DES Waste Management Division
29 Hazen Drive; PO Box 95
Concord, NH 03302-0095

2012 GROUNDWATER MONITORING SUMMARY REPORT AND GMP RENEWAL APPLICATION

Westboro Roundhouse
26 Railroad Avenue
West Lebanon, New Hampshire 03784

NHDES Site #: 199210036
Project Type: LAST
Project Numbers: 3990 and 13124

Prepared For:
New Hampshire Department of Transportation
7 Hazen Drive, P.O. Box 483
Concord, NH 03302-0483
Phone Number (603) 271-6370
RP Contact Name: Mr. Dale O'Connell, P.G.
RP Contact Email: do'connell@dot.state.nh.us

Digitally signed by Stantec
DN: cn=Stantec, o=Stantec, ou, email=chyna.levesque@stantec.com, c=US
Date: 2013.01.31 16:55:58 -05'00'

STATE OF NEW HAMPSHIRE
DAVID A. ALLWINE
No. 584
LICENSED PROFESSIONAL GEOLOGIST

Prepared By:
Stantec Consulting Services Inc.
5 Dartmouth Drive, Suite 101
Auburn, NH 03032
Phone Number: (603) 669-8672
Contact Name: David Allwine, P.G.
Contact Email: dave.allwine@stantec.com

Date of Report: January 31, 2013

Groundwater Monitoring Report Cover Sheet

Site Name: Westboro Roundhouse

Town: West Lebanon

Permit #: GWP-199210036-L-001

Type of Submittal (*Check all that apply*)

- ✓ Periodic Summary Report (*year*) : 2012
- ✓ Data Submittal (*month and year per Condition #7 of Permit*): October 2012

Check each box where the answer to any of the following questions is "YES"

Sampling Results

- ✓ During the most recent monitoring event, were any new compounds detected at any sampling point?
  Well/Compound: JCO-604/4-Chlorotoluene
- ❑ Are there any detections of contamination in drinking water that is untreated prior to use?
  Well/Compound:
  - □ Do compounds detected exceed AGQS?
- ❑ Was free product detected for the first time in any monitoring point?
  - □ Surface Water (*visible sheen*)
  - □ Groundwater (*1/8" or greater thickness*)
    Location/Thickness:

Contaminant Trends

- ❑ Do sampling results show an increasing concentration trend in any source area monitoring well?
  Well/Compound:
- ❑ Do sampling results indicate an AGQS violation in any of the GMZ boundary wells?
  Well/Compound:

Recommendations

- □ Does the report include any recommendations requiring DES action? (*Do not check this box if the only recommendation is to continue with existing permit conditions.*)

This form is to be completed for groundwater monitoring data submittals and periodic summary reports submitted to the New Hampshire Department of Environmental Services Waste Management Division.

Stantec Consulting Services Inc.
5 Dartmouth Drive, Suite 101
Auburn, NH 03032
Tel: (603) 669-8672
Fax: (603) 669-7636

Project No. 191710015

January 31, 2013

Mr. Worthen Muzzey, P.G.
New Hampshire Department of Environmental Services
29 Hazen Drive, P.O. Box 95
Concord, NH 03302-0095

Re: 2012 Groundwater Monitoring Summary Report and GMP Renewal Application
Former Westboro Roundhouse, West Lebanon, NH
NHDES Site #199210036, LAST Projects #3990 and #13124

Dear Mr. Muzzey:

Stantec Consulting Services Inc. (Stantec) is pleased to submit, on behalf of the New Hampshire Department of Transportation (NHDOT), this Groundwater Monitoring Summary Report and Groundwater Management Permit (GMP) Renewal Application for the above-referenced property (the "Site"). The Site location is depicted on Figure 1 (attached). This report documents the work conducted at the Site since November 2011 and provides the supporting information required for renewal of the Site's existing GMP No. GWP-199210036-L-001, which expires on January 29, 2013. It should be noted that the deadline for submittal of the Summary Report and GMP Renewal Application was extended to January 31, 2013 based on your approval.

BACKGROUND

The Site is a historic rail yard located along the east side of the Connecticut River at its confluence with the White River. The Site was in active use from 1848 through the late 1970s. After an approximate 20 year hiatus, rail service was restored at the Site through an agreement between NHDOT and the Claremont Concord Rail Company, which currently uses a portion of the property for rail storage. The Site encompasses the entire former Westboro rail yard including both the former Tidewater Oil site and the former Purcell Oil facility. As discussed below, results from previous investigations and remedial actions have identified two main sources of petroleum impacts at the Site.

Roundhouse Portion of the Site

On December 9, 1974, oil was observed floating on the surface of the Connecticut River approximately 10 feet from the river's east bank, which forms the western boundary of the Site. Immediate response actions were taken by B&M, the property owner at the time the release was identified, to remove the oil and attempt to determine the source of the release. A containment boom and absorbent pillows were used to capture floating product. In an attempt to determine the source release, B&M excavated several test pits and trenches along the riverbank. Black, oil-saturated soil was encountered at a depth of approximately 20 feet from the top of the riverbank.

In January of 1975, B&M constructed a containment system consisting of a trench excavated in the riverbank parallel to the river. The trench was excavated to a depth of approximately 23 feet below ground surface (bgs) and measured approximately 75 feet long. A clay berm was then constructed on the downgradient side of the trench to prevent oil from entering the river. An oil recovery system was also constructed using the trench and clay berm. According to a pre-construction design schematic drawing drafted by B&M in 1974, the system consisted of a 2-foot diameter perforated pipe installed horizontally at a depth of approximately 15 bgs. The horizontal pipe was connected to an 8-foot diameter, corrugated steel recovery well.

During the construction of the containment and recovery system, 29 soil borings were advanced throughout the Site to investigate the source of the oil seeping from the riverbank and to delineate the horizontal extent of petroleum-impacted soil at the Site. According to test boring logs dated January 1975, petroleum-impacted soil was observed in 15 of the 29 soil borings at depths ranging from 1.5 to 30 feet bgs. The investigation determined that oil was distributed generally in the area surrounding the fuel platform north of the Sand House and along the river; however, the sketch showing boring locations did not provide adequate location control to correlate exactly with other data. The fueling platform was supplied by a 300,000-gallon aboveground storage tank (AST) located in the central portion of the Westboro Yard (to the north of the Roundhouse area).

In 1992, an oil sheen was again reported on the Connecticut River adjacent to the Site. The New Hampshire Department of Environmental Services (NHDES) arrived on-site on November 13, 1992 and confirmed the report. The observed release of a regulated substance prompted the NHDES to issue a request for a Site Investigation (SI) to B&M. In response, ERM-New England, Inc. (ERM) advanced multiple soil borings and installed monitoring wells to update soil conditions and evaluate groundwater impacts. The eight monitoring wells were identified as ERM-1 through ERM-7 and ERM-9. Petroleum-impacted soil, as evidenced by elevated photoionization detector (PID) readings, petroleum odor, and black staining, was encountered in borings for wells ERM-1, ERM-3, ERM-5, and ERM-6. Several volatile organic compounds (VOCs) were detected in groundwater samples from these wells. The highest VOC concentrations were detected in the groundwater sample from ERM-6, located adjacent to the former fuel platform. Light non-aqueous phase liquid (LNAPL) petroleum was detected in wells ERM-5 and ERM-6 at thicknesses of 0.04 feet and 0.61 feet, respectively. LNAPL sampled from ERM-6 was identified as No. 2 fuel oil by EPA Method 8100M fingerprinting analysis.

In March 1994, ERM returned to the Site at the request of the NHDES to conduct an Additional Site Investigation. This investigation included the excavation of eight test pits (TP-1 through TP-8), collection of groundwater samples from existing monitoring wells, collection of surface water samples from the Connecticut River, and assessment of the recoverability of LNAPL at the Site. During the excavation of test pit TP-3, a clay pipe was identified at a depth of 5.5 feet bgs. The pipe was also identified in test pits TP-4 through TP-7. According to the ERM report, the pipe location corresponded to a sewer line identified on a Right-Of-Way and Track Map drawn by B&M, dated October 31, 1930. Petroleum-impacted soil was encountered at approximately 6 feet bgs in test pits TP-1 through TP-5.

After the NHDOT's purchase of the Site in 1999, Jacques Whitford Company, Inc. (Jacques Whitford, which has since been acquired by Stantec) conducted additional subsurface investigations at the Site. On August 16 and 17, 2000 and September 14 and 15, 2000, Jacques Whitford directed the excavation of 10 test pits (identified as TP-9 through TP-19) to determine the source of the petroleum seeping into the Connecticut River. Test pits were excavated by Moulton Construction, Inc. (Moulton) of West Lebanon, New Hampshire. Test pits TP-9 through TP-12 and TP-14 were excavated along the eastern bank of the river with the focus on the area that appeared to be the source of the most upstream portion of the seep, as seen during the sediment inspection activities and during previous site visits made by Jacques Whitford and the NHDES. Test pits TP-13 and TP-15 through TP-18 were installed to trace the petroleum-impacted soil upgradient and attempt to determine the source area location. The horizontal portion of the oil recovery system previously installed by B&M was discovered during the excavation of TP-14. Test pit TP-19 was installed adjacent to the corrugated steel recovery well to confirm the location of the horizontal corrugated pipe identified during the installation of test pit TP-14. Petroleum-related compounds (VOCs, polynuclear aromatic hydrocarbons [PAHs], and total petroleum hydrocarbons [TPH]) were detected in all of the soil samples submitted for laboratory analysis. However, none of the compounds were detected above the most stringent NHDES soil standards in force at the time. The petroleum detected in two of the soil samples (TP-16 and TP-17) was identified as No. 2 fuel oil/diesel fuel by EPA Method 8100M fingerprinting analysis.

At the request of NHDES, Jacques Whitford prepared and submitted a *Limited Remedial Action Plan* (RAP) on May 21, 2004. The *Limited RAP* summarized response actions completed to date and concluded that historical surface releases at the former fuel platform had contributed free product to the river by way of the clay pipe identified by ERM. Groundwater impacts, soil impacts, and free product encountered by B&M were likely related to the release as well. To address identified impacts, the *Limited RAP* evaluated three remedial alternatives based on demonstrated previous successes at other diesel fuel related sites, which are listed below.

- Excavation and off-site disposal of petroleum impacted soil in the area of the former B&M oil recovery trench and along the river bank in areas where previous investigation identified petroleum impacts to soil along with a vertical cut-off wall;

- Enhanced in-situ bioremediation; and

- In-situ chemical oxidation with ozone;

Based on the limited LNAPL, soil, and groundwater data available during the preparation of the *Limited RAP*; the absence of LNAPL data from the river bank area; the absence of lateral delineation of soil impacts; and the absence of groundwater quality data in the river bank area; Jacques Whitford preliminarily selected excavation and off-site disposal as the preferred alternative. However, in order to better define the area where excavation was required and to collect additional information to assess the other alternatives, Jacques Whitford recommended a Pre-Remedial Investigation (PRI) to further assess the river bank area for the presence of LNAPL, groundwater quality, and to delineate soil impacts.

The initial phase of the PRI, which was completed in April and May 2005, focused on the eastern investigation area (area near the former fueling platform) and preliminary investigation in the river bank area (i.e., top of the river bank). The results of this work were presented in a *PRI Status Report* and indicated that exceedances of NHDES S-1 soil standards (primarily naphthalene and TPH) and NHDES RCMP GW-1 groundwater standards (primarily naphthalene) were observed in the eastern investigation area and in the middle and southern portions of the top of the river bank area (adjacent to the sewer main corridor). However, impacts observed in the eastern investigation area, although widespread, primarily included relatively low level soil impacts and minor exceedances of petroleum-related compounds in two monitoring wells. The results indicated that impacts in this area were unlikely to be contributing significantly to the observed oil-saturated soil impacts along the river bank and in the Connecticut River. Based on the results of the initial phase, the area of impacted soil and groundwater along the river bank appeared to extend farther to the south than assumed in the *Limited RAP*, and the southern extent of impacts had not been defined. Petroleum-related impacts to soil and LNAPL were observed in the vicinity of the top of the riverbank, including LNAPL in monitoring well JW-5. Soil impacts consisted of PAHs and TPH above applicable standards in several samplings in the area of JW-5 and the former B&M recovery trenches at depths 10 to 15 feet below grade. Based on the initial PRI data, Jacques Whitford recommended no further investigation and remediation in the eastern investigation area except monitoring of wells with naphthalene exceedances. NHDES concurred with this recommendation.

The second phase of the PRI was completed in April through December 2005 and a report was submitted in March 2006. As a part of additional assessment activities in October 2005, Jacques Whitford was on site to advance soil borings along the bank of the Connecticut River via a manual Geoprobe® unit and/or stainless steel hand auger. A total of 24 locations were advanced along the riverbank between the top of the riverbank and the edge of the river. In November 2005, Stantec installed seven well points (designated WP-1 through WP-7) in select borings advanced in October 2005. Widespread soil and groundwater impacts, including measurable LNAPL, were observed in the riverbank area. In addition to measurable LNAPL in locations JW-5 and WP-6, exceedences of applicable NHDES standards were observed in soil and groundwater samples collected from several of the sample locations along the river bank. Soil data indicated an area of highest impacts centered in the vicinity of borings TB-118, TB-119, and TB-110 located on the upper portion of the river bank. The majority of soil impacts appeared to be limited to this general area and, consistent with historical observations of soil impacts, appeared to be limited to approximately 10 to 20 feet below grade.

NHDES requested regular monitoring and targeted LNAPL recovery at the Site in a May 3, 2006 letter. Jacques Whitford completed regular groundwater monitoring and passive LNAPL recovery events at the Site from this time through May 2007. Groundwater sampling was completed in wells ERM-3, JW-1, JW-3, JW-4, JW-5, WP-1, WP-4, WP-5, WP-6, and WP-7, while LNAPL recovery was completed in wells JW-5 and WP-6.

Based on the May 9, 2007 sampling results, the Jacques Whitford's August 2007 summary report concluded that naphthalene was the primary contaminant of concern for the dissolved phase constituents in the Roundhouse area of the Site. Although concentrations in the most recent event were generally lower than results noted during the 2006 PRI, many of the wells appeared to be

stable at the time of the report. Based on these conclusions, Jacques Whitford made the following recommendations:

- Continue biannual groundwater monitoring in accordance with NHDES's May 3, 2006 request with the substitution of pore water sampling instead of surface water sampling;
- Continue passive free product recovery for locations WP-6 and JW-5;
- Prepare a Groundwater Management Permit to include the biannual monitoring program currently employed at the Site;
- Revise the *Limited RAP* for the Site to target the LNAPL and soil contamination in the vicinity of locations JW-5 and WP-6, including soil impacts identified during the PRI. The revised RAP would re-evaluate potential remedial alternatives including in-situ treatment methods, enhanced free product recovery, multiphase extraction, and/or a combination of these methods. Due to the depth of soil contamination (at or near the water table), the proximity of contamination to the river, the presence of the sewer utility in the area of impacts, and the location of contamination underlying the steep river bank, soil excavation appeared unlikely to be a cost-effective approach to mitigating these impacts.

In a letter dated October 3, 2007, NHDES requested continuing biannual groundwater monitoring and free product recovery under a GMP. In response, Jacques Whitford prepared a GMP application for the Roundhouse area of the Site in November 2007. The GMP application recommended sampling of monitoring wells ERM-3, JW-4, and JW-5; well points WP-1, WP-4, WP-5, WP-6, and WP-7; and pore water points CR-1, CR-3, and CR-5 in May and October each year. The proposed GMZ boundary included the Site from its southern boundary as far north as the former Purcell Oil property, rather than the entire tax lot.

GMP No. GWP-199210036-L-001, was issued for the Site in January 2008. This GMP included both the Roundhouse and the North Yard (discussed further below) areas of the Site. The GMP required sampling of Roundhouse area monitoring wells ERM-3, JW-4, and JW-5; well points WP-1, WP-4, WP-5, WP-6, and WP-7; and pore water points CR-1, CR-3, and CR-5 in May and October of each year for analysis of VOCs. It also required PAH analysis for monitoring well JW-5 and well point WP-6.

Groundwater monitoring continued at the Site in accordance with the 2009 GMP through October 2009. In response to the findings of the 2009 annual summary report, NHDES revised the GMP on March 10, 2010. The revised GMP removed the sampling requirement for pore water sample locations CR-1 and CR-5. The revised GMP also modified sampling requirements for the North Yard monitoring wells, as discussed further below.

Groundwater monitoring at the Site continued in general accordance with the 2010 GMP through May 2011. Following submittal of the May 2011 data submittal, the NHDES issued a second revision to the GMP. This GMP revision added monitoring well JCO-604 to the Roundhouse area sampling program. Monitoring well JCO-604 was originally installed at the Site in May 2010 during

the investigation of a release from the former Purcell Oil property located on Map 72, Lot 26 (NHDES Site #199109027).

In the cover letter to the October 13, 2011 GMP revision, the NHDES requested additional subsurface investigation on the riverbank in the vicinity of points JW-5 and WP-6 with the intent of further delineating the extent of free product and the migration of free product in this area. In addition to the free product delineation activities, NHDES requested repair of a monitoring well (later determined to be monitoring well MW-3) located in the drive for the Eagle Leaf Concrete facility, which is situated approximately 1,000 feet north of the Roundhouse structure. After subsequent discussions with NHDES, it was determined that additional unused wells should be decommissioned concurrent with well repair activities.

The work requested by the NHDES in October 2011 was completed between December 2011 and January 2012 and was summarized in Stantec's *Report on Additional Free Product Delineation and Monitoring Well Repair and Decommissioning* dated April 24, 2012. The work included the advancement of six test pits along the riverbank slope to depths ranging between 11 and 14 feet below grade. Recovery wells were installed in four of the six test pits. Results of this investigation were generally consistent with the findings of previous free product investigations completed at the Site and evidence of petroleum impacts were identified in all six of the completed test pits. However, contaminant concentrations above SRS were detected only in test pits TP-3 and TP-4, which were located north-northeast of well point WP-6 and southwest of JW-5 (both being wells that consistently contain LNAPL). Laboratory analysis identified the petroleum contamination as No. 2 fuel oil.

While the December 2011 test pit data served to enhance the understanding of subsurface contaminant distribution at the Site, it did not provide conclusive information regarding the source of the petroleum contamination. Therefore, following submittal of the April 2012 report, the NHDES requested that Stantec submit a Work Scope Authorization (WSA) for a laser induced fluorescence (LIF) survey at the Site to provide additional information on the source of petroleum impacts.

As a result, Stantec contracted Columbia Technologies (Columbia) to complete the LIF survey at the Site on June 26 and 27, 2012. A total of 27 boreholes (designated LIF01 to LIF27) were advanced at this time to delineate the vertical and horizontal extent of residual free-phase petroleum in the Site's subsurface. The borehole locations were selected by Stantec's on-site representative. The survey began by advancing boreholes as close as possible to monitoring well JW-5 and well point WP-6, where LNAPL has been consistently detected, in order to establish the baseline fluorescence characteristics for LNAPL at the Site. It should be noted that due to the locations of JW-5 and WP-6 on a steep riverbank, the baseline borings were advanced along the flat river terrace located immediately east (uphill) of JW-5 and WP-6. Additional borings were then advanced along the access road on the west side of the Roundhouse building, in the area to the north of the Roundhouse and west of former fueling platform, and to the east of the platform.

Results of the LIF survey, which were summarized in Stantec's November 8, 2012 *Results of Laser Induced Fluorescence Survey*, indicated a distinct band of elevated fluorescence intensities/PAH concentrations running roughly northeast to southwest from near the southern end of the former

fueling platform to near well point WP-6. The depths of elevated fluorescence intensities generally appeared to correspond with the groundwater table smear zone based on water levels historically measured in nearby monitoring wells. Downgradient of the fuel platform, cross-gradient fluorescence intensities to the north and south of the main impacted zone decreased. The report concluded that although the data did not suggest that significant LNAPL exists in the area between the suspected source area (fuel platform) and the riverbank where LNAPL is regularly observed in JW-5 and WP-6, periodic water level fluctuations in the river, coupled with the presence of the clay berm installed parallel to the Connecticut River as part of an oil containment system in 1975, likely contribute to the on-going detection of LNAPL in the noted wells. However, it was also concluded that given the depth of the contaminant mass (up to 30 feet below ground surface), it was unlikely that excavation of the contaminant soil would be a feasible remedial alternative.

North Yard Portion of the Site

In the northern portion of the Westboro Rail Yard (the "North Yard"), the former AST crib and its foundations were demolished prior to 1999. In August 1999, Jacques Whitford oversaw the installation of eight monitoring wells (identified as MW-1 through MW-8) in the North Yard area of the Site. These wells were installed to target the following areas of potential contamination:

- MW-1: AST crib in former Tidewater Oil Company
- MW-2: Apparent former maintenance garage foundation
- MW-3: Former AST crib and former Richfield Oil Company
- MW-4: Potential fuel pipeline fixtures and Richfield Oil area
- MW-5: Potential off-site fuel oil underground storage tank (UST) and historical off-site gasoline releases
- MW-6: Fuel transfer rack and Richfield Oil Company area
- MW-7: Storage building foundation and solid waste dumping area
- MW-8: Soil piles and drums in former Tidewater Oil Company area

A soil sample collected from the MW-1 boring contained naphthalene at a concentration exceeding applicable standards at the time. In addition, VOCs were detected in groundwater samples collected from monitoring wells MW-1, MW-2, and MW-8 at concentrations exceeding applicable standards at the time. TPH fingerprint samples collected from these wells indicated that the product was gasoline. These wells were all located in the former Tidewater Oil area of the Site. Regular semi-annual sampling of monitoring wells MW-1, MW-2, and MW-8 began in November 2003.

During inspections on November 18, 1999 and September 8, 2000, several polyethylene-covered soil stockpiles and two unlabeled 55-gallon drums were identified at the Site. Each drum contained two oil-filled electrical switch boxes. The contents of the drums and the stockpiled petroleum-contaminated soil (approximately 215 tons) were disposed of off-Site. TPH, PAHs, and VOCs were detected in soil pile samples with some exceedences of NHDES S-1 and S-2 soil standards. NHDOT removed the soil stockpiles and drums for off-site disposal in 2000.

In 2005, GZA GeoEnvironmental (GZA) completed additional subsurface investigations at the North Yard (specifically in the former Tidewater Oil Company area in the northernmost area of the Site) to delineate the extent of petroleum-contaminated soil. Based on these investigations, GZA estimated that approximately 5,000 tons of petroleum-contaminated soil was present above the water table.

In the fall of 2007, approximately 2,400 tons of petroleum-contaminated soil above the water table were excavated from the former Tidewater Oil area. Approximately 720 tons of the excavated soil were disposed of off-site at that time. The remaining excavated soil was stockpiled on-site on the concrete slabs of the former Tidewater Oil buildings. Two out of five confirmatory soil samples collected from the limits of the excavation indicated the presence of petroleum-related VOCs at concentrations exceeding their NHDES Soil Remediation Standard (SRS). One of these soil samples was collected from the northern sidewall of the excavation. However, further practical excavation to the north was limited by a nearby bridge and road. The second sample containing SRS exceedences was collected from the bottom of the excavation. However, it was determined that deeper excavation (into the water table) was not part of the presumptive remedy for the property.

As noted previously, the GMP issued for the Site in January 2008 included monitoring wells in the former Tidewater Oil area. Specifically, monitoring wells MW-1, MW-2, MW-8, and MW-10 were included in the semi-annual groundwater monitoring program. Jacques Whitford completed the semi-annual sampling of these wells as required by the GMP.

In October 2008, GZA completed an ASTM *Phase I Environmental Site Assessment* for the former Tidewater Oil portion of the Site on behalf of the City of Lebanon and the NHDES. This assessment was completed as a part of a planned transfer of ownership of the former Tidewater Oil portion of the Site from the NHDOT to the City of Lebanon. In the document, GZA identified historical use of the subject portion of the Site as an historical recognized environmental condition (HREC). GZA also identified the existing petroleum-impacted soil stockpiles, the covers of which were noted as being in fair to poor condition, and the off-site TR Sidelines property (NHDES Site #199306028), which was noted as being a potential upgradient source of groundwater contamination, as recognized environmental conditions (RECs). Based on these finds, GZA recommended additional characterization of subsurface conditions at the Site and development of a plan for removing the petroleum-impacted soil stockpiles from the Site.

In February 2009, GZA completed an ASTM *Phase II Environmental Site Assessment* on behalf of the City of Lebanon and the NHDES. The purpose of the assessment was to evaluate (1) the extent of residual petroleum-impacted soil and groundwater in the former Tidewater Oil portion of the Site; (2) the potential for petroleum contamination in shallow soils surrounding the existing soil stockpiles; (3) the potential for upgradient off-site sources of petroleum contamination in groundwater; and (4) the need for additional remedial measures, including removal of the existing soil stockpile.

The investigation ultimately included completion of thirteen test pits in the vicinity of the former Tidewater Oil AST crib in October-November 2008. A total of 26 soil samples collected from the test pits were submitted for laboratory analysis. Analytical results indicated the presence of

petroleum-related VOCs and PAHs at concentrations exceeding SRS in both deep and shallow soil samples. The deep soil contamination was attributed to residual petroleum impacts concentrated in the groundwater smear zone. These deep impacts were identified primarily in test pit TP-9, which was located in an upgradient position relative to monitoring well MW-1. The shallow soil impacts, which were identified primarily in the vicinity of test pit TP-5, were attributed to spilling/tracking contaminated soil excavated during previous remedial actions. Arsenic was also detected at concentrations exceeding SRS in one of the soil samples. The elevated arsenic was attributed to the presence of coal/coal ash particulates.

GZA also collected groundwater samples from the Site's existing monitoring wells and surface water and sediment samples from the adjoining Connecticut River. The groundwater sampling included monitoring wells MW-1, MW-2, MW-8, MW-9, MW-10, and MW-204. Monitoring well MW-204 had been installed during the delineation of a gasoline release from the upgradient T&R Sidelines property. The remaining monitoring wells had been installed during previous investigations at the Site by Jacques Whitford. Petroleum-related VOCs were detected at concentrations exceeding AGQS in the samples collected from monitoring wells MW-1, MW-2, MW-8, and MW-9. PAHs and/or metals were also detected in the samples at concentrations exceeding AGQS. The contaminants in monitoring well MW-9 were attributed to an upgradient release from the T&R Sidelines property.

Surface water and sediment samples were collected from the Connecticut River to evaluate potential migration of petroleum impacts from the Site to the river. Laboratory analysis of the surface water and sediment samples did not indicate the presence of significant petroleum impacts. However, GZA noted that a significant rain event had occurred immediately prior to the sampling event and may have biased the sampling results.

Lastly, GZA's fall 2008 investigation included collection of soil samples from the existing stockpiles for waste characterization analysis. Only naphthalene was detected in the samples at concentrations exceeding SRS.

Based on the results of the Phase II investigation, GZA concluded that petroleum-impacted soils identified in test pit TP-9 may be acting as a continued source of groundwater impacts historically identified in monitoring well MW-1. GZA recommended additional subsurface investigation in the vicinity of test pit TP-9 to further delineate the extent of deep soil impacts. GZA also recommended additional subsurface investigation in the vicinity of test pit TP-5 to further delineate shallow soil impacts in this area. In regards to groundwater, GZA recommended installation of new monitoring wells upgradient from test pits TP-3/TP-4 (near the Site's northern border) to evaluate potential impacts from the T&R Sidelines property; southeast of test pit TP-9 to act as an upgradient sentinel well; and downgradient from monitoring well MW-1 to evaluate groundwater impacts prior to discharging to the Connecticut River. In addition, they recommended additional surface water sampling during a period of low water levels.

In November 2009, GZA completed a *Supplemental Site Investigation* report on behalf of the City of Lebanon and the NHDES. The purpose of the investigation was to further evaluate the petroleum impacts identified in the February 2009 *Phase II Environmental Site Assessment* report. This

investigation began with a completion of a ground penetrating radar (GPR) survey in the vicinity of test pit TP-9 to identify the locations of buried utilities (specifically clay storm sewer pipes). However, the results of the GPR survey indicated that conductive soil conditions at the Site resulted in low quality data. Therefore, hand excavation of boring locations was completed to identify underground utilities.

In May 2009, GZA oversaw advancement of a total of eight soil borings (four in the vicinity of the test pit TP-5 and four in the vicinity of test pit TP-9) in the former Tidewater Oil portion of the Site. Laboratory analysis of deep soil samples collected from test borings in the vicinity of TP-9 indicated the presence of petroleum soil contamination in the groundwater smear zone consistent with previous investigations. One of these soil samples indicated the presence of naphthalene and TPH-DRO at concentrations exceeding SRS. The area of petroleum-impacted soils at depth was estimated to be approximately 1,310 square feet. The estimated area of shallow soil impacts (less than 2 feet below ground surface) in the vicinity of TP-5 was estimated to be only approximately 100 square feet.

Based on the test boring results, the NHDES requested that GZA excavate the petroleum-impacted soil at concentrations exceeding SRS in the vicinity of test pits TP-5 and TP-9. In August 2009, GZA contracted ENPRO Services, Inc. to remove the petroleum-impacted soil exceeding SRS. A total of approximately 1,000 cubic yards were excavated and stockpiled on-site with the existing soil stockpiles. During field screening of the soil excavations, it was concluded that the TP-5 test pit area impacts was connected to the TP-9 area impacts by a thin lens (approximately 1-3 feet thick) of petroleum-impacted soil at a depth of approximately 2-3 feet below ground surface. This lens had not been identified during previous investigations. The resulting excavation area was limited to the northwest because there was no remaining capacity to stockpile soil. The excavation was limited vertically to within approximately 1 foot above the groundwater table (maximum depth of approximately 18 feet below ground surface). Confirmatory soil samples collected from the bottom of the excavation did indicate the presence of residual petroleum contamination at concentrations exceeding SRS. Fingerprinting of the petroleum product in the soil samples indicated that it was primarily weathered No. 2 fuel oil, though some weathered gasoline was also present.

A *Remedial Action Implementation Report* prepared by GZA in November 2009 further summarizes the soil excavation activities completed in August 2009. GZA concluded in the report that the majority of petroleum-impacted, unsaturated soil exceeding SRS in the former Tidewater Oil area of the Site had been removed. GZA noted that the residual soil contamination and groundwater impacts were anticipated to be managed under a GMP and Activity and Use Restriction (AUR).

On January 7, 2010, ownership of the former Tidewater Oil area of the Site was transferred from NHDOT to the City of Lebanon. The transferred parcel encompassed a total of 0.78 acres of land subdivided from the northwestern portion of the Site's lot (Map 72, Lot 5). This subdivided lot is now identified in City of Lebanon Assessor's records as Map 72, Lot 90. Existing GMP monitoring well MW-1 is located on this parcel.

As noted previously, the Site's GMP was revised in March 2010. In addition to changing requirements for the Roundhouse area of the Site, the March 2010 revision removed sampling of

North Yard monitoring wells MW-8 and MW-10. These wells were removed from the GMP sampling program because they had been destroyed during bridge construction activities initiated at the Site in the summer of 2009. The GMP required that these destroyed monitoring wells be replaced upon completion of the bridge construction work.

GZA submitted to the NHDES in November 2010 a *Remedial Action Implementation Report* described the loading, transport, and off-site disposal of the petroleum-impacted soil previously excavated from the former Tidewater Oil area of the Site. The soil removal was funded by a cleanup sub-grant awarded to the City of Lebanon by the NHDES. In September 2010, a total of 2,451.28 tons of petroleum-impacted soil were transported off-site for thermal treatment. GZA concluded that the petroleum-impacted soil piles had been successfully removed from the Site.

In response to GZA's November 2010 report, the NHDES issued a Certificate of No Further Action (CNFA) for the Tidewater Oil portion of the Site (NHDES Project #18547) in February 2011. This CNFA noted that all on-site dissolved contaminants present at concentrations exceeding AGQS were related to an upgradient, off-site source and were being monitored by the off-site responsible party. It also notes that no additional investigation, remedial measures, nor groundwater sampling were required for the Tidewater Oil portion of the Site. Recent conversations with NHDES have indicated that the intent of the letter was to acknowledge completion of the soil removal remedial action and not to indicate that on-going monitoring of AGQS exceedances would not be required.

CONCEPTUAL SITE MODEL

The Site is a former B&M railroad property located along the eastern banks of the Connecticut River. The Connecticut River flows in a southerly direction past the Site. The entire Site was purchased by the NHDOT in 1999. In 2010, an approximately 1-acre parcel encompassing the former Tidewater Oil Portion of the Site was purchased by the City of Lebanon. Since 1999, the Site has been mostly vacant. Portions of the Site have been utilized for staging construction equipment, particularly along the southern side of Bridge Street where bridge construction has been ongoing for the past few years.

The Site is currently impacted by petroleum releases in three distinct areas: (1) a release of diesel/No. 2 fuel oil in the vicinity of the former fueling platform in the Roundhouse area; (2) a release of diesel/No. 2 fuel oil in the vicinity of the former Richfield AST area; and (3) a release of diesel/No. 2 fuel oil in the former Tidewater Oil area. The former Tidewater Oil area also appears to be impacted by a release of gasoline from the upgradient T&R Sidelines property located to the northeast of the Site across Bridge Street.

No on-going petroleum releases are known to exist at the Site. However, based on the 2012 LIF survey results, a long band of petroleum-contaminated soil in the groundwater smear zone appears to exist between the former fueling platform and the Connecticut River to the west. These residual soil impacts appear to be contributing to continued dissolved-phase and free-phase petroleum impacts to groundwater. Though not well defined, residual soil contamination in the former Richfield AST area may also be contributing to continued dissolved-phase petroleum impacts in groundwater samples from JCO-604. Based on data collected by GZA, the majority of petroleum-impacted soil in the unsaturated zone appears to have been removed from the former Tidewater Oil

portion of the Site. However, similar to the former fueling area, it appears that residual petroleum-impacted soil in the groundwater smear zone may be contributing to continued dissolved-phase groundwater impacts.

The area surrounding the Site is serviced by municipal sewer and water. According to the NHDES OneStop Program Web GIS map, there are no public water supply sources located within 1,000 feet of the Site. Three registered water wells are depicted within 1,000 feet of the Site. However, these wells are located to the east of the Site in inferred upgradient positions and are not likely to be potential receptors. The Site is also shown to be within the Drinking Water Source Protection Area for the Cheshire County Complex in Westmoreland, which utilizes the Connecticut River for drinking water. However, Westmoreland is located approximately 45 miles south of the Site. Given the distance from the Site, the nature (mostly volatile, biodegradable) and concentrations of contaminants potentially discharged to the Connecticut River from the Site, and the likelihood of dilution once impacted groundwater discharges to the river, it does not appear that the Site poses a significant risk to the Cheshire County Complex water supply.

WORK PERFORMED

On May 4, 2012 and October 2, 2012, Stantec gauged the depth to water and/or depth to product in each well sampled using an oil/water interface probe. Well gauging data are summarized in Tables 1A and 1B. Prior to sampling, approximately three well volumes were purged from each well using dedicated polyethylene Waterra® check valves or a peristaltic pump and polyethylene tubing.

In the North Yard portion of the Site, groundwater samples were collected from wells MW-1 and MW-2 during both 2012 sampling events. In the Roundhouse area of the Site, samples were collected from monitoring wells ERM-3, JW-4, and JCO-604; well points WP-1, WP-4, WP-5, and WP-7; and pore water point CR-3PW during the May 2012 sampling event. No samples were collected from monitoring well JW-5 or well point WP-6 during the May 2012 sampling event since free product was measured in these locations. During the October 2012 sampling event, samples were collected from monitoring wells ERM-3 and JCO-604; well points WP-1 and WP-7; and pore water location CR-3PW. No samples were collected from monitoring wells JW-4, JW-5; or well points WP-4, WP-5, or WP-6 during the October 2012 sampling event because these locations were found to be dry.

Samples were field preserved and maintained under chain of custody control during their transfer to Spectrum Analytical, Inc. (Spectrum) of Agawam, Massachusetts, a New Hampshire-certified analytical laboratory. The samples were analyzed for VOCs by U.S. Environmental Protection Agency (EPA) Method 8260C. Groundwater analytical results from the 2012 sampling events, as well as historical results, are summarized in Tables 2A and 2B. Sample locations are shown on the attached Site Plans (Figures 2 and 3). The laboratory analytical report for the May 2012 event was previously submitted to the NHDES. The laboratory analytical report for the October 2012 sampling event is attached.

As noted above, WP-6 and JW-5 were not sampled during the May 2012 event due to the presence of LNAPL. During the 2012 sampling events, wells were gauged for free product and measurable free product, if detected, was removed. The thickness of LNAPL was measured and documented

by Stantec followed by the purging of LNAPL and storing it in a 30-gallon polyethylene drum which is kept on-site. LNAPL removal information is summarized in Table 3.

As noted previously, a LIF survey was completed in the Roundhouse portion of the Site during the reporting period. However, these activities were discussed in a report submitted to the NHDES under separate cover.

GROUNDWATER ELEVATIONS AND FLOW

Depths to groundwater measured during the May 2012 sampling event were generally within the historical ranges for the Site. Depths to groundwater measured during the October 2012 sampling event were at their lowest recorded levels for many of the Site's wells. Depths to groundwater and the calculated groundwater elevations are summarized on Tables 1A (Roundhouse) and 1B (North Yard).

Using well gauging data measured during the October 2012 sampling event, groundwater elevation contours were constructed for the Roundhouse portion of the Site. Based on these inferred contours, groundwater flow is primarily directed west towards the Connecticut River. It should be noted that the well point gauging data were not used in the construction of the groundwater flow contours because it appears that they may have shifted from their original surveyed elevations (due to flood conditions) or are otherwise inconsistent with the monitoring well data. Groundwater elevation contours for the Roundhouse portion of the Site are depicted on Figure 2.

Because wells MW-8 and MW-10 were previously destroyed during ongoing bridge construction activities in the North Yard portion of the Site, groundwater elevation data were insufficient to construct a groundwater flow map in this area. Historical groundwater gauging data for the North Yard have indicated that groundwater flow is primarily directed to the west towards the Connecticut River. Monitoring well locations for the North Yard are depicted on Figure 3.

2012 SAMPLING AND FREE PRODUCT RESULTS

<u>Roundhouse Portion of the Site</u>

ERM-3

No VOCs were detected at concentrations exceeding AGQS during either the May 2012 or the October 2012 sampling events. Several petroleum-related VOCs were detected at concentrations below AGQS during both sampling events.

JW-4

No VOCs were detected at concentrations exceeding AGQS during the May 2012 sampling event. Several petroleum-related VOCs were detected at concentrations below AGQS at this time. Monitoring well JW-4 was not sampled during the October 2012 sampling event because it was found to be dry.

JW-5

Free product was encountered in this well during the May 2012 sampling event and the well was not sampled. At this time, the product thickness was measured at 0.41 feet. In response, a total of approximately 0.13 gallons of product were removed from the well. Monitoring well JW-5 was not sampled during the October 2012 sampling event because it was found to be dry.

WP-1

No VOCs were detected at concentrations exceeding AGQS during the May 2012 sampling event. Naphthalene was detected at a concentration exceeding AGQS during the October 2012 sampling event. Several additional petroleum-related VOCs were detected at concentrations below AGQS during both sampling events.

WP-4

No VOCs were detected at concentrations exceeding AGQS during the May 2012 sampling event. Acetone was detected at a concentration below AGQS at this time. Well point WP-4 was not sampled during the October 2012 sampling event because it was found to be dry.

WP-5

No VOCs were detected at concentrations exceeding AGQS during the May 2012 sampling event. Several petroleum-related VOCs were detected at concentrations below AGQS at this time. Well point WP-5 was not sampled during the October 2012 sampling event because it was found to be dry.

WP-6

Free product was encountered in this well during the May 2012 sampling event and the well was not sampled. At this time, the product thickness was measured at 0.03 feet. Well point WP-6 was not sampled during the October 2012 sampling event because it was found to be dry.

WP-7

Naphthalene was detected at a concentration exceeding AGQS during both the May 2012 and October 2012 sampling events. Several additional petroleum-related VOCs were also detected at concentrations below AGQS during both events.

CR-3PW

Naphthalene was detected at a concentration exceeding AGQS during the May 2012 sampling event. Several additional petroleum-related VOCs were detected at concentrations below AGQS at this time. No VOCs were detected at concentrations above laboratory reporting limits during the October 2012 sampling event.

JCO-604

Naphthalene was detected at concentrations exceeding AGQS during both the May 2012 and October 2012 sampling events. 1,2,4-Trimethylbenzene was also detected at a concentration exceeding AGQS during the October 2012 sampling event. Several additional petroleum-related VOCs were detected at concentrations below AGQS during both sampling events. It should be noted that 4-chlorotoluene was detected at a concentration below AGQS during the October 2012 sampling event only. This event represents the first time that 4-chlorotoluene has been detected in a well at the Site.

North Yard Portion of the Site

MW-1

Benzene, ethylbenzene, naphthalene, and 1,2,4-trimethylbenzene were detected at concentrations exceeding AGQS during both the May 2012 and October 2012 sampling events. n-Propylbenzene and 1,3,5-trimethylbenzene were also detected at concentrations exceeding AGQS during the October 2012 sampling event. Several additional petroleum-related VOCs were detected at concentrations below AGQS during both sampling events.

MW-2

No VOCs were detected at concentrations exceeding AGQS during either the May 2012 or the October 2012 sampling events. Few petroleum-related VOCs were detected at concentrations below AGQS during both sampling events.

HISTORICAL TRENDS

Roundhouse Portion of the Site

ERM-3

Naphthalene has been the only VOC historically detected at concentrations exceeding AGQS. However, naphthalene has not been detected at a concentration exceeding AGQS since October 2006. Several petroleum-related VOCs continue to be detected at relatively low concentrations below AGQS.

No free product has been detected in this well.

JW-4

Chloromethane and naphthalene have been the only VOCs historically detected at concentrations exceeding AGQS. However, chloromethane was detected at a concentration exceeding its laboratory reporting limits (and AGQS) during the October 2007 sampling event only. Naphthalene was detected at concentrations exceeding AGQS during the May 2005 and December 2005 sampling events only. Several petroleum-related VOCs continue to be detected at relatively low concentrations below AGQS.

No free product has been detected in this well.

JW-5

Of the 15 sampling at which attempts were made to sample this well, free product was present during 10 sampling events. Therefore, groundwater samples from this well have been submitted for laboratory analysis five times. n-Butylbenzene, sec-butylbenzene, naphthalene, n-propylbenzene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene have been detected at concentrations exceeding AGQS during the events in which samples were collected. However, the well has not been sampled since November 2009 due to the continued presence of free product.

Free product has been measured in this well at thicknesses up to 3.23 feet (May 2008). While it has fluctuated, product thickness exhibits an overall slight increasing trend in this well. As shown on Figure 4, product thickness in well JW-5 does not appear to correlate strongly with depth to water.

WP-1

Naphthalene, 1,2,4-trimethylbenzene, and tert-butyl alcohol (TBA) have been the only VOCs historically detected at concentrations exceeding AGQS. However, since October 2008, naphthalene has been the only VOC detected at concentrations exceeding AGQS. As shown on Figure 5, naphthalene concentrations exhibit an overall decreasing trend in this well.

Free product was detected in this well in May 2006, August 2006, December 2006, and October 2007 at thicknesses up to 0.03 feet. No free product has been detected in the well since that time.

WP-4

Naphthalene has been the only VOC historically detected at concentrations exceeding AGQS. However, naphthalene has not been detected at a concentration exceeding AGQS since April 2010. As shown on Figure 6, naphthalene concentrations exhibit an overall decreasing trend in this well point.

Free product was detected in this well in December 2008 and May 2009 only at thicknesses up to 0.1 feet. Free product has not been detected in the well since that time.

WP-5

Naphthalene and 1,2,4-trimethylbenzene have been the only VOCs historically detected at concentrations exceeding AGQS. However, since May 2009, naphthalene has been the only VOC detected at concentrations exceeding AGQS. As shown on Figure 7, naphthalene concentrations exhibit an overall decreasing trend in this well.

No free product has been detected in this well.

WP-6

Of the 14 sampling at which attempts were made to sample this well, free product was present during 11 sampling events. Therefore, groundwater samples from this well have been submitted for laboratory analysis three times. n-Butylbenzene, sec-butylbenzene, naphthalene, n-propylbenzene, 1,2,4-trimethylbenzene, and TBA have been detected at concentrations exceeding AGQS during the events in which samples were collected. However, the well has not been sampled since October 2008 due to the continued presence of free product.

Free product has been measured in this well at thicknesses up to 1.88 feet (May 2011). While it has fluctuated, product thickness exhibits an overall slight decreasing trend in this well. As shown on Figure 8, product thickness in well WP-6 does not appear to correlate strongly with depth to water.

WP-7

Naphthalene has been the only VOC historically detected at concentrations exceeding AGQS. Naphthalene has continued to be detected at concentrations during all events in which the well point was sampled. As shown on Figure 9, naphthalene concentrations exhibit an overall increasing trend in this well point.

No free product has been detected in this well.

CR-3PW

Naphthalene has been the only VOC historically detected at concentrations exceeding AGQS. However, naphthalene was detected at concentrations exceeding AGQS during the October 2007 and May 2012 sampling events only.

No free product has been detected in this pore water location.

JCO-604

Naphthalene and 1,2,4-trimethylbenzene have been the only VOCs historically detected at concentrations exceeding AGQS. Both of these VOCs have continued to be detected at concentrations exceeding AGQS during most sampling events. Naphthalene and 1,2,4-trimethylbenzene concentrations peaked in April 2008. Since November 2010, these contaminant concentrations have been relatively stable at levels below the April 2008 peak. Naphthalene and 1,2,4-trimethylbenzene concentration trends are depicted on Figure 10.

North Yard Portion of the Site

MW-1

Benzene, n-butylbenzene, 1,2-dichloroethane, ethylbenzene, naphthalene, n-propylbenzene, toluene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, and xylenes have been historically detected at concentrations exceeding AGQS. Benzene has continued to be detected at concentrations exceeding AGQS during all events in which the well was sampled. Naphthalene and 1,2,4-trimethylbenzene are also frequently detected at concentrations exceeding AGQS. While VOC concentrations in MW-1 generally exhibited a decreasing trend until November 2011, they have rebounded since that time. Furthermore, benzene was detected at its highest recorded level in this well during the October 2012 sampling event. Benzene concentration trends, which are generally reflective of total VOC trends, are depicted on Figure 11.

MW-2

Naphthalene has been the only VOC historically detected at concentrations exceeding AGQS. However, naphthalene was detected at a concentration exceeding AGQS during August 1999 sampling event only.

CONCLUSIONS

Based on the 2012 sampling results, the following compounds continue to exceed AGQS in the specified wells:

Area of Contamination	Monitoring Well/Well Point	Analyte Exceeding AGQS
Roundhouse (Platform)	JW-5	Free Product
Roundhouse (Platform)	WP-1	Naphthalene
Roundhouse (Platform)	WP-6	Free Product
Roundhouse (Platform)	WP-7	Naphthalene
Roundhouse (Platform)	CR-3	Naphthalene
Roundhouse (Richfield Oil)	JCO-604	Naphthalene, 1,2,4-Trimethylbenzene
North Yard (Tidewater Oil)	MW-1	Benzene, Ethylbenzene, Naphthalene, n-Propylbenzene, 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene

In general, contaminant concentrations have exhibited decreasing trends in wells/well points that monitor the Roundhouse-fueling platform area release. Two exceptions are monitoring well JW-5 and WP-7. In monitoring well JW-5, the measured product thickness has exhibited a slight increasing trend. In well point WP-7, naphthalene concentrations have also exhibited an increasing trend.

As discussed in Stantec's November 2012 *Results of Laser Induced Fluorescence Survey*, it does not appear that there is a distinct source of continued free product in the Site's wells. Rather, it appears that there is a long band of residual contaminated soil in the groundwater smear zone

extending from the former fueling platform to the banks of the Connecticut River. As depicted on Figure 12, the band of impacted soil forms a northeast to southwest trending line from the southern end of the rail platform toward the river. The occurrence of this impacted soil does not necessarily correlate with free product detections. As depicted on Figure 12, and as discussed in the LIF Survey report, there are several wells located in the impacted zone (ERM-5, ERM-1, and JW-3) where neither free product nor significantly impacted groundwater have been noted. The appearance of free product in well JW-5 and well point WP-6 is likely attributable to a combination of local factors such as the presence of the original B&M containment trench/berm and influences on groundwater flow by the Connecticut River.

Contaminant concentrations in monitoring well JCO-604, which is located within the former Richfield Oil Company portion of the Site, also exhibit a generally decreasing trend over time. However, groundwater contaminant concentrations remain elevated above AGQS.

Contaminant concentrations in monitoring well MW-1, which is located within the former Tidewater Oil Company portion of the Site, had exhibited generally decreasing trends until November 2011. However, contaminant concentrations have spiked over the past two sampling events with benzene being recorded at its highest level for the well in October 2012. The highest contaminant concentrations in MW-1 appear to correlate with a drop in water levels below 17.5 feet below ground surface. This is approximately the depth at which soil staining and a gasoline odor were noted at the time of the well's installation in 1999.

GZA's August 2009 soil excavation stopped approximately 15 feet northeast of monitoring well MW-1. The excavation reached a maximum depth of approximately 15 feet below ground surface. However, deeper excavation was limited by the groundwater table and two confirmatory samples collected from the bottom of the excavation contained VOCs at concentrations exceeding SRS. Therefore, it appears that there may be residual contaminant mass in soil, particularly at depths greater than 15 feet below ground surface that could be acting as a continuing source of groundwater contamination in MW-1.

GMZ PROPERTIES

The Site's lot, which is identified in City of Lebanon Assessor's records as Map 72, Lot 5, is included in the proposed GMZ. In addition, since the former Tidewater Oil portion of the Site was subdivided as a separate lot after its sale to the City of Lebanon in 2010, this new lot (Map 72, Lot 90) is also included in the proposed GMZ.

The proposed GMZ boundary and adjoining properties are shown on Figures 13A and 13B. GMZ property information is as follows:

Lebanon Tax Map/Lot	Property Address	Owner Name and Address	Grafton County Registry of Deeds Reference (Book/Page)
72/5	Railroad Avenue West Lebanon, NH	State of New Hampshire Department of Transportation P.O. Box 483 Concord, NH 03302	2409/865
72/90	Bridge Street West Lebanon, NH	City of Lebanon 51 North Park Street Lebanon, NH 03766	3676/734

PROPOSED GMP MONITORING PROGRAM

Based on the data summary presented above, Stantec recommends the following GMP monitoring program:

Area of Contamination	Monitoring Wells/Well Points	Sampling Frequency	Analytical Parameters
Roundhouse (Platform)	ERM-3, JW-5, WP-1, WP-5, WP-6, WP-7	April and October each year	Full List VOCs, water/product levels
Roundhouse (Richmond Oil)	JCO-604	April and October each year	Full List VOCs, water levels
North Yard (Tidewater Oil)	MW-1	April and October each year	Full List VOCs, water levels

As noted previously, monitoring wells MW-8 and MW-10 were decommissioned when bridge construction commenced near the northern end of the Site. Bridge construction activities are still ongoing at the Site. Although the existing GMP stipulates that these two wells must be replaced upon completion of construction activities, NHDES has observed that groundwater in the vicinity of these former wells is adequately monitored under the GMP for the T&R Sidelines property. Therefore, rather than reinstalling these two wells, upgradient impacts can be monitored by the existing well network associated with the T&R Sidelines property. Specifically, monitoring wells MW-9 and MW-401 are located upgradient to sidegradient of former monitoring wells MW-8 and MW-10, respectively. Since monitoring wells MW-9 and MW-401 are currently sampled under the T&R Sidelines monitoring program, Stantec recommends reviewing the groundwater quality data collected from these wells during the T&R Sidelines sampling events rather than sampling them separately as part of the GMP monitoring program for the North Yard area.

In addition to the groundwater sampling, Stantec recommends conducting passive recovery of LNAPL from the monitoring points in which it is detected using adsorbent socks on a bimonthly basis (May, July, September and November). To be cost effective, NAPL recovery visits in May and November could be coordinated with the GMP sampling normally scheduled for those months

We trust that this information is sufficient for your needs. If you have any questions or comments, or require any additional information, please call us at (603) 669-8672.

