2011 Annual Operations Report

Groundwater Treatment Plant
GM-38 Area Groundwater Remediation
Naval Weapons Industrial Reserve Plant
Bethpage, New York

Contract No. N40085-10-D-9409
Contract Task Order No. 0002

June 2012

Prepared for:

Naval Facilities Engineering Command Mid-Atlantic
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6/25/12

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Acronyms and Abbreviations

ARAR	Applicable or Relevant and Appropriate Requirement
AS	air stripper
ASE	air stripper effluent
BFE	bag filter effluent
bgs	below ground surface
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
DAR	Division of Air Resources
DCA	dichloroethane
DCE	dichloroethene
DMR	Discharge Monitoring Report
DO	dissolved oxygen
DoD	Department of Defense
DTW	depth to water
ECL	Environmental Conservation Law
ECOR	ECOR Federal Services, LLC.
EB	equipment rinsate blank
ELAP	Environmental Laboratory Accreditation Program
GOCO	Government Owned Contractor Operated
gpm	gallon per minute
GWTP	groundwater treatment plant
H&S	H&S Environmental, Inc.
HMI	human-machine interface
IRP	Installation Restoration Program
LGAC	liquid-phase granular activated carbon
MS/MSD	matrix spike/matrix spike duplicate
NAVFAC	Naval Facilities Engineering Command Mid-Atlantic
NELAC	National Environmental Accreditation Conference
NGC	Northrop Grumman Corporation
NWIRP	Naval Weapons Industrial Reserve Plant
NYSDEC	New York State Department of Environmental Conservation
O&M	Operation and Maintenance
ORP	oxidation reduction potential
OU	operable unit

PCE	tetrachloroethene
PLC	programmable logic controller
QA/QC	quality assurance / quality control
ROD	Record of Decision
RPD	relative percent difference
SC	standard conductivity
scfm	standard cubic feet per minute
SPDES	Storm Pollution Discharge Elimination System
TB	trip blank
TCE	trichloroethene
TE	treated effluent
TSS	total suspended solids
TtEC	Tetra Tech EC, Inc.
USEPA	United States Environmental Protection Agency
VC	vinyl chloride
VGAC	vapor–phase granular activated carbon
VOC	volatile organic compound

1.0 INTRODUCTION

H&S Environmental, Inc. (H&S) has prepared this 2011 Annual Operations Report for the GM-38 Area Groundwater Treatment Plant (GWTP) at the Naval Weapons Industrial Reserve Plant (NWIRP) in Bethpage, New York. This report has been prepared for the United States Department of the Navy (Navy), Naval Facilities Engineering Command (NAVFAC), Mid-Atlantic, under Contract No. N40085-10-D-9409, Contract Task Order No. 0002. H&S assumed operational responsibility of the GWTP from ECOR Federal Services, LLC. (ECOR) on 1 June 2011. This 2011 Annual Operations Report summarizes activities that occurred during 2011 and also further details activities that occurred during the Fourth Quarter 2011 (October 2011 through December 2011). Data collected and operational activities from January 2011 through May 2011 were performed by ECOR, while data collected and operational activities from June 2011 through December 2011 were performed by H&S in accordance with the *Final Operation, Maintenance & Monitoring Plan for Groundwater Treatment Plant GM-38 Area Groundwater Remediation, Naval Weapons Industrial Reserve Plant, Bethpage, New York* prepared by Tetra Tech EC, Inc. (TtEC) in 2010, hereafter referred to as the "O&M Manual."

The following quarterly reports, along with data collected during the Fourth Quarter (October 2011 through December 2011), were used as a basis for this 2011 Annual Operations Report:

- *Final Quarterly Operations Report, First Quarter 2011, Groundwater Treatment Plant, GM-38 Area Groundwater Remediation, Naval Weapons Industrial Reserve Plant, Bethpage, New York* (ECOR 2011).
- *Final Quarterly Operations Report, Second Quarter 2011, Groundwater Treatment Plant, GM-38 Area Groundwater Remediation, Naval Weapons Industrial Reserve Plant, Bethpage, New York* (H&S 2011).
- *Final Quarterly Operations Report, Third Quarter 2011, Groundwater Treatment Plant, GM-38 Area Groundwater Remediation, Naval Weapons Industrial Reserve Plant, Bethpage, New York* (H&S 2012).

1.1 Background

NWIRP Bethpage is located in east central Nassau County, Long Island, New York, approximately 30 miles east of New York City (**Figure 1**) and is currently listed by New York State Department of Environmental Conservation (NYSDEC) as an "inactive hazardous waste site" (#1-30-003B). Historically, the Navy's property totaled approximately 109.5 acres and was a Government Owned Contractor-Operated (GOCO) facility that was operated by the Northrop Grumman Corporation (NGC) until September 1998. NWIRP Bethpage is bordered on the north, west, and south by property owned, or formerly owned, by NGC that covered approximately 605 acres, and on the east by a residential neighborhood.

The GM-38 Area refers to a cluster of monitoring wells installed in the 1990s by NGC. The GM-38 Area is approximately 8,500 feet south southeast and hydraulically down-gradient of NWIRP Bethpage. The GWTP is located within a utility easement with a street address of 100 Broadway.

The cleanup remedy for the GM-38 Area groundwater was originally set forth in Record of Decision (ROD) documents for Operable Unit 2 (OU 2) Groundwater for the Northrop NGC and NWIRP Sites (New York State Registry Site Numbers 1-30-003A & 1-30-003B, respectively) issued by NYSDEC Division of Environmental Remediation in March 2001 and for the NWIRP Bethpage Site by NAVFAC in April 2003 (Revision 1). The selected remedy was chosen in accordance with the New York State Environmental Conservation Law (ECL) and the Navy's Installation Restoration Program (IRP). It is also consistent with the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), as amended, 42 U.S.C. §§ 9601-9675.

1.2 GWTP Overview

Groundwater is extracted from recovery wells RW-1 and RW-3 and treated in the GWTP. The treatment process consists of flow equalization, air stripping and vapor-phase carbon treatment, bag filtration, liquid-phase carbon treatment and pH adjustment (if needed). Though the GWTP was originally equipped with a pH adjustment system utilizing sodium hydroxide, it has since been determined that pH adjustment is not necessary and the equipment has been taken off-line and sodium hydroxide sent off site for beneficial reuse. A process flow diagram is presented as **Figure 2**. The treated water is either re-injected into injection well IW-1 or discharged into the Nassau County Recharge Basin #495. Under CERCLA, the Navy is required to meet the effluent requirement in the NYSDEC's Storm Pollution Discharge Elimination System (SPDES) Permit Application as an Applicable or Relevant and Appropriate Requirements (ARAR).

The GWTP was designed to operate at an average flow rate of 1,100 gallons per minute (gpm) (800 gpm from RW-1 and 300 gpm from RW-3) with a maximum flow rate of 1,375 gpm, as measured by the average discharge flow rate. It was determined that this flow rate would be necessary to effectively contain the higher concentration of contamination in the GM-38 Area groundwater. Volatile Organic Compounds (VOCs) in the influent groundwater consist of trichloroethene (TCE), tetrachloroethene (PCE), vinyl chloride (VC), cis-1,2-dichloroethene (cis-1,2-DCE), and 1,2-dichloroethane (1,2-DCA).

