ID.: MW-14

MONITORING WELL FIELD INSPECTION LOG

	YES	NO
WELL VISIBLE? (If not, provide directions below)	X	

WELL COORDINATES? NYTM X_____ NYTM Y_____
PDOP Reading from Trimble Pathfinder:_____ Satelites:_____
GPS Method (circle) Trimble And/Or Magellan

	YES	NO
WELL I.D. VISIBLE?	X	
WELL LOCATION MATCH SITE MAP? (if not, sketch actual location on back)	X	

WELL I.D. AS IT APPEARS ON PROTECTIVE CASING OR WELL: MW-14

	YES	NO
SURFACE SEAL PRESENT?	X	
SURFACE SEAL COMPETENT? (If cracked, heaved etc., describe below)	X	
PROTECTIVE CASING IN GOOD CONDITION? (If damaged, describe below)	X	

HEADSPACE READING (ppm) AND INSTRUMENT USED: N/A
TYPE OF PROTECTIVE CASING AND HEIGHT OF STICKUP IN FEET (If applicable): 3.5 ft
PROTECTIVE CASING MATERIAL TYPE: Steel
MEASURE PROTECTIVE CASING INSIDE DIAMETER (Inches): _____

	YES	NO
LOCK PRESENT?	X	
LOCK FUNCTIONAL?		X
DID YOU REPLACE THE LOCK?		X
IS THERE EVIDENCE THAT THE WELL IS DOUBLE CASED? (If yes,describe below)		X
WELL MEASURING POINT VISIBLE?	X	

MEASURE WELL DEPTH FROM MEASURING POINT (Feet): 18.09
MEASURE DEPTH TO WATER FROM MEASURING POINT (Feet): 12.44
MEASURE WELL DIAMETER (Inches): 2"
WELL CASING MATERIAL: Steel
PHYSICAL CONDITION OF VISIBLE WELL CASING: Good
ATTACH ID MARKER (if well ID is confirmed) and IDENTIFY MARKER TYPE _____
PROXIMITY TO UNDERGROUND OR OVERHEAD UTILITIES: NA

DESCRIBE ACCESS TO WELL: (Include accessibility to truck mounted rig, natural obstructions, overhead power lines, proximity to permanent structures, etc.); ADD SKETCH OF LOCATION ON BACK, IF NECESSARY.
Good

DESCRIBE WELL SETTING (For example, located in a field, in a playground, on pavement, in a garden, etc.) AND ASSESS THE TYPE OF RESTORATION REQUIRED.
Open field

IDENTIFY ANY NEARBY POTENTIAL SOURCES OF CONTAMINATION, IF PRESENT
(e.g. Gas station, salt pile, etc.):

REMARKS:
Temp 12.63 Spec Cond 8.162 DO% 6.8 pH 6.60
" " 0.887 DO 0.70 ORP -108.6
J - Plug sticks up so that Sketch casing does not sit snug

SITE NAME: Hancock

SITE ID.: 6021497
INSPECTOR: AV/GW
DATE/TIME: 11/30/11
WELL ID.: MW-16

MONITORING WELL FIELD INSPECTION LOG

	YES	NO
WELL VISIBLE? (If not, provide directions below)	✓	

WELL COORDINATES? NYTM X_____ NYTM Y_____
PDOP Reading from Trimble Pathfinder:_____ Satelites:_____
GPS Method (circle) Trimble And/Or Magellan

	YES	NO
WELL I.D. VISIBLE?	✓	
WELL LOCATION MATCH SITE MAP? (if not, sketch actual location on back)	✓	

WELL I.D. AS IT APPEARS ON PROTECTIVE CASING OR WELL:

	YES	NO
SURFACE SEAL PRESENT?	✓	
SURFACE SEAL COMPETENT? (If cracked, heaved etc., describe below)	✓	
PROTECTIVE CASING IN GOOD CONDITION? (If damaged, describe below)	✓	

HEADSPACE READING (ppm) AND INSTRUMENT USED: —
TYPE OF PROTECTIVE CASING AND HEIGHT OF STICKUP IN FEET (If applicable): 3'
PROTECTIVE CASING MATERIAL TYPE: Steel
MEASURE PROTECTIVE CASING INSIDE DIAMETER (Inches): 8"

	YES	NO
LOCK PRESENT?	✓	
LOCK FUNCTIONAL?		✓
DID YOU REPLACE THE LOCK?		✓
IS THERE EVIDENCE THAT THE WELL IS DOUBLE CASED? (If yes,describe below)		✓
WELL MEASURING POINT VISIBLE?	✓	

MEASURE WELL DEPTH FROM MEASURING POINT (Feet): 18.82
MEASURE DEPTH TO WATER FROM MEASURING POINT (Feet): 11.95
MEASURE WELL DIAMETER (Inches): 2"
WELL CASING MATERIAL: Steel
PHYSICAL CONDITION OF VISIBLE WELL CASING: Good
ATTACH ID MARKER (if well ID is confirmed) and IDENTIFY MARKER TYPE —
PROXIMITY TO UNDERGROUND OR OVERHEAD UTILITIES: No

DESCRIBE ACCESS TO WELL: (Include accessibility to truck mounted rig, natural obstructions, overhead power lines, proximity to permanent structures, etc.); ADD SKETCH OF LOCATION ON BACK, IF NECESSARY.
Good

DESCRIBE WELL SETTING (For example, located in a field, in a playground, on pavement, in a garden, etc.) AND ASSESS THE TYPE OF RESTORATION REQUIRED.
Open, grassy field

IDENTIFY ANY NEARBY POTENTIAL SOURCES OF CONTAMINATION, IF PRESENT (e.g. Gas station, salt pile, etc.):

REMARKS:
Temp 14.11 Spec Cond 1.939 DO% 2.9 pH 6.81
" " 1.535 DO 0.30 ORP -30 1.0

Sketch

SITE NAME: Hancock

SITE ID.: 6021497
INSPECTOR: GW/HV
DATE/TIME: 11/30/11
WELL ID.: MW-16

MONITORING WELL FIELD INSPECTION LOG

	YES	NO
WELL VISIBLE? (If not, provide directions below)	X	

WELL COORDINATES? NYTM X_____ NYTM Y_____
PDOP Reading from Trimble Pathfinder:_____ Satelites:_____
GPS Method (circle) Trimble And/Or Magellan

	YES	NO
WELL I.D. VISIBLE?		X
WELL LOCATION MATCH SITE MAP? (if not, sketch actual location on back)	X	

WELL I.D. AS IT APPEARS ON PROTECTIVE CASING OR WELL:

	YES	NO
SURFACE SEAL PRESENT?	X	
SURFACE SEAL COMPETENT? (If cracked, heaved etc., describe below)	X	
PROTECTIVE CASING IN GOOD CONDITION? (If damaged, describe below)	X	

HEADSPACE READING (ppm) AND INSTRUMENT USED
TYPE OF PROTECTIVE CASING AND HEIGHT OF STICKUP IN FEET (If applicable): Flushmount
PROTECTIVE CASING MATERIAL TYPE:
MEASURE PROTECTIVE CASING INSIDE DIAMETER (Inches):

	YES	NO
LOCK PRESENT?		X
LOCK FUNCTIONAL?		X
DID YOU REPLACE THE LOCK?		X
IS THERE EVIDENCE THAT THE WELL IS DOUBLE CASED? (If yes,describe below)		X
WELL MEASURING POINT VISIBLE?	X	

MEASURE WELL DEPTH FROM MEASURING POINT (Feet): 15.30
MEASURE DEPTH TO WATER FROM MEASURING POINT (Feet): 5.20
MEASURE WELL DIAMETER (Inches): 2"
WELL CASING MATERIAL: Steel
PHYSICAL CONDITION OF VISIBLE WELL CASING: Good
ATTACH ID MARKER (if well ID is confirmed) and IDENTIFY MARKER TYPE
PROXIMITY TO UNDERGROUND OR OVERHEAD UTILITIES: far

DESCRIBE ACCESS TO WELL: (Include accessibility to truck mounted rig, natural obstructions, overhead power lines, proximity to permanent structures, etc.); ADD SKETCH OF LOCATION ON BACK, IF NECESSARY.
Good

DESCRIBE WELL SETTING (For example, located in a field, in a playground, on pavement, in a garden, etc.) AND ASSESS THE TYPE OF RESTORATION REQUIRED.
Open, grassy field

IDENTIFY ANY NEARBY POTENTIAL SOURCES OF CONTAMINATION, IF PRESENT (e.g. Gas station, salt pile, etc.):
NA

REMARKS:
Well depressed below grass. Temp 13.30 DO% 46.6 pH 6.57
~ 10' N of Sipling tree Spec Cond 0.156 DO 4.86 ORP -277.9
Sketch
Spec Cond 0.123

SITE NAME: Hancock

SITE ID.: 602/4697
INSPECTOR: GG/AV
DATE/TIME: 11/30/11
WELL ID.: MW-28 In SB-21 area

MONITORING WELL FIELD INSPECTION LOG

	YES	NO
WELL VISIBLE? (If not, provide directions below)	X	

WELL COORDINATES? NYTM X_____ NYTM Y_____
PDOP Reading from Trimble Pathfinder:_____ Satelites:_____
GPS Method (circle) Trimble And/Or Magellan

	YES	NO
WELL I.D. VISIBLE?		X
WELL LOCATION MATCH SITE MAP? (if not, sketch actual location on back)		

	YES	NO
WELL I.D. AS IT APPEARS ON PROTECTIVE CASING OR WELL:		
SURFACE SEAL PRESENT?	X	
SURFACE SEAL COMPETENT? (If cracked, heaved etc., describe below)	X	
PROTECTIVE CASING IN GOOD CONDITION? (If damaged, describe below)	X	

HEADSPACE READING (ppm) AND INSTRUMENT USED	
TYPE OF PROTECTIVE CASING AND HEIGHT OF STICKUP IN FEET (If applicable)	flushmount
PROTECTIVE CASING MATERIAL TYPE:	Steel
MEASURE PROTECTIVE CASING INSIDE DIAMETER (Inches):	

	YES	NO
LOCK PRESENT?	✓	
LOCK FUNCTIONAL?		X
DID YOU REPLACE THE LOCK?		X
IS THERE EVIDENCE THAT THE WELL IS DOUBLE CASED? (If yes,describe below)		X
WELL MEASURING POINT VISIBLE?	✓	

MEASURE WELL DEPTH FROM MEASURING POINT (Feet):	17.20
MEASURE DEPTH TO WATER FROM MEASURING POINT (Feet):	10.0
MEASURE WELL DIAMETER (Inches):	2"
WELL CASING MATERIAL:	Steel
PHYSICAL CONDITION OF VISIBLE WELL CASING:	Good
ATTACH ID MARKER (if well ID is confirmed) and IDENTIFY MARKER TYPE	
PROXIMITY TO UNDERGROUND OR OVERHEAD UTILITIES	

DESCRIBE ACCESS TO WELL: (Include accessibility to truck mounted rig, natural obstructions, overhead power lines, proximity to permanent structures, etc.); ADD SKETCH OF LOCATION ON BACK, IF NECESSARY.
Good

DESCRIBE WELL SETTING (For example, located in a field, in a playground, on pavement, in a garden, etc.) AND ASSESS THE TYPE OF RESTORATION REQUIRED.
Open, grassy field

IDENTIFY ANY NEARBY POTENTIAL SOURCES OF CONTAMINATION, IF PRESENT (e.g. Gas station, salt pile, etc.):
NA

REMARKS:
Temp 13.29 DO% 36.6 pH 6.62
Spec Cond 0.592 DO 3.52 ORP -249.2
Spec Cond 0.466

Sketch

SITE NAME: Hancock

SITE ID.: 602/4697

INSPECTOR: GLW

DATE/TIME: 11/30/11

WELL ID.: MW-101

MONITORING WELL FIELD INSPECTION LOG

	YES	NO
WELL VISIBLE? (If not, provide directions below)	✓	

WELL COORDINATES? NYTM X_____ NYTM Y_____

PDOP Reading from Trimble Pathfinder:_____ Satelites:_____

GPS Method (circle) Trimble And/Or Magellan

	YES	NO
WELL I.D. VISIBLE?		✓
WELL LOCATION MATCH SITE MAP? (if not, sketch actual location on back)	✓	

WELL I.D. AS IT APPEARS ON PROTECTIVE CASING OR WELL: .....

	YES	NO
SURFACE SEAL PRESENT?	✓	
SURFACE SEAL COMPETENT? (If cracked, heaved etc., describe below)	✓	
PROTECTIVE CASING IN GOOD CONDITION? (If damaged, describe below)	✓	

HEADSPACE READING (ppm) AND INSTRUMENT USED	–
TYPE OF PROTECTIVE CASING AND HEIGHT OF STICKUP IN FEET (If applicable)	flushmount
PROTECTIVE CASING MATERIAL TYPE:	
MEASURE PROTECTIVE CASING INSIDE DIAMETER (Inches):	

	YES	NO
LOCK PRESENT?	✓	
LOCK FUNCTIONAL?		✓
DID YOU REPLACE THE LOCK?		✓
IS THERE EVIDENCE THAT THE WELL IS DOUBLE CASED? (If yes,describe below)		✓
WELL MEASURING POINT VISIBLE?	✓	

MEASURE WELL DEPTH FROM MEASURING POINT (Feet):	~~21.41~~ 21.41 (DTB)
MEASURE DEPTH TO WATER FROM MEASURING POINT (Feet):	DTP: 9.99 DTW: 10.04
MEASURE WELL DIAMETER (Inches):	2"
WELL CASING MATERIAL:	Sched. 40
PHYSICAL CONDITION OF VISIBLE WELL CASING:	good
ATTACH ID MARKER (if well ID is confirmed) and IDENTIFY MARKER TYPE	Sharpie on plug
PROXIMITY TO UNDERGROUND OR OVERHEAD UTILITIES	far, but system trenching near

DESCRIBE ACCESS TO WELL: (Include accessibility to truck mounted rig, natural obstructions, overhead power lines, proximity to permanent structures, etc.); ADD SKETCH OF LOCATION ON BACK, IF NECESSARY.

in open field - good

DESCRIBE WELL SETTING (For example, located in a field, in a playground, on pavement, in a garden, etc.) AND ASSESS THE TYPE OF RESTORATION REQUIRED.

open grassy field

IDENTIFY ANY NEARBY POTENTIAL SOURCES OF CONTAMINATION, IF PRESENT (e.g. Gas station, salt pile, etc.):

NA

REMARKS:

performed skim test on well today

Sketch

SITE NAME: Hancock

SITE ID.: 602/4697
INSPECTOR: CW/AV
DATE/TIME: 11/30/11
WELl ID.: MW-102

MONITORING WELL FIELD INSPECTION LOG

	YES	NO
WELL VISIBLE? (If not, provide directions below)	X	

WELL COORDINATES? NYTM X_____ NYTM Y_____
PDOP Reading from Trimble Pathfinder:_____ Satelites:_____
GPS Method (circle) Trimble And/Or Magellan

	YES	NO
WELL I.D. VISIBLE?		X
WELL LOCATION MATCH SITE MAP? (if not, sketch actual location on back)	X	

WELL I.D. AS IT APPEARS ON PROTECTIVE CASING OR WELL:

	YES	NO
SURFACE SEAL PRESENT?	X	
SURFACE SEAL COMPETENT? (If cracked, heaved etc., describe below)	X	
PROTECTIVE CASING IN GOOD CONDITION? (If damaged, describe below)	X	

HEADSPACE READING (ppm) AND INSTRUMENT USED:
TYPE OF PROTECTIVE CASING AND HEIGHT OF STICKUP IN FEET (If applicable):
PROTECTIVE CASING MATERIAL TYPE:
MEASURE PROTECTIVE CASING INSIDE DIAMETER (Inches):

	YES	NO
LOCK PRESENT?	X	
LOCK FUNCTIONAL?		X
DID YOU REPLACE THE LOCK?		X
IS THERE EVIDENCE THAT THE WELL IS DOUBLE CASED? (If yes,describe below)		X
WELL MEASURING POINT VISIBLE?		

MEASURE WELL DEPTH FROM MEASURING POINT (Feet): 22.49
MEASURE DEPTH TO WATER FROM MEASURING POINT (Feet): 8.57
MEASURE WELL DIAMETER (Inches): 2"
WELL CASING MATERIAL: sched 40
PHYSICAL CONDITION OF VISIBLE WELL CASING: good
ATTACH ID MARKER (if well ID is confirmed) and IDENTIFY MARKER TYPE: -
PROXIMITY TO UNDERGROUND OR OVERHEAD UTILITIES: ~25'

DESCRIBE ACCESS TO WELL: (Include accessibility to truck mounted rig, natural obstructions, overhead power lines, proximity to permanent structures, etc.); ADD SKETCH OF LOCATION ON BACK, IF NECESSARY.

good

DESCRIBE WELL SETTING (For example, located in a field, in a playground, on pavement, in a garden, etc.) AND ASSESS THE TYPE OF RESTORATION REQUIRED.

in grassy area

IDENTIFY ANY NEARBY POTENTIAL SOURCES OF CONTAMINATION, IF PRESENT (e.g. Gas station, salt pile, etc.)

NA

REMARKS:

Temp 14.73 Spec Cond 2.793 DO% 1.5 pH 6.68
" " 2.243 DO 0.14 ORP -334.5

Sketch

SITE NAME: Hancock

SITE ID.: 602146 97
INSPECTOR: GW/AV
DATE/TIME: 11/30/11
WELl ID.: MW-108

MONITORING WELL FIELD INSPECTION LOG

	YES	NO
WELL VISIBLE? (If not, provide directions below)	X	
WELL COORDINATES? NYTM X_____ NYTM Y_____		
PDOP Reading from Trimble Pathfinder:_____ Satelites:_____		
GPS Method (circle) Trimble And/Or Magellan		

	YES	NO
WELL I.D. VISIBLE?		X
WELL LOCATION MATCH SITE MAP? (if not, sketch actual location on back)	X	

WELL I.D. AS IT APPEARS ON PROTECTIVE CASING OR WELL:

	YES	NO
SURFACE SEAL PRESENT?	X	
SURFACE SEAL COMPETENT? (If cracked, heaved etc., describe below)	X	
PROTECTIVE CASING IN GOOD CONDITION? (If damaged, describe below) Missing 3 bolts	X	

HEADSPACE READING (ppm) AND INSTRUMENT USED

TYPE OF PROTECTIVE CASING AND HEIGHT OF STICKUP IN FEET (If applicable): Flushmount

PROTECTIVE CASING MATERIAL TYPE: Steel

MEASURE PROTECTIVE CASING INSIDE DIAMETER (Inches):

	YES	NO
LOCK PRESENT?		X
LOCK FUNCTIONAL?		X
DID YOU REPLACE THE LOCK?		X
IS THERE EVIDENCE THAT THE WELL IS DOUBLE CASED? (If yes,describe below)	X	
WELL MEASURING POINT VISIBLE?		X

MEASURE WELL DEPTH FROM MEASURING POINT (Feet): 19.28

MEASURE DEPTH TO WATER FROM MEASURING POINT (Feet): 8.45

MEASURE WELL DIAMETER (Inches): 2"

WELL CASING MATERIAL: Steel

PHYSICAL CONDITION OF VISIBLE WELL CASING: good

ATTACH ID MARKER (if well ID is confirmed) and IDENTIFY MARKER TYPE

PROXIMITY TO UNDERGROUND OR OVERHEAD UTILITIES

DESCRIBE ACCESS TO WELL: (Include accessibility to truck mounted rig, natural obstructions, overhead power lines, proximity to permanent structures, etc.); ADD SKETCH OF LOCATION ON BACK, IF NECESSARY.

Good

DESCRIBE WELL SETTING (For example, located in a field, in a playground, on pavement, in a garden, etc.) AND ASSESS THE TYPE OF RESTORATION REQUIRED.

Open, grassy field

IDENTIFY ANY NEARBY POTENTIAL SOURCES OF CONTAMINATION, IF PRESENT (e.g. Gas station, salt pile, etc.):

NA

REMARKS: Casing filling w/ water

Sketch

SITE NAME: Hancock

SITE ID.: 60214697
INSPECTOR: GW/AV
DATE/TIME: 11/30/11
WELL ID.: ~~MW-13~~ MW-109

MONITORING WELL FIELD INSPECTION LOG

	YES	NO
WELL VISIBLE? (If not, provide directions below)	X	

WELL COORDINATES? NYTM X_____ NYTM Y_____
PDOP Reading from Trimble Pathfinder:_____ Satelites:_____
GPS Method (circle) Trimble And/Or Magellan

	YES	NO
WELL I.D. VISIBLE?		X
WELL LOCATION MATCH SITE MAP? (if not, sketch actual location on back)	X	

WELL I.D. AS IT APPEARS ON PROTECTIVE CASING OR WELL:

	YES	NO
SURFACE SEAL PRESENT?	X	
SURFACE SEAL COMPETENT? (If cracked, heaved etc., describe below)	X	
PROTECTIVE CASING IN GOOD CONDITION? (If damaged, describe below)	X	

HEADSPACE READING (ppm) AND INSTRUMENT USED: NA
TYPE OF PROTECTIVE CASING AND HEIGHT OF STICKUP IN FEET (If applicable): flush
PROTECTIVE CASING MATERIAL TYPE:
MEASURE PROTECTIVE CASING INSIDE DIAMETER (Inches):

	YES	NO
LOCK PRESENT?		
LOCK FUNCTIONAL?		
DID YOU REPLACE THE LOCK?		
IS THERE EVIDENCE THAT THE WELL IS DOUBLE CASED? (If yes,describe below)		
WELL MEASURING POINT VISIBLE?		

MEASURE WELL DEPTH FROM MEASURING POINT (Feet): 14.54
MEASURE DEPTH TO WATER FROM MEASURING POINT (Feet): 8.8 ft
MEASURE WELL DIAMETER (Inches): 2"
WELL CASING MATERIAL: steel
PHYSICAL CONDITION OF VISIBLE WELL CASING: good
ATTACH ID MARKER (if well ID is confirmed) and IDENTIFY MARKER TYPE
PROXIMITY TO UNDERGROUND OR OVERHEAD UTILITIES: Rv

DESCRIBE ACCESS TO WELL: (Include accessibility to truck mounted rig, natural obstructions, overhead power lines, proximity to permanent structures, etc.); ADD SKETCH OF LOCATION ON BACK, IF NECESSARY.
Good

DESCRIBE WELL SETTING (For example, located in a field, in a playground, on pavement, in a garden, etc.) AND ASSESS THE TYPE OF RESTORATION REQUIRED.
Open, grassy field

IDENTIFY ANY NEARBY POTENTIAL SOURCES OF CONTAMINATION, IF PRESENT (e.g. Gas station, salt pile, etc.):
N/A

REMARKS:
YSI did not fit into well

Sketch

SITE NAME: Hancock

SITE ID.: 60219697
INSPECTOR: GW/AV
DATE/TIME: 11/30/11
WELl ID.: RW-1

MONITORING WELL FIELD INSPECTION LOG

	YES	NO
WELL VISIBLE? (If not, provide directions below)	X	

WELL COORDINATES? NYTM X_____ NYTM Y_____
PDOP Reading from Trimble Pathfinder:_____ Satelites:_____
GPS Method (circle) Trimble And/Or Magellan

	YES	NO
WELL I.D. VISIBLE?		X
WELL LOCATION MATCH SITE MAP? (if not, sketch actual location on back)	X	

WELL I.D. AS IT APPEARS ON PROTECTIVE CASING OR WELL:

	YES	NO
SURFACE SEAL PRESENT?	X	
SURFACE SEAL COMPETENT? (If cracked, heaved etc., describe below)	X	
PROTECTIVE CASING IN GOOD CONDITION? (If damaged, describe below)	X	

HEADSPACE READING (ppm) AND INSTRUMENT USED: N/A
TYPE OF PROTECTIVE CASING AND HEIGHT OF STICKUP IN FEET (If applicable) 2.5Ft ~~Steel~~ stick-up
PROTECTIVE CASING MATERIAL TYPE: Steel
MEASURE PROTECTIVE CASING INSIDE DIAMETER (Inches):

	YES	NO
LOCK PRESENT?		X
LOCK FUNCTIONAL?		X
DID YOU REPLACE THE LOCK?		X
IS THERE EVIDENCE THAT THE WELL IS DOUBLE CASED? (If yes,describe below)		X
WELL MEASURING POINT VISIBLE?	X	

MEASURE WELL DEPTH FROM MEASURING POINT (Feet): 19.65
MEASURE DEPTH TO WATER FROM MEASURING POINT (Feet): 9.93
MEASURE WELL DIAMETER (Inches): 8"
WELL CASING MATERIAL: Steel
PHYSICAL CONDITION OF VISIBLE WELL CASING: Good
ATTACH ID MARKER (if well ID is confirmed) and IDENTIFY MARKER TYPE
PROXIMITY TO UNDERGROUND OR OVERHEAD UTILITIES

DESCRIBE ACCESS TO WELL: (Include accessibility to truck mounted rig, natural obstructions, overhead power lines, proximity to permanent structures, etc.); ADD SKETCH OF LOCATION ON BACK, IF NECESSARY.
Good

DESCRIBE WELL SETTING (For example, located in a field, in a playground, on pavement, in a garden, etc.) AND ASSESS THE TYPE OF RESTORATION REQUIRED.
Open field

IDENTIFY ANY NEARBY POTENTIAL SOURCES OF CONTAMINATION, IF PRESENT
(e.g. Gas station, salt pile, etc.):

REMARKS:
Temp 13.50 DO % 2.8 ORP ~~-291~~ -291.2
Spec Cond 1.108 DO 0.30 pH 6.71
Spec Cond 0.864

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Appendix B

Groundwater Sampling Forms

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MONITORING WELL SAMPLE COLLECTION FORM
HANCOCK ANGB - ERP SITE 15

LOCATION	Site: Hancock	LocID: MW-11	Date: 6/4/13
	Project Name: Hancock ANGB ERP Site 15	Project #: 60214697	Recorded By: GLW Checked By:
EQUIPMENT	H2O Quality Meter Type/ID #: YSI 600 XL	Sampling Equipment: Peri Pump	PID Type/ID #: NA
	Water Level Indicator Type/ID #: Geotech Interface Probe	Equipment Decon.: Liquinox and Potable Wash/Potable Rinse/Distilled Rinse	
WELL INFO	Casing I.D. (in): 2"	Ambient PID (ppm):	Initial Depth to Water (ft): 10.55
	Ground Condition of Well: good	Well Mouth PID (ppm): NA	Total Well Depth (ft): ~16.5
	Approximate Pump Intake Depth (ft): 16'		
	Remarks: Begin purge @ 1535		

Date (mm/dd/yy)	Time (24 hr)	Water Level (FTOC)	Volume Removed (Gals)	Pumping Rate (Lpm)	Temp. (C)	Specific Conduct. (mS/cm)	DO (mg/L)	pH	ORP (mv)	Turb. (NTU)	Pump Refill/Discharge (Seconds)	PSI (pump)	Note
6/4/13	1538	10.59	initial		12.67	1.042	1.80	7.00	-76.0	642			20%
	1543	10.59	0.40		10.42	0.977	0.47	6.95	-66.9	46.5			16.0
	1548	10.59	0.75		10.35	0.964	0.30	7.00	-64.7	13.9			4.3
	1553	10.59	1.0		10.44	0.964	0.23	7.02	-65.7	10.46			2.6
	1558	10.59	1.35		10.39	0.963	0.23	7.04	-71.0	10.23			2.1
	1603	10.59	1.70		10.42	0.963	0.23	7.03	-72.3	8.56			2.0

Pumping Rate:<=0.5 L/min **Drawdown:** <0.33 ft **Measurements:**3-5 min **Stabilization:**+/- 0.5 C, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, +/- 10% turb (<= 10 NTU ideal) **All for 3 consecutive readings**

Sample ID #(s)/Time(s)	# of conts./Vol./Type	Preservative	Parameter(s)
MW11-060413 @ 1604	(3) 40 mL VOAs	HCl	VOCs by 8260B

MONITORING WELL SAMPLE COLLECTION FORM
HANCOCK ANGB - ERP SITE 15

LOCATION	Site: Hancock	LocID: MW-14	Date: 6/5/13
	Project Name: Hancock ANGB ERP Site 15	Project #: 60214697	Recorded By: GLW Checked By:
EQUIPMENT	H2O Quality Meter Type/ID #: YSI 600 XL	Sampling Equipment: Peri Pump	PID Type/ID #: NA
	Water Level Indicator Type/ID #: Geotech Interface	Equipment Decon.: Liquinox and Potable Wash/Potable Rinse/Distilled Rinse	
WELL INFO	Casing I.D. (in): 2"	Ambient PID (ppm): NA	Initial Depth to Water (ft): 13.60
	Ground Condition of Well: good - stickup	Well Mouth PID (ppm):	Total Well Depth (ft):
	Approximate Pump Intake Depth (ft):		
	Remarks: Begin purge @ 1030 - j-plug makes well too high to properly cover - Slight pink hue		

Date (mm/dd/yy)	Time (24 hr)	Water Level (FTOC)	Volume Removed (Gals)	Pumping Rate (Lpm)	Temp. (C)	Specific Conduct. (mS/cm)	DO (mg/L)	pH	ORP (mv)	Turb. (NTU)	Pump Refill/Discharge (Seconds)	PSI (pump)	Note
6/5/13	1035	13.65	initial		12.58	0.1087	2.52	7.08	42.0	48.4			DO%
	1040	13.65	0.20		12.71	0.678	~~2~~1.30	6.85	48.4	34.2			23.2
	1045	13.65	0.40		12.38	0.671	1.10	6.87	44.9	29.3			12.5
1049	~~1050~~	Pump & batt. not strong enough to purge & thus stopped working - pull tubing											10.2
	doesn't help - switch out pump & Batt - 1108 Begin purging again												up
	1110	13.67	0.40		12.70	0.678	5.05	7.34	30.0	30.4			46.2
	1115	13.68	0.70		11.69	0.651	1.04	6.98	22.4	27.2			9.4
	1120	13.68	0.90		11.70	0.649	0.79	7.00	15.2	15.5			7.2
	1125	13.68	1.20		11.57	0.646	0.52	7.04	3.3	11.87			4.8
	1130	13.68	1.40		11.61	0.1046	0.47	7.07	-2.5	9.58			4.3
	1135	13.68	1.60		11.57	0.646	0.41	7.09	-8.2	9.57			3.8
	1140	13.68	1.80		11.48	0.642	0.42	7.08	-9.0	8.01			3.9

Pumping Rate:<=0.5 L/min **Drawdown:** <0.33 ft **Measurements:**3-5 min **Stabilization:**+/-0.5 C, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, +/- 10% turb (<= 10 NTU ideal) **All for 3 consecutive readings**

Sample ID #(s)/Time(s)	# of conts./Vol./Type	Preservative	Parameter(s)
MW14-060513@ 1142	(3) 40 mL VOAs	HCl	VOCs by 8260B

AECOM

MONITORING WELL SAMPLE COLLECTION FORM
HANCOCK ANGB - ERP SITE 15

LOCATION	Site:	LocID: MW-15	Date: 6/4/13
	Project Name: Hancock ANGB ERP Site 15	Project #: 60214697	Recorded By: TS Checked By:
EQUIPMENT	H2O Quality Meter Type/ID #: YSI / Lamotte	Sampling Equipment: Peristaltic	PID Type/ID #: —
	Water Level Indicator Type/ID #: Solinst	Equipment Decon.: Liquinox and Potable Wash/Potable Rinse/Distilled Rinse	
WELL INFO	Casing I.D. (in): 2	Ambient PID (ppm): —	Initial Depth to Water (ft): 13.52
	Ground Condition of Well: Good	Well Mouth PID (ppm): —	Total Well Depth (ft): 17.54
	Approximate Pump Intake Depth (ft): 17		
	Remarks:		

Date (mm/dd/yy)	Time (24 hr)	Water Level (FTOC)	Volume Removed (Gals)	Pumping Rate (Lpm)	Temp. (C)	~~Specific~~ Conduct. (mS/cm)	DO (mg/L)	pH	ORP (mv)	Turb. (NTU)	Pump Refill/Discharge (Seconds)	PSI (pump)	DO % ~~Note~~
6/4/13	1505	13.12	0	0.05	11.16	.893	1.44	6.89	-68.5	61.8	—	—	10.1
	1510	13.15	< .25	0.05	11.65	.955	.66	6.74	-91.9	29.1	—	—	6.2
	1515	13.15	< .25	0.05	12.06	.988	.82	6.68	-91.9	21.3	—	—	8.2
	1520	13.15	.25	0.05	11.87	1.006	.79	6.69	-101.9	19.4	—	—	7.9
				Dead	Battery								
	1525	13.15	.25	0.1	12.60	1.023	.44	6.69	-102.5	18.7	—	—	4.2
	1530	13.15	< .5	0.1	11.67	1.013	.86	6.73	-108.2	13.9	—	—	8.0
	1535	13.15	< .5	0.1	11.51	1.005	.88	6.66	-105.3	13.64	—	—	8.1
	1540	13.15	.5	0.1	11.34	1.009	.90	6.68	-103.6	13.42	—	—	8.7

Pumping Rate:<=0.5 L/min **Drawdown:** <0.33 ft **Measurements:**3-5 min **Stabilization:**+/- 0.5 C, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, +/- 10% turb (<= 10 NTU ideal) **All for 3 consecutive readings**

Sample ID #(s)/Time(s)	# of conts./Vol./Type	Preservative	Parameter(s)
MW15-060413 collected @ 1540	(3) 40 mL VOAs	HCl	VOCs by 8260B

AECOM

MONITORING WELL SAMPLE COLLECTION FORM
HANCOCK ANGB - ERP SITE 15

LOCATION	Site: Hancock	LocID: MW-17	Date: 6/4/13
	Project Name: Hancock ANGB ERP Site 15	Project #: 60214697	Recorded By: SW Checked By:
EQUIPMENT	H2O Quality Meter Type/ID #: YSI 600 xL	Sampling Equipment: Peri Pump	PID Type/ID #: NA
	Water Level Indicator Type/ID #: Geotech Interface Probe	Equipment Decon.: Liquinox and Potable Wash/Potable Rinse/Distilled Rinse	
WELL INFO	Casing I.D. (in): 2"	Ambient PID (ppm):	Initial Depth to Water (ft): 11.77
	Ground Condition of Well: good	Well Mouth PID (ppm):	Total Well Depth (ft): 17.07
	Approximate Pump Intake Depth (ft):		
	Remarks: Begin purge @1344		

Date (mm/dd/yy)	Time (24 hr)	Water Level (FTOC)	Volume Removed (Gals)	Pumping Rate (Lpm)	Temp. (C)	Specific Conduct. (mS/cm)	DO (mg/L)	pH	ORP (mv)	Turb. (NTU)	Pump Refill/Discharge (Seconds)	PSI (pump)	Note	DO%
6/4/13	1345	12.39	initial		12.85	1.146	2.03	6.97	2.9	4.86				16.1
	1350	13.00	0.30		11.87	1.106	0.161	6.45	17.5	3.75				5.7
	1355	13.19	0.55		11.84	1.108	0.55	6.40	7.2	4.19				5.2
	1400	13.39	0.80		11.84	1.117	0.38	6.44	-35.6	4.20				3.3
	1405	13.58	1.05		12.13	1.133	0.31	6.51	-60.1	4.76				2.9
	1410	13.70	1.30		12.15	1.142	0.30	6.56	-88.2	4.97				2.8
	1415	13.81	1.55		12.26	1.146	0.30	6.58	-105.9	5.13				2.8
	1420	13.90	1.80		12.19	1.144	0.28	6.55	-114.7	5.68				2.6
	1425	13.97	2.05		12.37	1.148	0.27	6.58	-131.8	5.36				2.5
	1430	14.03	2.25		12.58	1.155	0.26	6.59	-126.7	5.79				2.5
	1435	14.05	2.45		12.30	1.145	0.26	6.59	-134.0	4.69				2.4

Pumping Rate:<=0.5 L/min **Drawdown:** <0.33 ft **Measurements:**3-5 min **Stabilization:**+/- 0.5 C, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, +/- 10% turb (<= 10 NTU ideal) **All for 3 consecutive readings**

Sample ID #(s)/Time(s)	# of conts./Vol./Type	Preservative	Parameter(s)
MW17-060413@1437 & MS/MSD	(3) 40 mL VOAs	HCl	VOCs by 8260B
-060413-MS & -MSD			

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MONITORING WELL SAMPLE COLLECTION FORM
HANCOCK ANGB - ERP SITE 15

LOCATION	Site:	LocID: MW-19	Date: 6/4/13
	Project Name: Hancock ANGB ERP Site 15	Project #: 60214697	Recorded By: TS Checked By:
EQUIPMENT	H2O Quality Meter Type/ID #: YSI / Lamotte	Sampling Equipment: Peristaltic	PID Type/ID #: —
	Water Level Indicator Type/ID #: Solinist	Equipment Decon.: Liquinox and Potable Wash/Potable Rinse/Distilled Rinse	
WELL INFO	Casing I.D. (in): 2	Ambient PID (ppm): —	Initial Depth to Water (ft): 8.26
	Ground Condition of Well: Good	Well Mouth PID (ppm): —	Total Well Depth (ft): 13.83
	Approximate Pump Intake Depth (ft): 13 ft		
	Remarks:		

Date (mm/dd/yy)	Time (24 hr)	Water Level (FTOC)	Volume Removed (Gals)	Pumping Rate (Lpm)	Temp. (C)	Specific Conduct. (mS/cm)	DO (mg/L)	pH	ORP (mv)	Turb. (NTU)	Pump Refill/Discharge (Seconds)	PSI (pump)	Note
	1345	8.26	0	0.1	10.99	1.454	1.94	7.09	13.2	78.1	—	—	—
6/4/13	1350	8.27	<.25	0.1	11.65	1.455	.70	6.85	-7.6	43.8	—	—	—
	1355	8.26	.25	0.1	12.10	1.441	.67	6.62	-8.0	37.8	—	—	—
	1400	8.26	<.5	0.1	12.30	1.407	.71	6.54	-34.7	22.4	—	—	—
	1405	8.26	.5	0.1	12.08	1.379	.62	6.50	-52.3	19.2	—	—	—
	1410	8.26	<.75	0.1	12.00	1.329	.62	6.44	-60.7	17.2	—	—	—
	1415	8.26	.75	0.1	12.10	1.312	.66	6.42	-65.9	14.04	—	—	—
	1420	8.26	1	0.1	12.19	1.294	.66	6.39	-65.8	10.02	—	—	—
	1425	8.26	<1.25	0.1	12.61	1.280	.65	6.46	-63.2	8.02	—	—	—
	1430	8.26	<1.25	0.05	12.79	1.282	.65	6.50	-67.0	6.20	—	—	—
	1435	8.26	1.25	0.05	12.80	1.279	.65	6.46	-66.2	5.69	—	—	—

Pumping Rate:<=0.5 L/min **Drawdown:** <0.33 ft **Measurements:**3-5 min **Stabilization:**+/- 0.5 C, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, +/- 10% turb (<= 10 NTU ideal) **All for 3 consecutive readings**

Sample ID #(s)/Time(s)	# of conts./Vol./Type	Preservative	Parameter(s)
MW19-060413 ~~sampled~~ collected @ 1435	(3) 40 mL VOAs	HCl	VOCs by 8260B

MONITORING WELL SAMPLE COLLECTION FORM
HANCOCK ANGB - ERP SITE 15

LOCATION	Site:	LocID: MW10	Date: 6/5/13
	Project Name: Hancock ANGB ERP Site 15	Project #: 60214697	Recorded By: TS Checked By:
EQUIPMENT	H2O Quality Meter Type/ID #: YSI Lamotte	Sampling Equipment: Peristaltic	PID Type/ID #: —
	Water Level Indicator Type/ID #: Geotech	Equipment Decon.: Liquinox and Potable Wash/Potable Rinse/Distilled Rinse	
WELL INFO	Casing I.D. (in): 2	Ambient PID (ppm): —	Initial Depth to Water (ft): 21.07
	Ground Condition of Well: Poor	Well Mouth PID (ppm): —	Total Well Depth (ft): 40.63
	Approximate Pump Intake Depth (ft): 20'		
	Remarks: Sheen + Odor		

Date (mm/dd/yy)	Time (24 hr)	Water Level (FTOC)	Volume Removed (Gals)	Pumping Rate (Lpm)	Temp. (C)	Specific Conduct. (mS/cm)	DO (mg/L)	pH	ORP (mv)	Turb. (NTU)	Pump Refill/Discharge (Seconds)	PSI (pump)	DO% ~~Note~~
6/5/13	1130	10.63	0	0.15	11.87	1.075	.67	7.05	-156.5	Limit	—	—	6.3
	1135	10.65	0.25	0.15	11.90	1.068	1.86	6.99	-162.1	Limit	—	—	13.6
	1140	10.65	<.5	0.15	12.03	1.071	.91	6.89	-164.6	Limit	—	—	7.9
	1145	10.66	0.5	0.15	11.79	1.094	.90	6.72	-164.1	19.1	—	—	8.4
	1150	10.66	<.75	0.15	11.71	1.122	.72	6.71	-161.3	16.7	—	—	6.6
	1155	10.65	<1.0	0.15	11.77	1.144	.80	6.75	-165.6	12.7	—	—	7.5
	1200	10.65	1.0	0.15	11.68	1.147	.60	6.78	-167.3	13.93	—	—	5.3
	1205	10.65	1.25	0.15	11.68	1.146	0.43	6.78	-168.4	9.62	—	—	3.8
	1210	10.65	1.5	0.20	11.47	1.132	0.47	6.79	-166.6	23.9	—	—	4.3
	1215	10.65	1.75	0.20	11.65	1.134	0.42	6.79	-168.7	19.7	—	—	3.9
	1220	10.65	2.00	0.20	12.00	1.148	0.40	6.84	-172.4	12.2	—	—	3.8

Pumping Rate:<=0.5 L/min **Drawdown:** <0.33 ft **Measurements:**3-5 min **Stabilization:**+/- 0.5 C, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, +/- 10% turb (<= 10 NTU ideal) **All for 3 consecutive readings**

Sample ID #(s)/Time(s)	# of conts./Vol./Type	Preservative	Parameter(s)
MW10-060513 Collected @ 1230	(3) 40 mL VOAs	HCl	VOCs by 8260B

AECOM

MONITORING WELL SAMPLE COLLECTION FORM
Delaware ANG

LOCATION	Site:	LocID: MW-101
	Project Name: Hancock ANGB ERP Site 15	Project #: 60214967

Date (mm/dd/yy)	Time (24 hr)	Water Level (FTOC)	Volume Removed (Gals)	Pumping Rate (Lpm)	Temp. (C)	Specific Conduct. (mS/cm)	DO (mg/L)	pH	ORP (mv)	Turb. (NTU)	Pump Refill/Discharge (Seconds)	PSI (pump)	DO% ~~Note~~
6/5/13	1225	10.65	2.25	0.20	11.63	1.151	.35	6.82	~~68.4~~	11.56	—	—	3.2
	1230	10.65	2.5	0.20	11.76	1.157	.30	6.78	-167.0	8.22	—	—	2.4

Pumping Rate:<=0.5 L/min Drawdown: <0.33 ft Measurements:3-5 min Stabilization:+/- 0.5 C, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, +/- 10% turb (<= 10 NTU ideal) All for 3 consecutive readings

MONITORING WELL SAMPLE COLLECTION FORM
HANCOCK ANGB - ERP SITE 15

LOCATION	Site: Hancock	LocID: MW-103	Date: 6/5/13
	Project Name: Hancock ANGB ERP Site 15	Project #: 60214697	Recorded By: GLW Checked By:
EQUIPMENT	H2O Quality Meter Type/ID #: YSI 600 XL	Sampling Equipment: Peri Pump	PID Type/ID #: NA
	Water Level Indicator Type/ID #: Geotech Interface	Equipment Decon.: Liquinox and Potable Wash/Potable Rinse/Distilled Rinse	
WELL INFO	Casing I.D. (in): 2"	Ambient PID (ppm):	Initial Depth to Water (ft): 9.85
	Ground Condition of Well: good	Well Mouth PID (ppm): NA	Total Well Depth (ft): ~33
	Approximate Pump Intake Depth (ft): ~32.5		
	Remarks: Begin purge @ 0835. floc in well-heavy-have to keep clearing out YSI		

Date (mm/dd/yy)	Time (24 hr)	Water Level (FTOC)	Volume Removed (Gals)	Pumping Rate (Lpm)	Temp. (C)	Specific Conduct. (mS/cm)	DO (mg/L)	pH	ORP (mv)	Turb. (NTU)	Pump Refill/Discharge (Seconds)	PSI (pump)	Note DO%
6/5/13	0839	9.85	initial		11.49	1.045	3.86	7.63	-27.1	904			30.5
	0844	9.85	0.20		11.89	1.104	4.03	7.28	-48.2	150			35.3
	0849	9.85	0.40		11.43	1.038	0.26	7.03	-46.0	108.7			2.3
	0854	9.85	0.60		11.24	1.012	0.19	7.01	-46.1	78.0			1.8
	0859	missed reading to clear floc from YSI-getting less now											
	0904	9.85	0.90		11.52	0.951	1.00	7.04	-43.1	14.60			8.6
	0909	9.85	1.2		11.82	0.947	0.30	7.05	-46.2	9.84			2.7
	0914	9.85	1.5		11.59	0.897	0.31	7.06	-45.8	59.5			2.9
	0919	9.85	1.75		11.53	0.886	0.23	7.03	-39.3	40.6			2.1
	0924	9.85	2.0		11.31	0.881	0.16	7.04	-41.7	140			1.5
	0929	9.85	2.25		11.45	0.883	0.17	7.07	-43.6	24.7			1.6

Pumping Rate:<=0.5 L/min **Drawdown:** <0.33 ft **Measurements:**3-5 min **Stabilization:**+/- 0.5 C, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, +/- 10% turb (<= 10 NTU ideal) **All for 3 consecutive readings**

Sample ID #(s)/Time(s)	# of conts./Vol./Type	Preservative	Parameter(s)
MW11-060513 @ 0941	(3) 40 mL VOAs	HCl	VOCs by 8260B

AECOM

MONITORING WELL SAMPLE COLLECTION FORM
Delaware ANG

LOCATION	Site: Hancock	LocID: MW-103
	Project Name: Hancock ANGB ERP Site 15	Project #: 60214967

Date (mm/dd/yy)	Time (24 hr)	Water Level (FTOC)	Volume Removed (Gals)	Pumping Rate (Lpm)	Temp. (C)	Specific Conduct. (mS/cm)	DO (mg/L)	pH	ORP (mv)	Turb. (NTU)	Pump Refill/Discharge (Seconds)	PSI (pump)	Note
													DO%
6/5/13	0934	9.85	2.5		11.40	0.898	0.18	7.10	-45.4	9.57			1.6
	0939	9.85	2.75		11.41	0.902	0.17	7.11	-45.8	8.53			1.6

Pumping Rate:<=0.5 L/min **Drawdown:** <0.33 ft **Measurements:**3-5 min **Stabilization:**+/- 0.5 C, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, +/- 10% turb (<= 10 NTU ideal) **All for 3 consecutive readings**

AECOM

MONITORING WELL SAMPLE COLLECTION FORM
HANCOCK ANGB - ERP SITE 15

LOCATION	Site:	LocID: MW-105	Date: 6/5/13
	Project Name: Hancock ANGB ERP Site 15	Project #: 60214697	Recorded By: TS Checked By:
EQUIPMENT	H2O Quality Meter Type/ID #: YSI / Lamotte	Sampling Equipment: Peristaltic	PID Type/ID #: —
	Water Level Indicator Type/ID #: Solinist	Equipment Decon.: Liquinox and Potable Wash/Potable Rinse/Distilled Rinse	
WELL INFO	Casing I.D. (in): 2	Ambient PID (ppm): —	Initial Depth to Water (ft): 8.84
	Ground Condition of Well: Good	Well Mouth PID (ppm): —	Total Well Depth (ft): 33.75
	Approximate Pump Intake Depth (ft): 33'		
	Remarks:		

Date (mm/dd/yy)	Time (24 hr)	Water Level (FTOC)	Volume Removed (Gals)	Pumping Rate (Lpm)	Temp. (C)	Specific Conduct. (mS/cm)	DO (mg/L)	pH	ORP (mv)	Turb. (NTU)	Pump Refill/Discharge (Seconds)	PSI (pump)	DO% ~~Note~~
6/5/13	835	8.84	0	0.15	11.14	1.187	1.24	7.37	-88.0	116.8	—	—	10.9
	840	8.86	<.25	0.10	11.14	1.206	3.60	7.22	-72.1	162	—	—	29.7
	845	8.85	<.5	0.10	11.51	1.213	.98	7.00	-77.0	139	—	—	7.6
	850	8.85	.5	0.10	11.57	1.216	.94	6.95	-79.8	87.4	—	—	8.8
	855	8.84	<.75	0.10	11.78	1.224	.96	6.96	-84.0	79.2	—	—	8.8
	900	8.85	<.75	0.10	11.73	1.220	.93	6.92	-85.9	66.6	—	—	8.4
	905	8.85	.75	0.10	11.81	1.223	~~1.03~~ .95	6.90	-85.9	64.5	—	—	8.6
	910	8.85	<1.0	0.10	12.00	1.228	.90	6.88	-86.5	56.8	—	—	8.4
	915	8.85	1.0	0.10	12.33	1.239	.87	6.93	~~-86.8~~	56.3	—	—	8.2
	920	8.84	>1.0	0.10	12.04	1.236	.83	6.94	-91.2	56.7	—	—	7.9

Pumping Rate:<=0.5 L/min **Drawdown:** <0.33 ft **Measurements:**3-5 min **Stabilization:**+/- 0.5 C, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, +/- 10% turb (<= 10 NTU ideal) **All for 3 consecutive readings**

Sample ID #(s)/Time(s)	# of conts./Vol./Type	Preservative	Parameter(s)
MW105-060513 Collected @ 920	(3) 40 mL VOAs	HCl	VOCs by 8260B

AECOM

MONITORING WELL SAMPLE COLLECTION FORM
HANCOCK ANGB - ERP SITE 15

LOCATION	Site:	LocID: MW-106	Date: 6/4/13
	Project Name: Hancock ANGB ERP Site 15	Project #: 60214697	Recorded By: JS Checked By:
EQUIPMENT	H2O Quality Meter Type/ID #: YSI/Lamotte	Sampling Equipment: Peristaltic	PID Type/ID #: —
	Water Level Indicator Type/ID #: Solinst	Equipment Decon.: Liquinox and Potable Wash/Potable Rinse/Distilled Rinse	
WELL INFO	Casing I.D. (in): 2"	Ambient PID (ppm): —	Initial Depth to Water (ft): 2.33
	Ground Condition of Well: Good	Well Mouth PID (ppm): —	Total Well Depth (ft): 25.37
	Approximate Pump Intake Depth (ft): 24'		
	Remarks:		