Sincerely,

STANTEC CONSULTING SERVICES INC.

Abigail Bline
Project Scientist

David A. Allwine, P.G.
Senior Associate

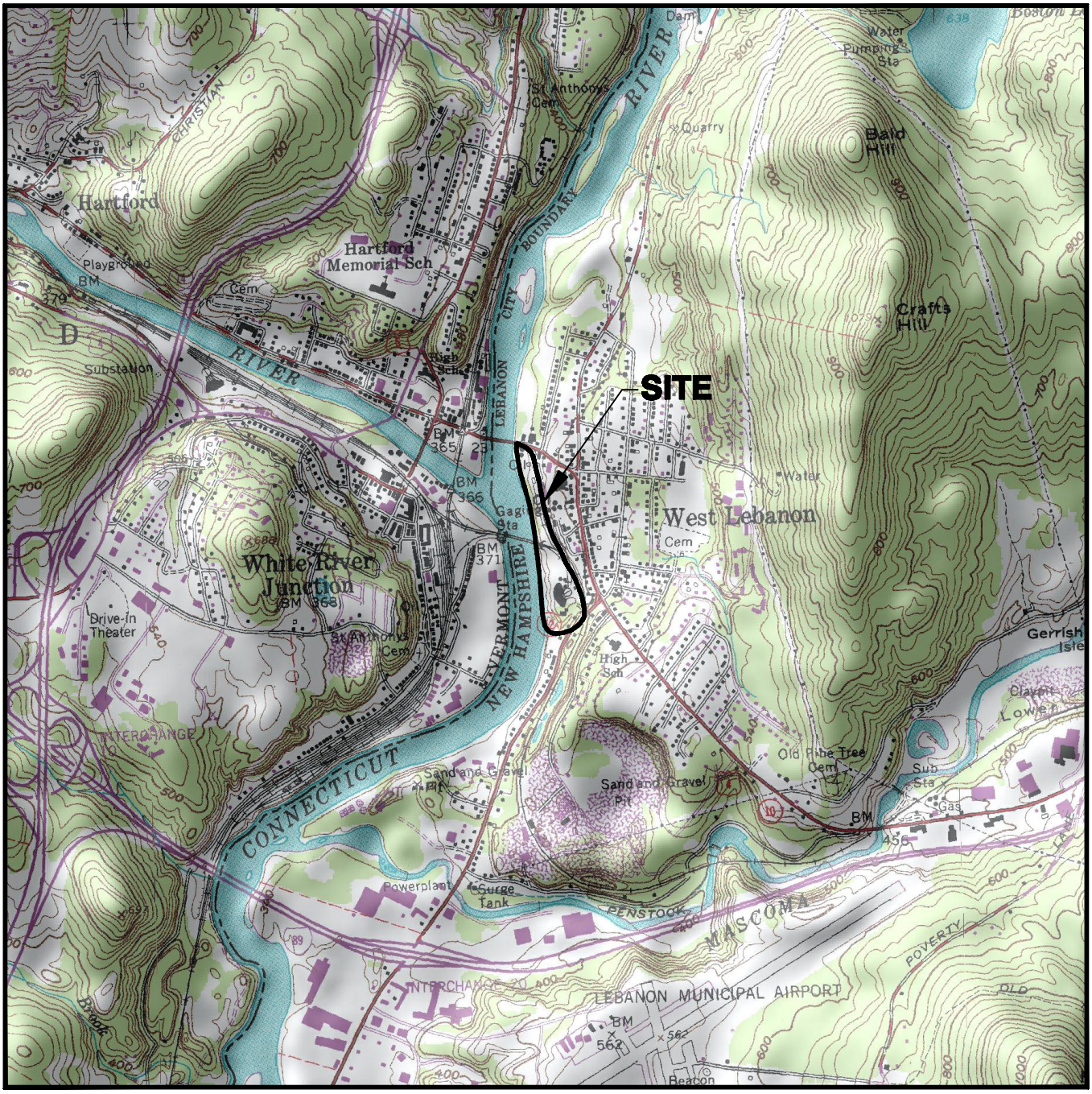
Leigh-Anne Sapienza
Project Manager

APB/DAA/LS:apb

Attachments

cc: Dale O'Connell, NHDOT

FIGURES



MAP SOURCE: UNITED STATES GEOLOGICAL SURVEY TOPOGRAPHIC MAPS
HANOVER, N.H. – VT.
43072–F3–TF–024

NORTH

2000 0 2000
Scale in feet

Stantec Consulting Services, Inc.

Stantec

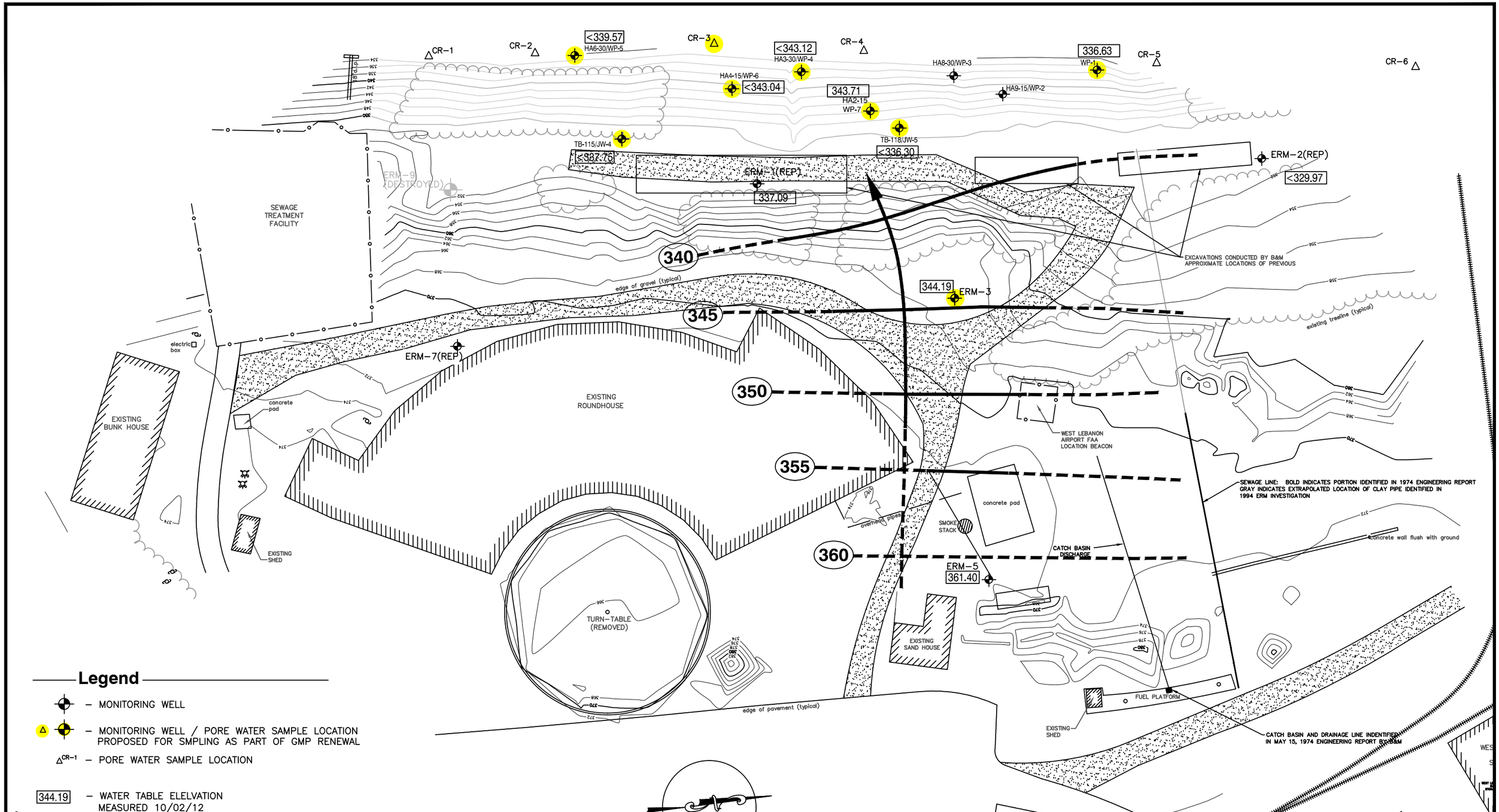
STANTEC LOCATION: AUBURN, NEW HAMPSHIRE				
DATE PREPARED: 1–06–10	DESIGNED BY: LS	DRAWN BY: JJW	CHECKED BY: LS	REVIEWED BY: DAA
REVISION DATE:	REVISION NO:	DRAWN BY:	CHECKED BY:	REVIEWED BY:
PROJECT NAME/FILE NAME: LEBANON/SITE		PROJECT NUMBER/PHASE: 191710015	SCALE: 1:24000	PREPARED FOR: NHDOT

DRAWING TITLE:

SITE LOCATION MAP

WESTBORO ROUNDHOUSE
26 RAILROAD AVENUE
WEST LEBANON, NEW HAMPSHIRE

FIGURE NO. 1



Legend

- MONITORING WELL
- MONITORING WELL / PORE WATER SAMPLE LOCATION PROPOSED FOR SMPLING AS PART OF GMP RENEWAL
- CR-1 – PORE WATER SAMPLE LOCATION
- 344.19 – WATER TABLE ELELVATION MEASURED 10/02/12
- 340 – GROUNDWATER CONTOUR (DASHED WHERE INFERRED)
- INFERRED DIRECTION OF GROUNDWATER FLOW

NOTE:
WELL POINT ELEVATIONS WERE NOT USED IN DETERMINING GROUNDWATER FLOW BECAUSE THEIR ELEVATIONS APPEAR TO HAVE CHANGED FROM THEIR ORIGINALLY SURVEYED ELEVATIONS.

Stantec Consulting Services, Inc.

Stantec

STANTEC OFFICE LOCATION: AUBURN, NEW HAMPSHIRE				
DATE PREPARED: 1-31-13	DESIGNED BY: JJW	DRAWN BY: JJW	CHECKED BY: APB	REVIEWED BY: DAA
REVISION DATE:	REVISION NO:	DRAWN BY:	CHECKED BY:	REVIEWED BY:
PROJECT NAME/FILE NAME: LEBANON/OCT		PROJECT NUMBER/PHASE: 191710015		SCALE: AS SHOWN

DRAWING TITLE:
SITE PLAN AND GROUNDWATER FLOW MAP
WESTBORO ROUNDHOUSE
26 RAILROAD AVENUE
WEST LEBANON, NEW HAMPSHIRE

PREPARED FOR: NHDOT

FIGURE NO. 2

CONNECTICUT RIVER

LOT 72-90
(CITY OF LEBANON)

LOCATION OF FORMER ASTS

MW-204

MW-1

MW-2

MW-8

MW-9

MW-112
MW-112D

MW-401

T&R SIDELINES PROPERTY

FORMER GARAGE BUILDING FOUNDATION SLAB

LOT 72-5
(STATE OF NEW HAMPSHIRE)

MW-10

MW-7

FOUNDATION SLAB

BRIDGE STREET

LOT 72-26

MW-4

MW-5

LOT 72-25

CCRR CORP
EAGLE LEAF CONCRETE

MW-6

COMMERCIAL DRIVE

CRAFT AVENUE

JCO-604

MW-3

FORMER PURCELL OIL

0 50' 100'

Legend

- MONITORING WELL
- FORMER MONITORING WELL
- MONITORING WELL PROPOSED FOR SAMPLING UNDER RENEWED GMP
- SB-7 – APPROXIMATE LOCATION OF MAY, 2009 TEST BORINGS
- TP-8 – LOCATION OF TEST PITS (10/30-11/3 2008

NOTE: THIS MAP WAS DEVELOPED BASED ON PROPERTY BOUNDARY AND LOT INFORMATION AVAILABLE ONLINE THROUGH THE LEBANON, NEW HAMPSHIRE PROPERTY VIEWER AND NHDOT PLAN OF LEBANON-HARTFORD, A000(627), 14957 SHEETS 17-19; AND A PLAN ENTITLED "FORMER TIDEWATER OIL COMPANY" PREPARED BY GZA GEOENVIRONMENTAL, INC. ENGINEERS AND SCIENTISTS DATED MAY 2009.

Stantec Consulting Services, Inc.

Stantec

STANTEC OFFICE LOCATION: AUBURN, NEW HAMPSHIRE				
DATE PREPARED: 1-04-13	DESIGNED BY: JJW	DRAWN BY: JJW	CHECKED BY: LS	REVIEWED BY: DAA
REVISION DATE:	REVISION NO:	DRAWN BY:	CHECKED BY:	REVIEWED BY:
PROJECT NAME/FILE NAME: ROUNDHOUSE/SITE		PROJECT NUMBER/PHASE: 191710015		SCALE: AS SHOWN

DRAWING TITLE:

SITE PLAN

WESTBORO NORTH YARD
26 RAILROAD AVENUE
WEST LEBANON, NEW HAMPSHIRE

PREPARED FOR: NHDOT

FIGURE NO. 3

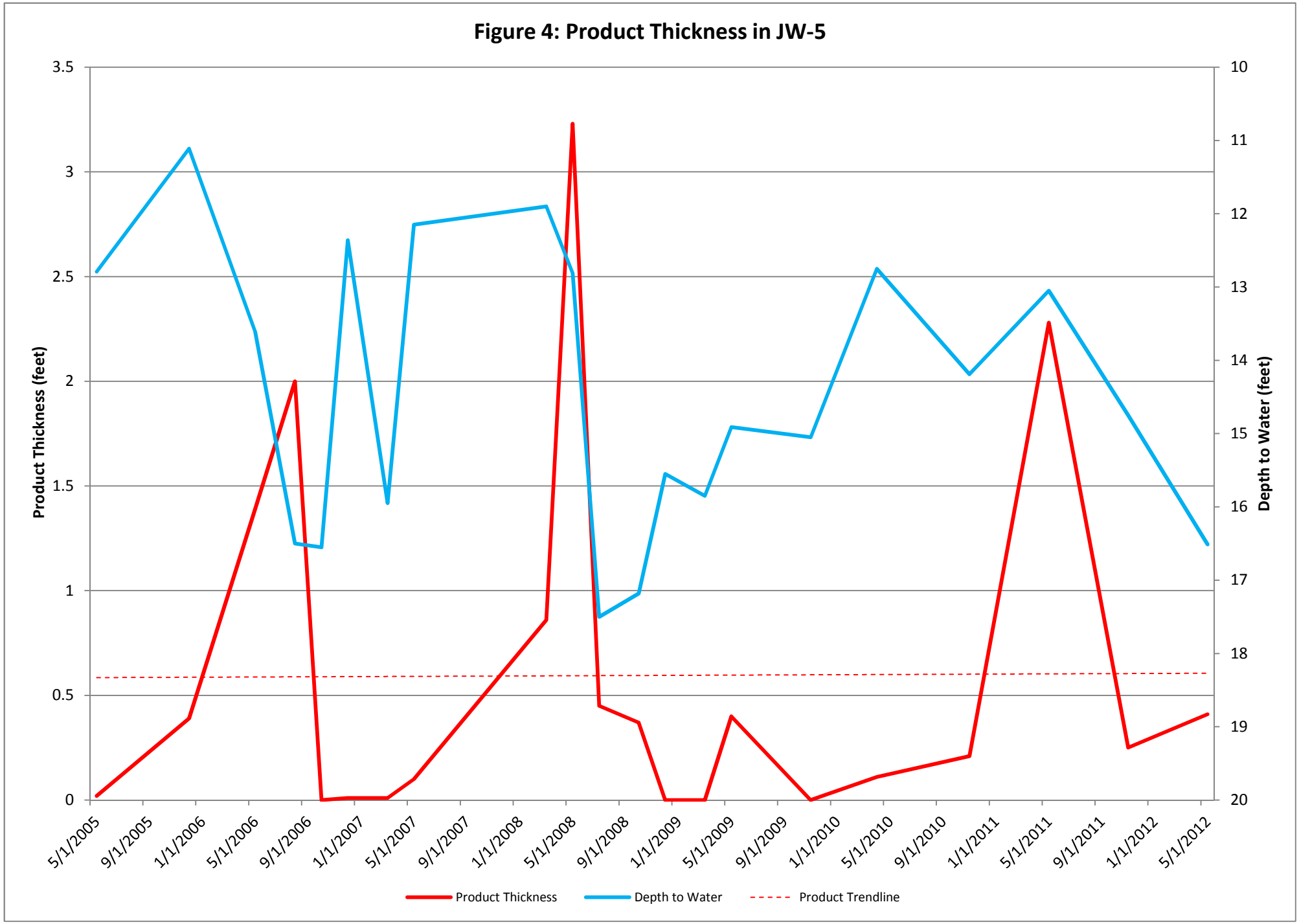


Figure 4: Product Thickness in JW-5
Product Thickness (feet)
Depth to Water (feet)
3.5
3
2.5
2
1.5
1
0.5
0
10
11
12
13
14
15
16
17
18
19
20
5/1/2005
9/1/2005
1/1/2006
5/1/2006
9/1/2006
1/1/2007
5/1/2007
9/1/2007
1/1/2008
5/1/2008
9/1/2008
1/1/2009
5/1/2009
9/1/2009
1/1/2010
5/1/2010
9/1/2010
1/1/2011
5/1/2011
9/1/2011
1/1/2012
5/1/2012
Product Thickness
Depth to Water
Product Trendline

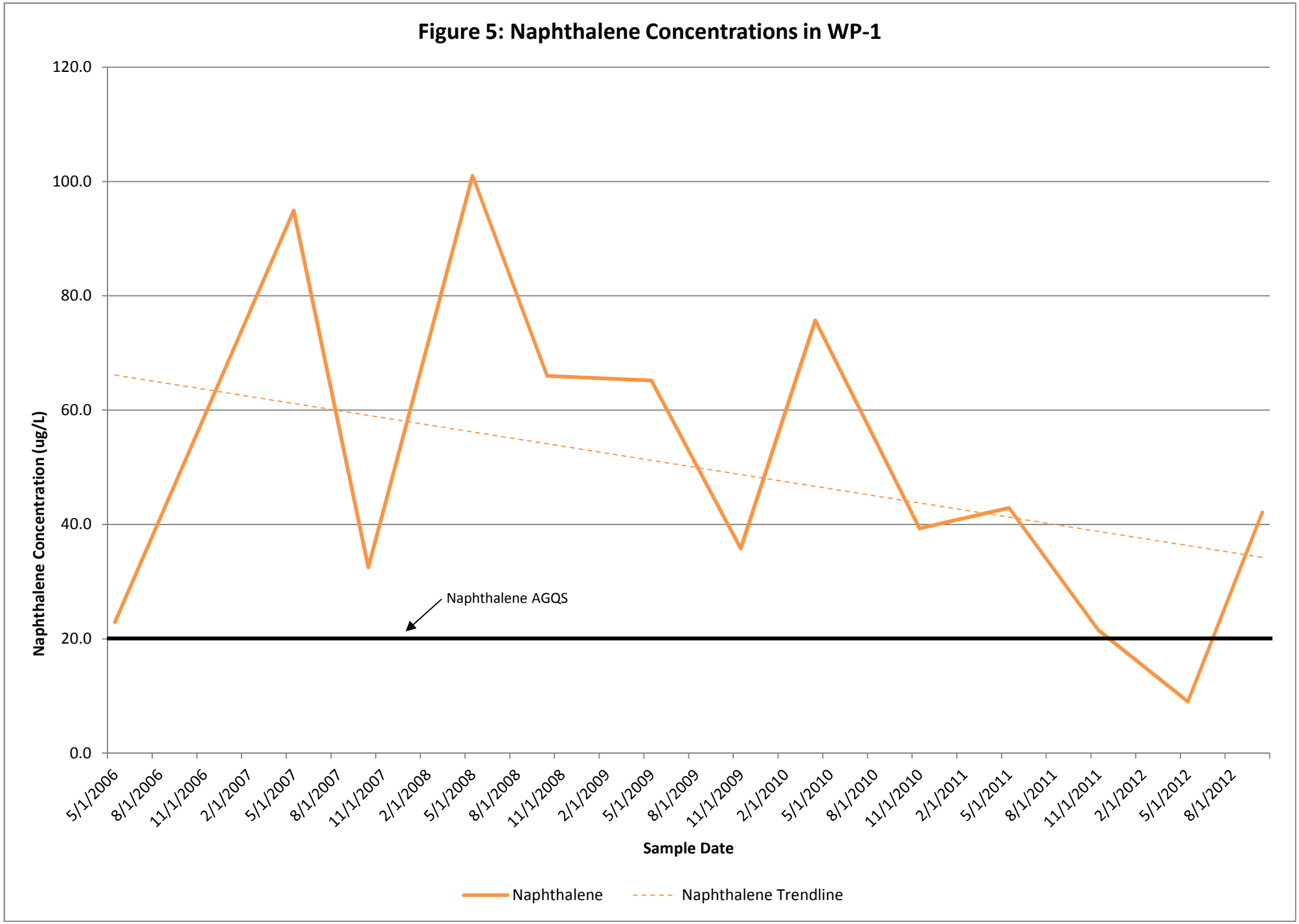


Figure 5: Naphthalene Concentrations in WP-1
120.0
100.0
80.0
60.0
40.0
20.0
0.0
Naphthalene Concentration (ug/L)
Naphthalene AGQS
5/1/2006
8/1/2006
11/1/2006
2/1/2007
5/1/2007
8/1/2007
11/1/2007
2/1/2008
5/1/2008
8/1/2008
11/1/2008
2/1/2009
5/1/2009
8/1/2009
11/1/2009
2/1/2010
5/1/2010
8/1/2010
11/1/2010
2/1/2011
5/1/2011
8/1/2011
11/1/2011
2/1/2012
5/1/2012
8/1/2012
Sample Date
Naphthalene
Naphthalene Trendline

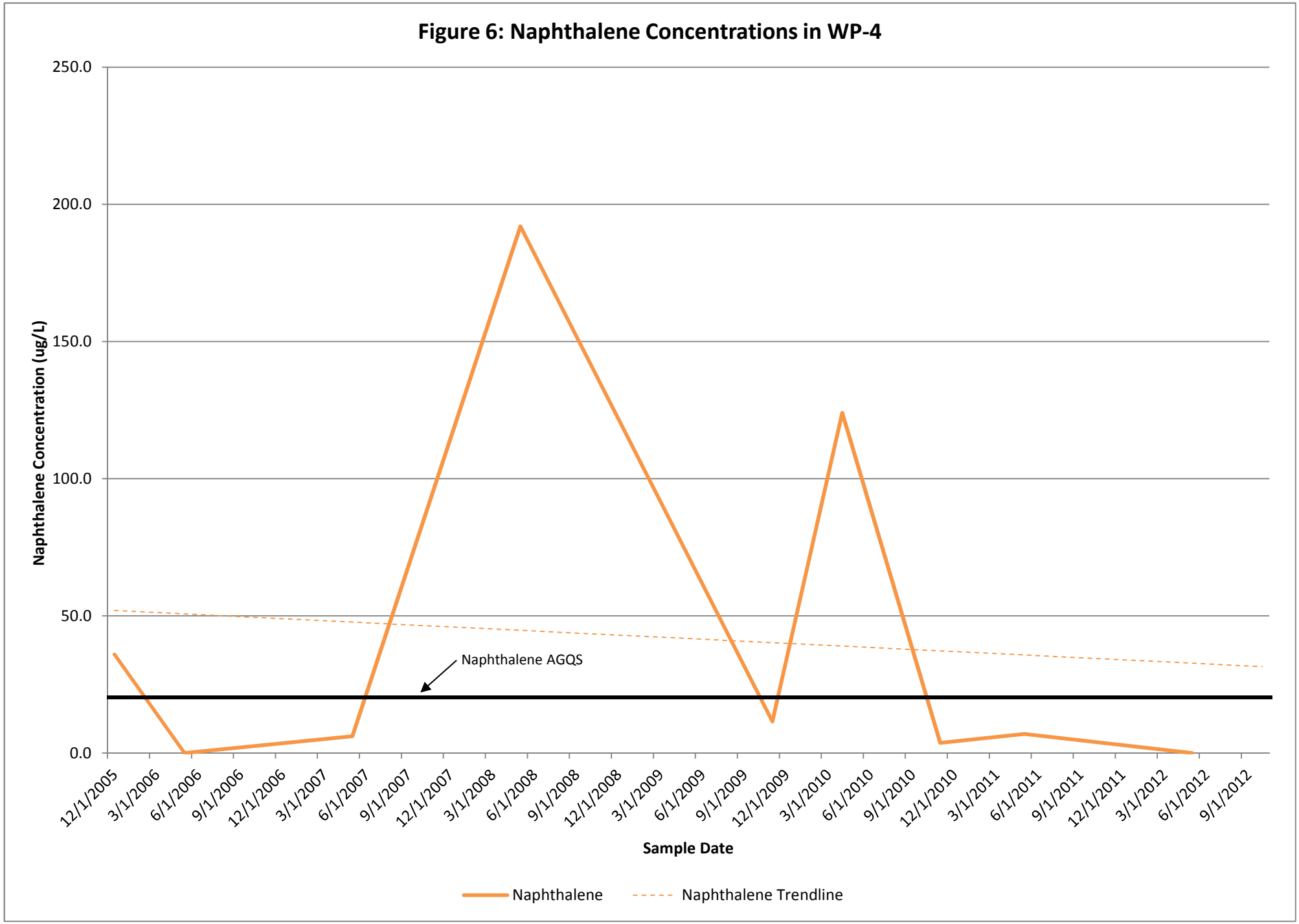


Figure 6: Naphthalene Concentrations in WP-4
250.0
200.0
150.0
100.0
50.0
0.0
Naphthalene Concentration (ug/L)
Naphthalene AGQS
12/1/2005
3/1/2006
6/1/2006
9/1/2006
12/1/2006
3/1/2007
6/1/2007
9/1/2007
12/1/2007
3/1/2008
6/1/2008
9/1/2008
12/1/2008
3/1/2009
6/1/2009
9/1/2009
12/1/2009
3/1/2010
6/1/2010
9/1/2010
12/1/2010
3/1/2011
6/1/2011
9/1/2011
12/1/2011
3/1/2012
6/1/2012
9/1/2012
Sample Date
Naphthalene
Naphthalene Trendline

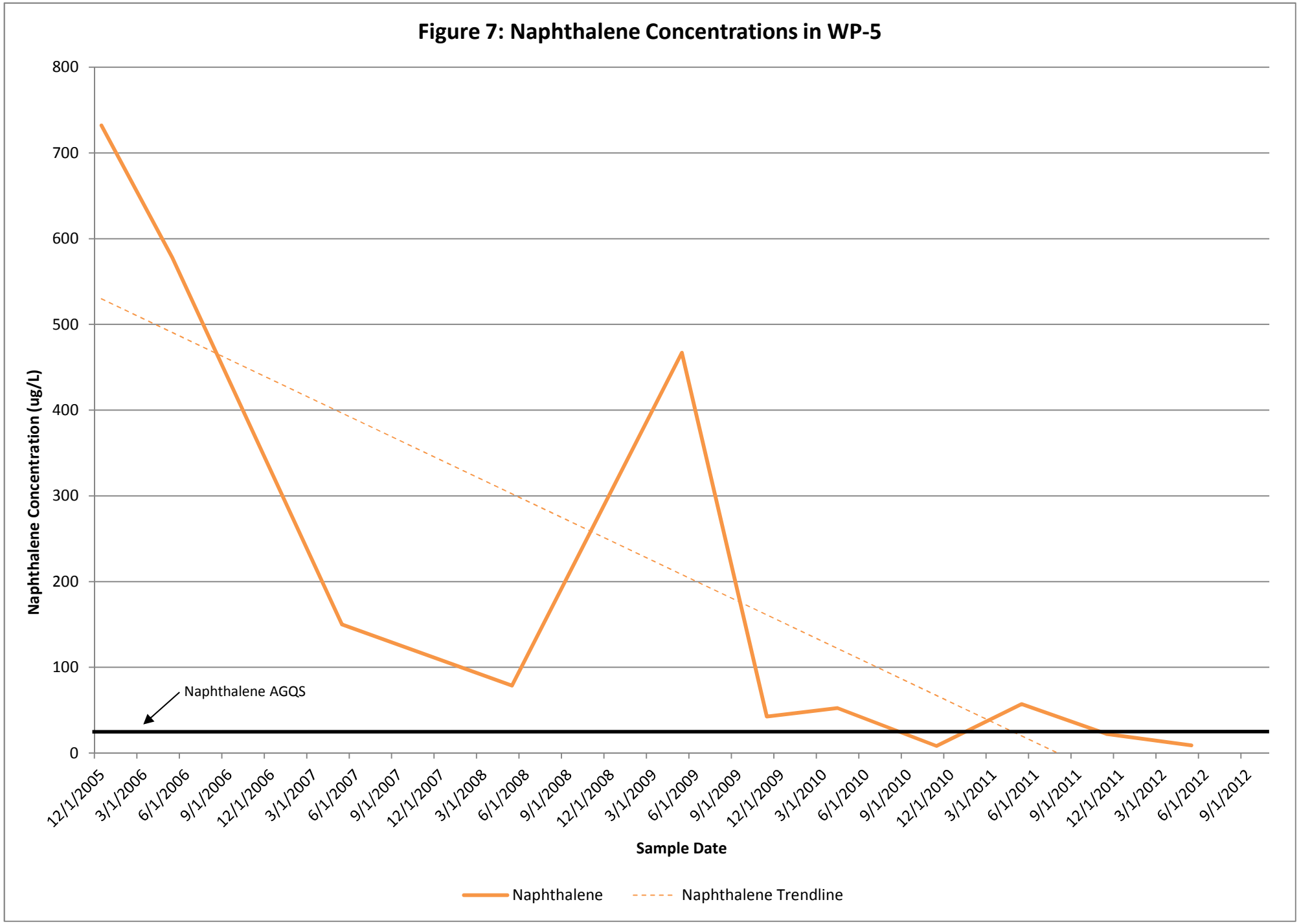


Figure 7: Naphthalene Concentrations in WP-5
Naphthalene Concentration (ug/L)
800
700
600
500
400
300
200
100
0
Naphthalene AGQS
12/1/2005
3/1/2006
6/1/2006
9/1/2006
12/1/2006
3/1/2007
6/1/2007
9/1/2007
12/1/2007
3/1/2008
6/1/2008
9/1/2008
12/1/2008
3/1/2009
6/1/2009
9/1/2009
12/1/2009
3/1/2010
6/1/2010
9/1/2010
12/1/2010
3/1/2011
6/1/2011
9/1/2011
12/1/2011
3/1/2012
6/1/2012
9/1/2012
Sample Date
Naphthalene
Naphthalene Trendline

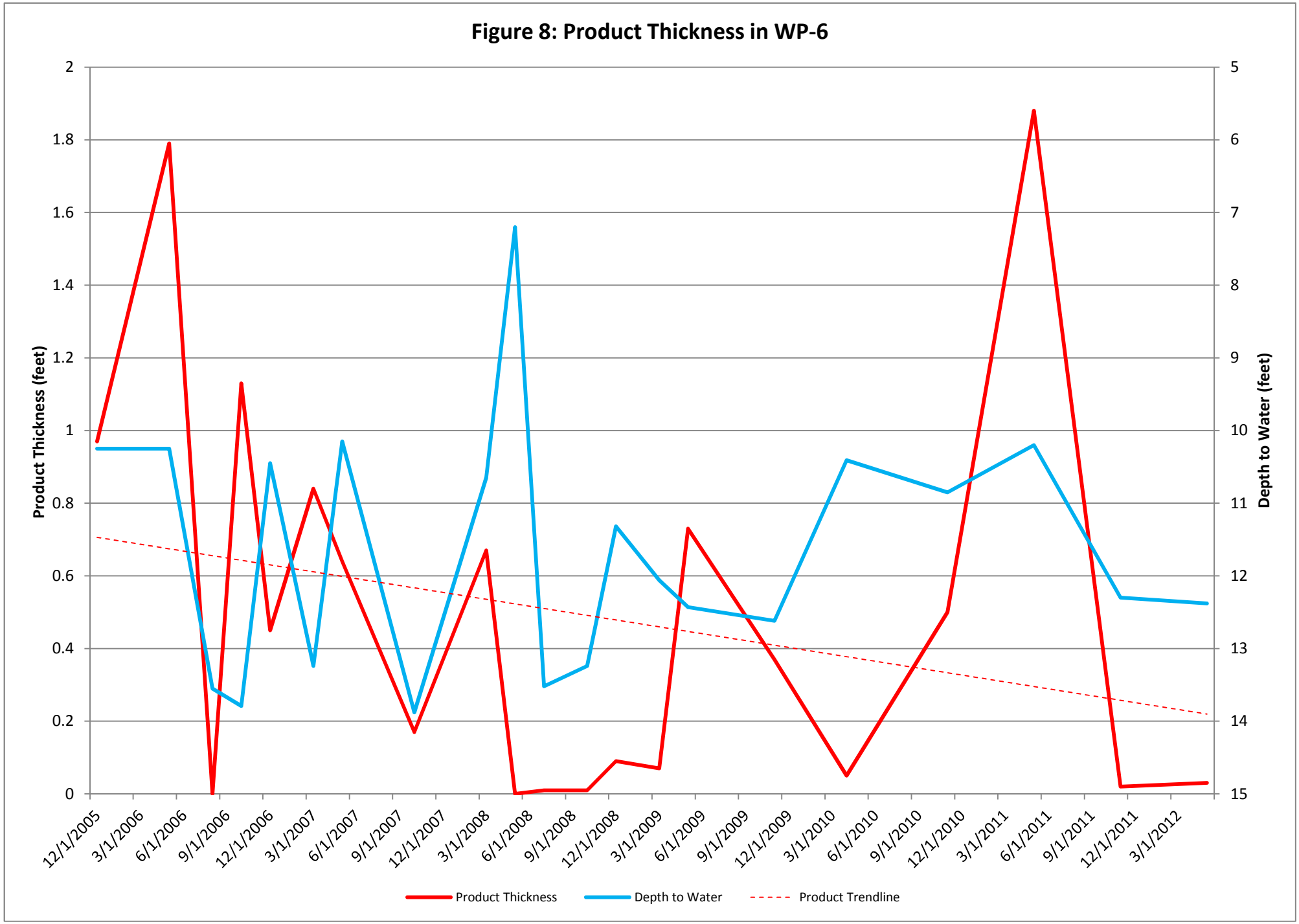


Figure 8: Product Thickness in WP-6
Product Thickness (feet)
Depth to Water (feet)
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
5
6
7
8
9
10
11
12
13
14
15
12/1/2005
3/1/2006
6/1/2006
9/1/2006
12/1/2006
3/1/2007
6/1/2007
9/1/2007
12/1/2007
3/1/2008
6/1/2008
9/1/2008
12/1/2008
3/1/2009
6/1/2009
9/1/2009
12/1/2009
3/1/2010
6/1/2010
9/1/2010
12/1/2010
3/1/2011
6/1/2011
9/1/2011
12/1/2011
3/1/2012
Product Thickness
Depth to Water
Product Trendline

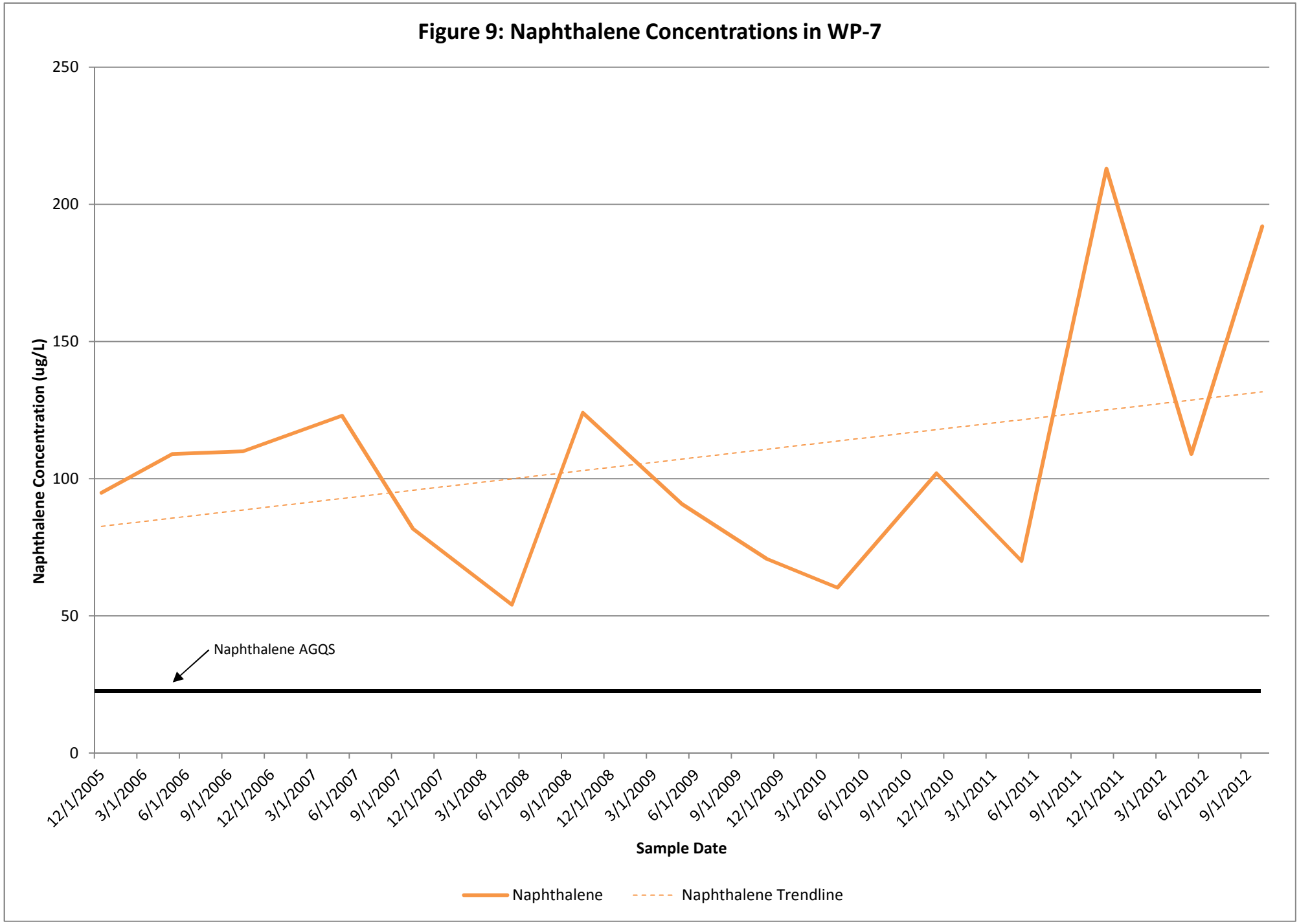


Figure 9: Naphthalene Concentrations in WP-7
Naphthalene Concentration (ug/L)
250
200
150
100
50
0
Naphthalene AGQS
12/1/2005
3/1/2006
6/1/2006
9/1/2006
12/1/2006
3/1/2007
6/1/2007
9/1/2007
12/1/2007
3/1/2008
6/1/2008
9/1/2008
12/1/2008
3/1/2009
6/1/2009
9/1/2009
12/1/2009
3/1/2010
6/1/2010
9/1/2010
12/1/2010
3/1/2011
6/1/2011
9/1/2011
12/1/2011
3/1/2012
6/1/2012
9/1/2012
Sample Date
Naphthalene
Naphthalene Trendline

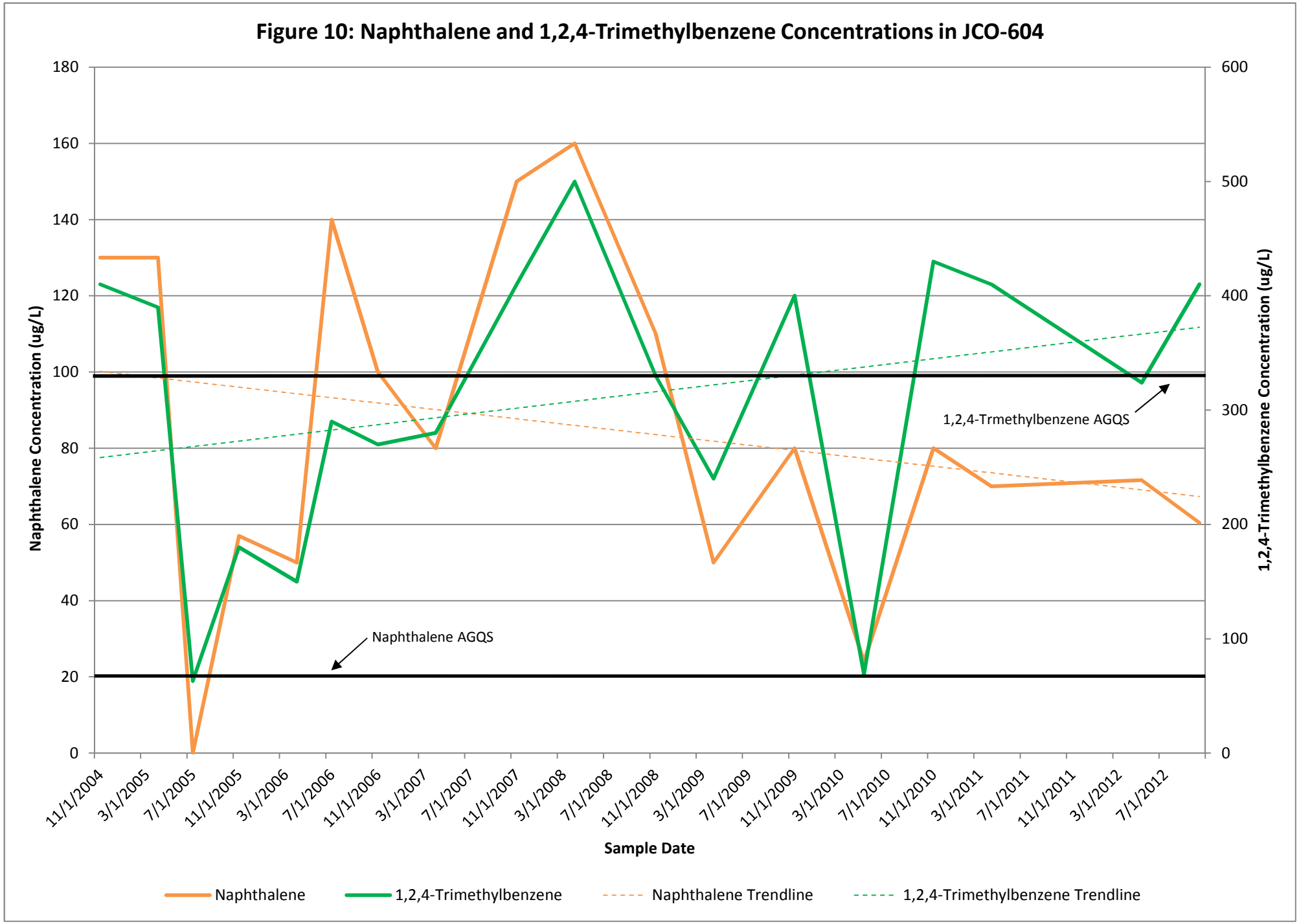


Figure 10: Naphthalene and 1,2,4-Trimethylbenzene Concentrations in JCO-604
Naphthalene Concentration (ug/L)
1,2,4-Trimethylbenzene Concentration (ug/L)
Sample Date
Naphthalene AGQS
1,2,4-Trmethylbenzene AGQS
Naphthalene
1,2,4-Trimethylbenzene
Naphthalene Trendline
1,2,4-Trimethylbenzene Trendline

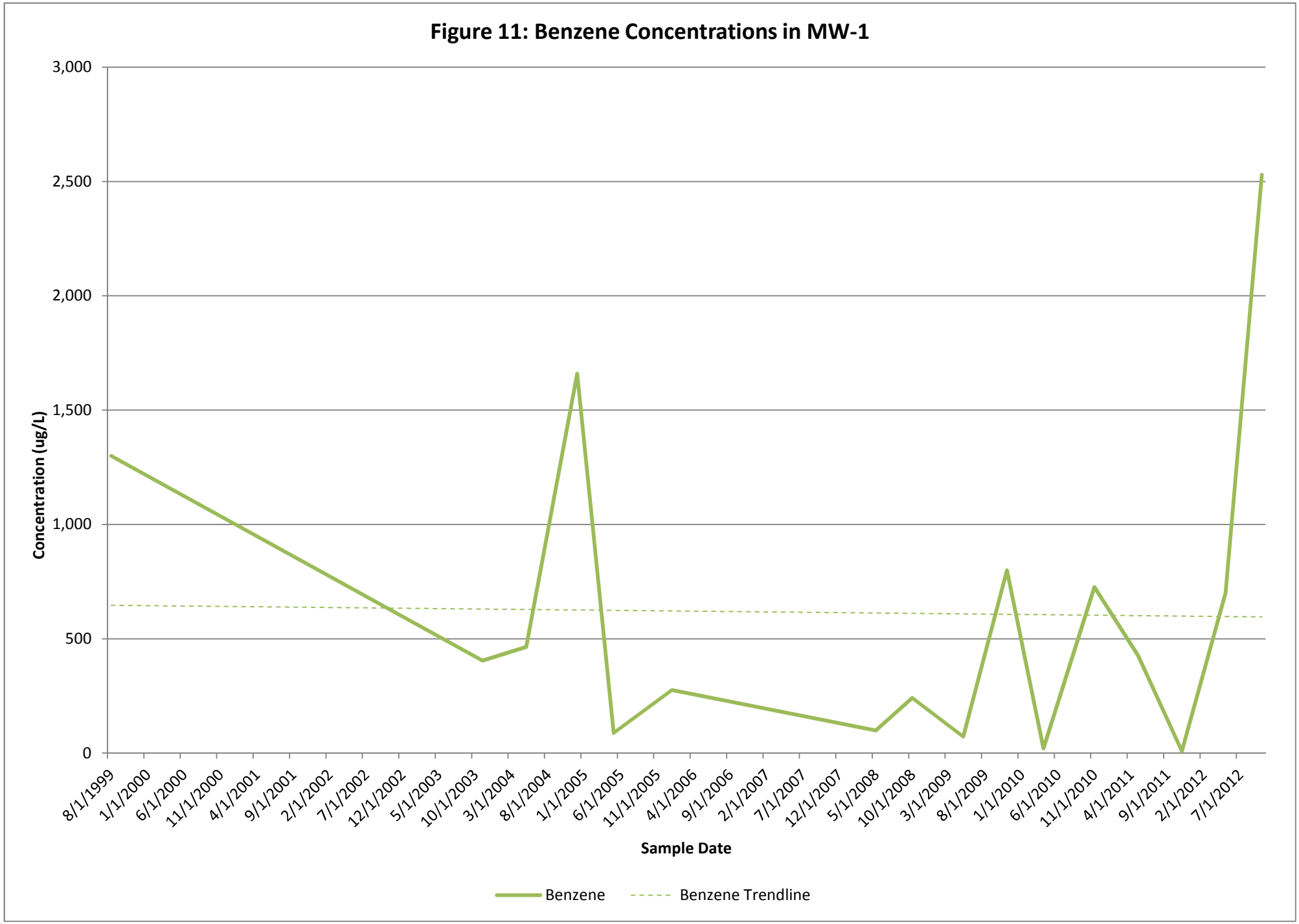
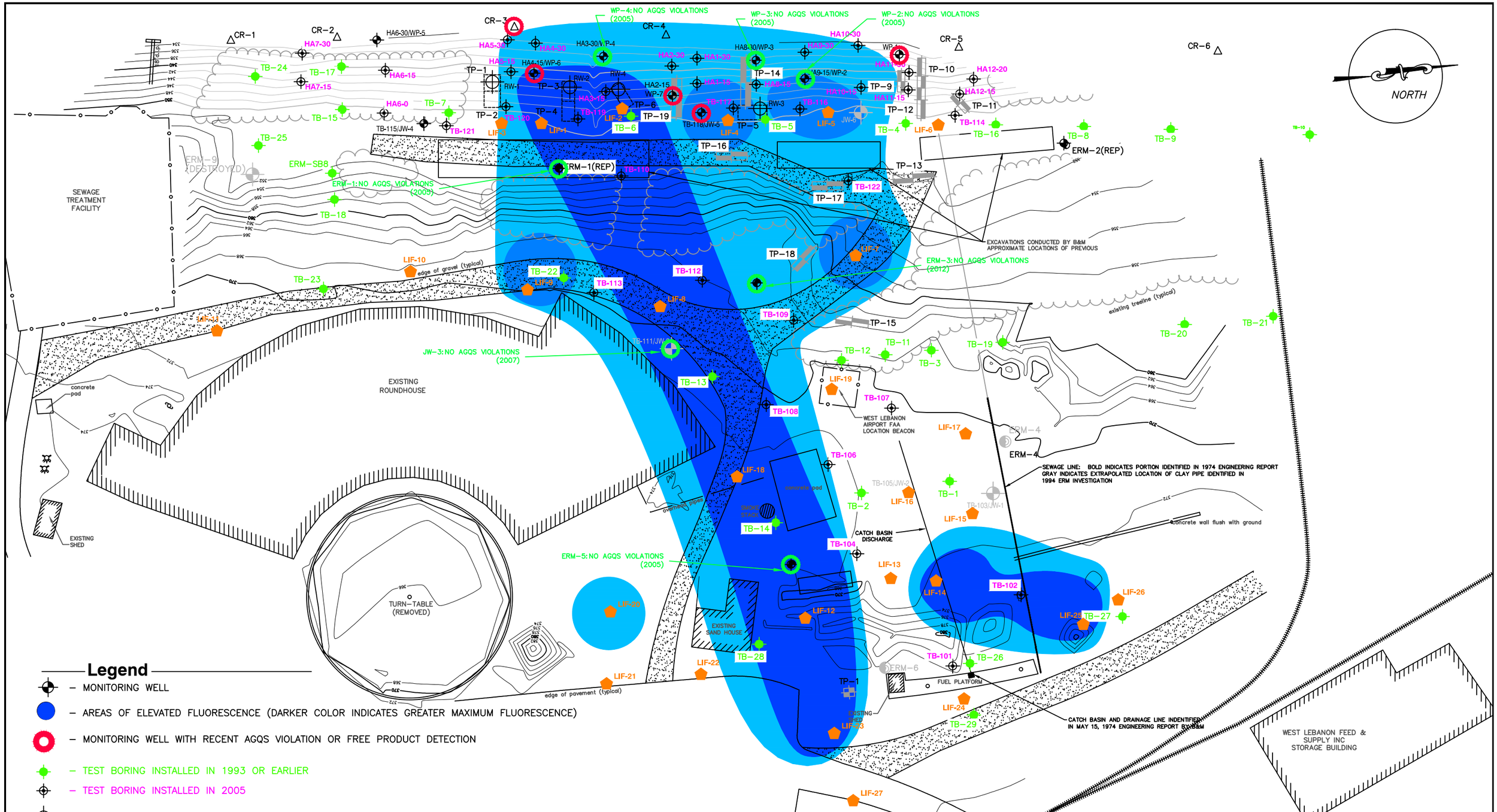


Figure 11: Benzene Concentrations in MW-1
3,000
2,500
2,000
1,500
1,000
500
0
Concentration (ug/L)
8/1/1999
1/1/2000
6/1/2000
11/1/2000
4/1/2001
9/1/2001
2/1/2002
7/1/2002
12/1/2002
5/1/2003
10/1/2003
3/1/2004
8/1/2004
1/1/2005
6/1/2005
11/1/2005
4/1/2006
9/1/2006
2/1/2007
7/1/2007
12/1/2007
5/1/2008
10/1/2008
3/1/2009
8/1/2009
1/1/2010
6/1/2010
11/1/2010
4/1/2011
9/1/2011
2/1/2012
7/1/2012
Sample Date
Benzene
Benzene Trendline



Stantec Consulting Services, Inc.