The air stripper (AS) is a structural aluminum tower that is packed with 3.5-inch diameter polypropylene Jaeger Tripack. Groundwater is pumped to the air stripper distribution port and sprayed over the column of Jaeger Tripack at a flow rate of approximately 1,100 gpm. Previously, 100 gpm of recirculated water was also rerouted through the AS, but as of October 2010, recirculation was no longer deemed necessary to the operation of the system. An induced draft countercurrent flow of air enters the air stripper below the base of the packing material at a rate of 8,000 standard cubic feet per minute (scfm). The large surface area of the packing material allows for a mass transfer of the VOCs from the groundwater into the air stream. The VOCs in the off-gas, except for vinyl chloride, are removed via two 20,000 lb vapor phase granular activated carbon (VGAC) units (VGAC-1 and VGAC-2). Vinyl chloride is oxidized by a 20,000 lb potassium permanganate vessel (VGAC-3) into potassium chloride and carbon dioxide. The potassium chloride remains in the pore structure of the zeolite substrate. The treated off-gas is discharged from the stack.

Water treated by the air stripper is passed through three 8,000-lb liquid phase granular activated carbon (LGAC) units in parallel prior to discharge in the recovery basin (or injection well, if necessary).

The GWTP is controlled by a programmable logic controller (PLC)-based digital and analog control system, with instrumentation that monitors pH, pressure, tank level, flow transmitters, differential pressure transmitters, water level in recovery wells, and motor operational status. The information in the PLC is made available to an operator via a human-machine interface (HMI) program. By using this program, the status of the GWTP can be displayed in real time and adjusted, if necessary, by the operator.

2.0 GWTP OPERATION AND MAINTENANCE

While designed to run completely automated, the GWTP requires regular weekly visits by an operator to record and adjust operational parameters and to perform scheduled maintenance.

2.1 Routine Maintenance Activities

Routine maintenance activities at the GWTP were performed during the operator's weekly visits. These activities include general site inspections, collection of operational data (water and vapor flowrates, pressures, tank levels and totalizer readings), measurement of water depth in the recovery wells, adjustment of pump signal settings, collection of vapor and process water samples, changing out of bag filters, switching of lead/lag pump assignments, and preventive maintenance of system equipment.

2.2 Non-routine Maintenance Activities

The following non-routine activities were performed at the GWTP during 2011:

- On 22 March 2011, there was an alarm for a high water level in the air stripper sump, which shut the GWTP down. However, the air stripper pump, P-4A, was still operating upon arrival of the operator. As a result, the heat from the motor damaged the PVC piping. Piping and fittings were replaced as needed, and the system was restarted on 6 April 2011. An instrumentation vendor was subcontracted to troubleshoot the PLC software and determine why the motor continued to operate following the alarm condition. However, no cause was determined.
- On 26 June 2011, there was an alarm due to the failure of AS feed pump, P-3B. The operator switched over to using the back-up pump, P-3A, and restarted the system. AS feed pump P-3B was reset and resumed operating properly.
- An instrumentation vendor was subcontracted to troubleshoot and repair the PLC as it stopped logging data in mid-May 2011. The issue was corrected 19 July 2011 and the PLC resumed normal operation.
- On 11 August 2011, the air filters for ambient air intake were cleaned.
- On 16 August 2011, the pump in extraction well RW-1 malfunctioned. An electrician was subcontracted to troubleshoot and evaluate the problem, and it was determined that the pump needed to be extracted. A driller was subcontracted and the pump and motor were removed on 28 September 2011. Upon inspection of the pump and motor, it was determined that both needed to be replaced. Because of score marks observed on the pump impellers, a video inspection of the well screen was performed on 7 October 2011 prior to installation of a replacement pump and motor to ensure that no excess sand was entering the well. The well screen was determined to be

intact and the replacement pump and motor were procured and installed on 14 – 17 October 2011, after which the extraction well resumed normal operation.

- On 28 August 2011, the GWTP went down due to a power outage caused by Hurricane Irene. The system was restarted on 29 August 2011 after power was restored.
- On 30 August 2011, the LGAC units were backwashed.
- As part of the system's optimization, a 1,000-lb intermediary carbon unit was installed and brought on-line by ECOR to treat vapor from the EQ tank during the last week in September 2011.
- On 13 December 2011, the GWTP computer hosting the HMI software malfunctioned. The GWTP was shut down pending repair of the computer. The computer was repaired and the system restarted 15 December 2011.
- On 28 December 2011 and 29 December 2011, alarm calls were received due to power interruptions which shut down the system. On both occasions, the system was restarted upon arrival by the operator.

3.0 GWTP MONITORING

The intent of the GWTP is to remove contaminant mass and reduce elevated VOC levels to levels similar to those in the surrounding aquifer. In doing so, impacts on water supply wells and currently unaffected portions of the groundwater aquifer will be minimized. The GWTP is not intended to remediate groundwater contamination in the local aquifer to non-detectable levels (TtEC 2010a). To monitor GWTP effectiveness and for compliance with Federal and State requirements, several process (water and vapor) samples are collected on a monthly basis. In addition, groundwater samples are collected quarterly to monitor water quality and determine the effectiveness of the remediation activities and monitor the hydraulic containment and capture of impacted groundwater by the recovery wells.

3.1 Process Water Quality Monitoring

Processed groundwater is analyzed to comply with calculations submitted by the Navy and approved by NYSDEC Water Division for the effluent limitations and monitoring requirements. These results are also submitted to the NYSDEC on a monthly basis in the form of a Discharge Monitoring Report (DMR). A copy of the approved NYSDEC effluent limitation and monitoring constituents and the reporting forms are included in **Appendix A**.

3.1.1 Fourth Quarter 2011 Summary

Monthly aqueous samples are collected from each recovery well (RW-1 and RW-3), as well as the treated effluent (TE) discharge line. In addition, various intermediary process system samples are collected monthly, consisting of air stripper effluent (ASE), bag filter effluent (BFE), and effluent of each of the three LGAC units (LC1, LC2, and LC3). The analytical results of monthly process water samples collected during the Fourth Quarter 2011 are presented in **Table 1**. The data demonstrates that all permitted constituents were in compliance with regulatory requirements during the Fourth Quarter.

Table 1 also summarizes the average monthly flowrates in gallons per minute along with the total volume of water processed during each month of the Fourth Quarter 2011.

Monthly DMRs for the Fourth Quarter 2011 (October - December 2011) are included as **Appendix A**. DMRs for January – September 2011 are included in previously submitted quarterly operations reports as indicated in Section 1.0.

3.1.2 2011 Annual Summary

During 2011, all permitted constituents for the aqueous effluent were in compliance with regulatory requirements (ECOR 2011, H&S 2011, and H&S 2012). Annual flow volumes and system operation for 2011 are summarized in **Table 2**. As indicated, the total volume of groundwater treated during the 12-month period based on effluent flow totals was 447,792,412 gallons. The GWTP operated with an average uptime of 95.2% at an average effluent flowrate of 898 gpm.

Mass Removal
Mass removal was calculated based on monthly influent concentrations combined with monthly influent flow totals. During 2011, approximately 1,776 lbs of VOCs were removed by the GWTP, for an average monthly mass removal rate of approximately 148 lbs per month. Mass removal calculations are presented in **Table 3**.

3.2 Air Quality Monitoring

Treated off-gas discharged at the stack of the GWTP is subject to emissions limitations as described by the calculations submitted by the Navy and approved by the NYSDEC Division of Air Resources (DAR) in July 2009. A copy of the NYSDEC approved calculations is included as **Appendix B**.