Date (mm/dd/yy)	Time (24 hr)	Water Level (FTOC)	Volume Removed (Gals)	Pumping Rate (Lpm)	Temp. (C)	~~Specific~~ Conduct. (mS/cm)	DO (mg/L)	pH	ORP (mv)	Turb. (NTU)	Pump Refill/Discharge (Seconds)	PSI (pump)	Note
6/4/13	11:15	2.33	0	0.1	12.67	~~.866~~ .667	.94	7.56	-85.5	103.0	—	—	—
	1120	2.41	.25	0.1	13.28	.670	.55	7.24	-78.5	75.8	—	—	—
	1125	2.35	<.5	0.1	13.46	.673	.45	7.04	-73.3	73.5	—	—	—
	1130	2.34	<.5	0.1	13.43	.672	.42	6.96	-70.7	56.6	—	—	—
	1135	2.34	.5	0.1	13.36	.672	.38	6.92	-67.1	30.4	—	—	—
	1140	2.34	<.75	0.1	13.38	.678	.22	6.88	-63.9	24.4	—	—	—
	1145	2.34	<1	0.1	13.29	.690	.25	6.85	-57.0	16.7	—	—	—
	1150	2.34	1	0.1	13.30	.695	.35	6.83	-52.6	14.06	—	—	—
	1155	2.34	<1.25	0.1	13.21	.697	.26	6.83	-49.2	12.74	—	—	—
	1200	2.34	<1.5	0.1	13.08	.697	1.96	6.85	-47.5	11.95	—	—	—
	1205	2.34	1.5	0.1	13.10	.697	1.61	6.84	-44.8	8.61	—	—	—

Pumping Rate:<=0.5 L/min **Drawdown:** <0.33 ft **Measurements:**3-5 min **Stabilization:**+/- 0.5 C, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, +/- 10% turb (<= 10 NTU ideal) **All for 3 consecutive readings**

Sample ID #(s)/Time(s)	# of conts./Vol./Type	Preservative	Parameter(s)
MW106-060413 collected @ 1215	(3) 40 mL VOAs	HCl	VOCs by 8260B

AECOM

MONITORING WELL SAMPLE COLLECTION FORM
Delaware ANG

LOCATION	Site:	LocID:
	Project Name: Hancock ANGB ERP Site 15	Project #: 60214967

Date (mm/dd/yy)	Time (24 hr)	Water Level (FTOC)	Volume Removed (Gals)	Pumping Rate (Lpm)	Temp. (C)	Specific Conduct. (mS/cm)	DO (mg/L)	pH	ORP (mv)	Turb. (NTU)	Pump Refill/Discharge (Seconds)	PSI (pump)	Note
6/4/13	1210	2.34	1.75	0.1	13.05	.698	1.06	6.86	-44.8	8.09	—	—	—
	1215	2.34	<2	0.1	13.10	.699	1.00	6.85	-42.7	6.82	—	—	—

Pumping Rate:<=0.5 L/min **Drawdown:** <0.33 ft **Measurements:**3-5 min **Stabilization:**+/- 0.5 C, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, +/- 10% turb (<= 10 NTU ideal) **All for 3 consecutive readings**

AECOM

MONITORING WELL SAMPLE COLLECTION FORM
HANCOCK ANGB - ERP SITE 15

LOCATION	Site: Hancock	LocID: MW-112	Date: 6/4/13
	Project Name: Hancock ANGB ERP Site 15	Project #: 60214697	Recorded By: GLW Checked By:
EQUIPMENT	H2O Quality Meter Type/ID #: YSI 600	Sampling Equipment: ~~YSI 600~~ Peri. Pump	PID Type/ID #: —
	Water Level Indicator Type/ID #: Geo tech Interface P	Equipment Decon.: Liquinox and Potable Wash/Potable Rinse/Distilled Rinse	
WELL INFO	Casing I.D. (in): 1"	Ambient PID (ppm):	Initial Depth to Water (ft): 2.48
	Ground Condition of Well: good	Well Mouth PID (ppm): NA	Total Well Depth (ft): ~17.5
	Approximate Pump Intake Depth (ft): 17' Bg		
	Remarks: 1103 - Begin purge; 1108 pump failure - able to turn back on		

Date (mm/dd/yy)	Time (24 hr)	Water Level (FTOC)	Volume Removed (Gals)	Pumping Rate (Lpm)	Temp. (C)	Specific Conduct. (mS/cm)	DO (mg/L)	pH	ORP (mv)	Turb. (NTU)	Pump Refill/Discharge (Seconds)	PSI (pump)	Note	DO%
6/4/13	1105	2.52	initial		13.82	1.053	3.63	7.39	-129.6	6.22				
	1110	2.51	0.25		13.32	0.995	0.77	7.02	-94.7	10.54				
	1115	2.52	0.70		12.81	0.977	0.50	7.01	-93.3	7.32				4.5
	1120	2.52	1.0		12.75	0.965	0.33	7.01	-89.2	2.89				3.1
	1125	2.52	1.35		12.64	0.963	0.28	7.02	-82.1	1.53				2.6
	1130	2.53	1.70		12.68	0.968	0.27	7.05	-82.7	2.06				2.5

Pumping Rate:<=0.5 L/min **Drawdown:** <0.33 ft **Measurements:**3-5 min **Stabilization:**+/- 0.5 C, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, +/- 10% turb (<= 10 NTU ideal) **All for 3 consecutive readings**

Sample ID #(s)/Time(s)	# of conts./Vol./Type	Preservative	Parameter(s)
MW112-060413 @ 1132 & Dup-060413 collected as duplicate	(3) 40 mL VOAs	HCl	VOCs by 8260B

AECOM

MONITORING WELL SAMPLE COLLECTION FORM
HANCOCK ANGB - ERP SITE 15

LOCATION	Site:	LocID: RW-01	Date: 6/5/13
	Project Name: Hancock ANGB ERP Site 15	Project #: 60214697	Recorded By: Checked By:
EQUIPMENT	H2O Quality Meter Type/ID #: YSI / Lamotte	Sampling Equipment: Peristaltic	PID Type/ID #: —
	Water Level Indicator Type/ID #: Solinist	Equipment Decon.: Liquinox and Potable Wash/Potable Rinse/Distilled Rinse	
WELL INFO	Casing I.D. (in): 8	Ambient PID (ppm): —	Initial Depth to Water (ft): 11.28
	Ground Condition of Well: good	Well Mouth PID (ppm): —	Total Well Depth (ft): 19.45
	Approximate Pump Intake Depth (ft): 19		
	Remarks:		

Date (mm/dd/yy)	Time (24 hr)	Water Level (FTOC)	Volume Removed (Gals)	Pumping Rate (Lpm)	Temp. (C)	Specific Conduct. (mS/cm)	DO (mg/L)	pH	ORP (mv)	Turb. (NTU)	Pump Refill/Discharge (Seconds)	PSI (pump)	DO% ~~Note~~
6/5/13	1030	11.28	0	0.10	12.66	.713	1.72	7.40	-131.2	13.4	—	—	15.8
	1035	11.28	<.25	0.10	13.40	.718	1.06	7.21	-129.6	11.22	—	—	10.2
	1040	11.28	<.25	0.10	13.60	.722	.87	7.10	-119.0	9.05	—	—	8.2
	1045	11.30	.25	0.10	13.34	.714	.56	7.02	-127.0	8.80	—	—	5.5
	1050	11.30	<.50	0.10	13.54	.717	.49	6.93	-126.6	8.41	—	—	5.0
	1055	11.31	0.50	0.10	13.52	.718	.53	6.94	-127.9	8.17	—	—	5.6
	1100	11.31	<.75	0.10	13.26	.717	.57	6.92	-131.3	8.31	—	—	5.5

Pumping Rate:<=0.5 L/min **Drawdown:** <0.33 ft **Measurements:**3-5 min **Stabilization:**+/- 0.5 C, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, +/- 10% turb (<= 10 NTU ideal) **All for 3 consecutive readings**

Sample ID #(s)/Time(s)	# of conts./Vol./Type	Preservative	Parameter(s)
BWO1-060513 Collected @ 1100	(3) 40 mL VOAs	HCl	VOCs by 8260B

MONITORING WELL SAMPLE COLLECTION FORM
HANCOCK AFB - ERP SITE 15

LOCATION	Site: Hancock ANGB	LocID: MW-11	Date: 08/29/13
	Project Name: Hancock ANGB ERP Site 15	Project #: 60214697	Recorded By: RSM Checked By:
EQUIPMENT	H2O Quality Meter Type/ID #: YSI 556 Hach 2100	Sampling Equipment: Peri. pump	PID Type/ID #: NA
	Water Level Indicator Type/ID #: interface probe	Equipment Decon.: Liquinox and Potable Wash/Potable Rinse/Distilled Rinse	
WELL INFO	Casing I.D. (in): 2"	Ambient PID (ppm):	Initial Depth to Water (ft): 11.54
	Ground Condition of Well: Good	Well Mouth PID (ppm): NA	Total Well Depth (ft):
	Approximate Pump Intake Depth (ft):		
	Remarks:		

Date (mm/dd/yy)	Time (24 hr)	Water Level (FTOC)	Volume Removed (Gals)	Pumping Rate (Lpm)	Temp. (C)	Specific Conduct. (mS/cm)	DO (mg/L)	pH	ORP (mv)	Turb. (NTU)	Pump Refill/Discharge (Seconds)	PSI (pump)	Note
08/29/13	15:52	11.40	-	.45	13.92	1.259	1.60	7.39	-112.9	369	-	-	Murky
	15:57	11.40	.7	.26	14.56	1.263	.23	7.10	-119.7	78	-	-	Murky
	16:02	11.40	1.2	.24	14.90	1.276	.17	7.02	-115.0	40	-	-	
	16:07	11.40	1.5	.21	15.19	1.273	.18	6.99	-107.6	35	-	-	
	16:12	11.40	1.75	.28	15.22	1.261	.18	6.96	-107.6	28	-	-	
	16:17	11.40	2	.20	15.77	1.261	.17	6.94	-103.6	23	-	-	
	16:22	11.40	2.25	.20	16.09	1.270	.18	6.94	-100.0	21	-	-	
	~~16:27~~												

Pumping Rate:<=0.5 L/min **Drawdown:** <0.33 ft **Measurements:**3-5 min **Stabilization:**+/- 0.5 C, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, +/- 10% turb (<= 10 NTU ideal) **All for 3 consecutive readings**

Sample ID #(s)/Time(s)	# of conts./Vol./Type	Preservative	Parameter(s)
Began Purge @ 15:50 Samples Collected @ 16:26	(3) 40 mL VOAs	HCl	VOCs by 8260B BEX only

MONITORING WELL SAMPLE COLLECTION FORM
HANCOCK ANGB - ERP SITE 15

LOCATION	Site: Hancock	LocID: MW-14	Date: 08/29/13
	Project Name: Hancock ANGB ERP Site 15	Project #: 60214697	Recorded By: RSM Checked By:
EQUIPMENT	H2O Quality Meter Type/ID #: YSI 556 / Hach 2100P	Sampling Equipment: Peri Pump	PID Type/ID #: N/A
	Water Level Indicator Type/ID #:	Equipment Decon.: Liquinox and Potable Wash/Potable Rinse/Distilled Rinse	
WELL INFO	Casing I.D. (in): 2"	Ambient PID (ppm): NA	Initial Depth to Water (ft): 14.33
	Ground Condition of Well: Good	Well Mouth PID (ppm):	Total Well Depth (ft):
	Approximate Pump Intake Depth (ft):		
	Remarks:		

Date (mm/dd/yy)	Time (24 hr)	Water Level (FTOC)	Volume Removed (Gals)	Pumping Rate (Lpm)	Temp. (C)	Specific Conduct. (mS/cm)	DO (mg/L)	pH	ORP (mv)	Turb. (NTU)	Pump Refill/Discharge (Seconds)	PSI (pump)	Note
08/29/13	11:49	14.42	—	.15	17.76	.960	1.13	6.82	-14.2	19	—	—	Slight/very slight plant Hz
	11:54	14.42	.5	.20	15.40	.940	.47	6.85	-15.3	9	—	—	
	11:59	14.41	.72	.12	15.94	.938	.24	6.91	-32.3	4	—	—	
	12:04	14.41	1.0	.12	15.72	.937	.25	6.92	-34.9	2	—	—	
	12:09	14.41	1.25	.12	15.86	.940	.19	6.91	-34.0	2	—	—	
	12:14	14.41	1.5	.12	15.85	.948	.18	6.91	-36.2	1	—	—	
	12:19	14.41	1.75	.12	15.86	.955	.19	6.93	-43.6	1	—	—	

Pumping Rate:<=0.5 L/min **Drawdown:** <0.33 ft **Measurements:**3-5 min **Stabilization:**+/- 0.5 C, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, +/- 10% turb (<= 10 NTU ideal) **All for 3 consecutive readings**

Sample ID #(s)/Time(s)	# of conts./Vol./Type	Preservative	Parameter(s)
Started purging @ 11:47 Collected Samples @ 12:22	(3) 40 mL VOAs	HCl	VOCs by 8260B BTEX only

MONITORING WELL SAMPLE COLLECTION FORM
HANCOCK ANGB - ERP SITE 15

LOCATION	Site: Hancock	LocID: MW #15	Date: 8/29/13
	Project Name: Hancock ANGB ERP Site 15	Project #: 60214697	Recorded By: GLW Checked By:
EQUIPMENT	H2O Quality Meter Type/ID #: YSI 556, HACH 2100	Sampling Equipment: Peri. pump	PID Type/ID #: NA
	Water Level Indicator Type/ID #: interface probe	Equipment Decon.: Liquinox and Potable Wash/Potable Rinse/Distilled Rinse	
WELL INFO	Casing I.D. (in): 2"	Ambient PID (ppm):	Initial Depth to Water (ft): 13.85
	Ground Condition of Well: good	Well Mouth PID (ppm): NA	Total Well Depth (ft):
	Approximate Pump Intake Depth (ft):		
	Remarks: Sl. odor		

Date (mm/dd/yy)	Time (24 hr)	Water Level (FTOC)	Volume Removed (Gals)	Pumping Rate (mLpm)	Temp. (C)	Specific Conduct. (mS/cm)	DO (mg/L)	pH	ORP (mv)	Turb. (NTU)	Pump Refill/Discharge (Seconds)	PSI (pump)	Note
08/29/13	1550	13.90	initial	125	15.05	0.955	4.41	6.99	-121.1	16.0	-	-	clear
	1555	13.91	0.25	1.75	14.56	0.943	0.98	7.01	-119.8	2.4	-	-	
	1600	13.91	0.50	1.75	14.31	0.936	0.55	7.03	-117.9	1.9	-	-	
	1605	13.91	0.75	1.75	14.39	0.933	0.39	7.05	-105.4	2.0	-	-	
	1610	13.91	1.0	1.75	14.56	0.927	0.35	7.07	-102.8	2.6	-	-	
	1615	13.91	1.25	1.75	14.52	0.919	0.31	7.06	-101.6	1.5	-	-	

Pumping Rate:<=0.5 L/min **Drawdown:** <0.33 ft **Measurements:**3-5 min **Stabilization:**+/- 0.5 C, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, +/- 10% turb (<= 10 NTU ideal) **All for 3 consecutive readings**

Sample ID #(s)/Time(s)	# of conts./Vol./Type	Preservative	Parameter(s)
Begin purge @ 1547 Collect MW15-082913 @ 1618	(3) 40 mL VOAs	HCl	VOCs by 8260B BEX only

MONITORING WELL SAMPLE COLLECTION FORM
HANCOCK AFB - ERP SITE 15

LOCATION	Site: Hancock ANGB	LocID: MW-19	Date: 8/29/13
	Project Name: Hancock ANGB ERP Site 15	Project #: 60214697	Recorded By: RSH Checked By:
EQUIPMENT	H2O Quality Meter Type/ID #: YSI 556 / Hach 2100P	Sampling Equipment: Peri. Pump	PID Type/ID #: N/A
	Water Level Indicator Type/ID #: Interface Probe	Equipment Decon.: Liquinox and Potable Wash/Potable Rinse/Distilled Rinse	
WELL INFO	Casing I.D. (in): 2"	Ambient PID (ppm):	Initial Depth to Water (ft): 8.91'
	Ground Condition of Well: Good	Well Mouth PID (ppm): NA	Total Well Depth (ft):
	Approximate Pump Intake Depth (ft):		
	Remarks:		

Date (mm/dd/yy)	Time (24 hr)	Water Level (FTOC)	Volume Removed (Gals)	Pumping Rate (Lpm)	Temp. (C)	Specific Conduct. (mS/cm)	DO (mg/L)	pH	ORP (mv)	Turb. (NTU)	Pump Refill/Discharge (Seconds)	PSI (pump)	Note
08/29/13	16:45	8.95	-	.5	15.62	1.383	5.67	7.08	-84.9	46	-	-	clear
	16:50	8.95	.5	.15	15.01	1.347	.24	6.83	-93.4	19	-	-	
	16:55	8.95	.75	.18	15.86	1.384	.24	6.80	-97.1	13	-	-	
	17:00	8.95	1.0	.18	15.69	1.419	.21	6.76	-93.6	7	-	-	
	17:05	8.95	1.25	.10	15.49	1.439	.22	6.70	-90.9	5	-	-	
	17:10	8.95	1.5	.10	15.44	1.452	.20	6.68	-80.0	5	-	-	

Pumping Rate:<=0.5 L/min **Drawdown:** <0.33 ft **Measurements:**3-5 min **Stabilization:**+/- 0.5 C, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, +/- 10% turb (<= 10 NTU ideal) **All for 3 consecutive readings**

Sample ID #(s)/Time(s)	# of conts./Vol./Type	Preservative	Parameter(s)
Began purge @ 16:42 1645- Collect AMB-0829B as ambient Blank Samples taken @ 17:12	(3) 40 mL VOAs	HCl	VOCs by 8260B BEX only

MONITORING WELL SAMPLE COLLECTION FORM
HANCOCK ANGB - ERP SITE 15

LOCATION	Site: Hancock	LocID: MW101	Date: 8/29/13
	Project Name: Hancock ANGB ERP Site 15	Project #: 60214697	Recorded By: RM Checked By:
EQUIPMENT	H2O Quality Meter Type/ID #: YSI 556, HACH 2100	Sampling Equipment: Peri. Pump	PID Type/ID #: NA
	Water Level Indicator Type/ID #: Interface probe	Equipment Decon.: Liquinox and Potable Wash/Potable Rinse/Distilled Rinse	
WELL INFO	Casing I.D. (in): 2" good	Ambient PID (ppm): NA	Initial Depth to Water (ft): 11.39
	Ground Condition of Well:	Well Mouth PID (ppm):	Total Well Depth (ft):
	Approximate Pump Intake Depth (ft):		
	Remarks:		

Date (mm/dd/yy)	Time (24 hr)	Water Level (FTOC)	Volume Removed (Gals)	Pumping Rate (Lpm)	Temp. (C)	Specific Conduct. (mS/cm)	DO (mg/L)	pH	ORP (mv)	Turb. (NTU)	Pump Refill/Discharge (Seconds)	PSI (pump)	Note
8/29/13	12:47	11.43	-	.30	16.32	1.236	1.86	7.43	-155.7	12	-	-	Surfaced
	12:52	11.46	0.5	.30	15.37	1.224	.21	7.40	-157.6	5	-	-	
	12:57	11.45	.75	.30	15.62	1.264	.11	7.00	-153.1	4	-	-	
	13:02	11.47	1.5	.3	15.24	1.279	.08	6.94	-135.1	4	-	-	
	13:07	11.46	2	.3	14.96	1.278	.10	6.92	-125.5	3	-	-	
	13:12	11.46	2.5	.3	15.26	1.287	.13	6.92	-129.9	3	-	-	

Pumping Rate:<=0.5 L/min **Drawdown:** <0.33 ft **Measurements:**3-5 min **Stabilization:**+/- 0.5 C, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, +/- 10% turb (<= 10 NTU ideal) **All for 3 consecutive readings**

Sample ID #(s)/Time(s)	# of conts./Vol./Type	Preservative	Parameter(s)
Begin purge @ 12:45 Collect MW101-082913 @ 13:13 & Dup-082913	(3) 40 mL VOAs	HCl	VOCs by 8260B, BEX only

MONITORING WELL SAMPLE COLLECTION FORM
HANCOCK ANGB - ERP SITE 15

LOCATION	Site: Hancock	LocID: MW-103	Date: 8/29/13
	Project Name: Hancock ANGB ERP Site 15	Project #: 60214697	Recorded By: GLW Checked By:
EQUIPMENT	H2O Quality Meter Type/ID #: YSI 556 & HACH 2100	Sampling Equipment: Peri. pump	PID Type/ID #: NA
	Water Level Indicator Type/ID #: interface probe	Equipment Decon.: Liquinox and Potable Wash/Potable Rinse/Distilled Rinse	
WELL INFO	Casing I.D. (in): 2"	Ambient PID (ppm): NA	Initial Depth to Water (ft): 10.41
	Ground Condition of Well: good	Well Mouth PID (ppm):	Total Well Depth (ft):
	Approximate Pump Intake Depth (ft):		
	Remarks: orange floc in well		

Date (mm/dd/yy)	Time (24 hr)	Water Level (FTOC)	Volume Removed (Gals)	Pumping Rate (Lpm)	Temp. (C)	Specific Conduct. (mS/cm)	DO (mg/L)	pH	ORP (mv)	Turb. (NTU)	Pump Refill/Discharge (Seconds)	PSI (pump)	Note
08/29/13	1445	10.43	initial	200	13.32	1.183	4.69	7.10	-93.0	99.9*	–	–	
	1450	10.43	0.50	200	13.19	1.172	1.06	6.99	-89.1	99.9*	emptied	cup of floc &	
	1455	10.43	0.90	200	13.30	1.209	1.88	7.00	-71.2	49.5	let it refill @ 1452		
	1500	10.43	1.25	200	12.93	1.168	0.71	6.98	-65.3	13.3	–	–	Floc stopped
	1505	10.43	1.70	200	12.72	1.141	0.46	7.00	-72.7	99.9*	–	–	Floc back
	1510	10.43	2.05	200	12.69	1.118	0.32	6.99	-80.4	99.9*	–	–	Floc
	1515	10.43	2.50	200	12.68	1.118	0.33	6.99	-83.8	51.5	–	–	no Floc

Pumping Rate:<=0.5 L/min **Drawdown:** <0.33 ft **Measurements:**3-5 min **Stabilization:**+/- 0.5 C, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, +/- 10% turb (<= 10 NTU ideal) **All for 3 consecutive readings**

Sample ID #(s)/Time(s)	# of conts./Vol./Type	Preservative	Parameter(s)
Begin purge @ 1443	(3) 40 mL VOAs	HCl	VOCs by 8260B, BEX only
Collect MW103-082913 @ 1518			

MONITORING WELL SAMPLE COLLECTION FORM
HANCOCK ANGB - ERP SITE 15

LOCATION	Site: Hancock ANGB	LocID: MW-105	Date: 8/29/13
	Project Name: Hancock ANGB ERP Site 15	Project #: 60214697	Recorded By: RSM Checked By:
EQUIPMENT	H2O Quality Meter Type/ID #: YSI 556 HACH 2100	Sampling Equipment: peri pump	PID Type/ID #: NA
	Water Level Indicator Type/ID #: interface probe	Equipment Decon.: Liquinox and Potable Wash/Potable Rinse/Distilled Rinse	
WELL INFO	Casing I.D. (in): 2"	Ambient PID (ppm):	Initial Depth to Water (ft): 9.33'
	Ground Condition of Well: Good	Well Mouth PID (ppm): NA	Total Well Depth (ft):
	Approximate Pump Intake Depth (ft):		
	Remarks:		

Date (mm/dd/yy)	Time (24 hr)	Water Level (FTOC)	Volume Removed (Gals)	Pumping Rate (Lpm)	Temp. (C)	Specific Conduct. (mS/cm)	DO (mg/L)	pH	ORP (mv)	Turb. (NTU)	Pump Refill/Discharge (Seconds)	PSI (pump)	Note
082913	14:41	9.35	-	.2	15.10	1.301	.71	7.34	-136.6	164	-	-	murky
	14:46	9.35	.6	.22	15.53	1.306	.20	7.22	-128.0	77	-	-	↓
	14:51	9.35	.9	.20	15.69	1.297	.17	7.12	-121.4	49	-	-	clearer
	14:56	9.35	1.15	.2	15.31	1.257	.20	7.10	-113.7	36	-	-	
	15:01	9.35	1.5	.2	15.13	1.230	.15	7.09	-117.0	24	-	-	
	15:06	9.35	1.8	.2	15.11	1.209	.16	7.08	-115.8	17	-	-	
	15:11	9.35	2.25	.2	14.29	1.170	.07	7.07	-120.0	14	-	-	
	15:16	9.35	2.60	.22	13.98	1.147	.09	7.07	-117.4	12	-	-	
	15:21	9.35	3.00	.22	13.97	1.139	.11	7.07	-112.8	12	-	-	

Pumping Rate:<=0.5 L/min **Drawdown:** <0.33 ft **Measurements:**3-5 min **Stabilization:**+/- 0.5 C, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, +/- 10% turb {<= 10 NTU ideal) **All for 3 consecutive readings**

Sample ID #(s)/Time(s)	# of conts./Vol./Type	Preservative	Parameter(s)
Began Purge 14:37 1527 - Collect MW105-082913	(3) 40 mL VOAs	HCl	VOCs by 8260B BEX only

MONITORING WELL SAMPLE COLLECTION FORM
HANCOCK ANGB - ERP SITE 15

LOCATION	Site: Hancock	LocID: MW-106	Date: 8/29/13
	Project Name: Hancock ANGB ERP Site 15	Project #: 60214697	Recorded By: GLW Checked By:
EQUIPMENT	H2O Quality Meter Type/ID #: YSI 556 HACH 2100	Sampling Equipment: Peri Pump	PID Type/ID #: NA
	Water Level Indicator Type/ID #: interface probe	Equipment Decon.: Liquinox and Potable Wash/Potable Rinse/Distilled Rinse	
WELL INFO	Casing I.D. (in): 2"	Ambient PID (ppm): NA	Initial Depth to Water (ft): 2.65
	Ground Condition of Well: Good - in weeds	Well Mouth PID (ppm):	Total Well Depth (ft):
	Approximate Pump Intake Depth (ft):		
	Remarks: No odor		

Date (mm/dd/yy)	Time (24 hr)	Water Level (FTOC)	Volume Removed (Gals)	Pumping Rate (Lpm)	Temp. (C)	Specific Conduct. (mS/cm)	DO (mg/L)	pH	ORP (mv)	Turb. (NTU)	Pump Refill/Discharge (Seconds)	PSI (pump)	Note
8/29/13	1033	2.66	initial	200	14.93	0.780	1.48	7.08	-96.9	24.6	-	-	clear
	1038	2.65	0.50	200	14.53	0.782	0.61	7.12	-44.3	6.2	-	-	
	1043	2.66	1.0	225	14.29	0.801	0.64	7.14	-41.5	3.0	-	-	
	1048	2.66	1.40	225	14.35	0.811	0.61	7.15	-35.9	1.3	-	-	

Pumping Rate:<=0.5 L/min **Drawdown:** <0.33 ft **Measurements:**3-5 min **Stabilization:**+/- 0.5 C, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, +/- 10% turb (<= 10 NTU ideal) **All for 3 consecutive readings**

Sample ID #(s)/Time(s)	# of conts./Vol./Type	Preservative	Parameter(s)
Begin purge @ 1032 Collect MW106-082913 @ 1053	(3) 40 mL VOAs	HCl	VOCs by 8260B BEX only

MONITORING WELL SAMPLE COLLECTION FORM
HANCOCK ANGB - ERP SITE 15

LOCATION	Site: Hancock ANGB	LocID: MW-112	Date: 8/29/13
	Project Name: Hancock ANGB ERP Site 15	Project #: 60214697	Recorded By: RM Checked By:
EQUIPMENT	H2O Quality Meter Type/ID #: YSI556/021453	Sampling Equipment: YSI 556 / Hach 2100?	PID Type/ID #: N/A
	Water Level Indicator Type/ID #: Geotech	Equipment Decon.: Liquinox and Potable Wash/Potable Rinse/Distilled Rinse	
WELL INFO	Casing I.D. (in): 2"	Ambient PID (ppm): NA	Initial Depth to Water (ft): 2.74
	Ground Condition of Well: Good	Well Mouth PID (ppm):	Total Well Depth (ft):
	Approximate Pump Intake Depth (ft):		
	Remarks:		

Date (mm/dd/yy)	Time (24 hr)	Water Level (FTOC)	Volume Removed (Gals)	Pumping Rate (Lpm)	Temp. (C)	Specific Conduct. (mS/cm)	DO ±.02 (mg/L)	pH	ORP ±10 (mv)	Turb. ±.02 (NTU)	Pump Refill/Discharge (Seconds)	PSI (pump)	Note
8/29/13	0950	2.74	—	.2	17.30	1.232	1.72	5.99	-82.8	7	—	—	
2.74	0956	2.81	0.60	.2	16.52	1.191	.34	6.44	-81.3	14	—	—	clear
	10:01	2.80	0.90	.175	16.49	1.180	.20	6.66	-90.4	7	—	—	clear
	10:06	2.81	1.3	.15	16.82	1.183	.30	6.77	-70.3	4	—	—	clear
	10:11	2.80	1.5	.15	16.66	1.166	.22	6.83	-80.6	5	—	—	"
	10:16	2.79	1.75	.15	16.64	1.158 ✓	.17	6.86 ✓	-90.3 ✓	2	—	—	"
	10:21	2.79	2.10	.15	16.76	1.156	.19	6.90	-83.9	2	—	—	
	10:26	2.80	2.35	.15	16.57	1.150	.19	6.91	-89.4	2	—	—	"

Pumping Rate:<=0.5 L/min **Drawdown:** <0.33 ft **Measurements:**3-5 min **Stabilization:**+/- 0.5 C, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, +/- 10% turb (<= 10 NTU ideal) **All for 3 consecutive readings**

Sample ID #(s)/Time(s)	# of conts./Vol./Type	Preservative	Parameter(s)
start purge @ 09:49	(3) 40 mL VOAs	HCl	VOCs by 8260B BEX only
Sample MW-112 @ 10:28			

MONITORING WELL SAMPLE COLLECTION FORM
HANCOCK ANGB - ERP SITE 15

LOCATION	Site: Hancock	LocID: RW-1	Date: 8/29/13
	Project Name: Hancock ANGB ERP Site 15	Project #: 60214697	Recorded By: GLW Checked By:
EQUIPMENT	H2O Quality Meter Type/ID #: YSI 556, HACH 2100	Sampling Equipment: Peri Pump	PID Type/ID #: NA
	Water Level Indicator Type/ID #: interface probe	Equipment Decon.: Liquinox and Potable Wash/Potable Rinse/Distilled Rinse	
WELL INFO	Casing I.D. (in): 8"	Ambient PID (ppm):	Initial Depth to Water (ft): 11.83
	Ground Condition of Well: good	Well Mouth PID (ppm): NA	Total Well Depth (ft):
	Approximate Pump Intake Depth (ft):		
	Remarks: sl. odor - unable to purge any slower		

Date (mm/dd/yy)	Time (24 hr)	Water Level (FTOC)	Volume Removed (Gals)	Pumping Rate (Lpm)	Temp. (C)	Specific Conduct. (mS/cm)	DO (mg/L)	pH	ORP (mv)	Turb. (NTU)	Pump Refill/Discharge (Seconds)	PSI (pump)	Note
08/29/13	1150	11.91	initial	225	16.42	0.999	3.94	7.16	-108.1	16.5	-	-	Bl. flecs
	1155	11.96	0.25	200	16.95	1.011	1.20	7.09	-107.8	6.3	-	-	
	1200	11.99	0.50	200	16.80	1.008	0.68	7.13	-111.3	5.7	-	-	
	1205	12.01	0.75	175	16.61	1.001	0.46	7.12	-110.1	4.7	-	-	
	1210	12.01	1.00	175	16.71	1.007	0.38	7.16	-108.5	5.9	-	-	
	1215	12.01	1.20	175	16.51	1.003	0.36	7.14	-113.1	7.1	-	-	
	1220	12.01	1.50	175	16.77	1.008	0.33	7.16	-107.9	5.4	-	-	

Pumping Rate:<=0.5 L/min Drawdown: <0.33 ft Measurements:3-5 min Stabilization:+/- 0.5 C, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, +/- 10% turb. (<= 10 NTU ideal) All for 3 consecutive readings

Sample ID #(s)/Time(s)	# of conts./Vol./Type	Preservative	Parameter(s)
Begin purge @ 1147 Collect RW01-082913 @ 1223 & MS/MSD	(3) 40 mL VOAs	HCl	VOCs by 8260B BEX only

Appendix C

Laboratory Data Packages

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Report Date:
26-Jun-13 08:36

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

☑ Final Report
☐ Re-Issued Report
☐ Revised Report

Laboratory Report

AECOM Technical Services, Inc.
40 British American Boulevard
Latham, NY 12110

Work Order: M0903
Project : Hancock ANGB
Project #: HANCOCK ANGB, 60214697

Attn: John Santacroce

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
M0903-01	MW112-060413	Aqueous	04-Jun-13 11:32	07-Jun-13 10:50
M0903-02	MW106-060413	Aqueous	04-Jun-13 12:15	07-Jun-13 10:50
M0903-03	DUP-060413	Aqueous	04-Jun-13 00:00	07-Jun-13 10:50
M0903-04	TB-060413	Aqueous	04-Jun-13 00:00	07-Jun-13 10:50
M0903-05	MW19-060413	Aqueous	04-Jun-13 14:35	07-Jun-13 10:50
M0903-06	MW17-060413	Aqueous	04-Jun-13 14:37	07-Jun-13 10:50
M0903-07	MW15-060413	Aqueous	04-Jun-13 15:40	07-Jun-13 10:50
M0903-08	MW11-060413	Aqueous	04-Jun-13 16:04	07-Jun-13 10:50
M0903-09	MW105-060513	Aqueous	05-Jun-13 09:20	07-Jun-13 10:50
M0903-10	MW103-060513	Aqueous	05-Jun-13 09:41	07-Jun-13 10:50
M0903-11	RW01-060513	Aqueous	05-Jun-13 11:00	07-Jun-13 10:50
M0903-12	MW14-060513	Aqueous	05-Jun-13 11:42	07-Jun-13 10:50
M0903-13	MW101-060513	Aqueous	05-Jun-13 12:30	07-Jun-13 10:50

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. The results relate only to the samples(s) as received. This report may not be reproduced, except in full, without written approval from Spectrum Analytical.

All applicable NELAC or USEPA CLP requirments have been meet.

Spectrum Analytical (Rhode Island) is accredited under the National Environmental Laboratory Approval Program (NELAP) and DoD Environmental Laboratory Accreditation Program (ELAP), holds Organic and Inorganic contracts under the USEPA CLP Program and is certified under several states. The current list of our laboratory approvals and certifications is available on the Certifications page on our web site at www.spectrum-analytical.com.

Please contact the Laboratory or Technical Director at 401-732-3400 with any questions regarding the data contained in the laboratory report.

Department of Defense	N/A
Connecticut	PH-0153
Delaware	N/A
Florida	E87664
Maine	2007037
Massachusetts	M-RI907
New Hampshire	2631
New Jersey	RI001
New York	11522
North Carolina	581
Rhode Island	LAI00301
USDA	P330-08-00023
USEPA - ISM	EP-W-09-039
USEPA - SOM	EP-W-11-033

NELAP ACCREDITED TNI LABORATORY

LABORATORY ACCREDITATION BUREAU ACCREDITED
Certificate # L2247 Testing

Authorized by:

Yihai Ding
Laboratory Director

Spectrum Analytical Inc. - North Kingstown RI -- Rhode Island Division

WorkOrder: M0903

Client ID: EARTH_NY
Project: Hancock ANGB
WO Name: Hancock ANGB
Location: HANCOCK_ANGB, HANCOCK ANGB, 60214697
Comments: Send copy of invoice to John Santacroce at Latham office.

Case:
SDG:
PO: 60214697, 11S-14728-DC30

HC Due: 06/26/13
Fax Due:
Fax Report: ☐

Report Level: LEVEL 4A
Special Program: DoD
EDD: ERPIMS_5

Lab Samp ID	Client Sample ID	Collection Date	Date Recv'd	Matrix	Test Code	Samp / Lab Test Comments	HF	HT	MS	SEL	Storage
M0903-01A	MW112-060413	06/04/2013 11:32	06/07/2013	Aqueous	SW8260_W	/ BEX list				Y	VOA
M0903-02A	MW106-060413	06/04/2013 12:15	06/07/2013	Aqueous	SW8260_W	/ BEX list				Y	VOA
M0903-03A	DUP-060413	06/04/2013 00:00	06/07/2013	Aqueous	SW8260_W	/ BEX list				Y	VOA
M0903-04A	TB-060413	06/04/2013 00:00	06/07/2013	Aqueous	SW8260_W	/ BEX list				Y	VOA
M0903-05A	MW19-060413	06/04/2013 14:35	06/07/2013	Aqueous	SW8260_W	/ BEX list				Y	VOA
M0903-06A	MW17-060413	06/04/2013 14:37	06/07/2013	Aqueous	SW8260_W	/ BEX list			Y	Y	VOA
M0903-07A	MW15-060413	06/04/2013 15:40	06/07/2013	Aqueous	SW8260_W	/ BEX list				Y	VOA
M0903-08A	MW11-060413	06/04/2013 16:04	06/07/2013	Aqueous	SW8260_W	/ BEX list				Y	VOA
M0903-09A	MW105-060513	06/05/2013 09:20	06/07/2013	Aqueous	SW8260_W	/ BEX list				Y	VOA
M0903-10A	MW103-060513	06/05/2013 09:41	06/07/2013	Aqueous	SW8260_W	/ BEX list				Y	VOA
M0903-11A	RW01-060513	06/05/2013 11:00	06/07/2013	Aqueous	SW8260_W	/ BEX list				Y	VOA
M0903-12A	MW14-060513	06/05/2013 11:42	06/07/2013	Aqueous	SW8260_W	/ BEX list				Y	VOA
M0903-13A	MW101-060513	06/05/2013 12:30	06/07/2013	Aqueous	SW8260_W	/ BEX list				Y	VOA

HF = Fraction logged in but all tests have been placed on hold

HT = Test logged in but has been placed on hold

06/10/2013 10:06

Lab Client Rep: Agnes R Huntley

Sample Transmittal Documentation

SB70432 R1

M0903

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

Page 1 of 2

CHAIN OF CUSTODY RECORD

☑ 11 Almgren Drive, Agawam, MA 01001, (413) 789-9018
☐ 8405 Benjamin Road, Ste A, Tampa, FL 33634, (813) 888-9507
☐ 646 Camp Avenue, N Kingstown, RI 02852, (401) 732-3400

Special Handling:

TAT- Ind icate Date Needed: Stnd.
- All TATs subject to laboratory approval. Min. 24-hour notification needed for rushes.
- Samples disposed of after 60 days unless otherwise instructed.

Report To: AECOM
40 British American Blvd.
Latham, N.Y. 12110

Telephone #: 518-951-2265
Project Mgr. John Santacroce

Invoice To: AECOM

P.O. No.: _____ RQN: _____

Project No.: 60214697
Site Name: Hancock ANGB
Location: Syracuse State: NY
Sampler(s): GLW, TS

1=Na_2S2O_3 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid 7=CH_3OH
8=$NaHSO_4$ 9= Deionized Water 10=H_3PO_4 11= _____ 12= _____

DW=Drinking Water GW=Groundwater WW=Wastewater
O=Oil SW= Surface Water SO=Soil SL=Sludge A=Air
X1= _____ X2= _____ X3= _____

G=Grab C=Composite

Lab Id:	Sample Id:	Date:	Time:	Type	Matrix	Containers: # of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	Analyses: 8260 (BTEX only)	List preservative code below: 2
SB70432	MW12-060413	6/4/13	1132	G	GW	3				✓	
-02	MW106-060413	6/4/13	1215								
-03	Dup-060413	6/4/13	—								
-04	TB-060413	—	—								
-05	MW19-060413	6/4/13	1435								
-06	MW17-060413	6/4/13	1437								
-06	MW17-060413-MS	6/4/13	1437								
-06	MW17-060413-MSD	6/4/13	1437								
-07	MW15-060413	6/4/13	1540								
-08	MW11-060413	6/4/13	1604	↓	↓	↓				↓	

M0903 Dup 4/7/13

QA/QC Reporting Notes:

QA/QC Reporting Level
☐ Level I ☐ Level II
☐ Level III ☐ Level IV
☐ Other _____
Stnd.
State-specific reporting standards:

Relinquished by:	Received by:	Date:	Time:	Temp°C
		6/5/13	1355	1.2
		6/5/13	1750	
		6/5/13	2100	1.2
		6/7/13	0815	

☑ EDD Format ERPIMS
☑ E-mail to John.Santacroce@AECOM.com

Condition upon receipt: Custody Seals: ☐ Present ☐ Intact ☐ Broken
☐ Ambient ☒ Iced ☐ Refrigerated ☐ DI VOA Frozen ☐ Soil Jar Frozen

SB 60752 RT1

M0903

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

CHAIN OF CUSTODY RECORD

☑ 11 Almgren Drive, Agawam, MA 01001, (413) 789-9018
☐ 8405 Benjamin Road, Ste A, Tampa, FL 33634, (813) 888-9507
☐ 646 Camp Avenue, N Kingstown, RI 02852, (401) 732-3400

Special Handling:

TAT- Indicate Date Needed: Stnd
- All TATs subject to laboratory approval. Min. 24-hour notification needed for rushes.
- Samples disposed of after 60 days unless otherwise instructed.

Report To: AECOM
40 British American Blvd
Latham, N.Y. 12110

Telephone #: 518-951-2265
Project Mgr. John Santa Croce

Invoice To: AECOM

P.O. No.: _____ RQN: _____

Project No.: 60214697
Site Name: Hancock ANGB
Location: ~~Syr~~ Syracuse State: NY
Sampler(s): GLW, TS

1=$Na_2S_2O_3$ 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid 7=CH_3OH
8=$NaHSO_4$ 9= Deionized Water 10=H_3PO_4 11=_____ 12=_____

List preservative code below: 2

QA/QC Reporting Notes:

DW=Drinking Water GW=Groundwater WW=Wastewater
O=Oil SW= Surface Water SO=Soil SL=Sludge A=Air
X1=_____ X2=_____ X3=_____

G=Grab C=Composite

Lab Id:	Sample Id:	Date:	Time:	Type	Matrix	Containers: # of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	Analyses: 8260 (BTEX only)
M0903-09	~~MW105-060513~~	6/5/13	0920	G	GW	3				✓
-10	MW103-060513		0941							
-11	~~MW~~RW01-060513		1100							
-12	MW14-060513		1142							
-13	MW101-060513		1230							

QA/QC Reporting Level
☐ Level I ☐ Level II
☐ Level III ☐ Level IV
☐ Other _____
Stnd.
State-specific reporting standards:

Relinquished by:	Received by:	Date:	Time:	Temp°C
		6/5/13	1335	14
		6/5/13	1750	
		6/5/13	2100	12
		6/7/13	0815	
		6/7/13	10:30	

☑ EDD Format ERPIMS
☑ E-mail to John.Santacroce@aecom.com

Condition upon receipt: Custody Seals: ☐ Present ☐ Intact ☐ Broken
☐ Ambient ☐ Iced ☐ Refrigerated ☐ DI VOA Frozen ☐ Soil Jar Frozen

Spectrum Analytical Inc. - North Kingstown RI -- Rhode Island Division

Received By: VSB	Page 01 of 00
Reviewed By: AED	Log-in Date 06/07/2013
Work Order: M0903	Client Name: AECOM Technical Services, Inc.
Project Name/Event: Hancock ANGB / Hancock ANGB	

Remarks: (1/2) Please see associated sample/extract transfer logbook pages submitted with this data package.

1. Custody Seal(s)	Present / Absent
	Intact / Broken
2. Custody Seal Nos.	N/A
3. Traffic Reports/ Chain of Custody Records (TR/COCs) or Packing Lists	Present / Absent
4. Airbill	AirBill / Sticker Present / Absent
5. Airbill No.	Courier N/A
6. Sample Tags	Present / Absent
Sample Tag Numbers	Listed / Not Listed on Chain-of-Custody
7. Sample Condition	Intact / Broken/ Leaking
8. Cooler Temperature Indicator Bottle	Present / Absent
9. Cooler Temperature	4 °C
10. Does information on TR/COCs and sample tags agree?	Yes / No
11. Date Received at Laboratory	06/07/2013
12. Time Received	10:50

Sample Transfer	
Fraction (1) TVOA/VOA	Fraction (2) SVOA/PEST/ARO
Area #	Area #
By	By
On	On

Lab Sample ID	Preservation (pH) HNO3	H2SO4	HCl	NaOH	H3PO4	VOA Matrix	Soil HeadSpace or Air Bubble > or equal to 1/4"
M0903-01						H	
M0903-02						H	
M0903-03						H	
M0903-04						H	
M0903-05						H	
M0903-06						H	
M0903-07						H	
M0903-08						H	
M0903-09						H	
M0903-10						H	
M0903-11						H	
M0903-12						H	
M0903-13						H	

IR Temp Gun ID:MT-1

CoolantCondition: ICE

Preservative Name/Lot No:

VOA Matrix Key:

US = Unpreserved Soil	A= Air
UA = Unpreserved Aqueous	H = HCl
M = MeOH	E = Encore
N = NaHSO4	F = Freeze

See Sample Condition Notification/Corrective Action Form Yes / No

Rad OK Yes / No

* Volatiles *

REPORT NARRATIVE

Spectrum Analytical, Inc. Featuring Hanibal Technology, RI Division.

Client : AECOM Technical Services, Inc.

Project: Hancock ANGB

Laboratory Workorder / SDG #: M0903

SW846 8260C, VOC by GC-MS

I. SAMPLE RECEIPT

No exceptions or unusual conditions were encountered unless a Sample Condition Notification Form, or other record of communication is included with the Sample Receipt Documentation.

II. HOLDING TIMES

A. Sample Preparation:

All samples were prepared within the method-specified holding times.

B. Sample Analysis:

All samples were analyzed within the method-specified holding times.

III. METHODS

Samples were analyzed following procedures in laboratory test code: SW846 8260C

IV. PREPARATION

Aqueous Samples were prepared following procedures in laboratory test code: SW5030B

V. INSTRUMENTATION

The following instrumentation was used

Instrument Code: V5
Instrument Type: GCMS-VOA

Description: HP6890 / HP6890
Manufacturer: Hewlett-Packard
Model: 6890 / 6890

VI. ANALYSIS

A. Calibration:

Calibrations met the method/SOP acceptance criteria.

B. Blanks:

All method blanks were within the acceptance criteria.

C. Surrogates:

Surrogate standard percent recoveries were within the QC limits.

D. Spikes:

1. Laboratory Control Spikes (LCS):

Percent recoveries for lab control samples were within the QC limits.

Replicate RPDs were within the advisory QC limits.

2. Matrix Spike / Matrix Spike Duplicate (MS/MSD):

Matrix spikes were performed on samples: MW17-060413 (M0903-06AMS) and MW17-060413 (M0903-06AMSD).

Percent recoveries were within the QC limits.

Replicate RPDs were within the advisory QC limits.

E. Internal Standards:

Internal standard peak areas were within the QC limits.

F. Dilutions:

No sample in this SDG required analysis at dilution.

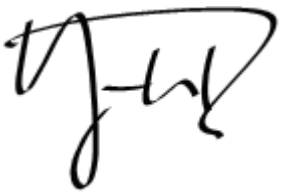
G. Samples:

No other unusual occurrences were noted during sample analysis.

H. Manual Integration

No manual integrations were performed on any sample or standard.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Spectrum, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.



Signed:_____ _____

Date:_____6/25/2013_____

Data Flag/Qualifiers:

U Not Detected. This compound was analyzed-for but not detected. For most analyses the reporting limit (lowest standard concentration) is the value listed. For Department of Defense programs, this is the Limit of Detection (LOD).

J This flag indicates an estimated value due to either
- the compound was detected below the reporting limit, or
- estimated concentration for Tentatively Identified Compound

B This flag indicates the compound was also detected in the associated Method Blank. The B flag has an alternative meaning for Inorganics analyses reported using CLP ILM-type metals forms, indicating a "trace" concentration below the reporting limit and equal to or above the detection limit.

D For Organics analysis, this flag indicates the compound concentration was obtained from a secondary dilution analysis

E This flag indicates the compound concentration exceeded the Calibration Range. The E flag has an alternative meaning for Inorganics analyses reported using CLP metals forms, indicating an estimated concentration due to the presence of interferences, as determined by the serial dilution analysis.

P This flag is used for pesticides/PCB/herbicide compound when there is a greater than 40% difference for detected concentration between the two GC columns used for primary and confirmation analyses. This difference typically indicates an interference, causing one value to be unusually high. The **lower** of the two values is generally reported on the Form 1, and both values reported on the Form 10.

A Used to flag semivolatile organic Tentatively Identified Compound library search results for compounds identified as aldol condensation byproducts.

N Used to flag results for volatile and semivolatile Organics analysis Tentatively Identified Compounds where an analyte has passed the identification criteria, and is considered to be positively identified. For Inorganics analysis the N flag indicates the matrix spike recovery falls outside of the control limit.

* For Inorganics analysis the * flag indicates Relative Percent Difference for duplicate analyses is outside of the control limit.

Sample ID Suffixes

DL Diluted analysis. The sample was diluted and reanalyzed. The DL may be followed by a digit if more than one diluted reanalysis is provided. The DL suffix is not attached to an analysis initially performed at dilution, only to reanalyses performed at dilution

RE Reanalysis. Appended to the client sample ID to indicate a reextraction and reanalysis or a reanalysis of the original sample extract.

RA Reanalysis. Appended to the laboratory sample ID indicates a reanalysis of the original sample extract.

RX Reextraction. Appended to the laboratory sample ID indicates a reextraction of the sample.

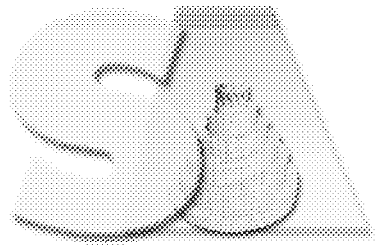
MS Matrix Spike.