Stantec

STANTEC OFFICE LOCATION: AUBURN, NEW HAMPSHIRE				
DATE PREPARED: 1-28-13	DESIGNED BY: JJW	DRAWN BY: JJW	CHECKED BY: LS	REVIEWED BY: DAA
REVISION DATE:	REVISION NO:	DRAWN BY:	CHECKED BY:	REVIEWED BY:
PROJECT NAME/FILE NAME: ROUNDHOUSE/SITE		PROJECT NUMBER/PHASE: 191710015	SCALE: AS SHOWN	

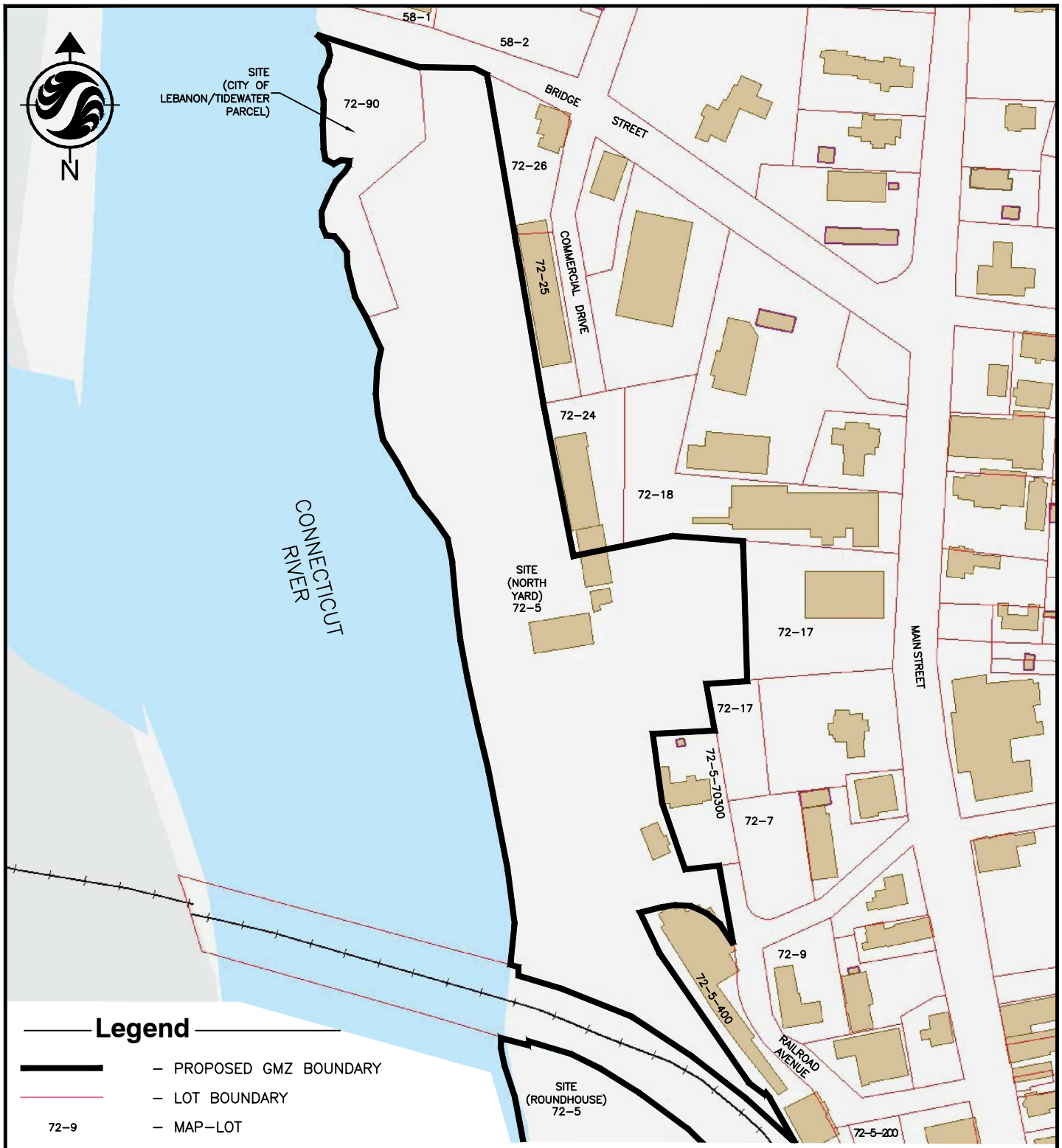
DRAWING TITLE:

COMPARISON OF LIF RESULTS AND GROUNDWATER DATA

WESTBORO ROUNDHOUSE
26 RAILROAD AVENUE
WEST LEBANON, NEW HAMPSHIRE

PREPARED FOR: NHDOT

FIGURE NO. 12



NOTES:
1. DEVELOPED FROM CITY OF LEBANON ONLINE GIS ASSESSOR'S MAP

Stantec Consulting Services Inc.

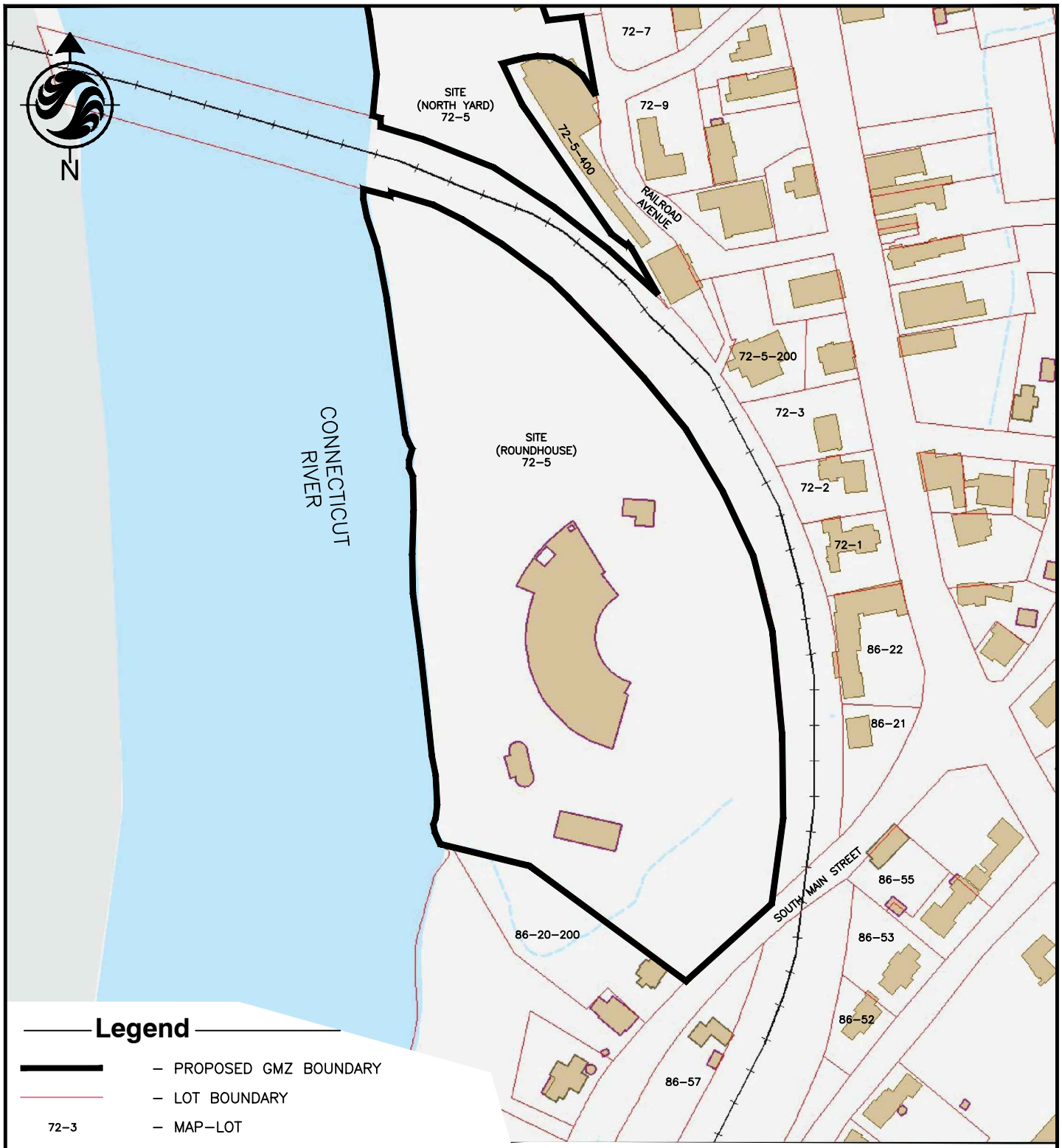
Stantec

STANTEC LOCATION: AUBURN, NEW HAMPSHIRE				
DATE PREPARED: 1-24-13	DESIGNED BY: JJW	DRAWN BY: JJW	CHECKED BY: APB	REVIEWED BY: DAA
REVISION DATE:	REVISION NO:	DRAWN BY:	CHECKED BY:	REVIEWED BY:
PROJECT NAME/FILE NAME: LEBANON/OCT		PROJECT NUMBER/PHASE: 191710015	SCALE: AS SHOWN	PREPARED FOR: NHDOT

DRAWING TITLE:
PROPOSED GMZ BOUNDARY-NORTH

WESTBORO ROUNDHOUSE
26 RAILROAD AVENUE
WEST LEBANON, NEW HAMPSHIRE

FIGURE NO. **13A**



NOTES:
1. DEVELOPED FROM CITY OF LEBANON ONLINE GIS ASSESSOR'S MAP

Stantec Consulting Services Inc.

Stantec

STANTEC LOCATION: AUBURN, NEW HAMPSHIRE					DRAWING TITLE: PROPOSED GMZ BOUNDARY-SOUTH
DATE PREPARED: 1-24-13	DESIGNED BY: JJW	DRAWN BY: JJW	CHECKED BY: APB	REVIEWED BY: DAA	WESTBORO ROUNDHOUSE 26 RAILROAD AVENUE WEST LEBANON, NEW HAMPSHIRE
REVISION DATE:	REVISION NO:	DRAWN BY:	CHECKED BY:	REVIEWED BY:	
PROJECT NAME/FILE NAME: LEBANON/OCT		PROJECT NUMBER/PHASE: 191710015	SCALE: AS SHOWN		PREPARED FOR: NHDOT

FIGURE NO. 13B

TABLES

Table 1A
Groundwater Elevation Data
NHDOT Westboro Roundhouse
West Lebanon, New Hampshire

Monitoring Well	Date	TOC Elevation (feet)	PVC Elevation (feet)	Depth to Water (feet)	Potentiometric Elevation (feet)
ERM-1	1/11/2012	Decommissioned			
ERM-1 (rep.)	5/12/2000	353.55	353.30	8.73	344.82
	8/29/2000	353.55	353.30	13.03	340.52
	12/4/2003	353.55	353.30	10.59	342.96
	5/19/2005	353.55	353.30	10.70	342.85
	12/7/2005	353.55	353.30	NA	-
	5/19/2006	353.55	353.30	NA	-
	8/17/2006	353.55	353.30	NM	-
	10/6/2006	353.55	353.30	NM	-
	12/6/2006	353.55	353.30	NM	-
	3/6/2007	353.55	353.30	NM	-
	5/9/2007	353.55	353.30	NM	-
	10/10/2007	353.55	353.30	14.05	339.50
	3/27/2008	353.55	353.30	9.29	344.26
	5/1/2008	353.55	353.30	NM	-
	7/7/2008	353.55	353.30	CNL	-
	10/2/2012	353.55	353.30	16.21	337.09
ERM-2	1/11/2012	Decommissioned			
ERM-2 (rep.)	5/12/2000	353.75	353.50	15.92	337.83
	8/29/2000	353.75	353.50	23.84	329.91
	12/4/2003	353.75	353.50	18.75	335.00
	5/19/2005	353.75	353.50	18.93	334.82
	12/7/2005	353.75	353.50	NA	-
	5/19/2006	353.75	353.50	NA	-
	8/17/2006	353.75	353.50	NM	-
	10/6/2006	353.75	353.50	NM	-
	12/6/2006	353.75	353.50	NM	-
	3/6/2007	353.75	353.50	NM	-
	5/9/2007	353.75	353.50	NM	-
	10/10/2007	353.75	353.50	23.94	329.56
	3/27/2008	353.75	353.50	19.06	334.44
	5/1/2008	353.75	353.50	NM	-
	7/7/2008	353.75	353.50	22.61	330.89
	5/4/2012	353.75	353.50	21.95	331.55
	10/2/2012	353.75	353.50	>23.53	<329.97
ERM-3	5/12/2000	369.59	369.34	20.44	349.15
	8/29/2000	369.59	369.34	22.26	347.33
	12/4/2003	369.59	369.34	20.74	348.85
	5/19/2005	369.59	369.34	20.99	348.60
	12/7/2005	369.59	369.34	19.90	349.69
	5/19/2006	369.59	369.34	20.99	348.60
	8/17/2006	369.59	369.34	NM	-
	10/6/2006	369.59	369.34	22.25	347.34
	12/6/2006	369.59	369.34	20.39	349.20
	3/6/2007	369.59	369.34	NM	-
	5/9/2007	369.59	369.34	20.45	349.14
	10/10/2007	369.59	369.34	23.07	346.52
	3/27/2008	369.59	369.34	20.23	349.36
	5/1/2008	369.59	369.34	19.67	349.92
	7/7/2008	369.59	369.34	22.18	347.41
	10/20/2008	369.59	369.34	22.57	347.02
	12/11/2008	369.59	369.34	21.85	347.74
	3/4/2009	369.59	369.34	22.51	347.08
	5/27/2009	369.59	369.34	21.87	347.72
	11/9/2009	369.59	369.34	21.65	347.94
	4/23/2010	369.59	369.34	20.75	348.84
	11/8/2010	369.59	369.34	21.59	348.00
	5/20/2011	369.59	369.34	21.21	348.38
	11/7/2011	369.59	369.34	22.49	347.10
	5/4/2012	369.59	369.34	23.46	345.88
	10/2/2012	369.59	369.34	25.20	344.14

Table 1A
Groundwater Elevation Data
NHDOT Westboro Roundhouse
West Lebanon, New Hampshire

Monitoring Well	Date	TOC Elevation (feet)	PVC Elevation (feet)	Depth to Water (feet)	Potentiometric Elevation (feet)
ERM-4	5/12/2000	372.98	372.73	7.14	365.84
	8/29/2000	372.98	372.73	7.80	365.18
	12/4/2003	372.98	372.73	NA	-
	5/19/2005	372.98	372.73	4.85	368.13
ERM-5	5/12/2000	374.78	374.53	9.47	365.31
	8/29/2000	374.78	374.53	10.21	364.57
	12/4/2003	374.78	374.53	NA	-
	5/19/2005	374.78	374.53	9.95	364.83
	12/7/2005	374.78	374.53	NA	-
	5/19/2006	374.78	374.53	NA	-
	8/17/2006	374.78	374.53	NM	-
	10/6/2006	374.78	374.53	NM	-
	12/6/2006	374.78	374.53	NM	-
	3/6/2007	374.78	374.53	NM	-
	5/9/2007	374.78	374.53	NM	-
	10/10/2007	374.78	374.53	10.15	364.63
	3/27/2008	374.78	374.53	8.88	365.90
	5/1/2008	374.78	374.53	NM	-
	7/7/2008	374.78	374.53	CNL	-
	5/4/2012	374.78	374.53	12.45	362.08
	10/2/2012	374.78	374.53	13.13	361.40
ERM-6	5/12/2000	375.62	375.37	6.32	369.30
	8/29/2000	375.62	375.37	7.98	367.64
	12/4/2003	375.62	375.37	2.81	372.81
	5/19/2005	375.62	375.37	4.66	370.96
	12/7/2005	375.62	375.37	2.80	372.82
	5/19/2006	375.62	375.37	1.50	374.12
	8/17/2006	375.62	375.37	NM	-
	10/6/2006	375.62	375.37	NM	-
	12/6/2006	375.62	375.37	NM	-
	3/6/2007	375.62	375.37	NM	-
	5/9/2007	375.62	375.37	NM	-
	10/10/2007	375.62	375.37	4.87	370.75
	3/27/2008	375.62	375.37	NM	-
	5/1/2008	375.62	375.37	NM	-
ERM-7 (rep.)	5/12/2000	370.50	NA	23.59	346.91
	8/29/2000	371.50	NA	25.41	346.09
	12/4/2003	372.50	NA	22.43	350.07
ERM-9	5/12/2000	353.93	NA	10.04	343.89
	8/29/2000	354.93	NA	13.50	341.43
	12/4/2003	Destroyed			
JW-1	5/19/2005	374.26	374.06	6.91	367.35
	12/7/2005	374.26	374.06	6.42	367.84
	5/19/2006	374.26	374.06	5.75	368.51
	8/17/2006	374.26	374.06	NM	-
	10/6/2006	374.26	374.06	6.6	367.66
	12/6/2006	374.26	374.06	6.42	367.84
	3/6/2007	374.26	374.06	NM	-
	5/9/2007	374.26	374.06	6.71	367.55
	10/10/2007	374.26	374.06	7.37	366.89
	3/27/2008	374.26	374.06	5.58	368.68
	5/1/2008	374.26	374.06	6.26	368.00
	7/7/2008	374.26	374.06	6.95	367.31
	10/20/2008	374.26	374.06	7.75	366.51
	12/11/2008	374.26	374.06	7.38	366.88
	3/4/2009	374.26	374.06	7.53	366.73
	5/27/2009	374.26	374.06	7.95	366.31
	11/9/2009	374.26	374.06	7.06	367.20
	4/23/2010	374.26	374.06	6.85	367.41
	11/8/2010	374.26	374.06	7.80	366.46
	5/20/2011	374.26	374.06	Buried Under Construction Debris	

Table 1A
Groundwater Elevation Data
NHDOT Westboro Roundhouse
West Lebanon, New Hampshire

Monitoring Well	Date	TOC Elevation (feet)	PVC Elevation (feet)	Depth to Water (feet)	Potentiometric Elevation (feet)
JW-2	5/19/2005	374.93	374.81	10.20	364.73
	12/7/2005	374.93	374.81	9.87	365.06
	5/19/2006	374.93	374.81	9.38	365.55
	8/17/2006	374.93	374.81	NM	-
	10/6/2006	374.93	374.81	NM	-
	12/6/2006	374.93	374.81	9.86	365.07
	3/6/2007	374.93	374.81	NM	-
	5/9/2007	374.93	374.81	NM	-
	10/10/2007	374.93	374.81	10.77	364.16
	3/27/2008	374.93	374.81	9.41	365.52
	5/1/2008	374.93	374.81	9.73	365.20
	7/7/2008	374.93	374.81	10.30	364.63
	10/20/2008	374.93	374.81	10.94	363.99
	12/11/2008	374.93	374.81	10.88	364.05
	3/4/2009	374.93	374.81	10.80	364.13
	5/27/2009	374.93	374.81	10.91	364.02
	11/9/2009	374.93	374.81	10.25	364.68
	4/23/2010	374.93	374.81	9.90	365.03
	11/8/2010	374.93	374.81	10.68	364.25
	5/20/2011	374.93	374.81	11.82	363.11
	11/7/2011	374.93	374.81	12.60	362.33
	1/11/2012	Decommissioned			
JW-3	5/19/2005	374.51	374.17	23.37	351.14
	12/7/2005	374.51	374.17	NA	-
	5/19/2006	374.51	374.17	23.12	351.39
	8/17/2006	374.51	374.17	NM	-
	10/6/2006	374.51	374.17	24.25	350.26
	12/6/2006	374.51	374.17	22.70	351.81
	3/6/2007	374.51	374.17	NM	-
	5/9/2007	374.51	374.17	23.48	351.03
	10/10/2007	374.51	374.17	25.18	349.33
	3/27/2008	374.51	374.17	22.54	351.97
	5/1/2008	374.51	374.17	22.20	352.31
	7/7/2008	374.51	374.17	24.22	350.29
	10/20/2008	374.51	374.17	24.71	349.80
	12/11/2008	374.51	374.17	24.17	350.34
	3/4/2009	374.51	374.17	24.91	349.60
	5/27/2009	374.51	374.17	24.21	350.30
	11/9/2009	374.51	374.17	23.82	350.69
	4/23/2010	374.51	374.17	23.15	351.36
	11/8/2010	374.51	374.17	23.80	350.71
	5/20/2011	374.51	374.17	23.75	350.76
	11/7/2011	374.51	374.17	24.86	349.65
	1/11/2012	Decommissioned			

Table 1A
Groundwater Elevation Data
NHDOT Westboro Roundhouse
West Lebanon, New Hampshire

Monitoring Well	Date	TOC Elevation (feet)	PVC Elevation (feet)	Depth to Water (feet)	Potentiometric Elevation (feet)
JW-4	5/19/2005	354.19	354.10	12.21	341.98
	12/7/2005	354.19	354.10	12.61	341.58
	5/19/2006	354.19	354.10	13.90	340.29
	8/17/2006	354.19	354.10	14.94	339.25
	10/6/2006	354.19	354.10	16.20	337.99
	12/6/2006	354.19	354.10	12.94	341.25
	3/6/2007	354.19	354.10	NM	-
	5/9/2007	354.19	354.10	13.04	341.15
	10/10/2007	354.19	354.10	17.30	336.89
	3/27/2008	354.19	354.10	13.21	340.98
	5/1/2008	354.19	354.10	10.80	343.39
	7/7/2008	354.19	354.10	6.35	347.84
	10/20/2008	354.19	354.10	16.52	337.67
	12/11/2008	354.19	354.10	15.40	338.79
	3/4/2009	354.19	354.10	16.00	338.19
	5/27/2009	354.19	354.10	14.98	339.21
	11/9/2009	354.19	354.10	15.70	338.49
	4/23/2010	354.19	354.10	13.68	340.51
	11/8/2010	354.19	354.10	15.44	338.66
	5/20/2011	354.19	354.10	13.55	340.55
	11/7/2011	354.19	354.10	16.72	337.38
	5/4/2012	354.19	354.10	16.85	337.25
	10/2/2012	354.19	354.10	>17.35	<333.75
JW-5	5/19/2005	353.90	353.80	12.79	341.03
	12/7/2005	353.90	353.80	11.11	343.02
	5/19/2006	353.90	353.80	13.61	341.49
	8/17/2006	353.90	353.80	16.50	339.13
	10/6/2006	353.90	353.80	16.55	337.35
	12/6/2006	353.90	353.80	12.36	341.55
	3/6/2007	353.90	353.80	15.95	337.96
	5/9/2007	353.90	353.80	12.05	341.94
	10/10/2007	353.90	353.80	>17.85	<336.05
	3/27/2008	353.90	353.80	11.90	342.74
	5/1/2008	353.90	353.80	12.81	343.88
	7/7/2008	353.90	353.80	17.50	336.79
	10/20/2008	353.90	353.80	17.18	337.04
	12/11/2008	353.90	353.80	15.55	338.35
	3/4/2009	353.90	353.80	15.85	338.05
	5/27/2009	353.90	353.80	14.91	339.34
	11/9/2009	353.90	353.80	15.05	338.85
	4/23/2010	353.90	353.80	12.75	341.25
	11/8/2010	353.90	353.80	14.19	339.89
	5/20/2011	353.90	353.80	10.77	345.10
	11/7/2011	353.90	353.80	14.75	339.37
	5/4/2012	353.90	353.80	16.51	337.74
	10/2/2012	353.90	353.80	>17.50	<336.30
JW-6	5/19/2005	355.87	355.55	>17.85	<338.02
	12/7/2005	355.87	355.55	16.61	339.26
	5/19/2006	355.87	355.55	NA	-
	8/17/2006	355.87	355.55	>17.85	<338.02
	10/6/2006	355.87	355.55	NM	-
	12/6/2006	355.87	355.55	17.35	338.52
	3/6/2007	355.87	355.55	NM	-
	5/9/2007	355.87	355.55	NM	-
	10/10/2007	355.87	355.55	>18.11	<337.76
	3/27/2008	355.87	355.55	17.74	338.13
	5/1/2008	355.87	355.55	NM	-
	10/20/2008	355.87	355.55	NM	-
	1/11/2012	Decommissioned			
SG-1	5/9/2007	333.78	NI	3.79	329.99
	10/10/2007	334.78	NI	>5.19	<329.59
	3/27/2008	335.78	NI	NM	-
	5/1/2008	336.78	NI	NI	-

Table 1A
Groundwater Elevation Data
NHDOT Westboro Roundhouse
West Lebanon, New Hampshire

Monitoring Well	Date	TOC Elevation (feet)	PVC Elevation (feet)	Depth to Water (feet)	Potentiometric Elevation (feet)
SG-3	5/9/2007	333.76	NI	3.76	330.00
	10/10/2007	334.76	NI	>5.20	<329.56
	3/27/2008	335.76	NI	NM	-
	5/1/2008	336.76	NI	NI	-
SG-5	5/9/2007	334.37	NI	3.44	330.93
	10/10/2007	335.37	NI	Destroyed	-
WP-1	12/7/2005	339.93	NA	7.67	332.26
	5/19/2006	340.93	NA	6.00	334.96
	8/17/2006	341.93	NA	11.25	330.68
	10/6/2006	342.93	NA	10.46	332.47
	12/6/2006	343.93	NA	8.37	335.58
	3/6/2007	344.93	NA	6.04	338.89
	5/9/2007	345.93	NA	7.15	338.78
	10/10/2007	346.93	NA	11.20	335.73
	3/27/2008	347.93	NA	7.75	340.18
	5/1/2008	348.93	NA	3.82	345.11
	7/7/2008	348.93	NA	9.55	339.38
	10/20/2008	348.93	NA	11.07	337.86
	12/11/2008	348.93	NA	8.17	340.76
	3/4/2009	348.93	NA	9.32	339.61
	5/27/2009	348.93	NA	10.05	338.88
	11/9/2009	348.93	NA	10.20	338.73
	4/23/2010	348.93	NA	7.13	341.80
	11/8/2010	348.93	NA	8.74	340.19
	5/20/2011	348.93	NA	5.88	343.05
	11/7/2011	348.93	NA	10.20	338.73
	5/4/2012	348.93	NA	9.20	339.73
	10/2/2012	348.93	NA	12.30	336.63
WP-2	12/7/2005	351.48	NA	12.53	338.95
	5/19/2006	352.48	NA	NA	-
	8/17/2006	353.48	NA	>15.10	<338.38
	10/6/2006	354.48	NA	NM	-
	12/6/2006	355.48	NA	13.76	341.72
	3/6/2007	356.48	NA	NM	-
	5/9/2007	357.48	NA	NM	-
	10/10/2007	358.48	NA	17.97	340.51
	3/27/2008	359.48	NA	NM	-
	5/1/2008	360.48	NA	NM	-
	7/7/2008	360.48	NA	17.06	343.42
	12/11/2008	360.48	NA	15.91	344.57
	3/4/2009	360.48	NA	16.36	344.12
	11/9/2009	360.48	NA	16.55	343.93
	4/23/2010	360.48	NA	12.81	347.67
	11/8/2010	360.48	NA	15.90	344.58
	5/20/2011	360.48	NA	12.70	347.78
	11/7/2011	360.48	NA	16.10	344.38
WP-3	12/7/2005	342.35	NA	4.88	337.47
	5/19/2006	343.35	NA	NA	-
	8/17/2006	344.35	NA	>5.90	<338.45
	10/6/2006	345.35	NA	NM	-
	12/6/2006	346.35	NA	5.07	341.28
	3/6/2007	347.35	NA	NM	-
	5/9/2007	348.35	NA	NM	-
	10/10/2007	349.35	NA	>10.37	<338.98
	3/27/2008	350.35	NA	5.42	344.93
	5/1/2008	351.35	NA	NM	-
	7/7/2008	351.35	NA	8.76	342.59
	12/11/2008	351.35	NA	7.35	344.00
	3/4/2009	351.35	NA	7.49	343.86
	11/9/2009	351.35	NA	8.26	343.09
	4/23/2010	351.35	NA	5.66	345.69
	11/8/2010	351.35	NA	6.99	344.36
	5/20/2011	351.35	NA	5.50	345.85
	11/7/2011	351.35	NA	8.44	342.91

Table 1A
Groundwater Elevation Data
NHDOT Westboro Roundhouse
West Lebanon, New Hampshire

Monitoring Well	Date	TOC Elevation (feet)	PVC Elevation (feet)	Depth to Water (feet)	Potentiometric Elevation (feet)
WP-4	12/7/2005	341.40	NA	5.82	335.58
	5/19/2006	342.40	NA	3.41	338.99
	8/17/2006	343.40	NA	>6.10	<337.3
	10/6/2006	344.40	NA	>7.60	<336.8
	12/6/2006	345.40	NA	5.59	339.81
	3/6/2007	346.40	NA	NM	-
	5/9/2007	347.40	NA	5.86	341.54
	10/10/2007	348.40	NA	>7.61	<340.79
	3/27/2008	349.40	NA	4.18	345.22
	5/1/2008	350.40	NA	4.14	346.26
	7/7/2008	350.40	NA	NM	-
	10/20/2008	350.40	NA	>7.54	<342.86
	12/11/2008	350.40	NA	5.97	344.44
	3/4/2009	350.40	NA	6.44	343.96
	5/27/2009	350.40	NA	7.25	343.24
	11/9/2009	350.40	NA	6.68	343.81
	4/23/2010	350.40	NA	5.25	345.24
	11/8/2010	350.40	NA	5.41	345.08
	5/20/2011	350.40	NA	4.45	346.04
	11/7/2011	350.40	NA	>6.00	<344.40
	5/4/2012	350.40	NA	6.35	344.05
	10/2/2012	350.40	NA	>7.28	<343.12
WP-5	12/7/2005	339.57	NA	7.42	332.15
	5/19/2006	340.57	NA	5.90	334.67
	8/17/2006	341.57	NA	9.41	332.16
	10/6/2006	342.57	NA	>8.52	<334.05
	12/6/2006	343.57	NA	7.12	336.45
	3/6/2007	344.57	NA	NM	-
	5/9/2007	345.57	NA	7.30	338.27
	10/10/2007	346.57	NA	>9.51	<337.06
	3/27/2008	347.57	NA	7.58	339.99
	5/1/2008	348.57	NA	3.22	345.35
	7/7/2008	348.57	NA	NM	-
	10/20/2008	348.57	NA	>5.25	<343.32
	12/11/2008	348.57	NA	7.75	340.82
	3/4/2009	348.57	NA	8.31	340.26
	5/27/2009	348.57	NA	8.87	339.70
	11/9/2009	348.57	NA	8.74	339.83
	4/23/2010	348.57	NA	6.90	341.67
	11/8/2010	348.57	NA	7.44	341.13
	5/20/2011	348.57	NA	6.00	342.57
	11/7/2011	348.57	NA	9.00	339.57
	5/4/2012	348.57	NA	8.27	340.30
	10/2/2012	348.57	NA	>9.00	<339.57

Table 1A
Groundwater Elevation Data
NHDOT Westboro Roundhouse
West Lebanon, New Hampshire

Monitoring Well	Date	TOC Elevation (feet)	PVC Elevation (feet)	Depth to Water (feet)	Potentiometric Elevation (feet)
WP-6	12/7/2005	348.44	NA	9.28	340.00
	5/19/2006	349.44	NA	8.46	342.53
	8/17/2006	350.44	NA	13.55	336.89
	10/6/2006	351.44	NA	13.79	338.63
	12/6/2006	352.44	NA	10.45	342.38
	3/6/2007	353.44	NA	13.24	340.93
	5/9/2007	354.44	NA	9.51	345.48
	10/10/2007	355.44	NA	13.73	341.85
	3/27/2008	356.44	NA	10.65	346.37
	5/1/2008	357.44	NA	7.20	350.24
	7/7/2008	357.44	NA	13.52	343.93
	10/20/2008	357.44	NA	13.24	344.21
	12/11/2008	357.44	NA	11.32	346.20
	3/4/2009	357.44	NA	12.06	345.44
	5/27/2009	357.44	NA	12.43	345.64
	11/9/2009	357.44	NA	12.62	345.14
	4/23/2010	357.44	NA	10.41	347.07
	11/8/2010	357.44	NA	10.85	347.02
	5/20/2011	357.44	NA	8.32	350.75
	11/7/2011	357.44	NA	12.30	345.16
	5/4/2012	357.44	NA	12.38	345.09
	10/2/2012	357.44	NA	>14.40	<343.04
WP-7	12/7/2005	348.16	NA	6.84	341.32
	5/19/2006	349.16	NA	7.46	341.70
	8/17/2006	350.16	NA	11.4	338.76
	10/6/2006	351.16	NA	11.93	339.23
	12/6/2006	352.16	NA	7.12	345.04
	3/6/2007	353.16	NA	NM	-
	5/9/2007	354.16	NA	9.11	345.05
	10/10/2007	355.16	NA	12.33	342.83
	3/27/2008	356.16	NA	7.72	348.44
	5/1/2008	357.16	NA	6.32	350.84
	7/7/2008	357.16	NA	10.55	346.61
	10/20/2008	357.16	NA	11.57	345.59
	12/11/2008	357.16	NA	10.02	347.14
	3/4/2009	357.16	NA	10.49	346.67
	5/27/2009	357.16	NA	9.78	347.38
	11/9/2009	357.16	NA	10.24	346.92
	4/23/2010	357.16	NA	8.14	349.02
	11/8/2010	357.16	NA	9.71	347.45
	5/20/2011	357.16	NA	7.85	349.31
	11/7/2011	357.16	NA	10.16	347.00
	5/4/2012	357.16	NA	10.84	346.32
	10/2/2012	357.16	NA	13.45	343.71
JCO-604	5/4/2012	NM	NA	2.30	NM
	10/2/2012	NM	NA	4.65	NM
RW-1	5/4/2012	NM	NA	12.70	NM
RW-2	5/4/2012	NM	NA	12.98	NM

Table 1A
Groundwater Elevation Data
NHDOT Westboro Roundhouse
West Lebanon, New Hampshire

Monitoring Well	Date	TOC Elevation (feet)	PVC Elevation (feet)	Depth to Water (feet)	Potentiometric Elevation (feet)
RW-3	5/4/2012	NM	NA	14.56	NM
RW-4	5/4/2012	NM	NA	12.75	NM

Notes:
-Elevations for ERM-3, ERM-4, ERM-5, ERM-6, and ERM-9 surveyed by ERM. Elevations for wells ERM-1(rep.), ERM-2 (rep.), ERM-7 (rep.), JW-1, JW-2, and JW-3 surveyed by Jacques Whitford using ERM-3 TOC as a reference point.

-Elevations for wells JW-4, JW-5, and JW-6 surveyed by Jacques Whitford using ERM-1 TOC as a reference point.

-Elevation for well points WP-1 through WP-7 surveyed by Jacques Whitford using JW-5 TOC as a reference point.

-For 5/19/05 data, depth to water measured from top of PVC, for all remaining data, depth to water measured from top of casing.
-For wells JW-1, JW-2, JW-3, JW-4, JW-5, and JW-6, depth to water on 5/19/05 measured from top of PVC elevation. Depth to water measured from top of PVC on 12/7/05 except for the well points, which were measured from the top of casing.
-Top of PVC elevation estimated for wells ERM-2, ERM-3, ERM-4, and ERM-5 using difference between TOC and top of PVC elevation at well ERM-6.
NA= not measured
NI= not installed
CNL= Could Not Locate Well
NM= Not included as part of free product gauging
-">17.85" indicates groundwater was not observed in well, therefore depth to water is greater than specified depth to base of well.
-"<337.70" indicates groundwater elevation is less than the elevation of the base of the well. JW-6 depth to groundwater is inconsistent with previous results and will be confirmed in next trip to the site by Jacques Whitford.

-Measurable light non-aqueous phase liquid (LNAPL) observed in well JW-5 on 5/19/05, 12/7/05, 5/19/06, 8/17/06, 12/6/06, 3/6/07, 5/9/07, 10/10/07, 3/27/08, 5/1/08, 7/7/08, 10/20/08, 5/27/09, 4/23/10, 11/8/10, 5/20/11, 11/7/11, and 5/4/12. Refer to Table 3 for LNAPL depth/thickness.
- Measurable LNAPL observed in well JW-4 on 12/11/08 and 5/27/09. Refer to Table 3 for LNAPL depth/thickness.

-Measurable LNAPL observed in well WP-6 on 12/7/05, 5/19/06, 10/6/06, 12/6/06, 3/6/07, 5/9/07, 10/10/07, 3/27/08, 7/7/08, 10/20/08, 12/11/08, 3/4/09, 5/27/09, 4/23/10, 11/8/10, 5/20/11, 11/7/11, and 5/4/12. Refer to Table 3 for LNAPL depth/thickness.
-Measurable LNAPL observed in well WP-1 on 5/19/06 and 12/6/06. Refer to Table 3 for LNAPL depth/thickness.

-The potentiometric elevation for JW-4, JW-5, WP-1, and WP-6 was calculated assuming a specific gravity of 0.865 for diesel fuel when LNAPL was observed in the well.
Checked by: LC 12-12-12

Table 1B
Groundwater Elevation Data
NHDOT Westboro Roundhouse, North Yard
West Lebanon, New Hampshire

Monitoring Well	Date	TOC Elevation (feet)	Depth to Water (feet)	Water Elevation (feet)
MW-1	11/26/2003	101.74	12.70	89.04
	5/20/2004	101.74	17.30	84.44
	12/29/2004	101.74	18.95	82.79
	5/19/2005	101.74	16.20	85.54
	1/17/2006	101.74	15.22	86.52
	5/1/2008	101.74	10.19	91.55
	10/20/2008	101.74	18.75	82.99
	5/27/2009	101.74	16.20	85.54
	11/9/2009	101.74	17.72	84.02
	4/23/2010	101.74	15.38	86.36
	11/8/2010	101.74	16.10	85.64
	5/20/2011	101.74	13.41	88.33
	11/7/2011	101.74	17.70	84.04
	5/4/2012	101.74	16.93	84.81
	10/2/2012	101.74	19.80	81.94
MW-2	12/29/2004	102.53	18.21	84.32
	5/19/2005	102.53	16.48	86.05
	1/17/2006	102.53	15.39	88.89
	5/1/2008	102.53	11.17	91.36
	10/20/2008	102.53	19.51	83.02
	5/27/2009	102.53	17.25	85.28
	11/9/2009	102.53	17.99	84.54
	4/23/2010	102.53	15.74	86.79
	11/8/2010	102.53	16.50	86.03
	5/20/2011	102.53	13.84	88.69
	11/7/2011	102.53	17.94	84.59
	5/4/2012	102.53	17.43	85.10
	10/2/2012	102.53	20.43	82.10
MW-8	11/26/2003	104.28	16.50	87.78
	5/20/2004	104.28	18.47	85.81
	12/29/2004	104.28	19.55	84.73
	5/19/2005	104.28	17.33	86.95
	1/17/2006	104.28	16.87	87.41
	5/1/2008	104.28	12.02	92.26
	10/20/2008	104.28	19.91	84.37
	5/27/2009	104.28	17.95	86.33
	11/9/2009	Decommissioned during bridge work activities		
MW-10	11/26/2003	108.48	13.30	95.18
	5/20/2004	108.48	18.67	89.81
	12/29/2004	108.48	20.13	88.35
	5/19/2005	108.48	CNL	
	1/17/2006	108.48	17.14	91.34
	5/1/2008	108.48	13.88	94.60
	10/20/2008	108.48	18.95	89.53
	5/27/2009	108.48	18.13	90.35
	11/9/2009	Decommissioned during bridge work activities		
JCO-609	11/7/2011	--	10.05	--

Notes:
1. Groundwater measurements referenced to top of casing (TOC).
2. Gauging data recorded by Jacques Whitford Company,Inc. on May 20, 2004, May 19, 2005, January 17, 2006, and May 1, 2008 Well gauging data recorded by NHDOT on November 26, 2003 and Aaron Environmental, Inc. on December 29, 2004.
3. "CNL" indicates that the monitoring well could not be located in the field during the sample event.

Checked by: LC 12-12-12

Table 2A
Groundwater Analytical Results
NHDOT Westboro Roundhouse
West Lebanon, New Hampshire

Analyte	units[2]	NHDES Standards[3]		ERM-1(rep.)				ERM-2 (rep.)			ERM-3																			
		AGQS	NH GW-2	5/12/00	8/29/00	12/4/03	5/19/05	5/12/00	8/29/00	12/4/03	2/23/00	5/12/00	8/29/00	12/4/03	5/19/05	12/7/05	5/19/06	10/6/06	5/9/07	10/10/07	5/1/08	10/20/08	5/27/09	11/9/09	4/23/10	11/8/10	5/20/11	11/7/11	5/4/12	10/2/12
Volatile Organic Compounds[1]																														
Acetone	µg/L	6,000	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<25.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Benzene	µg/L	5	2,000	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.00
2-Butanone (Methyl Ethyl Ketone or MEK)	µg/L	4,000	50,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
n-Butylbenzene	µg/L	260	NS	7.3	8.8	<1.0	1.5	<1.0	<1.0	<1.0	<1.0	7.4	5.1	5.11	2.7	2.50	<1.0	1.1	<1.0	1.7	<1.0	<1.0	<1.0	<1.0	1.8	1.0	<1.0	<1.0	<1.0	1.98
sec-Butylbenzene	µg/L	260	NS	11	12	1.84	4.7	<1.0	<1.0	<1.0	4	14	7.5	6.59	4.9	3.60	2.4	2.4	1.8	<1.0	<1.0	2.6	1.4	<1.0	2.4	1.1	1.0	1.1	1.9	3.81
tert-Butylbenzene	µg/L	260	NS	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.5	<2.0	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.00
Carbon Disulfide	µg/L	70	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.00
Chloromethane	µg/L	30	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<2.0	<2.0	<2.0	6.3	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.00
4-Chlorotoluene	µg/L	100	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.00
cis-1,2-Dichloroethene	µg/L	70	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.00
trans-1,2-Dichloroethene	µg/L	100	1,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.00
Ethylbenzene	µg/L	700	3,000	11	4.7	3.13	1.8	<1.0	<1.0	<1.0	<1.0	<2.5	2.1	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.00
Isopropylbenzene	µg/L	800	NS	15	11	3.17	6.1	<1.0	<1.0	<1.0	25	6.8	7.2	6.2	4.7	3.20	1.8	2.4	1.7	2.4	<1.0	1.3	1.1	<1.0	1.3	<1.0	<1.0	<1.0	1.9	2.96
4-Isopropyltoluene	µg/L	260	NS	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.5	<2.0	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.00
Methyl tert-butyl Ether (MTBE)	µg/L	13	10,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.00
Naphthalene	µg/L	20	2,000	8.6	4	<1.0	1.5	<1.0	<1.0	<1.0	**52**	**120**	**93**	**92.6**	**82.5**	14.40	1.0	**28.3**	2.9	<1.0	<1.0	3.8	1.9	1.3	16.5	7.2	2.6	2.5	2.0	7.43
n-Propylbenzene	µg/L	260	NS	21	18	3.75	8.6	<1.0	<1.0	<1.0	2	<2.5	5.6	2.5	1.3	<2.5	<1.0	1.0	<1.0	1.1	<1.0	3.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.00
Tetrachloroethene	µg/L	5	80	<1.0	<2.0	ND	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<2.0	ND	<1.0	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.00
Toluene	µg/L	1,000	50,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.00
Trichloroethene	µg/L	5	100	<1.0	<2.0	ND	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<2.0	ND	<1.0	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.00
1,2,4-Trimethylbenzene	µg/L	330	3,000	20	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	26	49	37	36.3	25	9.90	1.2	10.4	2.5	<1.0	<1.0	<1.0	<1.0	<1.0	8.7	1.6	<1.0	1.7	1.5	4.11
1,3,5-Trimethylbenzene	µg/L	330	1,000	6.2	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.8	<2.0	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.00
Xylenes (mixed isomers)	µg/L	10,000	30,000	<5.0	<4.0	<3.0	<3.0	<1.0	<1.0	ND	4	6.4	6.6	5.17	4.0	<7.5	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.00
Tert-Butyl Alcohol	µg/L	40	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<10.0	<10.0	21.6	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0

Notes:

[1] Only detected compounds listed - all others below laboratory detection limits.

[2] µg/L = micrograms per liter = parts per billion (ppb)

[3] New Hampshire Department of Environmental Services (NHDES) Ambient Groundwater Quality Standards (AGQS) as defined in Env-Or 600 and NHDES GW-2 Guidelines as defined in NHDES' Vapor Intrusion Guidance, May 2007.

NS = Standards not currently available for this compound.

ND = Not detected above laboratory reporting limits

Bold = Concentration exceeds AGQS

FP = No sample collected due to the presence of free product on the water table

Checked by: LC 12-12-12

Table 2A
Groundwater Analytical Results
NHDOT Westboro Roundhouse
West Lebanon, New Hampshire

Analyte	units[2]	NHDES Standards[3]		ERM-4				ERM-5				ERM-6						ERM-7 (rep.)			ERM-9			JW-1						JW-2	
		AGQS	NH GW-2	2/23/00	5/12/00	8/29/00	5/19/05	2/23/00	5/12/00	8/29/00	5/19/05	2/23/00	5/12/00	8/29/00	12/4/03	5/19/05	12/7/05	5/12/00	8/29/00	12/4/03	2/23/00	5/12/00	8/29/00	5/19/05	12/7/05	5/19/06	10/6/06	5/9/07	10/10/07	5/19/05	12/7/05
Volatile Organic Compounds[1]																															
Acetone	µg/L	6,000	NS	ND	ND	ND	<10	ND	ND	ND	ND	ND	ND	ND	ND	ND	<10.0	ND	ND	ND	ND	ND	ND	ND	<25.0	<10.0	<10.0	<10.0	<10.0	ND	<10.0
Benzene	µg/L	5	2,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.8	<1.0	2.80	<1.0	2.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Butanone (Methyl Ethyl Ketone or MEK)	µg/L	4,000	50,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<10.0	<10.0	<10.0	<10.0	ND	ND
n-Butylbenzene	µg/L	260	NS	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	3.9	<2.5	1.1	1.0	<1.0	1.4	<1.0	<1.0
sec-Butylbenzene	µg/L	260	NS	<1.0	<1.0	<1.0	1.8	<1.0	<1.0	<1.0	<1.0	2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	5.7	<2.5	2.4	2.3	3.8	<1.0	<1.0	<1.0
tert-Butylbenzene	µg/L	260	NS	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Carbon Disulfide	µg/L	70	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	<5.0	<5.0	<5.0	ND	ND
Chloromethane	µg/L	30	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<2.0	<2.0	<2.0	13.3	ND	ND
4-Chlorotoluene	µg/L	100	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	ND	ND
cis-1,2-Dichloroethene	µg/L	70	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	ND	ND
trans-1,2-Dichloroethene	µg/L	100	1,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	ND	ND
Ethylbenzene	µg/L	700	3,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.7	<1.0	1.63	<1.0	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.2	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Isopropylbenzene	µg/L	800	NS	<1.0	<1.0	<1.0	1.7	<1.0	<1.0	<1.0	<1.0	3	1.3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	5.1	2.6	2.9	2.9	5	1.2	<1.0	<1.0
4-Isopropyltoluene	µg/L	260	NS	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Methyl tert-butyl Ether (MTBE)	µg/L	13	10,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	ND	ND
Naphthalene	µg/L	20	2,000	<5.0	<1.0	<1.0	2.9	<5.0	<1.0	<1.0	<1.0	<5.0	3.7	<1.0	5.31	<1.0	2.5	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	**21.1**	5.0	8.8	8.1	**33.5**	<1.0	<1.0	<1.0
n-Propylbenzene	µg/L	260	NS	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	4.7	<2.5	1.4	1.3	3.8	<1.0	<1.0	<1.0
Tetrachloroethene	µg/L	5	80	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	2.7	2.5	ND	<1.0	<1.0	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Toluene	µg/L	1,000	50,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethene	µg/L	5	100	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	1	1.1	ND	<1.0	<1.0	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,4-Trimethylbenzene	µg/L	330	3,000	<1.0	<1.0	<1.0	2.5	<1.0	<1.0	<1.0	<1.0	3	4.8	<1.0	1.02	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	19.0	4.2	4.7	2.7	16.0	<1.0	<1.0	<1.0
1,3,5-Trimethylbenzene	µg/L	330	1,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Xylenes (mixed isomers)	µg/L	10,000	30,000	<1.0	<1.0	5.17	<3.0	<1.0	<1.0	<1.0	<3.0	<1.0	3.5	<1.0	<3.0	<3.0	<3.0	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	2.0	<7.5	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
Tert-Butyl Alcohol	µg/L	40	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<10.0	<10.0	**53.5**	<10.0	ND	ND

Notes:

[1] Only detected compounds listed - all others below laboratory detection limits.

[2] µg/L = micrograms per liter = parts per billion (ppb)

[3] New Hampshire Department of Environmental Services (NHDES) Ambient Groundwater Quality Standards (AGQS) as defined in Env-Or 600 and NHDES GW-2 Guidelines as defined in NHDES' Vapor Intrusion Guidance, May 2007.

NS = Standards not currently available for this compound.

ND = Not detected above laboratory reporting limits

Bold = Concentration exceeds AGQS

FP = No sample collected due to the presence of free product on the water table

Checked by: LC 12-12-12

Table 2A
Groundwater Analytical Results
NHDOT Westboro Roundhouse
West Lebanon, New Hampshire

Analyte	units[2]	NHDES Standards[3]		JW-3					JW-4																DUP
		AGQS	NH GW-2	5/19/05	5/19/06	10/6/06	5/9/07	10/10/07	5/19/05	12/7/05	5/19/06	10/6/06	5/9/07	10/10/07	5/1/08	10/20/08	5/27/09	11/9/09	4/23/10	11/8/10	5/20/11	11/7/11	5/4/12	10/2/12	12/7/05
Volatile Organic Compounds[1]																									
Acetone	µg/L	6,000	NS	ND	<10.0	<10.0	<10.0	<10.0	ND	<250	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0		<10.0
Benzene	µg/L	5	2,000	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		<1.0
2-Butanone (Methyl Ethyl Ketone or MEK)	µg/L	4,000	50,000	ND	<10.0	<10.0	<10.0	<10.0	ND	ND	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	10.4	<10.0		ND
n-Butylbenzene	µg/L	260	NS	27.5	<1.0	<1.0	<1.0	<1.0	4.3	27.0	37.5	5.9	4.3	7.3	5.3	5.6	4.6	3.6	4.2	2.1	2.5	2.0	1.9		4.7
sec-Butylbenzene	µg/L	260	NS	28.2	3.4	2.1	2.6	2.5	5.8	<25.0	29.7	5.9	5.3	8.0	6.6	7.2	5.8	4.4	5.1	2.8	3.9	2.9	2.5		3.5
tert-Butylbenzene	µg/L	260	NS	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25.0	3	<1.0	<1.0	2.4	<1.0	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		<1.0
Carbon Disulfide	µg/L	70	NS	ND	<5.0	<5.0	<5.0	<5.0	ND	ND	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0		ND
Chloromethane	µg/L	30	NS	ND	<2.0	<2.0	<2.0	5.6	ND	ND	<2.0	<2.0	<2.0	**30.4**	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0		ND
4-Chlorotoluene	µg/L	100	NS	ND	<1.0	<1.0	<1.0	<1.0	ND	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		ND
cis-1,2-Dichloroethene	µg/L	70	NS	ND	<1.0	<1.0	<1.0	<1.0	ND	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		ND
trans-1,2-Dichloroethene	µg/L	100	1,000	ND	<1.0	<1.0	<1.0	<1.0	ND	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		ND
Ethylbenzene	µg/L	700	3,000	<5.0	<1.0	<1.0	<1.0	<1.0	20.4	33.0	47.8	25.4	22.9	21.5	31.0	25.8	23.5	18.8	25.7	18.7	25.4	16.4	13.8	Well Dry	20.4
Isopropylbenzene	µg/L	800	NS	19.1	2.8	1.4	1.7	5.0	9.1	<25.0	25.5	10.4	9.4	11.2	12.4	12.0	9.5	6.8	9.7	6.1	9.4	5.8	5.2		7.0
4-Isopropyltoluene	µg/L	260	NS	<5.0	<1.0	<1.0	<1.0	<1.0	4.2	<25.0	27.2	4.7	4.2	6.3	5.2	4.8	5.8	3.1	3.9	2.3	2.7	2.4	2.1		4.0
Methyl tert-butyl Ether (MTBE)	µg/L	13	10,000	ND	<1.0	<1.0	<1.0	<1.0	ND	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		ND
Naphthalene	µg/L	20	2,000	**248**	10.5	4.4	1.6	19.3	**29.7**	**29.5**	13.6	7.2	8.4	8.5	6.7	6.7	6.0	4.3	7.4	9.2	8.3	4.5	4.6		**22.6**
n-Propylbenzene	µg/L	260	NS	29.9	3.0	1.5	2.0	4.1	11	26	35.5	12.5	11.2	14.3	15.8	14.8	12.6	8.6	11.6	6.1	9.9	6.0	5.8		7.4
Tetrachloroethene	µg/L	5	80	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		<1.0
Toluene	µg/L	1,000	50,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		<1.0
Trichloroethene	µg/L	5	100	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		<1.0
1,2,4-Trimethylbenzene	µg/L	330	3,000	196	4.9	2.2	<1.0	6.2	70.8	102	147	58.7	63.9	58.5	73.2	73.2	66.5	51.5	57.0	31.7	55.0	33.9	27.7		47.1
1,3,5-Trimethylbenzene	µg/L	330	1,000	<5.0	<1.0	<1.0	<1.0	<1.0	13.1	<25.0	18.4	2.6	9.5	5.1	7.4	4.7	6.1	4.4	5.6	2.3	2.5	3.2	2.3		5.7
Xylenes (mixed isomers)	µg/L	10,000	30,000	18.8	<3.0	<3.0	<3.0	2.9	26.9	<75.0	46.1	23.0	26.2	19.5	33.0	30.7	27.1	20.9	27.2	15.2	19.9	14.9	14.7		16.4
Tert-Butyl Alcohol	µg/L	40	NS	ND	<10.0	<10.0	**40.4**	<10.0	ND	ND	<10.0	<10.0	23.4	ND	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0		ND

Notes:

[1] Only detected compounds listed - all others below laboratory detection limits.