3.2.1 Fourth Quarter 2011 Summary

While only sampling of the stack emissions is required for NYSDEC compliance, vapor samples are also collected using 6L summa canisters at various locations to monitor for breakthrough of the VGAC units. The analytical results of monthly influent and effluent vapor samples as well as midfluent samples (VC12 and VC13) collected during the Fourth Quarter 2011 are presented in **Table 4**. Air emissions calculations using the stack vapor concentrations along with discharge flowrates are presented in **Table 5**. The calculations demonstrate that all permitted constituents were in compliance with regulatory requirements during the quarter based on the emission rates in pounds per hour (lb/hr).

3.2.2 2011 Annual Summary

Table 6 summarizes annual air emissions based on monthly emissions during the 12-month period. During 2011, total annual air emissions of permitted constituents consisted of 6.88 lb of TCE, 0.16 lb of vinyl chloride, and 2.04 lb of 1,2-DCE, as well as 2.04 lb of PCE (not a regulated constituent). Annual emissions during this 12-month period were well within the annual permit guidelines of 99 lb, 3.7 lb, and 7.3 lb, respectively.

3.3 Groundwater Quality Monitoring

The groundwater monitoring well network at the GM-38 Groundwater Remediation Area consists of 14 monitoring wells (as summarized in **Table 7)**, three recovery wells (RW-1, RW-2, RW-3) and one injection well (IW-1). Well locations are depicted on **Figure 3**.

Depth to water (DTW) measurements are collected from 12 of the monitoring wells and water quality samples are collected from eight of the monitoring wells on a quarterly basis. The monitoring network includes well clusters located near the recovery and injection wells as described below and as shown on **Figure 3**. In addition, two wells, GM-38D and GM-38D2, located at the corner of Arthur Avenue and Broadway, are monitored by others.

Quarterly groundwater samples were collected from eight monitoring wells (RW1-MW1, RW1-MW3, RW2-MW1, RW3-MW1, RW3-MW2, RW3-MW3, RW3-MW4, and TP-1). Samples were collected using bladder pumps in accordance with the United States Environmental Protection Agency (USEPA) low-flow sampling methodologies. Results of the groundwater sampling for the first, second, and third quarter of 2011 are presented in previously submitted quarterly operations reports as indicated in Section 1.0. Results for the Fourth Quarter 2011 are presented in Section 3.3.1 below, and descriptions of monitoring well locations are as follows:

Recovery Well 1 (RW-1) Monitoring Wells
The RW-1 cluster consists of three monitoring wells screened between 395 and 435 feet below ground surface (bgs). RW-1 MW-1 is located approximately 140 feet northwest of RW-1 and RW-1 MW-2 is located approximately 50 feet north of RW-1. RW-1 MW-3 is located approximately 400 feet northeast of RW-1, on the eastern side of Seaford Oyster Bay Expressway. All three wells are hydraulically monitored while only RW-1 MW1 and RW-1 MW-3 are also monitored for water quality.

Recovery Well 2 (RW-2) Monitoring Wells
The RW-2 cluster consists of three monitoring wells screened between 470 and 510 feet bgs. RW-2 MW-1 is located approximately 60 feet northwest of RW-2, RW-2 MW-2 is located approximately 20 feet west of RW-2, and RW-2 MW-3 is located approximately 100 feet west of RW-2. All three wells are hydraulically monitored while only RW-2 MW1 is monitored for water quality.

Recovery Well 3 (RW-3) Monitoring Wells
The RW-3 cluster consists of four monitoring wells; RW-3 MW-1 and RW-3 MW-3 are screened between 320 and 340 ft bgs, RW-3 MW-2 and RW-3 MW-4 are screened between 475 and 495 feet bgs. RW-3 MW-1 and RW-3 MW-2 are located approximately 500 feet west of the GM-38 cluster, at the intersection of Arthur Avenue and Leroy Avenue. RW-3 MW-3 and RW-3 MW-4 are located approximately 400 feet north of the intersection of Arthur Avenue and Broadway. All four wells are both hydraulically monitored and monitored for water quality.

Injection Well 1 (IW-1) Monitoring Well
There is one monitoring well associated with injection well IW-1. IW-1 MW-1 is screened between 130 and 150 feet bgs, is located approximately 20 feet south of IW-1, and is only hydraulically monitored.

TP-1
TP-1 is screened between 450 and 470 feet bgs and is located approximately 25 feet north of the GWTP building, inside the fenced area. It is hydraulically monitored to observe the change in water levels due to the influence from the pumping rates at the neighboring public water supply well field near the hot spot area and is also monitored for water quality.

3.3.1 Fourth Quarter 2011 Groundwater Quality Results

H&S collected groundwater samples for the Fourth Quarter 2011 from 27-28 November. Field parameters measured during well purging, consisting of pH, specific conductance (SC), temperature, oxidation-reduction potential (ORP) and dissolved oxygen (DO), are summarized in **Table 8**. Following stabilization of field parameters, groundwater samples were collected. Copies of the field logs and chain of custody documentation are presented in **Appendix C**.

Groundwater samples were submitted to a National Environmental Laboratory Accreditation Conference (NELAC), Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP) certified, laboratory (Analytical Laboratories Services located in Middletown, PA) for the analysis of VOCs via USEPA Method 624, mercury via USEPA Method SW846 7470A, and total suspended solids (TSS) via USEPA Method SM20 2540D. Validated analytical results of samples collected during the November monitoring event are summarized in **Table 9.** The data validation reports are presented in **Appendix D**. Raw analytical data is presented in **Appendix E**.

3.3.2 Fourth Quarter 2011 Quality Assurance/Quality Control Sampling

Quality assurance/quality control (QA/QC) samples were collected during each quarterly groundwater monitoring event in accordance with the *Final Sampling and Analysis Plan* (TtEC 2010a). These samples consisted of blind field duplicates (collected from RW2-MW1 during the Fourth Quarter 2011), matrix spike/matrix spike duplicate (MS/MSD) samples, equipment rinsate blanks (EB) collected at a rate of one per sampling event, and trip blanks (TB) submitted at a rate of one per sample cooler. No contaminants were detected in the equipment or trip blank samples, indicating that there was no apparent cross-contamination of samples during sample collection or transport.

For field duplicate samples, the precision between the original sample and its duplicate is evaluated by calculating the relative percent difference (RPD). RPDs for the Fourth Quarter sampling event are presented in the data validation report in **Appendix D**. As indicated, all of the calculated RPDs were under 10%. This overall consistency between the samples and its duplicate verifies that proper sample collection methods were followed.

3.3.3 Groundwater Concentration Trends

Historical groundwater analytical results through the Fourth Quarter 2011 are presented in **Table 10**. Groundwater analytical results of select VOCs (cis-1,2-DCE, PCE, TCE, and VC) for each of the 2011 quarterly monitoring events are presented graphically as **Figure 4**. Additionally, concentration trends of select VOCs (cis-1,2-DCE, TCE, and PCE, as well as VC for RW-1) over time for each recovery well

(RW-1 and RW-3 sampled monthly) and the eight monitoring wells sampled during the 2011 quarterly monitoring events are presented in Figures 5 through 14 and discussed below.