MSD Matrix Spike Duplicate

DUP Duplicate analysis

SD Serial Dilution

PS Post-digestion or Post-distillation spike. For metals or inorganic analyses



SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

* Sample Data *

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1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW112-060413

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M0903 Mod. Ref No.: SDG No.: SM0903

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M0903-01A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5O4002.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/07/2013

% Moisture: not dec. Date Analyzed: 06/07/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION: UG/L	Q	DL	LOD	LOQ
71-43-2	Benzene	0.50	U	0.33	0.50	1.0
100-41-4	Ethylbenzene	0.50	U	0.35	0.50	1.0
179601-23-1	m,p-Xylene	1.0	U	0.77	1.0	1.0
95-47-6	o-Xylene	0.50	U	0.36	0.50	1.0
1330-20-7	Xylene (Total)	1.0	U	0.36	1.0	1.0

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW106-060413

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M0903 Mod. Ref No.: SDG No.: SM0903

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M0903-02A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5O4003.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/07/2013

% Moisture: not dec. Date Analyzed: 06/07/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION: UG/L	Q	DL	LOD	LOQ
71-43-2	Benzene	0.50	U	0.33	0.50	1.0
100-41-4	Ethylbenzene	0.50	U	0.35	0.50	1.0
179601-23-1	m,p-Xylene	1.0	U	0.77	1.0	1.0
95-47-6	o-Xylene	0.50	U	0.36	0.50	1.0
1330-20-7	Xylene (Total)	1.0	U	0.36	1.0	1.0

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DUP-060413

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M0903 Mod. Ref No.: SDG No.: SM0903

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M0903-03A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5O4004.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/07/2013

% Moisture: not dec. Date Analyzed: 06/07/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION: UG/L	Q	DL	LOD	LOQ
71-43-2	Benzene	0.50	U	0.33	0.50	1.0
100-41-4	Ethylbenzene	0.50	U	0.35	0.50	1.0
179601-23-1	m,p-Xylene	1.0	U	0.77	1.0	1.0
95-47-6	o-Xylene	0.50	U	0.36	0.50	1.0
1330-20-7	Xylene (Total)	1.0	U	0.36	1.0	1.0

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TB-060413

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M0903 Mod. Ref No.: SDG No.: SM0903

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M0903-04A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5O4005.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/07/2013

% Moisture: not dec. Date Analyzed: 06/07/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION: UG/L	Q	DL	LOD	LOQ
71-43-2	Benzene	0.50	U	0.33	0.50	1.0
100-41-4	Ethylbenzene	0.50	U	0.35	0.50	1.0
179601-23-1	m,p-Xylene	1.0	U	0.77	1.0	1.0
95-47-6	o-Xylene	0.50	U	0.36	0.50	1.0
1330-20-7	Xylene (Total)	1.0	U	0.36	1.0	1.0

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW19-060413

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M0903 Mod. Ref No.: SDG No.: SM0903

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M0903-05A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5O4006.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/07/2013

% Moisture: not dec. Date Analyzed: 06/07/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION: UG/L	Q	DL	LOD	LOQ
71-43-2	Benzene	0.50	U	0.33	0.50	1.0
100-41-4	Ethylbenzene	0.50	U	0.35	0.50	1.0
179601-23-1	m,p-Xylene	1.0	U	0.77	1.0	1.0
95-47-6	o-Xylene	0.50	U	0.36	0.50	1.0
1330-20-7	Xylene (Total)	1.0	U	0.36	1.0	1.0

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW17-060413

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M0903 Mod. Ref No.: SDG No.: SM0903

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M0903-06A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5O4007.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/07/2013

% Moisture: not dec. Date Analyzed: 06/07/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION: UG/L	Q	DL	LOD	LOQ
71-43-2	Benzene	0.50	U	0.33	0.50	1.0
100-41-4	Ethylbenzene	0.50	U	0.35	0.50	1.0
179601-23-1	m,p-Xylene	1.0	U	0.77	1.0	1.0
95-47-6	o-Xylene	0.50	U	0.36	0.50	1.0
1330-20-7	Xylene (Total)	1.0	U	0.36	1.0	1.0

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW17-060413MS

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M0903 Mod. Ref No.: SDG No.: SM0903

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M0903-06AMS

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5O3995.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/07/2013

% Moisture: not dec. Date Analyzed: 06/07/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION: UG/L	Q	DL	LOD	LOQ
71-43-2	Benzene	56		0.33	0.50	1.0
100-41-4	Ethylbenzene	46		0.35	0.50	1.0
179601-23-1	m,p-Xylene	92		0.77	1.0	1.0
95-47-6	o-Xylene	48		0.36	0.50	1.0
1330-20-7	Xylene (Total)	140		0.36	1.0	1.0

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW17-060413MSD

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M0903 Mod. Ref No.: SDG No.: SM0903

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M0903-06AMSD

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5O3996.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/07/2013

% Moisture: not dec. Date Analyzed: 06/07/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION: UG/L	Q	DL	LOD	LOQ
71-43-2	Benzene	56		0.33	0.50	1.0
100-41-4	Ethylbenzene	46		0.35	0.50	1.0
179601-23-1	m,p-Xylene	93		0.77	1.0	1.0
95-47-6	o-Xylene	47		0.36	0.50	1.0
1330-20-7	Xylene (Total)	140		0.36	1.0	1.0

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW15-060413

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M0903 Mod. Ref No.: SDG No.: SM0903

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M0903-07A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5O4008.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/07/2013

% Moisture: not dec. Date Analyzed: 06/07/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION: UG/L	Q	DL	LOD	LOQ
71-43-2	Benzene	0.50	U	0.33	0.50	1.0
100-41-4	Ethylbenzene	0.50	U	0.35	0.50	1.0
179601-23-1	m,p-Xylene	1.0	U	0.77	1.0	1.0
95-47-6	o-Xylene	0.50	U	0.36	0.50	1.0
1330-20-7	Xylene (Total)	1.0	U	0.36	1.0	1.0

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW11-060413

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M0903 Mod. Ref No.: SDG No.: SM0903

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M0903-08A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5O4009.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/07/2013

% Moisture: not dec. Date Analyzed: 06/07/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION: UG/L	Q	DL	LOD	LOQ
71-43-2	Benzene	0.50	U	0.33	0.50	1.0
100-41-4	Ethylbenzene	0.50	U	0.35	0.50	1.0
179601-23-1	m,p-Xylene	1.0	U	0.77	1.0	1.0
95-47-6	o-Xylene	0.50	U	0.36	0.50	1.0
1330-20-7	Xylene (Total)	1.0	U	0.36	1.0	1.0

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW105-060513

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M0903 Mod. Ref No.: SDG No.: SM0903

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M0903-09A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5O4010.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/07/2013

% Moisture: not dec. Date Analyzed: 06/07/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION: UG/L	Q	DL	LOD	LOQ
71-43-2	Benzene	0.50	U	0.33	0.50	1.0
100-41-4	Ethylbenzene	0.50	U	0.35	0.50	1.0
179601-23-1	m,p-Xylene	1.0	U	0.77	1.0	1.0
95-47-6	o-Xylene	0.50	U	0.36	0.50	1.0
1330-20-7	Xylene (Total)	1.0	U	0.36	1.0	1.0

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW103-060513

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M0903 Mod. Ref No.: SDG No.: SM0903

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M0903-10A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5O4011.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/07/2013

% Moisture: not dec. Date Analyzed: 06/07/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION: UG/L	Q	DL	LOD	LOQ
71-43-2	Benzene	0.50	U	0.33	0.50	1.0
100-41-4	Ethylbenzene	0.50	U	0.35	0.50	1.0
179601-23-1	m,p-Xylene	1.0	U	0.77	1.0	1.0
95-47-6	o-Xylene	0.50	U	0.36	0.50	1.0
1330-20-7	Xylene (Total)	1.0	U	0.36	1.0	1.0

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

RW01-060513

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M0903 Mod. Ref No.: SDG No.: SM0903

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M0903-11A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5O4012.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/07/2013

% Moisture: not dec. Date Analyzed: 06/07/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION: UG/L	Q	DL	LOD	LOQ
71-43-2	Benzene	0.50	U	0.33	0.50	1.0
100-41-4	Ethylbenzene	0.50	U	0.35	0.50	1.0
179601-23-1	m,p-Xylene	1.0	U	0.77	1.0	1.0
95-47-6	o-Xylene	0.50	U	0.36	0.50	1.0
1330-20-7	Xylene (Total)	1.0	U	0.36	1.0	1.0

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW14-060513

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M0903 Mod. Ref No.: SDG No.: SM0903

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M0903-12A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5O4013.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/07/2013

% Moisture: not dec. Date Analyzed: 06/07/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION: UG/L	Q	DL	LOD	LOQ
71-43-2	Benzene	0.50	U	0.33	0.50	1.0
100-41-4	Ethylbenzene	0.50	U	0.35	0.50	1.0
179601-23-1	m,p-Xylene	1.0	U	0.77	1.0	1.0
95-47-6	o-Xylene	0.50	U	0.36	0.50	1.0
1330-20-7	Xylene (Total)	1.0	U	0.36	1.0	1.0

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW101-060513

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M0903 Mod. Ref No.: SDG No.: SM0903

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M0903-13A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5O4014.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/07/2013

% Moisture: not dec. Date Analyzed: 06/08/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION: UG/L	Q	DL	LOD	LOQ
71-43-2	Benzene	0.50	U	0.33	0.50	1.0
100-41-4	Ethylbenzene	5.7		0.35	0.50	1.0
179601-23-1	m,p-Xylene	7.2		0.77	1.0	1.0
95-47-6	o-Xylene	0.50	U	0.36	0.50	1.0
1330-20-7	Xylene (Total)	7.2		0.36	1.0	1.0

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LCS-72123

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M0903 Mod. Ref No.: SDG No.: SM0903

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: LCS-72123

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5O3994.D

Level: (TRACE/LOW/MED) LOW Date Received:

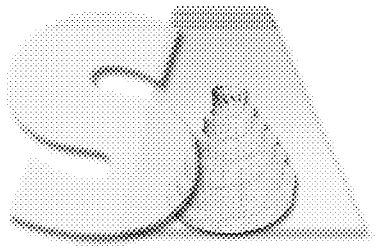
% Moisture: not dec. Date Analyzed: 06/07/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION: UG/L	Q	DL	LOD	LOQ
71-43-2	Benzene	52		0.33	0.50	5.0
100-41-4	Ethylbenzene	42		0.35	0.50	5.0
179601-23-1	m,p-Xylene	86		0.77	1.0	5.0
95-47-6	o-Xylene	44		0.36	0.50	5.0
1330-20-7	Xylene (Total)	130		0.36	1.0	5.0



SPECTRUM ANALYTICAL, INC.
Featuring
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* QC Summary *

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www.spectrum-analytical.com

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MB-72123

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M0903 Mod. Ref No.: SDG No.: SM0903

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: MB-72123

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5O3993.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 06/07/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION: UG/L	Q	DL	LOD	LOQ
71-43-2	Benzene	0.50	U	0.33	0.50	1.0
100-41-4	Ethylbenzene	0.50	U	0.35	0.50	1.0
179601-23-1	m,p-Xylene	1.0	U	0.77	1.0	1.0
95-47-6	o-Xylene	0.50	U	0.36	0.50	1.0
1330-20-7	Xylene (Total)	1.0	U	0.36	1.0	1.0

4A - FORM IV VOA
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.
MB-72123

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M0903 Mod. Ref No.: SDG No.: SM0903

Lab File ID: V5O3993.D Lab Sample ID: MB-72123

Instrument ID: V5

Matrix: (SOIL/SED/WATER) WATER Date Analyzed: 06/07/2013

Level: (TRACE or LOW/MED) LOW Time Analyzed: 15:14

GC Column: DB-624 ID: 0.25 (mm) Heated Purge: (Y/N) N

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	LCS-72123	LCS-72123	V5O3994.D	15:39
02	MW17-060413MS	M0903-06AMS	V5O3995.D	16:05
03	MW17-060413MSD	M0903-06AMSD	V5O3996.D	16:30
04	MW112-060413	M0903-01A	V5O4002.D	19:04
05	MW106-060413	M0903-02A	V5O4003.D	19:30
06	DUP-060413	M0903-03A	V5O4004.D	19:56
07	TB-060413	M0903-04A	V5O4005.D	20:22
08	MW19-060413	M0903-05A	V5O4006.D	20:48
09	MW17-060413	M0903-06A	V5O4007.D	21:13
10	MW15-060413	M0903-07A	V5O4008.D	21:39
11	MW11-060413	M0903-08A	V5O4009.D	22:05
12	MW105-060513	M0903-09A	V5O4010.D	22:30
13	MW103-060513	M0903-10A	V5O4011.D	22:56
14	RW01-060513	M0903-11A	V5O4012.D	23:21
15	MW14-060513	M0903-12A	V5O4013.D	23:47
16	MW101-060513	M0903-13A	V5O4014.D	0:12

COMMENTS:

2B - FORM II VOA-2

WATER VOLATILE DEUTERATED MONITORING COMPOUND RECOVERY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M0903 Mod. Ref No.: SDG No.: SM0903

Level: (TRACE or LOW) LOW

	EPA SAMPLE NO.	VDMC1 (DBFM) #	VDMC2 (DCE) #	VDMC3 (TOL) #	VDMC4 (BFB) #				TOT OUT
01	MB-72123	106	101	93	104				0
02	LCS-72123	104	99	93	108				0
03	MW17-060413MS	107	94	93	106				0
04	MW17-060413MSD	106	99	92	106				0
05	MW112-060413	107	102	94	106				0
06	MW106-060413	103	99	94	105				0
07	DUP-060413	105	96	94	105				0
08	TB-060413	104	96	92	102				0
09	MW19-060413	105	98	94	105				0
10	MW17-060413	104	100	93	105				0
11	MW15-060413	104	98	91	104				0
12	MW11-060413	107	95	93	103				0
13	MW105-060513	106	98	94	105				0
14	MW103-060513	106	99	94	103				0
15	RW01-060513	107	97	94	106				0
16	MW14-060513	106	99	93	102				0
17	MW101-060513	107	99	95	105				0

		QC LIMITS
VDMC1	(DBFM) Dibromofluoromethane	(85-115)
VDMC2	(DCE) = 1,2-Dichloroethane-d4	(70-120)
VDMC3	(TOL) = Toluene-d8	(85-120)
VDMC4	(BFB) = Bromofluorobenzene	(75-120)

Column to be used to flag recovery values

* Values outside of contract required QC limits

som13.06.03.A

5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.
BFB5V

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M0903 Mod. Ref No.: SDG No.: SM0903

Lab File ID: V5O3800.D BFB Injection Date: 05/30/2013

Instrument ID: V5 BFB Injection Time: 12:22

GC Column: DB-624 ID: 0.25 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	22.4
75	30.0 - 60.0% of mass 95	44.0
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.8
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	Greater than 50.0% of mass 95	74.6
175	5.0 - 9.0% of mass 174	4.0 (5.3)1
176	95.0 - 101.0% of mass 174	72.2 (96.9)1
177	5.0 - 9.0% of mass 176	4.8 (6.7)2

1 - Value is % mass 174 2 - Value is % mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD0015V	VSTD0015V	V5O3801.D	05/30/2013	12:48
02	VSTD0055V	VSTD0055V	V5O3802.D	05/30/2013	13:14
03	VSTD0205V	VSTD0205V	V5O3803.D	05/30/2013	13:39
04	VSTD0505V	VSTD0505V	V5O3804.D	05/30/2013	14:05
05	VSTD1005V	VSTD1005V	V5O3805.D	05/30/2013	14:32
06	VSTD2005V	VSTD2005V	V5O3806.D	05/30/2013	14:58
07	VICV0505V	VICV0505V	V5O3807.D	05/30/2013	15:46

5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.
BFBD5

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M0903 Mod. Ref No.: SDG No.: SM0903

Lab File ID: V5O3990.D BFB Injection Date: 06/07/2013

Instrument ID: V5 BFB Injection Time: 13:58

GC Column: DB-624 ID: 0.25 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	24.8
75	30.0 - 60.0% of mass 95	44.8
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.3
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	Greater than 50.0% of mass 95	72.2
175	5.0 - 9.0% of mass 174	5.8 (8.0)1
176	95.0 - 101.0% of mass 174	69.8 (96.7)1
177	5.0 - 9.0% of mass 176	4.4 (6.3)2

1 - Value is % mass 174 2 - Value is % mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD050D5	VSTD050D5	V5O3991.D	06/07/2013	14:23
02	MB-72123	MB-72123	V5O3993.D	06/07/2013	15:14
03	LCS-72123	LCS-72123	V5O3994.D	06/07/2013	15:39
04	MW17-060413MS	M0903-06AMS	V5O3995.D	06/07/2013	16:05
05	MW17-060413MSD	M0903-06AMSD	V5O3996.D	06/07/2013	16:30
06	MW112-060413	M0903-01A	V5O4002.D	06/07/2013	19:04
07	MW106-060413	M0903-02A	V5O4003.D	06/07/2013	19:30
08	DUP-060413	M0903-03A	V5O4004.D	06/07/2013	19:56
09	TB-060413	M0903-04A	V5O4005.D	06/07/2013	20:22
10	MW19-060413	M0903-05A	V5O4006.D	06/07/2013	20:48
11	MW17-060413	M0903-06A	V5O4007.D	06/07/2013	21:13
12	MW15-060413	M0903-07A	V5O4008.D	06/07/2013	21:39
13	MW11-060413	M0903-08A	V5O4009.D	06/07/2013	22:05
14	MW105-060513	M0903-09A	V5O4010.D	06/07/2013	22:30
15	MW103-060513	M0903-10A	V5O4011.D	06/07/2013	22:56
16	RW01-060513	M0903-11A	V5O4012.D	06/07/2013	23:21
17	MW14-060513	M0903-12A	V5O4013.D	06/07/2013	23:47
18	MW101-060513	M0903-13A	V5O4014.D	06/08/2013	0:12

8A - FORM VIII VOA

VOLATILE INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M0903 Mod. Ref No.: SDG No.: SM0903

GC Column: DB-624 ID: 0.25 (mm) Init. Calib. Date(s): 05/30/2013 05/30/2013

EPA Sample No.(VSTD#####): VSTD050D5 Date Analyzed: 06/07/2013

Lab File ID (Standard): V5O3991.D Time Analyzed: 14:23

Instrument ID: V5 Heated Purge: (Y/N) N

		IS1 (S1) AREA	#	RT	#	IS2 (S2) AREA	#	RT	#	IS3 (S3) AREA	#	RT	#
	12 HOUR STD	793954		5.604		665170		9.077		311190		12.237	
	UPPER LIMIT	1587908		6.104		1330340		9.577		622380		12.737	
	LOWER LIMIT	396977		5.104		332585		8.577		155595		11.737	
	EPA SAMPLE NO.												
01	MB-72123	779985		5.605		649391		9.078		281655		12.238	
02	LCS-72123	788569		5.599		658540		9.072		306088		12.244	
03	MW17-060413MS	793004		5.611		665941		9.084		312009		12.244	
04	MW17-060413MSD	790614		5.600		667620		9.073		304729		12.245	
05	MW112-060413	796720		5.605		652480		9.078		284647		12.238	
06	MW106-060413	801398		5.602		658057		9.076		280142		12.235	
07	DUP-060413	776334		5.606		637969		9.079		274792		12.239	
08	TB-060413	778639		5.600		642363		9.073		274583		12.245	
09	MW19-060413	778963		5.604		630329		9.078		278498		12.237	
10	MW17-060413	762182		5.600		623305		9.073		264311		12.244	
11	MW15-060413	751663		5.599		625719		9.073		264861		12.244	
12	MW11-060413	737897		5.605		616471		9.079		261716		12.238	
13	MW105-060513	746710		5.605		620570		9.078		269318		12.238	
14	MW103-060513	735924		5.602		614291		9.075		257071		12.235	

IS1 () = Fluorobenzene
IS2 () = Chlorobenzene-d5
IS3 () = 1,4-Dichlorobenzene-d4
AREA UPPER LIMIT = 200% (Low-Medium Volatiles) and 140% (Trace Volatiles) of internal standard area
AREA LOWER LIMIT = 50% (Low-Medium Volatiles) and 60% (Trace Volatiles) of internal standard area
RT UPPER LIMIT = +0.50 (Low-Medium Volatiles) and +0.33 (Trace Volatiles) minutes of internal standard RT
RT LOWER LIMIT = -0.50 (Low-Medium Volatiles) and -0.33 (Trace Volatiles) minutes of internal standard RT

Column used to flag values outside contract required QC limits with an asterisk.

8A - FORM VIII VOA

VOLATILE INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M0903 Mod. Ref No.: SDG No.: SM0903

GC Column: DB-624 ID: 0.25 (mm) Init. Calib. Date(s): 05/30/2013 05/30/2013

EPA Sample No.(VSTD#####): VSTD050D5 Date Analyzed: 06/07/2013

Lab File ID (Standard): V5O3991.D Time Analyzed: 14:23

Instrument ID: V5 Heated Purge: (Y/N) N

		IS1 (S1) AREA	#	RT	#	IS2 (S2) AREA	#	RT	#	IS3 (S3) AREA	#	RT	#
	12 HOUR STD	793954		5.604		665170		9.077		311190		12.237	
	UPPER LIMIT	1587908		6.104		1330340		9.577		622380		12.737	
	LOWER LIMIT	396977		5.104		332585		8.577		155595		11.737	
	EPA SAMPLE NO.												
15	RW01-060513	737920		5.605		604449		9.079		260408		12.238	
16	MW14-060513	728580		5.600		604231		9.073		255556		12.244	
17	MW101-060513	732159		5.605		612002		9.079		272002		12.238	

IS1 () = Fluorobenzene
IS2 () = Chlorobenzene-d5
IS3 () = 1,4-Dichlorobenzene-d4
AREA UPPER LIMIT = 200% (Low-Medium Volatiles) and 140% (Trace Volatiles) of internal standard area
AREA LOWER LIMIT = 50% (Low-Medium Volatiles) and 60% (Trace Volatiles) of internal standard area
RT UPPER LIMIT = +0.50 (Low-Medium Volatiles) and +0.33 (Trace Volatiles) minutes of internal standard RT
RT LOWER LIMIT = -0.50 (Low-Medium Volatiles) and -0.33 (Trace Volatiles) minutes of internal standard RT

Column used to flag values outside contract required QC limits with an asterisk.

3A - FORM III VOA-1

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M0903 Mod. Ref No.: SDG No.: SM0903

Matrix Spike - EPA Sample No.: MW17-060413 Level: (TRACE or LOW) LOW

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS %REC	#	QC. LIMITS REC.
Benzene	50.0000	0.0000	55.5099	111		80-120
Ethylbenzene	50.0000	0.0000	46.3680	93		75-125
m,p-Xylene	100.0000	0.0000	92.3896	92		75-130
o-Xylene	50.0000	0.0000	47.6515	95		80-120
Xylene (Total)	150.0000	0.0000	140.0411	93		81-121

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD %REC	#	%RPD	#	QC LIMITS RPD	QC LIMITS REC.
Benzene	50.0000	55.7700	112		0		0-40	80-120
Ethylbenzene	50.0000	46.4063	93		0		0-40	75-125
m,p-Xylene	100.0000	92.9766	93		1		0-40	75-130
o-Xylene	50.0000	46.5698	93		2		0-40	80-120
Xylene (Total)	150.0000	139.5464	93		0		0-40	81-121

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 5 outside limits

Spike Recovery: 0 out of 10 outside limits

COMMENTS:

3 - FORM III
WATER LABORATORY CONTROL
SAMPLE RECOVERY

EPA SAMPLE NO.
LCS-72123

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M0903 Mod. Ref No.: SDG No.: SM0903

Lab Sample ID: LCS-72123 LCS Lot No.:

Date Extracted: 06/07/2013 Date Analyzed (1): 06/07/2013

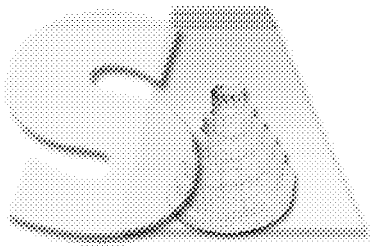
COMPOUND	SPIKE ADDED	SAMPLE CONCENTRATION	LCS CONCENTRATION	LCS %REC	#	QC. LIMITS REC.
Benzene	50.0000	0.0000	52.3818	105		80 - 120
Ethylbenzene	50.0000	0.0000	42.4445	85		75 - 125
m,p-Xylene	100.0000	0.0000	86.4939	86		75 - 130
o-Xylene	50.0000	0.0000	43.8419	88		80 - 120
Xylene (Total)	150.0000	0.0000	130.3358	87		81 - 121

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Spike Recovery: 0 out of 5 outside limits

COMMENTS:



SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

* Standards Data *

175 Metro Center Boulevard · Warwick, RI 02886-1755 · 401-732-3400 · FAX 401-732-3499
www.spectrum-analytical.com

6B - FORM VI VOA-2

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Spectrum Analytical, Inc. Contract:

Lab Code: MITKEM Case No.: M0903 SAS No.: SDG No.: SM0903

Instrument ID: V5 Calibration Date(s): 05/30/2013 05/30/2013

Heated Purge: (Y/N) N Calibration Times: 12:48 14:58

Purge Volume: 5 (mL)

GC Column: DB-624 ID: 0.25 (mm) Length: 30 (mm)

LAB FILE ID: RRF005 = V5O3802.D RRF020 = V5O3803.D RRF050 = V5O3804.D RRF100 = V5O3805.D RRF200 = V5O3806.D

RRF001 = V5O3801.D

COMPOUND	RRF005	RRF020	RRF050	RRF100	RRF200	RRF001					RRF	% RSD
Benzene	1.623	1.632	1.544	1.990	1.888	1.689					1.728	10.0
Ethylbenzene	0.688	0.698	0.672	0.887	0.871	0.760					0.763	12.5
m,p-Xylene	0.872	0.891	0.815	1.087	1.039	0.895					0.933	11.3
o-Xylene	0.860	0.858	0.839	1.075	1.055	0.857					0.924	11.9
Xylene (Total)	0.868	0.880	0.823	1.083	1.045	0.883					0.930	11.4

6C - FORM VI VOA-3

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Spectrum Analytical, Inc. Contract:

Lab Code: MITKEM Case No.: M0903 SAS No.: SDG No.: SM0903

Instrument ID: V5 Calibration Date(s): 05/30/2013 05/30/2013

Heated Purge: (Y/N) N Calibration Times: 12:48 14:58

Purge Volume: 5 (mL)

GC Column: DB-624 ID: 0.25 (mm) Length: 30 (mm)

LAB FILE ID: RRF005 = V5O3802.D RRF020 = V5O3803.D RRF050 = V5O3804.D RRF100 = V5O3805.D RRF200 = V5O3806.D
RRF001 = V5O3801.D

COMPOUND	RRF005	RRF020	RRF050	RRF100	RRF200	RRF001					RRF	% RSD
Dibromofluoromethane	0.315	0.311	0.316	0.302	0.307	0.320					0.312	2.1
1,2-Dichloroethane-d4	0.072	0.068	0.067	0.069	0.069	0.072					0.070	2.9
Toluene-d8	1.295	1.293	1.258	1.330	1.275	1.296					1.291	1.9
Bromofluorobenzene	0.520	0.521	0.525	0.515	0.507	0.521					0.518	1.2

Report 1,4-Dioxane-d8 for Low-Medium VOA analysis only

7A - FORM VII VOA-1
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M0903 Mod. Ref No.: SDG No.: SM0903

Instrument ID: V5 Calibration Date: 05/30/2013 Time: 15:46

Lab File ID: V5O3807.D Init. Calib. Date(s): 05/30/2013 05/30/2013

EPA Sample No.(VSTD#####) VICV0505V Init. Calib. Time(s): 12:48 14:58

Heated Purge: (Y/N) N GC Column: DB-624 ID: 0.25 (mm) Length: 30 (m)

Purge Volume: 5.0 (mL)

COMPOUND	RRF	RRF050	MIN RRF	%D	MAX %D
Benzene	1.728	1.504	0.500	-13.0	20.0
Ethylbenzene	0.763	0.658	0.100	-13.7	20.0
m,p-Xylene	0.933	0.808	0.100	-13.5	20.0
o-Xylene	0.924	0.806	0.300	-12.8	20.0
Xylene (Total)	0.930	0.807	0.000	-13.2	20.0

7B - FORM VII VOA-2
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M0903 Mod. Ref No.: SDG No.: SM0903

Instrument ID: V5 Calibration Date: 05/30/2013 Time: 15:46

Lab File ID: V5O3807.D Init. Calib. Date(s): 05/30/2013 05/30/2013

EPA Sample No.(VSTD#####) VICV0505V Init. Calib. Time(s): 12:48 14:58

Heated Purge: (Y/N) N GC Column: DB-624 ID: 0.25 (mm) Length: 30 (m)

Purge Volume: 5.0 (mL)

COMPOUND	RRF	RRF050	MIN RRF	%D	MAX %D
Dibromofluoromethane	0.312	0.310	0.100	-0.6	20.0
1,2-Dichloroethane-d4	0.070	0.067	0.100	-3.3	20.0
Toluene-d8	1.291	1.272	0.100	-1.5	20.0
Bromofluorobenzene	0.518	0.508	0.100	-1.9	20.0

7A - FORM VII VOA-1
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M0903 Mod. Ref No.: SDG No.: SM0903

Instrument ID: V5 Calibration Date: 06/07/2013 Time: 14:23

Lab File ID: V5O3991.D Init. Calib. Date(s): 05/30/2013 05/30/2013

EPA Sample No.(VSTD#####) VSTD050D5 Init. Calib. Time(s): 12:48 14:58

Heated Purge: (Y/N) N GC Column: DB-624 ID: 0.25 (mm) Length: 30 (m)

Purge Volume: 5.0 (mL)

COMPOUND	RRF	RRF050	MIN RRF	%D	MAX %D
Benzene	1.728	1.885	0.500	9.1	20.0
Ethylbenzene	0.763	0.694	0.100	-9.0	20.0
m,p-Xylene	0.933	0.849	0.100	-9.1	20.0
o-Xylene	0.924	0.863	0.300	-6.6	20.0
Xylene (Total)	0.930	0.853	0.000	-8.3	20.0

7B - FORM VII VOA-2
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M0903 Mod. Ref No.: SDG No.: SM0903

Instrument ID: V5 Calibration Date: 06/07/2013 Time: 14:23

Lab File ID: V5O3991.D Init. Calib. Date(s): 05/30/2013 05/30/2013

EPA Sample No.(VSTD#####) VSTD050D5 Init. Calib. Time(s): 12:48 14:58

Heated Purge: (Y/N) N GC Column: DB-624 ID: 0.25 (mm) Length: 30 (m)

Purge Volume: 5.0 (mL)

COMPOUND	RRF	RRF050	MIN RRF	%D	MAX %D
Dibromofluoromethane	0.312	0.325	0.100	4.3	20.0
1,2-Dichloroethane-d4	0.070	0.065	0.100	-6.0	20.0
Toluene-d8	1.291	1.200	0.100	-7.1	20.0
Bromofluorobenzene	0.518	0.553	0.100	6.6	20.0

* Raw Data *

175 Metro Center Boulevard · Warwick, RI 02886-1755 · 401-732-3400 · FAX 401-732-3499
www.spectrum-analytical.com

Spectrum Analytical, Inc. RI Division

Data file : \\avogadro\organics\V5.I\130530.B\V5O3800.D
Lab Smp Id: BFB5V Client Smp ID: BFB5V
Inj Date : 30-MAY-2013 12:22
Operator : WL SRC: WL Inst ID: V5.i
Smp Info : 2UL,BFB5V,BFB5V
Misc Info :
Comment :
Method : \\avogadro\organics\V5.I\130530.B\bfb8260.m
Meth Date : 30-May-2013 14:16 wluo Quant Type: ISTD
Cal Date : 21-MAR-2011 17:17 Cal File: V5M6831.D
Als bottle: 2 QC Sample: BFB
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.14 Sample Matrix: WATER
Processing Host: TARGET103

Concentration Formula: Amt * DF * Uf * Vf * VI * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vf	1.000	Volumetric correction factor
VI	1.000	Injection Volume
Cpnd Variable		Local Compound Variable

					CONCENTRATIONS ON-COL	CONCENTRATIONS FINAL		
RT	EXP RT	REL RT	MASS	RESPONSE	(ug/L)	(ug/L)	TARGET RANGE	RATIO
1 bfb						CAS #: 460-00-4		
10.635	11.000	(0.000)	95	104568			0.00- 100.00	100.00
10.635	11.000	(0.000)	50	23408			15.00- 40.00	22.39
10.635	11.000	(0.000)	75	46024			30.00- 60.00	44.01
10.635	11.000	(0.000)	96	7126			5.00- 9.00	6.81
10.635	11.000	(0.000)	173	0	0.0	0.0	0.00- 2.00	0.00
10.635	11.000	(0.000)	174	77960			50.00- 100.00	74.55
10.635	11.000	(0.000)	175	4144			5.00- 9.00	5.32
10.635	11.000	(0.000)	176	75544			95.00- 101.00	96.90
10.635	11.000	(0.000)	177	5030			5.00- 9.00	6.66

Data File: \\avogadro\organics\V5.I\130530.B\V503800.D

Date : 30-MAY-2013 12:22

Client ID: BFB5V

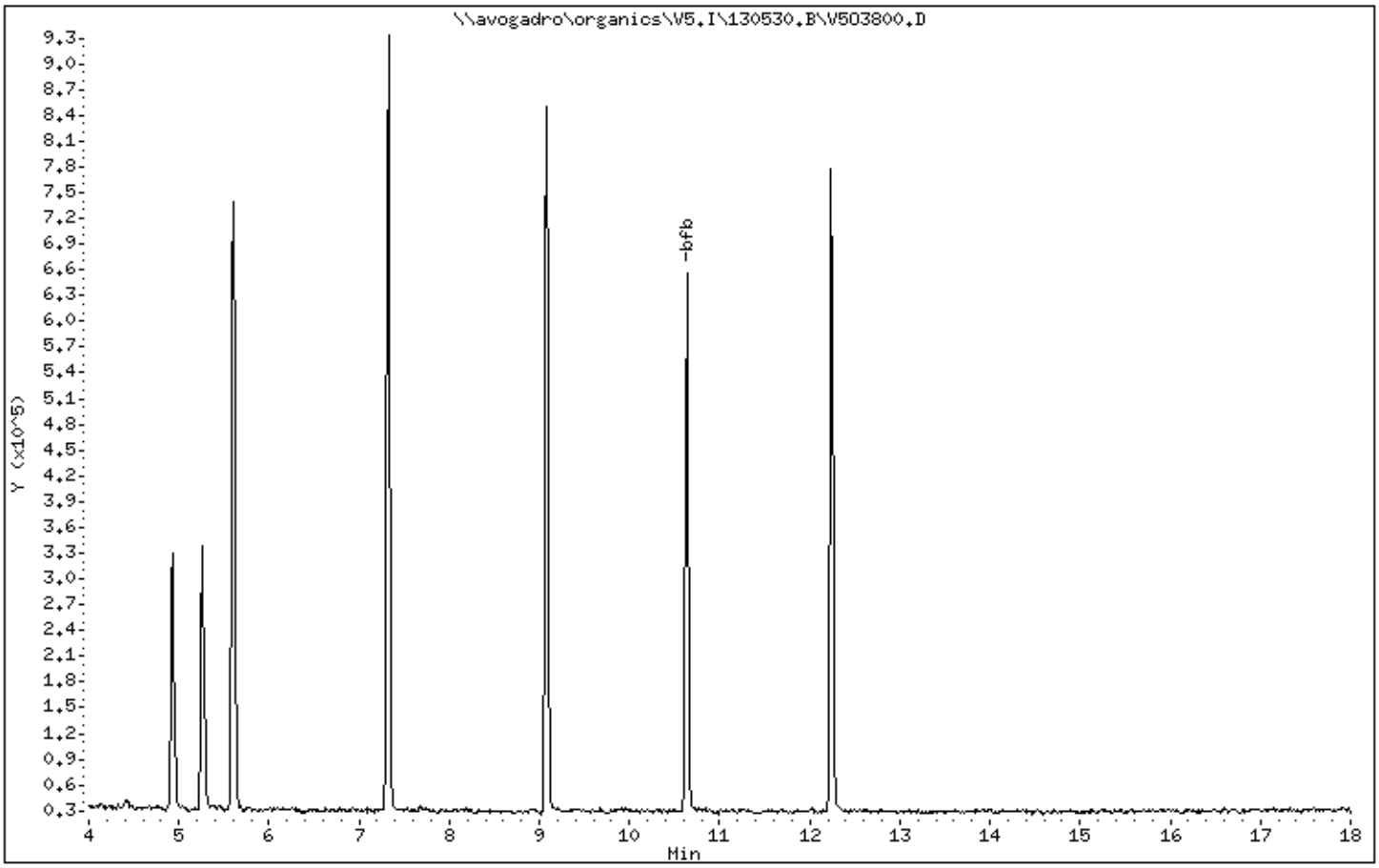
Instrument: V5.i

Sample Info: 2UL,BFB5V,BFB5V

Operator: WL SRC: WL

Column phase: DB-624

Column diameter: 0.25



Data File: \\avogadro\organics\V5.I\130530.B\V503800.D

Date : 30-MAY-2013 12:22

Client ID: BFB5V

Instrument: V5.i

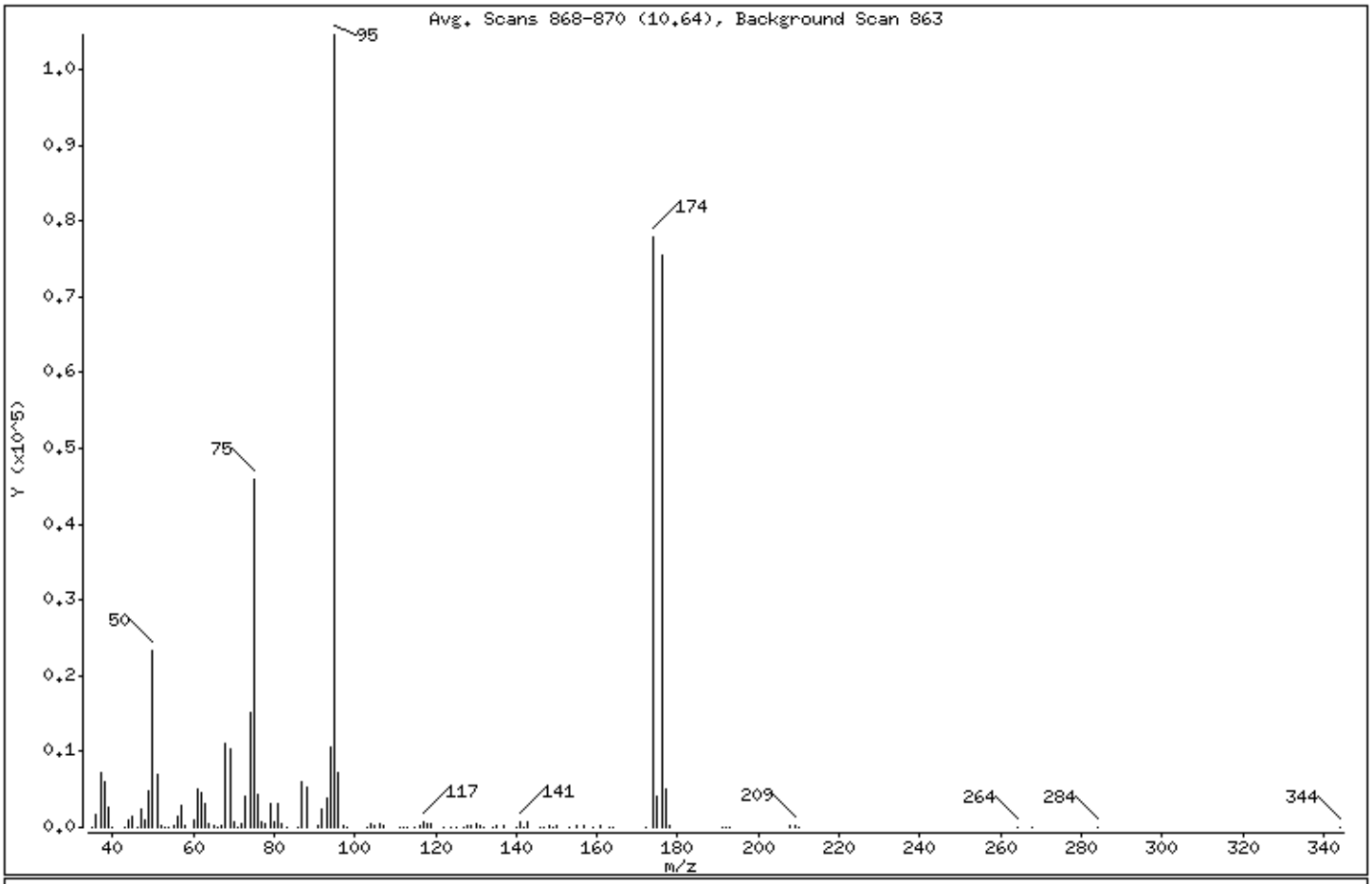
Sample Info: 2UL,BFB5V,BFB5V

Operator: WL SRC: WL

Column phase: DB-624

Column diameter: 0.25

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	22.39
75	30.00 - 60.00% of mass 95	44.01
96	5.00 - 9.00% of mass 95	6.81
173	Less than 2.00% of mass 174	0.00 (0.00)
174	50.00 - 100.00% of mass 95	74.55
175	5.00 - 9.00% of mass 174	3.96 (5.32)
176	95.00 - 101.00% of mass 174	72.24 (96.90)
177	5.00 - 9.00% of mass 176	4.81 (6.66)

Date : 30-MAY-2013 12:22

Client ID: BFB5V Instrument: V5.i

Sample Info: 2UL,BFB5V,BFB5V

Operator: WL SRC: WL

Column phase: DB-624 Column diameter: 0.25

Data File: V503800.D
Spectrum: Avg. Scans 868-870 (10.64), Background Scan 863
Location of Maximum: 95.00
Number of points: 114

m/z	Y	m/z	Y	m/z	Y	m/z	Y
35.00	37	67.00	290	104.00	425	147.00	85
36.00	1715	68.00	11022	105.00	274	148.00	212
37.00	7302	69.00	10416	106.00	464	149.00	73
38.00	6081	70.00	822	107.00	154	150.00	121
39.00	2568	71.00	57	111.00	34	153.00	45
40.00	50	72.00	515	112.00	55	155.00	173
43.00	80	73.00	3988	113.00	52	157.00	186
44.00	876	74.00	15198	115.00	115	159.00	97
45.00	1428	75.00	46024	116.00	324	161.00	164
46.00	111	76.00	4221	117.00	701	163.00	1
47.00	2428	77.00	784	118.00	415	164.00	39
48.00	1030	78.00	540	119.00	377	172.00	118
49.00	4814	79.00	3202	122.00	82	174.00	77960
50.00	23408	80.00	793	124.00	47	175.00	4144
51.00	6980	81.00	3204	125.00	37	176.00	75544
52.00	305	82.00	570	127.00	35	177.00	5030
53.00	104	83.00	41	128.00	303	178.00	225
54.00	13	86.00	55	129.00	259	191.00	110
55.00	237	87.00	6004	130.00	362	192.00	93
56.00	1489	88.00	5398	131.00	250	193.00	16
57.00	2959	91.00	244	132.00	41	208.00	160
58.00	303	92.00	2499	134.00	49	209.00	262
60.00	981	93.00	3950	135.00	238	210.00	37
61.00	4988	94.00	10523	137.00	150	264.00	81
62.00	4562	95.00	104568	140.00	50	268.00	37
63.00	3199	96.00	7126	141.00	723	284.00	41
64.00	463	97.00	136	142.00	109	344.00	34
65.00	158	98.00	38	143.00	704		
66.00	98	103.00	34	146.00	93		

Data File: \\avogadro\organics\V5.I\130530.B\V5O3801.D
Report Date: 03-Jun-2013 13:35

Spectrum Analytical, Inc. RI Division

Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V5.I\130530.B\V5O3801.D
Lab Smp Id: VSTD0015V Client Smp ID: VSTD0015V
Inj Date : 30-MAY-2013 12:48
Operator : WL   SRC: WL Inst ID: V5.i
Smp Info : 5ML,VSTD0015V,VSTD0015V
Misc Info :
Comment   :
Method   : \\avogadro\organics\V5.I\130530.B\v5_8260W.m
Meth Date : 03-Jun-2013 13:35 wluo Quant Type: ISTD
Cal Date : 30-MAY-2013 12:48 Cal File: V5O3801.D
Als bottle: 3 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: FULL.sub
Target Version: 4.14
Processing Host: TARGET103

Concentration Formula: Amt * DF * Uf * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vo	5.000	Sample Volume purged (mL)
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	ON-COL (ug/L)
1	Dichlorodifluoromethane	85	1.603	1.583	(0.286)	9020	1.00000	1
3	Chloromethane	50	1.708	1.734	(0.305)	15957	1.00000	1
4	Vinyl Chloride	62	1.836	1.850	(0.328)	12648	1.00000	1
5	Bromomethane	94	2.138	2.141	(0.382)	7914	1.00000	1
6	Chloroethane	64	2.242	2.233	(0.400)	7606	1.00000	1
7	Trichlorofluoromethane	101	2.440	2.454	(0.436)	9497	1.00000	1
8	Ethanol	46	2.637	2.617	(0.471)	5822	500.000	110
10	Acrolein	56	2.823	2.814	(0.504)	9008	1.00000	5
13	Acetone	58	2.951	2.942	(0.527)	2618	1.00000	2
15	Carbon Disulfide	76	3.102	3.105	(0.554)	37439	1.00000	1
16	Acetonitrile	41	3.218	3.221	(0.575)	31924	1.00000	10
17	Allyl Chloride	39	3.218	3.221	(0.575)	12573	1.00000	1(T)
18	Methyl Acetate	43	3.241	3.232	(0.579)	15460	1.00000	1
19	Methylene Chloride	84	3.334	3.325	(0.595)	10114	1.00000	1
20	tert-Butanol	59	3.439	3.430	(0.614)	2297	1.00000	3
22	trans-1,2-Dichloroethene	96	3.578	3.569	(0.639)	8124	1.00000	1
23	Methyl tert-butyl ether	73	3.578	3.581	(0.639)	19675	1.00000	1
24	1,1-Dichloroethane	63	3.950	3.941	(0.705)	14895	1.00000	1
25	Vinyl acetate	43	4.008	3.999	(0.716)	30094	1.00000	1
26	Diisopropyl Ether	45	4.020	4.011	(0.718)	36721	1.00000	1
27	2-Chloro-1,3-Butadiene	53	4.043	4.034	(0.722)	11382	1.00000	1
28	Ethyl tert-butyl ether	59	4.345	4.348	(0.776)	24800	1.00000	1

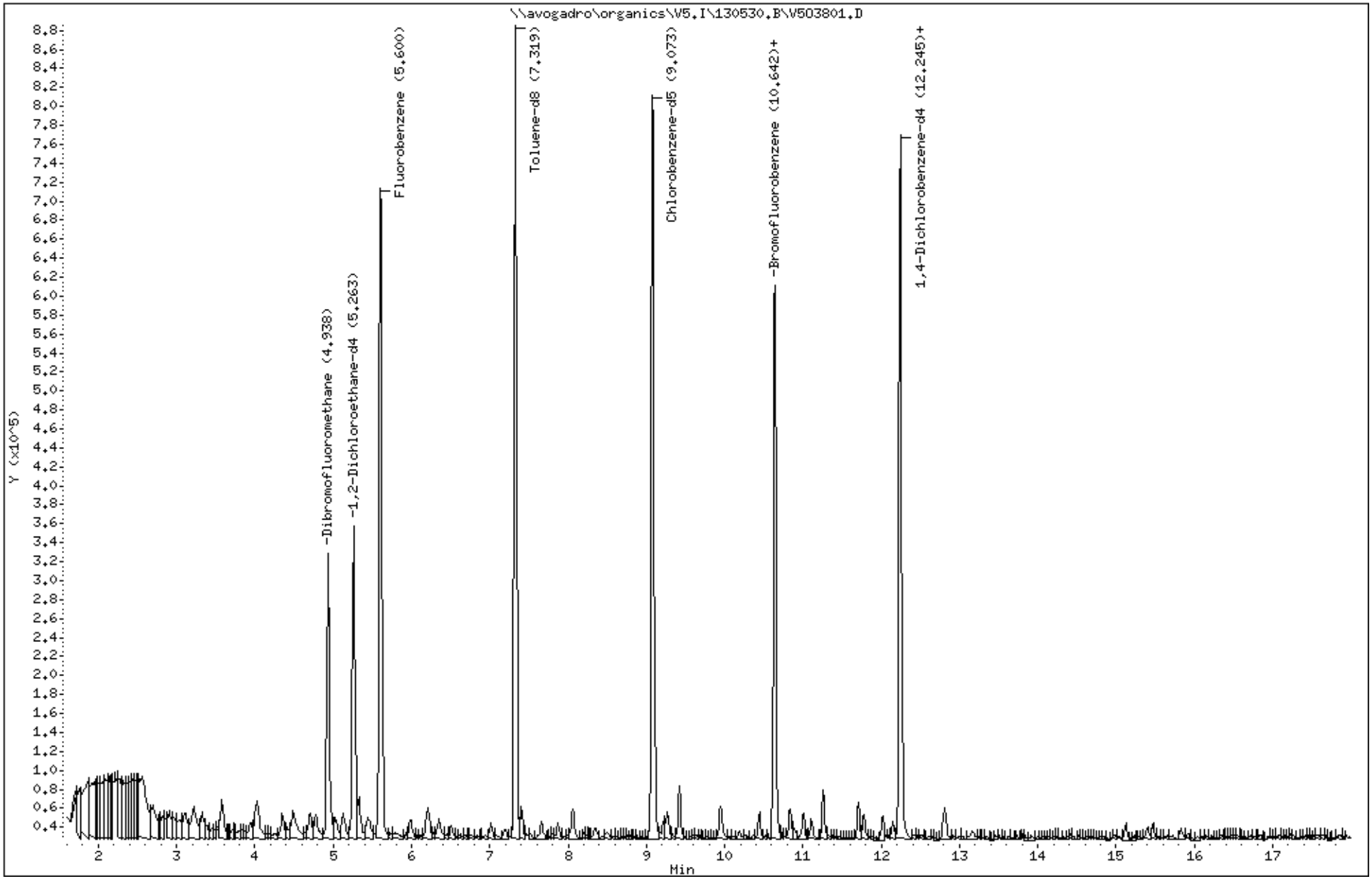
Data File: \\avogadro\organics\V5.I\130530.B\V5O3801.D
Report Date: 03-Jun-2013 13:35

			QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	ON-COL (ug/L)
	29	cis-1,2-Dichloroethene	96	4.484	4.475	(0.801)	8548	1.00000	1
	30	2,2-Dichloropropane	77	4.484	4.487	(0.801)	7956	1.00000	1
	31	2-Butanone	72	4.496	4.487	(0.803)	1170	1.00000	1(T)
	35	Tetrahydrofuran	72	4.775	4.754	(0.853)	2087	1.00000	2
	36	Chloroform	83	4.786	4.777	(0.855)	12579	1.00000	1
$	37	Dibromofluoromethane	113	4.937	4.928	(0.882)	241902	1.00000	52
	38	1,1,1-Trichloroethane	97	4.972	4.975	(0.888)	9767	1.00000	1
	40	1,1-Dichloropropene	110	5.135	5.126	(0.917)	3494	1.00000	1
	41	Carbon Tetrachloride	117	5.135	5.138	(0.917)	6909	1.00000	1
$	43	1,2-Dichloroethane-d4	102	5.263	5.265	(0.940)	54612	1.00000	52
*	47	Fluorobenzene	96	5.599	5.602	(1.000)	756380	50.0000	
	48	Trichloroethene	130	5.983	5.986	(1.068)	6662	1.00000	1
	49	Methylcyclohexane	83	6.203	6.195	(1.108)	8337	1.00000	1
	50	1,2-Dichloropropane	63	6.215	6.218	(1.110)	8694	1.00000	1
	52	Methyl Methacrylate	69	6.343	6.346	(1.133)	9823	1.00000	2
	53	1,4-Dioxane	88	6.389	6.357	(1.141)	1416	1.00000	20(T)
M	55	1,2-Dichloroethene (Total)	96				16672	1.00000	2
	56	2-Chloroethyl vinyl ether	63	6.761	6.846	(1.207)	142	1.00000	1(T)
$	59	Toluene-d8	98	7.319	7.322	(0.806)	689005	1.00000	50
	63	1,1,2-Trichloroethane	97	7.876	7.867	(1.407)	7516	1.00000	1
	65	1,3-Dichloropropane	76	8.074	8.077	(0.889)	10612	1.00000	1
*	69	Chlorobenzene-d5	117	9.084	9.076	(1.000)	531545	50.0000	
	70	1-Chlorohexane	91	9.108	9.099	(1.003)	9649	1.00000	1
	72	1,1,1,2-Tetrachloroethane	131	9.224	9.227	(1.015)	5585	1.00000	1
	79	trans-1,4-Dichloro-2-butene	75	10.629	10.528	(1.170)	122996	1.00000	68(T)
$	80	Bromofluorobenzene	95	10.629	10.632	(1.170)	276913	1.00000	50
*	93	1,4-Dichlorobenzene-d4	152	12.244	12.247	(1.000)	236920	50.0000	
	97	n-Butylbenzene	91	12.813	12.816	(1.046)	17552	1.00000	1
	99	1,2-Dibromo-3-chloropropane	75	13.917	13.908	(1.137)	1746	1.00000	1

QC Flag Legend

T - Target compound detected outside RT window.