[2] µg/L = micrograms per liter = parts per billion (ppb)

[3] New Hampshire Department of Environmental Services (NHDES) Ambient Groundwater Quality Standards (AGQS) as defined in Env-Or 600 and NHDES GW-2 Guidelines as defined in NHDES' Vapor Intrusion Guidance, May 2007.

NS = Standards not currently available for this compound.

ND = Not detected above laboratory reporting limits

Bold = Concentration exceeds AGQS

FP = No sample collected due to the presence of free product on the water table

Checked by: LC 12-12-12

Table 2A
Groundwater Analytical Results
NHDOT Westboro Roundhouse
West Lebanon, New Hampshire

Analyte	units[2]	NHDES Standards[3]		JW-5																JW-5 DUP
		AGQS	NH GW-2	5/19/05	12/7/05	5/19/06	10/6/08	5/9/07	10/10/07	5/1/08	10/20/08	5/27/09	11/9/09	4/23/10	11/8/10	5/20/11	11/7/11	5/4/12	10/2/12	5/19/05
Volatile Organic Compounds[1]																				
Acetone	µg/L	6,000	NS	ND	<2,500	FP	<200	FP	FP	<10	FP	FP	<50.0	FP	FP	FP	FP	FP	Well Dry	ND
Benzene	µg/L	5	2,000	<1.0	<250	FP	<20.0	FP	FP	<1.0	FP	FP	<5.0	FP	FP	FP	FP	FP		<5.0
2-Butanone (Methyl Ethyl Ketone or MEK)	µg/L	4,000	50,000	ND	ND	FP	<200	FP	FP	<10.0	FP	FP	<50.0	FP	FP	FP	FP	FP		ND
n-Butylbenzene	µg/L	260	NS	5.9	**2,120**	FP	84.2	FP	FP	6.9	FP	FP	<5.0	FP	FP	FP	FP	FP		5.8
sec-Butylbenzene	µg/L	260	NS	7.2	**1,860**	FP	68.4	FP	FP	7.1	FP	FP	<5.0	FP	FP	FP	FP	FP		7.2
tert-Butylbenzene	µg/L	260	NS	1.0	<250	FP	<20.0	FP	FP	1.2	FP	FP	<5.0	FP	FP	FP	FP	FP		<5.0
Carbon Disulfide	µg/L	70	NS	ND	ND	FP	<100	FP	FP	<5.0	FP	FP	<25.0	FP	FP	FP	FP	FP		ND
Chloromethane	µg/L	30	NS	ND	ND	FP	<40.0	FP	FP	<2.0	FP	FP	<10.0	FP	FP	FP	FP	FP		ND
4-Chlorotoluene	µg/L	100	NS	ND	ND	FP	<20.0	FP	FP	<1.0	FP	FP	<5.0	FP	FP	FP	FP	FP		ND
cis-1,2-Dichloroethene	µg/L	70	NS	ND	ND	FP	<20.0	FP	FP	<1.0	FP	FP	<5.0	FP	FP	FP	FP	FP		ND
trans-1,2-Dichloroethene	µg/L	100	1,000	ND	ND	FP	<20.0	FP	FP	<1.0	FP	FP	<5.0	FP	FP	FP	FP	FP		ND
Ethylbenzene	µg/L	700	3,000	2.0	<250	FP	<20.0	FP	FP	<1.0	FP	FP	<5.0	FP	FP	FP	FP	FP		<5.0
Isopropylbenzene	µg/L	800	NS	8.7	652	FP	32.6	FP	FP	9.1	FP	FP	<5.0	FP	FP	FP	FP	FP		7.6
4-Isopropyltoluene	µg/L	260	NS	<1.0	<250	FP	<20.0	FP	FP	<1.0	FP	FP	<5.0	FP	FP	FP	FP	FP		<5.0
Methyl tert-butyl Ether (MTBE)	µg/L	13	10,000	ND	ND	FP	<20.0	FP	FP	<1.0	FP	FP	<5.0	FP	FP	FP	FP	FP		ND
Naphthalene	µg/L	20	2,000	**151**	**7,790**	FP	**472**	FP	FP	**161**	FP	FP	**73.0**	FP	FP	FP	FP	FP		**186**
n-Propylbenzene	µg/L	260	NS	10.8	**1,320**	FP	52.4	FP	FP	12.6	FP	FP	<5.0	FP	FP	FP	FP	FP		9.4
Tetrachloroethene	µg/L	5	80	<1.0	<250	FP	<20.0	FP	FP	<1.0	FP	FP	<5.0	FP	FP	FP	FP	FP		<5.0
Toluene	µg/L	1,000	50,000	<1.0	<1.0	FP	<20.0	FP	FP	<1.0	FP	FP	<5.0	FP	FP	FP	FP	FP		<1.0
Trichloroethene	µg/L	5	100	<1.0	<250	FP	<20.0	FP	FP	<1.0	FP	FP	<5.0	FP	FP	FP	FP	FP		<5.0
1,2,4-Trimethylbenzene	µg/L	330	3,000	94.5	**9,170**	FP	420	FP	FP	118	FP	FP	38.4	FP	FP	FP	FP	FP		88.2
1,3,5-Trimethylbenzene	µg/L	330	1,000	<1.0	**982**	FP	76.0	FP	FP	<1.0	FP	FP	<5.0	FP	FP	FP	FP	FP		<5.0
Xylenes (mixed isomers)	µg/L	10,000	30,000	17.9	<750	FP	<60.0	FP	FP	19.9	FP	FP	<15.0	FP	FP	FP	FP	FP		14.8
Tert-Butyl Alcohol	µg/L	40	NS	ND	ND	FP	<200	FP	FP	<10.0	FP	FP	<50.0	FP	FP	FP	FP	FP		ND

Notes:

[1] Only detected compounds listed - all others below laboratory detection limits.

[2] µg/L = micrograms per liter = parts per billion (ppb)

[3] New Hampshire Department of Environmental Services (NHDES) Ambient Groundwater Quality Standards (AGQS) as defined in Env-Or 600 and NHDES GW-2 Guidelines as defined in NHDES' Vapor Intrusion Guidance, May 2007.

NS = Standards not currently available for this compound.

ND = Not detected above laboratory reporting limits

Bold = Concentration exceeds AGQS

FP = No sample collected due to the presence of free product on the water table

Checked by: LC 12-12-12

Table 2A
Groundwater Analytical Results
NHDOT Westboro Roundhouse
West Lebanon, New Hampshire

Analyte	units[2]	NHDES Standards[3]		WP-1															WP-2	WP-3	WP-4										
		AGQS	NH GW-2	12/7/05	5/19/06	10/6/06	5/9/07	10/10/07	5/1/08	10/20/08	5/27/09	11/9/09	4/23/10	11/8/10	5/20/11	11/7/11	5/4/12	10/2/12	12/7/05	12/7/05	12/7/05	5/19/06	5/9/07	5/1/08	5/27/09	11/9/09	4/23/10	11/8/10	5/20/11	5/4/12	10/2/12
Volatile Organic Compounds[1]																															
Acetone	µg/L	6,000	NS	<500	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	36.5	16.5	10.8	<50.0	<10.0	<10.0	<10.0	<10.0	<50.0	FP	<10.0	<50.0	<10.0	<50.0	32.2	Well Dry
Benzene	µg/L	5	2,000	<50.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.00	<5.0	<1.0	<1.0	<1.0	<1.0	<5.0	FP	<1.0	<5.0	<1.0	<5.0	<1.0	
2-Butanone (Methyl Ethyl Ketone or MEK)	µg/L	4,000	50,000	ND	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	14.6	<10.0	<10.0	ND	ND	ND	<10.0	<10.0	<50.0	FP	<10.0	<50.0	<10.0	<50.0	<10.0	
n-Butylbenzene	µg/L	260	NS	208	1.4	5.0	2.9	2.4	2.7	3.2	1.4	1.8	3.0	1.4	1.8	<1.0	<1.0	1.84	<5.0	<1.0	4.2	<1.0	<1.0	30.4	FP	1.9	9.8	<1.0	<5.0	<1.0	
sec-Butylbenzene	µg/L	260	NS	101	1.6	5.4	3.4	1.4	3.4	3.3	1.8	1.9	3.6	1.4	2.1	<1.0	<1.0	1.73	<5.0	<1.0	2.7	<1.0	<1.0	27.3	FP	1.6	8.7	<1.0	<5.0	<1.0	
tert-Butylbenzene	µg/L	260	NS	<50.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.00	<5.0	<1.0	<1.0	<1.0	<1.0	<5.0	FP	<1.0	<5.0	<1.0	<5.0	<1.0	
Carbon Disulfide	µg/L	70	NS	ND	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.00	ND	ND	ND	<5.0	<5.0	<25.0	FP	<5.0	<10.0	<2.0	<10.0	<2.0	
Chloromethane	µg/L	30	NS	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.00	ND	ND	ND	<2.0	<2.0	<10.0	FP	<2.0	<10.0	<2.0	<10.0	<2.0	
4-Chlorotoluene	µg/L	100	NS	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.00	ND	ND	ND	<1.0	<1.0	<5.0	FP	<1.0	<5.0	<1.0	<5.0	<1.0	
cis-1,2-Dichloroethene	µg/L	70	NS	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.00	ND	ND	ND	<1.0	<1.0	<5.0	FP	<1.0	<5.0	<1.0	<5.0	<1.0	
trans-1,2-Dichloroethene	µg/L	100	1,000	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.00	ND	ND	ND	<1.0	<1.0	<5.0	FP	<1.0	<5.0	<1.0	<5.0	<1.0	
Ethylbenzene	µg/L	700	3,000	<50.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.6	<1.0	<1.0	<1.0	<1.0	<1.00	<5.0	<1.0	<1.0	<1.0	<1.0	<5.0	FP	<1.0	<5.0	<1.0	<5.0	<1.0	
Isopropylbenzene	µg/L	800	NS	<50.0	1.5	4.6	6.5	1.8	6.3	3.0	3.4	2.4	4.8	1.6	2.9	1.2	<1.0	1.75	<5.0	<1.0	2.2	<1.0	1	10.8	FP	<1.0	7.0	<1.0	<5.0	<1.0	
4-Isopropyltoluene	µg/L	260	NS	<50.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.00	<5.0	<1.0	<1.0	<1.0	<1.0	<5.0	FP	<1.0	<5.0	<1.0	<5.0	<1.0	
Methyl tert-butyl Ether (MTBE)	µg/L	13	10,000	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.00	ND	ND	ND	<1.0	<1.0	<5.0	FP	<1.0	<5.0	<1.0	<5.0	<1.0	
Naphthalene	µg/L	20	2,000	**1,320**	**22.9**	**52.9**	**94.9**	**32.5**	**101**	**66.0**	**65.2**	**35.8**	**75.7**	**39.3**	**42.9**	**21.5**	9.0	**42.1**	17.5	2.5	**36.0**	<1.0	6.1	**192**	FP	11.5	**124**	3.7	7.0	<1.0	
n-Propylbenzene	µg/L	260	NS	82.5	1.8	6.5	7.8	2.3	7.2	5.6	4.1	3.0	6.3	2.0	3.5	1.6	<1.0	2.34	<5.0	<1.0	2.9	<1.0	<1.0	16.9	FP	<1.0	9.8	<1.0	<5.0	<1.0	
Tetrachloroethene	µg/L	5	80	<50.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.00	<5.0	<1.0	<1.0	<1.0	<1.0	<5.0	FP	<1.0	<5.0	<1.0	<5.0	<1.0	
Toluene	µg/L	1,000	50,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.00	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	FP	<1.0	<5.0	<1.0	<5.0	<1.0	
Trichloroethene	µg/L	5	100	<50.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.00	<5.0	<1.0	<1.0	<1.0	<1.0	<5.0	FP	<1.0	<5.0	<1.0	<5.0	<1.0	
1,2,4-Trimethylbenzene	µg/L	330	3,000	**560**	13.3	46.6	66.6	20.6	62.1	28.1	35.9	23.7	47.5	16.4	27.7	9.1	5.3	21.5	<5.0	<1.0	19.0	<1.0	4.3	175	FP	13.2	90.4	1.6	6.2	<1.0	
1,3,5-Trimethylbenzene	µg/L	330	1,000	<50.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.00	<5.0	<1.0	<1.0	<1.0	<1.0	<5.0	FP	<1.0	<5.0	<1.0	<5.0	<1.0	
Xylenes (mixed isomers)	µg/L	10,000	30,000	<150.0	2.8	5.6	12.2	2.0	12.6	7.7	9.6	5.7	9.6	3.2	5.9	2.1	2.6	3.35	<15.0	<3.0	<1.0	<3.0	<3.0	<15.0	FP	<3.0	10.9	<3.0	<15.0	<3.0	
Tert-Butyl Alcohol	µg/L	40	NS	ND	<10.0	<10.0	23.4	<10.0	<10.0	**122**	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	ND	ND	ND	<10.0	20.7	<50.0	FP	<10.0	<50.0	<10.0	<50.0	<10.0	

Notes:

[1] Only detected compounds listed - all others below laboratory detection limits.

[2] µg/L = micrograms per liter = parts per billion (ppb)

[3] New Hampshire Department of Environmental Services (NHDES) Ambient Groundwater Quality Standards (AGQS) as defined in Env-Or 600 and NHDES GW-2 Guidelines as defined in NHDES' Vapor Intrusion Guidance, May 2007.

NS = Standards not currently available for this compound.

ND = Not detected above laboratory reporting limits

Bold = Concentration exceeds AGQS

FP = No sample collected due to the presence of free product on the water table

Checked by: LC 12-12-12

Table 2A
Groundwater Analytical Results
NHDOT Westboro Roundhouse
West Lebanon, New Hampshire

Analyte	units[2]	NHDES Standards[3]		WP-5												WP-6														
		AGQS	NH GW-2	12/7/05	5/19/06	5/9/07	5/1/08	5/27/09	11/9/09	4/23/10	11/8/10	5/20/11	11/7/11	5/4/12	10/2/12	12/7/05	5/19/06	10/6/06	5/9/07	10/10/07	5/1/08	10/20/08	5/27/09	11/9/09	4/23/10	11/8/10	5/20/11	11/7/11	5/4/12	10/2/12
Volatile Organic Compounds[1]																														
Acetone	µg/L	6,000	NS	<1,250	<50.0	<10.0	<50.0	<50.0	<10.0	<10.0	<10.0	<10.0	17.9	14.9	Well Dry	<200	FP	FP	FP	FP	31.6	<250	FP	FP	FP	FP	FP	FP	FP	Well Dry
Benzene	µg/L	5	2,000	<125	<5.0	<1.0	<5.0	<5.0	<1.0	1.1	<1.0	<1.0	2.0	<1.0		<20.0	FP	FP	FP	FP	<1.0	<25.0	FP	FP	FP	FP	FP	FP	FP	
2-Butanone (Methyl Ethyl Ketone or MEK)	µg/L	4,000	50,000	ND	<50.0	<10.0	<50.0	<50.0	<10.0	<10.0	<10.0	<10.0	10.5	<10.0		ND	FP	FP	FP	FP	<10.0	<250	FP	FP	FP	FP	FP	FP	FP	
n-Butylbenzene	µg/L	260	NS	222	111	5.4	5.2	23.0	4.8	2.9	1.0	10.0	2.4	1.8		**889**	FP	FP	FP	FP	5.3	<25.0	FP	FP	FP	FP	FP	FP	FP	
sec-Butylbenzene	µg/L	260	NS	175	89.4	5.5	5.0	26.1	4.8	3.4	1.0	8.4	2.3	1.6		**537**	FP	FP	FP	FP	5.7	44.8	FP	FP	FP	FP	FP	FP	FP	
tert-Butylbenzene	µg/L	260	NS	<125	10.6	<1.0	<5.0	<5.0	<1.0	<1.0	<1.0	1.4	<1.0	<1.0		50.4	FP	FP	FP	FP	<1.0	<25.0	FP	FP	FP	FP	FP	FP	FP	
Carbon Disulfide	µg/L	70	NS	ND	<25.0	<5.0	<25.0	45.9	16.6	<2.0	<2.0	<2.0	11.9	6.4		ND	FP	FP	FP	FP	<5.0	<125	FP	FP	FP	FP	FP	FP	FP	
Chloromethane	µg/L	30	NS	ND	<10.0	<2.0	<10.0	<10.0	<2.0	<2.0	<2.0	<2.0	4.6	<2.0		ND	FP	FP	FP	FP	<2.0	<50.0	FP	FP	FP	FP	FP	FP	FP	
4-Chlorotoluene	µg/L	100	NS	ND	<5.0	<1.0	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		ND	FP	FP	FP	FP	<1.0	<25.0	FP	FP	FP	FP	FP	FP	FP	
cis-1,2-Dichloroethene	µg/L	70	NS	ND	<5.0	<1.0	<5.0	<5.0	<1.0	<1.0	1.0	1.9	<1.0	1.5		ND	FP	FP	FP	FP	<1.0	<25.0	FP	FP	FP	FP	FP	FP	FP	
trans-1,2-Dichloroethene	µg/L	100	1,000	ND	<5.0	<1.0	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		ND	FP	FP	FP	FP	<1.0	<25.0	FP	FP	FP	FP	FP	FP	FP	
Ethylbenzene	µg/L	700	3,000	<125	46.0	11.0	5.4	72.0	8.3	11.6	2.8	8.8	7.1	3.7		<20.0	FP	FP	FP	FP	<1.0	<25.0	FP	FP	FP	FP	FP	FP	FP	
Isopropylbenzene	µg/L	800	NS	<125	53.0	6.9	<5.0	37.0	4.8	5.3	<1.0	7.6	3.4	1.9		236	FP	FP	FP	FP	7.0	<25.0	FP	FP	FP	FP	FP	FP	FP	
4-Isopropyltoluene	µg/L	260	NS	142	81.4	4.8	<5.0	20.6	3.9	2.8	1.2	6.9	2.0	1.8		<20.0	FP	FP	FP	FP	<1.0	<25.0	FP	FP	FP	FP	FP	FP	FP	
Methyl tert-butyl Ether (MTBE)	µg/L	13	10,000	ND	<5.0	<1.0	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		ND	FP	FP	FP	FP	<1.0	<25.0	FP	FP	FP	FP	FP	FP	FP	
Naphthalene	µg/L	20	2,000	**732**	**578**	**150**	**78.6**	**467**	**42.6**	**52.4**	8.3	**57.2**	**22.3**	9.1		**2,860**	FP	FP	FP	FP	**139**	**261**	FP	FP	FP	FP	FP	FP	FP	
n-Propylbenzene	µg/L	260	NS	142	92.9	9	5.9	51.4	7.5	6.5	1.0	10.8	4.4	2.5		**406**	FP	FP	FP	FP	10.1	71.2	FP	FP	FP	FP	FP	FP	FP	
Tetrachloroethene	µg/L	5	80	<125	<5.0	<1.0	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		<20.0	FP	FP	FP	FP	<1.0	<25.0	FP	FP	FP	FP	FP	FP	FP	
Toluene	µg/L	1,000	50,000	<1.0	<5.0	<1.0	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	1.4	<1.0		<1.0	FP	FP	FP	FP	<1.0	<25.0	FP	FP	FP	FP	FP	FP	FP	
Trichloroethene	µg/L	5	100	<125	<5.0	<1.0	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		<20.0	FP	FP	FP	FP	<1.0	<25.0	FP	FP	FP	FP	FP	FP	FP	
1,2,4-Trimethylbenzene	µg/L	330	3,000	**810**	**626**	89.9	52.4	**417**	62.2	55.9	11.1	88.5	44.2	24.3		**2,600**	FP	FP	FP	FP	86.5	108	FP	FP	FP	FP	FP	FP	FP	
1,3,5-Trimethylbenzene	µg/L	330	1,000	248	184	20.2	<5.0	65.6	7.1	10.2	2.0	6.4	2.6	2.2		<20.0	FP	FP	FP	FP	<1.0	<25.0	FP	FP	FP	FP	FP	FP	FP	
Xylenes (mixed isomers)	µg/L	10,000	30,000	<125	91.4	21.6	<15.0	109.7	14.4	20.1	5.4	19.6	12.9	6.8		118	FP	FP	FP	FP	11.6	<50.0	FP	FP	FP	FP	FP	FP	FP	
Tert-Butyl Alcohol	µg/L	40	NS	ND	<50.0	<10.0	<50.0	<50.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0		ND	FP	FP	FP	FP	**46.7**	<250	FP	FP	FP	FP	FP	FP	FP	

Notes:

[1] Only detected compounds listed - all others below laboratory detection limits.

[2] µg/L = micrograms per liter = parts per billion (ppb)

[3] New Hampshire Department of Environmental Services (NHDES) Ambient Groundwater Quality Standards (AGQS) as defined in Env-Or 600 and NHDES GW-2 Guidelines as defined in NHDES' Vapor Intrusion Guidance, May 2007.

NS = Standards not currently available for this compound.

ND = Not detected above laboratory reporting limits

Bold = Concentration exceeds AGQS

FP = No sample collected due to the presence of free product on the water table

Checked by: LC 12-12-12

Table 2A
Groundwater Analytical Results
NHDOT Westboro Roundhouse
West Lebanon, New Hampshire

Analyte	units[2]	NHDES Standards[3]		WP-7															CR-1PW						
		AGQS	NH GW-2	12/7/05	5/19/06	10/6/06	5/9/07	10/10/07	5/1/08	10/20/08	5/27/09	11/9/09	4/23/10	11/8/10	5/20/11	11/7/11	5/4/12	10/2/12	5/9/07	10/10/07	5/1/08	10/20/08	5/27/09	11/9/09	4/23/10
Volatile Organic Compounds[1]																									
Acetone	µg/L	6,000	NS	21.4	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<50.0	<10.0	<10.0	<10.0	<10.0	<50.0	<50.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Benzene	µg/L	5	2,000	2.0	2.7	3.0	4.3	2.9	2.2	<5.0	2.7	<5.0	2.9	3.4	2.3	1.4	<5.0	<5.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Butanone (Methyl Ethyl Ketone or MEK)	µg/L	4,000	50,000	ND	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<50.0	<10.0	<10.0	<10.0	<10.0	<50.0	<50.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10..0	<10.0
n-Butylbenzene	µg/L	260	NS	3.5	4.0	4.2	1.7	3.9	1.0	12.8	2.2	<5.0	1.6	2.4	1.1	6.9	<5.0	5.10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.8
sec-Butylbenzene	µg/L	260	NS	2.4	4.1	2.9	2.6	3.6	1.4	10.6	2.8	<5.0	2.1	2.8	1.8	8.1	<5.0	<5.00	<1.0	<1.0	<1.0	<1.0	<1.0	1.2	4.8
tert-Butylbenzene	µg/L	260	NS	<1.0	<1.0	<1.0	<1.0	1.9	<1.0	<5.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Carbon Disulfide	µg/L	70	NS	ND	<5.0	<5.0	<5.0	<5.0	<5.0	<25.0	<5.0	<25.0	<2.0	<2.0	<2.0	<2.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0
Chloromethane	µg/L	30	NS	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<10.0	<2.0	<10.0	<2.0	<2.0	<2.0	<2.0	<10.0	<10.0	<2.0	7.9	<2.0	<2.0	<2.0	<2.0	<2.0
4-Chlorotoluene	µg/L	100	NS	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene	µg/L	70	NS	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.00	<1.0	<1.0	<1.0	1.2	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene	µg/L	100	1,000	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ethylbenzene	µg/L	700	3,000	6.2	12.3	13.8	16.1	9.8	7.2	10.4	9.9	9.4	6.9	14.7	7.4	2.8	10.6	13.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Isopropylbenzene	µg/L	800	NS	4.0	6.3	6.0	6.5	3.0	3.3	5.4	4.6	<5.0	3.4	5.0	3.4	6.6	5.0	5.10	<1.0	<1.0	<1.0	<1.0	<1.0	2.4	6.4
4-Isopropyltoluene	µg/L	260	NS	<1.0	1.6	<1.0	<1.0	2.8	<1.0	<5.0	<1.0	<5.0	<1.0	1.3	<1.0	<1.0	<5.0	<5.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Methyl tert-butyl Ether (MTBE)	µg/L	13	10,000	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.00	<1.0	<1.0	<1.0	<1.0	2.6	<1.0	<1.0
Naphthalene	µg/L	20	2,000	**94.9**	**109**	**110**	**123**	**81.8**	**54.1**	**124**	**90.8**	**70.8**	**60.3**	**102**	**70.0**	**213**	**109**	**192**	2.7	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
n-Propylbenzene	µg/L	260	NS	4.6	7.7	6.2	6.7	4.6	3.0	17.5	5.2	<5.0	3.9	6.0	3.8	8.5	6.5	6.60	<1.0	<1.0	<1.0	<1.0	<1.0	1.4	5.2
Tetrachloroethene	µg/L	5	80	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Toluene	µg/L	1,000	50,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.00	<1.0	<1.0	<1.0	<1.0	1.0	<1.0	<1.0
Trichloroethene	µg/L	5	100	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,4-Trimethylbenzene	µg/L	330	3,000	42.6	63.0	60.6	67.8	33.9	29.2	54.4	53.9	36.3	33.4	56.9	38.8	104	63.3	78.6	<1.0	<1.0	<1.0	<1.0	<1.0	1.2	<1.0
1,3,5-Trimethylbenzene	µg/L	330	1,000	1.3	4.8	4.0	4.2	5.0	2.0	11.8	3.4	<5.0	2.6	6.6	3.1	<1.0	<5.0	6.05	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Xylenes (mixed isomers)	µg/L	10,000	30,000	7.4	17.6	20.7	23.3	13.4	10.0	24.2	17.8	13.8	12.5	22.9	12.2	13.6	18.5	21.0	<3.0	<3.0	<3.0	<3.0	<3.0	2.2	2.5
Tert-Butyl Alcohol	µg/L	40	NS	ND	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<50.0	<10.0	<10.0	<10.0	<10.0	<50.0	<50.0	16.9	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0

Notes:

[1] Only detected compounds listed - all others below laboratory detection limits.

[2] µg/L = micrograms per liter = parts per billion (ppb)

[3] New Hampshire Department of Environmental Services (NHDES) Ambient Groundwater Quality Standards (AGQS) as defined in Env-Or 600 and NHDES GW-2 Guidelines as defined in NHDES' Vapor Intrusion Guidance, May 2007.

NS = Standards not currently available for this compound.

ND = Not detected above laboratory reporting limits

Bold = Concentration exceeds AGQS

FP = No sample collected due to the presence of free product on the water table

Checked by: LC 12-12-12

Table 2A
Groundwater Analytical Results
NHDOT Westboro Roundhouse
West Lebanon, New Hampshire

Analyte	units[2]	NHDES Standards[3]		CR-3PW												CR-5PW						
		AGQS	NH GW-2	5/9/07	10/10/07	5/1/08	10/20/08	5/27/09	11/9/09	4/23/10	11/8/10	5/20/11	11/7/11	5/4/12	10/2/12	5/9/07	10/10/07	5/1/08	10/20/08	5/27/09	11/9/09	4/23/10
Volatile Organic Compounds[1]																						
Acetone	µg/L	6,000	NS	<10.0	<10.0	<10.0	<2500	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	20.4
Benzene	µg/L	5	2,000	<1.0	<1.0	<1.0	<250	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Butanone (Methyl Ethyl Ketone or MEK)	µg/L	4,000	50,000	<10.0	<10.0	<10.0	<2500	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
n-Butylbenzene	µg/L	260	NS	1.2	1.3	<1.0	<250	1.4	2.2	<1.0	<1.0	<1.0	2.4	3.0	<1.00	1.3	<1.0	<1.0	<1.0	<1.0	5.5	8.5
sec-Butylbenzene	µg/L	260	NS	1.8	<1.0	<1.0	<250	2.9	3.1	<1.0	<1.0	<1.0	2.2	3.6	<1.00	1.2	<1.0	<1.0	2.0	<1.0	5.6	8.0
tert-Butylbenzene	µg/L	260	NS	<1.0	<1.0	<1.0	<250	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.8
Carbon Disulfide	µg/L	70	NS	<5.0	<5.0	<5.0	<1250	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0
Chloromethane	µg/L	30	NS	<2.0	<2.0	<2.0	<500	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.00	<2.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0
4-Chlorotoluene	µg/L	100	NS	<1.0	<1.0	<1.0	<250	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene	µg/L	70	NS	<1.0	<1.0	<1.0	<250	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene	µg/L	100	1,000	<1.0	<1.0	<1.0	<250	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	<1.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ethylbenzene	µg/L	700	3,000	<1.0	<1.0	<1.0	<250	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.00	<1.0	<1.0	1.0	<1.0	<1.0	<1.0	<1.0
Isopropylbenzene	µg/L	800	NS	2.1	1.8	1.6	<250	4.6	5.8	<1.0	<1.0	<1.0	1.2	5.8	<1.00	1.3	<1.0	<1.0	<1.0	<1.0	4.5	4.8
4-Isopropyltoluene	µg/L	260	NS	<1.0	<1.0	<1.0	<250	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Methyl tert-butyl Ether (MTBE)	µg/L	13	10,000	<1.0	<1.0	<1.0	<250	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Naphthalene	µg/L	20	2,000	3.2	**33.3**	3.7	<250	1.8	<1.0	<1.0	<1.0	<1.0	2.0	**78.0**	<1.00	**36.7**	11.9	15.8	5.2	<1.0	<1.0	**84.8**
n-Propylbenzene	µg/L	260	NS	1.8	1.8	1.5	<250	3.2	5.5	<1.0	<1.0	<1.0	1.6	7.4	<1.00	1.6	2.1	<1.0	3.1	<1.0	6.6	7.2
Tetrachloroethene	µg/L	5	80	<1.0	<1.0	<1.0	<250	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.00	4.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Toluene	µg/L	1,000	50,000	<1.0	<1.0	<1.0	<250	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethene	µg/L	5	100	<1.0	<1.0	<1.0	<250	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,4-Trimethylbenzene	µg/L	330	3,000	6.5	18.7	25.3	<250	6.9	16.5	1.0	1.0	<1.0	36.9	55.4	<1.00	21.8	9.7	10.3	6.3	1.5	34.0	72.9
1,3,5-Trimethylbenzene	µg/L	330	1,000	<1.0	<1.0	<1.0	<250	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Xylenes (mixed isomers)	µg/L	10,000	30,000	<3.0	3.1	5.0	<500	4.2	7.6	<3.0	<3.0	<3.0	3.6	11.2	<3.00	3.3	<1.0	<1.0	<2.0	<3.0	4.8	9.7
Tert-Butyl Alcohol	µg/L	40	NS	12.6	<10.0	<10.0	<2500	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0

Notes:

[1] Only detected compounds listed - all others below laboratory detection limits.

[2] µg/L = micrograms per liter = parts per billion (ppb)

[3] New Hampshire Department of Environmental Services (NHDES) Ambient Groundwater Quality Standards (AGQS) as defined in Env-Or 600 and NHDES GW-2 Guidelines as defined in NHDES' Vapor Intrusion Guidance, May 2007.

NS = Standards not currently available for this compound.

ND = Not detected above laboratory reporting limits

Bold = Concentration exceeds AGQS

FP = No sample collected due to the presence of free product on the water table

Checked by: LC 12-12-12

Table 2A
Groundwater Analytical Results
NHDOT Westboro Roundhouse
West Lebanon, New Hampshire

Analyte	units[2]	NHDES Standards[3]		JCO-604																		
		AGQS	NH GW-2	11/2004	4/2005	7/2005	11/2005	4/2006	7/2006	11/2006	4/2007	11/2007	4/2008	11/2008	4/2009	11/2009	5/2010	11/2010	4/2011	5/4/12	10/2/12
Volatile Organic Compounds[1]																						
Acetone	µg/L	6,000	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<10.0	<50.0
Benzene	µg/L	5	2,000	<10	<10	<5	<1	<1	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1.0	<5.00
2-Butanone (Methyl Ethyl Ketone or MEK)	µg/L	4,000	50,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<10.0	<50.0
n-Butylbenzene	µg/L	260	NS	<10	<10	<5	2	<1	6	<5	<5	<5	<5	<5	<5	13	2	<2	<2	9.3	11.4
sec-Butylbenzene	µg/L	260	NS	<10	<10	<5	2	1	2	<5	<5	<5	<5	<5	<5	<5	1	5	4	5.8	5.40
tert-Butylbenzene	µg/L	260	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<5.00
Carbon Disulfide	µg/L	70	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<10.0	<10.0
Chloromethane	µg/L	30	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<2.0	<10.0
4-Chlorotoluene	µg/L	100	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	30.2
cis-1,2-Dichloroethene	µg/L	70	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<5.00
trans-1,2-Dichloroethene	µg/L	100	1,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<5.00
Ethylbenzene	µg/L	700	3,000	500	450	49	170	150	400	270	320	410	420	180	120	110	28	160	170	242	158
Isopropylbenzene	µg/L	800	NS	30	30	<5	13	12	21	17	18	19	28	16	12	20	7	30	28	18.9	21.1
4-Isopropyltoluene	µg/L	260	NS	<10	<10	<5	2	1	3	<5	<5	<5	<5	<5	<5	<5	2	7	8	5.9	6.05
Methyl tert-butyl Ether (MTBE)	µg/L	13	10,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<5.00
Naphthalene	µg/L	20	2,000	**130**	**130**	<30	**57**	**50**	**140**	**100**	**80**	**150**	**160**	**110**	**50**	**80**	**24**	**80**	**70**	**71.6**	**60.4**
n-Propylbenzene	µg/L	260	NS	50	50	8	25	21	38	30	32	27	52	27	22	35	15	57	50	43.0	47.2
Tetrachloroethene	µg/L	5	80	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<5.00
Toluene	µg/L	1,000	50,000	590	450	<5	5	95	750	350	530	250	220	59	50	7	2	10	21	97.1	58.2
Trichloroethene	µg/L	5	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<5.00
1,2,4-Trimethylbenzene	µg/L	330	3,000	**410**	**390**	63	180	150	290	270	280	**410**	**500**	330	240	**400**	69	**430**	**410**	324	**410**
1,3,5-Trimethylbenzene	µg/L	330	1,000	140	140	23	58	56	110	94	100	160	190	140	94	140	9	140	150	99.0	123
Xylenes (mixed isomers)	µg/L	10,000	30,000	2,290	1,770	191	568	467	1,460	1,150	1,340	1,730	1,570	577	563	300	48	411	475	941	575.8
Tert-Butyl Alcohol	µg/L	40	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<10.0	<50.0

Notes:

[1] Only detected compounds listed - all others below laboratory detection limits.

[2] µg/L = micrograms per liter = parts per billion (ppb)

[3] New Hampshire Department of Environmental Services (NHDES) Ambient Groundwater Quality Standards (AGQS) as defined in Env-Or 600 and NHDES GW-2 Guidelines as defined in NHDES' Vapor Intrusion Guidance, May 2007.

NS = Standards not currently available for this compound.

ND = Not detected above laboratory reporting limits

Bold = Concentration exceeds AGQS

FP = No sample collected due to the presence of free product on the water table

Checked by: LC 12-12-12

Table 2B
Groundwater Analytical Results
Westboro Rail Yard - North Yard
Bridge Street
West Lebanon, New Hampshire

Analyte	units[2]	NHDES Standards[3]		MW-1															
		AGQS	GW-2	08/17/99	11/26/03	05/20/04	12/29/04	05/19/05	01/17/06	05/01/08	10/20/08	05/27/09	11/09/09	04/23/10	11/08/10	05/20/11	11/07/11	05/04/12	10/02/12
Volatile Organic Compounds (VOCs)[1]																			
Benzene	µg/L	5	2,000	**1,300**	**404**	**464**	**1,660**	**87.8**	**276**	**98.6**	**241**	**71.6**	**800**	**19.8**	**726**	**426**	**8.8**	**701**	**2,530**
n-Butylbenzene	µg/L	260	NS	**650**	<5	<10.0	<50.0	1.3	5.9	<1.0	26.1	<5.0	8.6	<5.0	<20.0	<10.0	<1.0	8.3	19.3
sec-Butylbenzene	µg/L	260	NS	280	5.8	<10.0	<50.0	1.1	5.6	<1.0	22.1	<5.0	6.6	<5.0	<20.0	<10.0	<1.0	10.2	14.8
tert-Butylbenzene	µg/L	260	NS	ND	ND	ND	ND	ND	ND	ND	<10.0	<5.0	<5.0	<5.0	<20.0	<10.0	<1.0	<1.0	<10.0
Chlorobenzene	µg/L	100	2,000	<50	<5	<10.0	<50.0	<1.0	<1.0	<2.0	<10.0	<5.0	<5.0	<5.0	<20.0	<10.0	<1.0	<1.0	<10.0
Chloroform	µg/L	70	100	<50	NA	<10.0	<50.0	<1.0	<1.0	<1.0	<10.0	<5.0	<5.0	<5.0	<20.0	<10.0	<1.0	<1.0	<10.0
1,2-Dichloroethane	µg/L	5	300	ND	**7.2**	NA	<50.0	<1.0	<1.0	<1.0	<10.0	<5.0	<5.0	<5.0	<20.0	<10.0	<1.0	<1.0	<10.0
Ethylbenzene	µg/L	700	3,000	**3,800**	163	323	**1,080**	24.6	256	137	573	16.4	**784**	11.3	137	172	1.9	**953**	**2,190**
Isopropylbenzene	µg/L	800	NS	400	22	23.4	65	5.2	20.2	13.5	45.3	20.8	41.4	<5.0	<20.0	<10.0	<1.0	39.7	105
4-Isopropyltoluene	µg/L	260	NS	74	<5	<10.0	<50.0	<1.0	1.6	<1.0	14.4	<5.0	8.8	<5.0	<20.0	<10.0	<1.0	2.9	<10.0
Methyl tert-butyl ether (MtBE)	µg/L	13	10,000	<50	<5	<10.0	<50.0	1.3	1.1	<1.0	<10.0	<5.0	<5.0	<5.0	<20.0	<10.0	<1.0	<1.0	<10.0
Naphthalene	µg/L	20	2,000	**790**	**42**	**45**	**151**	**20.1**	**33.0**	**21.9**	**94.2**	7.8	**140**	18.2	<20.0	**23.2**	2.4	**108**	**303**
n-Propylbenzene	µg/L	260	NS	**1,000**	44	42.4	138	9.6	44.2	35.1	83.2	7.2	99.8	5.8	28.0	23.7	<1.0	90.2	**268**
Toluene	µg/L	1,000	50,000	**1,300**	55	261	**2,200**	6.1	183	12.5	24.1	<5.0	37.8	<5.0	55.6	14.5	<1.0	32.1	196
1,2,4-Trimethylbenzene	µg/L	330	3,000	**4,500**	**384**	307	**1,100**	107	245	150	**403**	18.6	**795**	64.8	138	136	2.4	**544**	**1,900**
1,3,5-Trimethylbenzene	µg/L	330	1,000	**1,700**	62	26.6	204	12.9	20.6	14.6	45.2	<5.0	124	7.8	20.0	16.5	<1.0	62.1	**462**
Total Xylenes (mixed isomers)	µg/L	10,000	30,000	**12,400**	458	906	4,520	196.2	677	245.4	909.8	7.3	1,532	53.9	253.2	246.1	4.7	828.5	7,878

Notes:
[1] Only detected compounds listed - all others below laboratory detection limits.
[2] µg/L = micrograms per liter = parts per billion (ppb)
[3] New Hampshire Department of Environmental Services (NHDES) Ambient Groundwater Quality Standards (AGQS) as defined in Env-Or 600 and NHDES GW-2 Guidelines as defined in NHDES' Vapor Intrusion Guidance, May 2007.
NS = Standards not currently available for this compound.
ND = Not detected above laboratory reporting limits
NA - Data not available.
On November 26, 2003, samples were collected by D. Goulet of the NHDOT and analyzed by the NHDES laboratory. On December 29, 2004, samples were collected by Aaron Environmental, Inc. JCO-604 samples prior to November 2011 were collected by The Johnson Company. All other samples were collected by Stantec (formerly Jacques Whitford).
Shaded = Concentration exceeded laboratory calibration range
Bold and underlined denotes concentrations above AGQS
Checked by: LC 12-12-12

Table 2B
Groundwater Analytical Results
Westboro Rail Yard - North Yard
Bridge Street
West Lebanon, New Hampshire

Analyte	units[2]	NHDES Standards[3]		MW-2											
		AGQS	GW-2	08/17/99	12/29/04	05/01/08	10/20/08	05/27/09	11/09/09	04/23/10	11/08/10	05/20/11	11/07/11	05/04/12	10/02/12
Volatile Organic Compounds (VOCs)[1]															
Benzene	µg/L	5	2,000	<2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.00
n-Butylbenzene	µg/L	260	NS	4.8	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.00
sec-Butylbenzene	µg/L	260	NS	8.4	<1.0	<1.0	<1.0	3.3	2.4	1.4	1.0	<1.0	3.7	1.6	1.80
tert-Butylbenzene	µg/L	260	NS	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.00
Chlorobenzene	µg/L	100	2,000	4.7	1.3	<2.0	<1.0	7.8	2.5	3.3	1.4	2.1	5.6	2.0	<1.00
Chloroform	µg/L	70	100	<2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.00
1,2-Dichloroethane	µg/L	5	300	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.00
Ethylbenzene	µg/L	700	3,000	8.5	<1.0	<1.0	<1.0	<1.0	1.3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.00
Isopropylbenzene	µg/L	800	NS	9.0	<1.0	<1.0	<1.0	2.3	1.5	1.0	<1.0	<1.0	3.0	<1.0	<1.00
4-Isopropyltoluene	µg/L	260	NS	3.8	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.00
Methyl tert-butyl ether (MtBE)	µg/L	13	10,000	12	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.00
Naphthalene	µg/L	20	2,000	**54**	<1.0	<1.0	<1.0	1.6	6.4	1.0	<1.0	<1.0	5.4	<1.0	<1.00
n-Propylbenzene	µg/L	260	NS	10	<1.0	<1.0	<1.0	1.0	1.6	<1.0	<1.0	<1.0	1.5	<1.0	<1.00
Toluene	µg/L	1,000	50,000	2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.00
1,2,4-Trimethylbenzene	µg/L	330	3,000	33	<1.0	1.1	<1.0	1.7	9.6	1.2	<1.0	<1.0	5.1	<1.0	<1.00
1,3,5-Trimethylbenzene	µg/L	330	1,000	6.6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.00
Total Xylenes (mixed isomers)	µg/L	10,000	30,000	28	<1.0	<2.0	<2.0	<3.0	1.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.00

Notes:
[1] Only detected compounds listed - all others below laboratory detection limits.
[2] µg/L = micrograms per liter = parts per billion (ppb)
[3] New Hampshire Department of Environmental Services (NHDES) Ambient Groundwater Quality Standards (AGQS) as defined in Env-Or 600 and NHDES GW-2 Guidelines as defined in NHDES' Vapor Intrusion Guidance, May 2007.
NS = Standards not currently available for this compound.
ND = Not detected above laboratory reporting limits
NA - Data not available.
On November 26, 2003, samples were collected by D. Goulet of the NHDOT and analyzed by the NHDES laboratory. On December 29, 2004, samples were collected by Aaron Environmental, Inc. JCO-604 samples prior to November 2011 were collected by The Johnson Company. All other samples were collected by Stantec (formerly Jacques Whitford).
Shaded = Concentration exceeded laboratory calibration range
Bold and underlined denotes concentrations above AGQS
Checked by: LC 12-12-12

Table 2B
Groundwater Analytical Results
Westboro Rail Yard - North Yard
Bridge Street
West Lebanon, New Hampshire

Analyte	units[2]	NHDES Standards[3]		MW-8								
		AGQS	GW-2	08/17/99	05/20/04	12/29/04	05/19/05	01/17/06	05/01/08	10/20/08	05/27/09	11/09/09
Volatile Organic Compounds (VOCs)[1]												
Benzene	µg/L	5	2,000	<5	<10	<1.0	<1.0	<1.0	<5.0	<10.0	<1.0	Decstroyed
n-Butylbenzene	µg/L	260	NS	49	24.2	7.2	<1.0	34.3	33.2	62.1	2.9	
sec-Butylbenzene	µg/L	260	NS	18	13.2	10.0	<1.0	32.1	<5.0	50.0	<1.0	
tert-Butylbenzene	µg/L	260	NS	ND	ND	ND	ND	ND	ND	<10.0	<1.0	
Chlorobenzene	µg/L	100	2,000	<5	<10	<1.0	<1.0	<1.0	<10.0	<10.0	<1.0	
Chloroform	µg/L	70	100	<5	<10	<1.0	<1.0	<1.0	<5.0	<10.0	<1.0	
1,2-Dichloroethane	µg/L	5	300	ND	NA	<1.0	<1.0	<1.0	<5.0	<10.0	<1.0	
Ethylbenzene	µg/L	700	3,000	400	55.8	11.8	1.0	89.5	41.5	18.6	<1.0	
Isopropylbenzene	µg/L	800	NS	52	23.2	7.6	1.5	65.6	29.1	11.4	<1.0	
4-Isopropyltoluene	µg/L	260	NS	9.1	<10	1.5	<1.0	15	<5.0	26.2	<1.0	
Methyl tert-butyl ether (MtBE)	µg/L	13	10,000	<5	<10	<1.0	<1.0	<1.0	<5.0	<10.0	<1.0	
Naphthalene	µg/L	20	2,000	**130**	**26.6**	2.3	<1.0	**38.9**	**46.2**	**32.3**	<1.0	
n-Propylbenzene	µg/L	260	NS	150	61.6	21.8	3.0	169.0	90.1	66.3	<1.0	
Toluene	µg/L	1,000	50,000	<5	<10	1.0	<1.0	<1.0	<5.0	<10.0	<1.0	
1,2,4-Trimethylbenzene	µg/L	330	3,000	**590**	**530**	130	21.1	**775 E**	**568**	211	13.3	
1,3,5-Trimethylbenzene	µg/L	330	1,000	230	<10	3.9	1.2	279	106	60.3	5.8	
Total Xylenes (mixed isomers)	µg/L	10,000	30,000	596	77.8	13.8	2.1	258.9	64.4	<20.0	<3.0	

Notes:
[1] Only detected compounds listed - all others below laboratory detection limits.
[2] µg/L = micrograms per liter = parts per billion (ppb)
[3] New Hampshire Department of Environmental Services (NHDES) Ambient Groundwater Quality Standards (AGQS) as defined in Env-Or 600 and NHDES GW-2 Guidelines as defined in NHDES' Vapor Intrusion Guidance, May 2007.
NS = Standards not currently available for this compound.
ND = Not detected above laboratory reporting limits
NA - Data not available.
On November 26, 2003, samples were collected by D. Goulet of the NHDOT and analyzed by the NHDES laboratory. On December 29, 2004, samples were collected by Aaron Environmental, Inc. JCO-604 samples prior to November 2011 were collected by The Johnson Company. All other samples were collected by Stantec (formerly Jacques Whitford).
Shaded = Concentration exceeded laboratory calibration range
Bold and underlined denotes concentrations above AGQS
Checked by: LC 12-12-12

Table 2B
Groundwater Analytical Results
Westboro Rail Yard - North Yard
Bridge Street
West Lebanon, New Hampshire

Analyte	units[2]	NHDES Standards[3]		MW-10							MW-112D	JCO-609
		AGQS	GW-2	05/20/04	12/29/04	01/17/06	05/01/08	10/20/08	05/27/09	11/09/09	05/20/04	11/7/2011
Volatile Organic Compounds (VOCs)[1]												
Benzene	µg/L	5	2,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	Destroyed	<1.0	<1.0
n-Butylbenzene	µg/L	260	NS	<1.0	<1.0	<1.0	<1.0	2.8	<1.0		57	<1.0
sec-Butylbenzene	µg/L	260	NS	<1.0	<1.0	<1.0	<1.0	6.4	<1.0		<1.0	<1.0
tert-Butylbenzene	µg/L	260	NS	ND	ND	ND	ND	2.5	<1.0		ND	<1.0
Chlorobenzene	µg/L	100	2,000	<1.0	<1.0	<1.0	<2.0	2.5	<1.0		<1.0	<2.0
Chloroform	µg/L	70	100	<1.0	<1.0	<1.0	3.2	<1.0	<1.0		<1.0	<2.0
1,2-Dichloroethane	µg/L	5	300	NA	<1.0	<1.0	<1.0	<1.0	<1.0		NA	<1.0
Ethylbenzene	µg/L	700	3,000	<1.0	<1.0	<1.0	<1.0	1.0	<1.0		**3,010**	<1.0
Isopropylbenzene	µg/L	800	NS	<1.0	<1.0	<1.0	<1.0	4.6	<1.0		176	<1.0
4-Isopropyltoluene	µg/L	260	NS	<1.0	<1.0	<1.0	<1.0	1.6	<1.0		<1.0	<1.0
Methyl tert-butyl ether (MtBE)	µg/L	13	10,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		<1.0	<1.0
Naphthalene	µg/L	20	2,000	<1.0	<1.0	<1.0	<1.0	12.2	<1.0		**526**	<1.0
n-Propylbenzene	µg/L	260	NS	<1.0	<1.0	<1.0	<1.0	6.2	<1.0		**484**	<1.0
Toluene	µg/L	1,000	50,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		662	<1.0
1,2,4-Trimethylbenzene	µg/L	330	3,000	<1.0	<1.0	<1.0	<1.0	22.1	<1.0		**3,390**	<1.0
1,3,5-Trimethylbenzene	µg/L	330	1,000	<1.0	<1.0	<1.0	<1.0	2.1	<1.0		**915**	<1.0
Total Xylenes (mixed isomers)	µg/L	10,000	30,000	<3.0	<1.0	<3.0	<2.0	8.6	<3.0		**11,729**	<3.0