Figure 5 presents concentrations detected at recovery well RW-1. Concentrations of TCE have decreased from initial concentrations in early 2010 (maximum value of 710 µg/L detected in February 2010), remaining consistently below 400 µg/L since May 2011. Concentrations of cis-1,2-DCE have followed a similar trend, decreasing from a high of 160 µg/L in February 2010 to below 65 µg/L throughout 2011. PCE concentrations have also exhibited decreasing trends over time, with concentrations decreasing from 180 µg/L in February 2010 to a low of 90.1 µg/L in November 2011. Concentrations of VC have decreased below initial concentrations in 2010. After reaching a maximum concentration of 61 µg/L in February 2010, concentrations have decreased below 5.0 µg/L in the final quarter of 2011.

Figure 6 presents concentrations detected at recovery well RW-3. Concentrations of TCE have decreased from initial concentrations in February 2010 (660 µg/L), falling below 300 µg/L several months throughout 2011, with a low of 230 µg/L in June 2011. Concentrations of cis-1,2-DCE have remained consistently below 4.0 µg/L, and PCE has been detected during only one sampling event in June 2011 (0.69 J µg/L).

Figure 7 presents concentrations detected at RW1-MW1. Concentrations of TCE and cis-1,2-DCE in November 2011 (84.5 µg/L and 132 µg/L, respectively) were higher than initial concentrations observed in May 2005 (53.6 µg/L and 78.6 µg/L, respectively). However, TCE and cis-1,2-DCE have decreased from the maximum concentrations observed in May 2009 (140 µg/L and 180 µg/L, respectively). Concentrations of PCE have remained consistently below 1.0 µg/L.

Figure 8 presents concentrations detected at RW1-MW3. Concentrations of TCE, cis-1,2-DCE, and PCE have consistently remained below 2.0 µg/L.

Figure 9 presents concentrations detected at RW2-MW1. Concentrations of TCE have decreased substantially from original concentrations observed in May and July 2005 (37.6 µg/L and 34.6 µg/L, respectively). In April 2010, TCE decreased to less than 1.0 µg/L and has remained below 2.0 µg/L. Concentrations of cis-1,2-DCE have remained consistently below 2.0 µg/L, and PCE has not been detected during any sampling event.

Figure 10 presents concentrations detected at RW3-MW1. Concentrations of TCE in November 2011 (51.0 µg/L) have slightly increased since initial concentrations observed in January 2010 (35.0 µg/L), though remain less than maximum TCE concentrations observed in November 2010 (77.6 µg/L). Concentrations of cis-1,2-DCE have exhibited a similar trend, increasing slightly, but remaining below 2.0 µg/L throughout. PCE has not been detected during any sampling event.

Figure 11 presents concentrations detected at RW3-MW2. TCE reached a maximum concentration of 211 µg/L in April 2010, having increased from initial concentrations observed in January 2010 (160 µg/L). The concentration of TCE detected in November 2011 (71.9 µg/L) has decreased from the initial collected sample, though no overall trend is discernible. Concentrations of cis-1,2-DCE at this location

have consistently remained between 1.0 – 2.0 µg/L, and PCE has not been detected during any sampling event.

Figure 12 presents concentrations detected at RW3-MW3. Maximum concentrations of TCE were detected in April 2010 (397 µg/L), having increased slightly from initial concentrations in January 2010 (350 µg/L). Since April 2010, concentrations have exhibited a decreasing trend, with a detection of 250 µg/L in November 2011. Concentrations of cis-1,2-DCE have remained near 2.0 µg/L and PCE has remained below 0.5 µg/L since the initial sampling event in January 2010.

Figure 13 presents concentrations detected at RW3-MW4. TCE concentrations have exhibited a decreasing trend since the initial sampling event in January 2010 (21 µg/L) with a detection of 5.6 µg/L in November 2011. PCE had not been detected during any sampling event, and cis-1,2-DCE has not been detected since its detection during the initial sampling event in January 2010 (0.46 µg/L).

Figure 14 presents concentrations detected at TP-01. TCE concentrations have exhibited a decreasing trend since the initial sampling event in January 2010 (65 µg/L), decreasing to 38.0 µg/L in November 2011. A similar trend exists for concentrations of cis-1,2-DCE; concentrations have decreased from an initial value of 190 µg/L in January 2010 to 40.4 µg/L in September 2011, though increasing somewhat in November 2011 (74.9 µg/L). PCE concentrations have remained consistent over time, ranging from 3.3 – 4.4 µg/L.

4.0 CONCLUSIONS AND RECOMMENDATIONS

As stated previously, the intent of the groundwater treatment system at GM-38 is to remove mass and reduce elevated VOC concentrations to levels similar to those in the surrounding aquifer, and in doing so minimize the impacts on water supply wells and currently unaffected portions of the aquifer. Based on the annual removal of 1,776 lbs of VOCs by the GWTP in 2011 and decreasing contaminant concentration trends observed in several of the monitoring wells, progress is being made toward these goals. The GWTP should continue to be operated and monitored on a quarterly basis using the 14 monitoring wells. In addition, the plant should be assessed to optimize the system's performance and an evaluation conducted to determine the capture zone.

5.0 REFERENCES

ECOR Federal Services, LLC. (ECOR). 2011. *Final Quarterly Operations Report, First Quarter 2011, Groundwater Treatment Plant, GM-38 Area Groundwater Remediation, Naval Weapons Industrial Reserve Plant, Bethpage, New York.* June.

H&S Environmental, Inc. (H&S). 2011. *Final Quarterly Operations Report, Second Quarter 2011, Groundwater Treatment Plant, GM-38 Area Groundwater Remediation, Naval Weapons Industrial Reserve Plant, Bethpage, New York.* September.

H&S. 2012. *Final Quarterly Operations Report, Third Quarter 2011, Groundwater Treatment Plant, GM-38 Area Groundwater Remediation, Naval Weapons Industrial Reserve Plant, Bethpage, New York.* February.

Tetra Tech EC, Inc. (TtEC). 2010. *Final Operation, Maintenance & Monitoring Plan for Groundwater Treatment Plant GM-38 Area Groundwater Remediation, Naval Weapons Industrial Reserve Plant, Bethpage, New York.* April.

TtEC. 2010a. *Final Sampling and Analysis Plan (Field Sampling Plan and Quality Assurance Project Plan), UFP-SAP for Operations, Maintenance, and Monitoring of the Groundwater Treatment Plant, GM-38 Area, Naval Weapons Industrial Reserve Plant, Bethpage, New York.* September.