Data File: \\avogadro\organics\V5.I\130530.B\V503801.D
Date : 30-MAY-2013 12:48
Client ID: VSTD0015V
Instrument: V5.i
Sample Info: 5ML,VSTD0015V,VSTD0015V
Purge Volume: 5.0
Operator: WL SRC: WL
Column phase: DB-624
Column diameter: 0.25



Data File: \\avogadro\organics\V5.I\130530.B\V5O3802.D
Report Date: 03-Jun-2013 13:35

Spectrum Analytical, Inc. RI Division

Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V5.I\130530.B\V5O3802.D
Lab Smp Id: VSTD0055V Client Smp ID: VSTD0055V
Inj Date : 30-MAY-2013 13:14
Operator : WL   SRC: WL Inst ID: V5.i
Smp Info : 5ML,VSTD0055V,VSTD0055V
Misc Info :
Comment   :
Method   : \\avogadro\organics\V5.I\130530.B\v5_8260W.m
Meth Date : 03-Jun-2013 13:35 wluo Quant Type: ISTD
Cal Date : 30-MAY-2013 13:14 Cal File: V5O3802.D
Als bottle: 4 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: FULL.sub
Target Version: 4.14
Processing Host: TARGET103

Concentration Formula: Amt * DF * Uf * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vo	5.000	Sample Volume purged (mL)
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	ON-COL (ug/L)
1	Dichlorodifluoromethane	85	1.579	1.583	(0.282)	32922	5.00000	4
3	Chloromethane	50	1.707	1.734	(0.305)	61804	5.00000	4
4	Vinyl Chloride	62	1.835	1.850	(0.328)	54772	5.00000	4
5	Bromomethane	94	2.125	2.141	(0.380)	39290	5.00000	5
6	Chloroethane	64	2.230	2.233	(0.398)	31362	5.00000	5
7	Trichlorofluoromethane	101	2.439	2.454	(0.436)	42325	5.00000	4
8	Ethanol	46	2.613	2.617	(0.467)	21583	500.000	410
9	Ether	59	2.694	2.698	(0.481)	32536	5.00000	5
10	Acrolein	56	2.811	2.814	(0.502)	39871	25.0000	23
11	1,1-Dichloroethene	96	2.904	2.907	(0.519)	34105	5.00000	5
12	1,1,2-Trichloro-1,2,2-Trifluo	101	2.915	2.919	(0.521)	29489	5.00000	5
13	Acetone	58	2.938	2.942	(0.525)	5797	5.00000	5
14	Iodomethane	142	3.043	3.047	(0.544)	52041	5.00000	4
15	Carbon Disulfide	76	3.101	3.105	(0.554)	139701	5.00000	4
16	Acetonitrile	41	3.217	3.221	(0.575)	143368	50.0000	47
17	Allyl Chloride	39	3.217	3.221	(0.575)	57752	5.00000	5
18	Methyl Acetate	43	3.229	3.232	(0.577)	49139	5.00000	4
19	Methylene Chloride	84	3.322	3.325	(0.593)	38562	5.00000	4
20	tert-Butanol	59	3.438	3.430	(0.614)	7830	10.0000	9
21	Acrylonitrile	53	3.542	3.534	(0.633)	14717	5.00000	4
22	trans-1,2-Dichloroethene	96	3.566	3.569	(0.637)	32920	5.00000	4
23	Methyl tert-butyl ether	73	3.577	3.581	(0.639)	91622	5.00000	5

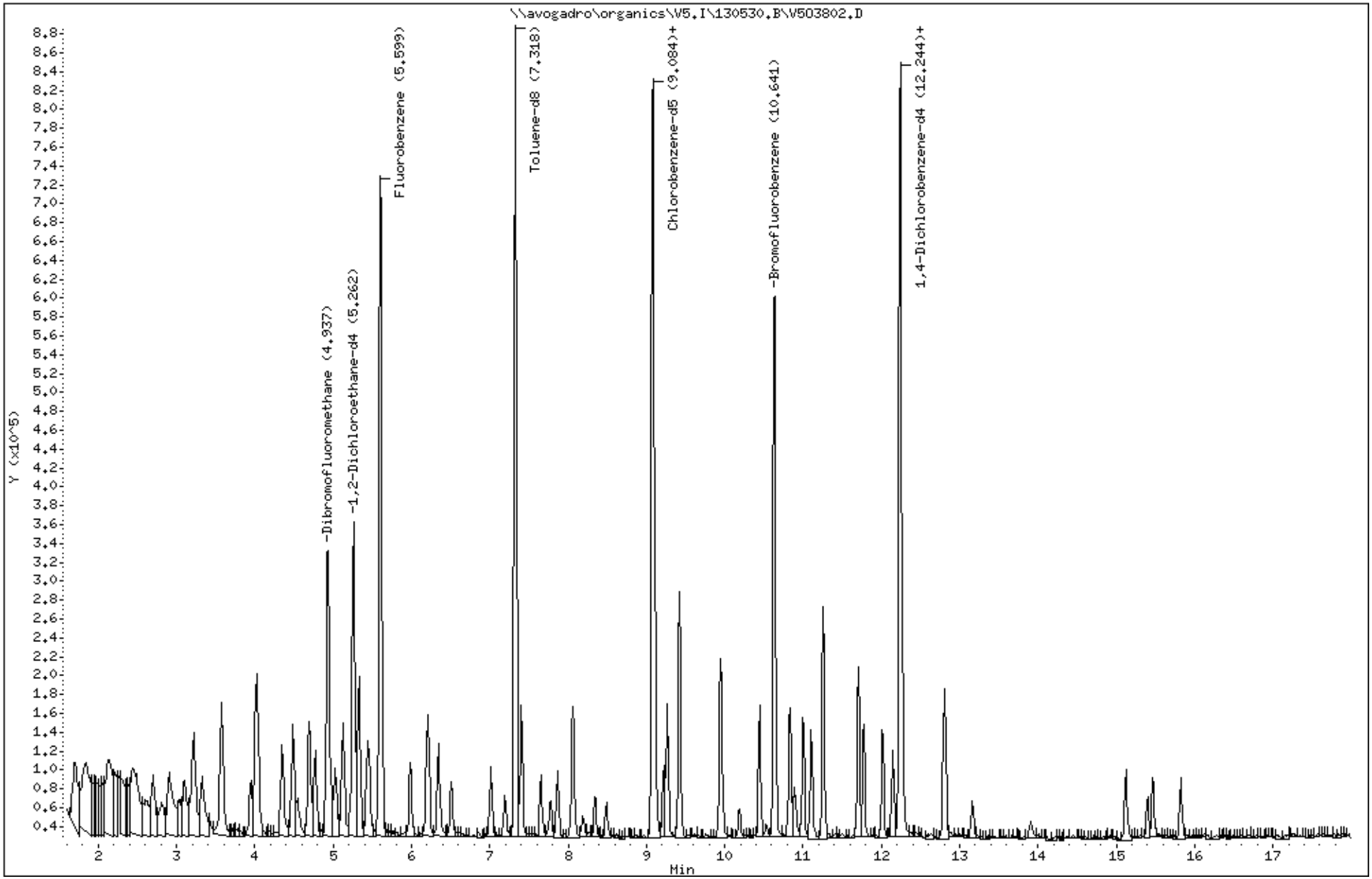
			QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	ON-COL (ug/L)
	24	1,1-Dichloroethane	63	3.949	3.941	(0.705)	69572	5.00000	5
	25	Vinyl acetate	43	3.996	3.999	(0.714)	142460	5.00000	5
	26	Diisopropyl Ether	45	4.007	4.011	(0.716)	169147	5.00000	5
	27	2-Chloro-1,3-Butadiene	53	4.030	4.034	(0.720)	50535	5.00000	4
	28	Ethyl tert-butyl ether	59	4.344	4.348	(0.776)	114754	5.00000	5
	29	cis-1,2-Dichloroethene	96	4.483	4.475	(0.801)	35653	5.00000	5
	30	2,2-Dichloropropane	77	4.483	4.487	(0.801)	34359	5.00000	5
	31	2-Butanone	72	4.495	4.487	(0.803)	3400	5.00000	4
	32	Propionitrile	54	4.541	4.534	(0.811)	51810	50.0000	43
	33	Methacrylonitrile	41	4.681	4.685	(0.836)	53566	10.0000	9
	34	Bromochloromethane	128	4.704	4.708	(0.840)	17123	5.00000	5
	35	Tetrahydrofuran	72	4.762	4.754	(0.851)	8803	10.0000	9
	36	Chloroform	83	4.774	4.777	(0.853)	58574	5.00000	5
$	37	Dibromofluoromethane	113	4.925	4.928	(0.880)	238884	50.0000	51
	38	1,1,1-Trichloroethane	97	4.971	4.975	(0.888)	37539	5.00000	4
	39	Cyclohexane	56	5.029	5.033	(0.898)	52972	5.00000	4
	40	1,1-Dichloropropene	110	5.122	5.126	(0.915)	14352	5.00000	4
	41	Carbon Tetrachloride	117	5.134	5.138	(0.917)	30157	5.00000	4
	42	Isobutyl Alcohol	43	5.227	5.219	(0.934)	40986	100.000	96
$	43	1,2-Dichloroethane-d4	102	5.262	5.265	(0.940)	54458	50.0000	52
	44	Benzene	78	5.331	5.335	(0.952)	122934	5.00000	5
	45	1,2-Dichloroethane	62	5.331	5.335	(0.952)	45746	5.00000	5
	46	tert-Amyl methyl ether	73	5.436	5.440	(0.971)	87435	5.00000	5
*	47	Fluorobenzene	96	5.599	5.602	(1.000)	757597	50.0000	
	48	Trichloroethene	130	5.982	5.986	(1.068)	29721	5.00000	4
	49	Methylcyclohexane	83	6.203	6.195	(1.108)	35952	5.00000	4
	50	1,2-Dichloropropane	63	6.214	6.218	(1.110)	39228	5.00000	5
	51	Dibromomethane	93	6.342	6.346	(1.133)	24011	5.00000	5
	52	Methyl Methacrylate	69	6.342	6.346	(1.133)	25680	5.00000	4
	53	1,4-Dioxane	88	6.377	6.357	(1.139)	7471	100.000	110
	54	Bromodichloromethane	83	6.505	6.508	(1.162)	41864	5.00000	5
M	55	1,2-Dichloroethene (Total)	96				68573	10.0000	9
	56	2-Chloroethyl vinyl ether	63	6.865	6.846	(1.226)	629	5.00000	5(T)
	57	cis-1,3-Dichloropropene	75	7.016	7.008	(1.253)	51361	5.00000	4
	58	4-Methyl-2-pentanone	43	7.190	7.182	(1.284)	49351	5.00000	4
$	59	Toluene-d8	98	7.318	7.322	(0.806)	694258	50.0000	50
	60	Toluene	91	7.399	7.403	(1.322)	115751	5.00000	5
	61	trans-1,3-Dichloropropene	75	7.655	7.647	(1.367)	43663	5.00000	4
	62	Ethyl Methacrylate	69	7.771	7.775	(1.388)	27987	5.00000	4
	63	1,1,2-Trichloroethane	97	7.875	7.867	(1.407)	25958	5.00000	4
	64	Tetrachloroethene	164	8.061	8.053	(0.887)	23517	5.00000	4
	65	1,3-Dichloropropane	76	8.073	8.077	(0.889)	48916	5.00000	5
	66	2-Hexanone	43	8.189	8.181	(0.902)	31594	5.00000	4
	67	Dibromochloromethane	129	8.340	8.344	(0.918)	26886	5.00000	4
	68	1,2-Dibromoethane	107	8.491	8.483	(0.935)	30560	5.00000	4
*	69	Chlorobenzene-d5	117	9.084	9.076	(1.000)	536169	50.0000	
	70	1-Chlorohexane	91	9.095	9.099	(1.001)	39412	5.00000	4
	71	Chlorobenzene	112	9.118	9.110	(1.004)	72726	5.00000	5
	72	1,1,1,2-Tetrachloroethane	131	9.223	9.227	(1.015)	25244	5.00000	4
	73	Ethylbenzene	106	9.269	9.273	(1.020)	36902	5.00000	4
	74	m,p-Xylene	106	9.420	9.424	(1.037)	93531	10.0000	9
	75	o-Xylene	106	9.943	9.935	(1.095)	46137	5.00000	5
	76	Styrene	104	9.955	9.958	(1.096)	62060	5.00000	4
	77	Bromoform	173	10.187	10.179	(1.121)	16014	5.00000	4

			QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	ON-COL (ug/L)
	78	Isopropylbenzene	105	10.443	10.446	(1.150)	111115	5.00000	4
	79	trans-1,4-Dichloro-2-butene	75	10.524	10.528	(1.159)	4381	5.00000	2
$	80	Bromofluorobenzene	95	10.629	10.632	(1.170)	278682	50.0000	50
	81	Bromobenzene	156	10.838	10.830	(0.885)	29245	5.00000	4
	82	1,1,2,2-Tetrachloroethane	83	10.838	10.841	(0.885)	41336	5.00000	5
	83	1,2,3-Trichloropropane	75	10.896	10.888	(0.890)	35514	5.00000	4
	84	n-Propylbenzene	120	11.000	11.004	(0.898)	26268	5.00000	4
	85	2-Chlorotoluene	126	11.105	11.109	(0.907)	26411	5.00000	4
	86	4-Chlorotoluene	126	11.256	11.260	(0.919)	27881	5.00000	4
	87	1,3,5-Trimethylbenzene	105	11.256	11.260	(0.919)	88431	5.00000	5
	88	tert-Butylbenzene	119	11.709	11.713	(0.956)	80932	5.00000	4
	89	1,2,4-Trimethylbenzene	105	11.779	11.771	(0.962)	87860	5.00000	4
	90	sec-Butylbenzene	105	12.011	12.015	(0.981)	108837	5.00000	4
	91	1,3-Dichlorobenzene	146	12.150	12.142	(0.992)	48240	5.00000	4
	92	4-Isopropyltoluene	119	12.232	12.235	(0.999)	79677	5.00000	4
*	93	1,4-Dichlorobenzene-d4	152	12.243	12.247	(1.000)	238114	50.0000	
	94	1,4-Dichlorobenzene	146	12.278	12.270	(1.003)	52171	5.00000	5
	95	1,2-Dichlorobenzene	146	12.789	12.793	(1.045)	47722	5.00000	4
M	96	Xylene (Total)	106				139668	15.0000	14
	97	n-Butylbenzene	91	12.812	12.816	(1.046)	80665	5.00000	4
	98	Hexachloroethane	117	13.161	13.165	(1.075)	11777	5.00000	4
	99	1,2-Dibromo-3-chloropropane	75	13.916	13.908	(1.137)	5967	5.00000	5
	100	1,3,5-Trichlorobenzene	182	15.124	15.128	(2.701)	26953	5.00000	4
	101	1,2,4-Trichlorobenzene	180	15.124	15.128	(1.235)	28494	5.00000	4
	102	Hexachlorobutadiene	225	15.403	15.407	(1.258)	11276	5.00000	4
	103	Naphthalene	128	15.461	15.465	(1.263)	64029	5.00000	4
	104	1,2,3-Trichlorobenzene	180	15.821	15.825	(1.292)	25188	5.00000	4

QC Flag Legend

T - Target compound detected outside RT window.

Data File: \\avogadro\organics\V5.I\130530.B\V503802.D
Date : 30-MAY-2013 13:14
Client ID: VSTD0055V
Instrument: V5.i
Sample Info: 5ML,VSTD0055V,VSTD0055V
Purge Volume: 5.0
Operator: WL SRC: WL
Column phase: DB-624
Column diameter: 0.25



M0903

Data File: \\avogadro\organics\V5.I\130530.B\V5O3803.D
Report Date: 03-Jun-2013 13:35

Spectrum Analytical, Inc. RI Division

Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V5.I\130530.B\V5O3803.D
Lab Smp Id: VSTD0205V Client Smp ID: VSTD0205V
Inj Date : 30-MAY-2013 13:39
Operator : WL   SRC: WL Inst ID: V5.i
Smp Info : 5ML,VSTD0205V,VSTD0205V
Misc Info :
Comment   :
Method   : \\avogadro\organics\V5.I\130530.B\v5_8260W.m
Meth Date : 03-Jun-2013 13:35 wluo Quant Type: ISTD
Cal Date : 30-MAY-2013 13:39 Cal File: V5O3803.D
Als bottle: 5 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: FULL.sub
Target Version: 4.14
Processing Host: TARGET103

Concentration Formula: Amt * DF * Uf * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vo	5.000	Sample Volume purged (mL)
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	ON-COL (ug/L)
1	Dichlorodifluoromethane	85	1.586	1.583	(0.283)	132228	20.0000	17
3	Chloromethane	50	1.725	1.734	(0.308)	260586	20.0000	18
4	Vinyl Chloride	62	1.829	1.850	(0.326)	219664	20.0000	18
5	Bromomethane	94	2.143	2.141	(0.382)	145201	20.0000	20
6	Chloroethane	64	2.236	2.233	(0.399)	119377	20.0000	18
7	Trichlorofluoromethane	101	2.457	2.454	(0.438)	173035	20.0000	18
8	Ethanol	46	2.619	2.617	(0.467)	91530	2000.00	1700
9	Ether	59	2.701	2.698	(0.482)	128172	20.0000	19
10	Acrolein	56	2.817	2.814	(0.503)	158857	100.000	91
11	1,1-Dichloroethene	96	2.910	2.907	(0.519)	138203	20.0000	20
12	1,1,2-Trichloro-1,2,2-Trifluo	101	2.921	2.919	(0.521)	111805	20.0000	18
13	Acetone	58	2.945	2.942	(0.525)	19551	20.0000	18
14	Iodomethane	142	3.038	3.047	(0.542)	215791	20.0000	18
15	Carbon Disulfide	76	3.107	3.105	(0.554)	570514	20.0000	18
16	Acetonitrile	41	3.212	3.221	(0.573)	580455	200.000	190
17	Allyl Chloride	39	3.223	3.221	(0.575)	231822	20.0000	19(T)
18	Methyl Acetate	43	3.235	3.232	(0.577)	203923	20.0000	18
19	Methylene Chloride	84	3.328	3.325	(0.594)	150832	20.0000	18
20	tert-Butanol	59	3.433	3.430	(0.612)	33643	40.0000	40
21	Acrylonitrile	53	3.537	3.534	(0.631)	63364	20.0000	20
22	trans-1,2-Dichloroethene	96	3.572	3.569	(0.637)	135791	20.0000	18
23	Methyl tert-butyl ether	73	3.584	3.581	(0.639)	354663	20.0000	18

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
24	1,1-Dichloroethane	63	3.944	3.941	(0.704)	279934	20.0000	19
25	Vinyl acetate	43	4.002	3.999	(0.714)	580431	20.0000	20
26	Diisopropyl Ether	45	4.013	4.011	(0.716)	669454	20.0000	19
27	2-Chloro-1,3-Butadiene	53	4.037	4.034	(0.720)	208127	20.0000	19
28	Ethyl tert-butyl ether	59	4.350	4.348	(0.776)	468067	20.0000	19
29	cis-1,2-Dichloroethene	96	4.478	4.475	(0.799)	141901	20.0000	17
30	2,2-Dichloropropane	77	4.490	4.487	(0.801)	129657	20.0000	18
31	2-Butanone	72	4.501	4.487	(0.803)	17224	20.0000	19
32	Propionitrile	54	4.536	4.534	(0.809)	229763	200.000	190
33	Methacrylonitrile	41	4.687	4.685	(0.836)	241772	40.0000	40
34	Bromochloromethane	128	4.710	4.708	(0.840)	71119	20.0000	19
35	Tetrahydrofuran	72	4.757	4.754	(0.849)	34150	40.0000	36
36	Chloroform	83	4.780	4.777	(0.853)	230796	20.0000	19
$ 37	Dibromofluoromethane	113	4.931	4.928	(0.880)	235426	50.0000	50
38	1,1,1-Trichloroethane	97	4.966	4.975	(0.886)	154687	20.0000	18
39	Cyclohexane	56	5.036	5.033	(0.898)	217638	20.0000	17
40	1,1-Dichloropropene	110	5.129	5.126	(0.915)	57733	20.0000	18
41	Carbon Tetrachloride	117	5.140	5.138	(0.917)	120850	20.0000	18
42	Isobutyl Alcohol	43	5.222	5.219	(0.932)	160044	400.000	370
$ 43	1,2-Dichloroethane-d4	102	5.268	5.265	(0.940)	51774	50.0000	49
44	Benzene	78	5.326	5.335	(0.950)	494920	20.0000	19
45	1,2-Dichloroethane	62	5.338	5.335	(0.952)	184683	20.0000	19
46	tert-Amyl methyl ether	73	5.442	5.440	(0.971)	356739	20.0000	19
* 47	Fluorobenzene	96	5.605	5.602	(1.000)	758047	50.0000	
48	Trichloroethene	130	5.988	5.986	(1.068)	124434	20.0000	19
49	Methylcyclohexane	83	6.197	6.195	(1.106)	137636	20.0000	17
50	1,2-Dichloropropane	63	6.221	6.218	(1.110)	152873	20.0000	18
51	Dibromomethane	93	6.337	6.346	(1.131)	97631	20.0000	19
52	Methyl Methacrylate	69	6.337	6.346	(1.131)	109704	20.0000	19
53	1,4-Dioxane	88	6.360	6.357	(1.135)	26524	400.000	380
54	Bromodichloromethane	83	6.511	6.508	(1.162)	165828	20.0000	19
M 55	1,2-Dichloroethene (Total)	96				277692	40.0000	36
56	2-Chloroethyl vinyl ether	63	6.859	6.846	(1.224)	3029	20.0000	22
57	cis-1,3-Dichloropropene	75	7.010	7.008	(1.251)	213355	20.0000	19
58	4-Methyl-2-pentanone	43	7.185	7.182	(1.282)	208699	20.0000	19
$ 59	Toluene-d8	98	7.324	7.322	(0.807)	691005	50.0000	50
60	Toluene	91	7.405	7.403	(1.321)	469198	20.0000	19
61	trans-1,3-Dichloropropene	75	7.649	7.647	(1.365)	185036	20.0000	19
62	Ethyl Methacrylate	69	7.777	7.775	(1.388)	116837	20.0000	18
63	1,1,2-Trichloroethane	97	7.870	7.867	(1.404)	111247	20.0000	18
64	Tetrachloroethene	164	8.056	8.053	(0.887)	96654	20.0000	19
65	1,3-Dichloropropane	76	8.068	8.077	(0.889)	197814	20.0000	19
66	2-Hexanone	43	8.184	8.181	(0.901)	136250	20.0000	19
67	Dibromochloromethane	129	8.346	8.344	(0.919)	119805	20.0000	20
68	1,2-Dibromoethane	107	8.486	8.483	(0.935)	131082	20.0000	19
* 69	Chlorobenzene-d5	117	9.078	9.076	(1.000)	534273	50.0000	
70	1-Chlorohexane	91	9.101	9.099	(1.003)	160897	20.0000	18
71	Chlorobenzene	112	9.113	9.110	(1.004)	295038	20.0000	19
72	1,1,1,2-Tetrachloroethane	131	9.218	9.227	(1.015)	104892	20.0000	19
73	Ethylbenzene	106	9.264	9.273	(1.020)	149142	20.0000	18
74	m,p-Xylene	106	9.427	9.424	(1.038)	380985	40.0000	38
75	o-Xylene	106	9.938	9.935	(1.095)	183407	20.0000	18
76	Styrene	104	9.961	9.958	(1.097)	277645	20.0000	19
77	Bromoform	173	10.182	10.179	(1.122)	72115	20.0000	20

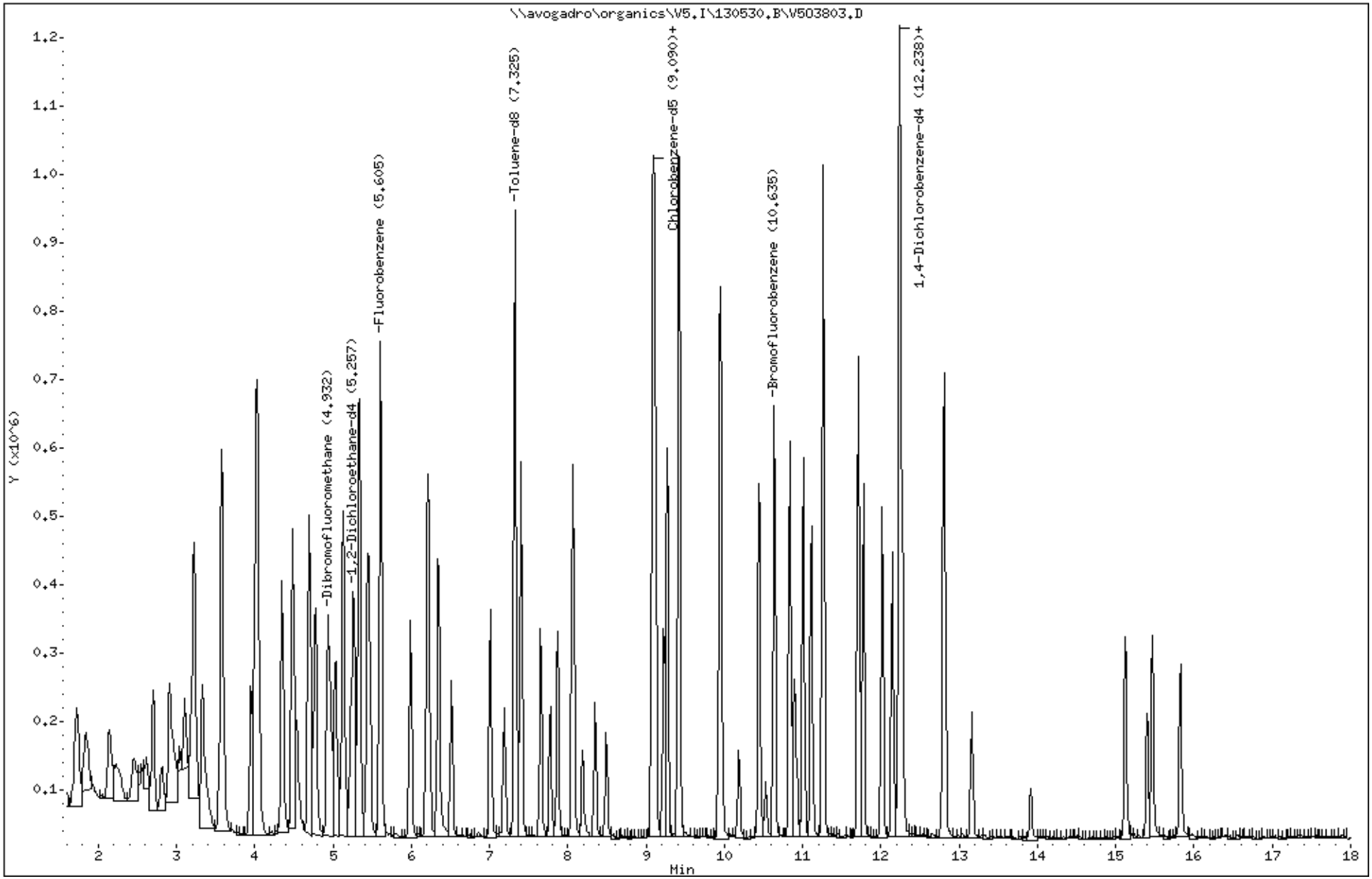
Data File: \\avogadro\organics\V5.I\130530.B\V5O3803.D
Report Date: 03-Jun-2013 13:35

			QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	ON-COL (ug/L)
	78	Isopropylbenzene	105	10.437	10.446	(1.150)	461467	20.0000	19
	79	trans-1,4-Dichloro-2-butene	75	10.519	10.528	(1.159)	24774	20.0000	14
$	80	Bromofluorobenzene	95	10.635	10.632	(1.171)	278137	50.0000	50
	81	Bromobenzene	156	10.832	10.830	(0.885)	121311	20.0000	18
	82	1,1,2,2-Tetrachloroethane	83	10.844	10.841	(0.886)	171259	20.0000	19
	83	1,2,3-Trichloropropane	75	10.890	10.888	(0.890)	148635	20.0000	18
	84	n-Propylbenzene	120	11.007	11.004	(0.899)	112447	20.0000	19
	85	2-Chlorotoluene	126	11.111	11.109	(0.908)	111002	20.0000	19
	86	4-Chlorotoluene	126	11.262	11.260	(0.920)	114418	20.0000	18
	87	1,3,5-Trimethylbenzene	105	11.262	11.260	(0.920)	363083	20.0000	18
	88	tert-Butylbenzene	119	11.704	11.713	(0.956)	344106	20.0000	19
	89	1,2,4-Trimethylbenzene	105	11.773	11.771	(0.962)	364776	20.0000	18
	90	sec-Butylbenzene	105	12.017	12.015	(0.982)	453667	20.0000	19
	91	1,3-Dichlorobenzene	146	12.145	12.142	(0.992)	206548	20.0000	19
	92	4-Isopropyltoluene	119	12.226	12.235	(0.999)	347457	20.0000	19
*	93	1,4-Dichlorobenzene-d4	152	12.238	12.247	(1.000)	244213	50.0000	
	94	1,4-Dichlorobenzene	146	12.273	12.270	(1.003)	213504	20.0000	19
	95	1,2-Dichlorobenzene	146	12.796	12.793	(1.046)	199226	20.0000	18
M	96	Xylene (Total)	106				564392	60.0000	57
	97	n-Butylbenzene	91	12.819	12.816	(1.047)	338572	20.0000	19
	98	Hexachloroethane	117	13.156	13.165	(1.075)	55767	20.0000	18
	99	1,2-Dibromo-3-chloropropane	75	13.911	13.908	(1.137)	24555	20.0000	18
	100	1,3,5-Trichlorobenzene	182	15.119	15.128	(2.697)	122685	20.0000	19
	101	1,2,4-Trichlorobenzene	180	15.119	15.128	(1.235)	126515	20.0000	18
	102	Hexachlorobutadiene	225	15.398	15.407	(1.258)	50575	20.0000	18
	103	Naphthalene	128	15.467	15.465	(1.264)	296617	20.0000	19
	104	1,2,3-Trichlorobenzene	180	15.827	15.825	(1.293)	109579	20.0000	19

QC Flag Legend

T - Target compound detected outside RT window.

Data File: \\avogadro\organics\V5.I\130530.B\V503803.D
Date : 30-MAY-2013 13:39
Client ID: VSTD0205V
Instrument: V5.i
Sample Info: 5ML,VSTD0205V,VSTD0205V
Purge Volume: 5.0
Operator: WL SRC: WL
Column phase: DB-624
Column diameter: 0.25



M0903

Data File: \\avogadro\organics\V5.I\130530.B\V5O3804.D
Report Date: 03-Jun-2013 13:35

Spectrum Analytical, Inc. RI Division

Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V5.I\130530.B\V5O3804.D
Lab Smp Id: VSTD0505V Client Smp ID: VSTD0505V
Inj Date : 30-MAY-2013 14:05
Operator : WL   SRC: WL Inst ID: V5.i
Smp Info : 5ML,VSTD0505V,VSTD0505V
Misc Info :
Comment   :
Method   : \\avogadro\organics\V5.I\130530.B\v5_8260W.m
Meth Date : 03-Jun-2013 13:35 wluo Quant Type: ISTD
Cal Date : 30-MAY-2013 14:05 Cal File: V5O3804.D
Als bottle: 6 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: FULL.sub
Target Version: 4.14
Processing Host: TARGET103

Concentration Formula: Amt * DF * Uf * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vo	5.000	Sample Volume purged (mL)
Cpnd Variable		Local Compound Variable

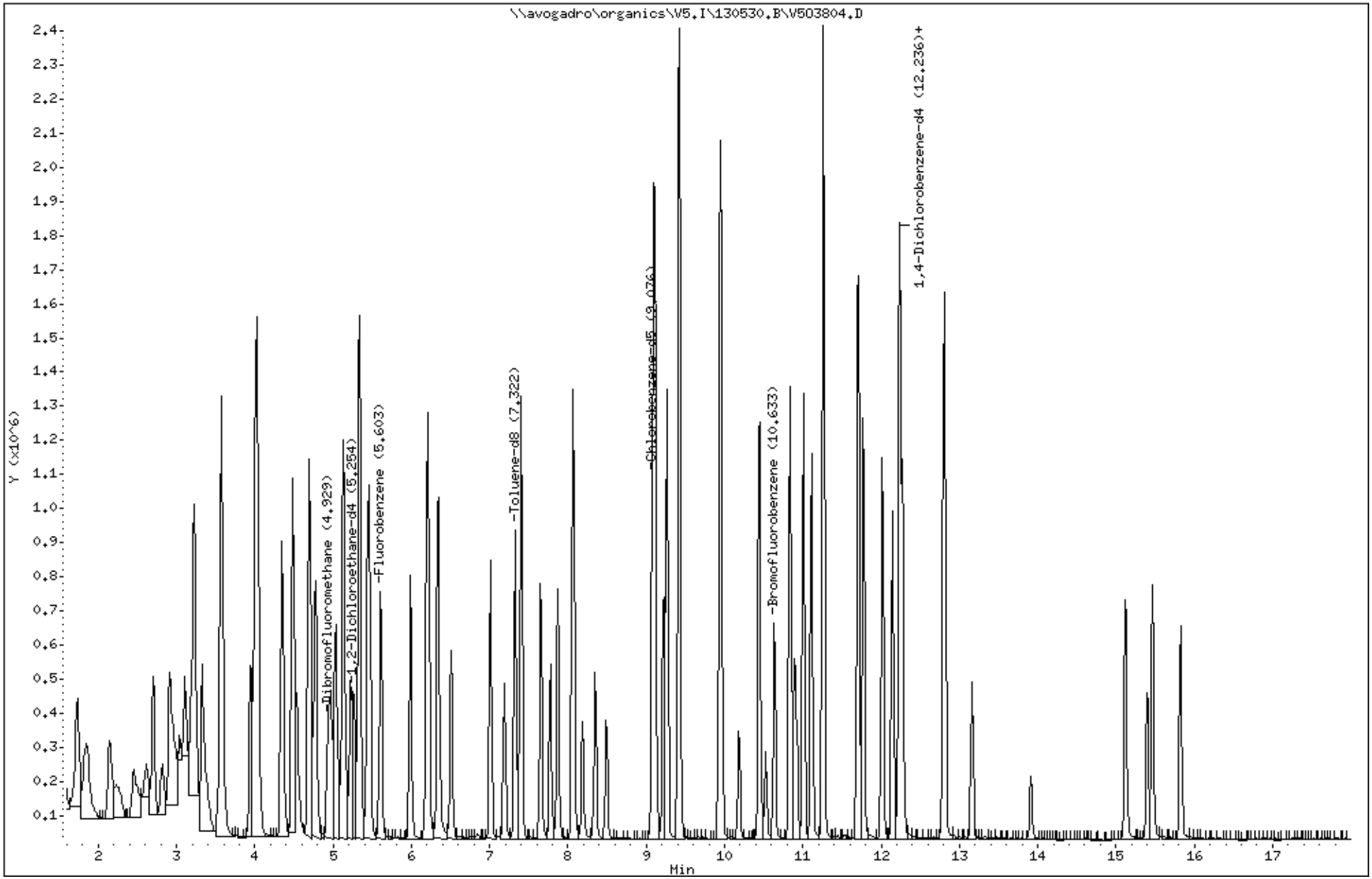
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	ON-COL (ug/L)
1	Dichlorodifluoromethane	85	1.583	1.583	(0.283)	361103	50.0000	46
3	Chloromethane	50	1.734	1.734	(0.310)	656487	50.0000	45
4	Vinyl Chloride	62	1.850	1.850	(0.330)	538132	50.0000	44
5	Bromomethane	94	2.141	2.141	(0.382)	337417	50.0000	45
6	Chloroethane	64	2.233	2.233	(0.399)	284691	50.0000	43
7	Trichlorofluoromethane	101	2.454	2.454	(0.438)	427870	50.0000	45
8	Ethanol	46	2.617	2.617	(0.467)	242832	5000.00	4500
9	Ether	59	2.698	2.698	(0.482)	306194	50.0000	44
10	Acrolein	56	2.814	2.814	(0.502)	360295	250.000	200
11	1,1-Dichloroethene	96	2.907	2.907	(0.519)	309697	50.0000	44
12	1,1,2-Trichloro-1,2,2-Trifluo	101	2.919	2.919	(0.521)	283948	50.0000	46
13	Acetone	58	2.942	2.942	(0.525)	41152	50.0000	37
14	Iodomethane	142	3.047	3.047	(0.544)	514176	50.0000	44
15	Carbon Disulfide	76	3.105	3.105	(0.554)	1347691	50.0000	42
16	Acetonitrile	41	3.221	3.221	(0.575)	1382919	500.000	450
17	Allyl Chloride	39	3.221	3.221	(0.575)	524208	50.0000	44
18	Methyl Acetate	43	3.232	3.232	(0.577)	472297	50.0000	41
19	Methylene Chloride	84	3.325	3.325	(0.594)	355469	50.0000	42
20	tert-Butanol	59	3.430	3.430	(0.612)	75327	100.000	89
21	Acrylonitrile	53	3.534	3.534	(0.631)	156854	50.0000	49
22	trans-1,2-Dichloroethene	96	3.569	3.569	(0.637)	316252	50.0000	43
23	Methyl tert-butyl ether	73	3.581	3.581	(0.639)	841644	50.0000	44

			QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
	24	1,1-Dichloroethane	63	3.941	3.941	(0.704)	657619	50.0000	44
	25	Vinyl acetate	43	3.999	3.999	(0.714)	1347846	50.0000	45
	26	Diisopropyl Ether	45	4.011	4.011	(0.716)	1536465	50.0000	44
	27	2-Chloro-1,3-Butadiene	53	4.034	4.034	(0.720)	495274	50.0000	45
	28	Ethyl tert-butyl ether	59	4.348	4.348	(0.776)	1102936	50.0000	44
	29	cis-1,2-Dichloroethene	96	4.475	4.475	(0.799)	336778	50.0000	40
	30	2,2-Dichloropropane	77	4.487	4.487	(0.801)	298412	50.0000	41
	31	2-Butanone	72	4.487	4.487	(0.801)	43916	50.0000	48
	32	Propionitrile	54	4.534	4.534	(0.809)	548180	500.000	450
	33	Methacrylonitrile	41	4.685	4.685	(0.836)	570699	100.000	93
	34	Bromochloromethane	128	4.708	4.708	(0.840)	166568	50.0000	44
	35	Tetrahydrofuran	72	4.754	4.754	(0.849)	85853	100.000	91
	36	Chloroform	83	4.777	4.777	(0.853)	525965	50.0000	43
$	37	Dibromofluoromethane	113	4.928	4.928	(0.880)	240525	50.0000	51
	38	1,1,1-Trichloroethane	97	4.975	4.975	(0.888)	362036	50.0000	43
	39	Cyclohexane	56	5.033	5.033	(0.898)	588104	50.0000	47
	40	1,1-Dichloropropene	110	5.126	5.126	(0.915)	144574	50.0000	45
	41	Carbon Tetrachloride	117	5.138	5.138	(0.917)	309111	50.0000	46
	42	Isobutyl Alcohol	43	5.219	5.219	(0.932)	398164	1000.00	920
$	43	1,2-Dichloroethane-d4	102	5.265	5.265	(0.940)	51048	50.0000	48
	44	Benzene	78	5.335	5.335	(0.952)	1176164	50.0000	45
	45	1,2-Dichloroethane	62	5.335	5.335	(0.952)	429211	50.0000	45
	46	tert-Amyl methyl ether	73	5.440	5.440	(0.971)	848966	50.0000	44
*	47	Fluorobenzene	96	5.602	5.602	(1.000)	761578	50.0000	
	48	Trichloroethene	130	5.986	5.986	(1.068)	306119	50.0000	46
	49	Methylcyclohexane	83	6.195	6.195	(1.106)	356801	50.0000	44
	50	1,2-Dichloropropane	63	6.218	6.218	(1.110)	365450	50.0000	44
	51	Dibromomethane	93	6.346	6.346	(1.133)	225657	50.0000	45
	52	Methyl Methacrylate	69	6.346	6.346	(1.133)	259610	50.0000	45
	53	1,4-Dioxane	88	6.357	6.357	(1.135)	59461	1000.00	850
	54	Bromodichloromethane	83	6.508	6.508	(1.162)	399972	50.0000	45
M	55	1,2-Dichloroethene (Total)	96				653030	100.000	83
	56	2-Chloroethyl vinyl ether	63	6.845	6.846	(1.222)	8519	50.0000	63
	57	cis-1,3-Dichloropropene	75	7.008	7.008	(1.251)	519104	50.0000	45
	58	4-Methyl-2-pentanone	43	7.182	7.182	(1.282)	490680	50.0000	45
$	59	Toluene-d8	98	7.322	7.322	(0.807)	687685	50.0000	49
	60	Toluene	91	7.403	7.403	(1.321)	1094587	50.0000	45
	61	trans-1,3-Dichloropropene	75	7.647	7.647	(1.365)	461524	50.0000	47
	62	Ethyl Methacrylate	69	7.775	7.775	(1.388)	302233	50.0000	45
	63	1,1,2-Trichloroethane	97	7.867	7.867	(1.404)	264275	50.0000	43
	64	Tetrachloroethene	164	8.053	8.053	(0.887)	229750	50.0000	44
	65	1,3-Dichloropropane	76	8.077	8.077	(0.890)	473633	50.0000	44
	66	2-Hexanone	43	8.181	8.181	(0.901)	340483	50.0000	46
	67	Dibromochloromethane	129	8.344	8.344	(0.919)	294934	50.0000	47
	68	1,2-Dibromoethane	107	8.483	8.483	(0.935)	312059	50.0000	45
*	69	Chlorobenzene-d5	117	9.076	9.076	(1.000)	546450	50.0000	
	70	1-Chlorohexane	91	9.099	9.099	(1.003)	387045	50.0000	44
	71	Chlorobenzene	112	9.110	9.110	(1.004)	717418	50.0000	45
	72	1,1,1,2-Tetrachloroethane	131	9.227	9.227	(1.017)	249915	50.0000	44
	73	Ethylbenzene	106	9.273	9.273	(1.022)	367397	50.0000	44
	74	m,p-Xylene	106	9.424	9.424	(1.038)	891238	100.000	87
	75	o-Xylene	106	9.935	9.935	(1.095)	458316	50.0000	45
	76	Styrene	104	9.958	9.958	(1.097)	709616	50.0000	48
	77	Bromoform	173	10.179	10.179	(1.122)	181239	50.0000	48

Data File: \\avogadro\organics\V5.I\130530.B\V5O3804.D
Report Date: 03-Jun-2013 13:35

		Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
	78	Isopropylbenzene	105	10.446	10.446	(1.151)	1109253	50.0000	45
	79	trans-1,4-Dichloro-2-butene	75	10.528	10.528	(1.160)	84315	50.0000	46
$	80	Bromofluorobenzene	95	10.632	10.632	(1.172)	287018	50.0000	51
	81	Bromobenzene	156	10.830	10.830	(0.884)	289604	50.0000	44
	82	1,1,2,2-Tetrachloroethane	83	10.841	10.841	(0.885)	408181	50.0000	44
	83	1,2,3-Trichloropropane	75	10.888	10.888	(0.889)	376605	50.0000	45
	84	n-Propylbenzene	120	11.004	11.004	(0.899)	270271	50.0000	45
	85	2-Chlorotoluene	126	11.109	11.109	(0.907)	264929	50.0000	44
	86	4-Chlorotoluene	126	11.260	11.260	(0.919)	275130	50.0000	44
	87	1,3,5-Trimethylbenzene	105	11.260	11.260	(0.919)	882193	50.0000	45
	88	tert-Butylbenzene	119	11.713	11.713	(0.956)	823973	50.0000	44
	89	1,2,4-Trimethylbenzene	105	11.771	11.771	(0.961)	895788	50.0000	45
	90	sec-Butylbenzene	105	12.015	12.015	(0.981)	1098867	50.0000	45
	91	1,3-Dichlorobenzene	146	12.142	12.142	(0.991)	496416	50.0000	45
	92	4-Isopropyltoluene	119	12.235	12.235	(0.999)	820906	50.0000	44
*	93	1,4-Dichlorobenzene-d4	152	12.247	12.247	(1.000)	245450	50.0000	
	94	1,4-Dichlorobenzene	146	12.270	12.270	(1.002)	508048	50.0000	44
	95	1,2-Dichlorobenzene	146	12.793	12.793	(1.045)	481995	50.0000	45
M	96	Xylene (Total)	106				1349554	150.000	130
	97	n-Butylbenzene	91	12.816	12.816	(1.046)	809118	50.0000	45
	98	Hexachloroethane	117	13.165	13.165	(1.075)	146631	50.0000	48
	99	1,2-Dibromo-3-chloropropane	75	13.908	13.908	(1.136)	54041	50.0000	40
	100	1,3,5-Trichlorobenzene	182	15.128	15.128	(2.700)	300741	50.0000	47
	101	1,2,4-Trichlorobenzene	180	15.128	15.128	(1.235)	307813	50.0000	45
	102	Hexachlorobutadiene	225	15.407	15.407	(1.258)	118552	50.0000	43
	103	Naphthalene	128	15.465	15.465	(1.263)	737789	50.0000	46
	104	1,2,3-Trichlorobenzene	180	15.825	15.825	(1.292)	263900	50.0000	45

Data File: \\avogadro\organics\V5.I\130530.B\V503804.D
Date : 30-MAY-2013 14:05
Client ID: VSTD0505V
Instrument: V5.i
Sample Info: 5ML,VSTD0505V,VSTD0505V
Purge Volume: 5.0
Operator: WL SRC: WL
Column phase: DB-624
Column diameter: 0.25



Data File: \\avogadro\organics\V5.I\130530.B\V5O3805.D
Report Date: 03-Jun-2013 13:35

Spectrum Analytical, Inc. RI Division

Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V5.I\130530.B\V5O3805.D
Lab Smp Id: VSTD1005V Client Smp ID: VSTD1005V
Inj Date : 30-MAY-2013 14:32
Operator : WL   SRC: WL Inst ID: V5.i
Smp Info : 5ML,VSTD1005V,VSTD1005V
Misc Info :
Comment   :
Method   : \\avogadro\organics\V5.I\130530.B\v5_8260W.m
Meth Date : 03-Jun-2013 13:35 wluo Quant Type: ISTD
Cal Date : 30-MAY-2013 14:32 Cal File: V5O3805.D
Als bottle: 7 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: FULL.sub
Target Version: 4.14
Processing Host: TARGET103