Notes:
[1] Only detected compounds listed - all others below laboratory detection limits.
[2] µg/L = micrograms per liter = parts per billion (ppb)
[3] New Hampshire Department of Environmental Services (NHDES) Ambient Groundwater Quality Standards (AGQS) as defined in Env-Or 600 and NHDES GW-2 Guidelines as defined in NHDES' Vapor Intrusion Guidance, May 2007.
NS = Standards not currently available for this compound.
ND = Not detected above laboratory reporting limits
NA - Data not available.
On November 26, 2003, samples were collected by D. Goulet of the NHDOT and analyzed by the NHDES laboratory. On December 29, 2004, samples were collected by Aaron Environmental, Inc. JCO-604 samples prior to November 2011 were collected by The Johnson Company. All other samples were collected by Stantec (formerly Jacques Whitford).
Shaded = Concentration exceeded laboratory calibration range
Bold and underlined denotes concentrations above AGQS
Checked by: LC 12-12-12

Table 3
Summary of Free Product Recovery
NHDOT Westboro Roundhouse
West Lebanon, New Hampshire

Monitoring Well	Date	Depth to Water (feet)	Depth to Product (feet)	Product Thickness (feet)	Product Removed via Wick (gallons)	Product Removed via Bailer (gallons)	Total Product Removed (gallons)	Comments
JW-5	5/19/2005	12.79	12.77	0.02	--	--	--	--
	12/7/2005	11.11	10.72	0.39	--	0.8	0.8	--
	5/19/2006	13.61	12.22	1.39	--	0.8	0.8	Installed Sock
	8/17/2006	16.50	14.50	2.0	0.05	1.0	1.5	Replaced Sock - 50% saturated
	10/6/2006	16.55	--	--	<0.05	--	<0.05	Replaced Sock - <50% saturated
	12/6/2006	12.36	12.35	0.01	0.1	--	0.1	Replaced Sock - 100% saturated
	3/6/2007	15.95	15.94	0.01	0.1	0.05	0.15	Sock - 100% saturated removed 200 ml oil
	5/9/2007	12.15	12.05	0.10	0.1	--	0.1	Replaced Sock - 100% saturated
	10/10/2007	<17.85	17.55	0.30	0.1	--	0.1	Replaced Sock - 100% saturated
	3/27/2008	11.90	11.04	0.86	0.1	0.2	0.3	Replaced Sock - 100% saturated
	5/1/2008	12.81	9.58	3.23	0.1	0.4	0.5	Replaced Sock - 100% saturated
	7/7/2008	17.50	17.05	0.45	0.1	0.1	0.2	Replaced Sock - 100% saturated
	10/20/2008	17.18	16.81	0.37	0.1	0.05	0.15	Replaced Sock - 100% saturated
	12/11/2008	15.55	--	--	0.1	--	0.1	Replaced Sock - 100% saturated
	3/4/2009	15.85	--	--	0.02	--	0.02	Replaced Sock - 20% saturated
	5/27/2009	14.91	14.51	0.40	0.1	0.06	0.16	Replaced Sock - 100% saturated
	11/9/2009	15.05	--	--	0.1	--	0.1	Replaced Sock - 100% saturated
	4/23/2010	12.75	12.64	0.11	0.1	0.4	0.5	Removed Sock - 100% saturated
	11/8/2010	14.19	13.98	0.21	0.0	0.1	0.1	--
	5/20/2011	13.05	10.77	2.28	0.0	0.34	0.34	--
	11/7/2011	14.75	14.50	0.25	0.0	0.05	0.05	--
	5/4/2012	16.51	16.10	0.41	0.0	0.13	0.13	--
	10/2/2012	>17.50	--	--	--	--	--	Well dry
WP-1	5/19/2005	--	--	--	--	--	--	--
	12/7/2005	7.67	--	--	--	--	--	--
	5/19/2006	6.00	5.97	0.03	--	--	--	Will install sock during July 2006 site visit
	8/17/2006	11.25	Trace	--	--	--	--	Installed Sock
	10/6/2006	10.46	--	--	<0.05	--	<0.05	Removed Sock - <50% saturated
	12/6/2006	8.37	8.35	0.02	--	--	--	Installed Sock
	3/6/2007	6.04	-	--	--	--	--	Replaced sock
	5/9/2007	7.15	--	--	--	--	--	Installed Sock
	10/10/2007	11.20	--	--	0.1	--	0.1	Replaced Sock - 100% saturated
	3/27/2008	7.75	--	--	--	--	--	--
	5/1/2008	3.82	--	--	--	--	--	--
	7/7/2008	9.55	--	--	--	--	--	--
	10/20/2008	11.07	--	--	--	--	--	--
	12/11/2008	8.17	--	--	--	--	--	--
	3/4/2009	9.32	--	--	--	--	--	--
	5/27/2009	10.05	--	--	--	--	--	--
	11/9/2009	10.20	--	--	--	--	--	--
	4/23/2010	7.13	--	--	--	--	--	--
	11/8/2010	8.74	--	--	--	--	--	--
	5/20/2011	5.88	--	--	--	--	--	--
	11/7/2011	10.20	--	--	--	--	--	--
	5/4/2012	9.20	--	--	--	--	--	--
	10/2/2012	12.30	--	--	--	--	--	--

Table 3
Summary of Free Product Recovery
NHDOT Westboro Roundhouse
West Lebanon, New Hampshire

Monitoring Well	Date	Depth to Water (feet)	Depth to Product (feet)	Product Thickness (feet)	Product Removed via Wick (gallons)	Product Removed via Bailer (gallons)	Total Product Removed (gallons)	Comments
WP-4	12/11/2008	5.97	5.96	0.01	--	0.025	0.025	--
	3/4/2009	6.44	---	--	--	--	--	--
	5/27/2009	7.25	7.15	0.1	--	0.02	0.02	--
	11/9/2009	6.68	--	--	--	--	--	--
	4/23/2010	5.25	--	--	--	--	--	--
	11/8/2010	5.41	--	--	--	--	--	--
	5/20/2011	4.45	--	--	--	--	--	--
	11/7/2011	>6.00	--	--	--	--	--	--
	5/4/2012	6.35	--	--	--	--	--	--
	10/2/2012	>7.28	--	--	--	--	--	Well dry
WP-6	5/19/2005	--	--	--	--	0.5	0.5	--
	12/7/2005	10.25	9.28	0.97	--	0.5	0.5	--
	5/19/2006	10.25	8.46	1.79	--	0.5	0.5	Will install sock during July 2006 site visit
	8/17/2006	13.55	Trace	--	--	--	--	Installed Sock
	10/6/2006	13.79	12.66	1.13	0.1	0.5	0.6	Replaced Sock - 100% saturated
	12/6/2006	10.45	10.0	0.45	0.1	0.4	0.5	Replaced Sock - 100% saturated
	3/6/2007	13.24	12.4	0.84	0.1	0.1	0.2	Sock - 100% saturated removed 950 ml oil
	5/9/2007	10.15	9.51	0.64	0.1	0.2	0.3	Sock - 100% saturated removed 0.2 gallons
	10/10/2007	13.88	13.71	0.17	0.1	0.01	0.11	Sock - 100% saturated removed 0.01 gallons
	3/27/2008	10.65	9.98	0.67	0.1	0.15	0.25	Replaced Sock - 100% saturated
	5/1/2008	7.20	--	--	0.1	--	0.1	Replaced Sock - 100% saturated
	7/7/2008	13.52	13.51	0.01	0.05	--	0.05	Replaced Sock - 50% saturated
	10/20/2008	13.24	13.23	0.01	0.1	--	0.1	100% saturated - Inadvertently did not replace sock
	12/11/2008	11.32	11.23	0.09	--	0.05	0.05	Used deflated sock but still tight - pushed down as far as possible
	3/4/2009	12.06	11.99	0.07	--	0.01	0.01	--
	5/27/2009	12.43	11.70	0.73	--	0.12	0.12	--
	11/9/2009	12.62	12.25	0.37	--	0.4	0.4	Installed Sock
	4/23/2010	10.41	10.36	0.05	0.1	0.2	0.3	Removed Sock - 100% saturated
	11/8/2010	10.85	10.35	0.50	0.0	0.05	0.05	--
	5/20/2011	10.20	8.32	1.88	0.0	0.16	0.16	--
	11/7/2011	12.30	12.28	0.02	0.0	--	--	--
	5/4/2012	12.38	12.35	0.03	0.0	0.03	0.03	--
	10/2/2012	>14.40	--	--	--	--	--	Well dry
						TOTAL PRODUCT REMOVED	**11.175**	

Notes:
1. A fully saturated wick contains approximately 17 ounces of LNAPL or 0.1 gallons.

Checked By: LC 12-12-12

APPENDIX A

GMP Renewal Application Form

NEW HAMPSHIRE DEPARTMENT OF
Environmental Services

APPLICATION FOR RENEWAL OF GROUNDWATER MANAGEMENT PERMIT

A GROUNDWATER MANAGEMENT PERMIT is issued under RSA 485-C:4, VIII and Env-Or 607 to a responsible party to remedy contamination associated with the past discharge of regulated contaminants, and to manage the use of the contaminated groundwater. (Examples include sites contaminated from leaking underground storage tanks, unlined landfills regulated pursuant to RSA 149-M, hazardous waste disposal, etc.)

SUBMIT:

- ONE SIGNED AND COMPLETED APPLICATION (Application shall be prepared and stamped by a professional engineer or professional geologist licensed in the State of New Hampshire.)
- SUPPORTING INFORMATION
- $2,000 APPLICATION FEE (In the form of a check payable to the "Treasurer - State of New Hampshire." State and local government, including counties and political subdivisions, are exempt, unless eligible for funding under the Petroleum Reimbursement Fund Program.)

TO:

NH DES/Waste Management Division
Site Remediation Programs
Groundwater Management Permit Coordinator
29 Hazen Drive, PO Box 95
Concord, NH 03302-0095

If you have any questions, contact the Groundwater Management Permit Coordinator at (603) 271-6542.

CERTIFICATION OF NOTICE TO LOCAL TOWN/CITY CLERK

In order to meet the requirements of Env-Or 607.02 (b)(3), the applicant certifies that on February 4, 2013, a copy of this completed permit application was given to the Town/City Clerk of Lebanon (the town in which the facility requesting a permit is located).

Date: 1/28/13 **Applicant Signature:** [signature]

Applicant Name: (print or type): DALE O'CONNELL P.G.

CERTIFICATION OF NOTICE TO OWNERS OF LOTS PROPOSED FOR INCLUSION IN THE GMZ (As Applicable)

In order to meet the requirements of Env-Or 607.02 (b)(2), the applicant certifies that notification has been provided to all owners of lots proposed for inclusion in the Groundwater Management Zone (GMZ).

Date: 1/28/13 **Applicant Signature:** [signature]

Applicant Name: (print or type): DALE O'CONNELL P.G.

I. Site Information

Site Name: Westboro Rail Yard Permit #: GWP-199210036-L-001

Address: Railroad Avenue

City: West Lebanon State: NH Zip: 03784

Tax Map: 72 Lot Number: 5

Deed Reference: County: Grafton Book and Page: 2409/865

II. Site Owner Information

Site Owner Name: State of New Hampshire, Department of Transportation Phone: 603-271-6370

Mailing Address: P.O. Box 483

City: Concord State: NH Zip: 03302

III. Permit Applicant Information (complete only if different than site owner)

Permit Applicant Name: Phone:

Mailing Address:

City: State: Zip:

IV. Contact Person Information (complete only if different than site owner)

Contact Person Name: Dale O'Connell Phone: 603-271-6370

Mailing Address: P.O. Box 483

City: Concord State: NH Zip: 03302

Email doconnell@dot.state.nh.us Fax # 603-271-3914

V. Supporting Information (required)

(a) Tabular summary of all monitoring results for the 5 years immediately preceding the renewal application from existing monitoring points with an assessment of trends in the data;

(b) Narrative summary of the status of remedial measures performed (e.g., landfills: active, inactive w/no closure plan submitted, closed (as per approved closure plan); petroleum release and hazardous waste release sites: active remediation on-going, remedial action plan (RAP) completed w/on-going monitoring or monitoring-only RAP) and an update on the performance of measures conducted;

(c) Recommendations for any revisions to the existing Groundwater Management Permit, including an outline of proposed modifications to the monitoring program. Any proposed modifications to the monitoring plan must be specific in terms of individual monitoring locations, sampling frequency and analytical parameters, and should be supported by reference to the monitoring summary.

(d) Updated site plan(s) scaled to fit onto an 8-1/2 inches by 11 inches or 11 inches by 17 inches sheet, using a tax map as a base, that identifies and locates the following:

1. Proposed groundwater management zone boundary;
2. Any properties, including tax map and lot numbers, within and abutting the lots on which the proposed groundwater management zone is located;
3. All proposed sampling locations;
4. Current groundwater contours referenced to a table of current water level measurements obtained from piezometers and monitoring wells used to develop the contours; and

(e) A list of properties located within the groundwater management zone including owner's name, mailing address, telephone number, property address, and deed reference including county book and page and tax map and lot number.

VI. Certification

To the best of my knowledge, the data and information that I have submitted to renew the Groundwater Management Permit from the New Hampshire Department of Environmental Services, are true and correct.

The undersigned certifies that application has been made for all required local, state or federal permits.

Date: 1/28/13 **Signature:** _____
Permit Applicant

Name: (print or type): DALE O'DONNELL P.G.

VII. Professional Certification

Date: 1/31/13 **Signature:** _____
Professional Engineer or Geologist

Name: (print or type): David A. Allwine

The New Hampshire licensed professional engineer or geologist who prepared this Permit Application is required to stamp this document in the space provided below.

STATE OF NEW HAMPSHIRE
DAVID A. ALLWINE
No. 584
LICENSED
PROFESSIONAL GEOLOGIST

No liability is incurred by the State by reason of any approval for Groundwater Management Permits. Approval by the New Hampshire Department of Environmental Services is based on the information supplied by the applicant. No guarantee is intended or implied by reason of any advice given by the Department or its staff.

APPENDIX B

October 2012 Laboratory Analytical Reports

Report Date:
16-Oct-12 11:55

☑ Final Report
☐ Re-Issued Report
☐ Revised Report

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

Laboratory Report

Stantec Consulting Services
5 Dartmouth Drive, Suite 101
Auburn, NH 03032
Attn: Dave Allwine

Project: North Yard - West Lebanon, NH
Project #: 191710015/270.970

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SB57490-01	MW-1	Ground Water	02-Oct-12 08:00	03-Oct-12 10:30
SB57490-02	MW-2	Ground Water	02-Oct-12 08:35	03-Oct-12 10:30
SB57490-03	Trip	Aqueous	02-Oct-12 00:00	03-Oct-12 10:30

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87600/E87936
Maine # MA138
New Hampshire # 2538
New Jersey # MA011/MA012
New York # 11393/11840
Pennsylvania # 68-04426/68-02924
Rhode Island # 98
USDA # S-51435

Authorized by:

Nicole Leja
Laboratory Director

Spectrum Analytical holds certification in the State of New York for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of New York does not offer certification for all analytes. Please refer to our website for specific certification holdings in each state.
Please note that this report contains 22 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Spectrum Analytical, Inc.

Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Spectrum is currently accredited for the specific method or analyte indicated. Please refer to our "Quality" web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (NY-11840, FL-E87936 and NJ-MA012).

Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.

CASE NARRATIVE:

The samples were received 2.3 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group.

See below for any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.

SW846 8260C

Calibration:

1210017

Analyte quantified by quadratic equation type calibration.

1,2,3-Trichlorobenzene
1,2,4-Trichlorobenzene
1,2-Dibromo-3-chloropropane
Bromoform
Dibromochloromethane
Hexachlorobutadiene
Naphthalene
trans-1,3-Dichloropropene

This affected the following samples:

1224966-BLK1
1224966-BS1
1224966-BSD1
1225042-BLK1
1225042-BS1
1225042-BSD1
MW-1
MW-2
S212270-ICV1
S212564-CCV1
S212580-CCV1
Trip

S212270-ICV1

Analyte percent recovery is outside individual acceptance criteria (80-120).

Acetone (129%)
Acrylonitrile (78%)
Dichlorodifluoromethane (Freon12) (72%)
Vinyl chloride (76%)

This affected the following samples:

1224966-BLK1
1224966-BS1
1224966-BSD1
1225042-BLK1
1225042-BS1
1225042-BSD1
MW-1
MW-2
S212564-CCV1
S212580-CCV1
Trip

SW846 8260C

Laboratory Control Samples:

1224966 BS/BSD

Chloromethane percent recoveries (69/69) are outside individual acceptance criteria (70-130), but within overall method allowances. All reported results of the following samples are considered to have a potentially low bias:

MW-1
MW-2
Trip

Dichlorodifluoromethane (Freon12) percent recoveries (70/68) are outside individual acceptance criteria (70-130), but within overall method allowances. All reported results of the following samples are considered to have a potentially low bias:

MW-1
MW-2
Trip

Vinyl chloride percent recoveries (64/61) are outside individual acceptance criteria (70-130), but within overall method allowances. All reported results of the following samples are considered to have a potentially low bias:

MW-1
MW-2
Trip

Samples:

S212564-CCV1

Analyte percent difference is outside individual acceptance criteria (20), but within overall method allowances.

1,1-Dichloroethene (-25.3%)
Acrylonitrile (-32.0%)
Bromomethane (-23.0%)
Chloroethane (-23.3%)
Chloromethane (-27.6%)
Dichlorodifluoromethane (Freon12) (-30.4%)
Ethanol (-26.7%)
Ethyl ether (-29.2%)
Methylene chloride (-27.9%)
Trichlorofluoromethane (Freon 11) (-26.6%)
Vinyl chloride (-33.8%)

This affected the following samples:

1224966-BLK1
1224966-BS1
1224966-BSD1
MW-1
MW-2
Trip

S212580-CCV1

SW846 8260C

Samples:

S212580-CCV1

Analyte percent difference is outside individual acceptance criteria (20), but within overall method allowances.

Acrylonitrile (-27.5%)
Bromomethane (-31.9%)
Chloroethane (-22.7%)
Chloromethane (-30.4%)
Dichlorodifluoromethane (Freon12) (-24.3%)
Ethanol (-30.5%)
Ethyl ether (-27.6%)
Tert-Butanol / butyl alcohol (-32.8%)
Trichlorofluoromethane (Freon 11) (-21.6%)
Vinyl chloride (-32.4%)

Analyte percent drift is outside individual acceptance criteria (20), but within overall method allowances.

Acetone (-25.2%)

This affected the following samples:

1225042-BLK1
1225042-BS1
1225042-BSD1

SB57490-01 *MW-1*

This sample was not able to be analyzed for client requested reporting limits due to high concentrations of target analytes in the sample.

SB57490-01RE1 *MW-1*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-1	191710015/270.970	Ground Water	02-Oct-12 08:00	03-Oct-12
SB57490-01				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds			GS										
Prepared by method SW846 5030 Water MS													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 10.0	D	µg/l	10.0	6.47	10	SW846 8260C	12-Oct-12	12-Oct-12	eq	1224966	X
67-64-1	Acetone	< 100	D	µg/l	100	25.6	10	"	"	"	"	"	X
107-13-1	Acrylonitrile	< 5.00	D	µg/l	5.00	4.61	10	"	"	"	"	"	X
71-43-2	Benzene	**2,630**	E, D	µg/l	10.0	6.69	10	"	"	"	"	"	X
108-86-1	Bromobenzene	< 10.0	D	µg/l	10.0	7.21	10	"	"	"	"	"	X
74-97-5	Bromochloromethane	< 10.0	D	µg/l	10.0	7.10	10	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 5.00	D	µg/l	5.00	4.79	10	"	"	"	"	"	X
75-25-2	Bromoform	< 10.0	D	µg/l	10.0	6.03	10	"	"	"	"	"	X
74-83-9	Bromomethane	< 20.0	D	µg/l	20.0	11.4	10	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 100	D	µg/l	100	17.3	10	"	"	"	"	"	X
104-51-8	n-Butylbenzene	**19.3**	D	µg/l	10.0	5.62	10	"	"	"	"	"	X
135-98-8	sec-Butylbenzene	**14.8**	D	µg/l	10.0	8.20	10	"	"	"	"	"	X
98-06-6	tert-Butylbenzene	< 10.0	D	µg/l	10.0	7.45	10	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 20.0	D	µg/l	20.0	6.27	10	"	"	"	"	"	X
56-23-5	Carbon tetrachloride	< 10.0	D	µg/l	10.0	5.49	10	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 10.0	D	µg/l	10.0	6.54	10	"	"	"	"	"	X
75-00-3	Chloroethane	< 20.0	D	µg/l	20.0	10.3	10	"	"	"	"	"	X
67-66-3	Chloroform	< 10.0	D	µg/l	10.0	6.89	10	"	"	"	"	"	X
74-87-3	Chloromethane	< 20.0	D	µg/l	20.0	14.7	10	"	"	"	"	"	X
95-49-8	2-Chlorotoluene	< 10.0	D	µg/l	10.0	7.91	10	"	"	"	"	"	X
106-43-4	4-Chlorotoluene	< 10.0	D	µg/l	10.0	7.31	10	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 20.0	D	µg/l	20.0	9.27	10	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 5.00	D	µg/l	5.00	2.89	10	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 5.00	D	µg/l	5.00	3.27	10	"	"	"	"	"	X
74-95-3	Dibromomethane	< 10.0	D	µg/l	10.0	6.66	10	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 10.0	D	µg/l	10.0	6.68	10	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 10.0	D	µg/l	10.0	7.12	10	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 10.0	D	µg/l	10.0	6.24	10	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 20.0	D	µg/l	20.0	4.47	10	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 10.0	D	µg/l	10.0	6.80	10	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 10.0	D	µg/l	10.0	7.81	10	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 10.0	D	µg/l	10.0	4.88	10	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	< 10.0	D	µg/l	10.0	7.16	10	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	< 10.0	D	µg/l	10.0	6.81	10	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 10.0	D	µg/l	10.0	7.12	10	"	"	"	"	"	X
142-28-9	1,3-Dichloropropane	< 10.0	D	µg/l	10.0	8.07	10	"	"	"	"	"	X
594-20-7	2,2-Dichloropropane	< 10.0	D	µg/l	10.0	6.05	10	"	"	"	"	"	X
563-58-6	1,1-Dichloropropene	< 10.0	D	µg/l	10.0	6.36	10	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 5.00	D	µg/l	5.00	2.52	10	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 5.00	D	µg/l	5.00	4.99	10	"	"	"	"	"	X
100-41-4	Ethylbenzene	**2,190**	E, D	µg/l	10.0	7.32	10	"	"	"	"	"	X
87-68-3	Hexachlorobutadiene	< 5.00	D	µg/l	5.00	4.50	10	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 100	D	µg/l	100	5.45	10	"	"	"	"	"	X

This laboratory report is not valid without an authorized signature on the cover page.

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-1	191710015/270.970	Ground Water	02-Oct-12 08:00	03-Oct-12
SB57490-01				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
Volatile Organic Compounds			GS										
Prepared by method SW846 5030 Water MS													
98-82-8	Isopropylbenzene	**105**	D	µg/l	10.0	6.21	10	SW846 8260C	12-Oct-12	12-Oct-12	eq	1224966	X
99-87-6	4-Isopropyltoluene	< 10.0	D	µg/l	10.0	6.09	10	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	< 10.0	D	µg/l	10.0	6.52	10	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 100	D	µg/l	100	9.32	10	"	"	"	"	"	X
75-09-2	Methylene chloride	< 20.0	D	µg/l	20.0	6.90	10	"	"	"	"	"	X
91-20-3	Naphthalene	**303**	D	µg/l	10.0	3.31	10	"	"	"	"	"	X
103-65-1	n-Propylbenzene	**268**	D	µg/l	10.0	7.58	10	"	"	"	"	"	X
100-42-5	Styrene	< 10.0	D	µg/l	10.0	6.15	10	"	"	"	"	"	X
630-20-6	1,1,1,2-Tetrachloroethane	< 10.0	D	µg/l	10.0	6.26	10	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 5.00	D	µg/l	5.00	3.49	10	"	"	"	"	"	X
127-18-4	Tetrachloroethene	< 10.0	D	µg/l	10.0	7.43	10	"	"	"	"	"	X
108-88-3	Toluene	**196**	D	µg/l	10.0	8.12	10	"	"	"	"	"	X
87-61-6	1,2,3-Trichlorobenzene	< 10.0	D	µg/l	10.0	3.76	10	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 10.0	D	µg/l	10.0	3.60	10	"	"	"	"	"	X
108-70-3	1,3,5-Trichlorobenzene	< 10.0	D	µg/l	10.0	7.84	10	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 10.0	D	µg/l	10.0	5.82	10	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 10.0	D	µg/l	10.0	6.42	10	"	"	"	"	"	X
79-01-6	Trichloroethene	< 10.0	D	µg/l	10.0	7.55	10	"	"	"	"	"	X
75-69-4	Trichlorofluoromethane (Freon 11)	< 10.0	D	µg/l	10.0	6.28	10	"	"	"	"	"	X
96-18-4	1,2,3-Trichloropropane	< 10.0	D	µg/l	10.0	7.36	10	"	"	"	"	"	X
95-63-6	1,2,4-Trimethylbenzene	**1,970**	D, E	µg/l	10.0	7.57	10	"	"	"	"	"	X
108-67-8	1,3,5-Trimethylbenzene	**462**	D	µg/l	10.0	7.44	10	"	"	"	"	"	X
75-01-4	Vinyl chloride	< 10.0	D	µg/l	10.0	8.07	10	"	"	"	"	"	X
179601-23-1	m,p-Xylene	**6,400**	E, D	µg/l	20.0	16.4	10	"	"	"	"	"	X
95-47-6	o-Xylene	**418**	D	µg/l	10.0	8.82	10	"	"	"	"	"	X
109-99-9	Tetrahydrofuran	< 20.0	D	µg/l	20.0	14.4	10	"	"	"	"	"	
60-29-7	Ethyl ether	< 10.0	D	µg/l	10.0	6.93	10	"	"	"	"	"	X
994-05-8	Tert-amyl methyl ether	< 10.0	D	µg/l	10.0	7.19	10	"	"	"	"	"	X
637-92-3	Ethyl tert-butyl ether	< 10.0	D	µg/l	10.0	7.82	10	"	"	"	"	"	X
108-20-3	Di-isopropyl ether	< 10.0	D	µg/l	10.0	7.27	10	"	"	"	"	"	X
75-65-0	Tert-Butanol / butyl alcohol	< 100	D	µg/l	100	86.4	10	"	"	"	"	"	X
123-91-1	1,4-Dioxane	< 200	D	µg/l	200	140	10	"	"	"	"	"	X
110-57-6	trans-1,4-Dichloro-2-buten e	< 50.0	D	µg/l	50.0	7.67	10	"	"	"	"	"	X
64-17-5	Ethanol	< 4000	D	µg/l	4000	357	10	"	"	"	"	"	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*107*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*101*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*96*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*100*			*70-130 %*			"	"	"	"	"	
Re-analysis of Volatile Organic Compounds			GS1										
Prepared by method SW846 5030 Water MS													
71-43-2	Benzene	**2,530**	D	µg/l	50.0	33.4	50	SW846 8260C	13-Oct-12	13-Oct-12	eq	1225042	X

This laboratory report is not valid without an authorized signature on the cover page.

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-1	191710015/270.970	Ground Water	02-Oct-12 08:00	03-Oct-12
SB57490-01				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
Re-analysis of Volatile Organic Compounds			GS1										
Prepared by method SW846 5030 Water MS													
95-63-6	1,2,4-Trimethylbenzene	**1,900**	D	µg/l	50.0	37.8	50	SW846 8260C	13-Oct-12	13-Oct-12	eq	1225042	X
179601-23-1	m,p-Xylene	**7,460**	D	µg/l	100	82.0	50	"	"	"	"	"	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*106*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*97*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*93*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*94*			*70-130 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-2	191710015/270.970	Ground Water	02-Oct-12 08:35	03-Oct-12
SB57490-02				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
Volatile Organic Compounds													
Prepared by method SW846 5030 Water MS													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00		µg/l	1.00	0.65	1	SW846 8260C	12-Oct-12	12-Oct-12	eq	1224966	X
67-64-1	Acetone	< 10.0		µg/l	10.0	2.56	1	"	"	"	"	"	X
107-13-1	Acrylonitrile	< 0.50		µg/l	0.50	0.46	1	"	"	"	"	"	X
71-43-2	Benzene	< 1.00		µg/l	1.00	0.67	1	"	"	"	"	"	X
108-86-1	Bromobenzene	< 1.00		µg/l	1.00	0.72	1	"	"	"	"	"	X
74-97-5	Bromochloromethane	< 1.00		µg/l	1.00	0.71	1	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 0.50		µg/l	0.50	0.48	1	"	"	"	"	"	X
75-25-2	Bromoform	< 1.00		µg/l	1.00	0.60	1	"	"	"	"	"	X
74-83-9	Bromomethane	< 2.00		µg/l	2.00	1.14	1	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 10.0		µg/l	10.0	1.73	1	"	"	"	"	"	X
104-51-8	n-Butylbenzene	< 1.00		µg/l	1.00	0.56	1	"	"	"	"	"	X
135-98-8	sec-Butylbenzene	**1.80**		µg/l	1.00	0.82	1	"	"	"	"	"	X
98-06-6	tert-Butylbenzene	< 1.00		µg/l	1.00	0.74	1	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 2.00		µg/l	2.00	0.63	1	"	"	"	"	"	X
56-23-5	Carbon tetrachloride	< 1.00		µg/l	1.00	0.55	1	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 1.00		µg/l	1.00	0.65	1	"	"	"	"	"	X
75-00-3	Chloroethane	< 2.00		µg/l	2.00	1.03	1	"	"	"	"	"	X
67-66-3	Chloroform	< 1.00		µg/l	1.00	0.69	1	"	"	"	"	"	X
74-87-3	Chloromethane	< 2.00		µg/l	2.00	1.47	1	"	"	"	"	"	X
95-49-8	2-Chlorotoluene	< 1.00		µg/l	1.00	0.79	1	"	"	"	"	"	X
106-43-4	4-Chlorotoluene	< 1.00		µg/l	1.00	0.73	1	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 2.00		µg/l	2.00	0.93	1	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 0.50		µg/l	0.50	0.29	1	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 0.50		µg/l	0.50	0.33	1	"	"	"	"	"	X
74-95-3	Dibromomethane	< 1.00		µg/l	1.00	0.67	1	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 1.00		µg/l	1.00	0.67	1	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 1.00		µg/l	1.00	0.71	1	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 1.00		µg/l	1.00	0.62	1	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 2.00		µg/l	2.00	0.45	1	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 1.00		µg/l	1.00	0.68	1	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 1.00		µg/l	1.00	0.78	1	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 1.00		µg/l	1.00	0.49	1	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	< 1.00		µg/l	1.00	0.72	1	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	< 1.00		µg/l	1.00	0.68	1	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 1.00		µg/l	1.00	0.71	1	"	"	"	"	"	X
142-28-9	1,3-Dichloropropane	< 1.00		µg/l	1.00	0.81	1	"	"	"	"	"	X
594-20-7	2,2-Dichloropropane	< 1.00		µg/l	1.00	0.60	1	"	"	"	"	"	X
563-58-6	1,1-Dichloropropene	< 1.00		µg/l	1.00	0.64	1	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 0.50		µg/l	0.50	0.25	1	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 0.50		µg/l	0.50	0.50	1	"	"	"	"	"	X
100-41-4	Ethylbenzene	< 1.00		µg/l	1.00	0.73	1	"	"	"	"	"	X
87-68-3	Hexachlorobutadiene	< 0.50		µg/l	0.50	0.45	1	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 10.0		µg/l	10.0	0.54	1	"	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-2	191710015/270.970	Ground Water	02-Oct-12 08:35	03-Oct-12
SB57490-02				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
Volatile Organic Compounds													
Prepared by method SW846 5030 Water MS													
98-82-8	Isopropylbenzene	< 1.00		µg/l	1.00	0.62	1	SW846 8260C	12-Oct-12	12-Oct-12	eq	1224966	X
99-87-6	4-Isopropyltoluene	< 1.00		µg/l	1.00	0.61	1	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	< 1.00		µg/l	1.00	0.65	1	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 10.0		µg/l	10.0	0.93	1	"	"	"	"	"	X
75-09-2	Methylene chloride	< 2.00		µg/l	2.00	0.69	1	"	"	"	"	"	X
91-20-3	Naphthalene	< 1.00		µg/l	1.00	0.33	1	"	"	"	"	"	X
103-65-1	n-Propylbenzene	< 1.00		µg/l	1.00	0.76	1	"	"	"	"	"	X
100-42-5	Styrene	< 1.00		µg/l	1.00	0.62	1	"	"	"	"	"	X
630-20-6	1,1,1,2-Tetrachloroethane	< 1.00		µg/l	1.00	0.63	1	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 0.50		µg/l	0.50	0.35	1	"	"	"	"	"	X
127-18-4	Tetrachloroethene	< 1.00		µg/l	1.00	0.74	1	"	"	"	"	"	X
108-88-3	Toluene	< 1.00		µg/l	1.00	0.81	1	"	"	"	"	"	X
87-61-6	1,2,3-Trichlorobenzene	< 1.00		µg/l	1.00	0.38	1	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 1.00		µg/l	1.00	0.36	1	"	"	"	"	"	X
108-70-3	1,3,5-Trichlorobenzene	< 1.00		µg/l	1.00	0.78	1	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 1.00		µg/l	1.00	0.58	1	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 1.00		µg/l	1.00	0.64	1	"	"	"	"	"	X
79-01-6	Trichloroethene	< 1.00		µg/l	1.00	0.76	1	"	"	"	"	"	X
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.00		µg/l	1.00	0.63	1	"	"	"	"	"	X
96-18-4	1,2,3-Trichloropropane	< 1.00		µg/l	1.00	0.74	1	"	"	"	"	"	X
95-63-6	1,2,4-Trimethylbenzene	< 1.00		µg/l	1.00	0.76	1	"	"	"	"	"	X
108-67-8	1,3,5-Trimethylbenzene	< 1.00		µg/l	1.00	0.74	1	"	"	"	"	"	X
75-01-4	Vinyl chloride	< 1.00		µg/l	1.00	0.81	1	"	"	"	"	"	X
179601-23-1	m,p-Xylene	< 2.00		µg/l	2.00	1.64	1	"	"	"	"	"	X
95-47-6	o-Xylene	< 1.00		µg/l	1.00	0.88	1	"	"	"	"	"	X
109-99-9	Tetrahydrofuran	< 2.00		µg/l	2.00	1.44	1	"	"	"	"	"	
60-29-7	Ethyl ether	< 1.00		µg/l	1.00	0.69	1	"	"	"	"	"	X
994-05-8	Tert-amyl methyl ether	< 1.00		µg/l	1.00	0.72	1	"	"	"	"	"	X
637-92-3	Ethyl tert-butyl ether	< 1.00		µg/l	1.00	0.78	1	"	"	"	"	"	X
108-20-3	Di-isopropyl ether	< 1.00		µg/l	1.00	0.73	1	"	"	"	"	"	X
75-65-0	Tert-Butanol / butyl alcohol	< 10.0		µg/l	10.0	8.64	1	"	"	"	"	"	X
123-91-1	1,4-Dioxane	< 20.0		µg/l	20.0	14.0	1	"	"	"	"	"	X
110-57-6	trans-1,4-Dichloro-2-buten e	< 5.00		µg/l	5.00	0.77	1	"	"	"	"	"	X
64-17-5	Ethanol	< 400		µg/l	400	35.7	1	"	"	"	"	"	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*103*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*98*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*91*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*97*			*70-130 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
Trip	191710015/270.970	Aqueous	02-Oct-12 00:00	03-Oct-12
SB57490-03				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds													
Prepared by method SW846 5030 Water MS													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00		µg/l	1.00	0.65	1	SW846 8260C	12-Oct-12	12-Oct-12	eq	1224966	X
67-64-1	Acetone	< 10.0		µg/l	10.0	2.56	1	"	"	"	"	"	X
107-13-1	Acrylonitrile	< 0.50		µg/l	0.50	0.46	1	"	"	"	"	"	X
71-43-2	Benzene	< 1.00		µg/l	1.00	0.67	1	"	"	"	"	"	X
108-86-1	Bromobenzene	< 1.00		µg/l	1.00	0.72	1	"	"	"	"	"	X
74-97-5	Bromochloromethane	< 1.00		µg/l	1.00	0.71	1	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 0.50		µg/l	0.50	0.48	1	"	"	"	"	"	X
75-25-2	Bromoform	< 1.00		µg/l	1.00	0.60	1	"	"	"	"	"	X
74-83-9	Bromomethane	< 2.00		µg/l	2.00	1.14	1	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 10.0		µg/l	10.0	1.73	1	"	"	"	"	"	X
104-51-8	n-Butylbenzene	< 1.00		µg/l	1.00	0.56	1	"	"	"	"	"	X
135-98-8	sec-Butylbenzene	< 1.00		µg/l	1.00	0.82	1	"	"	"	"	"	X
98-06-6	tert-Butylbenzene	< 1.00		µg/l	1.00	0.74	1	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 2.00		µg/l	2.00	0.63	1	"	"	"	"	"	X
56-23-5	Carbon tetrachloride	< 1.00		µg/l	1.00	0.55	1	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 1.00		µg/l	1.00	0.65	1	"	"	"	"	"	X
75-00-3	Chloroethane	< 2.00		µg/l	2.00	1.03	1	"	"	"	"	"	X
67-66-3	Chloroform	< 1.00		µg/l	1.00	0.69	1	"	"	"	"	"	X
74-87-3	Chloromethane	< 2.00		µg/l	2.00	1.47	1	"	"	"	"	"	X
95-49-8	2-Chlorotoluene	< 1.00		µg/l	1.00	0.79	1	"	"	"	"	"	X
106-43-4	4-Chlorotoluene	< 1.00		µg/l	1.00	0.73	1	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 2.00		µg/l	2.00	0.93	1	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 0.50		µg/l	0.50	0.29	1	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 0.50		µg/l	0.50	0.33	1	"	"	"	"	"	X
74-95-3	Dibromomethane	< 1.00		µg/l	1.00	0.67	1	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 1.00		µg/l	1.00	0.67	1	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 1.00		µg/l	1.00	0.71	1	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 1.00		µg/l	1.00	0.62	1	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 2.00		µg/l	2.00	0.45	1	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 1.00		µg/l	1.00	0.68	1	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 1.00		µg/l	1.00	0.78	1	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 1.00		µg/l	1.00	0.49	1	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	< 1.00		µg/l	1.00	0.72	1	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	< 1.00		µg/l	1.00	0.68	1	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 1.00		µg/l	1.00	0.71	1	"	"	"	"	"	X
142-28-9	1,3-Dichloropropane	< 1.00		µg/l	1.00	0.81	1	"	"	"	"	"	X
594-20-7	2,2-Dichloropropane	< 1.00		µg/l	1.00	0.60	1	"	"	"	"	"	X
563-58-6	1,1-Dichloropropene	< 1.00		µg/l	1.00	0.64	1	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 0.50		µg/l	0.50	0.25	1	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 0.50		µg/l	0.50	0.50	1	"	"	"	"	"	X
100-41-4	Ethylbenzene	< 1.00		µg/l	1.00	0.73	1	"	"	"	"	"	X
87-68-3	Hexachlorobutadiene	< 0.50		µg/l	0.50	0.45	1	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 10.0		µg/l	10.0	0.54	1	"	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
Trip	191710015/270.970	Aqueous	02-Oct-12 00:00	03-Oct-12
SB57490-03				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds													
Prepared by method SW846 5030 Water MS													
98-82-8	Isopropylbenzene	< 1.00		µg/l	1.00	0.62	1	SW846 8260C	12-Oct-12	12-Oct-12	eq	1224966	X
99-87-6	4-Isopropyltoluene	< 1.00		µg/l	1.00	0.61	1	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	< 1.00		µg/l	1.00	0.65	1	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 10.0		µg/l	10.0	0.93	1	"	"	"	"	"	X
75-09-2	Methylene chloride	< 2.00		µg/l	2.00	0.69	1	"	"	"	"	"	X
91-20-3	Naphthalene	< 1.00		µg/l	1.00	0.33	1	"	"	"	"	"	X
103-65-1	n-Propylbenzene	< 1.00		µg/l	1.00	0.76	1	"	"	"	"	"	X
100-42-5	Styrene	< 1.00		µg/l	1.00	0.62	1	"	"	"	"	"	X
630-20-6	1,1,1,2-Tetrachloroethane	< 1.00		µg/l	1.00	0.63	1	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 0.50		µg/l	0.50	0.35	1	"	"	"	"	"	X
127-18-4	Tetrachloroethene	< 1.00		µg/l	1.00	0.74	1	"	"	"	"	"	X
108-88-3	Toluene	< 1.00		µg/l	1.00	0.81	1	"	"	"	"	"	X
87-61-6	1,2,3-Trichlorobenzene	< 1.00		µg/l	1.00	0.38	1	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 1.00		µg/l	1.00	0.36	1	"	"	"	"	"	X
108-70-3	1,3,5-Trichlorobenzene	< 1.00		µg/l	1.00	0.78	1	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 1.00		µg/l	1.00	0.58	1	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 1.00		µg/l	1.00	0.64	1	"	"	"	"	"	X
79-01-6	Trichloroethene	< 1.00		µg/l	1.00	0.76	1	"	"	"	"	"	X
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.00		µg/l	1.00	0.63	1	"	"	"	"	"	X
96-18-4	1,2,3-Trichloropropane	< 1.00		µg/l	1.00	0.74	1	"	"	"	"	"	X
95-63-6	1,2,4-Trimethylbenzene	< 1.00		µg/l	1.00	0.76	1	"	"	"	"	"	X
108-67-8	1,3,5-Trimethylbenzene	< 1.00		µg/l	1.00	0.74	1	"	"	"	"	"	X
75-01-4	Vinyl chloride	< 1.00		µg/l	1.00	0.81	1	"	"	"	"	"	X
179601-23-1	m,p-Xylene	< 2.00		µg/l	2.00	1.64	1	"	"	"	"	"	X
95-47-6	o-Xylene	< 1.00		µg/l	1.00	0.88	1	"	"	"	"	"	X
109-99-9	Tetrahydrofuran	< 2.00		µg/l	2.00	1.44	1	"	"	"	"	"	
60-29-7	Ethyl ether	< 1.00		µg/l	1.00	0.69	1	"	"	"	"	"	X
994-05-8	Tert-amyl methyl ether	< 1.00		µg/l	1.00	0.72	1	"	"	"	"	"	X
637-92-3	Ethyl tert-butyl ether	< 1.00		µg/l	1.00	0.78	1	"	"	"	"	"	X
108-20-3	Di-isopropyl ether	< 1.00		µg/l	1.00	0.73	1	"	"	"	"	"	X
75-65-0	Tert-Butanol / butyl alcohol	< 10.0		µg/l	10.0	8.64	1	"	"	"	"	"	X
123-91-1	1,4-Dioxane	< 20.0		µg/l	20.0	14.0	1	"	"	"	"	"	X
110-57-6	trans-1,4-Dichloro-2-buten e	< 5.00		µg/l	5.00	0.77	1	"	"	"	"	"	X
64-17-5	Ethanol	< 400		µg/l	400	35.7	1	"	"	"	"	"	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*102*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*97*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*92*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*96*			*70-130 %*			"	"	"	"	"	

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1224966 - SW846 5030 Water MS										
Blank (1224966-BLK1)					Prepared & Analyzed: 12-Oct-12					
1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00		µg/l	1.00						
Acetone	< 10.0		µg/l	10.0						
Acrylonitrile	< 0.50		µg/l	0.50						
Benzene	< 1.00		µg/l	1.00						
Bromobenzene	< 1.00		µg/l	1.00						
Bromochloromethane	< 1.00		µg/l	1.00						
Bromodichloromethane	< 0.50		µg/l	0.50						
Bromoform	< 1.00		µg/l	1.00						
Bromomethane	< 2.00		µg/l	2.00						
2-Butanone (MEK)	< 10.0		µg/l	10.0						
n-Butylbenzene	< 1.00		µg/l	1.00						
sec-Butylbenzene	< 1.00		µg/l	1.00						
tert-Butylbenzene	< 1.00		µg/l	1.00						
Carbon disulfide	< 2.00		µg/l	2.00						
Carbon tetrachloride	< 1.00		µg/l	1.00						
Chlorobenzene	< 1.00		µg/l	1.00						
Chloroethane	< 2.00		µg/l	2.00						
Chloroform	< 1.00		µg/l	1.00						
Chloromethane	< 2.00		µg/l	2.00						
2-Chlorotoluene	< 1.00		µg/l	1.00						
4-Chlorotoluene	< 1.00		µg/l	1.00						
1,2-Dibromo-3-chloropropane	< 2.00		µg/l	2.00						
Dibromochloromethane	< 0.50		µg/l	0.50						
1,2-Dibromoethane (EDB)	< 0.50		µg/l	0.50						
Dibromomethane	< 1.00		µg/l	1.00						
1,2-Dichlorobenzene	< 1.00		µg/l	1.00						
1,3-Dichlorobenzene	< 1.00		µg/l	1.00						
1,4-Dichlorobenzene	< 1.00		µg/l	1.00						
Dichlorodifluoromethane (Freon12)	< 2.00		µg/l	2.00						
1,1-Dichloroethane	< 1.00		µg/l	1.00						
1,2-Dichloroethane	< 1.00		µg/l	1.00						
1,1-Dichloroethene	< 1.00		µg/l	1.00						
cis-1,2-Dichloroethene	< 1.00		µg/l	1.00						
trans-1,2-Dichloroethene	< 1.00		µg/l	1.00						
1,2-Dichloropropane	< 1.00		µg/l	1.00						
1,3-Dichloropropane	< 1.00		µg/l	1.00						
2,2-Dichloropropane	< 1.00		µg/l	1.00						
1,1-Dichloropropene	< 1.00		µg/l	1.00						
cis-1,3-Dichloropropene	< 0.50		µg/l	0.50						
trans-1,3-Dichloropropene	< 0.50		µg/l	0.50						
Ethylbenzene	< 1.00		µg/l	1.00						
Hexachlorobutadiene	< 0.50		µg/l	0.50						
2-Hexanone (MBK)	< 10.0		µg/l	10.0						
Isopropylbenzene	< 1.00		µg/l	1.00						
4-Isopropyltoluene	< 1.00		µg/l	1.00						
Methyl tert-butyl ether	< 1.00		µg/l	1.00						
4-Methyl-2-pentanone (MIBK)	< 10.0		µg/l	10.0						
Methylene chloride	< 2.00		µg/l	2.00						
Naphthalene	< 1.00		µg/l	1.00						
n-Propylbenzene	< 1.00		µg/l	1.00						
Styrene	< 1.00		µg/l	1.00						
1,1,1,2-Tetrachloroethane	< 1.00		µg/l	1.00						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1224966 - SW846 5030 Water MS										
Blank (1224966-BLK1)						Prepared & Analyzed: 12-Oct-12				
1,1,2,2-Tetrachloroethane	< 0.50		µg/l	0.50						
Tetrachloroethene	< 1.00		µg/l	1.00						
Toluene	< 1.00		µg/l	1.00						
1,2,3-Trichlorobenzene	< 1.00		µg/l	1.00						
1,2,4-Trichlorobenzene	< 1.00		µg/l	1.00						
1,3,5-Trichlorobenzene	< 1.00		µg/l	1.00						
1,1,1-Trichloroethane	< 1.00		µg/l	1.00						
1,1,2-Trichloroethane	< 1.00		µg/l	1.00						
Trichloroethene	< 1.00		µg/l	1.00						
Trichlorofluoromethane (Freon 11)	< 1.00		µg/l	1.00						
1,2,3-Trichloropropane	< 1.00		µg/l	1.00						
1,2,4-Trimethylbenzene	< 1.00		µg/l	1.00						
1,3,5-Trimethylbenzene	< 1.00		µg/l	1.00						
Vinyl chloride	< 1.00		µg/l	1.00						
m,p-Xylene	< 2.00		µg/l	2.00						
o-Xylene	< 1.00		µg/l	1.00						
Tetrahydrofuran	< 2.00		µg/l	2.00						
Ethyl ether	< 1.00		µg/l	1.00						
Tert-amyl methyl ether	< 1.00		µg/l	1.00						
Ethyl tert-butyl ether	< 1.00		µg/l	1.00						
Di-isopropyl ether	< 1.00		µg/l	1.00						
Tert-Butanol / butyl alcohol	< 10.0		µg/l	10.0						
1,4-Dioxane	< 20.0		µg/l	20.0						
trans-1,4-Dichloro-2-butene	< 5.00		µg/l	5.00						
Ethanol	< 400		µg/l	400						
Surrogate: 4-Bromofluorobenzene	*29.9*		µg/l		*30.0*		*100*	*70-130*		
Surrogate: Toluene-d8	*29.4*		µg/l		*30.0*		*98*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*28.8*		µg/l		*30.0*		*96*	*70-130*		
Surrogate: Dibromofluoromethane	*29.2*		µg/l		*30.0*		*97*	*70-130*		
LCS (1224966-BS1)						Prepared & Analyzed: 12-Oct-12				
1,1,2-Trichlorotrifluoroethane (Freon 113)	**16.6**		µg/l		20.0		83	70-130		
Acetone	**17.1**		µg/l		20.0		86	70-130		
Acrylonitrile	**14.1**		µg/l		20.0		71	70-130		
Benzene	**19.9**		µg/l		20.0		99	70-130		
Bromobenzene	**19.2**		µg/l		20.0		96	70-130		
Bromochloromethane	**19.4**		µg/l		20.0		97	70-130		
Bromodichloromethane	**21.0**		µg/l		20.0		105	70-130		
Bromoform	**19.3**		µg/l		20.0		96	70-130		
Bromomethane	**16.1**		µg/l		20.0		81	70-130		
2-Butanone (MEK)	**19.8**		µg/l		20.0		99	70-130		
n-Butylbenzene	**18.2**		µg/l		20.0		91	70-130		
sec-Butylbenzene	**19.9**		µg/l		20.0		100	70-130		
tert-Butylbenzene	**20.1**		µg/l		20.0		100	70-130		
Carbon disulfide	**19.3**		µg/l		20.0		96	70-130		
Carbon tetrachloride	**19.0**		µg/l		20.0		95	70-130		
Chlorobenzene	**18.8**		µg/l		20.0		94	70-130		
Chloroethane	**14.4**		µg/l		20.0		72	70-130		
Chloroform	**17.6**		µg/l		20.0		88	70-130		
Chloromethane	**13.8**		µg/l		20.0		69	70-130		
2-Chlorotoluene	**20.6**		µg/l		20.0		103	70-130		
4-Chlorotoluene	**20.0**		µg/l		20.0		100	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1224966 - SW846 5030 Water MS										
LCS (1224966-BS1)					Prepared & Analyzed: 12-Oct-12					
1,2-Dibromo-3-chloropropane	**21.4**		µg/l		20.0		107	70-130		
Dibromochloromethane	**20.1**		µg/l		20.0		100	70-130		
1,2-Dibromoethane (EDB)	**20.5**		µg/l		20.0		102	70-130		
Dibromomethane	**19.6**		µg/l		20.0		98	70-130		
1,2-Dichlorobenzene	**20.1**		µg/l		20.0		100	70-130		
1,3-Dichlorobenzene	**19.3**		µg/l		20.0		97	70-130		
1,4-Dichlorobenzene	**19.4**		µg/l		20.0		97	70-130		
Dichlorodifluoromethane (Freon12)	**14.1**		µg/l		20.0		70	70-130		
1,1-Dichloroethane	**19.7**		µg/l		20.0		99	70-130		
1,2-Dichloroethane	**17.8**		µg/l		20.0		89	70-130		
1,1-Dichloroethene	**14.0**		µg/l		20.0		70	70-130		
cis-1,2-Dichloroethene	**19.7**		µg/l		20.0		98	70-130		
trans-1,2-Dichloroethene	**19.2**		µg/l		20.0		96	70-130		
1,2-Dichloropropane	**20.2**		µg/l		20.0		101	70-130		
1,3-Dichloropropane	**19.9**		µg/l		20.0		100	70-130		
2,2-Dichloropropane	**18.0**		µg/l		20.0		90	70-130		
1,1-Dichloropropene	**19.0**		µg/l		20.0		95	70-130		
cis-1,3-Dichloropropene	**20.8**		µg/l		20.0		104	70-130		
trans-1,3-Dichloropropene	**20.0**		µg/l		20.0		100	70-130		
Ethylbenzene	**19.8**		µg/l		20.0		99	70-130		
Hexachlorobutadiene	**20.4**		µg/l		20.0		102	70-130		
2-Hexanone (MBK)	**21.8**		µg/l		20.0		109	70-130		
Isopropylbenzene	**19.1**		µg/l		20.0		96	70-130		
4-Isopropyltoluene	**21.1**		µg/l		20.0		105	70-130		
Methyl tert-butyl ether	**19.9**		µg/l		20.0		100	70-130		
4-Methyl-2-pentanone (MIBK)	**20.6**		µg/l		20.0		103	70-130		
Methylene chloride	**14.3**		µg/l		20.0		72	70-130		
Naphthalene	**21.3**		µg/l		20.0		106	70-130		
n-Propylbenzene	**19.5**		µg/l		20.0		98	70-130		
Styrene	**20.8**		µg/l		20.0		104	70-130		
1,1,1,2-Tetrachloroethane	**21.2**		µg/l		20.0		106	70-130		
1,1,2,2-Tetrachloroethane	**21.3**		µg/l		20.0		107	70-130		
Tetrachloroethene	**18.0**		µg/l		20.0		90	70-130		
Toluene	**19.5**		µg/l		20.0		97	70-130		
1,2,3-Trichlorobenzene	**23.5**		µg/l		20.0		118	70-130		
1,2,4-Trichlorobenzene	**19.8**		µg/l		20.0		99	70-130		
1,3,5-Trichlorobenzene	**17.8**		µg/l		20.0		89	70-130		
1,1,1-Trichloroethane	**19.2**		µg/l		20.0		96	70-130		
1,1,2-Trichloroethane	**20.5**		µg/l		20.0		103	70-130		
Trichloroethene	**19.0**		µg/l		20.0		95	70-130		
Trichlorofluoromethane (Freon 11)	**14.4**		µg/l		20.0		72	70-130		
1,2,3-Trichloropropane	**20.6**		µg/l		20.0		103	70-130		
1,2,4-Trimethylbenzene	**21.3**		µg/l		20.0		107	70-130		
1,3,5-Trimethylbenzene	**20.8**		µg/l		20.0		104	70-130		
Vinyl chloride	**12.8**	QC2	µg/l		20.0		64	70-130		
m,p-Xylene	**39.2**		µg/l		40.0		98	70-130		
o-Xylene	**20.1**		µg/l		20.0		101	70-130		
Tetrahydrofuran	**21.7**		µg/l		20.0		109	70-130		
Ethyl ether	**14.4**		µg/l		20.0		72	70-130		
Tert-amyl methyl ether	**18.6**		µg/l		20.0		93	70-130		
Ethyl tert-butyl ether	**19.6**		µg/l		20.0		98	70-130		
Di-isopropyl ether	**20.7**		µg/l		20.0		104	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1224966 - SW846 5030 Water MS										
LCS (1224966-BS1)						Prepared & Analyzed: 12-Oct-12				
Tert-Butanol / butyl alcohol	**158**		µg/l		200		79	70-130		
1,4-Dioxane	**208**		µg/l		200		104	70-130		
trans-1,4-Dichloro-2-butene	**19.9**		µg/l		20.0		100	70-130		
Ethanol	**308**		µg/l		400		77	70-130		
Surrogate: 4-Bromofluorobenzene	*31.0*		µg/l		*30.0*		*103*	*70-130*		
Surrogate: Toluene-d8	*29.4*		µg/l		*30.0*		*98*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*27.8*		µg/l		*30.0*		*93*	*70-130*		
Surrogate: Dibromofluoromethane	*29.4*		µg/l		*30.0*		*98*	*70-130*		
LCS Dup (1224966-BSD1)						Prepared & Analyzed: 12-Oct-12				
1,1,2-Trichlorotrifluoroethane (Freon 113)	**16.7**		µg/l		20.0		84	70-130	0.6	20
Acetone	**15.5**		µg/l		20.0		78	70-130	10	20
Acrylonitrile	**14.5**		µg/l		20.0		73	70-130	3	20
Benzene	**20.0**		µg/l		20.0		100	70-130	0.5	20
Bromobenzene	**19.3**		µg/l		20.0		97	70-130	0.5	20
Bromochloromethane	**19.1**		µg/l		20.0		96	70-130	2	20
Bromodichloromethane	**20.8**		µg/l		20.0		104	70-130	0.7	20
Bromoform	**19.8**		µg/l		20.0		99	70-130	3	20
Bromomethane	**15.8**		µg/l		20.0		79	70-130	2	20
2-Butanone (MEK)	**20.4**		µg/l		20.0		102	70-130	3	20
n-Butylbenzene	**18.0**		µg/l		20.0		90	70-130	1	20
sec-Butylbenzene	**20.0**		µg/l		20.0		100	70-130	0.6	20
tert-Butylbenzene	**20.4**		µg/l		20.0		102	70-130	1	20
Carbon disulfide	**19.3**		µg/l		20.0		96	70-130	0.2	20
Carbon tetrachloride	**19.3**		µg/l		20.0		96	70-130	1	20
Chlorobenzene	**18.7**		µg/l		20.0		94	70-130	0.5	20
Chloroethane	**14.6**		µg/l		20.0		73	70-130	1	20
Chloroform	**17.6**		µg/l		20.0		88	70-130	0.1	20
Chloromethane	**13.8**		µg/l		20.0		69	70-130	0.07	20
2-Chlorotoluene	**20.8**		µg/l		20.0		104	70-130	0.9	20
4-Chlorotoluene	**20.2**		µg/l		20.0		101	70-130	0.9	20
1,2-Dibromo-3-chloropropane	**21.0**		µg/l		20.0		105	70-130	2	20
Dibromochloromethane	**20.4**		µg/l		20.0		102	70-130	2	20
1,2-Dibromoethane (EDB)	**20.5**		µg/l		20.0		102	70-130	0.1	20
Dibromomethane	**19.8**		µg/l		20.0		99	70-130	1	20
1,2-Dichlorobenzene	**20.2**		µg/l		20.0		101	70-130	0.7	20
1,3-Dichlorobenzene	**19.4**		µg/l		20.0		97	70-130	0.4	20
1,4-Dichlorobenzene	**19.1**		µg/l		20.0		95	70-130	1	20
Dichlorodifluoromethane (Freon12)	**13.6**		µg/l		20.0		68	70-130	4	20
1,1-Dichloroethane	**19.8**		µg/l		20.0		99	70-130	0.5	20
1,2-Dichloroethane	**18.1**		µg/l		20.0		90	70-130	2	20
1,1-Dichloroethene	**14.3**		µg/l		20.0		71	70-130	2	20
cis-1,2-Dichloroethene	**19.6**		µg/l		20.0		98	70-130	0.6	20
trans-1,2-Dichloroethene	**19.1**		µg/l		20.0		95	70-130	0.8	20
1,2-Dichloropropane	**20.6**		µg/l		20.0		103	70-130	2	20
1,3-Dichloropropane	**20.5**		µg/l		20.0		102	70-130	3	20
2,2-Dichloropropane	**18.3**		µg/l		20.0		92	70-130	2	20
1,1-Dichloropropene	**19.0**		µg/l		20.0		95	70-130	0.1	20
cis-1,3-Dichloropropene	**21.4**		µg/l		20.0		107	70-130	2	20
trans-1,3-Dichloropropene	**20.7**		µg/l		20.0		104	70-130	4	20
Ethylbenzene	**19.8**		µg/l		20.0		99	70-130	0.1	20
Hexachlorobutadiene	**20.0**		µg/l		20.0		100	70-130	2	20