TABLES

Table 1
GM-38 Area Groundwater Remediation
Groundwater Treatment Plant
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Discharge Monitoring Results
Fourth Quarter 2011

SPDES Parameters	Daily Maximum Goal	Units	October 2011									
Process Stream			RW-1 [2]	RW-3	RW-3 Duplicate	Combined Influent [1] [2] (RW-1 + RW-3)	Air Stripper Effluent (ASE)	Bag Filter Effluent (BFE)	Liquid Carbon 1 Effluent (LC1)	Liquid Carbon 2 Effluent (LC2)	Liquid Carbon 3 Effluent (LC3)	Treated Effluent (TE) [2]
Well Depth		ft	500	500	500	NA	NA	NA	NA	NA	NA	NA
Screened Interval		ft	470-500	470-500	470-500	NA	NA	NA	NA	NA	NA	NA
Sampling Date			10/14/11									
Average Flowrate	1100	GPM	370	280	NR	650	NR	647	NR	NR	NR	672
Total Flow		gallons	29,989,400	12,482,100	NR	42,471,500	NR	28,891,400	NR	NR	NR	29,989,400
pH	5.5 - 8.5	SU	5.78	6.04	6.04	5.89	7.54	7.77	7.63	7.48	7.50	7.09
Carbon Tetrachloride	NA	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	5	µg/L	2.9 J	2.8	2.8	2.9	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	0.6	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	5	µg/L	7.3 J	1.9	1.8	5.0	ND	ND	ND	ND	ND	ND
cis 1,2-Dichloroethene	5	µg/L	58.5	1.9	1.9	34.2	ND	ND	1.1	1.1	1.0	0.97 J
trans 1,2-Dichloroethene	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	5	µg/L	107	ND	ND	61	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethene	5	µg/L	6.7 J	1.1	1.1	4.3	ND	ND	ND	ND	ND	ND
Trichloroethene	5	µg/L	323	306	298	316	0.82 J	0.83 J	ND	ND	ND	ND
Vinyl Chloride	2	µg/L	4.4 J	ND	ND	2.5 J	ND	ND	ND	ND	ND	ND
Mercruy	0.25	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Suspended Solids (TSS)	NA	mg/L	5	ND	5	3	ND	ND	ND	ND	ND	ND

Table 1
GM-38 Area Groundwater Remediation
Groundwater Treatment Plant
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Discharge Monitoring Results
Fourth Quarter 2011

SPDES Parameters	Daily Maximum Goal	Units	November 2011									
Process Stream			RW-1	RW-3	Combined Influent [1] [3] (RW-1 + RW-3)	Air Stripper Effluent (ASE)	Bag Filter Effluent (BFE)	Liquid Carbon 1 Effluent (LC1)	Liquid Carbon 2 Effluent (LC2)	Liquid Carbon 3 Effluent (LC3)	Treated Effluent (TE)[3]	Treated Effluent (TE) Duplicate
Well Depth		ft	500	500	NA	NA	NA	NA	NA	NA	NA	NA
Screened Interval		ft	470-500	470-500	NA	NA	NA	NA	NA	NA	NA	NA
Sampling Date			11/7/11									
Average Flowrate	1100	GPM	691	231	922	NR	916	NR	NR	NR	955	NR
Total Flow		gallons	28,849,000	9,665,300	38,514,300	NR	35,598,900	NR	NR	NR	39,877,100	NR
pH	5.5 - 8.5	SU	5.85	5.9	5.86	6.98	7.22	7.33	7.32	7.28	7.32	7.32
Carbon Tetrachloride	NA	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	5	µg/L	2.5 J	2.6 J	2.5	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	0.6	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	5	µg/L	5.4 J	1.1 J	4.3	ND	ND	ND	ND	ND	ND	ND
cis 1,2-Dichloroethene	5	µg/L	48.4	1.5 J	36.6	0.87 J	0.89 J	0.93 J	1	0.96 J	1.0 J	ND
trans 1,2-Dichloroethene	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	5	µg/L	90.1	ND	67	0.42 J	0.51 J	ND	ND	ND	ND	ND
1,1,1-Trichloroethene	5	µg/L	6 J	ND	4.5	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	5	µg/L	309	292	305	3.0	3.0	ND	ND	ND	ND	ND
Vinyl Chloride	2	µg/L	4.9 J	ND	3.7 J	ND	ND	ND	ND	ND	ND	ND
Mercruy	0.25	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Suspended Solids (TSS)	NA	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Table 1
GM-38 Area Groundwater Remediation
Groundwater Treatment Plant
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Discharge Monitoring Results
Fourth Quarter 2011

SPDES Parameters	Daily Maximum Goal	Units	December 2011									
Process Stream			RW-1	RW-3	Combined Influent [1] [4] (RW-1 + RW-3)	Air Stripper Effluent (ASE)	Bag Filter Effluent (BFE)	Liquid Carbon 1 Effluent (LC1)	Liquid Carbon 2 Effluent (LC2)	Liquid Carbon 3 Effluent (LC3)	Treated Effluent (TE) [4]	Treated Effluent (TE) Duplicate
Well Depth		ft	500	500	NA	NA	NA	NA	NA	NA	NA	NA
Screened Interval		ft	470-500	470-500	NA	NA	NA	NA	NA	NA	NA	NA
Sampling Date			12/8/11									
Average Flowrate	1100	GPM	736	200	935	NR	944	NR	NR	NR	963	NR
Total Flow		gallons	32,833,565	8,909,900	41,743,465	NR	42,151,670	NR	NR	NR	42,997,830	NR
pH	5.5 - 8.5	SU	6.29	6.17	6.26	7.44	7.50	7.57	7.54	6.23	6.99	6.96
Carbon Tetrachloride	NA	µg/L	0.52 J	ND	0.41 J	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	5	µg/L	3.0	3.1	3.0	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	0.6	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	5	µg/L	7.6	1.7	6.3	ND	ND	ND	ND	ND	ND	ND
cis 1,2-Dichloroethene	5	µg/L	54.9	1.7	43.5	1.0	0.97 J	1.0	1.1	1.1	1.1	1.1
trans 1,2-Dichloroethene	5	µg/L	1.1	ND	0.9	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	5	µg/L	115	ND	90	0.99 J	0.70 J	ND	ND	ND	ND	ND
1,1,1-Trichloroethene	5	µg/L	7.6	1.4	6.0	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	5	µg/L	389	332	377	4.5	4.0	ND	0.38 J	ND	0.38 J	0.34 J
Vinyl Chloride	2	µg/L	4.5	ND	3.5	ND	ND	ND	ND	ND	ND	ND
Mercruy	0.25	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Suspended Solids (TSS)	NA	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:
J, B - Estimated result less than reporting limit
NA - Not Applicable
NR - Not Recorded
gpm - gallons per minute

(1) Influent concentrations presented are the weighted average concentrations of RW-1 and RW-3.
(2) The pump in RW-1 malfunctioned on 16 August 2011 and was inoperable until 17 October 2011, resulting in less than average flow rates for the month. RW-1 was sampled 20 October 2011 after the pump was brought back on-line.
(3) System downtime from 4-7 November 2011 resulted in lower than average flowrates during this reporting period.
(4) System downtime from 13-15 December 2011 while the computer was being repaired resulted in lower than average flowrates during this reporting period.

Data prior to June 2011 were collected by others.

Table 2
GM-38 Area Groundwater Remediation
Groundwater Treatment Plant
Naval Weapons Industrial Reserve Plant - Bethpage, NY
2011 Annual Flow Summary

Monthly Flow Totals		
Month	**Total GWTP Influent Flow (gal)**	**Total GWTP Effluent Flow (gal)**
Jan-11	49,595,040	50,978,880
Feb-11	42,680,960	44,360,960
Mar-11	23,670,360	24,591,060
Apr-11	32,778,000	34,094,057
May-11	44,536,985	45,697,625
Jun-11	39,353,000	48,367,400
Jul-11	43,343,700	44,571,760
Aug-11	38,324,240	26,465,697
Sep-11	15,388,824	15,800,643
Oct-11	29,020,600	29,989,400
Nov-11	38,514,300	39,877,100
Dec-11	41,743,465	42,997,830
Annual Flow Summary		
	GWTP Influent	**GWTP Effluent**
2011 Total (gal)	438,949,473	447,792,412
2011 Monthly Average (gal)	36,579,123	37,316,034
2011 Effective Flowrate (gpm)	837	854
2011 Average Flowrate (gpm)	880	898

Notes:
gpm = gallons per minute
Effective Flowrate = total flow volume (gal) / total time period (min)
Average Flowrate = total flow volume (gal) / total system run time (min)

Data prior to June 2011 were collected by others.