Concentration Formula: Amt * DF * Uf * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vo	5.000	Sample Volume purged (mL)
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	ON-COL (ug/L)
1	Dichlorodifluoromethane	85	1.588	1.583	(0.283)	569698	100.000	110
3	Chloromethane	50	1.728	1.734	(0.308)	1057565	100.000	110
4	Vinyl Chloride	62	1.844	1.850	(0.329)	900500	100.000	120
5	Bromomethane	94	2.146	2.141	(0.383)	487758	100.000	100
6	Chloroethane	64	2.227	2.233	(0.397)	452063	100.000	110
7	Trichlorofluoromethane	101	2.448	2.454	(0.437)	705030	100.000	120
8	Ethanol	46	2.622	2.617	(0.468)	439733	10000.0	13000
9	Ether	59	2.704	2.698	(0.482)	511013	100.000	120
10	Acrolein	56	2.808	2.814	(0.501)	675124	500.000	600
11	1,1-Dichloroethene	96	2.901	2.907	(0.517)	533133	100.000	120
12	1,1,2-Trichloro-1,2,2-Trifluo	101	2.913	2.919	(0.519)	489621	100.000	120
13	Acetone	58	2.947	2.942	(0.526)	89179	100.000	130
14	Iodomethane	142	3.040	3.047	(0.542)	857307	100.000	120
15	Carbon Disulfide	76	3.098	3.105	(0.553)	2228024	100.000	110
16	Acetonitrile	41	3.215	3.221	(0.573)	2229701	1000.00	1100
17	Allyl Chloride	39	3.215	3.221	(0.573)	866132	100.000	110(T)
18	Methyl Acetate	43	3.238	3.232	(0.577)	787362	100.000	110
19	Methylene Chloride	84	3.331	3.325	(0.594)	604267	100.000	110
20	tert-Butanol	59	3.435	3.430	(0.613)	117388	200.000	220
21	Acrylonitrile	53	3.540	3.534	(0.631)	251152	100.000	120
22	trans-1,2-Dichloroethene	96	3.575	3.569	(0.638)	527857	100.000	110
23	Methyl tert-butyl ether	73	3.575	3.581	(0.638)	1392294	100.000	110

			QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	ON-COL (ug/L)
	24	1,1-Dichloroethane	63	3.946	3.941	(0.704)	1085248	100.000	110
	25	Vinyl acetate	43	4.005	3.999	(0.714)	2098275	100.000	110
	26	Diisopropyl Ether	45	4.016	4.011	(0.716)	2438187	100.000	110
	27	2-Chloro-1,3-Butadiene	53	4.028	4.034	(0.718)	817442	100.000	120
	28	Ethyl tert-butyl ether	59	4.341	4.348	(0.774)	1786827	100.000	110
	29	cis-1,2-Dichloroethene	96	4.481	4.475	(0.799)	549410	100.000	110
	30	2,2-Dichloropropane	77	4.492	4.487	(0.801)	525760	100.000	110
	31	2-Butanone	72	4.492	4.487	(0.801)	71464	100.000	120
	32	Propionitrile	54	4.539	4.534	(0.809)	894819	1000.00	1200
	33	Methacrylonitrile	41	4.690	4.685	(0.836)	878294	200.000	220
	34	Bromochloromethane	128	4.702	4.708	(0.838)	281229	100.000	120
	35	Tetrahydrofuran	72	4.760	4.754	(0.849)	135291	200.000	220
	36	Chloroform	83	4.771	4.777	(0.851)	862237	100.000	110
$	37	Dibromofluoromethane	113	4.934	4.928	(0.880)	146163	50.0000	49
	38	1,1,1-Trichloroethane	97	4.969	4.975	(0.886)	589887	100.000	110
	39	Cyclohexane	56	5.027	5.033	(0.896)	996312	100.000	120
	40	1,1-Dichloropropene	110	5.131	5.126	(0.915)	230093	100.000	110
	41	Carbon Tetrachloride	117	5.131	5.138	(0.915)	480915	100.000	110
	42	Isobutyl Alcohol	43	5.224	5.219	(0.932)	616843	2000.00	2200
$	43	1,2-Dichloroethane-d4	102	5.259	5.265	(0.938)	33595	50.0000	50
	44	Benzene	78	5.329	5.335	(0.950)	1926274	100.000	120
	45	1,2-Dichloroethane	62	5.340	5.335	(0.952)	685558	100.000	110
	46	tert-Amyl methyl ether	73	5.445	5.440	(0.971)	1386990	100.000	110
*	47	Fluorobenzene	96	5.608	5.602	(1.000)	483935	50.0000	
	48	Trichloroethene	130	5.979	5.986	(1.066)	485138	100.000	110
	49	Methylcyclohexane	83	6.200	6.195	(1.106)	634854	100.000	120
	50	1,2-Dichloropropane	63	6.212	6.218	(1.108)	598321	100.000	110
	51	Dibromomethane	93	6.339	6.346	(1.130)	365468	100.000	110
	52	Methyl Methacrylate	69	6.339	6.346	(1.130)	422044	100.000	120
	53	1,4-Dioxane	88	6.363	6.357	(1.135)	99321	2000.00	2200
	54	Bromodichloromethane	83	6.502	6.508	(1.159)	634435	100.000	110
M	55	1,2-Dichloroethene (Total)	96				1077267	200.000	220
	56	2-Chloroethyl vinyl ether	63	6.851	6.846	(1.222)	7679	100.000	88
	57	cis-1,3-Dichloropropene	75	7.013	7.008	(1.251)	830294	100.000	110
	58	4-Methyl-2-pentanone	43	7.188	7.182	(1.282)	778832	100.000	110
$	59	Toluene-d8	98	7.327	7.322	(0.807)	448197	50.0000	52
	60	Toluene	91	7.397	7.403	(1.319)	1744568	100.000	110
	61	trans-1,3-Dichloropropene	75	7.652	7.647	(1.365)	713389	100.000	110
	62	Ethyl Methacrylate	69	7.768	7.775	(1.385)	507623	100.000	120
	63	1,1,2-Trichloroethane	97	7.861	7.867	(1.402)	423910	100.000	110
	64	Tetrachloroethene	164	8.059	8.053	(0.887)	369360	100.000	110
	65	1,3-Dichloropropane	76	8.070	8.077	(0.889)	745505	100.000	110
	66	2-Hexanone	43	8.175	8.181	(0.900)	550602	100.000	120
	67	Dibromochloromethane	129	8.349	8.344	(0.919)	455390	100.000	120
	68	1,2-Dibromoethane	107	8.489	8.483	(0.935)	486325	100.000	110
*	69	Chlorobenzene-d5	117	9.081	9.076	(1.000)	336924	50.0000	
	70	1-Chlorohexane	91	9.104	9.099	(1.003)	644632	100.000	120
	71	Chlorobenzene	112	9.116	9.110	(1.004)	1152835	100.000	120
	72	1,1,1,2-Tetrachloroethane	131	9.220	9.227	(1.015)	394608	100.000	110
	73	Ethylbenzene	106	9.267	9.273	(1.020)	597862	100.000	120
	74	m,p-Xylene	106	9.418	9.424	(1.037)	1464909	200.000	230
	75	o-Xylene	106	9.941	9.935	(1.095)	724382	100.000	120
	76	Styrene	104	9.952	9.958	(1.096)	1115720	100.000	120
	77	Bromoform	173	10.185	10.179	(1.122)	270165	100.000	120

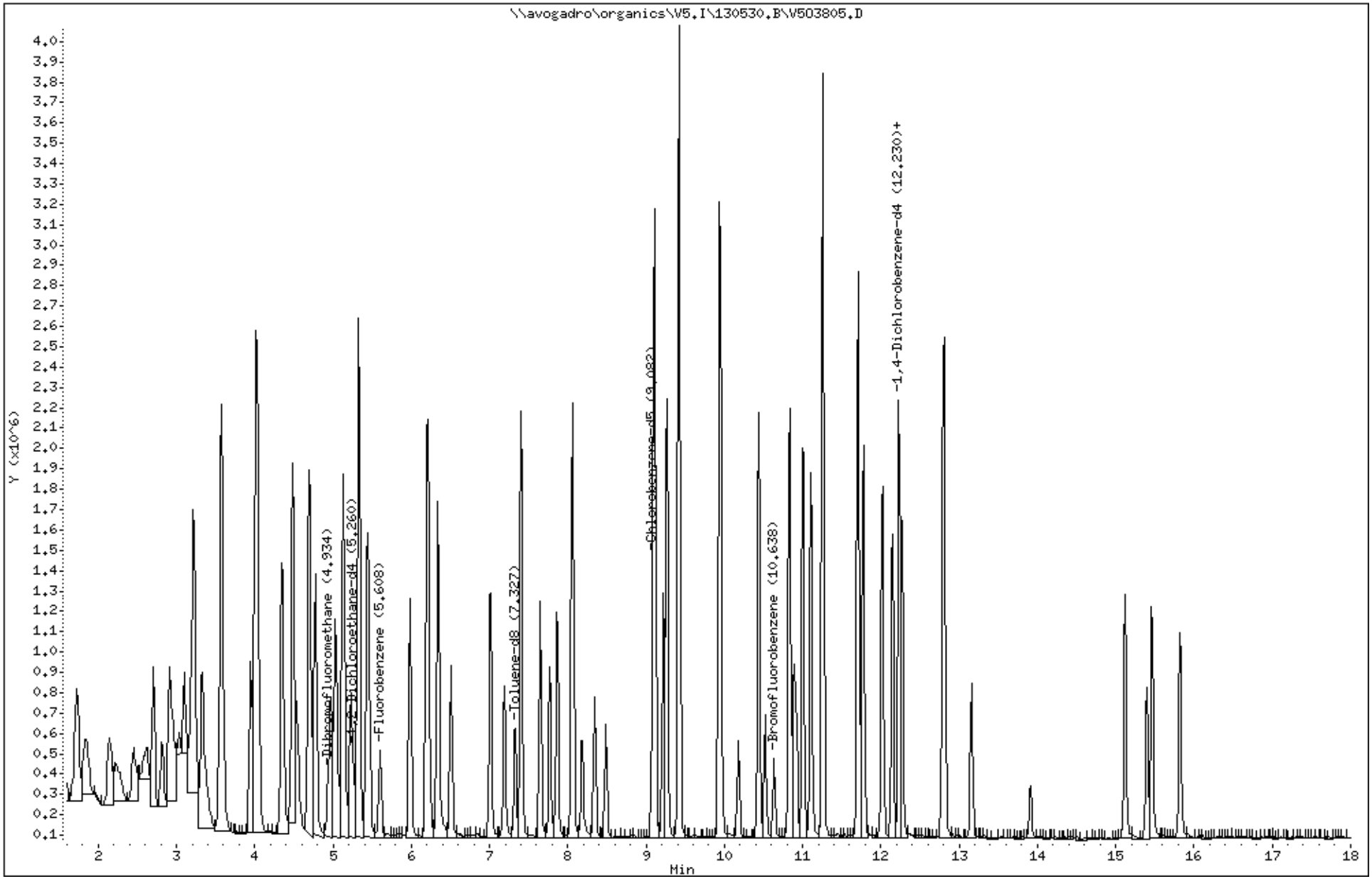
Data File: \\avogadro\organics\V5.I\130530.B\V5O3805.D
Report Date: 03-Jun-2013 13:35

							AMOUNTS	
		QUANT SIG					CAL-AMT	ON-COL
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	(ug/L)	(ug/L)
	78 Isopropylbenzene	105	10.440	10.446	(1.150)	1770436	100.000	120
	79 trans-1,4-Dichloro-2-butene	75	10.521	10.528	(1.159)	182650	100.000	160
$	80 Bromofluorobenzene	95	10.638	10.632	(1.171)	173633	50.0000	50
	81 Bromobenzene	156	10.835	10.830	(0.885)	471234	100.000	120
	82 1,1,2,2-Tetrachloroethane	83	10.835	10.841	(0.885)	640140	100.000	120
	83 1,2,3-Trichloropropane	75	10.893	10.888	(0.890)	586294	100.000	120
	84 n-Propylbenzene	120	11.009	11.004	(0.899)	442646	100.000	120
	85 2-Chlorotoluene	126	11.102	11.109	(0.907)	423385	100.000	120
	86 4-Chlorotoluene	126	11.253	11.260	(0.919)	441923	100.000	120
	87 1,3,5-Trimethylbenzene	105	11.253	11.260	(0.919)	1380807	100.000	120
	88 tert-Butylbenzene	119	11.706	11.713	(0.956)	1322381	100.000	120
	89 1,2,4-Trimethylbenzene	105	11.776	11.771	(0.962)	1388282	100.000	120
	90 sec-Butylbenzene	105	12.020	12.015	(0.982)	1736108	100.000	120
	91 1,3-Dichlorobenzene	146	12.148	12.142	(0.992)	774758	100.000	120
	92 4-Isopropyltoluene	119	12.229	12.235	(0.999)	1329087	100.000	120
*	93 1,4-Dichlorobenzene-d4	152	12.241	12.247	(1.000)	145240	50.0000	
	94 1,4-Dichlorobenzene	146	12.276	12.270	(1.003)	797725	100.000	120
	95 1,2-Dichlorobenzene	146	12.798	12.793	(1.046)	760213	100.000	120
M	96 Xylene (Total)	106				2189291	300.000	350
	97 n-Butylbenzene	91	12.810	12.816	(1.047)	1254263	100.000	120
	98 Hexachloroethane	117	13.158	13.165	(1.075)	223332	100.000	120
	99 1,2-Dibromo-3-chloropropane	75	13.902	13.908	(1.136)	80771	100.000	100
	100 1,3,5-Trichlorobenzene	182	15.122	15.128	(2.696)	476375	100.000	120
	101 1,2,4-Trichlorobenzene	180	15.122	15.128	(1.235)	501678	100.000	120
	102 Hexachlorobutadiene	225	15.400	15.407	(1.258)	200770	100.000	120
	103 Naphthalene	128	15.459	15.465	(1.263)	1183537	100.000	120
	104 1,2,3-Trichlorobenzene	180	15.819	15.825	(1.292)	430643	100.000	120

QC Flag Legend

T - Target compound detected outside RT window.

Data File: \\avogadro\organics\V5.I\130530.B\V503805.D
Date : 30-MAY-2013 14:32
Client ID: VSTD1005V
Instrument: V5.i
Sample Info: 5ML,VSTD1005V,VSTD1005V
Purge Volume: 5.0
Operator: WL SRC: WL
Column phase: DB-624
Column diameter: 0.25



Data File: \\avogadro\organics\V5.I\130530.B\V5O3806.D
Report Date: 03-Jun-2013 13:35

Spectrum Analytical, Inc. RI Division

Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V5.I\130530.B\V5O3806.D
Lab Smp Id: VSTD2005V Client Smp ID: VSTD2005V
Inj Date : 30-MAY-2013 14:58
Operator : WL   SRC: WL Inst ID: V5.i
Smp Info : 5ML,VSTD2005V,VSTD2005V
Misc Info :
Comment   :
Method   : \\avogadro\organics\V5.I\130530.B\v5_8260W.m
Meth Date : 03-Jun-2013 13:35 wluo Quant Type: ISTD
Cal Date : 30-MAY-2013 14:58 Cal File: V5O3806.D
Als bottle: 8 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: FULL.sub
Target Version: 4.14
Processing Host: TARGET103

Concentration Formula: Amt * DF * Uf * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vo	5.000	Sample Volume purged (mL)
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	ON-COL (ug/L)
1	Dichlorodifluoromethane	85	1.589	1.583	(0.283)	1024552	200.000	210(A)
3	Chloromethane	50	1.729	1.734	(0.308)	2005056	200.000	220(A)
4	Vinyl Chloride	62	1.833	1.850	(0.327)	1663708	200.000	220(A)
5	Bromomethane	94	2.135	2.141	(0.381)	859337	200.000	190
6	Chloroethane	64	2.240	2.233	(0.399)	854717	200.000	210(A)
7	Trichlorofluoromethane	101	2.449	2.454	(0.437)	1260546	200.000	220(A)
8	Ethanol	46	2.623	2.617	(0.468)	733495	20000.0	22000(A)
9	Ether	59	2.704	2.698	(0.482)	959581	200.000	230(A)
10	Acrolein	56	2.809	2.814	(0.501)	1235422	1000.00	1100(A)
11	1,1-Dichloroethene	96	2.902	2.907	(0.517)	958296	200.000	220(A)
12	1,1,2-Trichloro-1,2,2-Trifluo	101	2.913	2.919	(0.520)	845427	200.000	220(A)
13	Acetone	58	2.937	2.942	(0.524)	139045	200.000	200(A)
14	Iodomethane	142	3.041	3.047	(0.542)	1643178	200.000	230(A)
15	Carbon Disulfide	76	3.099	3.105	(0.553)	4104622	200.000	210(A)
16	Acetonitrile	41	3.216	3.221	(0.573)	4073578	2000.00	2200(A)
17	Allyl Chloride	39	3.216	3.221	(0.573)	1531346	200.000	210(A)
18	Methyl Acetate	43	3.239	3.232	(0.578)	1413747	200.000	200(A)
19	Methylene Chloride	84	3.332	3.325	(0.594)	1106408	200.000	210(A)
20	tert-Butanol	59	3.436	3.430	(0.613)	227238	400.000	440(A)
21	Acrylonitrile	53	3.541	3.534	(0.631)	470578	200.000	240(A)
22	trans-1,2-Dichloroethene	96	3.576	3.569	(0.638)	981532	200.000	220(A)
23	Methyl tert-butyl ether	73	3.576	3.581	(0.638)	2584617	200.000	220(A)

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	ON-COL (ug/L)
24	1,1-Dichloroethane	63	3.947	3.941	(0.704)	2002226	200.000	220(A)
25	Vinyl acetate	43	3.994	3.999	(0.712)	3836327	200.000	210(A)
26	Diisopropyl Ether	45	4.017	4.011	(0.716)	4454319	200.000	210(A)
27	2-Chloro-1,3-Butadiene	53	4.029	4.034	(0.718)	1489240	200.000	220(A)
28	Ethyl tert-butyl ether	59	4.342	4.348	(0.774)	3340826	200.000	220(A)
29	cis-1,2-Dichloroethene	96	4.482	4.475	(0.799)	1031346	200.000	200(A)
30	2,2-Dichloropropane	77	4.482	4.487	(0.799)	994715	200.000	220(A)
31	2-Butanone	72	4.493	4.487	(0.801)	125192	200.000	220(A)
32	Propionitrile	54	4.540	4.534	(0.809)	1660189	2000.00	2200(A)
33	Methacrylonitrile	41	4.691	4.685	(0.836)	1615495	400.000	430(A)
34	Bromochloromethane	128	4.702	4.708	(0.838)	514023	200.000	220(A)
35	Tetrahydrofuran	72	4.761	4.754	(0.849)	256800	400.000	440(A)
36	Chloroform	83	4.772	4.777	(0.851)	1621994	200.000	220(A)
$ 37	Dibromofluoromethane	113	4.935	4.928	(0.880)	143501	50.0000	50
38	1,1,1-Trichloroethane	97	4.970	4.975	(0.886)	1112457	200.000	210(A)
39	Cyclohexane	56	5.028	5.033	(0.896)	1765501	200.000	230(A)
40	1,1-Dichloropropene	110	5.121	5.126	(0.913)	444043	200.000	220(A)
41	Carbon Tetrachloride	117	5.132	5.138	(0.915)	915248	200.000	220(A)
42	Isobutyl Alcohol	43	5.225	5.219	(0.932)	1120085	4000.00	4200(A)
$ 43	1,2-Dichloroethane-d4	102	5.260	5.265	(0.938)	32126	50.0000	50
44	Benzene	78	5.330	5.335	(0.950)	3529485	200.000	220(A)
45	1,2-Dichloroethane	62	5.341	5.335	(0.952)	1261820	200.000	220(A)
46	tert-Amyl methyl ether	73	5.446	5.440	(0.971)	2576898	200.000	220(A)
* 47	Fluorobenzene	96	5.609	5.602	(1.000)	467336	50.0000	
48	Trichloroethene	130	5.992	5.986	(1.068)	921506	200.000	220(A)
49	Methylcyclohexane	83	6.201	6.195	(1.106)	1029042	200.000	210(A)
50	1,2-Dichloropropane	63	6.213	6.218	(1.108)	1119616	200.000	220(A)
51	Dibromomethane	93	6.340	6.346	(1.130)	691605	200.000	220(A)
52	Methyl Methacrylate	69	6.340	6.346	(1.130)	772499	200.000	220(A)
53	1,4-Dioxane	88	6.364	6.357	(1.135)	176492	4000.00	4100(A)
54	Bromodichloromethane	83	6.503	6.508	(1.159)	1216518	200.000	220(A)
M 55	1,2-Dichloroethene (Total)	96				2012878	400.000	420
56	2-Chloroethyl vinyl ether	63	6.852	6.846	(1.222)	13000	200.000	160
57	cis-1,3-Dichloropropene	75	7.014	7.008	(1.251)	1573980	200.000	220(A)
58	4-Methyl-2-pentanone	43	7.188	7.182	(1.282)	1481310	200.000	220(A)
$ 59	Toluene-d8	98	7.328	7.322	(0.807)	421483	50.0000	49
60	Toluene	91	7.397	7.403	(1.319)	3193851	200.000	210(A)
61	trans-1,3-Dichloropropene	75	7.653	7.647	(1.365)	1380333	200.000	230(A)
62	Ethyl Methacrylate	69	7.769	7.775	(1.385)	944985	200.000	230(A)
63	1,1,2-Trichloroethane	97	7.874	7.867	(1.404)	820788	200.000	220(A)
64	Tetrachloroethene	164	8.060	8.053	(0.887)	694707	200.000	220(A)
65	1,3-Dichloropropane	76	8.071	8.077	(0.889)	1407049	200.000	220(A)
66	2-Hexanone	43	8.176	8.181	(0.900)	999079	200.000	220(A)
67	Dibromochloromethane	129	8.350	8.344	(0.919)	885519	200.000	240(A)
68	1,2-Dibromoethane	107	8.489	8.483	(0.935)	945907	200.000	220(A)
* 69	Chlorobenzene-d5	117	9.082	9.076	(1.000)	330520	50.0000	
70	1-Chlorohexane	91	9.105	9.099	(1.003)	1190137	200.000	220(A)
71	Chlorobenzene	112	9.117	9.110	(1.004)	2131899	200.000	220(A)
72	1,1,1,2-Tetrachloroethane	131	9.221	9.227	(1.015)	762243	200.000	220(A)
73	Ethylbenzene	106	9.268	9.273	(1.020)	1152054	200.000	230(A)
74	m,p-Xylene	106	9.419	9.424	(1.037)	2748390	400.000	440(A)
75	o-Xylene	106	9.942	9.935	(1.095)	1394609	200.000	230(A)
76	Styrene	104	9.953	9.958	(1.096)	2088598	200.000	230(A)
77	Bromoform	173	10.185	10.179	(1.122)	538889	200.000	240(A)

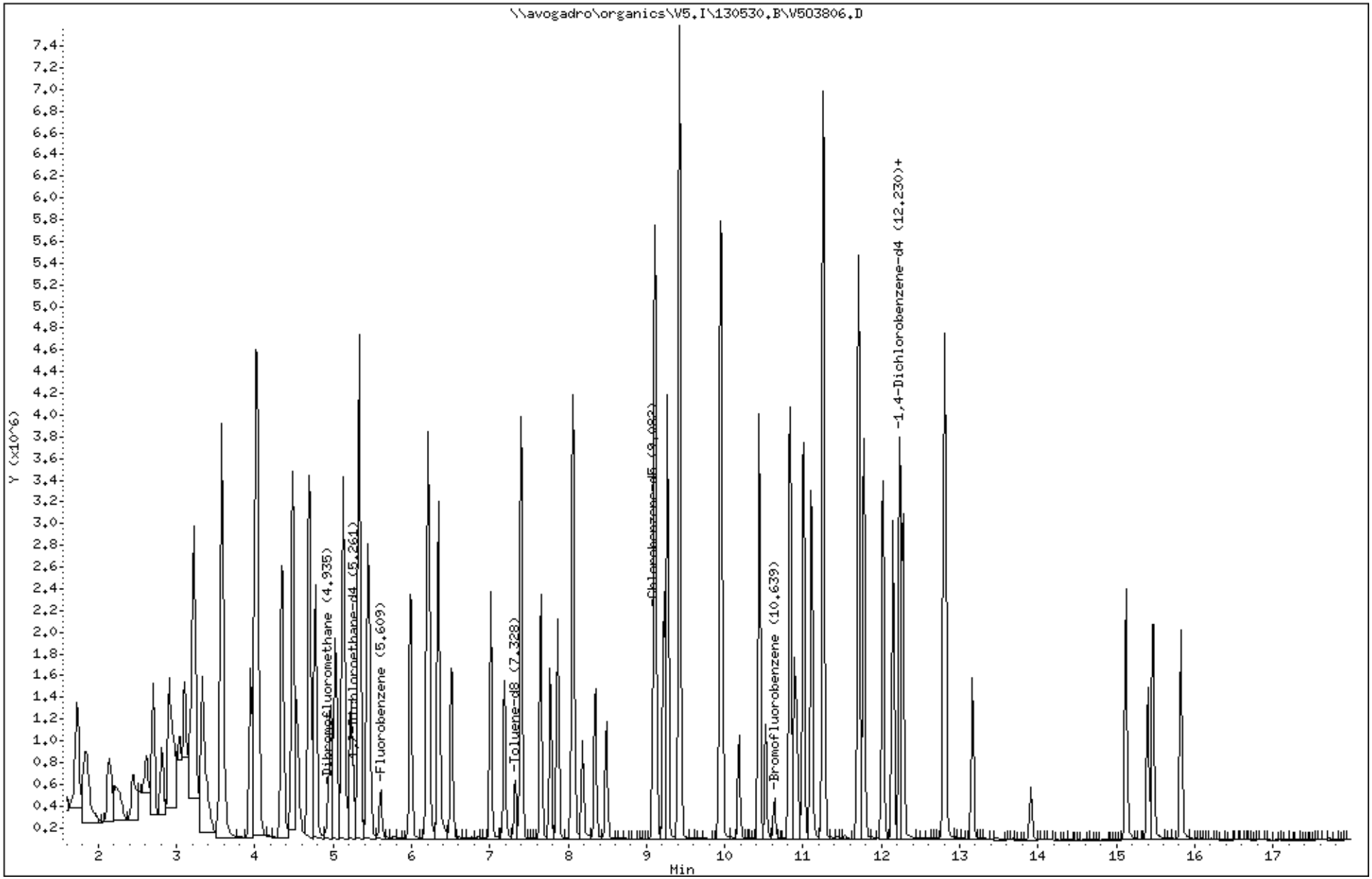
Data File: \\avogadro\organics\V5.I\130530.B\V5O3806.D
Report Date: 03-Jun-2013 13:35

							AMOUNTS	
		QUANT SIG					CAL-AMT	ON-COL
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	(ug/L)	(ug/L)
	78 Isopropylbenzene	105	10.441	10.446	(1.150)	3281213	200.000	220(A)
	79 trans-1,4-Dichloro-2-butene	75	10.522	10.528	(1.159)	311860	200.000	280(A)
$	80 Bromofluorobenzene	95	10.639	10.632	(1.171)	167726	50.0000	49
	81 Bromobenzene	156	10.836	10.830	(0.885)	875905	200.000	220(A)
	82 1,1,2,2-Tetrachloroethane	83	10.836	10.841	(0.885)	1194250	200.000	220(A)
	83 1,2,3-Trichloropropane	75	10.894	10.888	(0.890)	1222015	200.000	240(A)
	84 n-Propylbenzene	120	11.010	11.004	(0.899)	843627	200.000	230(A)
	85 2-Chlorotoluene	126	11.115	11.109	(0.908)	809708	200.000	230(A)
	86 4-Chlorotoluene	126	11.266	11.260	(0.920)	851957	200.000	230(A)
	87 1,3,5-Trimethylbenzene	105	11.254	11.260	(0.919)	2561828	200.000	220(A)
	88 tert-Butylbenzene	119	11.707	11.713	(0.956)	2456448	200.000	220(A)
	89 1,2,4-Trimethylbenzene	105	11.777	11.771	(0.962)	2623493	200.000	220(A)
	90 sec-Butylbenzene	105	12.021	12.015	(0.982)	3208280	200.000	220(A)
	91 1,3-Dichlorobenzene	146	12.149	12.142	(0.992)	1481522	200.000	220(A)
	92 4-Isopropyltoluene	119	12.230	12.235	(0.999)	2457017	200.000	220(A)
*	93 1,4-Dichlorobenzene-d4	152	12.242	12.247	(1.000)	146849	50.0000	
	94 1,4-Dichlorobenzene	146	12.276	12.270	(1.003)	1505803	200.000	220(A)
	95 1,2-Dichlorobenzene	146	12.799	12.793	(1.046)	1461689	200.000	230(A)
M	96 Xylene (Total)	106				4142999	600.000	670
	97 n-Butylbenzene	91	12.811	12.816	(1.046)	2336754	200.000	220(A)
	98 Hexachloroethane	117	13.159	13.165	(1.075)	436048	200.000	240(A)
	99 1,2-Dibromo-3-chloropropane	75	13.914	13.908	(1.137)	153880	200.000	190
	100 1,3,5-Trichlorobenzene	182	15.123	15.128	(2.696)	928046	200.000	240(A)
	101 1,2,4-Trichlorobenzene	180	15.123	15.128	(1.235)	944724	200.000	230(A)
	102 Hexachlorobutadiene	225	15.401	15.407	(1.258)	368145	200.000	220(A)
	103 Naphthalene	128	15.471	15.465	(1.264)	2173009	200.000	230(A)
	104 1,2,3-Trichlorobenzene	180	15.820	15.825	(1.292)	820918	200.000	230(A)

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.

Data File: \\avogadro\organics\V5.I\130530.B\V503806.D
Date : 30-MAY-2013 14:58
Client ID: VSTD2005V
Instrument: V5.i
Sample Info: 5ML,VSTD2005V,VSTD2005V
Purge Volume: 5.0
Operator: WL SRC: WL
Column phase: DB-624
Column diameter: 0.25



Data File: \\avogadro\organics\V5.I\130530.B\V5O3807.D
Report Date: 03-Jun-2013 13:35

Spectrum Analytical, Inc. RI Division

Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V5.I\130530.B\V5O3807.D
Lab Smp Id: VICV0505V Client Smp ID: VICV0505V
Inj Date : 30-MAY-2013 15:46
Operator : WL   SRC: WL Inst ID: V5.i
Smp Info : 5ML,VICV0505V,VICV0505V
Misc Info :
Comment   :
Method   : \\avogadro\organics\V5.I\130530.B\v5_8260W.m
Meth Date : 03-Jun-2013 13:35 wluo Quant Type: ISTD
Cal Date : 30-MAY-2013 14:32 Cal File: V5O3805.D
Als bottle: 10 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: FULL.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vo	5.000	Sample Volume purged (mL)
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	ON-COL (ug/L)
1	Dichlorodifluoromethane	85	1.586	1.583	(0.283)	341042	50.0000	41
3	Chloromethane	50	1.737	1.734	(0.310)	671838	50.0000	43
4	Vinyl Chloride	62	1.841	1.850	(0.329)	557906	50.0000	43
5	Bromomethane	94	2.143	2.141	(0.382)	349157	50.0000	44
6	Chloroethane	64	2.248	2.233	(0.401)	295529	50.0000	42
7	Trichlorofluoromethane	101	2.445	2.454	(0.436)	432044	50.0000	43
8	Ethanol	46	2.620	2.617	(0.467)	219462	5000.00	3800
9	Ether	59	2.701	2.698	(0.482)	323078	50.0000	44
10	Acrolein	56	2.817	2.814	(0.503)	385301	250.000	200
11	1,1-Dichloroethene	96	2.910	2.907	(0.519)	335171	50.0000	45
12	1,1,2-Trichloro-1,2,2-Trifluo	101	2.922	2.919	(0.521)	297868	50.0000	45
13	Acetone	58	2.945	2.942	(0.525)	45082	50.0000	38
14	Iodomethane	142	3.038	3.047	(0.542)	553448	50.0000	44
15	Carbon Disulfide	76	3.108	3.105	(0.554)	1412367	50.0000	42
16	Acetonitrile	41	3.224	3.221	(0.575)	1420327	500.000	430
17	Allyl Chloride	39	3.224	3.221	(0.575)	551550	50.0000	43(T)
18	Methyl Acetate	43	3.235	3.232	(0.577)	486830	50.0000	40
19	Methylene Chloride	84	3.328	3.325	(0.594)	370410	50.0000	41
20	tert-Butanol	59	3.444	3.430	(0.615)	73719	100.000	82
21	Acrylonitrile	53	3.537	3.534	(0.631)	163308	50.0000	48
22	trans-1,2-Dichloroethene	96	3.572	3.569	(0.637)	334185	50.0000	42
23	Methyl tert-butyl ether	73	3.584	3.581	(0.639)	887490	50.0000	43
24	1,1-Dichloroethane	63	3.944	3.941	(0.704)	690524	50.0000	43

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
	25 Vinyl acetate	43	4.002	3.999	(0.714)	1398121	50.0000	44
	26 Diisopropyl Ether	45	4.014	4.011	(0.716)	1583931	50.0000	42
	27 2-Chloro-1,3-Butadiene	53	4.037	4.034	(0.720)	517269	50.0000	44
	28 Ethyl tert-butyl ether	59	4.351	4.348	(0.776)	1147254	50.0000	43
	29 cis-1,2-Dichloroethene	96	4.478	4.475	(0.799)	350996	50.0000	42
	30 2,2-Dichloropropane	77	4.490	4.487	(0.801)	324602	50.0000	42
	31 2-Butanone	72	4.490	4.487	(0.801)	45367	50.0000	46
	32 Propionitrile	54	4.536	4.534	(0.809)	567513	500.000	440
	33 Methacrylonitrile	41	4.687	4.685	(0.836)	588701	100.000	90
	34 Bromochloromethane	128	4.711	4.708	(0.840)	172339	50.0000	43
	35 Tetrahydrofuran	72	4.757	4.754	(0.849)	89936	100.000	90
	36 Chloroform	83	4.780	4.777	(0.853)	544998	50.0000	42
$	37 Dibromofluoromethane	113	4.931	4.928	(0.880)	251556	50.0000	50
	38 1,1,1-Trichloroethane	97	4.978	4.975	(0.888)	369436	50.0000	41
	39 Cyclohexane	56	5.036	5.033	(0.898)	553651	50.0000	42
	40 1,1-Dichloropropene	110	5.129	5.126	(0.915)	152719	50.0000	44
	41 Carbon Tetrachloride	117	5.141	5.138	(0.917)	305718	50.0000	43
	42 Isobutyl Alcohol	43	5.222	5.219	(0.932)	390723	1000.00	850
$	43 1,2-Dichloroethane-d4	102	5.268	5.265	(0.940)	54610	50.0000	49
	44 Benzene	78	5.326	5.335	(0.950)	1220432	50.0000	44
	45 1,2-Dichloroethane	62	5.338	5.335	(0.952)	433136	50.0000	43
	46 tert-Amyl methyl ether	73	5.443	5.440	(0.971)	884280	50.0000	44
*	47 Fluorobenzene	96	5.605	5.602	(1.000)	811616	50.0000	
	48 Trichloroethene	130	5.989	5.986	(1.068)	316227	50.0000	44
	49 Methylcyclohexane	83	6.198	6.195	(1.106)	386007	50.0000	45
	50 1,2-Dichloropropane	63	6.221	6.218	(1.110)	384907	50.0000	43
	51 Dibromomethane	93	6.337	6.346	(1.131)	233911	50.0000	44
	52 Methyl Methacrylate	69	6.337	6.346	(1.131)	263778	50.0000	43
	53 1,4-Dioxane	88	6.360	6.357	(1.135)	57508	1000.00	770
	54 Bromodichloromethane	83	6.511	6.508	(1.162)	416670	50.0000	44
M	55 1,2-Dichloroethene (Total)	96				685181	100.000	85
	56 2-Chloroethyl vinyl ether	63	6.848	6.846	(1.222)	6634	50.0000	46
	57 cis-1,3-Dichloropropene	75	7.011	7.008	(1.251)	535829	50.0000	44
	58 4-Methyl-2-pentanone	43	7.185	7.182	(1.282)	515678	50.0000	44
$	59 Toluene-d8	98	7.324	7.322	(0.807)	740306	50.0000	49
	60 Toluene	91	7.406	7.403	(1.321)	1132118	50.0000	44
	61 trans-1,3-Dichloropropene	75	7.650	7.647	(1.365)	472791	50.0000	45
	62 Ethyl Methacrylate	69	7.777	7.775	(1.388)	322740	50.0000	46
	63 1,1,2-Trichloroethane	97	7.870	7.867	(1.404)	280389	50.0000	43
	64 Tetrachloroethene	164	8.056	8.053	(0.887)	239622	50.0000	43
	65 1,3-Dichloropropane	76	8.068	8.077	(0.889)	485948	50.0000	43
	66 2-Hexanone	43	8.184	8.181	(0.901)	355325	50.0000	44
	67 Dibromochloromethane	129	8.347	8.344	(0.919)	305134	50.0000	46
	68 1,2-Dibromoethane	107	8.486	8.483	(0.935)	322360	50.0000	44
*	69 Chlorobenzene-d5	117	9.079	9.076	(1.000)	582029	50.0000	
	70 1-Chlorohexane	91	9.102	9.099	(1.003)	414846	50.0000	44
	71 Chlorobenzene	112	9.113	9.110	(1.004)	743245	50.0000	44
	72 1,1,1,2-Tetrachloroethane	131	9.218	9.227	(1.015)	264563	50.0000	44
	73 Ethylbenzene	106	9.264	9.273	(1.020)	383124	50.0000	43
	74 m,p-Xylene	106	9.427	9.424	(1.038)	940429	100.000	86
	75 o-Xylene	106	9.938	9.935	(1.095)	468851	50.0000	44
	76 Styrene	104	9.961	9.958	(1.097)	729098	50.0000	46
	77 Bromoform	173	10.182	10.179	(1.122)	190295	50.0000	47
	78 Isopropylbenzene	105	10.438	10.446	(1.150)	1154431	50.0000	44

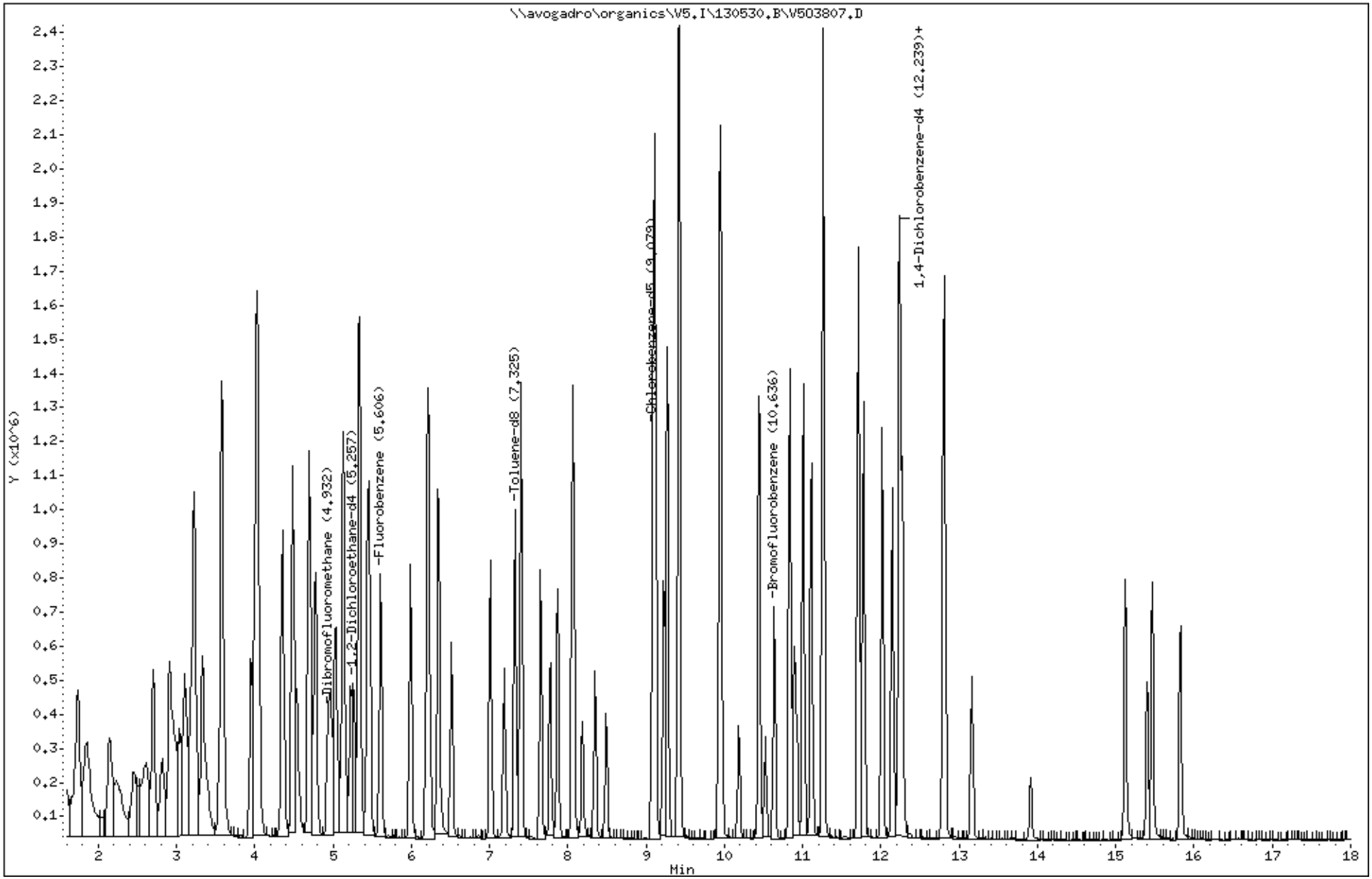
Data File: \\avogadro\organics\V5.I\130530.B\V5O3807.D
Report Date: 03-Jun-2013 13:35

		Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	ON-COL (ug/L)	
	79	trans-1,4-Dichloro-2-butene	75	10.519	10.528	(1.159)	90244	50.0000	45	
$	80	Bromofluorobenzene	95	10.635	10.632	(1.171)	295877	50.0000	49	
	81	Bromobenzene	156	10.833	10.830	(0.885)	299808	50.0000	43	
	82	1,1,2,2-Tetrachloroethane	83	10.844	10.841	(0.886)	418252	50.0000	43	
	83	1,2,3-Trichloropropane	75	10.891	10.888	(0.890)	399463	50.0000	46	
	84	n-Propylbenzene	120	11.007	11.004	(0.899)	281744	50.0000	44	
	85	2-Chlorotoluene	126	11.111	11.109	(0.908)	273548	50.0000	43	
	86	4-Chlorotoluene	126	11.262	11.260	(0.920)	283693	50.0000	43	
	87	1,3,5-Trimethylbenzene	105	11.262	11.260	(0.920)	907977	50.0000	44	
	88	tert-Butylbenzene	119	11.704	11.713	(0.956)	863054	50.0000	44	
	89	1,2,4-Trimethylbenzene	105	11.774	11.771	(0.962)	918274	50.0000	44	
	90	sec-Butylbenzene	105	12.018	12.015	(0.982)	1138751	50.0000	44	
	91	1,3-Dichlorobenzene	146	12.145	12.142	(0.992)	517171	50.0000	44	
	92	4-Isopropyltoluene	119	12.227	12.235	(0.999)	852985	50.0000	44	
*	93	1,4-Dichlorobenzene-d4	152	12.238	12.247	(1.000)	258983	50.0000	(Q)	
	94	1,4-Dichlorobenzene	146	12.273	12.270	(1.003)	521029	50.0000	43	
	95	1,2-Dichlorobenzene	146	12.796	12.793	(1.046)	491562	50.0000	43	
M	96	Xylene (Total)	106				1409280	150.000	130	
	97	n-Butylbenzene	91	12.819	12.816	(1.047)	827011	50.0000	43	
	98	Hexachloroethane	117	13.156	13.165	(1.075)	153483	50.0000	48	
	99	1,2-Dibromo-3-chloropropane	75	13.911	13.908	(1.137)	54869	50.0000	39	
	100	1,3,5-Trichlorobenzene	182	15.119	15.128	(2.697)	305952	50.0000	45	
	101	1,2,4-Trichlorobenzene	180	15.119	15.128	(1.235)	317598	50.0000	44	
	102	Hexachlorobutadiene	225	15.398	15.407	(1.258)	127370	50.0000	44	
	103	Naphthalene	128	15.468	15.465	(1.264)	745626	50.0000	44	
	104	1,2,3-Trichlorobenzene	180	15.828	15.825	(1.293)	276293	50.0000	44	

QC Flag Legend

T - Target compound detected outside RT window.
Q - Qualifier signal failed the ratio test.