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1224966 - SW846 5030 Water MS										
LCS Dup (1224966-BSD1)					Prepared & Analyzed: 12-Oct-12					
2-Hexanone (MBK)	**22.5**		µg/l		20.0		112	70-130	3	20
Isopropylbenzene	**19.1**		µg/l		20.0		96	70-130	0	20
4-Isopropyltoluene	**20.6**		µg/l		20.0		103	70-130	2	20
Methyl tert-butyl ether	**20.3**		µg/l		20.0		102	70-130	2	20
4-Methyl-2-pentanone (MIBK)	**22.2**		µg/l		20.0		111	70-130	8	20
Methylene chloride	**14.6**		µg/l		20.0		73	70-130	2	20
Naphthalene	**20.2**		µg/l		20.0		101	70-130	5	20
n-Propylbenzene	**19.9**		µg/l		20.0		100	70-130	2	20
Styrene	**20.8**		µg/l		20.0		104	70-130	0.4	20
1,1,1,2-Tetrachloroethane	**20.9**		µg/l		20.0		105	70-130	1	20
1,1,2,2-Tetrachloroethane	**21.5**		µg/l		20.0		108	70-130	0.9	20
Tetrachloroethene	**18.0**		µg/l		20.0		90	70-130	0.3	20
Toluene	**19.4**		µg/l		20.0		97	70-130	0.6	20
1,2,3-Trichlorobenzene	**22.2**		µg/l		20.0		111	70-130	6	20
1,2,4-Trichlorobenzene	**18.9**		µg/l		20.0		95	70-130	4	20
1,3,5-Trichlorobenzene	**17.7**		µg/l		20.0		89	70-130	0.2	20
1,1,1-Trichloroethane	**19.6**		µg/l		20.0		98	70-130	2	20
1,1,2-Trichloroethane	**20.6**		µg/l		20.0		103	70-130	0.6	20
Trichloroethene	**19.4**		µg/l		20.0		97	70-130	2	20
Trichlorofluoromethane (Freon 11)	**14.2**		µg/l		20.0		71	70-130	1	20
1,2,3-Trichloropropane	**20.9**		µg/l		20.0		104	70-130	1	20
1,2,4-Trimethylbenzene	**21.3**		µg/l		20.0		107	70-130	0.09	20
1,3,5-Trimethylbenzene	**20.6**		µg/l		20.0		103	70-130	0.5	20
Vinyl chloride	**12.2**	QC2	µg/l		20.0		61	70-130	4	20
m,p-Xylene	**39.6**		µg/l		40.0		99	70-130	0.8	20
o-Xylene	**20.0**		µg/l		20.0		100	70-130	0.6	20
Tetrahydrofuran	**22.3**		µg/l		20.0		112	70-130	3	20
Ethyl ether	**14.7**		µg/l		20.0		74	70-130	2	20
Tert-amyl methyl ether	**18.8**		µg/l		20.0		94	70-130	1	20
Ethyl tert-butyl ether	**20.3**		µg/l		20.0		102	70-130	3	20
Di-isopropyl ether	**20.9**		µg/l		20.0		105	70-130	1	20
Tert-Butanol / butyl alcohol	**159**		µg/l		200		79	70-130	0.5	20
1,4-Dioxane	**196**		µg/l		200		98	70-130	6	20
trans-1,4-Dichloro-2-butene	**20.3**		µg/l		20.0		102	70-130	2	20
Ethanol	**320**		µg/l		400		80	70-130	4	20
Surrogate: 4-Bromofluorobenzene	*31.4*		µg/l		*30.0*		*105*	*70-130*		
Surrogate: Toluene-d8	*29.8*		µg/l		*30.0*		*99*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*27.9*		µg/l		*30.0*		*93*	*70-130*		
Surrogate: Dibromofluoromethane	*29.6*		µg/l		*30.0*		*99*	*70-130*		
Batch 1225042 - SW846 5030 Water MS										
Blank (1225042-BLK1)					Prepared & Analyzed: 13-Oct-12					
1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00		µg/l	1.00						
Acetone	< 10.0		µg/l	10.0						
Acrylonitrile	< 0.50		µg/l	0.50						
Benzene	< 1.00		µg/l	1.00						
Bromobenzene	< 1.00		µg/l	1.00						
Bromochloromethane	< 1.00		µg/l	1.00						
Bromodichloromethane	< 0.50		µg/l	0.50						
Bromoform	< 1.00		µg/l	1.00						
Bromomethane	< 2.00		µg/l	2.00						
2-Butanone (MEK)	< 10.0		µg/l	10.0						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1225042 - SW846 5030 Water MS										
Blank (1225042-BLK1)					Prepared & Analyzed: 13-Oct-12					
n-Butylbenzene	< 1.00		µg/l	1.00						
sec-Butylbenzene	< 1.00		µg/l	1.00						
tert-Butylbenzene	< 1.00		µg/l	1.00						
Carbon disulfide	< 2.00		µg/l	2.00						
Carbon tetrachloride	< 1.00		µg/l	1.00						
Chlorobenzene	< 1.00		µg/l	1.00						
Chloroethane	< 2.00		µg/l	2.00						
Chloroform	< 1.00		µg/l	1.00						
Chloromethane	< 2.00		µg/l	2.00						
2-Chlorotoluene	< 1.00		µg/l	1.00						
4-Chlorotoluene	< 1.00		µg/l	1.00						
1,2-Dibromo-3-chloropropane	< 2.00		µg/l	2.00						
Dibromochloromethane	< 0.50		µg/l	0.50						
1,2-Dibromoethane (EDB)	< 0.50		µg/l	0.50						
Dibromomethane	< 1.00		µg/l	1.00						
1,2-Dichlorobenzene	< 1.00		µg/l	1.00						
1,3-Dichlorobenzene	< 1.00		µg/l	1.00						
1,4-Dichlorobenzene	< 1.00		µg/l	1.00						
Dichlorodifluoromethane (Freon12)	< 2.00		µg/l	2.00						
1,1-Dichloroethane	< 1.00		µg/l	1.00						
1,2-Dichloroethane	< 1.00		µg/l	1.00						
1,1-Dichloroethene	< 1.00		µg/l	1.00						
cis-1,2-Dichloroethene	< 1.00		µg/l	1.00						
trans-1,2-Dichloroethene	< 1.00		µg/l	1.00						
1,2-Dichloropropane	< 1.00		µg/l	1.00						
1,3-Dichloropropane	< 1.00		µg/l	1.00						
2,2-Dichloropropane	< 1.00		µg/l	1.00						
1,1-Dichloropropene	< 1.00		µg/l	1.00						
cis-1,3-Dichloropropene	< 0.50		µg/l	0.50						
trans-1,3-Dichloropropene	< 0.50		µg/l	0.50						
Ethylbenzene	< 1.00		µg/l	1.00						
Hexachlorobutadiene	< 0.50		µg/l	0.50						
2-Hexanone (MBK)	< 10.0		µg/l	10.0						
Isopropylbenzene	< 1.00		µg/l	1.00						
4-Isopropyltoluene	< 1.00		µg/l	1.00						
Methyl tert-butyl ether	< 1.00		µg/l	1.00						
4-Methyl-2-pentanone (MIBK)	< 10.0		µg/l	10.0						
Methylene chloride	< 2.00		µg/l	2.00						
Naphthalene	< 1.00		µg/l	1.00						
n-Propylbenzene	< 1.00		µg/l	1.00						
Styrene	< 1.00		µg/l	1.00						
1,1,1,2-Tetrachloroethane	< 1.00		µg/l	1.00						
1,1,2,2-Tetrachloroethane	< 0.50		µg/l	0.50						
Tetrachloroethene	< 1.00		µg/l	1.00						
Toluene	< 1.00		µg/l	1.00						
1,2,3-Trichlorobenzene	< 1.00		µg/l	1.00						
1,2,4-Trichlorobenzene	< 1.00		µg/l	1.00						
1,3,5-Trichlorobenzene	< 1.00		µg/l	1.00						
1,1,1-Trichloroethane	< 1.00		µg/l	1.00						
1,1,2-Trichloroethane	< 1.00		µg/l	1.00						
Trichloroethene	< 1.00		µg/l	1.00						
Trichlorofluoromethane (Freon 11)	< 1.00		µg/l	1.00						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1225042 - SW846 5030 Water MS										
Blank (1225042-BLK1)						Prepared & Analyzed: 13-Oct-12				
1,2,3-Trichloropropane	< 1.00		µg/l	1.00						
1,2,4-Trimethylbenzene	< 1.00		µg/l	1.00						
1,3,5-Trimethylbenzene	< 1.00		µg/l	1.00						
Vinyl chloride	< 1.00		µg/l	1.00						
m,p-Xylene	< 2.00		µg/l	2.00						
o-Xylene	< 1.00		µg/l	1.00						
Tetrahydrofuran	< 2.00		µg/l	2.00						
Ethyl ether	< 1.00		µg/l	1.00						
Tert-amyl methyl ether	< 1.00		µg/l	1.00						
Ethyl tert-butyl ether	< 1.00		µg/l	1.00						
Di-isopropyl ether	< 1.00		µg/l	1.00						
Tert-Butanol / butyl alcohol	< 10.0		µg/l	10.0						
1,4-Dioxane	< 20.0		µg/l	20.0						
trans-1,4-Dichloro-2-butene	< 5.00		µg/l	5.00						
Ethanol	< 400		µg/l	400						
Surrogate: 4-Bromofluorobenzene	*30.9*		µg/l		*30.0*		*103*	*70-130*		
Surrogate: Toluene-d8	*29.9*		µg/l		*30.0*		*100*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*28.3*		µg/l		*30.0*		*94*	*70-130*		
Surrogate: Dibromofluoromethane	*29.8*		µg/l		*30.0*		*99*	*70-130*		
LCS (1225042-BS1)						Prepared & Analyzed: 13-Oct-12				
1,1,2-Trichlorotrifluoroethane (Freon 113)	**19.5**		µg/l		20.0		98	70-130		
Acetone	**13.8**		µg/l		20.0		69	70-130		
Acrylonitrile	**14.1**		µg/l		20.0		70	70-130		
Benzene	**21.6**		µg/l		20.0		108	70-130		
Bromobenzene	**20.7**		µg/l		20.0		103	70-130		
Bromochloromethane	**20.2**		µg/l		20.0		101	70-130		
Bromodichloromethane	**22.2**		µg/l		20.0		111	70-130		
Bromoform	**20.7**		µg/l		20.0		104	70-130		
Bromomethane	**14.9**		µg/l		20.0		75	70-130		
2-Butanone (MEK)	**19.5**		µg/l		20.0		98	70-130		
n-Butylbenzene	**20.1**		µg/l		20.0		101	70-130		
sec-Butylbenzene	**21.6**		µg/l		20.0		108	70-130		
tert-Butylbenzene	**21.6**		µg/l		20.0		108	70-130		
Carbon disulfide	**21.2**		µg/l		20.0		106	70-130		
Carbon tetrachloride	**20.9**		µg/l		20.0		105	70-130		
Chlorobenzene	**19.8**		µg/l		20.0		99	70-130		
Chloroethane	**15.8**		µg/l		20.0		79	70-130		
Chloroform	**18.7**		µg/l		20.0		94	70-130		
Chloromethane	**14.9**		µg/l		20.0		75	70-130		
2-Chlorotoluene	**21.9**		µg/l		20.0		110	70-130		
4-Chlorotoluene	**21.6**		µg/l		20.0		108	70-130		
1,2-Dibromo-3-chloropropane	**21.0**		µg/l		20.0		105	70-130		
Dibromochloromethane	**20.8**		µg/l		20.0		104	70-130		
1,2-Dibromoethane (EDB)	**20.7**		µg/l		20.0		104	70-130		
Dibromomethane	**20.0**		µg/l		20.0		100	70-130		
1,2-Dichlorobenzene	**21.0**		µg/l		20.0		105	70-130		
1,3-Dichlorobenzene	**20.6**		µg/l		20.0		103	70-130		
1,4-Dichlorobenzene	**20.4**		µg/l		20.0		102	70-130		
Dichlorodifluoromethane (Freon12)	**16.2**		µg/l		20.0		81	70-130		
1,1-Dichloroethane	**21.3**		µg/l		20.0		106	70-130		
1,2-Dichloroethane	**18.5**		µg/l		20.0		92	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1225042 - SW846 5030 Water MS										
LCS (1225042-BS1)					Prepared & Analyzed: 13-Oct-12					
1,1-Dichloroethene	**17.1**		µg/l		20.0		85	70-130		
cis-1,2-Dichloroethene	**21.2**		µg/l		20.0		106	70-130		
trans-1,2-Dichloroethene	**20.5**		µg/l		20.0		102	70-130		
1,2-Dichloropropane	**21.4**		µg/l		20.0		107	70-130		
1,3-Dichloropropane	**20.3**		µg/l		20.0		101	70-130		
2,2-Dichloropropane	**20.0**		µg/l		20.0		100	70-130		
1,1-Dichloropropene	**20.8**		µg/l		20.0		104	70-130		
cis-1,3-Dichloropropene	**22.5**		µg/l		20.0		113	70-130		
trans-1,3-Dichloropropene	**21.2**		µg/l		20.0		106	70-130		
Ethylbenzene	**21.1**		µg/l		20.0		105	70-130		
Hexachlorobutadiene	**22.3**		µg/l		20.0		111	70-130		
2-Hexanone (MBK)	**21.0**		µg/l		20.0		105	70-130		
Isopropylbenzene	**20.4**		µg/l		20.0		102	70-130		
4-Isopropyltoluene	**22.5**		µg/l		20.0		112	70-130		
Methyl tert-butyl ether	**20.3**		µg/l		20.0		102	70-130		
4-Methyl-2-pentanone (MIBK)	**20.3**		µg/l		20.0		101	70-130		
Methylene chloride	**16.7**		µg/l		20.0		83	70-130		
Naphthalene	**20.9**		µg/l		20.0		105	70-130		
n-Propylbenzene	**21.5**		µg/l		20.0		107	70-130		
Styrene	**22.3**		µg/l		20.0		112	70-130		
1,1,1,2-Tetrachloroethane	**22.8**		µg/l		20.0		114	70-130		
1,1,2,2-Tetrachloroethane	**21.3**		µg/l		20.0		106	70-130		
Tetrachloroethene	**19.8**		µg/l		20.0		99	70-130		
Toluene	**20.5**		µg/l		20.0		103	70-130		
1,2,3-Trichlorobenzene	**24.2**		µg/l		20.0		121	70-130		
1,2,4-Trichlorobenzene	**21.2**		µg/l		20.0		106	70-130		
1,3,5-Trichlorobenzene	**19.0**		µg/l		20.0		95	70-130		
1,1,1-Trichloroethane	**21.0**		µg/l		20.0		105	70-130		
1,1,2-Trichloroethane	**20.9**		µg/l		20.0		105	70-130		
Trichloroethene	**21.0**		µg/l		20.0		105	70-130		
Trichlorofluoromethane (Freon 11)	**15.7**		µg/l		20.0		78	70-130		
1,2,3-Trichloropropane	**20.5**		µg/l		20.0		103	70-130		
1,2,4-Trimethylbenzene	**22.8**		µg/l		20.0		114	70-130		
1,3,5-Trimethylbenzene	**22.2**		µg/l		20.0		111	70-130		
Vinyl chloride	**13.5**	QC2	µg/l		20.0		68	70-130		
m,p-Xylene	**42.2**		µg/l		40.0		105	70-130		
o-Xylene	**21.1**		µg/l		20.0		106	70-130		
Tetrahydrofuran	**20.3**		µg/l		20.0		102	70-130		
Ethyl ether	**14.7**		µg/l		20.0		74	70-130		
Tert-amyl methyl ether	**18.9**		µg/l		20.0		95	70-130		
Ethyl tert-butyl ether	**20.6**		µg/l		20.0		103	70-130		
Di-isopropyl ether	**21.8**		µg/l		20.0		109	70-130		
Tert-Butanol / butyl alcohol	**143**		µg/l		200		71	70-130		
1,4-Dioxane	**194**		µg/l		200		97	70-130		
trans-1,4-Dichloro-2-butene	**19.4**		µg/l		20.0		97	70-130		
Ethanol	**283**		µg/l		400		71	70-130		
Surrogate: 4-Bromofluorobenzene	*30.9*		µg/l		*30.0*		*103*	*70-130*		
Surrogate: Toluene-d8	*29.4*		µg/l		*30.0*		*98*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*27.4*		µg/l		*30.0*		*91*	*70-130*		
Surrogate: Dibromofluoromethane	*29.5*		µg/l		*30.0*		*98*	*70-130*		
LCS Dup (1225042-BSD1)					Prepared & Analyzed: 13-Oct-12					

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1225042 - SW846 5030 Water MS										
LCS Dup (1225042-BSD1)						Prepared & Analyzed: 13-Oct-12				
1,1,2-Trichlorotrifluoroethane (Freon 113)	**19.8**		µg/l		20.0		99	70-130	1	20
Acetone	**14.7**		µg/l		20.0		73	70-130	6	20
Acrylonitrile	**14.2**		µg/l		20.0		71	70-130	0.5	20
Benzene	**21.5**		µg/l		20.0		107	70-130	0.4	20
Bromobenzene	**20.4**		µg/l		20.0		102	70-130	1	20
Bromochloromethane	**20.4**		µg/l		20.0		102	70-130	1	20
Bromodichloromethane	**22.1**		µg/l		20.0		111	70-130	0.3	20
Bromoform	**20.2**		µg/l		20.0		101	70-130	3	20
Bromomethane	**15.2**		µg/l		20.0		76	70-130	2	20
2-Butanone (MEK)	**21.0**		µg/l		20.0		105	70-130	7	20
n-Butylbenzene	**20.0**		µg/l		20.0		100	70-130	0.3	20
sec-Butylbenzene	**21.9**		µg/l		20.0		109	70-130	1	20
tert-Butylbenzene	**21.8**		µg/l		20.0		109	70-130	0.9	20
Carbon disulfide	**21.4**		µg/l		20.0		107	70-130	1	20
Carbon tetrachloride	**21.2**		µg/l		20.0		106	70-130	1	20
Chlorobenzene	**20.4**		µg/l		20.0		102	70-130	3	20
Chloroethane	**15.9**		µg/l		20.0		80	70-130	0.8	20
Chloroform	**19.1**		µg/l		20.0		95	70-130	2	20
Chloromethane	**14.8**		µg/l		20.0		74	70-130	1	20
2-Chlorotoluene	**22.2**		µg/l		20.0		111	70-130	1	20
4-Chlorotoluene	**22.2**		µg/l		20.0		111	70-130	3	20
1,2-Dibromo-3-chloropropane	**21.2**		µg/l		20.0		106	70-130	1	20
Dibromochloromethane	**21.0**		µg/l		20.0		105	70-130	0.7	20
1,2-Dibromoethane (EDB)	**20.9**		µg/l		20.0		105	70-130	0.9	20
Dibromomethane	**20.5**		µg/l		20.0		103	70-130	3	20
1,2-Dichlorobenzene	**21.4**		µg/l		20.0		107	70-130	2	20
1,3-Dichlorobenzene	**20.8**		µg/l		20.0		104	70-130	0.9	20
1,4-Dichlorobenzene	**20.5**		µg/l		20.0		103	70-130	0.9	20
Dichlorodifluoromethane (Freon12)	**16.1**		µg/l		20.0		81	70-130	0.7	20
1,1-Dichloroethane	**20.9**		µg/l		20.0		104	70-130	2	20
1,2-Dichloroethane	**18.8**		µg/l		20.0		94	70-130	2	20
1,1-Dichloroethene	**16.9**		µg/l		20.0		84	70-130	0.9	20
cis-1,2-Dichloroethene	**21.1**		µg/l		20.0		105	70-130	0.4	20
trans-1,2-Dichloroethene	**20.7**		µg/l		20.0		104	70-130	1	20
1,2-Dichloropropane	**21.8**		µg/l		20.0		109	70-130	2	20
1,3-Dichloropropane	**20.8**		µg/l		20.0		104	70-130	3	20
2,2-Dichloropropane	**20.0**		µg/l		20.0		100	70-130	0.05	20
1,1-Dichloropropene	**20.5**		µg/l		20.0		103	70-130	1	20
cis-1,3-Dichloropropene	**22.8**		µg/l		20.0		114	70-130	1	20
trans-1,3-Dichloropropene	**21.2**		µg/l		20.0		106	70-130	0.2	20
Ethylbenzene	**21.7**		µg/l		20.0		109	70-130	3	20
Hexachlorobutadiene	**22.8**		µg/l		20.0		114	70-130	3	20
2-Hexanone (MBK)	**21.0**		µg/l		20.0		105	70-130	0.05	20
Isopropylbenzene	**20.8**		µg/l		20.0		104	70-130	2	20
4-Isopropyltoluene	**22.8**		µg/l		20.0		114	70-130	1	20
Methyl tert-butyl ether	**19.9**		µg/l		20.0		100	70-130	2	20
4-Methyl-2-pentanone (MIBK)	**19.9**		µg/l		20.0		99	70-130	2	20
Methylene chloride	**16.8**		µg/l		20.0		84	70-130	0.9	20
Naphthalene	**21.0**		µg/l		20.0		105	70-130	0.3	20
n-Propylbenzene	**21.9**		µg/l		20.0		109	70-130	2	20
Styrene	**22.5**		µg/l		20.0		112	70-130	0.7	20
1,1,1,2-Tetrachloroethane	**22.7**		µg/l		20.0		114	70-130	0.3	20

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1225042 - SW846 5030 Water MS										
LCS Dup (1225042-BSD1)					Prepared & Analyzed: 13-Oct-12					
1,1,2,2-Tetrachloroethane	**21.6**		µg/l		20.0		108	70-130	1	20
Tetrachloroethene	**19.5**		µg/l		20.0		97	70-130	2	20
Toluene	**20.6**		µg/l		20.0		103	70-130	0.4	20
1,2,3-Trichlorobenzene	**24.2**		µg/l		20.0		121	70-130	0.08	20
1,2,4-Trichlorobenzene	**21.1**		µg/l		20.0		106	70-130	0.2	20
1,3,5-Trichlorobenzene	**19.3**		µg/l		20.0		96	70-130	2	20
1,1,1-Trichloroethane	**20.6**		µg/l		20.0		103	70-130	2	20
1,1,2-Trichloroethane	**21.1**		µg/l		20.0		106	70-130	1	20
Trichloroethene	**20.6**		µg/l		20.0		103	70-130	2	20
Trichlorofluoromethane (Freon 11)	**16.0**		µg/l		20.0		80	70-130	2	20
1,2,3-Trichloropropane	**20.9**		µg/l		20.0		104	70-130	2	20
1,2,4-Trimethylbenzene	**23.0**		µg/l		20.0		115	70-130	1	20
1,3,5-Trimethylbenzene	**22.4**		µg/l		20.0		112	70-130	1	20
Vinyl chloride	**13.8**	QC2	µg/l		20.0		69	70-130	2	20
m,p-Xylene	**42.6**		µg/l		40.0		107	70-130	1	20
o-Xylene	**21.4**		µg/l		20.0		107	70-130	1	20
Tetrahydrofuran	**21.0**		µg/l		20.0		105	70-130	3	20
Ethyl ether	**14.9**		µg/l		20.0		74	70-130	1	20
Tert-amyl methyl ether	**19.3**		µg/l		20.0		97	70-130	2	20
Ethyl tert-butyl ether	**20.7**		µg/l		20.0		103	70-130	0.4	20
Di-isopropyl ether	**21.8**		µg/l		20.0		109	70-130	0.05	20
Tert-Butanol / butyl alcohol	**135**	QM9	µg/l		200		67	70-130	6	20
1,4-Dioxane	**197**		µg/l		200		98	70-130	2	20
trans-1,4-Dichloro-2-butene	**20.1**		µg/l		20.0		100	70-130	4	20
Ethanol	**294**		µg/l		400		74	70-130	4	20
Surrogate: 4-Bromofluorobenzene	*31.7*		µg/l		*30.0*		*106*	*70-130*		
Surrogate: Toluene-d8	*29.6*		µg/l		*30.0*		*99*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*27.0*		µg/l		*30.0*		*90*	*70-130*		
Surrogate: Dibromofluoromethane	*29.5*		µg/l		*30.0*		*98*	*70-130*		

Notes and Definitions

D	Data reported from a dilution
E	This flag indicates the concentration for this analyte is an estimated value due to exceeding the calibration range or interferences resulting in a biased final concentration.
GS	This sample was not able to be analyzed for client requested reporting limits due to high concentrations of target analytes in the sample.
GS1	Sample dilution required for high concentration of target analytes to be within the instrument calibration range.
QC2	Analyte out of acceptance range in QC spike but no reportable concentration present in sample.
QM9	The spike recovery for this QC sample is outside the established control limits. The sample results for the QC batch were accepted based on LCS/LCSD or SRM recoveries within the control limits.
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.

Validated by:
Kimberly Wisk

SB 57490

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:
- [x] Standard TAT - 7 to 10 business days
- [ ] Rush TAT - Date Needed: _____
- All TATs subject to laboratory approval.
- Min. 24-hour notification needed for rushes.
- Samples disposed of after 60 days unless otherwise instructed.

Report To: Dave Allwin
STANTEC
5 Dartmouth Dr
Auburn NH 03032
Telephone #: 603-498-4674
Project Mgr. Dave Allwin

Invoice To: STANTEC
5 Dartmouth Dr
Auburn NH 03032
P.O. No.: _____ RQN: _____

Project No.: 191710015 / 270.970
Site Name: North Yard
Location: West Lebanon State: NH
Sampler(s): JW

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:
* additional charges may apply

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

MA DEP MCP CAM Report: Yes ☐ No ☐
CT DPH RCP Report: Yes ☐ No ☐

QA/QC Reporting Level
- [x] Standard ☐ No QC ☐ DQA*
- ☐ NY ASP A* ☐ NY ASP B*
- ☐ NJ Reduced* ☐ NJ Full*
- ☐ TIER II* ☐ TIER IV*
- ☐ Other AGGS

State-specific reporting standards:

Lab Id:	Sample Id:	Date:	Time:	Type	Matrix	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic		NH DES VOCs Full List							
57490-01	MW-1	10-2-12	0800	G	GW	3					X							
-02	MW-2	10-2-12	0835	G	GW	3					X							
-03	~~TRIP~~ Trip	—	—	—	—	~~2~~					~~X~~							~~not received~~

Relinquished by:	Received by:	Date:	Time:	Temp°C
[signature]	Fed ex 8009 5278 3282	10-2-12	1430	
FED-EX	RH	10-3-12	10:30	2.3

☐ EDD Format _____
[x] E-mail to Dave.Allwin@Stantec.com

Condition upon receipt:
☐ Ambient [x] Iced ☐ Refrigerated ☐ DI VOA Frozen ☐ Soil Jar Frozen

ORIGIN ID: BMLA

SHIP DATE: 020
ACTWGT: 19.3
CAD: POS132
DIMS: 23x14x

BILL RECIPIE

UNITED STATES US

TO

SPECTRUM ANALYTUAL INC
11 ALMGREN DR

AGAWAM MA 01001

(413) 789-9018

REF:

INV:

DEPT:

PO:

FedEx Express

J122012071601125

03 OCT A2

WED - OVERNIGHT
PRIORITY

TRK# 0200 8009 5278 3282

01001
MA-US BDL

XE EHTA

Report Date:
17-Oct-12 12:47

☑ Final Report
☐ Re-Issued Report
☐ Revised Report

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

Laboratory Report

Stantec Consulting Services
5 Dartmouth Drive, Suite 101
Auburn, NH 03032
Attn: Dave Allwine

Project: NHDOT W. Lebanon - West Lebanon, NH
Project #: 191710015/270.969

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SB57493-01	JCO-604	Ground Water	02-Oct-12 09:20	03-Oct-12 10:30
SB57493-02	ERM-3	Ground Water	02-Oct-12 10:00	03-Oct-12 10:30
SB57493-03	WP-7	Ground Water	02-Oct-12 11:30	03-Oct-12 10:30
SB57493-04	WP-1	Ground Water	02-Oct-12 12:00	03-Oct-12 10:30
SB57493-05	CR-3	Ground Water	02-Oct-12 12:30	03-Oct-12 10:30
SB57493-06	Trip	Aqueous	02-Oct-12 00:00	03-Oct-12 10:30

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87600/E87936
Maine # MA138
New Hampshire # 2538
New Jersey # MA011/MA012
New York # 11393/11840
Pennsylvania # 68-04426/68-02924
Rhode Island # 98
USDA # S-51435

Authorized by:

Nicole Leja
Laboratory Director

Spectrum Analytical holds certification in the State of New York for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of New York does not offer certification for all analytes. Please refer to our website for specific certification holdings in each state.
Please note that this report contains 33 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Spectrum Analytical, Inc.

Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Spectrum is currently accredited for the specific method or analyte indicated. Please refer to our "Quality" web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (NY-11840, FL-E87936 and NJ-MA012).

Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.

CASE NARRATIVE:

The samples were received 2.2 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group.

See below for any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.

SW846 8260C

Calibration:

1210017

Analyte quantified by quadratic equation type calibration.

1,2,3-Trichlorobenzene
1,2,4-Trichlorobenzene
1,2-Dibromo-3-chloropropane
Bromoform
Dibromochloromethane
Hexachlorobutadiene
Naphthalene
trans-1,3-Dichloropropene

This affected the following samples:

1225085-BLK1
1225085-BS1
1225085-BSD1
JCO-604
S212270-ICV1
S212638-CCV1

1210038

Analyte quantified by quadratic equation type calibration.

1,2,3-Trichlorobenzene
1,2,4-Trichlorobenzene
1,3,5-Trichlorobenzene
Naphthalene
n-Butylbenzene

This affected the following samples:

1224965-BLK1
1224965-BS1
1224965-BSD1
1224965-MS1
1224965-MSD1
CR-3
ERM-3
JCO-604
S212547-ICV1
S212588-CCV1
Trip
WP-1
WP-7

S212270-ICV1

SW846 8260C

Calibration:

S212270-ICV1

Analyte percent recovery is outside individual acceptance criteria (80-120).

Acetone (129%)
Acrylonitrile (78%)
Dichlorodifluoromethane (Freon12) (72%)
Vinyl chloride (76%)

This affected the following samples:

1225085-BLK1
1225085-BS1
1225085-BSD1
JCO-604
S212638-CCV1

S212547-ICV1

Analyte percent recovery is outside individual acceptance criteria (80-120).

1,2,4-Trimethylbenzene (122%)
1,3,5-Trimethylbenzene (121%)
tert-Butylbenzene (122%)

This affected the following samples:

1224965-BLK1
1224965-BS1
1224965-BSD1
1224965-MS1
1224965-MSD1
CR-3
ERM-3
JCO-604
S212588-CCV1
Trip
WP-1
WP-7

Laboratory Control Samples:

1225085 BS/BSD

Acrylonitrile percent recoveries (71/67) are outside individual acceptance criteria (70-130), but within overall method allowances. All reported results of the following samples are considered to have a potentially low bias:

JCO-604

Vinyl chloride percent recoveries (66/65) are outside individual acceptance criteria (70-130), but within overall method allowances. All reported results of the following samples are considered to have a potentially low bias:

JCO-604

Spikes:

1224965-MS1 *Source: SB57493-05*

The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

Bromomethane
n-Propylbenzene

1224965-MSD1 *Source: SB57493-05*

SW846 8260C

Spikes:

1224965-MSD1 *Source: SB57493-05*

The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

Bromomethane

Samples:

S212588-CCV1

Analyte percent difference is outside individual acceptance criteria (20), but within overall method allowances.

1,3,5-Trimethylbenzene (20.2%)
Dichlorodifluoromethane (Freon12) (23.4%)
sec-Butylbenzene (22.9%)

This affected the following samples:

1224965-BLK1
1224965-BS1
1224965-BSD1
1224965-MS1
1224965-MSD1
CR-3
ERM-3
JCO-604
Trip
WP-1
WP-7

S212638-CCV1

Analyte percent difference is outside individual acceptance criteria (20), but within overall method allowances.

1,1,2-Trichlorotrifluoroethane (Freon 113) (-22.5%)
1,1-Dichloroethene (-30.0%)
Acrylonitrile (-31.9%)
Bromomethane (-27.1%)
Chloroethane (-27.8%)
Chloromethane (-32.9%)
Dichlorodifluoromethane (Freon12) (-36.1%)
Ethanol (-25.9%)
Ethyl ether (-30.6%)
Methylene chloride (-29.1%)
Tert-Butanol / butyl alcohol (-21.7%)
Trichlorofluoromethane (Freon 11) (-29.0%)
Vinyl chloride (-38.3%)

This affected the following samples:

1225085-BLK1
1225085-BS1
1225085-BSD1
JCO-604

SB57493-01 *JCO-604*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

SB57493-01RE1 *JCO-604*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

SW846 8260C

Samples:

SB57493-03 *WP-7*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
JCO-604	191710015/270.969	Ground Water	02-Oct-12 09:20	03-Oct-12
SB57493-01				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds			GS1										
Prepared by method SW846 5030 Water MS													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 5.00	D	µg/l	5.00	3.24	5	SW846 8260C	12-Oct-12	12-Oct-12	eq	1224965	X
67-64-1	Acetone	< 50.0	D	µg/l	50.0	12.8	5	"	"	"	"	"	X
107-13-1	Acrylonitrile	< 2.50	D	µg/l	2.50	2.30	5	"	"	"	"	"	X
71-43-2	Benzene	< 5.00	D	µg/l	5.00	3.34	5	"	"	"	"	"	X
108-86-1	Bromobenzene	< 5.00	D	µg/l	5.00	3.60	5	"	"	"	"	"	X
74-97-5	Bromochloromethane	< 5.00	D	µg/l	5.00	3.55	5	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 2.50	D	µg/l	2.50	2.40	5	"	"	"	"	"	X
75-25-2	Bromoform	< 5.00	D	µg/l	5.00	3.02	5	"	"	"	"	"	X
74-83-9	Bromomethane	< 10.0	D	µg/l	10.0	5.70	5	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 50.0	D	µg/l	50.0	8.67	5	"	"	"	"	"	X
104-51-8	n-Butylbenzene	**9.90**	D	µg/l	5.00	2.81	5	"	"	"	"	"	X
135-98-8	sec-Butylbenzene	**5.40**	D	µg/l	5.00	4.10	5	"	"	"	"	"	X
98-06-6	tert-Butylbenzene	< 5.00	D	µg/l	5.00	3.72	5	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 10.0	D	µg/l	10.0	3.14	5	"	"	"	"	"	X
56-23-5	Carbon tetrachloride	< 5.00	D	µg/l	5.00	2.74	5	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 5.00	D	µg/l	5.00	3.27	5	"	"	"	"	"	X
75-00-3	Chloroethane	< 10.0	D	µg/l	10.0	5.16	5	"	"	"	"	"	X
67-66-3	Chloroform	< 5.00	D	µg/l	5.00	3.44	5	"	"	"	"	"	X
74-87-3	Chloromethane	< 10.0	D	µg/l	10.0	7.36	5	"	"	"	"	"	X
95-49-8	2-Chlorotoluene	< 5.00	D	µg/l	5.00	3.96	5	"	"	"	"	"	X
106-43-4	4-Chlorotoluene	**30.2**	D	µg/l	5.00	3.66	5	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 10.0	D	µg/l	10.0	4.64	5	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 2.50	D	µg/l	2.50	1.44	5	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 2.50	D	µg/l	2.50	1.64	5	"	"	"	"	"	X
74-95-3	Dibromomethane	< 5.00	D	µg/l	5.00	3.33	5	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 5.00	D	µg/l	5.00	3.34	5	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 5.00	D	µg/l	5.00	3.56	5	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 5.00	D	µg/l	5.00	3.12	5	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 10.0	D	µg/l	10.0	2.24	5	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 5.00	D	µg/l	5.00	3.40	5	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 5.00	D	µg/l	5.00	3.90	5	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 5.00	D	µg/l	5.00	2.44	5	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	< 5.00	D	µg/l	5.00	3.58	5	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	< 5.00	D	µg/l	5.00	3.40	5	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 5.00	D	µg/l	5.00	3.56	5	"	"	"	"	"	X
142-28-9	1,3-Dichloropropane	< 5.00	D	µg/l	5.00	4.04	5	"	"	"	"	"	X
594-20-7	2,2-Dichloropropane	< 5.00	D	µg/l	5.00	3.02	5	"	"	"	"	"	X
563-58-6	1,1-Dichloropropene	< 5.00	D	µg/l	5.00	3.18	5	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 2.50	D	µg/l	2.50	1.26	5	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 2.50	D	µg/l	2.50	2.50	5	"	"	"	"	"	X
100-41-4	Ethylbenzene	**158**	D	µg/l	5.00	3.66	5	"	"	"	"	"	X
87-68-3	Hexachlorobutadiene	< 2.50	D	µg/l	2.50	2.25	5	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 50.0	D	µg/l	50.0	2.72	5	"	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
JCO-604	191710015/270.969	Ground Water	02-Oct-12 09:20	03-Oct-12
SB57493-01				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
Volatile Organic Compounds			GS1										
Prepared by method SW846 5030 Water MS													
98-82-8	Isopropylbenzene	**21.1**	D	µg/l	5.00	3.10	5	SW846 8260C	12-Oct-12	12-Oct-12	eq	1224965	X
99-87-6	4-Isopropyltoluene	**6.05**	D	µg/l	5.00	3.04	5	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	< 5.00	D	µg/l	5.00	3.26	5	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 50.0	D	µg/l	50.0	4.66	5	"	"	"	"	"	X
75-09-2	Methylene chloride	< 10.0	D	µg/l	10.0	3.45	5	"	"	"	"	"	X
91-20-3	Naphthalene	**60.4**	D	µg/l	5.00	1.66	5	"	"	"	"	"	X
103-65-1	n-Propylbenzene	**47.2**	D	µg/l	5.00	3.79	5	"	"	"	"	"	X
100-42-5	Styrene	< 5.00	D	µg/l	5.00	3.08	5	"	"	"	"	"	X
630-20-6	1,1,1,2-Tetrachloroethane	< 5.00	D	µg/l	5.00	3.13	5	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 2.50	D	µg/l	2.50	1.74	5	"	"	"	"	"	X
127-18-4	Tetrachloroethene	< 5.00	D	µg/l	5.00	3.72	5	"	"	"	"	"	X
108-88-3	Toluene	**58.2**	D	µg/l	5.00	4.06	5	"	"	"	"	"	X
87-61-6	1,2,3-Trichlorobenzene	< 5.00	D	µg/l	5.00	1.88	5	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 5.00	D	µg/l	5.00	1.80	5	"	"	"	"	"	X
108-70-3	1,3,5-Trichlorobenzene	< 5.00	D	µg/l	5.00	3.92	5	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 5.00	D	µg/l	5.00	2.91	5	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 5.00	D	µg/l	5.00	3.21	5	"	"	"	"	"	X
79-01-6	Trichloroethene	< 5.00	D	µg/l	5.00	3.78	5	"	"	"	"	"	X
75-69-4	Trichlorofluoromethane (Freon 11)	< 5.00	D	µg/l	5.00	3.14	5	"	"	"	"	"	X
96-18-4	1,2,3-Trichloropropane	< 5.00	D	µg/l	5.00	3.68	5	"	"	"	"	"	X
95-63-6	1,2,4-Trimethylbenzene	**419**	E, D	µg/l	5.00	3.78	5	"	"	"	"	"	X
108-67-8	1,3,5-Trimethylbenzene	**123**	D	µg/l	5.00	3.72	5	"	"	"	"	"	X
75-01-4	Vinyl chloride	< 5.00	D	µg/l	5.00	4.04	5	"	"	"	"	"	X
179601-23-1	m,p-Xylene	**483**	D	µg/l	10.0	8.20	5	"	"	"	"	"	X
95-47-6	o-Xylene	**92.8**	D	µg/l	5.00	4.41	5	"	"	"	"	"	X
109-99-9	Tetrahydrofuran	< 10.0	D	µg/l	10.0	7.21	5	"	"	"	"	"	
60-29-7	Ethyl ether	< 5.00	D	µg/l	5.00	3.46	5	"	"	"	"	"	X
994-05-8	Tert-amyl methyl ether	< 5.00	D	µg/l	5.00	3.60	5	"	"	"	"	"	X
637-92-3	Ethyl tert-butyl ether	< 5.00	D	µg/l	5.00	3.91	5	"	"	"	"	"	X
108-20-3	Di-isopropyl ether	< 5.00	D	µg/l	5.00	3.64	5	"	"	"	"	"	X
75-65-0	Tert-Butanol / butyl alcohol	< 50.0	D	µg/l	50.0	43.2	5	"	"	"	"	"	X
123-91-1	1,4-Dioxane	< 100	D	µg/l	100	70.1	5	"	"	"	"	"	X
110-57-6	trans-1,4-Dichloro-2-buten e	< 25.0	D	µg/l	25.0	3.84	5	"	"	"	"	"	X
64-17-5	Ethanol	< 2000	D	µg/l	2000	178	5	"	"	"	"	"	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*103*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*101*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*100*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*100*			*70-130 %*			"	"	"	"	"	
Re-analysis of Volatile Organic Compounds			GS1										
Prepared by method SW846 5030 Water MS													