Table 3
GM-38 Area Groundwater Remediation
Groundwater Treatment Plant
Naval Weapons Industrial Reserve Plant - Bethpage, NY
2011 Mass Removal Summary

	Total Flow (gal)			CCl_4			1,1-DCA			1,2-DCA			1,1-DCE			cis-1,2-DCE		
Month	GWTP Effluent	GWTP Influent	2011 Cumulative Influent	Influent Concentration (µg/l)	Mass Removal (lb)	2011 Cumulative Mass Removal (lb)	Influent Concentration (µg/l)	Mass Removal (lb)	2011 Cumulative Mass Removal (lb)	Influent Concentration (µg/l)	Mass Removal (lb)	2011 Cumulative Mass Removal (lb)	Influent Concentration (µg/l)	Mass Removal (lb)	2011 Cumulative Mass Removal (lb)	Influent Concentration (µg/l)	Mass Removal (lb)	2011 Cumulative Mass Removal (lb)
Jan-11	50,978,880	49,595,040	49,595,040	0.56	0.2318	0.2318	2.8	1.1588	1.1588	0.0	0.0000	0.0000	5.2	1.1520	2.1520	47.5	19.6576	19.6576
Feb-11	44,360,960	42,680,960	92,276,000	0.39	0.1389	0.3707	2.8	0.9972	2.1560	0.0	0.0000	0.0000	5.2	1.8520	4.0040	43.7	15.5638	35.2214
Mar-11	24,591,060	23,670,360	115,946,360	0.47	0.0928	0.4635	2.6	0.5135	2.6695	0.0	0.0000	0.0000	5.6	1.1061	5.1101	47.0	9.2833	44.5047
Apr-11	34,094,057	32,778,000	148,724,360	0.0	0.0000	0.4635	2.6	0.7111	3.3807	0.0	0.0000	0.0000	6.2	1.6958	6.8059	46.3	12.6638	57.1685
May-11	45,697,625	44,536,985	193,261,345	0.0	0.0000	0.4635	3.0	1.1149	4.4956	0.0	0.0000	0.0000	6.8	2.5271	9.3330	48.1	17.8758	75.0443
Jun-11	48,367,400	39,353,000	232,614,345	0.37	0.1215	0.5850	2.8	0.9195	5.4151	0.0	0.0000	0.0000	6.6	2.1673	11.5003	48.3	15.8608	90.9051
Jul-11	44,571,760	43,343,700	275,958,045	0.38	0.1374	0.7224	2.4	0.8680	6.2831	0.5	0.1808	0.1808	6.3	2.2786	13.7789	52.2	18.8797	109.7848
Aug-11	26,465,697	38,324,240	314,282,285	0.29	0.0927	0.8152	1.7	0.5437	6.8267	0.3	0.0959	0.2768	4.2	1.3431	15.1221	30.2	9.6578	119.4427
Sep-11	15,800,643	15,388,824	329,671,108	0.0	0.0000	0.8152	2.9	0.3724	7.1991	0.0	0.0000	0.2768	1.7	0.2183	15.3404	1.5	0.1926	119.6353
Oct-11	29,989,400	29,020,600	358,691,708	0.0	0.0000	0.8152	2.9	0.7023	7.9014	0.0	0.0000	0.2768	5.0	1.2108	16.5512	34.2	8.2819	127.9172
Nov-11	39,877,100	38,514,300	397,206,008	0.0	0.0000	0.8152	2.5	0.8035	8.7049	0.0	0.0000	0.2768	4.3	1.3819	17.9331	36.6	11.7626	139.6798
Dec-11	42,997,830	41,743,465	438,949,473	0.41	0.1428	0.9580	3.0	1.0450	9.7498	0.0	0.0000	0.2768	6.3	1.2945	20.1276	43.5	15.1523	154.8321
2011 Totals	**447,792,412**	**438,949,473**			**0.9580**			**9.7498**			**0.2768**			**20.1276**			**154.8321**	

	Total Flow (gal)			trans-1,2-DCE			PCE			1,1,1-TCA			TCE			VC		
Month	GWTP Effluent	GWTP Influent	2011 Cumulative Influent	Influent Concentration (µg/l)	Mass Removal (lb)	2011 Cumulative Mass Removal (lb)	Influent Concentration (µg/l)	Mass Removal (lb)	2011 Cumulative Mass Removal (lb)	Influent Concentration (µg/l)	Mass Removal (lb)	2011 Cumulative Mass Removal (lb)	Influent Concentration (µg/l)	Mass Removal (lb)	2011 Cumulative Mass Removal (lb)	Influent Concentration (µg/l)	Mass Removal (lb)	2011 Cumulative Mass Removal (lb)
Jan-11	50,978,880	49,595,040	927,493,987	0.81	0.3352	0.3352	84	34.7630	34.7630	6.7	2.7728	2.7728	416	172.1596	172.1596	5.1	2.1106	2.1106
Feb-11	44,360,960	42,680,960	970,174,947	0.83	0.2956	0.6308	89	31.6974	66.4604	6.1	2.1725	4.9453	397	141.3918	313.5514	4.3	1.5314	3.6421
Mar-11	24,591,060	23,670,360	993,845,307	0.83	0.1639	0.7948	76	15.0113	81.4717	6.0	1.1851	6.1304	319	63.0079	376.5593	5.2	1.0271	4.6691
Apr-11	34,094,057	32,778,000	1,026,623,307	0.79	0.2161	1.0108	86	23.5223	104.9940	5.8	1.5864	7.7168	395	108.0387	484.5980	5.0	1.3676	6.0367
May-11	45,697,625	44,536,985	1,071,160,291	1.0	0.3716	1.3825	93	34.5624	139.5564	6.7	2.4900	10.2068	384	142.7091	627.3071	4.6	1.7095	7.7463
Jun-11	48,367,400	39,353,000	1,110,513,291	0.72	0.2364	1.6189	88	28.8975	168.4539	5.9	1.9374	12.1442	276	90.6330	717.9401	4.2	1.3792	9.1255
Jul-11	44,571,760	43,343,700	1,153,856,991	0.68	0.2459	1.8649	87	31.4662	199.9201	6.4	2.3148	14.4590	319	115.3762	833.3163	4.6	1.6637	10.7892
Aug-11	26,465,697	38,324,240	1,192,181,231	0.50	0.1599	2.0247	60	19.1878	219.1079	4.0	1.2792	15.7381	274	87.6241	920.9405	3.0	0.9594	11.7486
Sep-11	15,800,643	15,388,824	1,207,570,055	0.0	0.0000	2.0247	0.0	0.0000	219.1079	1.2	0.1541	15.8922	298	38.2667	959.2072	0.0	0.0000	11.7486
Oct-11	29,989,400	29,020,600	1,236,590,655	0.0	0.0000	2.0247	61	14.7719	233.8798	4.3	1.0413	16.9335	316	76.5232	1,035.7304	2.5	0.6054	12.3540
Nov-11	39,877,100	38,514,300	1,275,104,955	0.0	0.0000	2.0247	67	21.5326	255.4124	4.5	1.4462	18.3797	305	98.0215	1,133.7519	3.7	1.1891	13.5431
Dec-11	42,997,830	41,743,465	1,316,848,420	0.90	0.3135	2.3382	91	31.5237	286.9360	6.0	2.0900	20.4697	377	131.3196	1,265.0715	3.5	1.2191	14.7622
2011 Totals	**447,792,412**	**438,949,473**			**2.3382**			**286.9360**			**20.4697**			**1,265.0715**			**14.7622**	

2011 Cumulative Mass (VOCs) Removed (lbs) **1775.52**

2011 Average Monthly Mass (VOCs) Removed (lbs) **147.96**

Notes:
CCl_4 = carbon tetrachloride
DCA = dichloroethane
DCE = dichloroethene
PCE = tetrachloroethane
TCA = trichloroethane
TCE = trichloroethene

Mass removal (lb) = Influent Concentration (ug/L) * Influent Flow (gal) * (2.20462 lb/kg) * (3.785 L/gal) * (10^9 ug/kg)

Data prior to June 2011 were collected by others.