Data File: \\avogadro\organics\V5.I\130530.B\V503807.D
Date : 30-MAY-2013 15:46
Client ID: VICV0505V
Instrument: V5.i
Sample Info: 5ML,VICV0505V,VICV0505V
Purge Volume: 5.0
Operator: WL SRC: WL
Column phase: DB-624
Column diameter: 0.25



Spectrum Analytical, Inc. RI Division

Data file : \\avogadro\organics\V5.I\130607.B\V5O3990.D
Lab Smp Id: BFBD5 Client Smp ID: BFBD5
Inj Date : 07-JUN-2013 13:58
Operator : WL SRC: WL Inst ID: V5.i
Smp Info : 2UL,BFBD5,BFBD5
Misc Info :
Comment :
Method : \\avogadro\organics\V5.I\130607.B\bfb8260.m
Meth Date : 30-May-2013 14:16 wluo Quant Type: ISTD
Cal Date : 21-MAR-2011 17:17 Cal File: V5M6831.D
Als bottle: 2 QC Sample: BFB
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.14 Sample Matrix: WATER
Processing Host: TARGET103

Concentration Formula: Amt * DF * Uf * Vf * VI * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vf	1.000	Volumetric correction factor
VI	1.000	Injection Volume
Cpnd Variable		Local Compound Variable

RT	EXP RT	REL RT	MASS	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	CONCENTRATIONS FINAL (ug/L)	TARGET RANGE	RATIO
1 bfb						CAS #: 460-00-4		
10.635	11.000	(0.000)	95	139008			0.00- 100.00	100.00
10.635	11.000	(0.000)	50	34504			15.00- 40.00	24.82
10.635	11.000	(0.000)	75	62296			30.00- 60.00	44.81
10.635	11.000	(0.000)	96	8712			5.00- 9.00	6.27
10.635	11.000	(0.000)	173	0	0.0	0.0	0.00- 2.00	0.00
10.635	11.000	(0.000)	174	100312			50.00- 100.00	72.16
10.635	11.000	(0.000)	175	7993			5.00- 9.00	7.97
10.635	11.000	(0.000)	176	96984			95.00- 101.00	96.68
10.635	11.000	(0.000)	177	6155			5.00- 9.00	6.35

Data File: \\avogadro\organics\V5.I\130607.B\V503990.D

Date : 07-JUN-2013 13:58

Client ID: BFBD5

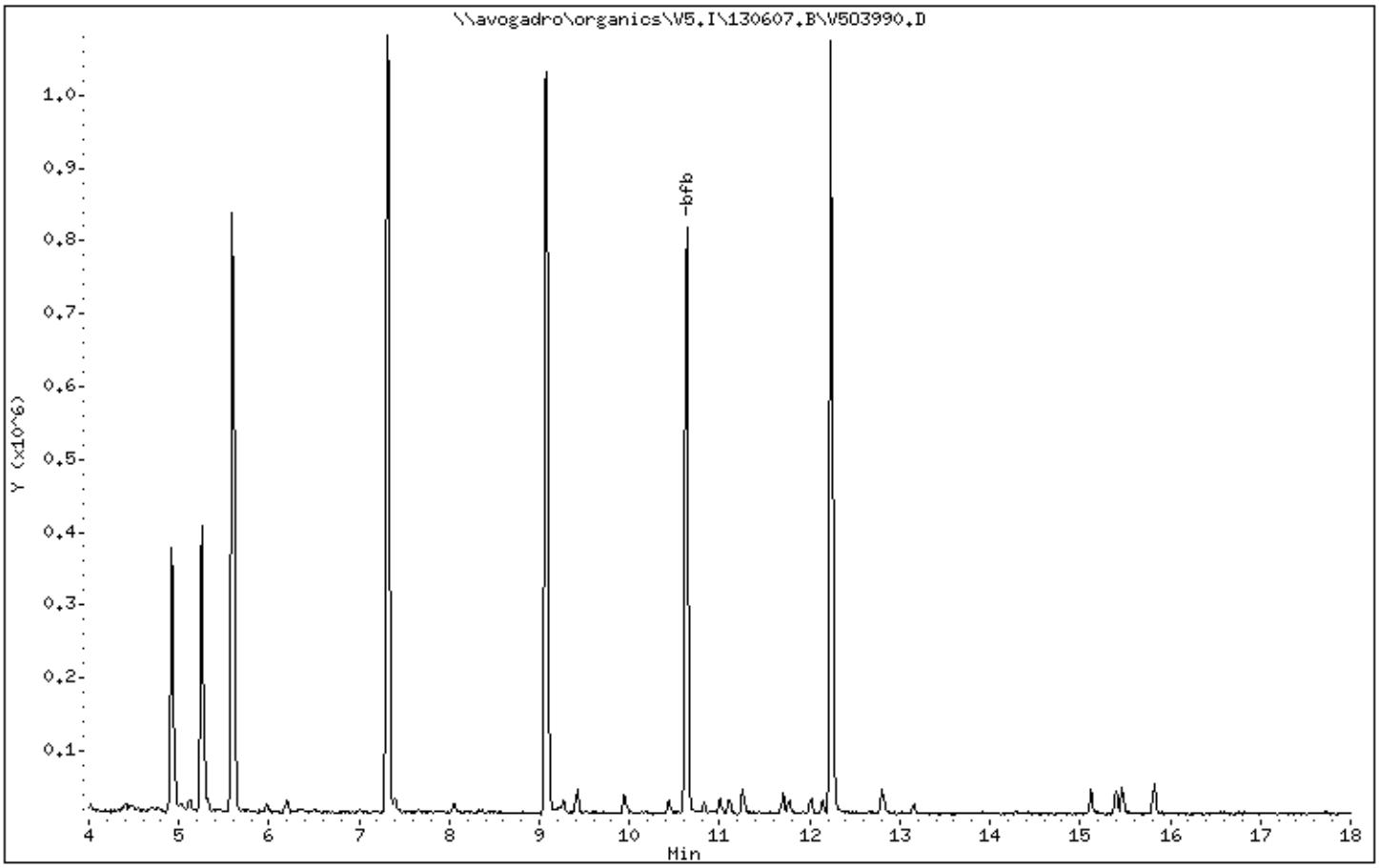
Instrument: V5.i

Sample Info: 2UL,BFBD5,BFBD5

Operator: WL SRC: WL

Column phase: DB-624

Column diameter: 0.25



Data File: \\avogadro\organics\V5.I\130607.B\V503990.D

Date : 07-JUN-2013 13:58

Client ID: BFBD5

Instrument: V5.i

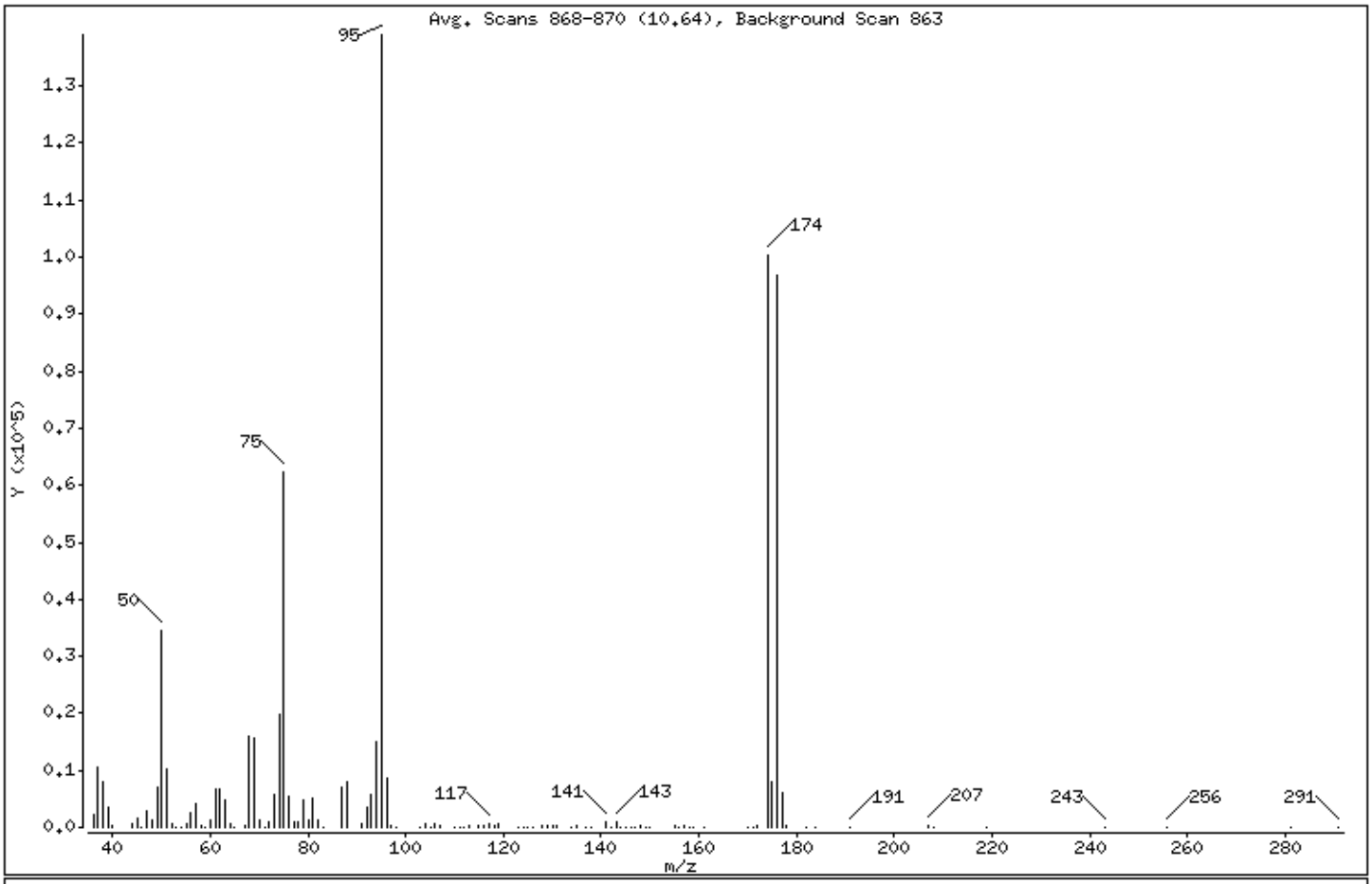
Sample Info: 2UL,BFBD5,BFBD5

Operator: WL SRC: WL

Column phase: DB-624

Column diameter: 0.25

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	24.82
75	30.00 - 60.00% of mass 95	44.81
96	5.00 - 9.00% of mass 95	6.27
173	Less than 2.00% of mass 174	0.00 (0.00)
174	50.00 - 100.00% of mass 95	72.16
175	5.00 - 9.00% of mass 174	5.75 (7.97)
176	95.00 - 101.00% of mass 174	69.77 (96.68)
177	5.00 - 9.00% of mass 176	4.43 (6.35)

Date : 07-JUN-2013 13:58

Client ID: BFBD5 Instrument: V5.i

Sample Info: 2UL,BFBD5,BFBD5

Operator: WL SRC: WL

Column phase: DB-624 Column diameter: 0.25

Data File: V503990.D
Spectrum: Avg. Scans 868-870 (10.64), Background Scan 863
Location of Maximum: 95.00
Number of points: 114

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	2228	69.00	15687	107.00	179	148.00	209
37.00	10645	70.00	1119	110.00	46	149.00	125
38.00	8146	71.00	69	111.00	112	150.00	51
39.00	3442	72.00	883	112.00	105	155.00	239
40.00	291	73.00	5749	113.00	163	156.00	60
44.00	775	74.00	19968	115.00	219	157.00	180
45.00	1664	75.00	62296	116.00	452	158.00	41
46.00	109	76.00	5319	117.00	763	159.00	146
47.00	3001	77.00	1046	118.00	463	161.00	54
48.00	1303	78.00	853	119.00	663	170.00	48
49.00	6946	79.00	4908	123.00	36	171.00	54
50.00	34504	80.00	1401	124.00	35	172.00	183
51.00	10215	81.00	5101	125.00	39	174.00	100312
52.00	548	82.00	1190	126.00	37	175.00	7993
53.00	34	83.00	69	128.00	448	176.00	96984
54.00	6	87.00	7159	129.00	264	177.00	6155
55.00	583	88.00	7890	130.00	426	178.00	168
56.00	2587	91.00	622	131.00	183	182.00	36
57.00	4300	92.00	3389	134.00	45	184.00	34
58.00	257	93.00	5689	135.00	220	191.00	88
59.00	34	94.00	14875	137.00	134	207.00	216
60.00	1343	95.00	139008	138.00	35	208.00	25
61.00	6837	96.00	8712	141.00	1029	219.00	27
62.00	6642	97.00	289	142.00	43	243.00	35
63.00	4867	98.00	36	143.00	846	256.00	45
64.00	488	103.00	139	144.00	122	281.00	19
65.00	94	104.00	580	145.00	80	291.00	39
67.00	369	105.00	107	146.00	95		
68.00	15875	106.00	571	147.00	93		

Data File: \\avogadro\organics\V5.I\130607.B\V5O3991.D
Report Date: 11-Jun-2013 09:23

Spectrum Analytical, Inc. RI Division

Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V5.I\130607.B\V5O3991.D
Lab Smp Id: VSTD050D5 Client Smp ID: VSTD050D5
Inj Date : 07-JUN-2013 14:23
Operator : WL   SRC: WL Inst ID: V5.i
Smp Info : 5ML,VSTD050D5,VSTD050D5
Misc Info :
Comment   :
Method   : \\avogadro\organics\V5.I\130607.B\v5_8260W.m
Meth Date : 10-Jun-2013 15:40 V5.i Quant Type: ISTD
Cal Date : 30-MAY-2013 14:32 Cal File: V5O3805.D
Als bottle: 3 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: FULL.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vo	5.000	Sample Volume purged (mL)
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	ON-COL (ug/L)
1	Dichlorodifluoromethane	85	1.584	1.584	(0.283)	338761	50.0000	42
3	Chloromethane	50	1.735	1.735	(0.310)	796233	50.0000	52
4	Vinyl Chloride	62	1.839	1.839	(0.328)	694425	50.0000	54
5	Bromomethane	94	2.142	2.142	(0.382)	446582	50.0000	58
6	Chloroethane	64	2.234	2.234	(0.399)	391031	50.0000	57
7	Trichlorofluoromethane	101	2.444	2.444	(0.436)	558847	50.0000	57
8	Ethanol	46	2.618	2.618	(0.467)	213695	5000.00	3800(Q)
9	Ether	59	2.699	2.699	(0.482)	383762	50.0000	53(Q)
10	Acrolein	56	2.804	2.804	(0.500)	485003	250.000	260
11	1,1-Dichloroethene	96	2.908	2.908	(0.519)	375769	50.0000	51
12	1,1,2-Trichloro-1,2,2-Trifluo	101	2.920	2.920	(0.521)	364653	50.0000	57
13	Acetone	58	2.943	2.943	(0.525)	51175	50.0000	44
14	Iodomethane	142	3.036	3.036	(0.542)	617661	50.0000	51
15	Carbon Disulfide	76	3.106	3.106	(0.554)	1359002	50.0000	41
16	Acetonitrile	41	3.210	3.210	(0.573)	1657781	500.000	520
17	Allyl Chloride	39	3.210	3.210	(0.573)	710159	50.0000	57(Q)
18	Methyl Acetate	43	3.233	3.233	(0.577)	560760	50.0000	47
19	Methylene Chloride	84	3.326	3.326	(0.594)	450027	50.0000	51
20	tert-Butanol	59	3.431	3.431	(0.612)	70631	100.000	80
21	Acrylonitrile	53	3.536	3.536	(0.631)	174895	50.0000	52
22	trans-1,2-Dichloroethene	96	3.570	3.570	(0.637)	394950	50.0000	51
23	Methyl tert-butyl ether	73	3.570	3.570	(0.637)	991919	50.0000	49
24	1,1-Dichloroethane	63	3.942	3.942	(0.704)	859740	50.0000	55

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
	25 Vinyl acetate	43	4.000	4.000	(0.714)	1645563	50.0000	53
	26 Diisopropyl Ether	45	4.012	4.012	(0.716)	2089299	50.0000	57
	27 2-Chloro-1,3-Butadiene	53	4.035	4.035	(0.720)	674178	50.0000	58
	28 Ethyl tert-butyl ether	59	4.349	4.349	(0.776)	1378756	50.0000	53
	29 cis-1,2-Dichloroethene	96	4.476	4.476	(0.799)	428272	50.0000	53
	30 2,2-Dichloropropane	77	4.488	4.488	(0.801)	433366	50.0000	57
	31 2-Butanone	72	4.488	4.488	(0.801)	45922	50.0000	48
	32 Propionitrile	54	4.535	4.535	(0.809)	590500	500.000	470
	33 Methacrylonitrile	41	4.686	4.686	(0.836)	651752	100.000	100
	34 Bromochloromethane	128	4.697	4.697	(0.838)	202505	50.0000	52
	35 Tetrahydrofuran	72	4.755	4.755	(0.849)	88505	100.000	90
	36 Chloroform	83	4.778	4.778	(0.853)	702256	50.0000	55
$	37 Dibromofluoromethane	113	4.929	4.929	(0.880)	258246	50.0000	52
	38 1,1,1-Trichloroethane	97	4.964	4.964	(0.886)	469246	50.0000	53
	39 Cyclohexane	56	5.022	5.022	(0.896)	728135	50.0000	56
	40 1,1-Dichloropropene	110	5.127	5.127	(0.915)	183643	50.0000	54
	41 Carbon Tetrachloride	117	5.127	5.127	(0.915)	385530	50.0000	55
	42 Isobutyl Alcohol	43	5.220	5.220	(0.932)	383487	1000.00	850
$	43 1,2-Dichloroethane-d4	102	5.255	5.255	(0.938)	51958	50.0000	47
	44 Benzene	78	5.324	5.324	(0.950)	1496829	50.0000	54
	45 1,2-Dichloroethane	62	5.336	5.336	(0.952)	553748	50.0000	56
	46 tert-Amyl methyl ether	73	5.441	5.441	(0.971)	1023543	50.0000	52
*	47 Fluorobenzene	96	5.603	5.603	(1.000)	793954	50.0000	
	48 Trichloroethene	130	5.987	5.987	(1.068)	348597	50.0000	50
	49 Methylcyclohexane	83	6.196	6.196	(1.106)	486552	50.0000	58
	50 1,2-Dichloropropane	63	6.219	6.219	(1.110)	485645	50.0000	56
	51 Dibromomethane	93	6.335	6.335	(1.131)	284548	50.0000	54
	52 Methyl Methacrylate	69	6.335	6.335	(1.131)	277723	50.0000	46
	53 1,4-Dioxane	88	6.358	6.358	(1.135)	47679	1000.00	650
	54 Bromodichloromethane	83	6.509	6.509	(1.162)	515231	50.0000	56
	56 2-Chloroethyl vinyl ether	63	7.009	7.009	(1.251)	4616	50.0000	32(T)
	57 cis-1,3-Dichloropropene	75	7.009	7.009	(1.251)	660752	50.0000	55
	58 4-Methyl-2-pentanone	43	7.183	7.183	(1.282)	571235	50.0000	50
$	59 Toluene-d8	98	7.323	7.323	(0.807)	798371	50.0000	46
	60 Toluene	91	7.404	7.404	(1.321)	1389711	50.0000	55
	61 trans-1,3-Dichloropropene	75	7.648	7.648	(1.365)	563851	50.0000	55
	62 Ethyl Methacrylate	69	7.776	7.776	(1.388)	314167	50.0000	45
	63 1,1,2-Trichloroethane	97	7.868	7.868	(1.404)	323336	50.0000	50
	64 Tetrachloroethene	164	8.054	8.054	(0.887)	258063	50.0000	41
	65 1,3-Dichloropropane	76	8.066	8.066	(0.889)	590992	50.0000	45
	66 2-Hexanone	43	8.182	8.182	(0.901)	398133	50.0000	44
	67 Dibromochloromethane	129	8.345	8.345	(0.919)	332509	50.0000	44
	68 1,2-Dibromoethane	107	8.484	8.484	(0.935)	363665	50.0000	43
*	69 Chlorobenzene-d5	117	9.077	9.077	(1.000)	665170	50.0000	
	70 1-Chlorohexane	91	9.100	9.100	(1.003)	505622	50.0000	47
	71 Chlorobenzene	112	9.111	9.111	(1.004)	899182	50.0000	46
	72 1,1,1,2-Tetrachloroethane	131	9.216	9.216	(1.015)	303216	50.0000	44
	73 Ethylbenzene	106	9.262	9.262	(1.020)	461777	50.0000	46
	74 m,p-Xylene	106	9.413	9.413	(1.037)	1129278	100.000	91
	75 o-Xylene	106	9.936	9.936	(1.095)	573873	50.0000	47
	76 Styrene	104	9.959	9.959	(1.097)	883553	50.0000	49
	77 Bromoform	173	10.180	10.180	(1.122)	195494	50.0000	42
	78 Isopropylbenzene	105	10.436	10.436	(1.150)	1396096	50.0000	46
	79 trans-1,4-Dichloro-2-butene	75	10.517	10.517	(1.159)	83298	50.0000	36

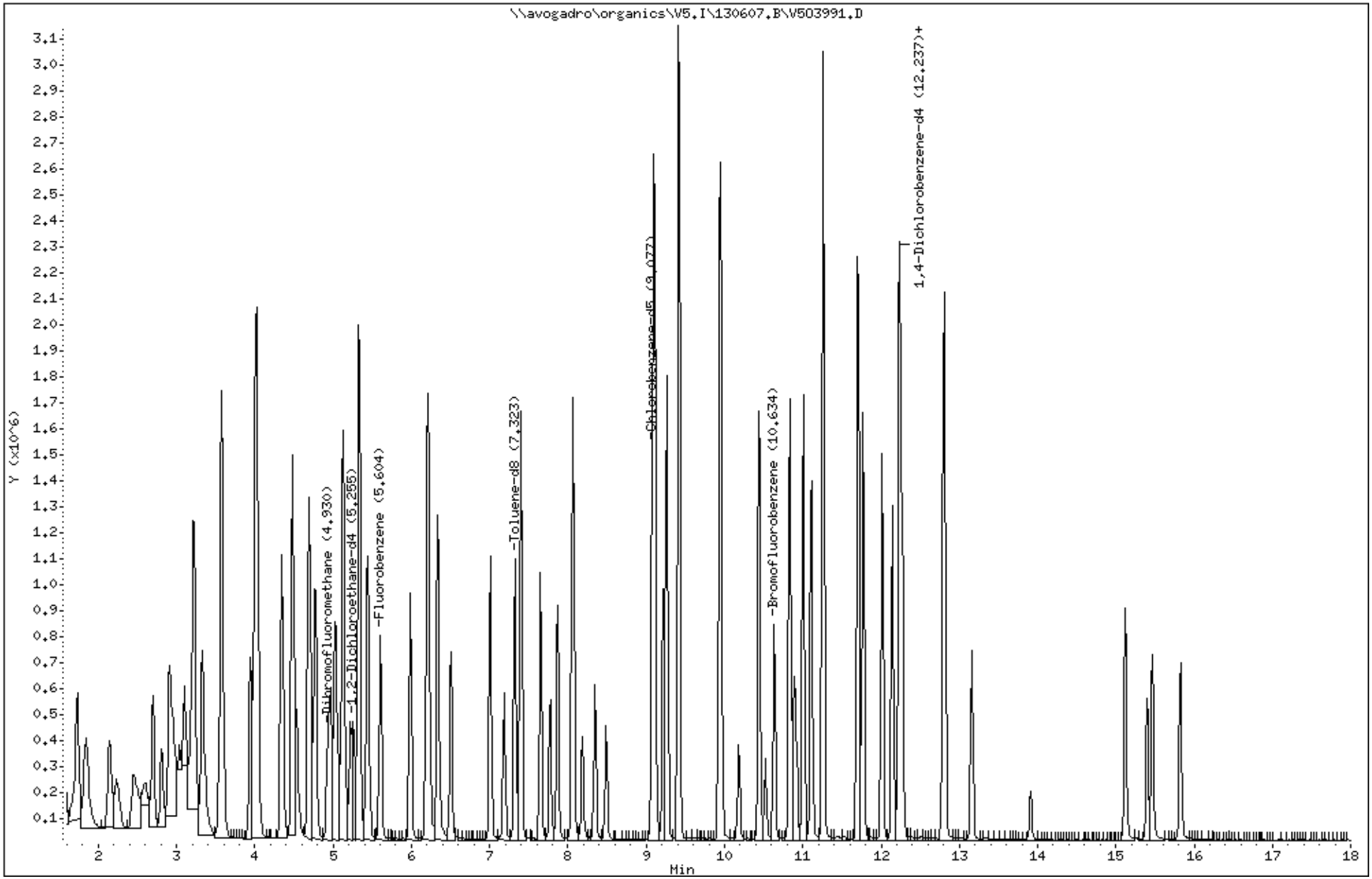
Data File: \\avogadro\organics\V5.I\130607.B\V5O3991.D
Report Date: 11-Jun-2013 09:23

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	ON-COL (ug/L)
$	80 Bromofluorobenzene	95	10.633	10.633	(1.171)	367513	50.0000	53
	81 Bromobenzene	156	10.831	10.831	(0.885)	348210	50.0000	42
	82 1,1,2,2-Tetrachloroethane	83	10.842	10.842	(0.886)	468795	50.0000	40
	83 1,2,3-Trichloropropane	75	10.889	10.889	(0.890)	418563	50.0000	40
	84 n-Propylbenzene	120	11.005	11.005	(0.899)	339563	50.0000	44
	85 2-Chlorotoluene	126	11.110	11.110	(0.908)	318430	50.0000	42
	86 4-Chlorotoluene	126	11.261	11.261	(0.920)	344248	50.0000	43
	87 1,3,5-Trimethylbenzene	105	11.261	11.261	(0.920)	1090956	50.0000	44
	88 tert-Butylbenzene	119	11.702	11.702	(0.956)	1036050	50.0000	44
	89 1,2,4-Trimethylbenzene	105	11.772	11.772	(0.962)	1114064	50.0000	44
	90 sec-Butylbenzene	105	12.016	12.016	(0.982)	1357716	50.0000	44
	91 1,3-Dichlorobenzene	146	12.143	12.143	(0.992)	596044	50.0000	42
	92 4-Isopropyltoluene	119	12.225	12.225	(0.999)	1026274	50.0000	44
*	93 1,4-Dichlorobenzene-d4	152	12.236	12.236	(1.000)	311190	50.0000	
	94 1,4-Dichlorobenzene	146	12.271	12.271	(1.003)	617182	50.0000	42
	95 1,2-Dichlorobenzene	146	12.794	12.794	(1.046)	580966	50.0000	42
	97 n-Butylbenzene	91	12.817	12.817	(1.047)	1053736	50.0000	46
	98 Hexachloroethane	117	13.154	13.154	(1.075)	214938	50.0000	56
	99 1,2-Dibromo-3-chloropropane	75	13.909	13.909	(1.137)	54682	50.0000	32
	100 1,3,5-Trichlorobenzene	182	15.117	15.117	(2.698)	328024	50.0000	50
	101 1,2,4-Trichlorobenzene	180	15.117	15.117	(1.235)	339542	50.0000	39
	102 Hexachlorobutadiene	225	15.408	15.408	(1.259)	135098	50.0000	39
	103 Naphthalene	128	15.466	15.466	(1.264)	713456	50.0000	35
	104 1,2,3-Trichlorobenzene	180	15.826	15.826	(1.293)	272363	50.0000	36

QC Flag Legend

T - Target compound detected outside RT window.
Q - Qualifier signal failed the ratio test.

Data File: \\avogadro\organics\V5.I\130607.B\V503991.D
Date : 07-JUN-2013 14:23
Client ID: VSTD050D5
Instrument: V5.i
Sample Info: 5ML,VSTD050D5,VSTD050D5
Purge Volume: 5.0
Operator: WL SRC: WL
Column phase: DB-624
Column diameter: 0.25



Data File: \\avogadro\organics\V5.I\130607.B\V5O3993.D
Report Date: 11-Jun-2013 09:23

Spectrum Analytical, Inc. RI Division

Method 8260 Water and Medium Soil

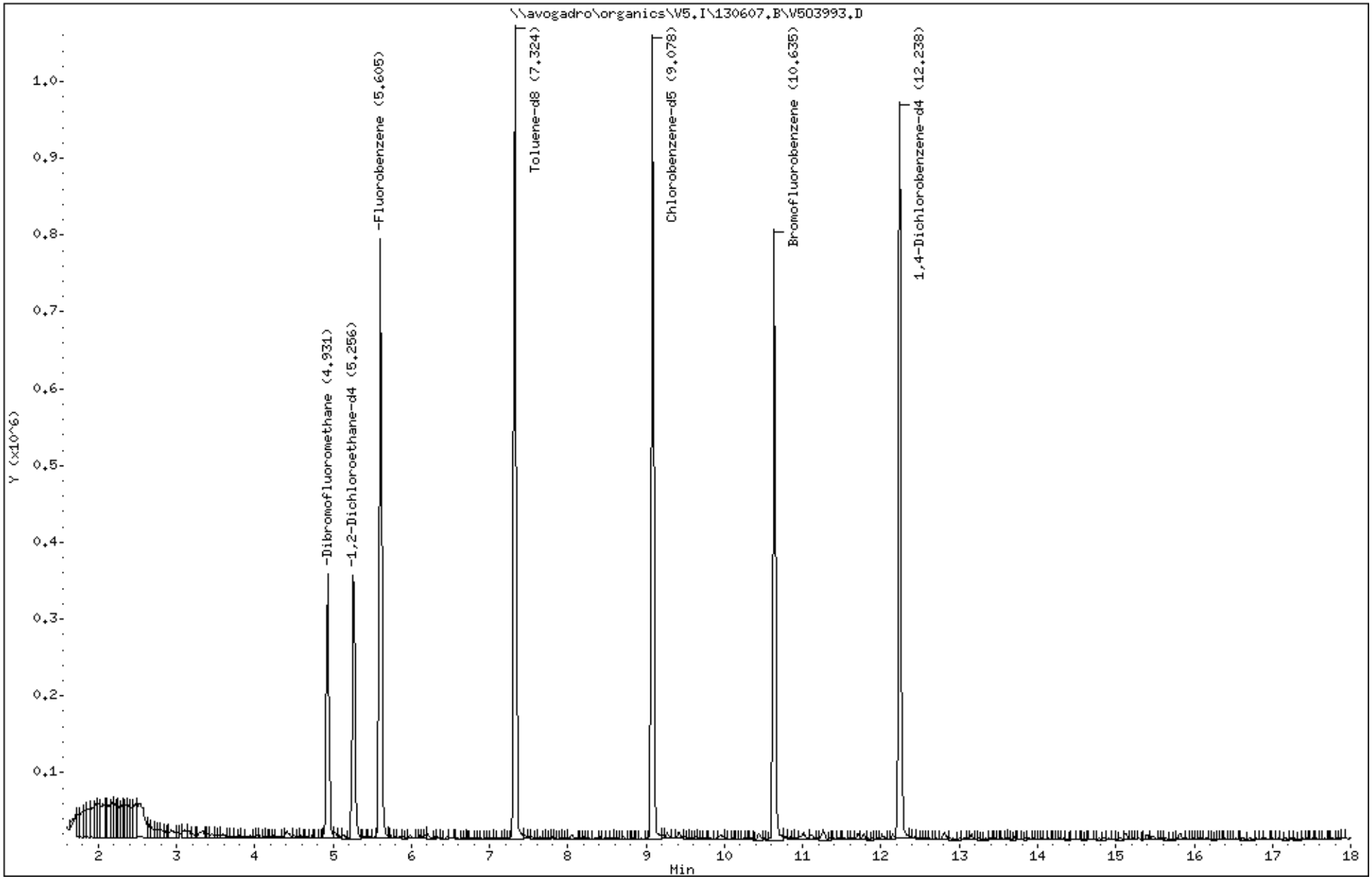
Data file : \\avogadro\organics\V5.I\130607.B\V5O3993.D
Lab Smp Id: MB-72123 Client Smp ID: VBLKD5
Inj Date : 07-JUN-2013 15:14
Operator : WL   SRC: LIMS Inst ID: V5.i
Smp Info : 5ML,MB-72123,VBLKD5,72123
Misc Info :
Comment   :
Method   : \\avogadro\organics\V5.I\130607.B\v5_8260W.m
Meth Date : 10-Jun-2013 15:40 V5.i Quant Type: ISTD
Cal Date : 30-MAY-2013 14:32 Cal File: V5O3805.D
Als bottle: 5 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: FULL.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vo	5.000	Sample Volume purged (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
$ 37 Dibromofluoromethane	113	4.930	4.929	(0.880)	257142	53.1459	53
$ 43 1,2-Dichloroethane-d4	102	5.267	5.255	(0.940)	54625	50.6938	51
* 47 Fluorobenzene	96	5.604	5.603	(1.000)	779985	50.0000	
$ 59 Toluene-d8	98	7.323	7.323	(0.807)	778971	46.4784	46
* 69 Chlorobenzene-d5	117	9.077	9.077	(1.000)	649391	50.0000	
$ 80 Bromofluorobenzene	95	10.634	10.633	(1.171)	348858	51.8860	52
* 93 1,4-Dichlorobenzene-d4	152	12.237	12.236	(1.000)	281655	50.0000	

Data File: \\avogadro\organics\V5.I\130607.B\V503993.D
Date : 07-JUN-2013 15:14
Client ID: VBLKD5
Instrument: V5.i
Sample Info: 5ML,MB-72123,VBLKD5,72123
Purge Volume: 5.0
Operator: WL SRC: LIMS
Column phase: DB-624
Column diameter: 0.25



Data File: \\avogadro\organics\V5.I\130607.B\V5O3994.D
Report Date: 11-Jun-2013 09:23

Spectrum Analytical, Inc. RI Division

Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V5.I\130607.B\V5O3994.D
Lab Smp Id: LCS-72123 Client Smp ID: VLCSD5
Inj Date : 07-JUN-2013 15:39
Operator : WL SRC: LIMS Inst ID: V5.i
Smp Info : 5ML,LCS-72123,VLCSD5,72123
Misc Info :
Comment :
Method : \\avogadro\organics\V5.I\130607.B\v5_8260W.m
Meth Date : 10-Jun-2013 15:40 V5.i Quant Type: ISTD
Cal Date : 30-MAY-2013 14:32 Cal File: V5O3805.D
Als bottle: 6 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: FULL.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vo	5.000	Sample Volume purged (mL)
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	ON-COL (ug/L)
1	Dichlorodifluoromethane	85	1.579	1.584	(0.282)	310501	50.0000	38
3	Chloromethane	50	1.718	1.735	(0.307)	762816	50.0000	50
4	Vinyl Chloride	62	1.835	1.839	(0.328)	605379	50.0000	48
5	Bromomethane	94	2.137	2.142	(0.382)	405931	50.0000	53
6	Chloroethane	64	2.230	2.234	(0.398)	351498	50.0000	51
7	Trichlorofluoromethane	101	2.439	2.444	(0.436)	484679	50.0000	50
8	Ethanol	46	2.613	2.618	(0.467)	235359	5000.00	4200(Q)
9	Ether	59	2.694	2.699	(0.481)	372267	50.0000	52(Q)
10	Acrolein	56	2.799	2.804	(0.500)	473153	250.000	260
11	1,1-Dichloroethene	96	2.892	2.908	(0.517)	330248	50.0000	46
12	1,1,2-Trichloro-1,2,2-Trifluo	101	2.915	2.920	(0.521)	323419	50.0000	51
13	Acetone	58	2.938	2.943	(0.525)	44322	50.0000	39
14	Iodomethane	142	3.031	3.036	(0.541)	574456	50.0000	47
15	Carbon Disulfide	76	3.089	3.106	(0.552)	1240740	50.0000	38
16	Acetonitrile	41	3.205	3.210	(0.573)	1611056	500.000	500
17	Allyl Chloride	39	3.205	3.210	(0.573)	667203	50.0000	54(Q)
18	Methyl Acetate	43	3.229	3.233	(0.577)	560159	50.0000	47
19	Methylene Chloride	84	3.322	3.326	(0.593)	432676	50.0000	49
20	tert-Butanol	59	3.426	3.431	(0.612)	73374	100.000	84
21	Acrylonitrile	53	3.531	3.536	(0.631)	170177	50.0000	51
22	trans-1,2-Dichloroethene	96	3.566	3.570	(0.637)	359567	50.0000	47
23	Methyl tert-butyl ether	73	3.566	3.570	(0.637)	982631	50.0000	49
24	1,1-Dichloroethane	63	3.937	3.942	(0.703)	812576	50.0000	52

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
25	Vinyl acetate	43	3.995	4.000	(0.714)	1599994	50.0000	52
26	Diisopropyl Ether	45	4.007	4.012	(0.716)	1998556	50.0000	55
27	2-Chloro-1,3-Butadiene	53	4.030	4.035	(0.720)	596067	50.0000	52
28	Ethyl tert-butyl ether	59	4.344	4.349	(0.776)	1346241	50.0000	52
29	cis-1,2-Dichloroethene	96	4.472	4.476	(0.799)	403093	50.0000	50
30	2,2-Dichloropropane	77	4.483	4.488	(0.801)	379598	50.0000	50
31	2-Butanone	72	4.483	4.488	(0.801)	45065	50.0000	48
32	Propionitrile	54	4.530	4.535	(0.809)	587980	500.000	470
33	Methacrylonitrile	41	4.681	4.686	(0.836)	669878	100.000	100
34	Bromochloromethane	128	4.692	4.697	(0.838)	195796	50.0000	51
35	Tetrahydrofuran	72	4.750	4.755	(0.849)	88970	100.000	91
36	Chloroform	83	4.774	4.778	(0.853)	669241	50.0000	53
$ 37	Dibromofluoromethane	113	4.925	4.929	(0.880)	254800	50.0000	52
38	1,1,1-Trichloroethane	97	4.960	4.964	(0.886)	438570	50.0000	50
39	Cyclohexane	56	5.029	5.022	(0.898)	651777	50.0000	50
40	1,1-Dichloropropene	110	5.122	5.127	(0.915)	159253	50.0000	47
41	Carbon Tetrachloride	117	5.134	5.127	(0.917)	348219	50.0000	50
42	Isobutyl Alcohol	43	5.215	5.220	(0.932)	401801	1000.00	900
$ 43	1,2-Dichloroethane-d4	102	5.262	5.255	(0.940)	53982	50.0000	50
44	Benzene	78	5.320	5.324	(0.950)	1427322	50.0000	52
45	1,2-Dichloroethane	62	5.331	5.336	(0.952)	552322	50.0000	56
46	tert-Amyl methyl ether	73	5.436	5.441	(0.971)	993205	50.0000	50
* 47	Fluorobenzene	96	5.598	5.603	(1.000)	788569	50.0000	
48	Trichloroethene	130	5.982	5.987	(1.068)	317305	50.0000	46
49	Methylcyclohexane	83	6.191	6.196	(1.106)	428831	50.0000	52
50	1,2-Dichloropropane	63	6.214	6.219	(1.110)	465016	50.0000	54
51	Dibromomethane	93	6.330	6.335	(1.131)	273149	50.0000	52
52	Methyl Methacrylate	69	6.330	6.335	(1.131)	269529	50.0000	45
53	1,4-Dioxane	88	6.354	6.358	(1.135)	55431	1000.00	760
54	Bromodichloromethane	83	6.505	6.509	(1.162)	494351	50.0000	54
M 55	1,2-Dichloroethene (Total)	96				762660	100.000	97
56	2-Chloroethyl vinyl ether	63	7.004	7.009	(1.251)	4043	50.0000	29(T)
57	cis-1,3-Dichloropropene	75	7.004	7.009	(1.251)	627488	50.0000	53
58	4-Methyl-2-pentanone	43	7.190	7.183	(1.284)	557010	50.0000	49
$ 59	Toluene-d8	98	7.318	7.323	(0.807)	791763	50.0000	46
60	Toluene	91	7.399	7.404	(1.322)	1299964	50.0000	52
61	trans-1,3-Dichloropropene	75	7.643	7.648	(1.365)	539643	50.0000	53
62	Ethyl Methacrylate	69	7.771	7.776	(1.388)	316906	50.0000	46
63	1,1,2-Trichloroethane	97	7.864	7.868	(1.405)	309298	50.0000	48
64	Tetrachloroethene	164	8.050	8.054	(0.887)	233196	50.0000	37
65	1,3-Dichloropropane	76	8.073	8.066	(0.890)	567696	50.0000	44
66	2-Hexanone	43	8.177	8.182	(0.901)	368913	50.0000	41
67	Dibromochloromethane	129	8.340	8.345	(0.919)	331020	50.0000	44
68	1,2-Dibromoethane	107	8.479	8.484	(0.935)	359640	50.0000	43
* 69	Chlorobenzene-d5	117	9.072	9.077	(1.000)	658540	50.0000	
70	1-Chlorohexane	91	9.095	9.100	(1.003)	449977	50.0000	42(Q)
71	Chlorobenzene	112	9.118	9.111	(1.005)	844608	50.0000	44
72	1,1,1,2-Tetrachloroethane	131	9.223	9.216	(1.017)	289108	50.0000	42
73	Ethylbenzene	106	9.269	9.262	(1.022)	426414	50.0000	42
74	m,p-Xylene	106	9.420	9.413	(1.038)	1063411	100.000	86
75	o-Xylene	106	9.943	9.936	(1.096)	533577	50.0000	44
76	Styrene	104	9.955	9.959	(1.097)	828199	50.0000	46
77	Bromoform	173	10.187	10.180	(1.123)	187690	50.0000	41
78	Isopropylbenzene	105	10.443	10.436	(1.151)	1276254	50.0000	43

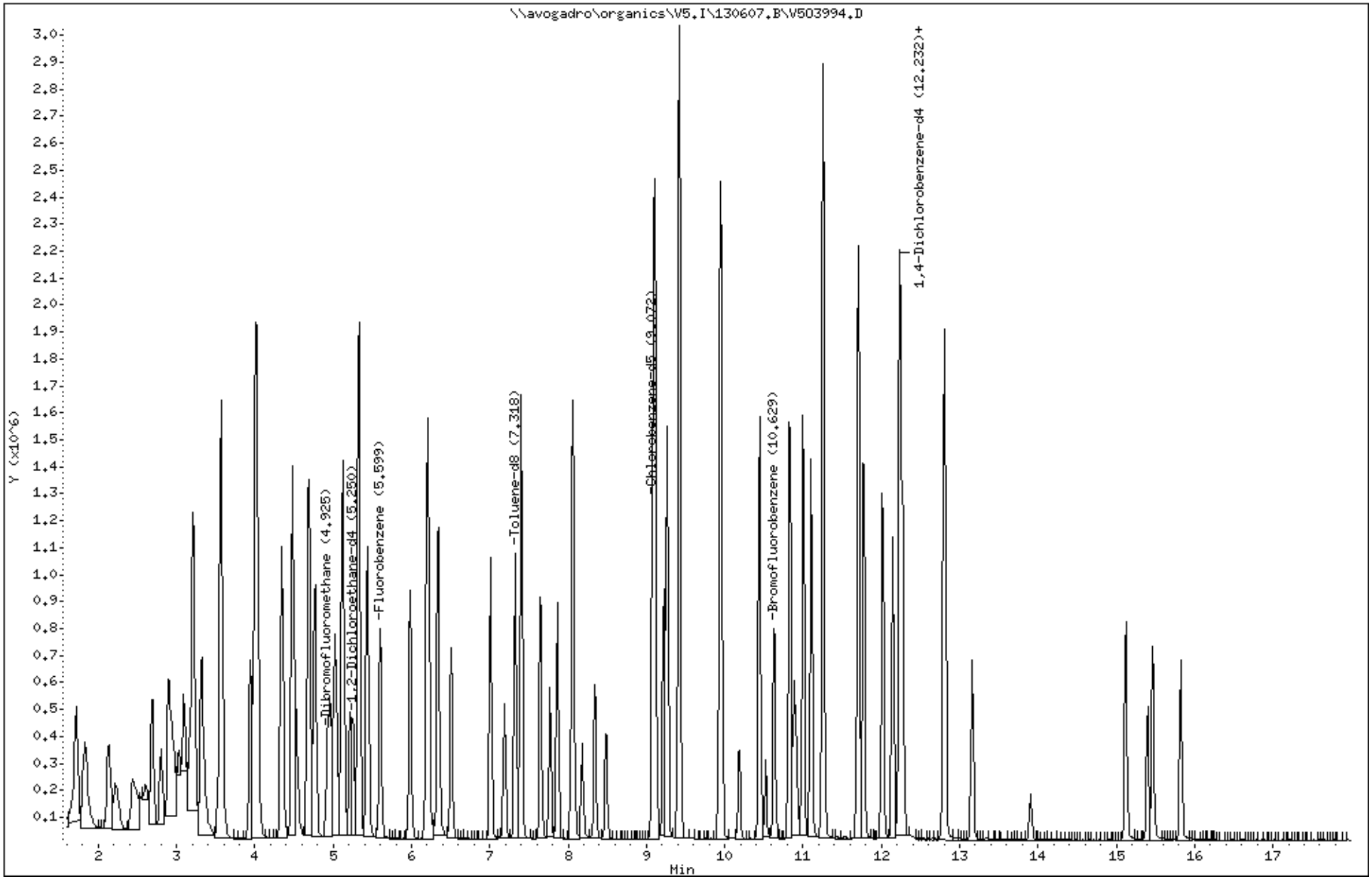
Data File: \\avogadro\organics\V5.I\130607.B\V5O3994.D
Report Date: 11-Jun-2013 09:23

			QUANT SIG					AMOUNTS	
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/L)	ON-COL (ug/L)
	79	trans-1,4-Dichloro-2-butene	75	10.524	10.517	(1.160)	80667	50.0000	36
$	80	Bromofluorobenzene	95	10.628	10.633	(1.172)	367036	50.0000	54
	81	Bromobenzene	156	10.826	10.831	(0.884)	332276	50.0000	40
	82	1,1,2,2-Tetrachloroethane	83	10.838	10.842	(0.885)	459374	50.0000	40
	83	1,2,3-Trichloropropane	75	10.896	10.889	(0.890)	409679	50.0000	40
	84	n-Propylbenzene	120	11.000	11.005	(0.898)	311042	50.0000	41
	85	2-Chlorotoluene	126	11.105	11.110	(0.907)	298208	50.0000	40
	86	4-Chlorotoluene	126	11.256	11.261	(0.919)	313970	50.0000	40
	87	1,3,5-Trimethylbenzene	105	11.256	11.261	(0.919)	1019062	50.0000	42
	88	tert-Butylbenzene	119	11.709	11.702	(0.956)	950579	50.0000	41
	89	1,2,4-Trimethylbenzene	105	11.778	11.772	(0.962)	1033449	50.0000	42
	90	sec-Butylbenzene	105	12.011	12.016	(0.981)	1227904	50.0000	40
	91	1,3-Dichlorobenzene	146	12.150	12.143	(0.992)	560875	50.0000	40
	92	4-Isopropyltoluene	119	12.231	12.225	(0.999)	925062	50.0000	40
*	93	1,4-Dichlorobenzene-d4	152	12.243	12.236	(1.000)	306088	50.0000	
	94	1,4-Dichlorobenzene	146	12.278	12.271	(1.003)	590355	50.0000	41
	95	1,2-Dichlorobenzene	146	12.789	12.794	(1.045)	546584	50.0000	41
M	96	Xylene (Total)	106				1596988	150.000	130
	97	n-Butylbenzene	91	12.812	12.817	(1.046)	937951	50.0000	42
	98	Hexachloroethane	117	13.161	13.154	(1.075)	189385	50.0000	50
	99	1,2-Dibromo-3-chloropropane	75	13.904	13.909	(1.136)	54283	50.0000	33
	100	1,3,5-Trichlorobenzene	182	15.124	15.117	(2.701)	312851	50.0000	48
	101	1,2,4-Trichlorobenzene	180	15.124	15.117	(1.235)	326317	50.0000	38
	102	Hexachlorobutadiene	225	15.403	15.408	(1.258)	117682	50.0000	34
	103	Naphthalene	128	15.461	15.466	(1.263)	677366	50.0000	34
	104	1,2,3-Trichlorobenzene	180	15.821	15.826	(1.292)	258886	50.0000	35

QC Flag Legend

T - Target compound detected outside RT window.
Q - Qualifier signal failed the ratio test.

Data File: \\avogadro\organics\V5.I\130607.B\V503994.D
Date : 07-JUN-2013 15:39
Client ID: VLCSD5
Instrument: V5.i
Sample Info: 5ML,LCS-72123,VLCSD5,72123
Purge Volume: 5.0
Operator: WL SRC: LIMS
Column phase: DB-624
Column diameter: 0.25



Data File: \\avogadro\organics\V5.I\130607.B\V5O3995.D
Report Date: 11-Jun-2013 09:23

Spectrum Analytical, Inc. RI Division

Method 8260 Water and Medium Soil

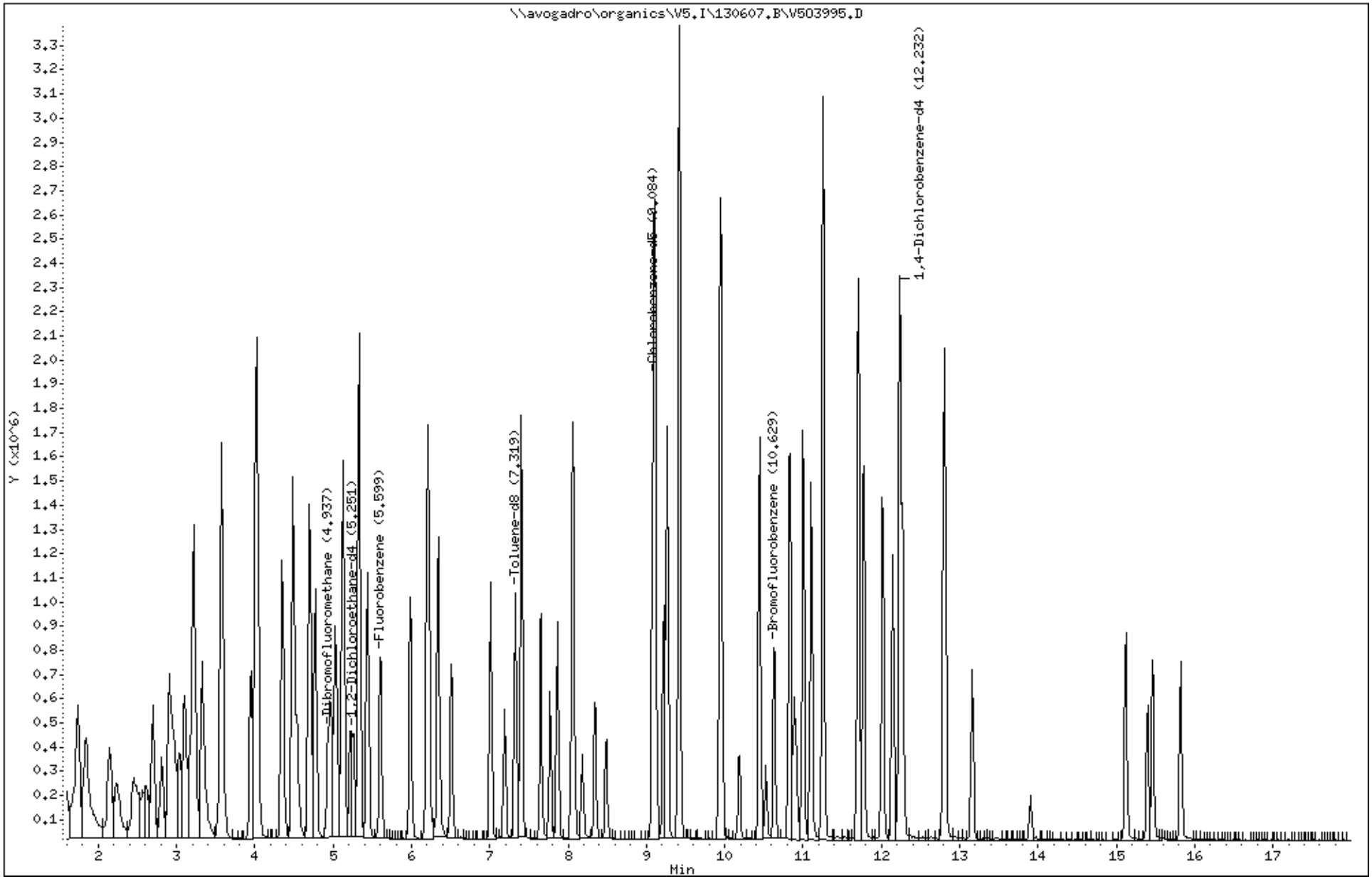
Data file : \\avogadro\organics\V5.I\130607.B\V5O3995.D
Lab Smp Id: M0903-06AMS Client Smp ID: MW17-060413MS
Inj Date : 07-JUN-2013 16:05
Operator : WL   SRC: LIMS Inst ID: V5.i
Smp Info : 5ML,M0903-06AMS,,72123
Misc Info :
Comment   :
Method   : \\avogadro\organics\V5.I\130607.B\v5_8260W.m
Meth Date : 10-Jun-2013 15:40 V5.i Quant Type: ISTD
Cal Date : 30-MAY-2013 14:32 Cal File: V5O3805.D
Als bottle: 7 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: BEX.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vo	5.000	Sample Volume purged (mL)
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	ON-COL (ug/L)
$	37 Dibromofluoromethane	113	4.937	4.929	(0.880)	262271	50.0000	53
$	43 1,2-Dichloroethane-d4	102	5.262	5.255	(0.938)	51458	50.0000	47
	44 Benzene	78	5.332	5.324	(0.950)	1521065	50.0000	56
*	47 Fluorobenzene	96	5.610	5.603	(1.000)	793004	50.0000	
$	59 Toluene-d8	98	7.318	7.323	(0.806)	800340	50.0000	46
*	69 Chlorobenzene-d5	117	9.084	9.077	(1.000)	665941	50.0000	
	73 Ethylbenzene	106	9.270	9.262	(1.020)	471067	50.0000	46
	74 m,p-Xylene	106	9.421	9.413	(1.037)	1148662	100.000	92
	75 o-Xylene	106	9.943	9.936	(1.095)	586459	50.0000	48
$	80 Bromofluorobenzene	95	10.629	10.633	(1.170)	365270	50.0000	53
*	93 1,4-Dichlorobenzene-d4	152	12.244	12.236	(1.000)	312009	50.0000	
M	96 Xylene (Total)	106				1735121	150.000	140

Data File: \\avogadro\organics\V5.I\130607.B\V503995.D
Date : 07-JUN-2013 16:05
Client ID: MW17-060413MS
Instrument: V5.i
Sample Info: 5ML,M0903-06AMS,,72123
Purge Volume: 5.0
Operator: WL SRC: LIMS
Column phase: DB-624
Column diameter: 0.25



Data File: \\avogadro\organics\V5.I\130607.B\V5O3996.D
Report Date: 11-Jun-2013 09:23