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
JCO-604	191710015/270.969	Ground Water	02-Oct-12 09:20	03-Oct-12
SB57493-01				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Re-analysis of Volatile Organic Compounds			GS1										
Prepared by method SW846 5030 Water MS													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 10.0	D	µg/l	10.0	6.47	10	SW846 8260C	15-Oct-12	15-Oct-12	eq	1225085	X
67-64-1	Acetone	< 100	D	µg/l	100	25.6	10	"	"	"	"	"	X
107-13-1	Acrylonitrile	< 5.00	D	µg/l	5.00	4.61	10	"	"	"	"	"	X
71-43-2	Benzene	< 10.0	D	µg/l	10.0	6.69	10	"	"	"	"	"	X
108-86-1	Bromobenzene	< 10.0	D	µg/l	10.0	7.21	10	"	"	"	"	"	X
74-97-5	Bromochloromethane	< 10.0	D	µg/l	10.0	7.10	10	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 5.00	D	µg/l	5.00	4.79	10	"	"	"	"	"	X
75-25-2	Bromoform	< 10.0	D	µg/l	10.0	6.03	10	"	"	"	"	"	X
74-83-9	Bromomethane	< 20.0	D	µg/l	20.0	11.4	10	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 100	D	µg/l	100	17.3	10	"	"	"	"	"	X
104-51-8	n-Butylbenzene	**11.4**	D	µg/l	10.0	5.62	10	"	"	"	"	"	X
135-98-8	sec-Butylbenzene	< 10.0	D	µg/l	10.0	8.20	10	"	"	"	"	"	X
98-06-6	tert-Butylbenzene	< 10.0	D	µg/l	10.0	7.45	10	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 20.0	D	µg/l	20.0	6.27	10	"	"	"	"	"	X
56-23-5	Carbon tetrachloride	< 10.0	D	µg/l	10.0	5.49	10	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 10.0	D	µg/l	10.0	6.54	10	"	"	"	"	"	X
75-00-3	Chloroethane	< 20.0	D	µg/l	20.0	10.3	10	"	"	"	"	"	X
67-66-3	Chloroform	< 10.0	D	µg/l	10.0	6.89	10	"	"	"	"	"	X
74-87-3	Chloromethane	< 20.0	D	µg/l	20.0	14.7	10	"	"	"	"	"	X
95-49-8	2-Chlorotoluene	< 10.0	D	µg/l	10.0	7.91	10	"	"	"	"	"	X
106-43-4	4-Chlorotoluene	< 10.0	D	µg/l	10.0	7.31	10	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 20.0	D	µg/l	20.0	9.27	10	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 5.00	D	µg/l	5.00	2.89	10	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 5.00	D	µg/l	5.00	3.27	10	"	"	"	"	"	X
74-95-3	Dibromomethane	< 10.0	D	µg/l	10.0	6.66	10	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 10.0	D	µg/l	10.0	6.68	10	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 10.0	D	µg/l	10.0	7.12	10	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 10.0	D	µg/l	10.0	6.24	10	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 20.0	D	µg/l	20.0	4.47	10	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 10.0	D	µg/l	10.0	6.80	10	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 10.0	D	µg/l	10.0	7.81	10	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 10.0	D	µg/l	10.0	4.88	10	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	< 10.0	D	µg/l	10.0	7.16	10	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	< 10.0	D	µg/l	10.0	6.81	10	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 10.0	D	µg/l	10.0	7.12	10	"	"	"	"	"	X
142-28-9	1,3-Dichloropropane	< 10.0	D	µg/l	10.0	8.07	10	"	"	"	"	"	X
594-20-7	2,2-Dichloropropane	< 10.0	D	µg/l	10.0	6.05	10	"	"	"	"	"	X
563-58-6	1,1-Dichloropropene	< 10.0	D	µg/l	10.0	6.36	10	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 5.00	D	µg/l	5.00	2.52	10	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 5.00	D	µg/l	5.00	4.99	10	"	"	"	"	"	X
100-41-4	Ethylbenzene	**142**	D	µg/l	10.0	7.32	10	"	"	"	"	"	X
87-68-3	Hexachlorobutadiene	< 5.00	D	µg/l	5.00	4.50	10	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 100	D	µg/l	100	5.45	10	"	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
JCO-604	191710015/270.969	Ground Water	02-Oct-12 09:20	03-Oct-12
SB57493-01				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Re-analysis of Volatile Organic Compounds			GS1										
Prepared by method SW846 5030 Water MS													
98-82-8	Isopropylbenzene	**19.5**	D	µg/l	10.0	6.21	10	SW846 8260C	15-Oct-12	15-Oct-12	eq	1225085	X
99-87-6	4-Isopropyltoluene	< 10.0	D	µg/l	10.0	6.09	10	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	< 10.0	D	µg/l	10.0	6.52	10	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 100	D	µg/l	100	9.32	10	"	"	"	"	"	X
75-09-2	Methylene chloride	< 20.0	D	µg/l	20.0	6.90	10	"	"	"	"	"	X
91-20-3	Naphthalene	**39.3**	D	µg/l	10.0	3.31	10	"	"	"	"	"	X
103-65-1	n-Propylbenzene	**45.8**	D	µg/l	10.0	7.58	10	"	"	"	"	"	X
100-42-5	Styrene	< 10.0	D	µg/l	10.0	6.15	10	"	"	"	"	"	X
630-20-6	1,1,1,2-Tetrachloroethane	< 10.0	D	µg/l	10.0	6.26	10	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 5.00	D	µg/l	5.00	3.49	10	"	"	"	"	"	X
127-18-4	Tetrachloroethene	< 10.0	D	µg/l	10.0	7.43	10	"	"	"	"	"	X
108-88-3	Toluene	**56.4**	D	µg/l	10.0	8.12	10	"	"	"	"	"	X
87-61-6	1,2,3-Trichlorobenzene	< 10.0	D	µg/l	10.0	3.76	10	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 10.0	D	µg/l	10.0	3.60	10	"	"	"	"	"	X
108-70-3	1,3,5-Trichlorobenzene	< 10.0	D	µg/l	10.0	7.84	10	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 10.0	D	µg/l	10.0	5.82	10	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 10.0	D	µg/l	10.0	6.42	10	"	"	"	"	"	X
79-01-6	Trichloroethene	< 10.0	D	µg/l	10.0	7.55	10	"	"	"	"	"	X
75-69-4	Trichlorofluoromethane (Freon 11)	< 10.0	D	µg/l	10.0	6.28	10	"	"	"	"	"	X
96-18-4	1,2,3-Trichloropropane	< 10.0	D	µg/l	10.0	7.36	10	"	"	"	"	"	X
95-63-6	1,2,4-Trimethylbenzene	**410**	D	µg/l	10.0	7.57	10	"	"	"	"	"	X
108-67-8	1,3,5-Trimethylbenzene	**122**	D	µg/l	10.0	7.44	10	"	"	"	"	"	X
75-01-4	Vinyl chloride	< 10.0	D	µg/l	10.0	8.07	10	"	"	"	"	"	X
179601-23-1	m,p-Xylene	**448**	D	µg/l	20.0	16.4	10	"	"	"	"	"	X
95-47-6	o-Xylene	**87.0**	D	µg/l	10.0	8.82	10	"	"	"	"	"	X
109-99-9	Tetrahydrofuran	< 20.0	D	µg/l	20.0	14.4	10	"	"	"	"	"	
60-29-7	Ethyl ether	< 10.0	D	µg/l	10.0	6.93	10	"	"	"	"	"	X
994-05-8	Tert-amyl methyl ether	< 10.0	D	µg/l	10.0	7.19	10	"	"	"	"	"	X
637-92-3	Ethyl tert-butyl ether	< 10.0	D	µg/l	10.0	7.82	10	"	"	"	"	"	X
108-20-3	Di-isopropyl ether	< 10.0	D	µg/l	10.0	7.27	10	"	"	"	"	"	X
75-65-0	Tert-Butanol / butyl alcohol	< 100	D	µg/l	100	86.4	10	"	"	"	"	"	X
123-91-1	1,4-Dioxane	< 200	D	µg/l	200	140	10	"	"	"	"	"	X
110-57-6	trans-1,4-Dichloro-2-buten e	< 50.0	D	µg/l	50.0	7.67	10	"	"	"	"	"	X
64-17-5	Ethanol	< 4000	D	µg/l	4000	357	10	"	"	"	"	"	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*106*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*100*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*96*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*101*			*70-130 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
ERM-3	191710015/270.969	Ground Water	02-Oct-12 10:00	03-Oct-12
SB57493-02				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
Volatile Organic Compounds													
Prepared by method SW846 5030 Water MS													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00		µg/l	1.00	0.65	1	SW846 8260C	12-Oct-12	12-Oct-12	eq	1224965	X
67-64-1	Acetone	< 10.0		µg/l	10.0	2.56	1	"	"	"	"	"	X
107-13-1	Acrylonitrile	< 0.50		µg/l	0.50	0.46	1	"	"	"	"	"	X
71-43-2	Benzene	< 1.00		µg/l	1.00	0.67	1	"	"	"	"	"	X
108-86-1	Bromobenzene	< 1.00		µg/l	1.00	0.72	1	"	"	"	"	"	X
74-97-5	Bromochloromethane	< 1.00		µg/l	1.00	0.71	1	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 0.50		µg/l	0.50	0.48	1	"	"	"	"	"	X
75-25-2	Bromoform	< 1.00		µg/l	1.00	0.60	1	"	"	"	"	"	X
74-83-9	Bromomethane	< 2.00		µg/l	2.00	1.14	1	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 10.0		µg/l	10.0	1.73	1	"	"	"	"	"	X
104-51-8	n-Butylbenzene	**1.98**		µg/l	1.00	0.56	1	"	"	"	"	"	X
135-98-8	sec-Butylbenzene	**3.81**		µg/l	1.00	0.82	1	"	"	"	"	"	X
98-06-6	tert-Butylbenzene	< 1.00		µg/l	1.00	0.74	1	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 2.00		µg/l	2.00	0.63	1	"	"	"	"	"	X
56-23-5	Carbon tetrachloride	< 1.00		µg/l	1.00	0.55	1	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 1.00		µg/l	1.00	0.65	1	"	"	"	"	"	X
75-00-3	Chloroethane	< 2.00		µg/l	2.00	1.03	1	"	"	"	"	"	X
67-66-3	Chloroform	< 1.00		µg/l	1.00	0.69	1	"	"	"	"	"	X
74-87-3	Chloromethane	< 2.00		µg/l	2.00	1.47	1	"	"	"	"	"	X
95-49-8	2-Chlorotoluene	< 1.00		µg/l	1.00	0.79	1	"	"	"	"	"	X
106-43-4	4-Chlorotoluene	< 1.00		µg/l	1.00	0.73	1	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 2.00		µg/l	2.00	0.93	1	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 0.50		µg/l	0.50	0.29	1	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 0.50		µg/l	0.50	0.33	1	"	"	"	"	"	X
74-95-3	Dibromomethane	< 1.00		µg/l	1.00	0.67	1	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 1.00		µg/l	1.00	0.67	1	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 1.00		µg/l	1.00	0.71	1	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 1.00		µg/l	1.00	0.62	1	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 2.00		µg/l	2.00	0.45	1	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 1.00		µg/l	1.00	0.68	1	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 1.00		µg/l	1.00	0.78	1	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 1.00		µg/l	1.00	0.49	1	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	< 1.00		µg/l	1.00	0.72	1	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	< 1.00		µg/l	1.00	0.68	1	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 1.00		µg/l	1.00	0.71	1	"	"	"	"	"	X
142-28-9	1,3-Dichloropropane	< 1.00		µg/l	1.00	0.81	1	"	"	"	"	"	X
594-20-7	2,2-Dichloropropane	< 1.00		µg/l	1.00	0.60	1	"	"	"	"	"	X
563-58-6	1,1-Dichloropropene	< 1.00		µg/l	1.00	0.64	1	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 0.50		µg/l	0.50	0.25	1	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 0.50		µg/l	0.50	0.50	1	"	"	"	"	"	X
100-41-4	Ethylbenzene	< 1.00		µg/l	1.00	0.73	1	"	"	"	"	"	X
87-68-3	Hexachlorobutadiene	< 0.50		µg/l	0.50	0.45	1	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 10.0		µg/l	10.0	0.54	1	"	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
ERM-3	191710015/270.969	Ground Water	02-Oct-12 10:00	03-Oct-12
SB57493-02				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds													
Prepared by method SW846 5030 Water MS													
98-82-8	Isopropylbenzene	**2.96**		µg/l	1.00	0.62	1	SW846 8260C	12-Oct-12	12-Oct-12	eq	1224965	X
99-87-6	4-Isopropyltoluene	< 1.00		µg/l	1.00	0.61	1	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	< 1.00		µg/l	1.00	0.65	1	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 10.0		µg/l	10.0	0.93	1	"	"	"	"	"	X
75-09-2	Methylene chloride	< 2.00		µg/l	2.00	0.69	1	"	"	"	"	"	X
91-20-3	Naphthalene	**7.43**		µg/l	1.00	0.33	1	"	"	"	"	"	X
103-65-1	n-Propylbenzene	< 1.00		µg/l	1.00	0.76	1	"	"	"	"	"	X
100-42-5	Styrene	< 1.00		µg/l	1.00	0.62	1	"	"	"	"	"	X
630-20-6	1,1,1,2-Tetrachloroethane	< 1.00		µg/l	1.00	0.63	1	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 0.50		µg/l	0.50	0.35	1	"	"	"	"	"	X
127-18-4	Tetrachloroethene	< 1.00		µg/l	1.00	0.74	1	"	"	"	"	"	X
108-88-3	Toluene	< 1.00		µg/l	1.00	0.81	1	"	"	"	"	"	X
87-61-6	1,2,3-Trichlorobenzene	< 1.00		µg/l	1.00	0.38	1	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 1.00		µg/l	1.00	0.36	1	"	"	"	"	"	X
108-70-3	1,3,5-Trichlorobenzene	< 1.00		µg/l	1.00	0.78	1	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 1.00		µg/l	1.00	0.58	1	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 1.00		µg/l	1.00	0.64	1	"	"	"	"	"	X
79-01-6	Trichloroethene	< 1.00		µg/l	1.00	0.76	1	"	"	"	"	"	X
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.00		µg/l	1.00	0.63	1	"	"	"	"	"	X
96-18-4	1,2,3-Trichloropropane	< 1.00		µg/l	1.00	0.74	1	"	"	"	"	"	X
95-63-6	1,2,4-Trimethylbenzene	**4.11**		µg/l	1.00	0.76	1	"	"	"	"	"	X
108-67-8	1,3,5-Trimethylbenzene	< 1.00		µg/l	1.00	0.74	1	"	"	"	"	"	X
75-01-4	Vinyl chloride	< 1.00		µg/l	1.00	0.81	1	"	"	"	"	"	X
179601-23-1	m,p-Xylene	< 2.00		µg/l	2.00	1.64	1	"	"	"	"	"	X
95-47-6	o-Xylene	< 1.00		µg/l	1.00	0.88	1	"	"	"	"	"	X
109-99-9	Tetrahydrofuran	< 2.00		µg/l	2.00	1.44	1	"	"	"	"	"	
60-29-7	Ethyl ether	< 1.00		µg/l	1.00	0.69	1	"	"	"	"	"	X
994-05-8	Tert-amyl methyl ether	< 1.00		µg/l	1.00	0.72	1	"	"	"	"	"	X
637-92-3	Ethyl tert-butyl ether	< 1.00		µg/l	1.00	0.78	1	"	"	"	"	"	X
108-20-3	Di-isopropyl ether	< 1.00		µg/l	1.00	0.73	1	"	"	"	"	"	X
75-65-0	Tert-Butanol / butyl alcohol	< 10.0		µg/l	10.0	8.64	1	"	"	"	"	"	X
123-91-1	1,4-Dioxane	< 20.0		µg/l	20.0	14.0	1	"	"	"	"	"	X
110-57-6	trans-1,4-Dichloro-2-buten e	< 5.00		µg/l	5.00	0.77	1	"	"	"	"	"	X
64-17-5	Ethanol	< 400		µg/l	400	35.7	1	"	"	"	"	"	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*102*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*103*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*104*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*103*			*70-130 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
WP-7	191710015/270.969	Ground Water	02-Oct-12 11:30	03-Oct-12
SB57493-03				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
Volatile Organic Compounds			GS1										
Prepared by method SW846 5030 Water MS													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 5.00	D	µg/l	5.00	3.24	5	SW846 8260C	12-Oct-12	12-Oct-12	eq	1224965	X
67-64-1	Acetone	< 50.0	D	µg/l	50.0	12.8	5	"	"	"	"	"	X
107-13-1	Acrylonitrile	< 2.50	D	µg/l	2.50	2.30	5	"	"	"	"	"	X
71-43-2	Benzene	< 5.00	D	µg/l	5.00	3.34	5	"	"	"	"	"	X
108-86-1	Bromobenzene	< 5.00	D	µg/l	5.00	3.60	5	"	"	"	"	"	X
74-97-5	Bromochloromethane	< 5.00	D	µg/l	5.00	3.55	5	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 2.50	D	µg/l	2.50	2.40	5	"	"	"	"	"	X
75-25-2	Bromoform	< 5.00	D	µg/l	5.00	3.02	5	"	"	"	"	"	X
74-83-9	Bromomethane	< 10.0	D	µg/l	10.0	5.70	5	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 50.0	D	µg/l	50.0	8.67	5	"	"	"	"	"	X
104-51-8	n-Butylbenzene	**5.10**	D	µg/l	5.00	2.81	5	"	"	"	"	"	X
135-98-8	sec-Butylbenzene	< 5.00	D	µg/l	5.00	4.10	5	"	"	"	"	"	X
98-06-6	tert-Butylbenzene	< 5.00	D	µg/l	5.00	3.72	5	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 10.0	D	µg/l	10.0	3.14	5	"	"	"	"	"	X
56-23-5	Carbon tetrachloride	< 5.00	D	µg/l	5.00	2.74	5	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 5.00	D	µg/l	5.00	3.27	5	"	"	"	"	"	X
75-00-3	Chloroethane	< 10.0	D	µg/l	10.0	5.16	5	"	"	"	"	"	X
67-66-3	Chloroform	< 5.00	D	µg/l	5.00	3.44	5	"	"	"	"	"	X
74-87-3	Chloromethane	< 10.0	D	µg/l	10.0	7.36	5	"	"	"	"	"	X
95-49-8	2-Chlorotoluene	< 5.00	D	µg/l	5.00	3.96	5	"	"	"	"	"	X
106-43-4	4-Chlorotoluene	< 5.00	D	µg/l	5.00	3.66	5	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 10.0	D	µg/l	10.0	4.64	5	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 2.50	D	µg/l	2.50	1.44	5	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 2.50	D	µg/l	2.50	1.64	5	"	"	"	"	"	X
74-95-3	Dibromomethane	< 5.00	D	µg/l	5.00	3.33	5	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 5.00	D	µg/l	5.00	3.34	5	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 5.00	D	µg/l	5.00	3.56	5	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 5.00	D	µg/l	5.00	3.12	5	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 10.0	D	µg/l	10.0	2.24	5	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 5.00	D	µg/l	5.00	3.40	5	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 5.00	D	µg/l	5.00	3.90	5	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 5.00	D	µg/l	5.00	2.44	5	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	< 5.00	D	µg/l	5.00	3.58	5	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	< 5.00	D	µg/l	5.00	3.40	5	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 5.00	D	µg/l	5.00	3.56	5	"	"	"	"	"	X
142-28-9	1,3-Dichloropropane	< 5.00	D	µg/l	5.00	4.04	5	"	"	"	"	"	X
594-20-7	2,2-Dichloropropane	< 5.00	D	µg/l	5.00	3.02	5	"	"	"	"	"	X
563-58-6	1,1-Dichloropropene	< 5.00	D	µg/l	5.00	3.18	5	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 2.50	D	µg/l	2.50	1.26	5	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 2.50	D	µg/l	2.50	2.50	5	"	"	"	"	"	X
100-41-4	Ethylbenzene	**13.0**	D	µg/l	5.00	3.66	5	"	"	"	"	"	X
87-68-3	Hexachlorobutadiene	< 2.50	D	µg/l	2.50	2.25	5	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 50.0	D	µg/l	50.0	2.72	5	"	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
WP-7	191710015/270.969	Ground Water	02-Oct-12 11:30	03-Oct-12
SB57493-03				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
Volatile Organic Compounds			GS1										
Prepared by method SW846 5030 Water MS													
98-82-8	Isopropylbenzene	**5.10**	D	µg/l	5.00	3.10	5	SW846 8260C	12-Oct-12	12-Oct-12	eq	1224965	X
99-87-6	4-Isopropyltoluene	< 5.00	D	µg/l	5.00	3.04	5	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	< 5.00	D	µg/l	5.00	3.26	5	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 50.0	D	µg/l	50.0	4.66	5	"	"	"	"	"	X
75-09-2	Methylene chloride	< 10.0	D	µg/l	10.0	3.45	5	"	"	"	"	"	X
91-20-3	Naphthalene	**192**	D	µg/l	5.00	1.66	5	"	"	"	"	"	X
103-65-1	n-Propylbenzene	**6.60**	D	µg/l	5.00	3.79	5	"	"	"	"	"	X
100-42-5	Styrene	< 5.00	D	µg/l	5.00	3.08	5	"	"	"	"	"	X
630-20-6	1,1,1,2-Tetrachloroethane	< 5.00	D	µg/l	5.00	3.13	5	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 2.50	D	µg/l	2.50	1.74	5	"	"	"	"	"	X
127-18-4	Tetrachloroethene	< 5.00	D	µg/l	5.00	3.72	5	"	"	"	"	"	X
108-88-3	Toluene	< 5.00	D	µg/l	5.00	4.06	5	"	"	"	"	"	X
87-61-6	1,2,3-Trichlorobenzene	< 5.00	D	µg/l	5.00	1.88	5	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 5.00	D	µg/l	5.00	1.80	5	"	"	"	"	"	X
108-70-3	1,3,5-Trichlorobenzene	< 5.00	D	µg/l	5.00	3.92	5	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 5.00	D	µg/l	5.00	2.91	5	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 5.00	D	µg/l	5.00	3.21	5	"	"	"	"	"	X
79-01-6	Trichloroethene	< 5.00	D	µg/l	5.00	3.78	5	"	"	"	"	"	X
75-69-4	Trichlorofluoromethane (Freon 11)	< 5.00	D	µg/l	5.00	3.14	5	"	"	"	"	"	X
96-18-4	1,2,3-Trichloropropane	< 5.00	D	µg/l	5.00	3.68	5	"	"	"	"	"	X
95-63-6	1,2,4-Trimethylbenzene	**78.6**	D	µg/l	5.00	3.78	5	"	"	"	"	"	X
108-67-8	1,3,5-Trimethylbenzene	**6.05**	D	µg/l	5.00	3.72	5	"	"	"	"	"	X
75-01-4	Vinyl chloride	< 5.00	D	µg/l	5.00	4.04	5	"	"	"	"	"	X
179601-23-1	m,p-Xylene	**21.0**	D	µg/l	10.0	8.20	5	"	"	"	"	"	X
95-47-6	o-Xylene	< 5.00	D	µg/l	5.00	4.41	5	"	"	"	"	"	X
109-99-9	Tetrahydrofuran	< 10.0	D	µg/l	10.0	7.21	5	"	"	"	"	"	
60-29-7	Ethyl ether	< 5.00	D	µg/l	5.00	3.46	5	"	"	"	"	"	X
994-05-8	Tert-amyl methyl ether	< 5.00	D	µg/l	5.00	3.60	5	"	"	"	"	"	X
637-92-3	Ethyl tert-butyl ether	< 5.00	D	µg/l	5.00	3.91	5	"	"	"	"	"	X
108-20-3	Di-isopropyl ether	< 5.00	D	µg/l	5.00	3.64	5	"	"	"	"	"	X
75-65-0	Tert-Butanol / butyl alcohol	< 50.0	D	µg/l	50.0	43.2	5	"	"	"	"	"	X
123-91-1	1,4-Dioxane	< 100	D	µg/l	100	70.1	5	"	"	"	"	"	X
110-57-6	trans-1,4-Dichloro-2-buten e	< 25.0	D	µg/l	25.0	3.84	5	"	"	"	"	"	X
64-17-5	Ethanol	< 2000	D	µg/l	2000	178	5	"	"	"	"	"	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*101*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*100*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*102*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*101*			*70-130 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
WP-1	191710015/270.969	Ground Water	02-Oct-12 12:00	03-Oct-12
SB57493-04				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds													
Prepared by method SW846 5030 Water MS													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00		µg/l	1.00	0.65	1	SW846 8260C	12-Oct-12	12-Oct-12	eq	1224965	X
67-64-1	Acetone	**10.8**		µg/l	10.0	2.56	1	"	"	"	"	"	X
107-13-1	Acrylonitrile	< 0.50		µg/l	0.50	0.46	1	"	"	"	"	"	X
71-43-2	Benzene	< 1.00		µg/l	1.00	0.67	1	"	"	"	"	"	X
108-86-1	Bromobenzene	< 1.00		µg/l	1.00	0.72	1	"	"	"	"	"	X
74-97-5	Bromochloromethane	< 1.00		µg/l	1.00	0.71	1	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 0.50		µg/l	0.50	0.48	1	"	"	"	"	"	X
75-25-2	Bromoform	< 1.00		µg/l	1.00	0.60	1	"	"	"	"	"	X
74-83-9	Bromomethane	< 2.00		µg/l	2.00	1.14	1	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 10.0		µg/l	10.0	1.73	1	"	"	"	"	"	X
104-51-8	n-Butylbenzene	**1.84**		µg/l	1.00	0.56	1	"	"	"	"	"	X
135-98-8	sec-Butylbenzene	**1.73**		µg/l	1.00	0.82	1	"	"	"	"	"	X
98-06-6	tert-Butylbenzene	< 1.00		µg/l	1.00	0.74	1	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 2.00		µg/l	2.00	0.63	1	"	"	"	"	"	X
56-23-5	Carbon tetrachloride	< 1.00		µg/l	1.00	0.55	1	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 1.00		µg/l	1.00	0.65	1	"	"	"	"	"	X
75-00-3	Chloroethane	< 2.00		µg/l	2.00	1.03	1	"	"	"	"	"	X
67-66-3	Chloroform	< 1.00		µg/l	1.00	0.69	1	"	"	"	"	"	X
74-87-3	Chloromethane	< 2.00		µg/l	2.00	1.47	1	"	"	"	"	"	X
95-49-8	2-Chlorotoluene	< 1.00		µg/l	1.00	0.79	1	"	"	"	"	"	X
106-43-4	4-Chlorotoluene	< 1.00		µg/l	1.00	0.73	1	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 2.00		µg/l	2.00	0.93	1	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 0.50		µg/l	0.50	0.29	1	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 0.50		µg/l	0.50	0.33	1	"	"	"	"	"	X
74-95-3	Dibromomethane	< 1.00		µg/l	1.00	0.67	1	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 1.00		µg/l	1.00	0.67	1	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 1.00		µg/l	1.00	0.71	1	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 1.00		µg/l	1.00	0.62	1	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 2.00		µg/l	2.00	0.45	1	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 1.00		µg/l	1.00	0.68	1	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 1.00		µg/l	1.00	0.78	1	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 1.00		µg/l	1.00	0.49	1	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	< 1.00		µg/l	1.00	0.72	1	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	< 1.00		µg/l	1.00	0.68	1	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 1.00		µg/l	1.00	0.71	1	"	"	"	"	"	X
142-28-9	1,3-Dichloropropane	< 1.00		µg/l	1.00	0.81	1	"	"	"	"	"	X
594-20-7	2,2-Dichloropropane	< 1.00		µg/l	1.00	0.60	1	"	"	"	"	"	X
563-58-6	1,1-Dichloropropene	< 1.00		µg/l	1.00	0.64	1	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 0.50		µg/l	0.50	0.25	1	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 0.50		µg/l	0.50	0.50	1	"	"	"	"	"	X
100-41-4	Ethylbenzene	< 1.00		µg/l	1.00	0.73	1	"	"	"	"	"	X
87-68-3	Hexachlorobutadiene	< 0.50		µg/l	0.50	0.45	1	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 10.0		µg/l	10.0	0.54	1	"	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
WP-1	191710015/270.969	Ground Water	02-Oct-12 12:00	03-Oct-12
SB57493-04				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds													
Prepared by method SW846 5030 Water MS													
98-82-8	Isopropylbenzene	**1.75**		µg/l	1.00	0.62	1	SW846 8260C	12-Oct-12	12-Oct-12	eq	1224965	X
99-87-6	4-Isopropyltoluene	< 1.00		µg/l	1.00	0.61	1	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	< 1.00		µg/l	1.00	0.65	1	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 10.0		µg/l	10.0	0.93	1	"	"	"	"	"	X
75-09-2	Methylene chloride	< 2.00		µg/l	2.00	0.69	1	"	"	"	"	"	X
91-20-3	Naphthalene	**42.1**		µg/l	1.00	0.33	1	"	"	"	"	"	X
103-65-1	n-Propylbenzene	**2.34**		µg/l	1.00	0.76	1	"	"	"	"	"	X
100-42-5	Styrene	< 1.00		µg/l	1.00	0.62	1	"	"	"	"	"	X
630-20-6	1,1,1,2-Tetrachloroethane	< 1.00		µg/l	1.00	0.63	1	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 0.50		µg/l	0.50	0.35	1	"	"	"	"	"	X
127-18-4	Tetrachloroethene	< 1.00		µg/l	1.00	0.74	1	"	"	"	"	"	X
108-88-3	Toluene	< 1.00		µg/l	1.00	0.81	1	"	"	"	"	"	X
87-61-6	1,2,3-Trichlorobenzene	< 1.00		µg/l	1.00	0.38	1	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 1.00		µg/l	1.00	0.36	1	"	"	"	"	"	X
108-70-3	1,3,5-Trichlorobenzene	< 1.00		µg/l	1.00	0.78	1	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 1.00		µg/l	1.00	0.58	1	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 1.00		µg/l	1.00	0.64	1	"	"	"	"	"	X
79-01-6	Trichloroethene	< 1.00		µg/l	1.00	0.76	1	"	"	"	"	"	X
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.00		µg/l	1.00	0.63	1	"	"	"	"	"	X
96-18-4	1,2,3-Trichloropropane	< 1.00		µg/l	1.00	0.74	1	"	"	"	"	"	X
95-63-6	1,2,4-Trimethylbenzene	**21.5**		µg/l	1.00	0.76	1	"	"	"	"	"	X
108-67-8	1,3,5-Trimethylbenzene	< 1.00		µg/l	1.00	0.74	1	"	"	"	"	"	X
75-01-4	Vinyl chloride	< 1.00		µg/l	1.00	0.81	1	"	"	"	"	"	X
179601-23-1	m,p-Xylene	**3.35**		µg/l	2.00	1.64	1	"	"	"	"	"	X
95-47-6	o-Xylene	< 1.00		µg/l	1.00	0.88	1	"	"	"	"	"	X
109-99-9	Tetrahydrofuran	< 2.00		µg/l	2.00	1.44	1	"	"	"	"	"	
60-29-7	Ethyl ether	< 1.00		µg/l	1.00	0.69	1	"	"	"	"	"	X
994-05-8	Tert-amyl methyl ether	< 1.00		µg/l	1.00	0.72	1	"	"	"	"	"	X
637-92-3	Ethyl tert-butyl ether	< 1.00		µg/l	1.00	0.78	1	"	"	"	"	"	X
108-20-3	Di-isopropyl ether	< 1.00		µg/l	1.00	0.73	1	"	"	"	"	"	X
75-65-0	Tert-Butanol / butyl alcohol	< 10.0		µg/l	10.0	8.64	1	"	"	"	"	"	X
123-91-1	1,4-Dioxane	< 20.0		µg/l	20.0	14.0	1	"	"	"	"	"	X
110-57-6	trans-1,4-Dichloro-2-buten e	< 5.00		µg/l	5.00	0.77	1	"	"	"	"	"	X
64-17-5	Ethanol	< 400		µg/l	400	35.7	1	"	"	"	"	"	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*104*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*102*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*98*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*101*			*70-130 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
CR-3	191710015/270.969	Ground Water	02-Oct-12 12:30	03-Oct-12
SB57493-05				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
Volatile Organic Compounds													
Prepared by method SW846 5030 Water MS													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00		µg/l	1.00	0.65	1	SW846 8260C	12-Oct-12	12-Oct-12	eq	1224965	X
67-64-1	Acetone	< 10.0		µg/l	10.0	2.56	1	"	"	"	"	"	X
107-13-1	Acrylonitrile	< 0.50		µg/l	0.50	0.46	1	"	"	"	"	"	X
71-43-2	Benzene	< 1.00		µg/l	1.00	0.67	1	"	"	"	"	"	X
108-86-1	Bromobenzene	< 1.00		µg/l	1.00	0.72	1	"	"	"	"	"	X
74-97-5	Bromochloromethane	< 1.00		µg/l	1.00	0.71	1	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 0.50		µg/l	0.50	0.48	1	"	"	"	"	"	X
75-25-2	Bromoform	< 1.00		µg/l	1.00	0.60	1	"	"	"	"	"	X
74-83-9	Bromomethane	< 2.00		µg/l	2.00	1.14	1	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 10.0		µg/l	10.0	1.73	1	"	"	"	"	"	X
104-51-8	n-Butylbenzene	< 1.00		µg/l	1.00	0.56	1	"	"	"	"	"	X
135-98-8	sec-Butylbenzene	< 1.00		µg/l	1.00	0.82	1	"	"	"	"	"	X
98-06-6	tert-Butylbenzene	< 1.00		µg/l	1.00	0.74	1	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 2.00		µg/l	2.00	0.63	1	"	"	"	"	"	X
56-23-5	Carbon tetrachloride	< 1.00		µg/l	1.00	0.55	1	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 1.00		µg/l	1.00	0.65	1	"	"	"	"	"	X
75-00-3	Chloroethane	< 2.00		µg/l	2.00	1.03	1	"	"	"	"	"	X
67-66-3	Chloroform	< 1.00		µg/l	1.00	0.69	1	"	"	"	"	"	X
74-87-3	Chloromethane	< 2.00		µg/l	2.00	1.47	1	"	"	"	"	"	X
95-49-8	2-Chlorotoluene	< 1.00		µg/l	1.00	0.79	1	"	"	"	"	"	X
106-43-4	4-Chlorotoluene	< 1.00		µg/l	1.00	0.73	1	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 2.00		µg/l	2.00	0.93	1	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 0.50		µg/l	0.50	0.29	1	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 0.50		µg/l	0.50	0.33	1	"	"	"	"	"	X
74-95-3	Dibromomethane	< 1.00		µg/l	1.00	0.67	1	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 1.00		µg/l	1.00	0.67	1	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 1.00		µg/l	1.00	0.71	1	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 1.00		µg/l	1.00	0.62	1	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 2.00		µg/l	2.00	0.45	1	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 1.00		µg/l	1.00	0.68	1	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 1.00		µg/l	1.00	0.78	1	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 1.00		µg/l	1.00	0.49	1	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	< 1.00		µg/l	1.00	0.72	1	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	< 1.00		µg/l	1.00	0.68	1	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 1.00		µg/l	1.00	0.71	1	"	"	"	"	"	X
142-28-9	1,3-Dichloropropane	< 1.00		µg/l	1.00	0.81	1	"	"	"	"	"	X
594-20-7	2,2-Dichloropropane	< 1.00		µg/l	1.00	0.60	1	"	"	"	"	"	X
563-58-6	1,1-Dichloropropene	< 1.00		µg/l	1.00	0.64	1	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 0.50		µg/l	0.50	0.25	1	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 0.50		µg/l	0.50	0.50	1	"	"	"	"	"	X
100-41-4	Ethylbenzene	< 1.00		µg/l	1.00	0.73	1	"	"	"	"	"	X
87-68-3	Hexachlorobutadiene	< 0.50		µg/l	0.50	0.45	1	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 10.0		µg/l	10.0	0.54	1	"	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
CR-3	191710015/270.969	Ground Water	02-Oct-12 12:30	03-Oct-12
SB57493-05				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
Volatile Organic Compounds													
Prepared by method SW846 5030 Water MS													
98-82-8	Isopropylbenzene	< 1.00		µg/l	1.00	0.62	1	SW846 8260C	12-Oct-12	12-Oct-12	eq	1224965	X
99-87-6	4-Isopropyltoluene	< 1.00		µg/l	1.00	0.61	1	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	< 1.00		µg/l	1.00	0.65	1	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 10.0		µg/l	10.0	0.93	1	"	"	"	"	"	X
75-09-2	Methylene chloride	< 2.00		µg/l	2.00	0.69	1	"	"	"	"	"	X
91-20-3	Naphthalene	< 1.00		µg/l	1.00	0.33	1	"	"	"	"	"	X
103-65-1	n-Propylbenzene	< 1.00		µg/l	1.00	0.76	1	"	"	"	"	"	X
100-42-5	Styrene	< 1.00		µg/l	1.00	0.62	1	"	"	"	"	"	X
630-20-6	1,1,1,2-Tetrachloroethane	< 1.00		µg/l	1.00	0.63	1	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 0.50		µg/l	0.50	0.35	1	"	"	"	"	"	X
127-18-4	Tetrachloroethene	< 1.00		µg/l	1.00	0.74	1	"	"	"	"	"	X
108-88-3	Toluene	< 1.00		µg/l	1.00	0.81	1	"	"	"	"	"	X
87-61-6	1,2,3-Trichlorobenzene	< 1.00		µg/l	1.00	0.38	1	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 1.00		µg/l	1.00	0.36	1	"	"	"	"	"	X
108-70-3	1,3,5-Trichlorobenzene	< 1.00		µg/l	1.00	0.78	1	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 1.00		µg/l	1.00	0.58	1	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 1.00		µg/l	1.00	0.64	1	"	"	"	"	"	X
79-01-6	Trichloroethene	< 1.00		µg/l	1.00	0.76	1	"	"	"	"	"	X
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.00		µg/l	1.00	0.63	1	"	"	"	"	"	X
96-18-4	1,2,3-Trichloropropane	< 1.00		µg/l	1.00	0.74	1	"	"	"	"	"	X
95-63-6	1,2,4-Trimethylbenzene	< 1.00		µg/l	1.00	0.76	1	"	"	"	"	"	X
108-67-8	1,3,5-Trimethylbenzene	< 1.00		µg/l	1.00	0.74	1	"	"	"	"	"	X
75-01-4	Vinyl chloride	< 1.00		µg/l	1.00	0.81	1	"	"	"	"	"	X
179601-23-1	m,p-Xylene	< 2.00		µg/l	2.00	1.64	1	"	"	"	"	"	X
95-47-6	o-Xylene	< 1.00		µg/l	1.00	0.88	1	"	"	"	"	"	X
109-99-9	Tetrahydrofuran	< 2.00		µg/l	2.00	1.44	1	"	"	"	"	"	
60-29-7	Ethyl ether	< 1.00		µg/l	1.00	0.69	1	"	"	"	"	"	X
994-05-8	Tert-amyl methyl ether	< 1.00		µg/l	1.00	0.72	1	"	"	"	"	"	X
637-92-3	Ethyl tert-butyl ether	< 1.00		µg/l	1.00	0.78	1	"	"	"	"	"	X
108-20-3	Di-isopropyl ether	< 1.00		µg/l	1.00	0.73	1	"	"	"	"	"	X
75-65-0	Tert-Butanol / butyl alcohol	< 10.0		µg/l	10.0	8.64	1	"	"	"	"	"	X
123-91-1	1,4-Dioxane	< 20.0		µg/l	20.0	14.0	1	"	"	"	"	"	X
110-57-6	trans-1,4-Dichloro-2-buten e	< 5.00		µg/l	5.00	0.77	1	"	"	"	"	"	X
64-17-5	Ethanol	< 400		µg/l	400	35.7	1	"	"	"	"	"	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*99*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*100*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*91*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*95*			*70-130 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
Trip	191710015/270.969	Aqueous	02-Oct-12 00:00	03-Oct-12
SB57493-06				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds													
Prepared by method SW846 5030 Water MS													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00		µg/l	1.00	0.65	1	SW846 8260C	12-Oct-12	12-Oct-12	eq	1224965	X
67-64-1	Acetone	< 10.0		µg/l	10.0	2.56	1	"	"	"	"	"	X
107-13-1	Acrylonitrile	< 0.50		µg/l	0.50	0.46	1	"	"	"	"	"	X
71-43-2	Benzene	< 1.00		µg/l	1.00	0.67	1	"	"	"	"	"	X
108-86-1	Bromobenzene	< 1.00		µg/l	1.00	0.72	1	"	"	"	"	"	X
74-97-5	Bromochloromethane	< 1.00		µg/l	1.00	0.71	1	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 0.50		µg/l	0.50	0.48	1	"	"	"	"	"	X
75-25-2	Bromoform	< 1.00		µg/l	1.00	0.60	1	"	"	"	"	"	X
74-83-9	Bromomethane	< 2.00		µg/l	2.00	1.14	1	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 10.0		µg/l	10.0	1.73	1	"	"	"	"	"	X
104-51-8	n-Butylbenzene	< 1.00		µg/l	1.00	0.56	1	"	"	"	"	"	X
135-98-8	sec-Butylbenzene	< 1.00		µg/l	1.00	0.82	1	"	"	"	"	"	X
98-06-6	tert-Butylbenzene	< 1.00		µg/l	1.00	0.74	1	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 2.00		µg/l	2.00	0.63	1	"	"	"	"	"	X
56-23-5	Carbon tetrachloride	< 1.00		µg/l	1.00	0.55	1	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 1.00		µg/l	1.00	0.65	1	"	"	"	"	"	X
75-00-3	Chloroethane	< 2.00		µg/l	2.00	1.03	1	"	"	"	"	"	X
67-66-3	Chloroform	< 1.00		µg/l	1.00	0.69	1	"	"	"	"	"	X
74-87-3	Chloromethane	< 2.00		µg/l	2.00	1.47	1	"	"	"	"	"	X
95-49-8	2-Chlorotoluene	< 1.00		µg/l	1.00	0.79	1	"	"	"	"	"	X
106-43-4	4-Chlorotoluene	< 1.00		µg/l	1.00	0.73	1	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 2.00		µg/l	2.00	0.93	1	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 0.50		µg/l	0.50	0.29	1	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 0.50		µg/l	0.50	0.33	1	"	"	"	"	"	X
74-95-3	Dibromomethane	< 1.00		µg/l	1.00	0.67	1	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 1.00		µg/l	1.00	0.67	1	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 1.00		µg/l	1.00	0.71	1	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 1.00		µg/l	1.00	0.62	1	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 2.00		µg/l	2.00	0.45	1	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 1.00		µg/l	1.00	0.68	1	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 1.00		µg/l	1.00	0.78	1	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 1.00		µg/l	1.00	0.49	1	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	< 1.00		µg/l	1.00	0.72	1	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	< 1.00		µg/l	1.00	0.68	1	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 1.00		µg/l	1.00	0.71	1	"	"	"	"	"	X
142-28-9	1,3-Dichloropropane	< 1.00		µg/l	1.00	0.81	1	"	"	"	"	"	X
594-20-7	2,2-Dichloropropane	< 1.00		µg/l	1.00	0.60	1	"	"	"	"	"	X
563-58-6	1,1-Dichloropropene	< 1.00		µg/l	1.00	0.64	1	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 0.50		µg/l	0.50	0.25	1	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 0.50		µg/l	0.50	0.50	1	"	"	"	"	"	X
100-41-4	Ethylbenzene	< 1.00		µg/l	1.00	0.73	1	"	"	"	"	"	X
87-68-3	Hexachlorobutadiene	< 0.50		µg/l	0.50	0.45	1	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 10.0		µg/l	10.0	0.54	1	"	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
Trip	191710015/270.969	Aqueous	02-Oct-12 00:00	03-Oct-12
SB57493-06				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds													
Prepared by method SW846 5030 Water MS													
98-82-8	Isopropylbenzene	< 1.00		µg/l	1.00	0.62	1	SW846 8260C	12-Oct-12	12-Oct-12	eq	1224965	X
99-87-6	4-Isopropyltoluene	< 1.00		µg/l	1.00	0.61	1	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	< 1.00		µg/l	1.00	0.65	1	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 10.0		µg/l	10.0	0.93	1	"	"	"	"	"	X
75-09-2	Methylene chloride	< 2.00		µg/l	2.00	0.69	1	"	"	"	"	"	X
91-20-3	Naphthalene	< 1.00		µg/l	1.00	0.33	1	"	"	"	"	"	X
103-65-1	n-Propylbenzene	< 1.00		µg/l	1.00	0.76	1	"	"	"	"	"	X
100-42-5	Styrene	< 1.00		µg/l	1.00	0.62	1	"	"	"	"	"	X
630-20-6	1,1,1,2-Tetrachloroethane	< 1.00		µg/l	1.00	0.63	1	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 0.50		µg/l	0.50	0.35	1	"	"	"	"	"	X
127-18-4	Tetrachloroethene	< 1.00		µg/l	1.00	0.74	1	"	"	"	"	"	X
108-88-3	Toluene	< 1.00		µg/l	1.00	0.81	1	"	"	"	"	"	X
87-61-6	1,2,3-Trichlorobenzene	< 1.00		µg/l	1.00	0.38	1	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 1.00		µg/l	1.00	0.36	1	"	"	"	"	"	X
108-70-3	1,3,5-Trichlorobenzene	< 1.00		µg/l	1.00	0.78	1	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 1.00		µg/l	1.00	0.58	1	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 1.00		µg/l	1.00	0.64	1	"	"	"	"	"	X
79-01-6	Trichloroethene	< 1.00		µg/l	1.00	0.76	1	"	"	"	"	"	X
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.00		µg/l	1.00	0.63	1	"	"	"	"	"	X
96-18-4	1,2,3-Trichloropropane	< 1.00		µg/l	1.00	0.74	1	"	"	"	"	"	X
95-63-6	1,2,4-Trimethylbenzene	< 1.00		µg/l	1.00	0.76	1	"	"	"	"	"	X
108-67-8	1,3,5-Trimethylbenzene	< 1.00		µg/l	1.00	0.74	1	"	"	"	"	"	X
75-01-4	Vinyl chloride	< 1.00		µg/l	1.00	0.81	1	"	"	"	"	"	X
179601-23-1	m,p-Xylene	< 2.00		µg/l	2.00	1.64	1	"	"	"	"	"	X
95-47-6	o-Xylene	< 1.00		µg/l	1.00	0.88	1	"	"	"	"	"	X
109-99-9	Tetrahydrofuran	< 2.00		µg/l	2.00	1.44	1	"	"	"	"	"	
60-29-7	Ethyl ether	< 1.00		µg/l	1.00	0.69	1	"	"	"	"	"	X
994-05-8	Tert-amyl methyl ether	< 1.00		µg/l	1.00	0.72	1	"	"	"	"	"	X
637-92-3	Ethyl tert-butyl ether	< 1.00		µg/l	1.00	0.78	1	"	"	"	"	"	X
108-20-3	Di-isopropyl ether	< 1.00		µg/l	1.00	0.73	1	"	"	"	"	"	X
75-65-0	Tert-Butanol / butyl alcohol	< 10.0		µg/l	10.0	8.64	1	"	"	"	"	"	X
123-91-1	1,4-Dioxane	< 20.0		µg/l	20.0	14.0	1	"	"	"	"	"	X
110-57-6	trans-1,4-Dichloro-2-buten e	< 5.00		µg/l	5.00	0.77	1	"	"	"	"	"	X
64-17-5	Ethanol	< 400		µg/l	400	35.7	1	"	"	"	"	"	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*96*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*100*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*95*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*98*			*70-130 %*			"	"	"	"	"	