Table 4
GM-38 Area Groundwater Remediation
Groundwater Treatment Plant
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Air Sampling Results
Fourth Quarter 2011

DAR Parameters	SGC	Units	October 2011					November 2011				
Process Stream			Influent (VCI1)	VC12	VC23	Effluent	Effluent Duplicate	Influent (VCI1)	VC12	VC23	Effluent	Effluent Duplicate
Sampling Date			10/14/11					11/3/11				
Average Flowrate		CFM	NR	NR	NR	9460	NR	NR	NR	NR	9677	NR
Total Flow [1]		ft^3	NR	NR	NR	422,298,458	NR	NR	NR	NR	418,058,182	NR
Total Flow [2]		m^3	NR	NR	NR	11,958,161	NR	NR	NR	NR	11,838,089	NR
1,2-Dichloroethane	-	$\mu g/m^3$	1 J	0.8 J	0.5 J	0.6 J	0.5 J	5 J	ND	2	2	2
cis 1,2-Dichloroethene	-	$\mu g/m^3$	8	17	290	2	1	530	170	1200	37	37
trans 1,2-Dichloroethene	-	$\mu g/m^3$	1 J	0.9	4	0.4 J	ND	8	5 J	15	ND	ND
1,2-Dichloroethene (total)	-	$\mu g/m^3$	9	18	294	2	1	538	175 J	1215	37	37
Toluene	37000	$\mu g/m^3$	3	0.5 J	0.4 J	0.5 J	1	ND	ND	1 J	ND	ND
Xylene	4300	$\mu g/m^3$	3 J	ND	2 J	1 J	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	-	$\mu g/m^3$	2 J	ND	ND	0.6 J	ND	ND	ND	ND	ND	ND
Trichloroethene	14000	$\mu g/m^3$	1400	710	2	3	0.8 J	4200	2300	10	6	4
Vinyl Chloride	180000	$\mu g/m^3$	ND	0.3 J	0.3 J	0.3 J	ND	42	36	29	0.7	0.7
Tetrachloroethene	1000	$\mu g/m^3$	450	0.7 J	0.8 J	0.9 J	ND	1200	ND	ND	0.7 J	0.7 J

Table 4
GM-38 Area Groundwater Remediation
Groundwater Treatment Plant
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Air Sampling Results
Fourth Quarter 2011

DAR Parameters	SGC	Units	December 2011				
Process Stream			Influent (VCl1)	VC12	VC23	Effluent	Effluent Duplicate
Sampling Date			12/22/11				
Average Flowrate		CFM	NR	NR	NR	9258	NR
Total Flow [(1)]		ft^3	NR	NR	NR	413,277,120	NR
Total Flow [(2)]		m^3	NR	NR	NR	11,702,705	NR
1,2-Dichloroethane	-	$\mu g/m^3$	4 J	0.82 J	0.95 J	0.93 J	0.94 J
cis 1,2-Dichloroethene	-	$\mu g/m^3$	490	420	450	10	12
trans 1,2-Dichloroethene	-	$\mu g/m^3$	7.6 J	7.7	7.3	ND	ND
1,2-Dichloroethene (total)	-	$\mu g/m^3$	500	420	460	10	12
Toluene	37000	$\mu g/m^3$	7.7 J	0.74 J	0.91 J	0.51 J	0.85 J
Xylene	4300	$\mu g/m^3$	16	ND	1.1 J	ND	ND
1,1,2-Trichloroethane	-	$\mu g/m^3$	3.8 J	ND	ND	ND	ND
Trichloroethene	14000	$\mu g/m^3$	3300	780	31	2.8 J	5.5
Vinyl Chloride	180000	$\mu g/m^3$	28	29	28	1.1 J	0.31 J
Tetrachloroethene	1000	$\mu g/m^3$	1300	3 J	6.3	0.77 J	1.4 J

Notes:
ND - Not detected
NR - Not recorded
SGC - Short-term Guideline Concentration
$\mu g/m^3$ - micrograms per cubic meter
CFM - cubic feet per minute
DAR - Division of Air Rescources
[(1)] Total Flow (ft^3) = average flowrate (cfm) * operational time (minutes)
[(2)] Total Flow (m^3) = total flow (ft^3) * (0.3048^3)m^3/ft^3

Data prior to June 2011 were collected by others.

Table 5
GM-38 Area Groundwater Remediation
Groundwater Treatment Plant
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Stack Emissions
Fourth Quarter 2011

DAR Parameters	Discharge Goal	Units	October 2011	November 2011	December 2011
Sampling Date			10/14/11	11/3/11	12/8/11
Average Flowrate		CFM	9460	9677	9258
Total Flow		ft^3	422,298,458	418,058,182	413,277,120
Total Flow		m^3	11,958,161	11,838,089	11,702,705
Trichloroethene	0.09	lb/hr	0.0001	0.0002	0.0001
Vinyl Chloride	0.01	lb/hr	0.0000	0.0000	0.0000
1,2 Dichloroethene	0.03	lb/hr	0.0001	0.0013	0.0003
1,2-Dichloroethane	BRT	lb/hr	0.0000	0.0001	0.0000
Toluene	BRT	lb/hr	0.0000	0.0000	0.0000
Xylene	BRT	lb/hr	0.0000	0.0000	0.0000
1,1,2-Trichloroethane	BRT	lb/hr	0.0000	0.0000	0.0000
Tetrachloroethene	--	lb/hr	0.0000	0.0000	0.0000

Notes:
BRT - Below reporting thresholds
lb/hr - pounds per hour
DAR - Divison of Air Resources
CFM - Cubic feet per minute
Stack Emissions = average flowrate (cfm) * $(0.3048^{\wedge 3})m^3/ft^3$ * conc.(mg/m^3) * 0.000001 g/mg * 0.002205 lbs/g * 60 min/hr * operational time (hours)

Data prior to June 2011 were collected by others.