Spectrum Analytical, Inc. RI Division

Method 8260 Water and Medium Soil

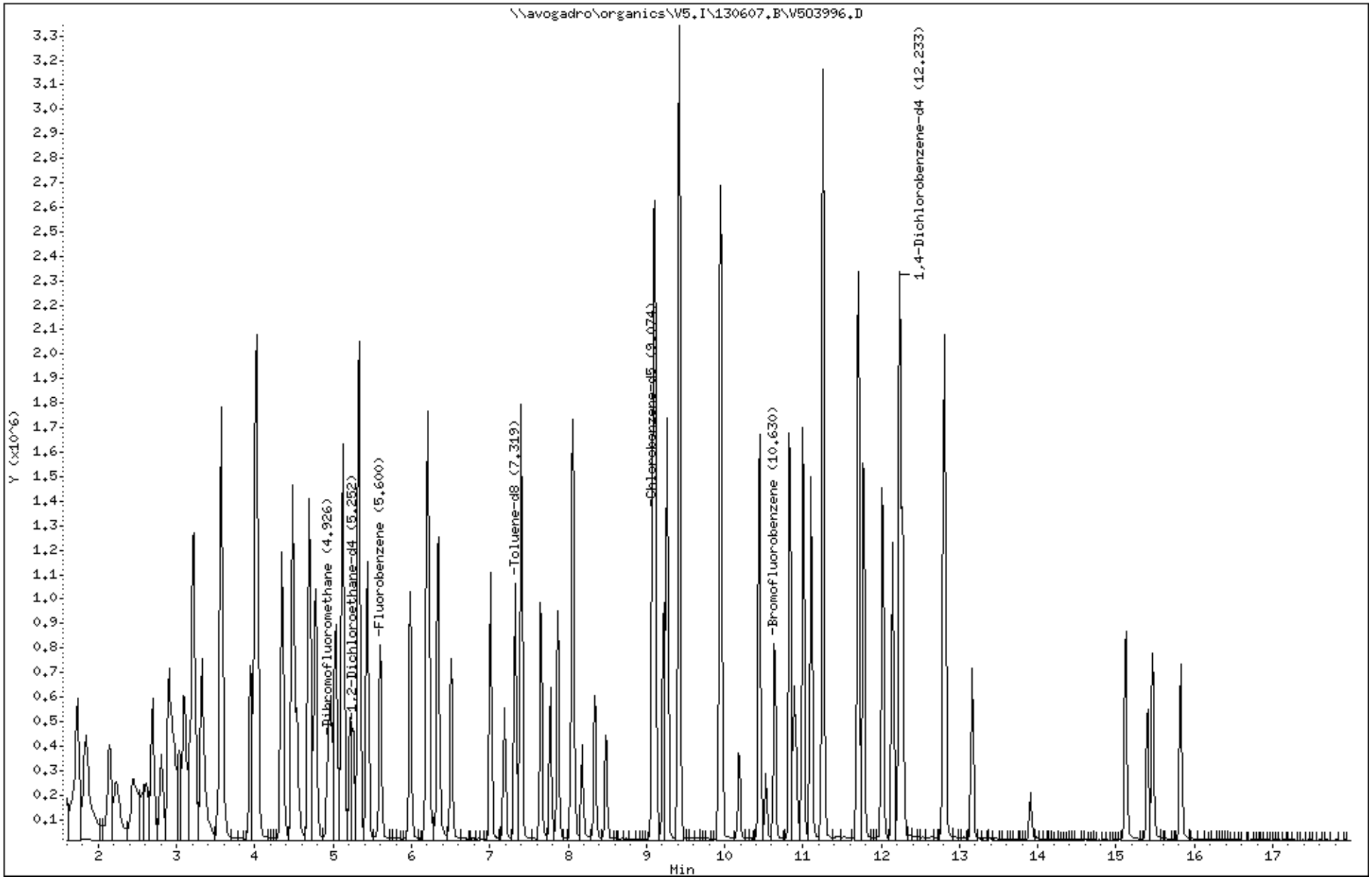
Data file : \\avogadro\organics\V5.I\130607.B\V5O3996.D
Lab Smp Id: M0903-06AMSD Client Smp ID: MW17-060413MSD
Inj Date : 07-JUN-2013 16:30
Operator : WL   SRC: LIMS Inst ID: V5.i
Smp Info : 5ML,M0903-06AMSD,,72123
Misc Info :
Comment   :
Method   : \\avogadro\organics\V5.I\130607.B\v5_8260W.m
Meth Date : 10-Jun-2013 15:40 V5.i Quant Type: ISTD
Cal Date : 30-MAY-2013 14:32 Cal File: V5O3805.D
Als bottle: 8 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: BEX.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vo	5.000	Sample Volume purged (mL)
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	ON-COL (ug/L)
$	37 Dibromofluoromethane	113	4.926	4.929	(0.880)	260694	50.0000	53
$	43 1,2-Dichloroethane-d4	102	5.263	5.255	(0.940)	54131	50.0000	50
	44 Benzene	78	5.332	5.324	(0.952)	1523587	50.0000	56
*	47 Fluorobenzene	96	5.600	5.603	(1.000)	790614	50.0000	
$	59 Toluene-d8	98	7.319	7.323	(0.807)	796718	50.0000	46
*	69 Chlorobenzene-d5	117	9.073	9.077	(1.000)	667620	50.0000	
	73 Ethylbenzene	106	9.270	9.262	(1.022)	472644	50.0000	46
	74 m,p-Xylene	106	9.422	9.413	(1.038)	1158875	100.000	93
	75 o-Xylene	106	9.944	9.936	(1.096)	574591	50.0000	46
$	80 Bromofluorobenzene	95	10.630	10.633	(1.172)	366940	50.0000	53
*	93 1,4-Dichlorobenzene-d4	152	12.244	12.236	(1.000)	304729	50.0000	
M	96 Xylene (Total)	106				1733466	150.000	140

Data File: \\avogadro\organics\V5.I\130607.B\V503996.D
Date : 07-JUN-2013 16:30
Client ID: MW17-060413MSD
Instrument: V5.i
Sample Info: 5ML,M0903-06AMSD,,72123
Purge Volume: 5.0
Operator: WL SRC: LIMS
Column phase: DB-624
Column diameter: 0.25



Data File: \\avogadro\organics\V5.I\130607.B\V5O4002.D
Report Date: 11-Jun-2013 09:23

Spectrum Analytical, Inc. RI Division

Method 8260 Water and Medium Soil

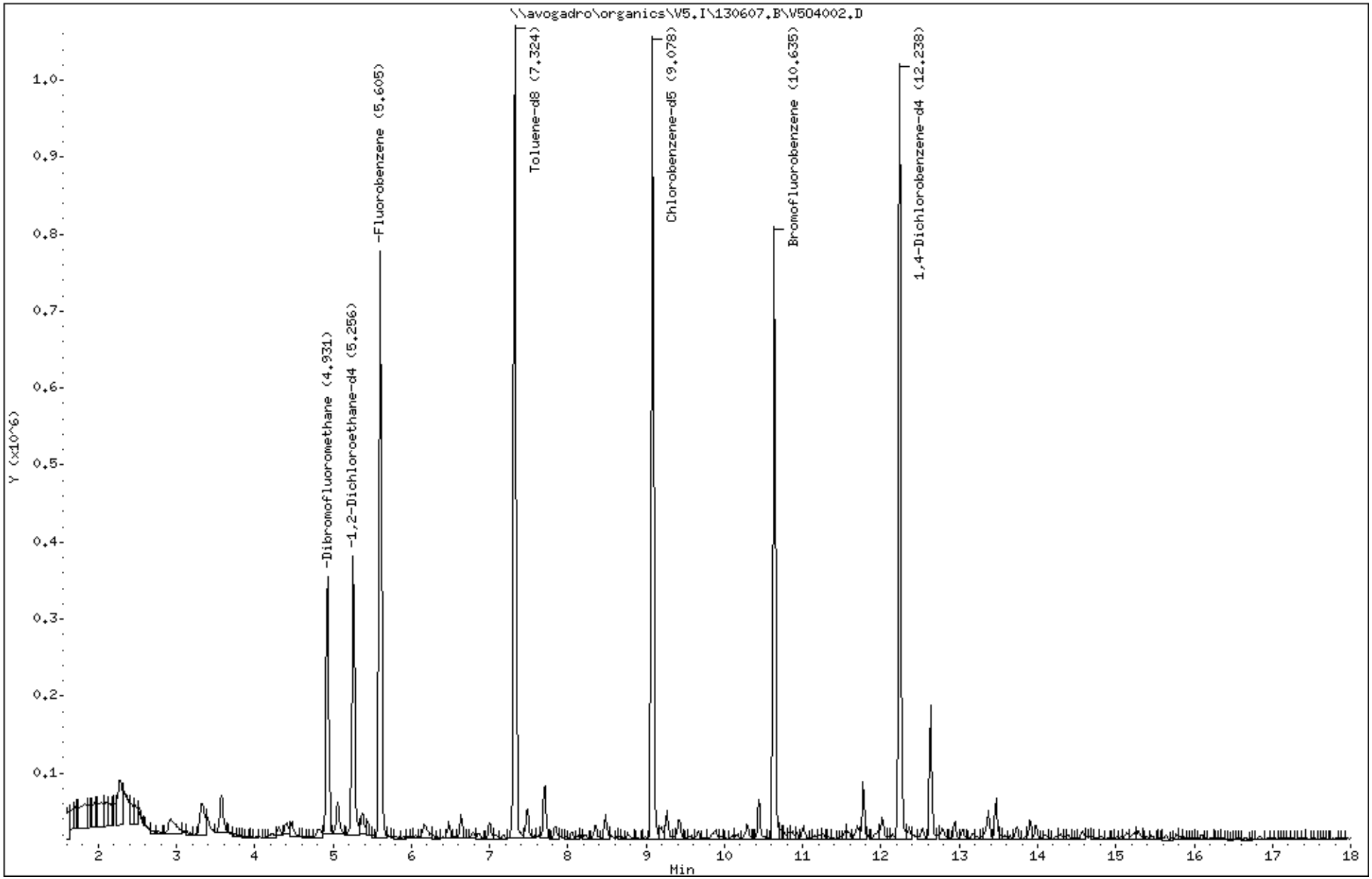
Data file : \\avogadro\organics\V5.I\130607.B\V5O4002.D
Lab Smp Id: M0903-01A Client Smp ID: MW112-060413
Inj Date : 07-JUN-2013 19:04
Operator : WL   SRC: LIMS Inst ID: V5.i
Smp Info : 5ML,M0903-01A,,72123
Misc Info :
Comment   :
Method   : \\avogadro\organics\V5.I\130607.B\v5_8260W.m
Meth Date : 10-Jun-2013 15:40 V5.i Quant Type: ISTD
Cal Date : 30-MAY-2013 14:32 Cal File: V5O3805.D
Als bottle: 14
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: BEX.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vo	5.000	Sample Volume purged (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
$ 37 Dibromofluoromethane	113	4.930	4.929	(0.880)	264287	53.4753	53
$ 43 1,2-Dichloroethane-d4	102	5.256	5.255	(0.938)	55884	50.7729	51
* 47 Fluorobenzene	96	5.604	5.603	(1.000)	796720	50.0000	
$ 59 Toluene-d8	98	7.324	7.323	(0.807)	791782	47.0192	47
* 69 Chlorobenzene-d5	117	9.078	9.077	(1.000)	652480	50.0000	
$ 80 Bromofluorobenzene	95	10.634	10.633	(1.171)	357595	52.9337	53
* 93 1,4-Dichlorobenzene-d4	152	12.237	12.236	(1.000)	284647	50.0000	

Data File: \\avogadro\organics\V5.I\130607.B\V504002.D
Date : 07-JUN-2013 19:04
Client ID: MW112-060413
Instrument: V5.i
Sample Info: 5ML,M0903-01A,,72123
Purge Volume: 5.0
Operator: WL SRC: LIMS
Column phase: DB-624
Column diameter: 0.25



M0903

Data File: \\avogadro\organics\V5.I\130607.B\V5O4003.D
Report Date: 11-Jun-2013 09:23

Spectrum Analytical, Inc. RI Division

Method 8260 Water and Medium Soil

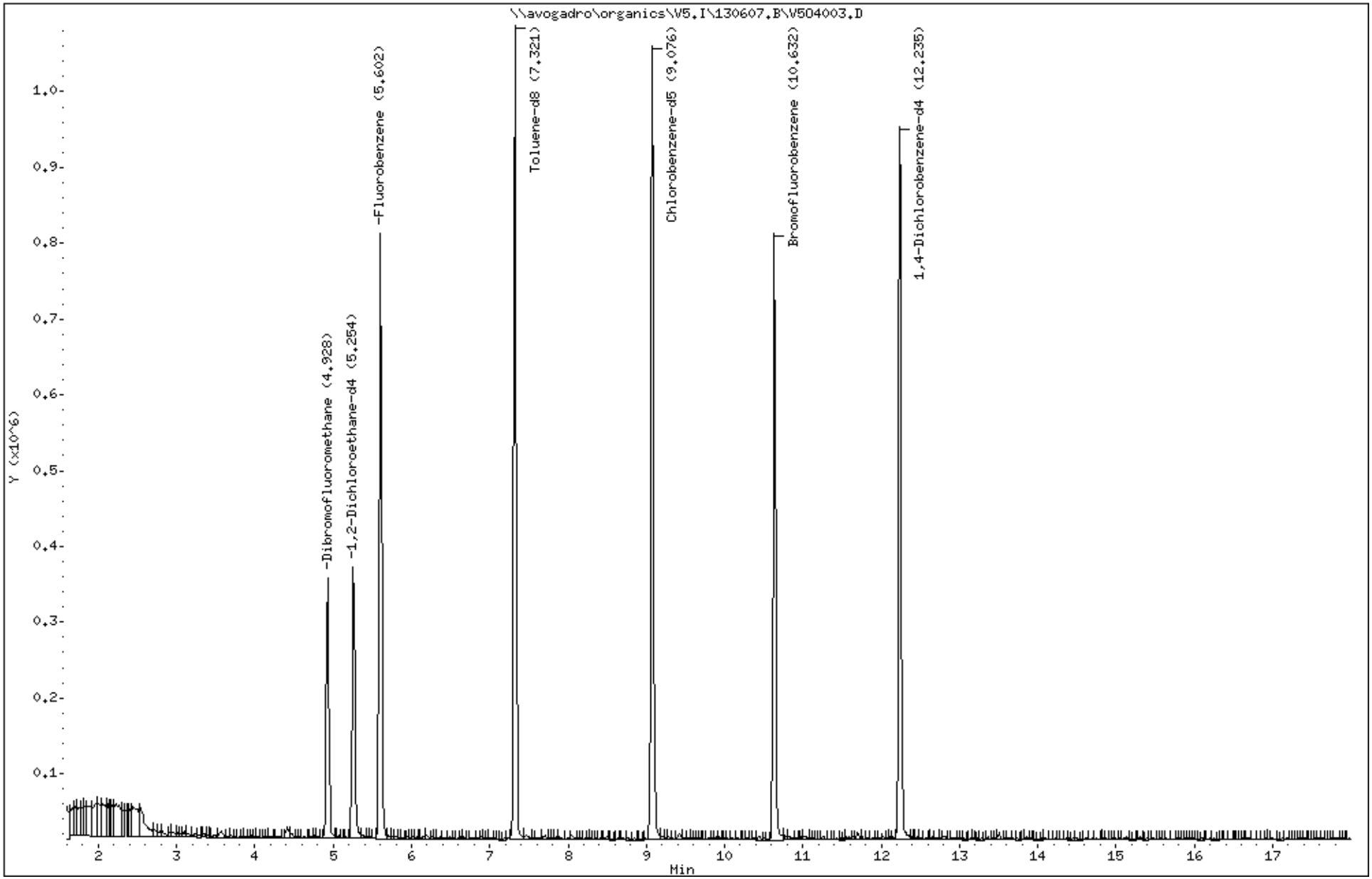
Data file : \\avogadro\organics\V5.I\130607.B\V5O4003.D
Lab Smp Id: M0903-02A Client Smp ID: MW106-060413
Inj Date : 07-JUN-2013 19:30
Operator : WL   SRC: LIMS Inst ID: V5.i
Smp Info : 5ML,M0903-02A,,72123
Misc Info :
Comment   :
Method   : \\avogadro\organics\V5.I\130607.B\v5_8260W.m
Meth Date : 10-Jun-2013 15:40 V5.i Quant Type: ISTD
Cal Date : 30-MAY-2013 14:32 Cal File: V5O3805.D
Als bottle: 15
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: BEX.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vo	5.000	Sample Volume purged (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
$ 37 Dibromofluoromethane	113	4.928	4.929	(0.880)	255948	51.4857	51
$ 43 1,2-Dichloroethane-d4	102	5.253	5.255	(0.938)	54986	49.6654	50
* 47 Fluorobenzene	96	5.602	5.603	(1.000)	801398	50.0000	
$ 59 Toluene-d8	98	7.321	7.323	(0.807)	795684	46.8504	47
* 69 Chlorobenzene-d5	117	9.075	9.077	(1.000)	658057	50.0000	
$ 80 Bromofluorobenzene	95	10.632	10.633	(1.172)	356390	52.3082	52
* 93 1,4-Dichlorobenzene-d4	152	12.235	12.236	(1.000)	280142	50.0000	

Data File: \\avogadro\organics\V5.I\130607.B\V504003.D
Date : 07-JUN-2013 19:30
Client ID: MW106-060413
Instrument: V5.i
Sample Info: 5ML,M0903-02A,,72123
Purge Volume: 5.0
Operator: WL SRC: LIMS
Column phase: DB-624
Column diameter: 0.25



Data File: \\avogadro\organics\V5.I\130607.B\V5O4004.D
Report Date: 11-Jun-2013 09:23

Spectrum Analytical, Inc. RI Division

Method 8260 Water and Medium Soil

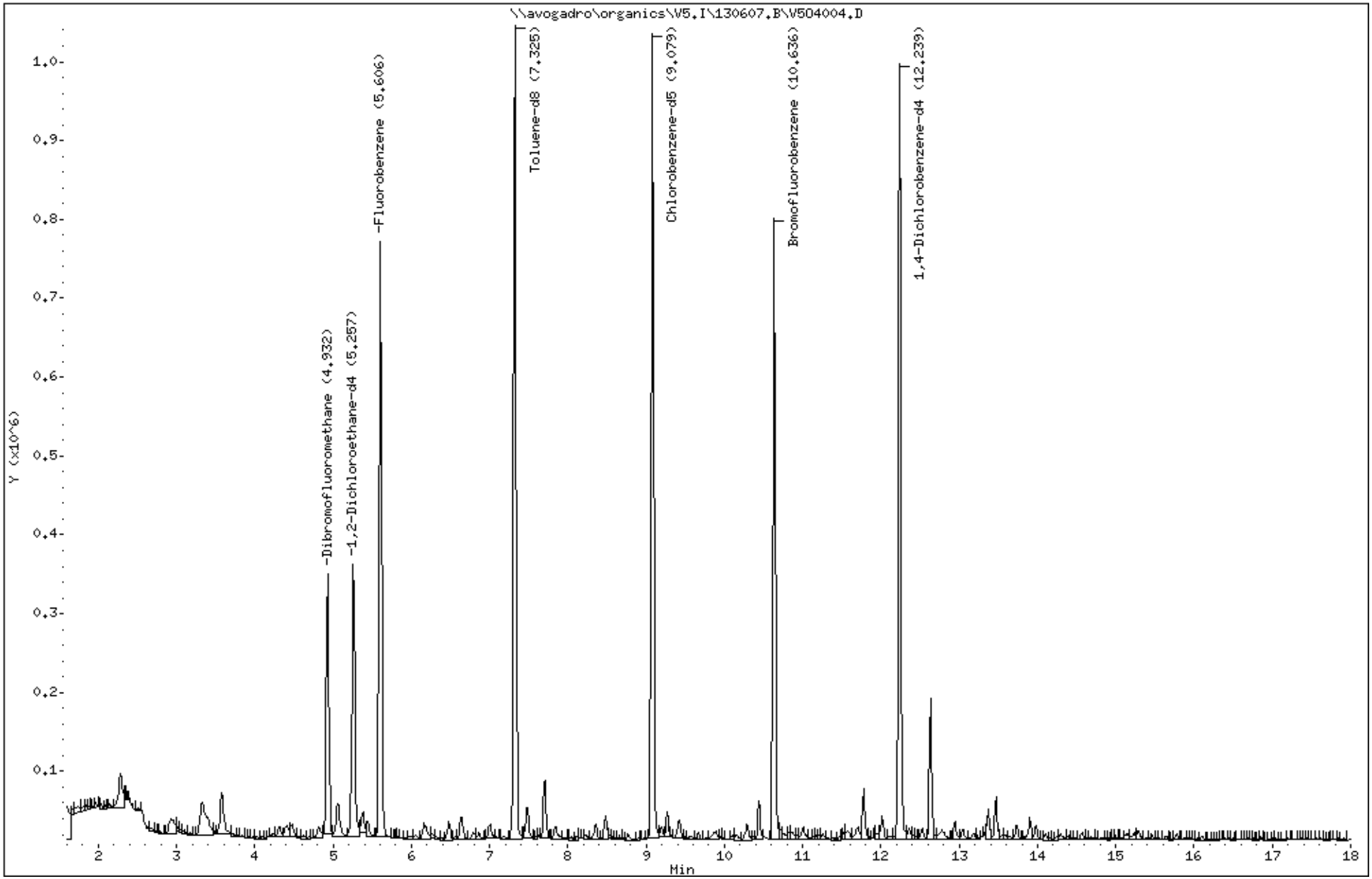
Data file : \\avogadro\organics\V5.I\130607.B\V5O4004.D
Lab Smp Id: M0903-03A Client Smp ID: DUP-060413
Inj Date : 07-JUN-2013 19:56
Operator : WL   SRC: LIMS Inst ID: V5.i
Smp Info : 5ML,M0903-03A,,72123
Misc Info :
Comment   :
Method   : \\avogadro\organics\V5.I\130607.B\v5_8260W.m
Meth Date : 10-Jun-2013 15:40 V5.i Quant Type: ISTD
Cal Date : 30-MAY-2013 14:32 Cal File: V5O3805.D
Als bottle: 16
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: BEX.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vo	5.000	Sample Volume purged (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
$ 37 Dibromofluoromethane	113	4.931	4.929	(0.880)	253232	52.5839	52
$ 43 1,2-Dichloroethane-d4	102	5.268	5.255	(0.940)	51725	48.2283	48
* 47 Fluorobenzene	96	5.605	5.603	(1.000)	776334	50.0000	
$ 59 Toluene-d8	98	7.324	7.323	(0.807)	774103	47.0149	47
* 69 Chlorobenzene-d5	117	9.078	9.077	(1.000)	637969	50.0000	
$ 80 Bromofluorobenzene	95	10.635	10.633	(1.171)	346273	52.4236	52
* 93 1,4-Dichlorobenzene-d4	152	12.238	12.236	(1.000)	274792	50.0000	

Data File: \\avogadro\organics\V5.I\130607.B\V504004.D
Date : 07-JUN-2013 19:56
Client ID: DUP-060413
Instrument: V5.i
Sample Info: 5ML,M0903-03A,,72123
Purge Volume: 5.0
Operator: WL SRC: LIMS
Column phase: DB-624
Column diameter: 0.25



Data File: \\avogadro\organics\V5.I\130607.B\V5O4005.D
Report Date: 11-Jun-2013 09:23

Spectrum Analytical, Inc. RI Division

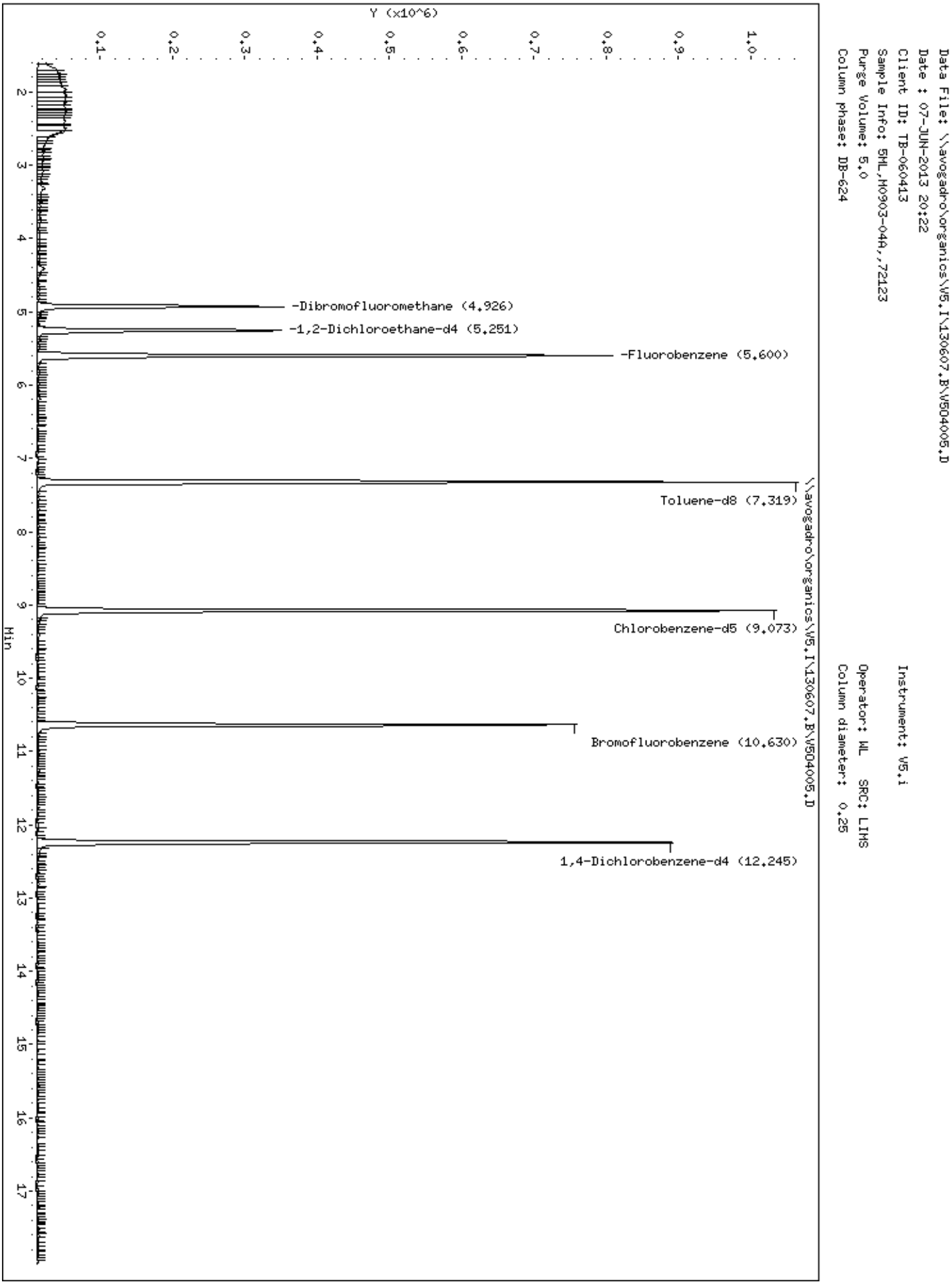
Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V5.I\130607.B\V5O4005.D
Lab Smp Id: M0903-04A Client Smp ID: TB-060413
Inj Date : 07-JUN-2013 20:22
Operator : WL   SRC: LIMS Inst ID: V5.i
Smp Info : 5ML,M0903-04A,,72123
Misc Info :
Comment   :
Method   : \\avogadro\organics\V5.I\130607.B\v5_8260W.m
Meth Date : 10-Jun-2013 15:40 V5.i Quant Type: ISTD
Cal Date : 30-MAY-2013 14:32 Cal File: V5O3805.D
Als bottle: 17
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: BEX.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vo	5.000	Sample Volume purged (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
$ 37 Dibromofluoromethane	113	4.926	4.929	(0.880)	251271	52.0223	52
$ 43 1,2-Dichloroethane-d4	102	5.251	5.255	(0.938)	51422	47.8038	48
* 47 Fluorobenzene	96	5.599	5.603	(1.000)	778639	50.0000	
$ 59 Toluene-d8	98	7.319	7.323	(0.807)	764993	46.1438	46
* 69 Chlorobenzene-d5	117	9.073	9.077	(1.000)	642363	50.0000	
$ 80 Bromofluorobenzene	95	10.629	10.633	(1.172)	340570	51.2075	51
* 93 1,4-Dichlorobenzene-d4	152	12.244	12.236	(1.000)	274583	50.0000	


Data File: \\avogadro\organics\W5,I\130607,B\W504005.D
Date : 07-JUN-2013 20:22
Client ID: TB-060413
Sample Info: 5ML,M0903-04A,,72123
Purge Volume: 5.0
Column phase: DB-624
Instrument: W5,i
Operator: WL SRC: LIMS
Column diameter: 0.25
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0.6
0.7
0.8
0.9
1.0
Min
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
-Dibromofluoromethane (4.926)
-1,2-Dichloroethane-d4 (5.251)
-Fluorobenzene (5.600)
Toluene-d8 (7.319)
Chlorobenzene-d5 (9.073)
Bromofluorobenzene (10.630)
1,4-Dichlorobenzene-d4 (12.245)
\\avogadro\organics\W5,I\130607,B\W504005.D

Data File: \\avogadro\organics\V5.I\130607.B\V5O4006.D
Report Date: 11-Jun-2013 09:23

Spectrum Analytical, Inc. RI Division

Method 8260 Water and Medium Soil

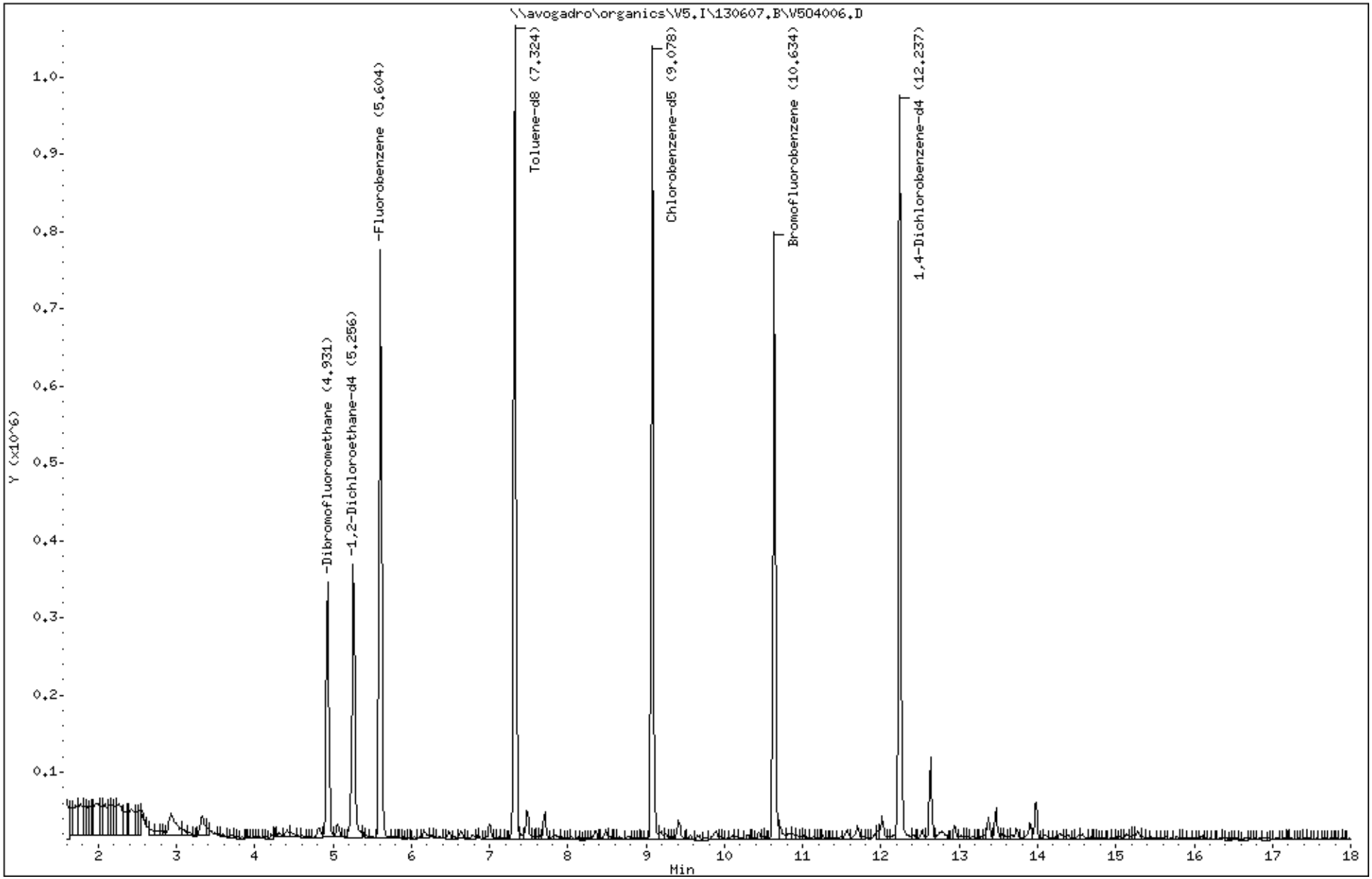
Data file : \\avogadro\organics\V5.I\130607.B\V5O4006.D
Lab Smp Id: M0903-05A Client Smp ID: MW19-060413
Inj Date : 07-JUN-2013 20:48
Operator : WL   SRC: LIMS Inst ID: V5.i
Smp Info : 5ML,M0903-05A,,72123
Misc Info :
Comment   :
Method   : \\avogadro\organics\V5.I\130607.B\v5_8260W.m
Meth Date : 10-Jun-2013 15:40 V5.i Quant Type: ISTD
Cal Date : 30-MAY-2013 14:32 Cal File: V5O3805.D
Als bottle: 18
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: BEX.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vo	5.000	Sample Volume purged (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
$ 37 Dibromofluoromethane	113	4.930	4.929	(0.880)	254418	52.6519	53
$ 43 1,2-Dichloroethane-d4	102	5.255	5.255	(0.938)	52540	48.8229	49
* 47 Fluorobenzene	96	5.604	5.603	(1.000)	778963	50.0000	
$ 59 Toluene-d8	98	7.323	7.323	(0.807)	766790	47.1352	47
* 69 Chlorobenzene-d5	117	9.077	9.077	(1.000)	630329	50.0000	
$ 80 Bromofluorobenzene	95	10.634	10.633	(1.171)	342377	52.4620	52
* 93 1,4-Dichlorobenzene-d4	152	12.237	12.236	(1.000)	278498	50.0000	

Data File: \\avogadro\organics\V5.I\130607.B\V504006.D
Date : 07-JUN-2013 20:48
Client ID: MW19-060413
Instrument: V5.i
Sample Info: 5ML,M0903-05A,,72123
Purge Volume: 5.0
Operator: WL SRC: LIMS
Column phase: DB-624
Column diameter: 0.25



M0903

Data File: \\avogadro\organics\V5.I\130607.B\V5O4007.D
Report Date: 11-Jun-2013 09:23

Spectrum Analytical, Inc. RI Division

Method 8260 Water and Medium Soil

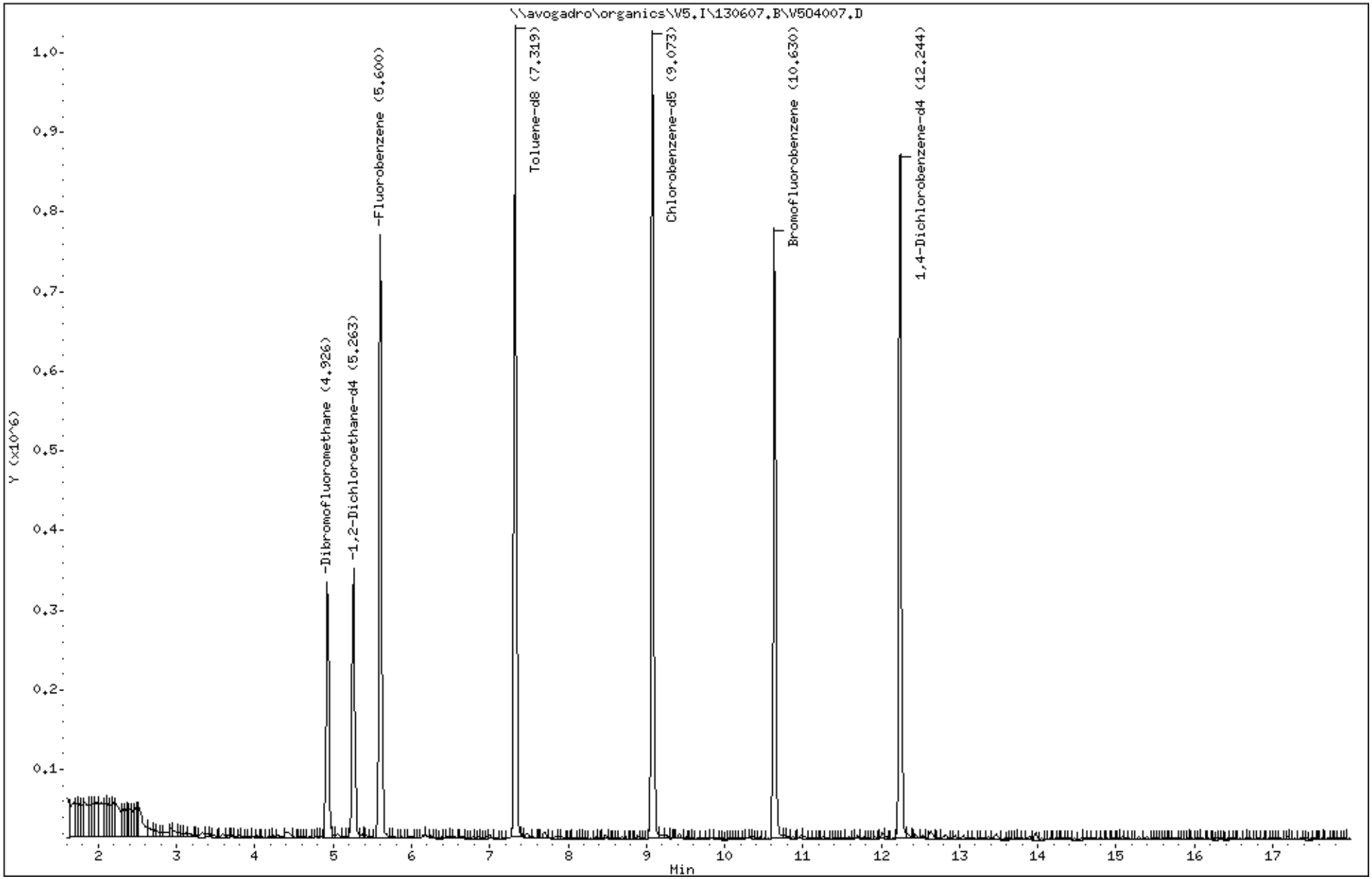
Data file : \\avogadro\organics\V5.I\130607.B\V5O4007.D
Lab Smp Id: M0903-06A Client Smp ID: MW17-060413
Inj Date : 07-JUN-2013 21:13
Operator : WL   SRC: LIMS Inst ID: V5.i
Smp Info : 5ML,M0903-06A,,72123
Misc Info :
Comment   :
Method   : \\avogadro\organics\V5.I\130607.B\v5_8260W.m
Meth Date : 10-Jun-2013 15:40 V5.i Quant Type: ISTD
Cal Date : 30-MAY-2013 14:32 Cal File: V5O3805.D
Als bottle: 19
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: BEX.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vo	5.000	Sample Volume purged (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
$ 37 Dibromofluoromethane	113	4.925	4.929	(0.880)	246721	52.1832	52
$ 43 1,2-Dichloroethane-d4	102	5.262	5.255	(0.940)	52435	49.7981	50
* 47 Fluorobenzene	96	5.599	5.603	(1.000)	762182	50.0000	
$ 59 Toluene-d8	98	7.318	7.323	(0.807)	750595	46.6596	47
* 69 Chlorobenzene-d5	117	9.073	9.077	(1.000)	623305	50.0000	
$ 80 Bromofluorobenzene	95	10.629	10.633	(1.172)	338019	52.3779	52
* 93 1,4-Dichlorobenzene-d4	152	12.244	12.236	(1.000)	264311	50.0000	

Data File: \\avogadro\organics\V5.I\130607.B\V504007.D
Date : 07-JUN-2013 21:13
Client ID: MW17-060413
Instrument: V5.i
Sample Info: 5ML,M0903-06A,,72123
Purge Volume: 5.0
Operator: WL SRC: LIMS
Column phase: DB-624
Column diameter: 0.25



Data File: \\avogadro\organics\V5.I\130607.B\V5O4008.D
Report Date: 11-Jun-2013 09:23

Spectrum Analytical, Inc. RI Division

Method 8260 Water and Medium Soil

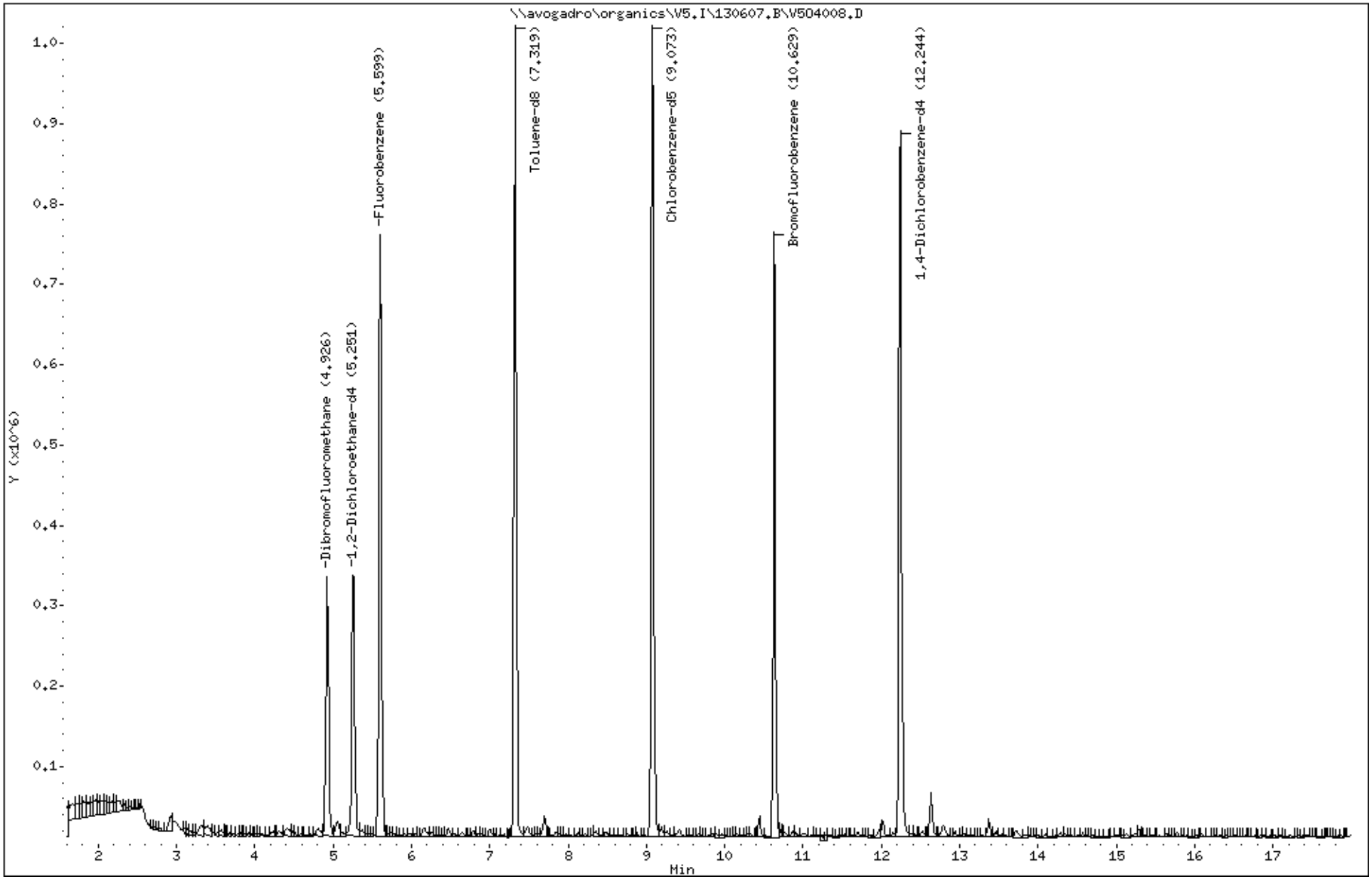
Data file : \\avogadro\organics\V5.I\130607.B\V5O4008.D
Lab Smp Id: M0903-07A Client Smp ID: MW15-060413
Inj Date : 07-JUN-2013 21:39
Operator : WL   SRC: LIMS Inst ID: V5.i
Smp Info : 5ML,M0903-07A,,72123
Misc Info :
Comment   :
Method   : \\avogadro\organics\V5.I\130607.B\v5_8260W.m
Meth Date : 10-Jun-2013 15:40 V5.i Quant Type: ISTD
Cal Date : 30-MAY-2013 14:32 Cal File: V5O3805.D
Als bottle: 20
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: BEX.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vo	5.000	Sample Volume purged (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
$ 37 Dibromofluoromethane	113	4.925	4.929	(0.880)	243192	52.1566	52
$ 43 1,2-Dichloroethane-d4	102	5.262	5.255	(0.940)	50823	48.9426	49
* 47 Fluorobenzene	96	5.599	5.603	(1.000)	751663	50.0000	
$ 59 Toluene-d8	98	7.318	7.323	(0.807)	736902	45.6317	46
* 69 Chlorobenzene-d5	117	9.072	9.077	(1.000)	625719	50.0000	
$ 80 Bromofluorobenzene	95	10.629	10.633	(1.172)	337942	52.1640	52
* 93 1,4-Dichlorobenzene-d4	152	12.244	12.236	(1.000)	264861	50.0000	

Data File: \\avogadro\organics\V5.I\130607.B\V504008.D
Date : 07-JUN-2013 21:39
Client ID: MW15-060413
Instrument: V5.i
Sample Info: 5ML,M0903-07A,,72123
Purge Volume: 5.0
Operator: WL SRC: LIMS
Column phase: DB-624
Column diameter: 0.25



Data File: \\avogadro\organics\V5.I\130607.B\V5O4009.D
Report Date: 11-Jun-2013 09:23

Spectrum Analytical, Inc. RI Division

Method 8260 Water and Medium Soil

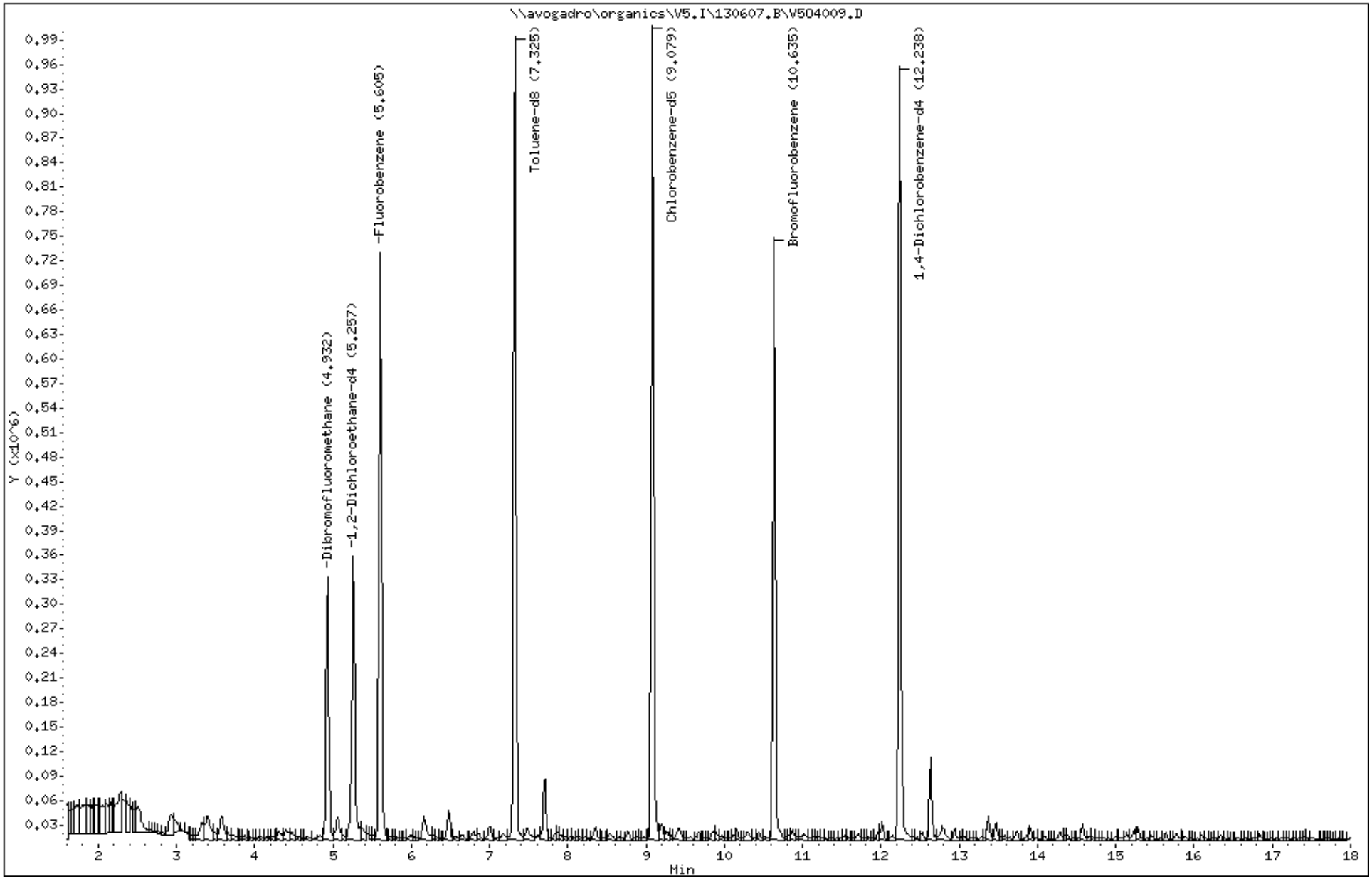
Data file : \\avogadro\organics\V5.I\130607.B\V5O4009.D
Lab Smp Id: M0903-08A Client Smp ID: MW11-060413
Inj Date : 07-JUN-2013 22:05
Operator : WL   SRC: LIMS Inst ID: V5.i
Smp Info : 5ML,M0903-08A,,72123
Misc Info :
Comment   :
Method   : \\avogadro\organics\V5.I\130607.B\v5_8260W.m
Meth Date : 10-Jun-2013 15:40 V5.i Quant Type: ISTD
Cal Date : 30-MAY-2013 14:32 Cal File: V5O3805.D
Als bottle: 21
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: BEX.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vo	5.000	Sample Volume purged (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
$ 37 Dibromofluoromethane	113	4.931	4.929	(0.880)	244252	53.3612	53
$ 43 1,2-Dichloroethane-d4	102	5.256	5.255	(0.938)	48462	47.5396	48
* 47 Fluorobenzene	96	5.605	5.603	(1.000)	737897	50.0000	
$ 59 Toluene-d8	98	7.324	7.323	(0.807)	736926	46.3178	46
* 69 Chlorobenzene-d5	117	9.078	9.077	(1.000)	616471	50.0000	
$ 80 Bromofluorobenzene	95	10.635	10.633	(1.171)	329155	51.5698	52
* 93 1,4-Dichlorobenzene-d4	152	12.238	12.236	(1.000)	261716	50.0000	

Data File: \\avogadro\organics\V5.I\130607.B\V504009.D
Date : 07-JUN-2013 22:05
Client ID: MW11-060413
Instrument: V5.i
Sample Info: 5ML,M0903-08A,,72123
Purge Volume: 5.0
Operator: WL SRC: LIMS
Column phase: DB-624
Column diameter: 0.25



Data File: \\avogadro\organics\V5.I\130607.B\V5O4010.D
Report Date: 11-Jun-2013 09:23