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1224965 - SW846 5030 Water MS										
Blank (1224965-BLK1)					Prepared & Analyzed: 12-Oct-12					
1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00		µg/l	1.00						
Acetone	< 10.0		µg/l	10.0						
Acrylonitrile	< 0.50		µg/l	0.50						
Benzene	< 1.00		µg/l	1.00						
Bromobenzene	< 1.00		µg/l	1.00						
Bromochloromethane	< 1.00		µg/l	1.00						
Bromodichloromethane	< 0.50		µg/l	0.50						
Bromoform	< 1.00		µg/l	1.00						
Bromomethane	< 2.00		µg/l	2.00						
2-Butanone (MEK)	< 10.0		µg/l	10.0						
n-Butylbenzene	< 1.00		µg/l	1.00						
sec-Butylbenzene	< 1.00		µg/l	1.00						
tert-Butylbenzene	< 1.00		µg/l	1.00						
Carbon disulfide	< 2.00		µg/l	2.00						
Carbon tetrachloride	< 1.00		µg/l	1.00						
Chlorobenzene	< 1.00		µg/l	1.00						
Chloroethane	< 2.00		µg/l	2.00						
Chloroform	< 1.00		µg/l	1.00						
Chloromethane	< 2.00		µg/l	2.00						
2-Chlorotoluene	< 1.00		µg/l	1.00						
4-Chlorotoluene	< 1.00		µg/l	1.00						
1,2-Dibromo-3-chloropropane	< 2.00		µg/l	2.00						
Dibromochloromethane	< 0.50		µg/l	0.50						
1,2-Dibromoethane (EDB)	< 0.50		µg/l	0.50						
Dibromomethane	< 1.00		µg/l	1.00						
1,2-Dichlorobenzene	< 1.00		µg/l	1.00						
1,3-Dichlorobenzene	< 1.00		µg/l	1.00						
1,4-Dichlorobenzene	< 1.00		µg/l	1.00						
Dichlorodifluoromethane (Freon12)	< 2.00		µg/l	2.00						
1,1-Dichloroethane	< 1.00		µg/l	1.00						
1,2-Dichloroethane	< 1.00		µg/l	1.00						
1,1-Dichloroethene	< 1.00		µg/l	1.00						
cis-1,2-Dichloroethene	< 1.00		µg/l	1.00						
trans-1,2-Dichloroethene	< 1.00		µg/l	1.00						
1,2-Dichloropropane	< 1.00		µg/l	1.00						
1,3-Dichloropropane	< 1.00		µg/l	1.00						
2,2-Dichloropropane	< 1.00		µg/l	1.00						
1,1-Dichloropropene	< 1.00		µg/l	1.00						
cis-1,3-Dichloropropene	< 0.50		µg/l	0.50						
trans-1,3-Dichloropropene	< 0.50		µg/l	0.50						
Ethylbenzene	< 1.00		µg/l	1.00						
Hexachlorobutadiene	< 0.50		µg/l	0.50						
2-Hexanone (MBK)	< 10.0		µg/l	10.0						
Isopropylbenzene	< 1.00		µg/l	1.00						
4-Isopropyltoluene	< 1.00		µg/l	1.00						
Methyl tert-butyl ether	< 1.00		µg/l	1.00						
4-Methyl-2-pentanone (MIBK)	< 10.0		µg/l	10.0						
Methylene chloride	< 2.00		µg/l	2.00						
Naphthalene	< 1.00		µg/l	1.00						
n-Propylbenzene	< 1.00		µg/l	1.00						
Styrene	< 1.00		µg/l	1.00						
1,1,1,2-Tetrachloroethane	< 1.00		µg/l	1.00						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1224965 - SW846 5030 Water MS										
Blank (1224965-BLK1)					Prepared & Analyzed: 12-Oct-12					
1,1,2,2-Tetrachloroethane	< 0.50		µg/l	0.50						
Tetrachloroethene	< 1.00		µg/l	1.00						
Toluene	< 1.00		µg/l	1.00						
1,2,3-Trichlorobenzene	< 1.00		µg/l	1.00						
1,2,4-Trichlorobenzene	< 1.00		µg/l	1.00						
1,3,5-Trichlorobenzene	< 1.00		µg/l	1.00						
1,1,1-Trichloroethane	< 1.00		µg/l	1.00						
1,1,2-Trichloroethane	< 1.00		µg/l	1.00						
Trichloroethene	< 1.00		µg/l	1.00						
Trichlorofluoromethane (Freon 11)	< 1.00		µg/l	1.00						
1,2,3-Trichloropropane	< 1.00		µg/l	1.00						
1,2,4-Trimethylbenzene	< 1.00		µg/l	1.00						
1,3,5-Trimethylbenzene	< 1.00		µg/l	1.00						
Vinyl chloride	< 1.00		µg/l	1.00						
m,p-Xylene	< 2.00		µg/l	2.00						
o-Xylene	< 1.00		µg/l	1.00						
Tetrahydrofuran	< 2.00		µg/l	2.00						
Ethyl ether	< 1.00		µg/l	1.00						
Tert-amyl methyl ether	< 1.00		µg/l	1.00						
Ethyl tert-butyl ether	< 1.00		µg/l	1.00						
Di-isopropyl ether	< 1.00		µg/l	1.00						
Tert-Butanol / butyl alcohol	< 10.0		µg/l	10.0						
1,4-Dioxane	< 20.0		µg/l	20.0						
trans-1,4-Dichloro-2-butene	< 5.00		µg/l	5.00						
Ethanol	< 400		µg/l	400						
Surrogate: 4-Bromofluorobenzene	*47.0*		µg/l		*50.0*		*94*	*70-130*		
Surrogate: Toluene-d8	*50.7*		µg/l		*50.0*		*101*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*52.0*		µg/l		*50.0*		*104*	*70-130*		
Surrogate: Dibromofluoromethane	*50.9*		µg/l		*50.0*		*102*	*70-130*		
LCS (1224965-BS1)					Prepared & Analyzed: 12-Oct-12					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**20.8**		µg/l		20.0		104	70-130		
Acetone	**19.0**		µg/l		20.0		95	70-130		
Acrylonitrile	**20.5**		µg/l		20.0		102	70-130		
Benzene	**20.6**		µg/l		20.0		103	70-130		
Bromobenzene	**20.6**		µg/l		20.0		103	70-130		
Bromochloromethane	**19.8**		µg/l		20.0		99	70-130		
Bromodichloromethane	**20.8**		µg/l		20.0		104	70-130		
Bromoform	**20.3**		µg/l		20.0		101	70-130		
Bromomethane	**21.2**		µg/l		20.0		106	70-130		
2-Butanone (MEK)	**21.5**		µg/l		20.0		107	70-130		
n-Butylbenzene	**19.7**		µg/l		20.0		99	70-130		
sec-Butylbenzene	**23.1**		µg/l		20.0		116	70-130		
tert-Butylbenzene	**22.9**		µg/l		20.0		115	70-130		
Carbon disulfide	**20.6**		µg/l		20.0		103	70-130		
Carbon tetrachloride	**21.7**		µg/l		20.0		109	70-130		
Chlorobenzene	**20.2**		µg/l		20.0		101	70-130		
Chloroethane	**20.2**		µg/l		20.0		101	70-130		
Chloroform	**20.6**		µg/l		20.0		103	70-130		
Chloromethane	**19.1**		µg/l		20.0		96	70-130		
2-Chlorotoluene	**21.1**		µg/l		20.0		106	70-130		
4-Chlorotoluene	**21.4**		µg/l		20.0		107	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1224965 - SW846 5030 Water MS										
LCS (1224965-BS1)					Prepared & Analyzed: 12-Oct-12					
1,2-Dibromo-3-chloropropane	**21.1**		µg/l		20.0		106	70-130		
Dibromochloromethane	**21.0**		µg/l		20.0		105	70-130		
1,2-Dibromoethane (EDB)	**20.7**		µg/l		20.0		103	70-130		
Dibromomethane	**19.4**		µg/l		20.0		97	70-130		
1,2-Dichlorobenzene	**20.3**		µg/l		20.0		101	70-130		
1,3-Dichlorobenzene	**20.8**		µg/l		20.0		104	70-130		
1,4-Dichlorobenzene	**19.6**		µg/l		20.0		98	70-130		
Dichlorodifluoromethane (Freon12)	**21.9**		µg/l		20.0		109	70-130		
1,1-Dichloroethane	**20.2**		µg/l		20.0		101	70-130		
1,2-Dichloroethane	**20.2**		µg/l		20.0		101	70-130		
1,1-Dichloroethene	**19.9**		µg/l		20.0		100	70-130		
cis-1,2-Dichloroethene	**20.8**		µg/l		20.0		104	70-130		
trans-1,2-Dichloroethene	**19.6**		µg/l		20.0		98	70-130		
1,2-Dichloropropane	**20.3**		µg/l		20.0		101	70-130		
1,3-Dichloropropane	**20.7**		µg/l		20.0		104	70-130		
2,2-Dichloropropane	**22.7**		µg/l		20.0		113	70-130		
1,1-Dichloropropene	**20.6**		µg/l		20.0		103	70-130		
cis-1,3-Dichloropropene	**20.7**		µg/l		20.0		104	70-130		
trans-1,3-Dichloropropene	**22.5**		µg/l		20.0		113	70-130		
Ethylbenzene	**21.5**		µg/l		20.0		107	70-130		
Hexachlorobutadiene	**21.2**		µg/l		20.0		106	70-130		
2-Hexanone (MBK)	**21.9**		µg/l		20.0		109	70-130		
Isopropylbenzene	**21.2**		µg/l		20.0		106	70-130		
4-Isopropyltoluene	**21.9**		µg/l		20.0		110	70-130		
Methyl tert-butyl ether	**20.3**		µg/l		20.0		102	70-130		
4-Methyl-2-pentanone (MIBK)	**20.2**		µg/l		20.0		101	70-130		
Methylene chloride	**19.4**		µg/l		20.0		97	70-130		
Naphthalene	**20.0**		µg/l		20.0		100	70-130		
n-Propylbenzene	**22.0**		µg/l		20.0		110	70-130		
Styrene	**22.7**		µg/l		20.0		114	70-130		
1,1,1,2-Tetrachloroethane	**20.7**		µg/l		20.0		104	70-130		
1,1,2,2-Tetrachloroethane	**19.7**		µg/l		20.0		98	70-130		
Tetrachloroethene	**19.2**		µg/l		20.0		96	70-130		
Toluene	**20.7**		µg/l		20.0		103	70-130		
1,2,3-Trichlorobenzene	**20.3**		µg/l		20.0		102	70-130		
1,2,4-Trichlorobenzene	**20.8**		µg/l		20.0		104	70-130		
1,3,5-Trichlorobenzene	**19.9**		µg/l		20.0		100	70-130		
1,1,1-Trichloroethane	**21.7**		µg/l		20.0		108	70-130		
1,1,2-Trichloroethane	**20.1**		µg/l		20.0		100	70-130		
Trichloroethene	**20.7**		µg/l		20.0		104	70-130		
Trichlorofluoromethane (Freon 11)	**21.6**		µg/l		20.0		108	70-130		
1,2,3-Trichloropropane	**20.1**		µg/l		20.0		101	70-130		
1,2,4-Trimethylbenzene	**23.1**		µg/l		20.0		116	70-130		
1,3,5-Trimethylbenzene	**22.8**		µg/l		20.0		114	70-130		
Vinyl chloride	**22.2**		µg/l		20.0		111	70-130		
m,p-Xylene	**43.2**		µg/l		40.0		108	70-130		
o-Xylene	**21.2**		µg/l		20.0		106	70-130		
Tetrahydrofuran	**19.8**		µg/l		20.0		99	70-130		
Ethyl ether	**20.2**		µg/l		20.0		101	70-130		
Tert-amyl methyl ether	**21.3**		µg/l		20.0		106	70-130		
Ethyl tert-butyl ether	**21.2**		µg/l		20.0		106	70-130		
Di-isopropyl ether	**20.4**		µg/l		20.0		102	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1224965 - SW846 5030 Water MS										
LCS (1224965-BS1)					Prepared & Analyzed: 12-Oct-12					
Tert-Butanol / butyl alcohol	**197**		µg/l		200		98	70-130		
1,4-Dioxane	**201**		µg/l		200		100	70-130		
trans-1,4-Dichloro-2-butene	**20.9**		µg/l		20.0		105	70-130		
Ethanol	**382**		µg/l		400		95	70-130		
Surrogate: 4-Bromofluorobenzene	*50.7*		µg/l		*50.0*		*101*	*70-130*		
Surrogate: Toluene-d8	*48.9*		µg/l		*50.0*		*98*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*49.5*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: Dibromofluoromethane	*48.6*		µg/l		*50.0*		*97*	*70-130*		
LCS Dup (1224965-BSD1)					Prepared & Analyzed: 12-Oct-12					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**19.3**		µg/l		20.0		96	70-130	8	20
Acetone	**20.6**		µg/l		20.0		103	70-130	8	20
Acrylonitrile	**21.4**		µg/l		20.0		107	70-130	4	20
Benzene	**20.3**		µg/l		20.0		102	70-130	1	20
Bromobenzene	**19.1**		µg/l		20.0		96	70-130	7	20
Bromochloromethane	**20.1**		µg/l		20.0		100	70-130	1	20
Bromodichloromethane	**20.3**		µg/l		20.0		102	70-130	2	20
Bromoform	**19.9**		µg/l		20.0		100	70-130	2	20
Bromomethane	**19.8**		µg/l		20.0		99	70-130	7	20
2-Butanone (MEK)	**20.6**		µg/l		20.0		103	70-130	4	20
n-Butylbenzene	**17.9**		µg/l		20.0		89	70-130	10	20
sec-Butylbenzene	**20.5**		µg/l		20.0		102	70-130	12	20
tert-Butylbenzene	**21.2**		µg/l		20.0		106	70-130	8	20
Carbon disulfide	**19.2**		µg/l		20.0		96	70-130	7	20
Carbon tetrachloride	**20.7**		µg/l		20.0		103	70-130	5	20
Chlorobenzene	**19.6**		µg/l		20.0		98	70-130	3	20
Chloroethane	**20.3**		µg/l		20.0		101	70-130	0.5	20
Chloroform	**20.3**		µg/l		20.0		102	70-130	1	20
Chloromethane	**18.4**		µg/l		20.0		92	70-130	4	20
2-Chlorotoluene	**20.4**		µg/l		20.0		102	70-130	4	20
4-Chlorotoluene	**19.6**		µg/l		20.0		98	70-130	9	20
1,2-Dibromo-3-chloropropane	**20.6**		µg/l		20.0		103	70-130	2	20
Dibromochloromethane	**20.7**		µg/l		20.0		103	70-130	1	20
1,2-Dibromoethane (EDB)	**20.9**		µg/l		20.0		105	70-130	1	20
Dibromomethane	**19.8**		µg/l		20.0		99	70-130	2	20
1,2-Dichlorobenzene	**20.2**		µg/l		20.0		101	70-130	0.7	20
1,3-Dichlorobenzene	**19.7**		µg/l		20.0		98	70-130	5	20
1,4-Dichlorobenzene	**18.2**		µg/l		20.0		91	70-130	7	20
Dichlorodifluoromethane (Freon12)	**20.1**		µg/l		20.0		100	70-130	8	20
1,1-Dichloroethane	**19.1**		µg/l		20.0		95	70-130	6	20
1,2-Dichloroethane	**20.3**		µg/l		20.0		101	70-130	0.7	20
1,1-Dichloroethene	**19.0**		µg/l		20.0		95	70-130	5	20
cis-1,2-Dichloroethene	**20.0**		µg/l		20.0		100	70-130	4	20
trans-1,2-Dichloroethene	**18.7**		µg/l		20.0		93	70-130	5	20
1,2-Dichloropropane	**19.8**		µg/l		20.0		99	70-130	2	20
1,3-Dichloropropane	**20.7**		µg/l		20.0		103	70-130	0.1	20
2,2-Dichloropropane	**21.4**		µg/l		20.0		107	70-130	6	20
1,1-Dichloropropene	**19.3**		µg/l		20.0		96	70-130	7	20
cis-1,3-Dichloropropene	**20.8**		µg/l		20.0		104	70-130	0.1	20
trans-1,3-Dichloropropene	**22.1**		µg/l		20.0		111	70-130	2	20
Ethylbenzene	**19.9**		µg/l		20.0		100	70-130	8	20
Hexachlorobutadiene	**18.9**		µg/l		20.0		94	70-130	11	20

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1224965 - SW846 5030 Water MS										
LCS Dup (1224965-BSD1)					Prepared & Analyzed: 12-Oct-12					
2-Hexanone (MBK)	**21.8**		µg/l		20.0		109	70-130	0.5	20
Isopropylbenzene	**20.0**		µg/l		20.0		100	70-130	6	20
4-Isopropyltoluene	**19.9**		µg/l		20.0		99	70-130	10	20
Methyl tert-butyl ether	**20.6**		µg/l		20.0		103	70-130	1	20
4-Methyl-2-pentanone (MIBK)	**23.6**		µg/l		20.0		118	70-130	16	20
Methylene chloride	**18.8**		µg/l		20.0		94	70-130	3	20
Naphthalene	**18.2**		µg/l		20.0		91	70-130	9	20
n-Propylbenzene	**20.6**		µg/l		20.0		103	70-130	7	20
Styrene	**20.2**		µg/l		20.0		101	70-130	12	20
1,1,1,2-Tetrachloroethane	**20.2**		µg/l		20.0		101	70-130	2	20
1,1,2,2-Tetrachloroethane	**19.2**		µg/l		20.0		96	70-130	2	20
Tetrachloroethene	**18.4**		µg/l		20.0		92	70-130	5	20
Toluene	**19.7**		µg/l		20.0		99	70-130	5	20
1,2,3-Trichlorobenzene	**18.2**		µg/l		20.0		91	70-130	11	20
1,2,4-Trichlorobenzene	**18.0**		µg/l		20.0		90	70-130	14	20
1,3,5-Trichlorobenzene	**18.0**		µg/l		20.0		90	70-130	10	20
1,1,1-Trichloroethane	**20.7**		µg/l		20.0		104	70-130	5	20
1,1,2-Trichloroethane	**20.0**		µg/l		20.0		100	70-130	0.1	20
Trichloroethene	**20.1**		µg/l		20.0		101	70-130	3	20
Trichlorofluoromethane (Freon 11)	**20.5**		µg/l		20.0		102	70-130	5	20
1,2,3-Trichloropropane	**20.5**		µg/l		20.0		102	70-130	2	20
1,2,4-Trimethylbenzene	**20.9**		µg/l		20.0		104	70-130	10	20
1,3,5-Trimethylbenzene	**20.2**		µg/l		20.0		101	70-130	12	20
Vinyl chloride	**21.4**		µg/l		20.0		107	70-130	4	20
m,p-Xylene	**40.2**		µg/l		40.0		100	70-130	7	20
o-Xylene	**20.0**		µg/l		20.0		100	70-130	6	20
Tetrahydrofuran	**20.3**		µg/l		20.0		101	70-130	2	20
Ethyl ether	**20.0**		µg/l		20.0		100	70-130	0.5	20
Tert-amyl methyl ether	**20.6**		µg/l		20.0		103	70-130	3	20
Ethyl tert-butyl ether	**21.5**		µg/l		20.0		108	70-130	1	20
Di-isopropyl ether	**20.0**		µg/l		20.0		100	70-130	2	20
Tert-Butanol / butyl alcohol	**207**		µg/l		200		103	70-130	5	20
1,4-Dioxane	**185**		µg/l		200		93	70-130	8	20
trans-1,4-Dichloro-2-butene	**19.4**		µg/l		20.0		97	70-130	7	20
Ethanol	**410**		µg/l		400		102	70-130	7	20
Surrogate: 4-Bromofluorobenzene	*51.3*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: Toluene-d8	*51.2*		µg/l		*50.0*		*102*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*52.0*		µg/l		*50.0*		*104*	*70-130*		
Surrogate: Dibromofluoromethane	*50.8*		µg/l		*50.0*		*102*	*70-130*		
Matrix Spike (1224965-MS1)			**Source: SB57493-05**		Prepared & Analyzed: 12-Oct-12					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**23.8**	D	µg/l		20.0	BRL	119	70-130		
Acetone	**16.8**	D	µg/l		20.0	BRL	84	70-130		
Acrylonitrile	**18.7**	D	µg/l		20.0	BRL	93	70-130		
Benzene	**22.1**	D	µg/l		20.0	BRL	110	70-130		
Bromobenzene	**21.4**	D	µg/l		20.0	BRL	107	70-130		
Bromochloromethane	**20.5**	D	µg/l		20.0	BRL	102	70-130		
Bromodichloromethane	**20.8**	D	µg/l		20.0	BRL	104	70-130		
Bromoform	**20.4**	D	µg/l		20.0	BRL	102	70-130		
Bromomethane	**9.99**	QM7, D	µg/l		20.0	BRL	50	70-130		
2-Butanone (MEK)	**21.1**	D	µg/l		20.0	BRL	106	70-130		
n-Butylbenzene	**24.4**	D	µg/l		20.0	BRL	122	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1224965 - SW846 5030 Water MS										
Matrix Spike (1224965-MS1)			Source: SB57493-05		Prepared & Analyzed: 12-Oct-12					
sec-Butylbenzene	**26.0**	D	µg/l		20.0	BRL	130	70-130		
tert-Butylbenzene	**24.8**	D	µg/l		20.0	BRL	124	70-130		
Carbon disulfide	**23.8**	D	µg/l		20.0	BRL	119	70-130		
Carbon tetrachloride	**22.0**	D	µg/l		20.0	BRL	110	70-130		
Chlorobenzene	**21.5**	D	µg/l		20.0	BRL	108	70-130		
Chloroethane	**23.8**	D	µg/l		20.0	BRL	119	70-130		
Chloroform	**20.4**	D	µg/l		20.0	BRL	102	70-130		
Chloromethane	**20.3**	D	µg/l		20.0	BRL	101	70-130		
2-Chlorotoluene	**23.1**	D	µg/l		20.0	BRL	115	70-130		
4-Chlorotoluene	**23.6**	D	µg/l		20.0	BRL	118	70-130		
1,2-Dibromo-3-chloropropane	**21.4**	D	µg/l		20.0	BRL	107	70-130		
Dibromochloromethane	**20.8**	D	µg/l		20.0	BRL	104	70-130		
1,2-Dibromoethane (EDB)	**21.1**	D	µg/l		20.0	BRL	105	70-130		
Dibromomethane	**19.2**	D	µg/l		20.0	BRL	96	70-130		
1,2-Dichlorobenzene	**21.8**	D	µg/l		20.0	BRL	109	70-130		
1,3-Dichlorobenzene	**23.1**	D	µg/l		20.0	BRL	115	70-130		
1,4-Dichlorobenzene	**20.8**	D	µg/l		20.0	BRL	104	70-130		
Dichlorodifluoromethane (Freon12)	**25.8**	D	µg/l		20.0	BRL	129	70-130		
1,1-Dichloroethane	**20.7**	D	µg/l		20.0	BRL	103	70-130		
1,2-Dichloroethane	**19.6**	D	µg/l		20.0	BRL	98	70-130		
1,1-Dichloroethene	**22.9**	D	µg/l		20.0	BRL	115	70-130		
cis-1,2-Dichloroethene	**20.8**	D	µg/l		20.0	BRL	104	70-130		
trans-1,2-Dichloroethene	**23.2**	D	µg/l		20.0	BRL	116	70-130		
1,2-Dichloropropane	**20.5**	D	µg/l		20.0	BRL	102	70-130		
1,3-Dichloropropane	**20.6**	D	µg/l		20.0	BRL	103	70-130		
2,2-Dichloropropane	**24.7**	D	µg/l		20.0	BRL	123	70-130		
1,1-Dichloropropene	**23.1**	D	µg/l		20.0	BRL	116	70-130		
cis-1,3-Dichloropropene	**22.5**	D	µg/l		20.0	BRL	112	70-130		
trans-1,3-Dichloropropene	**22.6**	D	µg/l		20.0	BRL	113	70-130		
Ethylbenzene	**23.5**	D	µg/l		20.0	BRL	118	70-130		
Hexachlorobutadiene	**25.0**	D	µg/l		20.0	BRL	125	70-130		
2-Hexanone (MBK)	**20.2**	D	µg/l		20.0	BRL	101	70-130		
Isopropylbenzene	**22.9**	D	µg/l		20.0	BRL	115	70-130		
4-Isopropyltoluene	**25.6**	D	µg/l		20.0	BRL	128	70-130		
Methyl tert-butyl ether	**21.7**	D	µg/l		20.0	BRL	109	70-130		
4-Methyl-2-pentanone (MIBK)	**22.3**	D	µg/l		20.0	BRL	112	70-130		
Methylene chloride	**20.4**	D	µg/l		20.0	BRL	102	70-130		
Naphthalene	**23.4**	D	µg/l		20.0	BRL	117	70-130		
n-Propylbenzene	**26.2**	QM7, D	µg/l		20.0	BRL	131	70-130		
Styrene	**24.4**	D	µg/l		20.0	BRL	122	70-130		
1,1,1,2-Tetrachloroethane	**21.7**	D	µg/l		20.0	BRL	108	70-130		
1,1,2,2-Tetrachloroethane	**22.2**	D	µg/l		20.0	BRL	111	70-130		
Tetrachloroethene	**22.0**	D	µg/l		20.0	BRL	110	70-130		
Toluene	**21.7**	D	µg/l		20.0	BRL	109	70-130		
1,2,3-Trichlorobenzene	**23.4**	D	µg/l		20.0	BRL	117	70-130		
1,2,4-Trichlorobenzene	**23.9**	D	µg/l		20.0	BRL	120	70-130		
1,3,5-Trichlorobenzene	**24.1**	D	µg/l		20.0	BRL	120	70-130		
1,1,1-Trichloroethane	**21.7**	D	µg/l		20.0	BRL	108	70-130		
1,1,2-Trichloroethane	**19.7**	D	µg/l		20.0	BRL	98	70-130		
Trichloroethene	**20.0**	D	µg/l		20.0	BRL	100	70-130		
Trichlorofluoromethane (Freon 11)	**22.7**	D	µg/l		20.0	BRL	113	70-130		
1,2,3-Trichloropropane	**20.2**	D	µg/l		20.0	BRL	101	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1224965 - SW846 5030 Water MS										
Matrix Spike (1224965-MS1)			**Source: SB57493-05**		Prepared & Analyzed: 12-Oct-12					
1,2,4-Trimethylbenzene	**26.2**	D	µg/l		20.0	0.07	130	70-130		
1,3,5-Trimethylbenzene	**25.1**	D	µg/l		20.0	BRL	126	70-130		
Vinyl chloride	**22.1**	D	µg/l		20.0	BRL	110	70-130		
m,p-Xylene	**48.2**	D	µg/l		40.0	BRL	120	70-130		
o-Xylene	**23.0**	D	µg/l		20.0	BRL	115	70-130		
Tetrahydrofuran	**19.2**	D	µg/l		20.0	BRL	96	70-130		
Ethyl ether	**21.6**	D	µg/l		20.0	BRL	108	70-130		
Tert-amyl methyl ether	**19.3**	D	µg/l		20.0	BRL	97	70-130		
Ethyl tert-butyl ether	**23.1**	D	µg/l		20.0	BRL	115	70-130		
Di-isopropyl ether	**21.3**	D	µg/l		20.0	BRL	106	70-130		
Tert-Butanol / butyl alcohol	**181**	D	µg/l		200	BRL	90	70-130		
1,4-Dioxane	**189**	D	µg/l		200	BRL	94	70-130		
trans-1,4-Dichloro-2-butene	**19.4**	D	µg/l		20.0	BRL	97	70-130		
Ethanol	**377**	D	µg/l		400	BRL	94	70-130		
Surrogate: 4-Bromofluorobenzene	*50.6*		µg/l		*50.0*		*101*	*70-130*		
Surrogate: Toluene-d8	*48.8*		µg/l		*50.0*		*98*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*46.9*		µg/l		*50.0*		*94*	*70-130*		
Surrogate: Dibromofluoromethane	*47.4*		µg/l		*50.0*		*95*	*70-130*		
Matrix Spike Dup (1224965-MSD1)			**Source: SB57493-05**		Prepared & Analyzed: 12-Oct-12					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**22.1**	D	µg/l		20.0	BRL	110	70-130	7	20
Acetone	**18.0**	D	µg/l		20.0	BRL	90	70-130	7	20
Acrylonitrile	**20.3**	D	µg/l		20.0	BRL	102	70-130	9	20
Benzene	**21.0**	D	µg/l		20.0	BRL	105	70-130	5	20
Bromobenzene	**21.2**	D	µg/l		20.0	BRL	106	70-130	1	20
Bromochloromethane	**20.6**	D	µg/l		20.0	BRL	103	70-130	0.7	20
Bromodichloromethane	**20.2**	D	µg/l		20.0	BRL	101	70-130	3	20
Bromoform	**20.7**	D	µg/l		20.0	BRL	103	70-130	1	20
Bromomethane	**11.4**	QM7, D	µg/l		20.0	BRL	57	70-130	13	20
2-Butanone (MEK)	**22.2**	D	µg/l		20.0	BRL	111	70-130	5	20
n-Butylbenzene	**22.2**	D	µg/l		20.0	BRL	111	70-130	9	20
sec-Butylbenzene	**24.1**	D	µg/l		20.0	BRL	121	70-130	7	20
tert-Butylbenzene	**23.7**	D	µg/l		20.0	BRL	118	70-130	5	20
Carbon disulfide	**21.2**	D	µg/l		20.0	BRL	106	70-130	11	20
Carbon tetrachloride	**21.6**	D	µg/l		20.0	BRL	108	70-130	2	20
Chlorobenzene	**20.3**	D	µg/l		20.0	BRL	102	70-130	6	20
Chloroethane	**21.3**	D	µg/l		20.0	BRL	107	70-130	11	20
Chloroform	**20.3**	D	µg/l		20.0	BRL	102	70-130	0.3	20
Chloromethane	**19.9**	D	µg/l		20.0	BRL	100	70-130	2	20
2-Chlorotoluene	**21.6**	D	µg/l		20.0	BRL	108	70-130	7	20
4-Chlorotoluene	**21.9**	D	µg/l		20.0	BRL	110	70-130	8	20
1,2-Dibromo-3-chloropropane	**21.3**	D	µg/l		20.0	BRL	107	70-130	0.2	20
Dibromochloromethane	**20.9**	D	µg/l		20.0	BRL	105	70-130	0.4	20
1,2-Dibromoethane (EDB)	**20.0**	D	µg/l		20.0	BRL	100	70-130	5	20
Dibromomethane	**18.6**	D	µg/l		20.0	BRL	93	70-130	3	20
1,2-Dichlorobenzene	**21.8**	D	µg/l		20.0	BRL	109	70-130	0.1	20
1,3-Dichlorobenzene	**22.1**	D	µg/l		20.0	BRL	111	70-130	4	20
1,4-Dichlorobenzene	**19.5**	D	µg/l		20.0	BRL	97	70-130	6	20
Dichlorodifluoromethane (Freon12)	**24.6**	D	µg/l		20.0	BRL	123	70-130	4	20
1,1-Dichloroethane	**20.7**	D	µg/l		20.0	BRL	103	70-130	0.1	20
1,2-Dichloroethane	**20.1**	D	µg/l		20.0	BRL	100	70-130	2	20
1,1-Dichloroethene	**21.9**	D	µg/l		20.0	BRL	110	70-130	4	20

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1224965 - SW846 5030 Water MS										
Matrix Spike Dup (1224965-MSD1)			**Source: SB57493-05**		Prepared & Analyzed: 12-Oct-12					
cis-1,2-Dichloroethene	**21.1**	D	µg/l		20.0	BRL	105	70-130	2	20
trans-1,2-Dichloroethene	**22.0**	D	µg/l		20.0	BRL	110	70-130	5	20
1,2-Dichloropropane	**20.1**	D	µg/l		20.0	BRL	100	70-130	2	20
1,3-Dichloropropane	**20.4**	D	µg/l		20.0	BRL	102	70-130	0.8	20
2,2-Dichloropropane	**24.8**	D	µg/l		20.0	BRL	124	70-130	0.6	20
1,1-Dichloropropene	**21.9**	D	µg/l		20.0	BRL	109	70-130	6	20
cis-1,3-Dichloropropene	**21.9**	D	µg/l		20.0	BRL	109	70-130	3	20
trans-1,3-Dichloropropene	**22.9**	D	µg/l		20.0	BRL	115	70-130	2	20
Ethylbenzene	**22.4**	D	µg/l		20.0	BRL	112	70-130	5	20
Hexachlorobutadiene	**23.4**	D	µg/l		20.0	BRL	117	70-130	7	20
2-Hexanone (MBK)	**20.4**	D	µg/l		20.0	BRL	102	70-130	0.9	20
Isopropylbenzene	**22.0**	D	µg/l		20.0	BRL	110	70-130	4	20
4-Isopropyltoluene	**23.4**	D	µg/l		20.0	BRL	117	70-130	9	20
Methyl tert-butyl ether	**21.5**	D	µg/l		20.0	BRL	107	70-130	1	20
4-Methyl-2-pentanone (MIBK)	**20.8**	D	µg/l		20.0	BRL	104	70-130	7	20
Methylene chloride	**19.7**	D	µg/l		20.0	BRL	99	70-130	3	20
Naphthalene	**22.8**	D	µg/l		20.0	BRL	114	70-130	3	20
n-Propylbenzene	**23.6**	D	µg/l		20.0	BRL	118	70-130	10	20
Styrene	**23.9**	D	µg/l		20.0	BRL	120	70-130	2	20
1,1,1,2-Tetrachloroethane	**21.5**	D	µg/l		20.0	BRL	108	70-130	0.8	20
1,1,2,2-Tetrachloroethane	**20.8**	D	µg/l		20.0	BRL	104	70-130	7	20
Tetrachloroethene	**20.4**	D	µg/l		20.0	BRL	102	70-130	7	20
Toluene	**20.7**	D	µg/l		20.0	BRL	104	70-130	5	20
1,2,3-Trichlorobenzene	**22.8**	D	µg/l		20.0	BRL	114	70-130	3	20
1,2,4-Trichlorobenzene	**23.0**	D	µg/l		20.0	BRL	115	70-130	4	20
1,3,5-Trichlorobenzene	**22.1**	D	µg/l		20.0	BRL	110	70-130	9	20
1,1,1-Trichloroethane	**21.1**	D	µg/l		20.0	BRL	105	70-130	3	20
1,1,2-Trichloroethane	**19.6**	D	µg/l		20.0	BRL	98	70-130	0.5	20
Trichloroethene	**20.1**	D	µg/l		20.0	BRL	100	70-130	0.7	20
Trichlorofluoromethane (Freon 11)	**21.9**	D	µg/l		20.0	BRL	110	70-130	3	20
1,2,3-Trichloropropane	**20.3**	D	µg/l		20.0	BRL	102	70-130	0.7	20
1,2,4-Trimethylbenzene	**25.0**	D	µg/l		20.0	0.07	125	70-130	5	20
1,3,5-Trimethylbenzene	**24.3**	D	µg/l		20.0	BRL	121	70-130	4	20
Vinyl chloride	**21.6**	D	µg/l		20.0	BRL	108	70-130	2	20
m,p-Xylene	**45.8**	D	µg/l		40.0	BRL	115	70-130	5	20
o-Xylene	**21.7**	D	µg/l		20.0	BRL	109	70-130	6	20
Tetrahydrofuran	**19.3**	D	µg/l		20.0	BRL	97	70-130	0.6	20
Ethyl ether	**21.4**	D	µg/l		20.0	BRL	107	70-130	0.9	20
Tert-amyl methyl ether	**19.9**	D	µg/l		20.0	BRL	100	70-130	3	20
Ethyl tert-butyl ether	**23.0**	D	µg/l		20.0	BRL	115	70-130	0.2	20
Di-isopropyl ether	**21.5**	D	µg/l		20.0	BRL	108	70-130	1	20
Tert-Butanol / butyl alcohol	**186**	D	µg/l		200	BRL	93	70-130	3	20
1,4-Dioxane	**184**	D	µg/l		200	BRL	92	70-130	3	20
trans-1,4-Dichloro-2-butene	**18.7**	D	µg/l		20.0	BRL	93	70-130	4	20
Ethanol	**360**	D	µg/l		400	BRL	90	70-130	4	20
Surrogate: 4-Bromofluorobenzene	*51.5*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: Toluene-d8	*49.2*		µg/l		*50.0*		*98*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*48.0*		µg/l		*50.0*		*96*	*70-130*		
Surrogate: Dibromofluoromethane	*48.3*		µg/l		*50.0*		*97*	*70-130*		
Batch 1225085 - SW846 5030 Water MS										
Blank (1225085-BLK1)					Prepared & Analyzed: 15-Oct-12					

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1225085 - SW846 5030 Water MS										
Blank (1225085-BLK1)					Prepared & Analyzed: 15-Oct-12					
1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00		µg/l	1.00						
Acetone	< 10.0		µg/l	10.0						
Acrylonitrile	< 0.50		µg/l	0.50						
Benzene	< 1.00		µg/l	1.00						
Bromobenzene	< 1.00		µg/l	1.00						
Bromochloromethane	< 1.00		µg/l	1.00						
Bromodichloromethane	< 0.50		µg/l	0.50						
Bromoform	< 1.00		µg/l	1.00						
Bromomethane	< 2.00		µg/l	2.00						
2-Butanone (MEK)	< 10.0		µg/l	10.0						
n-Butylbenzene	< 1.00		µg/l	1.00						
sec-Butylbenzene	< 1.00		µg/l	1.00						
tert-Butylbenzene	< 1.00		µg/l	1.00						
Carbon disulfide	< 2.00		µg/l	2.00						
Carbon tetrachloride	< 1.00		µg/l	1.00						
Chlorobenzene	< 1.00		µg/l	1.00						
Chloroethane	< 2.00		µg/l	2.00						
Chloroform	< 1.00		µg/l	1.00						
Chloromethane	< 2.00		µg/l	2.00						
2-Chlorotoluene	< 1.00		µg/l	1.00						
4-Chlorotoluene	< 1.00		µg/l	1.00						
1,2-Dibromo-3-chloropropane	< 2.00		µg/l	2.00						
Dibromochloromethane	< 0.50		µg/l	0.50						
1,2-Dibromoethane (EDB)	< 0.50		µg/l	0.50						
Dibromomethane	< 1.00		µg/l	1.00						
1,2-Dichlorobenzene	< 1.00		µg/l	1.00						
1,3-Dichlorobenzene	< 1.00		µg/l	1.00						
1,4-Dichlorobenzene	< 1.00		µg/l	1.00						
Dichlorodifluoromethane (Freon12)	< 2.00		µg/l	2.00						
1,1-Dichloroethane	< 1.00		µg/l	1.00						
1,2-Dichloroethane	< 1.00		µg/l	1.00						
1,1-Dichloroethene	< 1.00		µg/l	1.00						
cis-1,2-Dichloroethene	< 1.00		µg/l	1.00						
trans-1,2-Dichloroethene	< 1.00		µg/l	1.00						
1,2-Dichloropropane	< 1.00		µg/l	1.00						
1,3-Dichloropropane	< 1.00		µg/l	1.00						
2,2-Dichloropropane	< 1.00		µg/l	1.00						
1,1-Dichloropropene	< 1.00		µg/l	1.00						
cis-1,3-Dichloropropene	< 0.50		µg/l	0.50						
trans-1,3-Dichloropropene	< 0.50		µg/l	0.50						
Ethylbenzene	< 1.00		µg/l	1.00						
Hexachlorobutadiene	< 0.50		µg/l	0.50						
2-Hexanone (MBK)	< 10.0		µg/l	10.0						
Isopropylbenzene	< 1.00		µg/l	1.00						
4-Isopropyltoluene	< 1.00		µg/l	1.00						
Methyl tert-butyl ether	< 1.00		µg/l	1.00						
4-Methyl-2-pentanone (MIBK)	< 10.0		µg/l	10.0						
Methylene chloride	< 2.00		µg/l	2.00						
Naphthalene	< 1.00		µg/l	1.00						
n-Propylbenzene	< 1.00		µg/l	1.00						
Styrene	< 1.00		µg/l	1.00						
1,1,1,2-Tetrachloroethane	< 1.00		µg/l	1.00						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1225085 - SW846 5030 Water MS										
Blank (1225085-BLK1)					Prepared & Analyzed: 15-Oct-12					
1,1,2,2-Tetrachloroethane	< 0.50		µg/l	0.50						
Tetrachloroethene	< 1.00		µg/l	1.00						
Toluene	< 1.00		µg/l	1.00						
1,2,3-Trichlorobenzene	< 1.00		µg/l	1.00						
1,2,4-Trichlorobenzene	< 1.00		µg/l	1.00						
1,3,5-Trichlorobenzene	< 1.00		µg/l	1.00						
1,1,1-Trichloroethane	< 1.00		µg/l	1.00						
1,1,2-Trichloroethane	< 1.00		µg/l	1.00						
Trichloroethene	< 1.00		µg/l	1.00						
Trichlorofluoromethane (Freon 11)	< 1.00		µg/l	1.00						
1,2,3-Trichloropropane	< 1.00		µg/l	1.00						
1,2,4-Trimethylbenzene	< 1.00		µg/l	1.00						
1,3,5-Trimethylbenzene	< 1.00		µg/l	1.00						
Vinyl chloride	< 1.00		µg/l	1.00						
m,p-Xylene	< 2.00		µg/l	2.00						
o-Xylene	< 1.00		µg/l	1.00						
Tetrahydrofuran	< 2.00		µg/l	2.00						
Ethyl ether	< 1.00		µg/l	1.00						
Tert-amyl methyl ether	< 1.00		µg/l	1.00						
Ethyl tert-butyl ether	< 1.00		µg/l	1.00						
Di-isopropyl ether	< 1.00		µg/l	1.00						
Tert-Butanol / butyl alcohol	< 10.0		µg/l	10.0						
1,4-Dioxane	< 20.0		µg/l	20.0						
trans-1,4-Dichloro-2-butene	< 5.00		µg/l	5.00						
Ethanol	< 400		µg/l	400						
Surrogate: 4-Bromofluorobenzene	*30.9*		µg/l		*30.0*		*103*	*70-130*		
Surrogate: Toluene-d8	*29.8*		µg/l		*30.0*		*99*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*27.8*		µg/l		*30.0*		*93*	*70-130*		
Surrogate: Dibromofluoromethane	*29.6*		µg/l		*30.0*		*99*	*70-130*		
LCS (1225085-BS1)					Prepared & Analyzed: 15-Oct-12					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**17.6**		µg/l		20.0		88	70-130		
Acetone	**15.9**		µg/l		20.0		79	70-130		
Acrylonitrile	**14.2**		µg/l		20.0		71	70-130		
Benzene	**20.7**		µg/l		20.0		104	70-130		
Bromobenzene	**20.5**		µg/l		20.0		102	70-130		
Bromochloromethane	**19.6**		µg/l		20.0		98	70-130		
Bromodichloromethane	**22.6**		µg/l		20.0		113	70-130		
Bromoform	**23.3**		µg/l		20.0		116	70-130		
Bromomethane	**15.4**		µg/l		20.0		77	70-130		
2-Butanone (MEK)	**20.3**		µg/l		20.0		101	70-130		
n-Butylbenzene	**18.7**		µg/l		20.0		93	70-130		
sec-Butylbenzene	**20.9**		µg/l		20.0		105	70-130		
tert-Butylbenzene	**20.9**		µg/l		20.0		105	70-130		
Carbon disulfide	**21.7**		µg/l		20.0		109	70-130		
Carbon tetrachloride	**21.5**		µg/l		20.0		107	70-130		
Chlorobenzene	**19.5**		µg/l		20.0		98	70-130		
Chloroethane	**15.5**		µg/l		20.0		77	70-130		
Chloroform	**18.6**		µg/l		20.0		93	70-130		
Chloromethane	**14.5**		µg/l		20.0		73	70-130		
2-Chlorotoluene	**21.6**		µg/l		20.0		108	70-130		
4-Chlorotoluene	**21.4**		µg/l		20.0		107	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1225085 - SW846 5030 Water MS										
LCS (1225085-BS1)					Prepared & Analyzed: 15-Oct-12					
1,2-Dibromo-3-chloropropane	**23.3**		µg/l		20.0		117	70-130		
Dibromochloromethane	**22.3**		µg/l		20.0		112	70-130		
1,2-Dibromoethane (EDB)	**20.6**		µg/l		20.0		103	70-130		
Dibromomethane	**19.7**		µg/l		20.0		99	70-130		
1,2-Dichlorobenzene	**20.7**		µg/l		20.0		103	70-130		
1,3-Dichlorobenzene	**20.2**		µg/l		20.0		101	70-130		
1,4-Dichlorobenzene	**20.0**		µg/l		20.0		100	70-130		
Dichlorodifluoromethane (Freon12)	**15.4**		µg/l		20.0		77	70-130		
1,1-Dichloroethane	**20.6**		µg/l		20.0		103	70-130		
1,2-Dichloroethane	**17.8**		µg/l		20.0		89	70-130		
1,1-Dichloroethene	**14.5**		µg/l		20.0		72	70-130		
cis-1,2-Dichloroethene	**20.5**		µg/l		20.0		103	70-130		
trans-1,2-Dichloroethene	**20.0**		µg/l		20.0		100	70-130		
1,2-Dichloropropane	**20.8**		µg/l		20.0		104	70-130		
1,3-Dichloropropane	**20.3**		µg/l		20.0		101	70-130		
2,2-Dichloropropane	**19.5**		µg/l		20.0		97	70-130		
1,1-Dichloropropene	**20.0**		µg/l		20.0		100	70-130		
cis-1,3-Dichloropropene	**22.7**		µg/l		20.0		114	70-130		
trans-1,3-Dichloropropene	**21.5**		µg/l		20.0		107	70-130		
Ethylbenzene	**21.2**		µg/l		20.0		106	70-130		
Hexachlorobutadiene	**20.2**		µg/l		20.0		101	70-130		
2-Hexanone (MBK)	**21.7**		µg/l		20.0		108	70-130		
Isopropylbenzene	**20.0**		µg/l		20.0		100	70-130		
4-Isopropyltoluene	**21.7**		µg/l		20.0		108	70-130		
Methyl tert-butyl ether	**20.2**		µg/l		20.0		101	70-130		
4-Methyl-2-pentanone (MIBK)	**20.0**		µg/l		20.0		100	70-130		
Methylene chloride	**14.7**		µg/l		20.0		73	70-130		
Naphthalene	**19.3**		µg/l		20.0		97	70-130		
n-Propylbenzene	**20.8**		µg/l		20.0		104	70-130		
Styrene	**22.2**		µg/l		20.0		111	70-130		
1,1,1,2-Tetrachloroethane	**23.6**		µg/l		20.0		118	70-130		
1,1,2,2-Tetrachloroethane	**21.7**		µg/l		20.0		108	70-130		
Tetrachloroethene	**18.8**		µg/l		20.0		94	70-130		
Toluene	**20.1**		µg/l		20.0		100	70-130		
1,2,3-Trichlorobenzene	**22.0**		µg/l		20.0		110	70-130		
1,2,4-Trichlorobenzene	**19.7**		µg/l		20.0		98	70-130		
1,3,5-Trichlorobenzene	**18.0**		µg/l		20.0		90	70-130		
1,1,1-Trichloroethane	**20.5**		µg/l		20.0		103	70-130		
1,1,2-Trichloroethane	**20.3**		µg/l		20.0		101	70-130		
Trichloroethene	**19.9**		µg/l		20.0		100	70-130		
Trichlorofluoromethane (Freon 11)	**15.0**		µg/l		20.0		75	70-130		
1,2,3-Trichloropropane	**20.5**		µg/l		20.0		103	70-130		
1,2,4-Trimethylbenzene	**22.6**		µg/l		20.0		113	70-130		
1,3,5-Trimethylbenzene	**21.9**		µg/l		20.0		109	70-130		
Vinyl chloride	**13.3**	QC2	µg/l		20.0		66	70-130		
m,p-Xylene	**41.3**		µg/l		40.0		103	70-130		
o-Xylene	**21.0**		µg/l		20.0		105	70-130		
Tetrahydrofuran	**21.3**		µg/l		20.0		106	70-130		
Ethyl ether	**14.8**		µg/l		20.0		74	70-130		
Tert-amyl methyl ether	**19.3**		µg/l		20.0		97	70-130		
Ethyl tert-butyl ether	**20.4**		µg/l		20.0		102	70-130		
Di-isopropyl ether	**21.5**		µg/l		20.0		108	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1225085 - SW846 5030 Water MS										
LCS (1225085-BS1)						Prepared & Analyzed: 15-Oct-12				
Tert-Butanol / butyl alcohol	**151**		µg/l		200		76	70-130		
1,4-Dioxane	**199**		µg/l		200		99	70-130		
trans-1,4-Dichloro-2-butene	**20.4**		µg/l		20.0		102	70-130		
Ethanol	**308**		µg/l		400		77	70-130		
Surrogate: 4-Bromofluorobenzene	*31.3*		µg/l		*30.0*		*104*	*70-130*		
Surrogate: Toluene-d8	*29.5*		µg/l		*30.0*		*98*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*26.9*		µg/l		*30.0*		*90*	*70-130*		
Surrogate: Dibromofluoromethane	*29.2*		µg/l		*30.0*		*97*	*70-130*		
LCS Dup (1225085-BSD1)						Prepared & Analyzed: 15-Oct-12				
1,1,2-Trichlorotrifluoroethane (Freon 113)	**16.8**		µg/l		20.0		84	70-130	5	20
Acetone	**16.8**		µg/l		20.0		84	70-130	6	20
Acrylonitrile	**13.4**	QM9	µg/l		20.0		67	70-130	6	20
Benzene	**20.4**		µg/l		20.0		102	70-130	1	20
Bromobenzene	**19.6**		µg/l		20.0		98	70-130	4	20
Bromochloromethane	**19.4**		µg/l		20.0		97	70-130	0.8	20
Bromodichloromethane	**22.1**		µg/l		20.0		111	70-130	2	20
Bromoform	**21.6**		µg/l		20.0		108	70-130	7	20
Bromomethane	**14.9**		µg/l		20.0		74	70-130	3	20
2-Butanone (MEK)	**18.9**		µg/l		20.0		94	70-130	7	20
n-Butylbenzene	**18.5**		µg/l		20.0		92	70-130	1	20
sec-Butylbenzene	**20.1**		µg/l		20.0		100	70-130	4	20
tert-Butylbenzene	**20.0**		µg/l		20.0		100	70-130	4	20
Carbon disulfide	**21.1**		µg/l		20.0		106	70-130	3	20
Carbon tetrachloride	**20.9**		µg/l		20.0		105	70-130	3	20
Chlorobenzene	**18.8**		µg/l		20.0		94	70-130	4	20
Chloroethane	**15.1**		µg/l		20.0		75	70-130	3	20
Chloroform	**18.3**		µg/l		20.0		91	70-130	2	20
Chloromethane	**14.9**		µg/l		20.0		74	70-130	2	20
2-Chlorotoluene	**20.5**		µg/l		20.0		103	70-130	5	20
4-Chlorotoluene	**20.7**		µg/l		20.0		104	70-130	3	20
1,2-Dibromo-3-chloropropane	**21.8**		µg/l		20.0		109	70-130	7	20
Dibromochloromethane	**22.2**		µg/l		20.0		111	70-130	0.4	20
1,2-Dibromoethane (EDB)	**20.4**		µg/l		20.0		102	70-130	1	20
Dibromomethane	**19.6**		µg/l		20.0		98	70-130	0.8	20
1,2-Dichlorobenzene	**20.7**		µg/l		20.0		103	70-130	0.05	20
1,3-Dichlorobenzene	**19.6**		µg/l		20.0		98	70-130	3	20
1,4-Dichlorobenzene	**19.9**		µg/l		20.0		100	70-130	0.5	20
Dichlorodifluoromethane (Freon12)	**15.3**		µg/l		20.0		76	70-130	0.7	20
1,1-Dichloroethane	**20.3**		µg/l		20.0		102	70-130	1	20
1,2-Dichloroethane	**17.8**		µg/l		20.0		89	70-130	0.3	20
1,1-Dichloroethene	**14.6**		µg/l		20.0		73	70-130	0.4	20
cis-1,2-Dichloroethene	**19.8**		µg/l		20.0		99	70-130	3	20
trans-1,2-Dichloroethene	**20.4**		µg/l		20.0		102	70-130	2	20
1,2-Dichloropropane	**20.9**		µg/l		20.0		104	70-130	0.1	20
1,3-Dichloropropane	**19.9**		µg/l		20.0		99	70-130	2	20
2,2-Dichloropropane	**18.8**		µg/l		20.0		94	70-130	3	20
1,1-Dichloropropene	**19.1**		µg/l		20.0		95	70-130	5	20
cis-1,3-Dichloropropene	**22.3**		µg/l		20.0		112	70-130	2	20
trans-1,3-Dichloropropene	**21.7**		µg/l		20.0		108	70-130	0.8	20
Ethylbenzene	**20.1**		µg/l		20.0		100	70-130	5	20
Hexachlorobutadiene	**20.5**		µg/l		20.0		102	70-130	1	20

Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1225085 - SW846 5030 Water MS										
LCS Dup (1225085-BSD1)					Prepared & Analyzed: 15-Oct-12					
2-Hexanone (MBK)	**20.3**		µg/l		20.0		102	70-130	7	20
Isopropylbenzene	**19.3**		µg/l		20.0		96	70-130	4	20
4-Isopropyltoluene	**21.3**		µg/l		20.0		107	70-130	2	20
Methyl tert-butyl ether	**19.6**		µg/l		20.0		98	70-130	3	20
4-Methyl-2-pentanone (MIBK)	**20.3**		µg/l		20.0		102	70-130	2	20
Methylene chloride	**14.7**		µg/l		20.0		73	70-130	0.07	20
Naphthalene	**19.5**		µg/l		20.0		98	70-130	1	20
n-Propylbenzene	**20.1**		µg/l		20.0		101	70-130	3	20
Styrene	**21.4**		µg/l		20.0		107	70-130	4	20
1,1,1,2-Tetrachloroethane	**22.7**		µg/l		20.0		114	70-130	4	20
1,1,2,2-Tetrachloroethane	**20.6**		µg/l		20.0		103	70-130	5	20
Tetrachloroethene	**18.3**		µg/l		20.0		92	70-130	3	20
Toluene	**19.7**		µg/l		20.0		99	70-130	2	20
1,2,3-Trichlorobenzene	**21.5**		µg/l		20.0		108	70-130	2	20
1,2,4-Trichlorobenzene	**19.2**		µg/l		20.0		96	70-130	3	20
1,3,5-Trichlorobenzene	**17.8**		µg/l		20.0		89	70-130	1	20
1,1,1-Trichloroethane	**19.8**		µg/l		20.0		99	70-130	3	20
1,1,2-Trichloroethane	**20.5**		µg/l		20.0		102	70-130	1	20
Trichloroethene	**19.6**		µg/l		20.0		98	70-130	2	20
Trichlorofluoromethane (Freon 11)	**14.8**		µg/l		20.0		74	70-130	1	20
1,2,3-Trichloropropane	**19.9**		µg/l		20.0		100	70-130	3	20
1,2,4-Trimethylbenzene	**21.6**		µg/l		20.0		108	70-130	5	20
1,3,5-Trimethylbenzene	**21.0**		µg/l		20.0		105	70-130	4	20
Vinyl chloride	**13.0**	QC2	µg/l		20.0		65	70-130	2	20
m,p-Xylene	**39.8**		µg/l		40.0		100	70-130	4	20
o-Xylene	**20.3**		µg/l		20.0		101	70-130	3	20
Tetrahydrofuran	**21.1**		µg/l		20.0		106	70-130	0.8	20
Ethyl ether	**14.2**		µg/l		20.0		71	70-130	4	20
Tert-amyl methyl ether	**18.9**		µg/l		20.0		94	70-130	2	20
Ethyl tert-butyl ether	**20.5**		µg/l		20.0		102	70-130	0.3	20
Di-isopropyl ether	**21.3**		µg/l		20.0		106	70-130	0.9	20
Tert-Butanol / butyl alcohol	**146**		µg/l		200		73	70-130	3	20
1,4-Dioxane	**201**		µg/l		200		101	70-130	1	20
trans-1,4-Dichloro-2-butene	**19.4**		µg/l		20.0		97	70-130	5	20
Ethanol	**291**		µg/l		400		73	70-130	6	20
Surrogate: 4-Bromofluorobenzene	*30.9*		µg/l		*30.0*		*103*	*70-130*		
Surrogate: Toluene-d8	*29.6*		µg/l		*30.0*		*99*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*27.2*		µg/l		*30.0*		*90*	*70-130*		
Surrogate: Dibromofluoromethane	*29.5*		µg/l		*30.0*		*98*	*70-130*		

Notes and Definitions

D	Data reported from a dilution
E	This flag indicates the concentration for this analyte is an estimated value due to exceeding the calibration range or interferences resulting in a biased final concentration.
GS1	Sample dilution required for high concentration of target analytes to be within the instrument calibration range.
QC2	Analyte out of acceptance range in QC spike but no reportable concentration present in sample.
QM7	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QM9	The spike recovery for this QC sample is outside the established control limits. The sample results for the QC batch were accepted based on LCS/LCSD or SRM recoveries within the control limits.
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.

Validated by:
Kimberly Wisk

SB 57493

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:
- [x] Standard TAT - 7 to 10 business days
- [ ] Rush TAT - Date Needed: _____
- All TATs subject to laboratory approval.
- Min. 24-hour notification needed for rushes.
- Samples disposed of after 60 days unless otherwise instructed.

Report To: Dave Allwine
STANTEC
5 Dartmouth Dr
Auburn NH 03032
Telephone #:
Project Mgr.

Invoice To: STANTEC
5 Dartmouth Dr
Auburn NH 03032
P.O. No.: RQN:

Project No.: 191710015 / 270.969
Site Name: NHDOT W. LEBANON
Location: West Lebanon State: NH
Sampler(s):

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:

QA/QC Reporting Notes:
* additional charges may apply

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

MA DEP MCP CAM Report: Yes ☐ No ☐
CT DPH RCP Report: Yes ☐ No ☐

QA/QC Reporting Level
- [x] Standard ☐ No QC ☐ DQA*
- ☐ NY ASP A* ☐ NY ASP B*
- ☐ NJ Reduced* ☐ NJ Full*
- ☐ TIER II* ☐ TIER IV*
- ☐ Other AGQS

State-specific reporting standards:

Lab Id:	Sample Id:	Date:	Time:	Type	Matrix	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic		NH DES VOCs Full List							
S7493-01	JCO-604	10-2-12	0920	G	GW	3					X							
-02	ERM-3	↓	1000	G	GW	3					X							
-03	WP-7		1130	G	GW	3					X							
-04	WP-1		1200	G	GW	3					X							
-05	CR-3	10-2-12	1230	G	GW	3					X							
-06	TRIP	—	—	—	—	12					X							

Relinquished by:	Received by:	Date:	Time:	Temp°C
[signature]	Fed ex 8009 5278 3282	10-2-12	1430	
FED-EX	RH	10-3-12	10:30	2.2

☐ EDD Format
[x] E-mail to Dave.Allwine@STANTEC.com

Condition upon receipt:
☐ Ambient [x] Iced ☐ Refrigerated ☐ DI VOA Frozen ☐ Soil Jar Frozen

ORIGIN ID: BMLA

SHIP DATE: 020
ACTWGT: 19.3
CAD: POS132
DIMS: 23x14x

BILL RECIPIE

UNITED STATES US

TO

SPECTRUM ANALYTUAL INC
11 ALMGREN DR

AGAWAM MA 01001

(413) 789-9018

REF:

INV:

DEPT:

PO:

FedEx Express

J122012071601125

03 OCT A2

WED - OVERNIGHT
PRIORITY

TRK# 0200 8009 5278 3282

01001
MA-US BDL

XE EHTA