Spectrum Analytical, Inc. RI Division

Method 8260 Water and Medium Soil

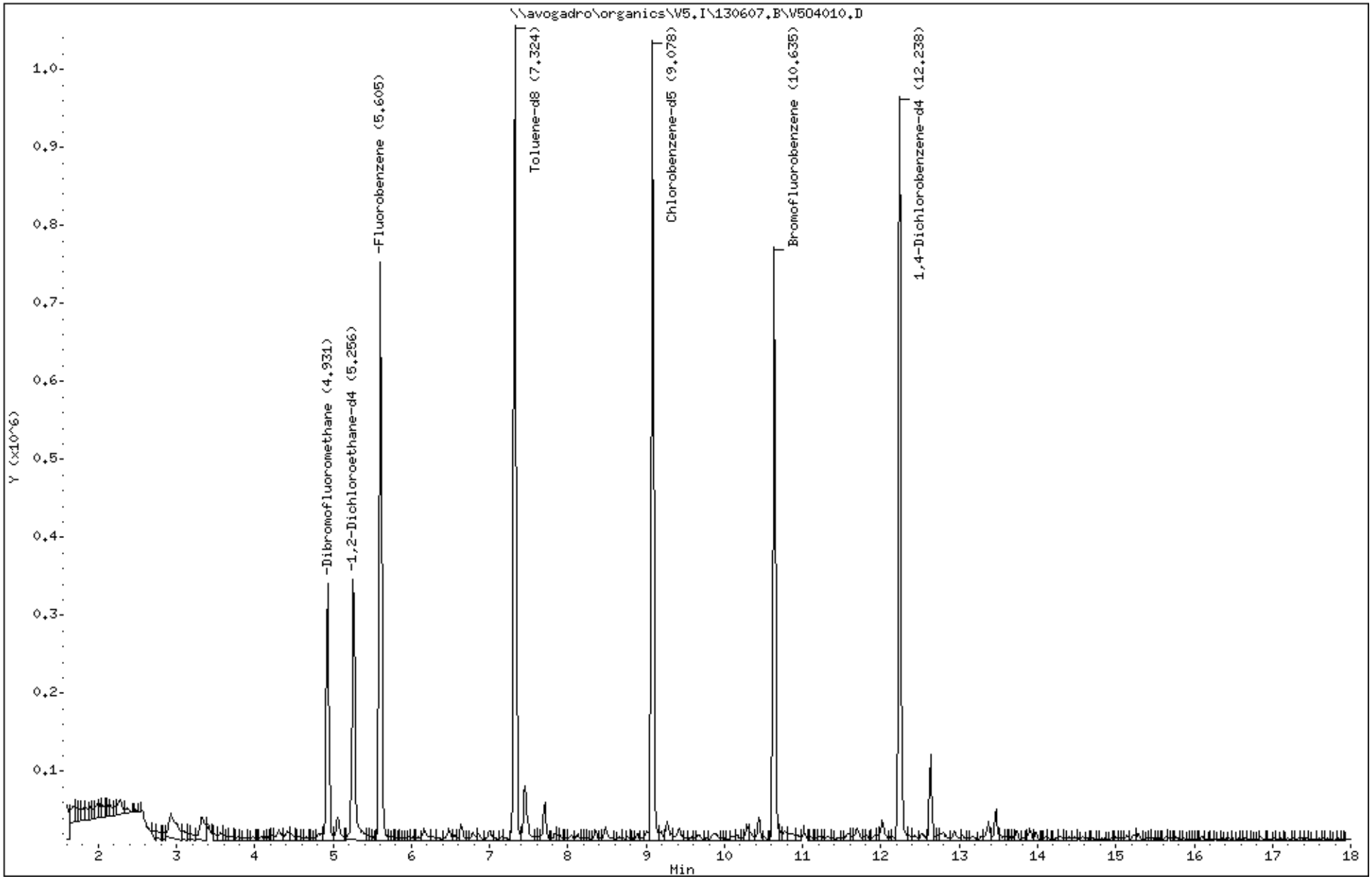
Data file : \\avogadro\organics\V5.I\130607.B\V5O4010.D
Lab Smp Id: M0903-09A Client Smp ID: MW105-060513
Inj Date : 07-JUN-2013 22:30
Operator : WL   SRC: LIMS Inst ID: V5.i
Smp Info : 5ML,M0903-09A,,72123
Misc Info :
Comment   :
Method   : \\avogadro\organics\V5.I\130607.B\v5_8260W.m
Meth Date : 10-Jun-2013 15:40 V5.i Quant Type: ISTD
Cal Date : 30-MAY-2013 14:32 Cal File: V5O3805.D
Als bottle: 22
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: BEX.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vo	5.000	Sample Volume purged (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
$ 37 Dibromofluoromethane	113	4.930	4.929	(0.880)	245456	52.9913	53
$ 43 1,2-Dichloroethane-d4	102	5.256	5.255	(0.938)	50615	49.0656	49
* 47 Fluorobenzene	96	5.604	5.603	(1.000)	746710	50.0000	
$ 59 Toluene-d8	98	7.323	7.323	(0.807)	754903	47.1343	47
* 69 Chlorobenzene-d5	117	9.078	9.077	(1.000)	620570	50.0000	
$ 80 Bromofluorobenzene	95	10.634	10.633	(1.171)	336878	52.4312	52
* 93 1,4-Dichlorobenzene-d4	152	12.237	12.236	(1.000)	269318	50.0000	

Data File: \\avogadro\organics\V5.I\130607.B\V504010.D
Date : 07-JUN-2013 22:30
Client ID: MW105-060513
Instrument: V5.i
Sample Info: 5ML,M0903-09A,,72123
Purge Volume: 5.0
Operator: WL SRC: LIMS
Column phase: DB-624
Column diameter: 0.25



Data File: \\avogadro\organics\V5.I\130607.B\V5O4011.D
Report Date: 11-Jun-2013 09:23

Spectrum Analytical, Inc. RI Division

Method 8260 Water and Medium Soil

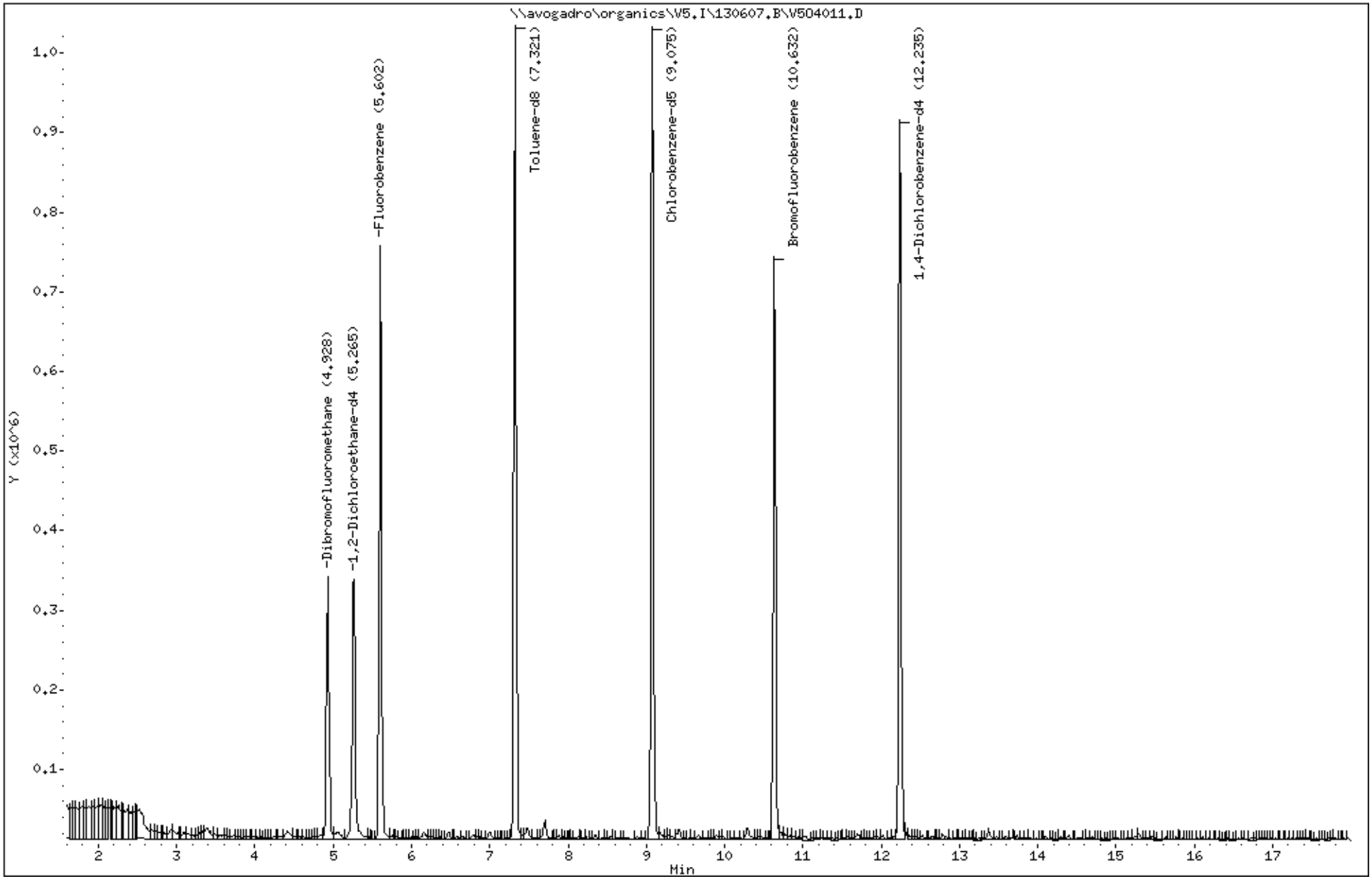
Data file : \\avogadro\organics\V5.I\130607.B\V5O4011.D
Lab Smp Id: M0903-10A Client Smp ID: MW103-060513
Inj Date : 07-JUN-2013 22:56
Operator : WL   SRC: LIMS Inst ID: V5.i
Smp Info : 5ML,M0903-10A,,72123
Misc Info :
Comment   :
Method   : \\avogadro\organics\V5.I\130607.B\v5_8260W.m
Meth Date : 10-Jun-2013 15:40 V5.i Quant Type: ISTD
Cal Date : 30-MAY-2013 14:32 Cal File: V5O3805.D
Als bottle: 23
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: BEX.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vo	5.000	Sample Volume purged (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
$ 37 Dibromofluoromethane	113	4.927	4.929	(0.880)	242943	53.2175	53
$ 43 1,2-Dichloroethane-d4	102	5.264	5.255	(0.940)	50384	49.5575	50
* 47 Fluorobenzene	96	5.601	5.603	(1.000)	735924	50.0000	
$ 59 Toluene-d8	98	7.320	7.323	(0.807)	747166	47.1280	47
* 69 Chlorobenzene-d5	117	9.074	9.077	(1.000)	614291	50.0000	
$ 80 Bromofluorobenzene	95	10.631	10.633	(1.172)	326867	51.3931	51
* 93 1,4-Dichlorobenzene-d4	152	12.234	12.236	(1.000)	257071	50.0000	

Data File: \\avogadro\organics\V5.I\130607.B\V504011.D
Date : 07-JUN-2013 22:56
Client ID: MW103-060513
Instrument: V5.i
Sample Info: 5ML,M0903-10A,,72123
Purge Volume: 5.0
Operator: WL SRC: LIMS
Column phase: DB-624
Column diameter: 0.25



Data File: \\avogadro\organics\V5.I\130607.B\V5O4012.D
Report Date: 11-Jun-2013 09:23

Spectrum Analytical, Inc. RI Division

Method 8260 Water and Medium Soil

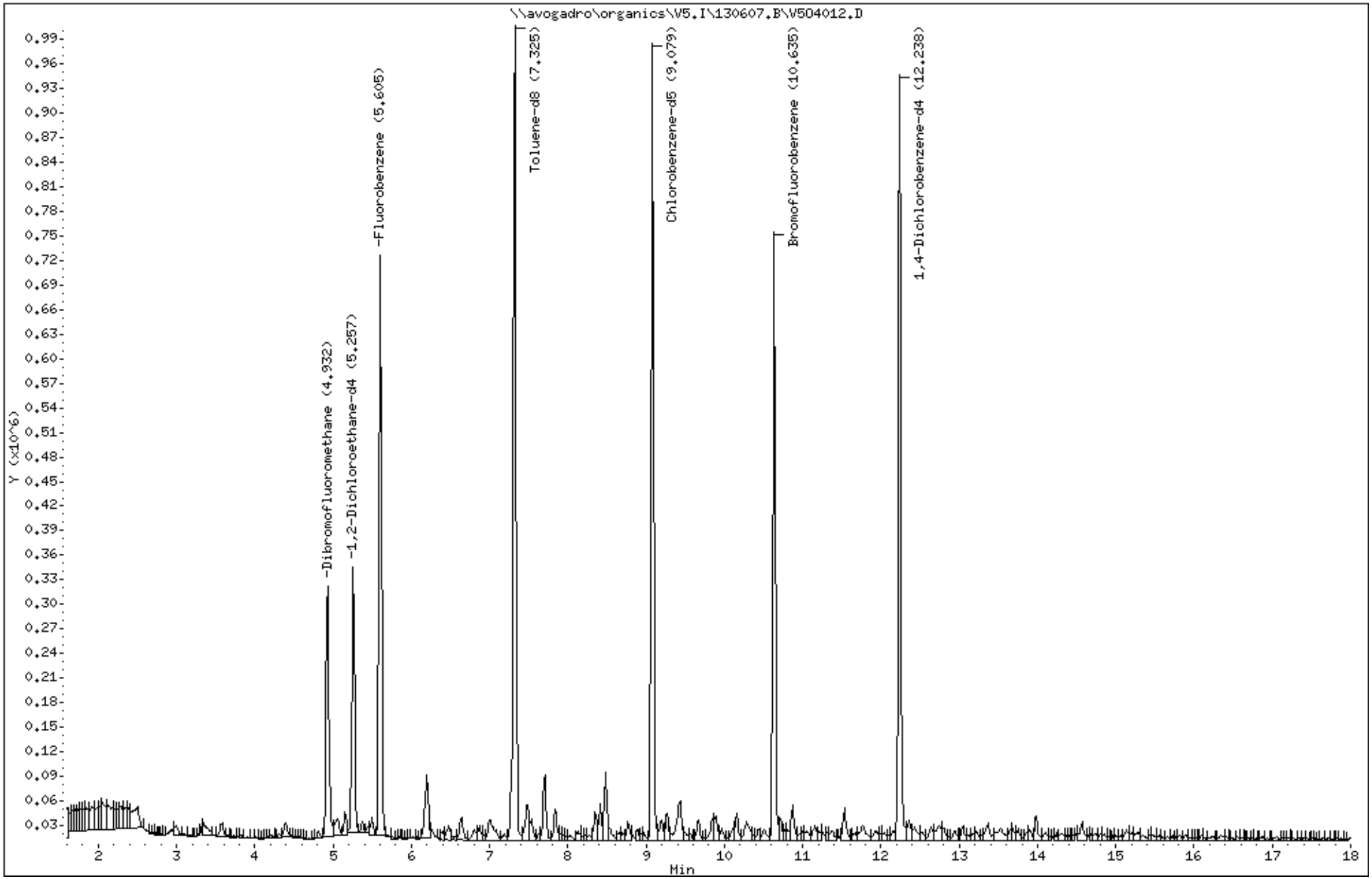
Data file : \\avogadro\organics\V5.I\130607.B\V5O4012.D
Lab Smp Id: M0903-11A Client Smp ID: RW01-060513
Inj Date : 07-JUN-2013 23:21
Operator : WL   SRC: LIMS Inst ID: V5.i
Smp Info : 5ML,M0903-11A,,72123
Misc Info :
Comment   :
Method   : \\avogadro\organics\V5.I\130607.B\v5_8260W.m
Meth Date : 10-Jun-2013 15:40 V5.i Quant Type: ISTD
Cal Date : 30-MAY-2013 14:32 Cal File: V5O3805.D
Als bottle: 24
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: BEX.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vo	5.000	Sample Volume purged (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
$ 37 Dibromofluoromethane	113	4.931	4.929	(0.880)	243768	53.2538	53
$ 43 1,2-Dichloroethane-d4	102	5.256	5.255	(0.938)	49193	48.2552	48
* 47 Fluorobenzene	96	5.605	5.603	(1.000)	737920	50.0000	
$ 59 Toluene-d8	98	7.324	7.323	(0.807)	732035	46.9255	47
* 69 Chlorobenzene-d5	117	9.078	9.077	(1.000)	604449	50.0000	
$ 80 Bromofluorobenzene	95	10.635	10.633	(1.171)	330499	52.8103	53
* 93 1,4-Dichlorobenzene-d4	152	12.238	12.236	(1.000)	260408	50.0000	

Data File: \\avogadro\organics\V5.I\130607.B\V504012.D
Date : 07-JUN-2013 23:21
Client ID: RW01-060513
Instrument: V5.i
Sample Info: 5ML,M0903-11A,,72123
Purge Volume: 5.0
Operator: WL SRC: LIMS
Column phase: DB-624
Column diameter: 0.25



Data File: \\avogadro\organics\V5.I\130607.B\V5O4013.D
Report Date: 11-Jun-2013 09:23

Spectrum Analytical, Inc. RI Division

Method 8260 Water and Medium Soil

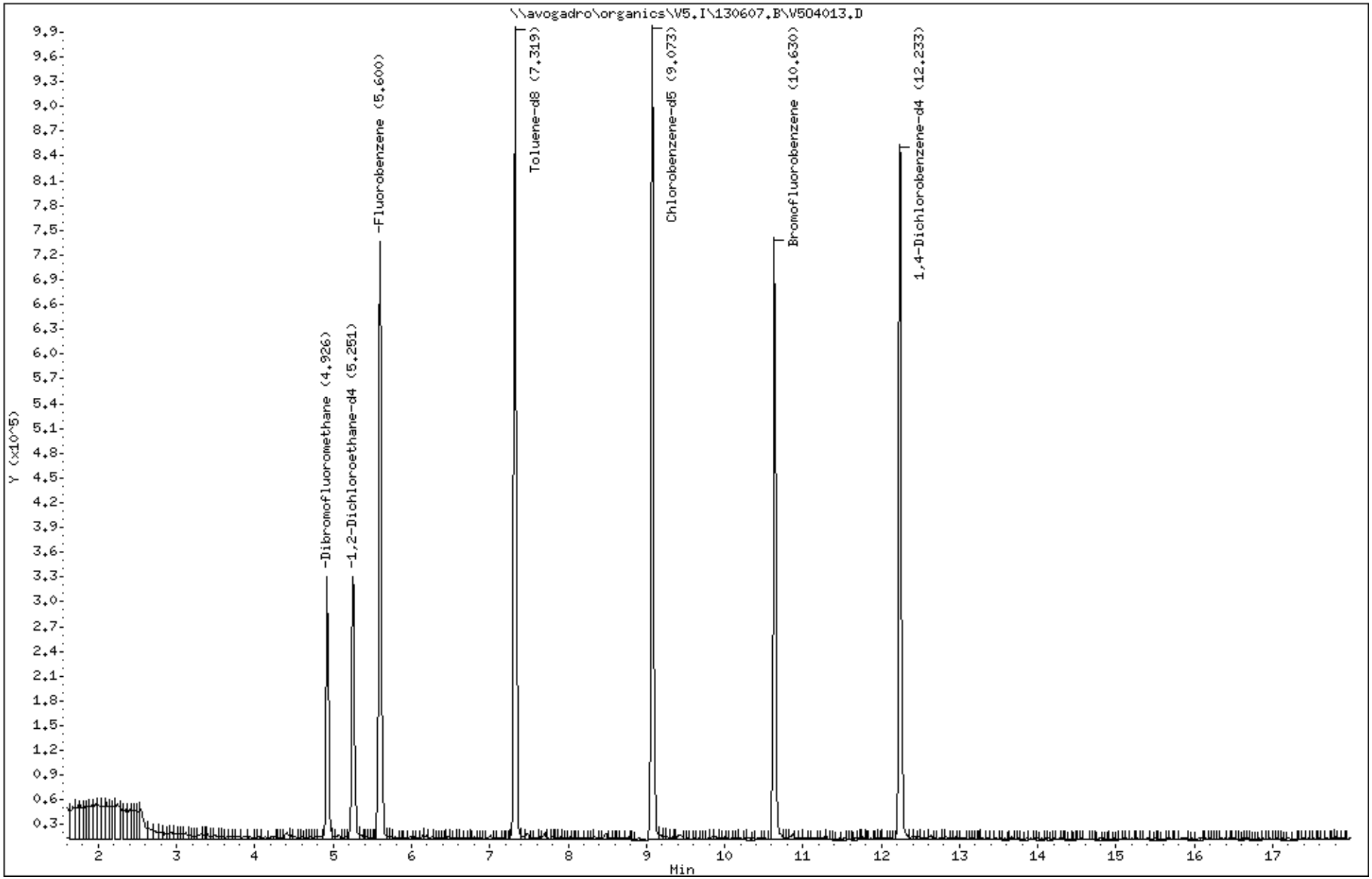
Data file : \\avogadro\organics\V5.I\130607.B\V5O4013.D
Lab Smp Id: M0903-12A Client Smp ID: MW14-060513
Inj Date : 07-JUN-2013 23:47
Operator : WL   SRC: LIMS Inst ID: V5.i
Smp Info : 5ML,M0903-12A,,72123
Misc Info :
Comment   :
Method   : \\avogadro\organics\V5.I\130607.B\v5_8260W.m
Meth Date : 10-Jun-2013 15:40 V5.i Quant Type: ISTD
Cal Date : 30-MAY-2013 14:32 Cal File: V5O3805.D
Als bottle: 25
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: BEX.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vo	5.000	Sample Volume purged (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
$ 37 Dibromofluoromethane	113	4.926	4.929	(0.880)	238720	52.8196	53
$ 43 1,2-Dichloroethane-d4	102	5.262	5.255	(0.940)	49647	49.3248	49
* 47 Fluorobenzene	96	5.599	5.603	(1.000)	728580	50.0000	
$ 59 Toluene-d8	98	7.319	7.323	(0.807)	725325	46.5121	46
* 69 Chlorobenzene-d5	117	9.073	9.077	(1.000)	604231	50.0000	
$ 80 Bromofluorobenzene	95	10.629	10.633	(1.172)	320223	51.1867	51
* 93 1,4-Dichlorobenzene-d4	152	12.244	12.236	(1.000)	255556	50.0000	

Data File: \\avogadro\organics\V5.I\130607.B\V504013.D
Date : 07-JUN-2013 23:47
Client ID: MW14-060513
Instrument: V5.i
Sample Info: 5ML,M0903-12A,,72123
Purge Volume: 5.0
Operator: WL SRC: LIMS
Column phase: DB-624
Column diameter: 0.25



Data File: \\avogadro\organics\V5.I\130607.B\V5O4014.D
Report Date: 11-Jun-2013 09:23

Spectrum Analytical, Inc. RI Division

Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V5.I\130607.B\V5O4014.D
Lab Smp Id: M0903-13A Client Smp ID: MW101-060513
Inj Date : 08-JUN-2013 00:12
Operator : WL   SRC: LIMS Inst ID: V5.i
Smp Info : 5ML,M0903-13A,,72123
Misc Info :
Comment   :
Method   : \\avogadro\organics\V5.I\130607.B\v5_8260W.m
Meth Date : 10-Jun-2013 15:40 V5.i Quant Type: ISTD
Cal Date : 30-MAY-2013 14:32 Cal File: V5O3805.D
Als bottle: 26
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: BEX.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vo	5.000	Sample Volume purged (mL)
Cpnd Variable		Local Compound Variable

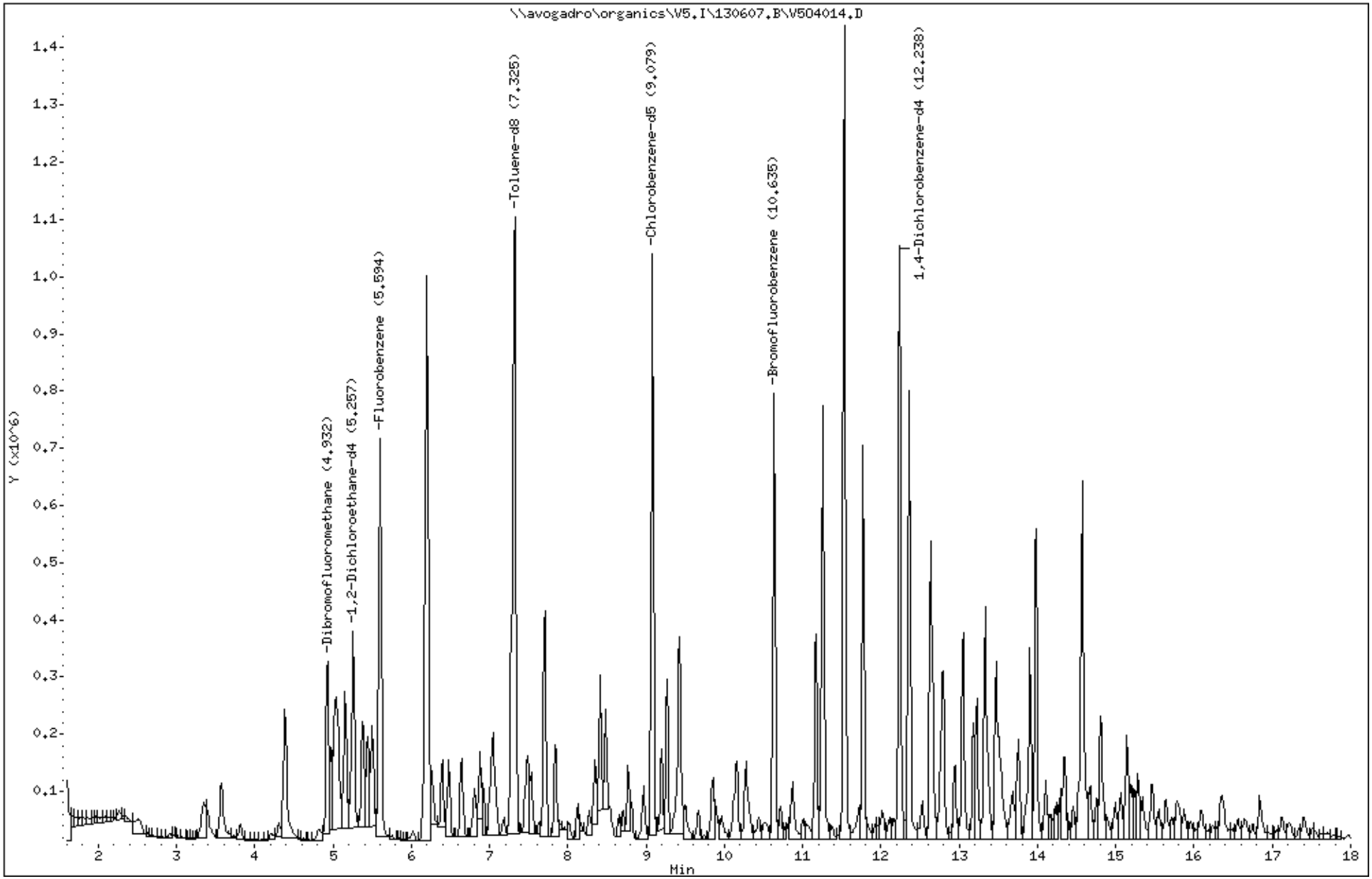
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
$	37 Dibromofluoromethane	113	4.931	4.929	(0.880)	243118	53.5297	54
$	43 1,2-Dichloroethane-d4	102	5.256	5.255	(0.938)	49892	49.3260	49
*	47 Fluorobenzene	96	5.605	5.603	(1.000)	732159	50.0000	
$	59 Toluene-d8	98	7.324	7.323	(0.807)	750763	47.5320	48
*	69 Chlorobenzene-d5	117	9.078	9.077	(1.000)	612002	50.0000	
	73 Ethylbenzene	106	9.264	9.262	(1.020)	53679	5.74941	6(Q)
	74 m,p-Xylene	106	9.427	9.413	(1.038)	81862	7.16467	7
$	80 Bromofluorobenzene	95	10.635	10.633	(1.171)	333298	52.6002	53
*	93 1,4-Dichlorobenzene-d4	152	12.238	12.236	(1.000)	272002	50.0000	
M	96 Xylene (Total)	106				81862	7.16467	7

QC Flag Legend

Q - Qualifier signal failed the ratio test.

Data File: \\avogadro\organics\V5.I\130607.B\V504014.D
Date : 08-JUN-2013 00:12
Client ID: MW101-060513
Sample Info: 5ML,M0903-13A,,72123
Purge Volume: 5.0
Column phase: DB-624

Instrument: V5.i
Operator: WL SRC: LIMS
Column diameter: 0.25



M0903

Data File: \\avogadro\organics\V5.I\130607.B\V504014.D

Date : 08-JUN-2013 00:12

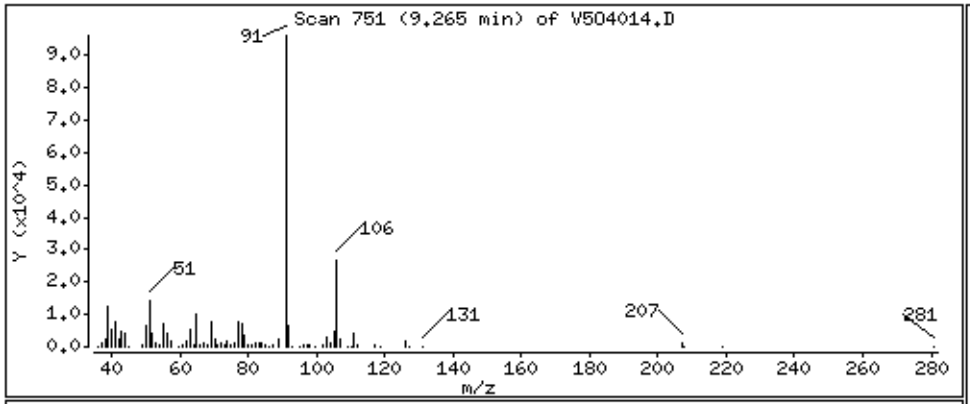
Client ID: MW101-060513 Instrument: V5.i

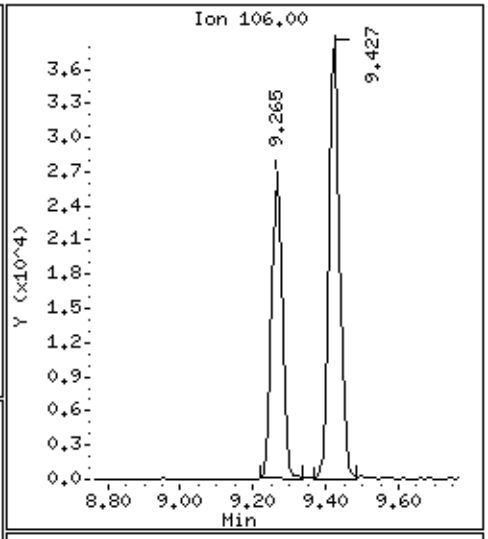
Sample Info: 5ML,M0903-13A,,72123

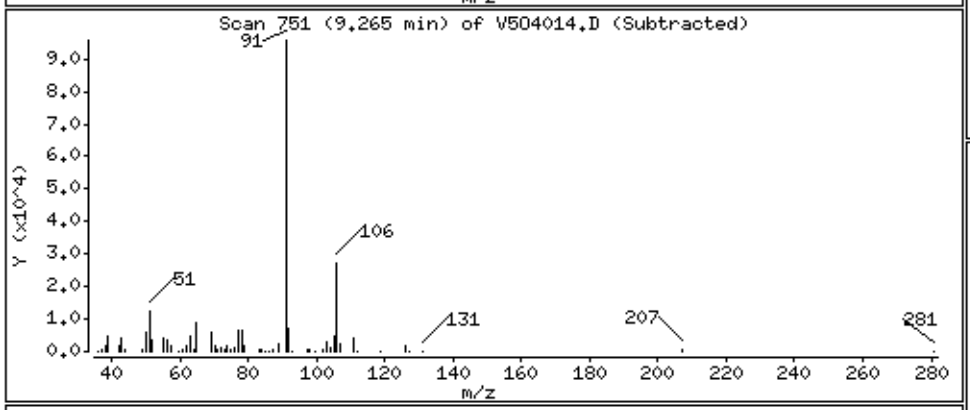
Purge Volume: 5.0 Operator: WL SRC: LIMS

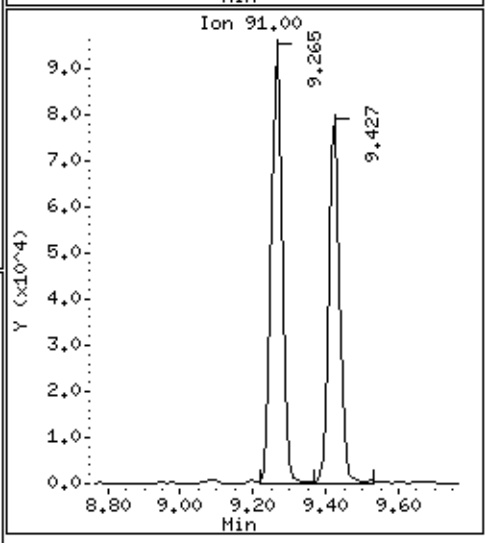
Column phase: DB-624 Column diameter: 0.25

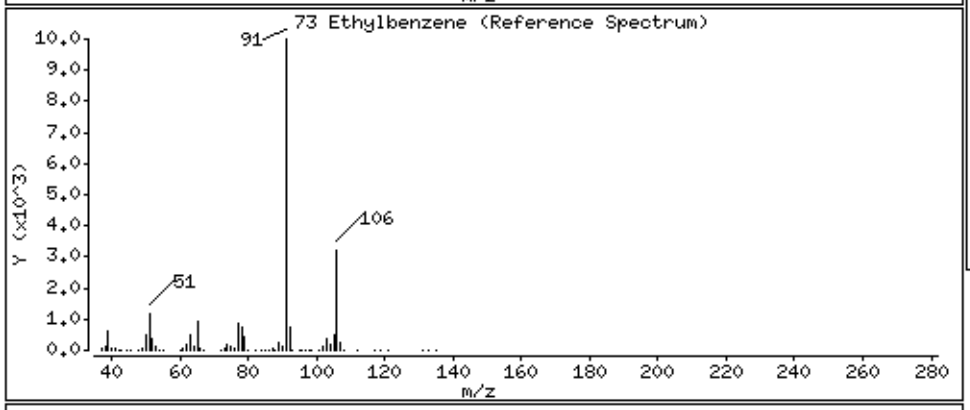
73 Ethylbenzene Concentration: 6 ug/L

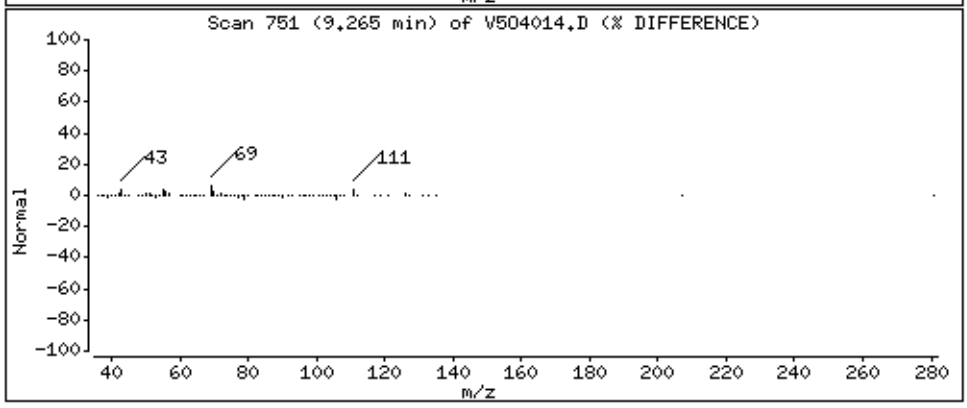












Data File: \\avogadro\organics\V5.I\130607.B\V504014.D

Date : 08-JUN-2013 00:12

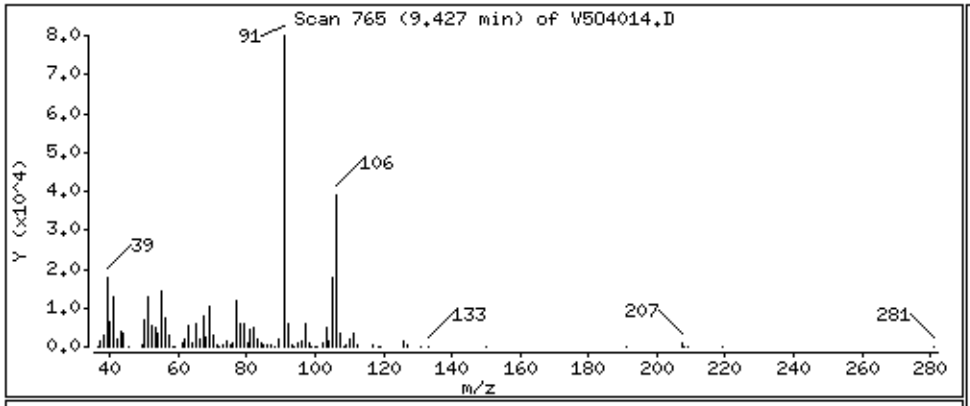
Client ID: MW101-060513 Instrument: V5.i

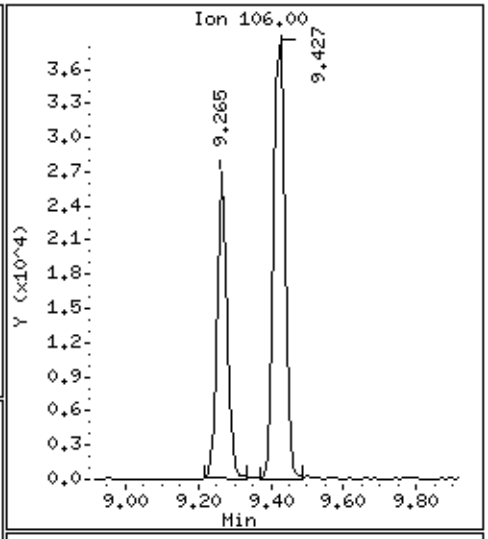
Sample Info: 5ML,M0903-13A,,72123

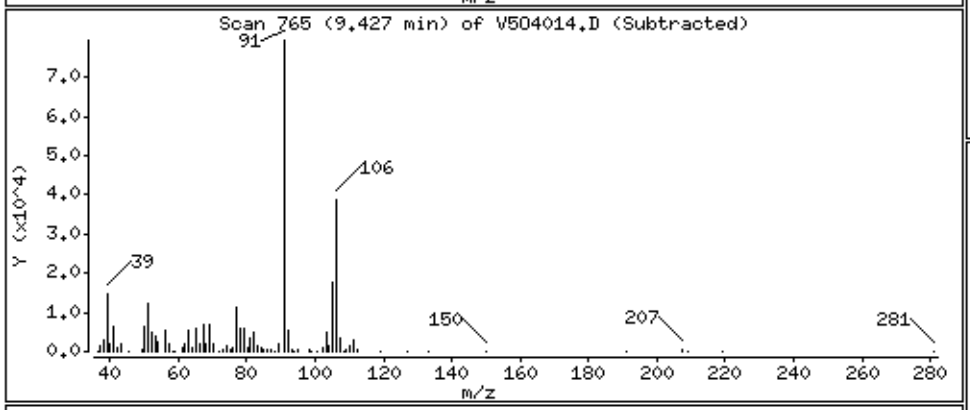
Purge Volume: 5.0 Operator: WL SRC: LIMS

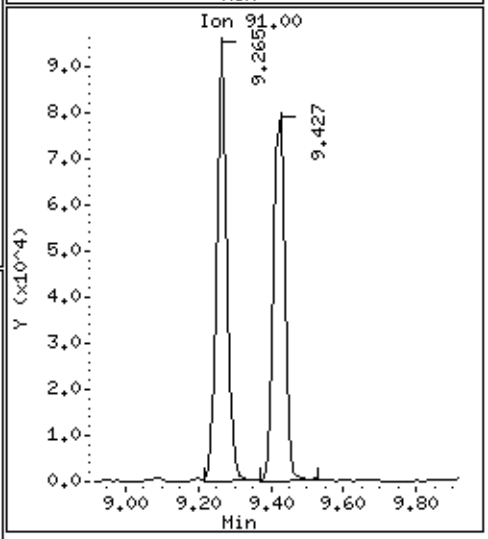
Column phase: DB-624 Column diameter: 0.25

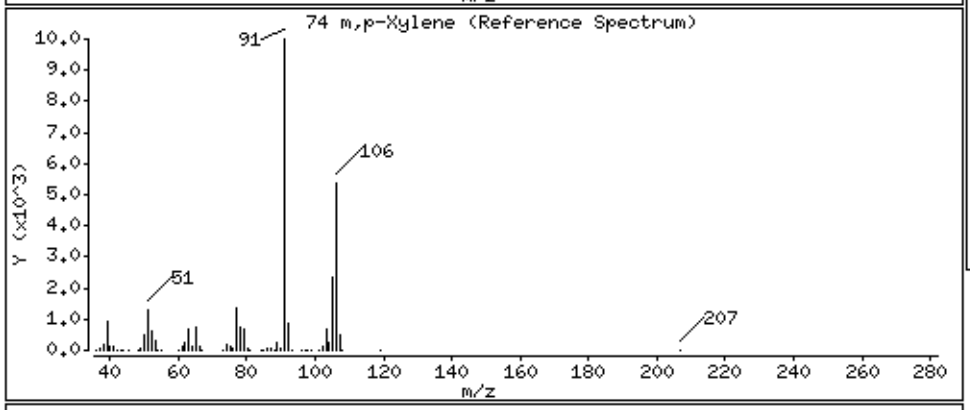
74 m,p-Xylene Concentration: 7 ug/L

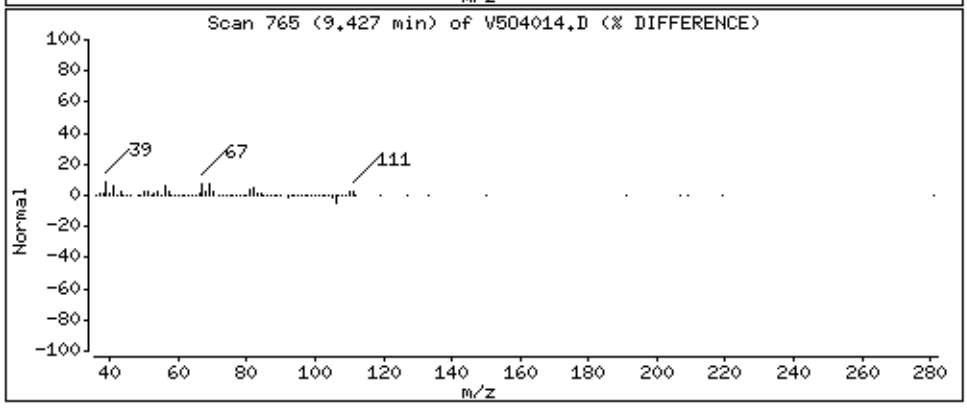












M0903

METHOD: CAL ID: ANALYST:

INITIAL CAL: IS/SS ID: ARCHIVE:

COMMENTS: ICV ID:

SAMPLE

Spectrum Analytical, Inc. RI Division V5 Injection Log
Volatiles Laboratory

METHOD: 8260-W ANALYST: WL
ICAL DATE: 5/30/13

BATCH: 130530.B

Start: 30-MAY-13 12:22
End: 30-MAY-13 15:46

Comments:

Standards: IS/SS-VWI30521A ____ uL
ISD-VWI30521B ____ uL
BFB-VWI30530A ____ uL
____ ____ uL

Reviewed By: 6-3-13 Manual Integration: NA MI Review: WL

FILE	TIME	LAB ID	CLIENT ID	PREP BATCH	MT	BN	INTERNAL STDS FBZ	INTERNAL STDS CBZ	INTERNAL STDS DCB	SURROGATES DFM	SURROGATES DCE	SURROGATES TOL	SURROGATES BFB	DILN	FLG	COMMENTS	pH
V5O3800	12:22	BFB5V	BFB5V		AQ									1		ok	
V5O3801	12:48	VSTD0015V	VSTD0015V		AQ		99	97	97					1		ok	
V5O3802	13:14	VSTD0055V	VSTD0055V		AQ		99	98	97					1		ok	
V5O3803	13:39	VSTD0205V	VSTD0205V		AQ		100	98	99					1		ok	
V5O3804	14:05	VSTD0505V	VSTD0505V		AQ		100	100	100					1		ok	
V5O3805	14:32	VSTD1005V	VSTD1005V		AQ		64	62	59					1		ok	
V5O3806	14:58	VSTD2005V	VSTD2005V		AQ		61	60	60					1		ok	
V5O3807	15:46	VICV0505V	VICV0505V		AQ		107	107	106	100	97	98	98	1		ok	

* - Internal Standard or Surrogate outside of control limits
E - One or more target compounds are above the calibration range
T - Sample was injected outside of the 12 hour sequence
R - One or more spike compounds are outside of control limits
D - Surrogates are diluted

1 WL 5/31/13

M0903

METHOD: INITIAL CAL

CAL ID:

ANALYST: ARCHIVE

Spectrum Analytical, Inc. RI Division V5 Injection Log
Volatiles Laboratory

METHOD: 8260_W
ICAL DATE: 5/30/13

ANALYST: WL

BATCH: 130607.B

Start: 07-JUN-13 13:58
End: 08-JUN-13 01:32

Comments:

Standards: IS/SS-VW130521A ___ uL
STD-VW130521B ___ uL
BFB-VW130603A ___ uL
_____ ___ uL

Reviewed By: 6/11/13 Manual Integration: NA MI Review: WL

FILE	TIME	LAB ID	CLIENT ID	PREP BATCH	MT	BN	INTERNAL STDS FBZ	CBZ	DCB	SURROGATES DFM	DCE	TOL	BFB	DILN	FLG	COMMENTS	pH
V503990	13:58	BFBD5	BFBD5		AQ									1		OK	
V503991	14:23	VSTD050D5	VSTD050D5		AQ		100	100	100					1		OK	
V503992	14:49	MB-72123	VBLKD5	72123	AQ		101	100	93	105	102	94	103	1		Not used	
V503993	15:14	MB-72123	VBLKD5	72123	AQ		98	98	91	106	101	93	104	1		OK	
V503994	15:39	LCS-72123	VLCSD5	72123	AQ		99	99	98	104	99	93	108	1		OK	
V503995	16:05	M0903-06AMS	MW17-060413MS	72123	AQ	2	100	100	100	107	94	93	106	1		OK	
V503996	16:30	M0903-06AMSD	MW17-060413MSD	72123	AQ	3	100	100	98	106	99	92	106	1		OK	2
V503997	16:56	M0901-01A	SB70980-01	72123	AQ	1	102	99	95	106	99	95	106	1		OK	2
V503998	17:21	M0902-01A	SB70984-01	72123	AQ	1	102	100	93	105	100	94	105	1		OK	2
V503999	17:47	M0904-01A	016A	72124	AQ	1	103	102	94	102	104	91	104	1		OK	2
V504000	18:13	M0907-01A	INFLUENT	72123	AQ	1	100	99	92	105	105	92	106	10		PCE=10.RRX1	2
V504001	18:39	M0907-02A	EFFLUENT	72123	AQ	1	101	98	93	104	101	94	107	1		OK	2
V504002	19:04	M0903-01A	MW112-060413	72123	AQ	1	100	98	91	107	102	94	106	1		OK	2
V504003	19:30	M0903-02A	MW106-060413	72123	AQ	1	101	99	90	103	99	94	105	1		OK	2
V504004	19:56	M0903-03A	DUP-060413	72123	AQ	1	98	96	88	105	96	94	105	1		OK	2
V504005	20:22	M0903-04A	TB-060413	72123	AQ	1	98	97	88	104	96	92	102	1		OK	2
V504006	20:48	M0903-05A	MW19-060413	72123	AQ	1	98	95	89	105	98	94	105	1		OK	2
V504007	21:13	M0903-06A	MW17-060413	72123	AQ	1	96	94	85	104	100	93	105	1		OK	2
V504008	21:39	M0903-07A	MW15-060413	72123	AQ	1	95	94	85	104	98	91	104	1		OK	2
V504009	22:05	M0903-08A	MW11-060413	72123	AQ	1	93	93	84	107	95	93	103	1		OK	2
V504010	22:30	M0903-09A	MW105-060513	72123	AQ	1	94	93	87	106	98	94	105	1		OK	2
V504011	22:56	M0903-10A	MW103-060513	72123	AQ	1	93	92	83	106	99	94	103	1		OK	2
V504012	23:21	M0903-11A	RW01-060513	72123	AQ	1	93	91	84	106	96	94	106	1		OK	2
V504013	23:47	M0903-12A	MW14-060513	72123	AQ	1	92	91	82	106	99	93	102	1		OK	2
V504014	00:12	M0903-13A	MW101-060513	72123	AQ	1	92	92	87	107	99	95	105	1		OK	2
V504015	00:38	M0910-01A	IDW-AQ-03	72123	AQ	1	100	97	90	103	97	93	104	1		OK	2
V504017	01:32	M0907-01A	INFLUENT	72123	AQ	2	131	102	87	102	100	102	99	1		OK	2

- Internal Standard or Surrogate outside of control limits
- One or more target compounds are above the calibration range
- Sample was injected outside of the 12 hour sequence

R - One or more spike compounds are outside of control limits
D - Surrogates are diluted

WL 6/10/13

Logbook ID 90.0199-03/13

M0903

Spectrum Analytical, Inc. RI Division : VOLATILE SAMPLES RECEIVING LOGBOOK

VOA Log-In Date	Workorder	Client ID	Sample Numbers	Relinquished by:	Received by:	Pres. Used	F/R	Returned to R23
6/7/13	M0907	ENE	01,02	ML	ML	H	R10	
6/7/13	M0903	EARTH-NY ~~AECOM~~ ML 6/7/13	01-13	ML		M	R10	
6/7/13	M0878	CDM	18-23	VEB		H	~~R8~~ R10 VEB 6/7/13	
	M0910	CDM	01			H	R8	
	M0913	Land	01-20			F	F10	
	M0913	Land	01-20			M	R10	
6/7/13	M0914	EPA	01-11	VEB		T	R4	
6/7/13	M0917	BEM	01,02,07	VEB		F	F8	
6/7/13	M0917	~~BEM~~ BEM VEB 6/7/13	01-05,07	VEB		M	R8	
6/10/13	M0914	EPA	10-18	VEB	ML	T	R4	
					ML 6/11/13			

Logbook ID 90.0191-01/13

Reviewed By: ML 6/11/13

"Preservative Used" Key

UA = Unpreserved Aqueous	**H** = HCL	**A** = Air	**M** = MeOH	**E** = Encore
US = Unpreserved Soil	**N** = $NaHSO_4$		**F** = Freeze	**T** = Trace, HCL

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