Table 6
GM-38 Area Groundwater Remediation
Groundwater Treatment Plant
Naval Weapons Industrial Reserve Plant - Bethpage, NY
2011 Air Emission Summary

	TCE Effluent Emission Rate		VC Effluent Emission Rate		1,2-DCE Effluent Emission Rate		PCE Effluent Emission Rate	
Month	**lb/hr**	**lb/mo**	**lb/hr**	**lb/mo**	**lb/hr**	**lb/mo**	**lb/hr**	**lb/mo**
Jan-11	0.000322	0.239764	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Feb-11	0.000196	0.131414	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Mar-11	0.000460	0.341899	0.000000	0.000000	0.000000	0.000000	0.000095	0.070822
Apr-11	0.001148	0.826744	0.000000	0.000000	0.000000	0.000000	0.000431	0.310029
May-11	0.001343	0.999174	0.000000	0.000000	0.000000	0.000000	0.000286	0.212868
Jun-11	0.004891	3.521268	0.000115	0.082853	0.000892	0.642114	0.001667	1.200295
Jul-11	0.000247	0.183777	0.000009	0.006892	0.000031	0.022972	0.000093	0.068916
Aug-11	0.000344	0.256124	0.000016	0.011642	0.000044	0.032598	0.000125	0.093136
Sep-11	0.000104	0.074569	0.000000	0.000000	0.000083	0.059655	0.000031	0.022371
Oct-11	0.000106	0.079090	0.000011	0.007909	0.000085	0.063272	0.000032	0.023727
Nov-11	0.000217	0.156591	0.000025	0.018269	0.001341	0.965645	0.000025	0.018269
Dec-11	0.000097	0.072240	0.000038	0.028380	0.000347	0.258000	0.000027	0.019866

	TCE	**VC**	**1,2-DCE**	**PCE**
Discharge Goal (lb/yr)	**99**	**3.7**	**7.3**	**NA**
2011 Total Emissions (lb/yr)	**6.88**	**0.16**	**2.04**	**2.04**

Notes:
lb/hr = pounds per hour
lb/mo = pounds per month
lb/yr = pounds per year
DCE = dichloroethene
PCE = tetrachloroethane
TCE = trichloroethene
VC = vinyl chloride

Emissions = average flowrate (cfm) * $(0.3048^{\wedge 3})m^3/ft^3$ * conc.(mg/m^3) * 0.000001 g/mg * 0.002205 lbs/g *
60 min/hr * operational time (hr)

Data prior to June 2011 were collected by others.

Table 7
GM-38 Area Groundwater Remediation
Groundwater Treatment Plant
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Groundwater Level Measurements
November 2011

Monitoring Well ID	Date	Time	Well Elevation (ft amsl)	Total Depth (ft)	Screen Interval (ft)	Depth to Water (ft)	Groundwater Elevation (ft amsl)
RW1-MW1	11/30/11	1225	85.86	435	395-435	32.99	52.87
RW1-MW2	11/30/11	1213	87.35	435	395-435	37.31	50.04
RW1-MW3	11/30/11	1205	80.34	435	395-435	26.98	53.36
RW2-MW1	11/30/11	1256	90.75	510	470-510	36.62	54.13
RW2-MW2	11/30/11	1650	90.15	510	470-510	36.88	53.27
RW2-MW3	11/30/11	1305	89.75	510	470-510	35.80	53.95
RW3-MW1	11/30/11	1233	92.22	350	330-350	35.11	57.11
RW3-MW2	11/30/11	1235	91.98	495	475-795	37.10	54.88
RW3-MW3	11/30/11	1241	92.98	340	320-340	36.38	56.60
RW3-MW4	11/30/11	1240	92.92	495	475-495	37.82	55.10
TP-1	11/30/11	1210	85.91	470	450-470	31.57	54.34
IW1-MW1	11/30/11	1217	89.41	150	130-150	33.87	55.54
GM38D	NA	NA	91.37	340	320-340	NA	NA
GM382D	NA	NA	91.57	495	475-495	NA	NA

Notes:
amsl - above mean sea level
ft - feet
NA - Not Available

Table 8
Summary of Final Groundwater Chemistry Data
GM-38 Area Groundwater Remediation
Groundwater Treatment Plant
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Summary of Groundwater Chemistry Results
November 2011

Location	Temp (ºC)	pH (SU)	S.C. (uS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Color (Visual)
RW1-MW1	15.54	4.88	217	3.17	188.6	NR	clear
RW1-MW3	13.72	4.81	150	3.45	204.9	0.12	clear
RW2-MW1	13.33	7.29	117	2.59	-34.1	9.94	clear
RW3-MW1	16.10	4.93	130	3.66	196.7	7.90	clear
RW3-MW2	15.02	4.84	88	3.39	190.1	3.30	clear
RW3-MW3	14.94	5.24	138	2.87	224.3	4.58	clear
RW3-MW4	15.40	4.85	128	3.40	273.1	3.91	clear
TP-1	13.61	5.29	209	3.63	206.3	4.27	clear

Notes:
S.C. = Specific Conductance
mS/cm = milliSiemens per centimeter
NTU = nephelometric turbidity units
mg/L = milligrams per liter
ºC = degrees celsius
mV = millivolts
SU = standard units
ORP = oxidation/reduction potential
NR = not recorded

Table 9
GM-38 Area Groundwater Remediation
Groundwater Treatment Plant
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Summary of Detected Groundwater Analytical Results
November 2011

Sample ID	RW1-MW1	RW1-MW3	RW2-MW1	RW3-MW1		RW3-MW2	RW3-MW3	RW3-MW4	TP-01
Sample Date	11/30/2011	11/30/2011	11/29/2011	11/30/2011	11/30/2011	11/30/2011	11/29/2011	11/29/2011	11/30/2011
Comments					Duplicate				
VOCS (EPA 624) ug/L									
Benzene	ND	ND	0.27 J	ND	ND	ND	ND	ND	ND
1,1-dichloroethane	4.1	2.1	ND	0.96 J	0.93 J	ND	1.5	0.84 J	2.9
1,1-dichloroethene	2.1	ND	ND	0.64 J	0.66 J	0.27 J	0.96 J	ND	1
cis-1,2-dichloroethene	132.0	0.55 J	0.39 J	0.36 J	0.43 J	1.4	2.1	ND	74.9
trans-1,2-dichloroethene	1.7	ND	ND	ND	ND	ND	ND	ND	1.1
Tetrachloroethene	ND	ND	ND	1.0	1.1	ND	ND	ND	3.6
Toluene	ND	ND	0.29 J	ND	ND	ND	ND	ND	ND
1,1,1-trichloroethane	0.66 J	ND	ND	0.59 J	0.63 J	ND	0.49 J	ND	0.29 J
1,1,2-trichloroethane	0.33 J	0.63 J	ND	ND	ND	0.32 J	ND	ND	0.32 J
Trichloroethene	84.5	1.0 J	0.67 J	51.0	55.2	71.9	250	5.6	38.0
Mercury (EPA 245.1) ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND
TSS (SM20 2540D) mg/L	11	ND	36	ND	ND	ND	ND	6	ND

Note:

J = estimated value
ND = not detected
mg/L = milligrams per liter
µg/L = micrograms per liter

Samples were analyzed for TCL VOCs by Method 624. Only those analytes detected are presented above.

Table 10
GM-38 Area Groundwater Remediation
Groundwater Treatment Plant
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Summary of Historical Groundwater Analytical Results

Sample ID	RW1-MW1												RW1-MW2		
Sample Date	5/4/2005	7/22/2005	5/27/2009	1/21/2010	4/21/2010	7/28/2010	11/10/2010	3/25/2011	6/14/2011[1]	6/14/2011	9/28/2011	11/30/2011	5/4/2005	7/22/2005	5/28/2009
Comments										Duplicate					
Well Depth (Ft)	435												435		
Screened Interval (Ft)	395-435												395-435		
VOCS (EPA 624) ug/L															
Acrolein	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	NR	NR	NR
Acrylonitrile	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	NR	NR	NR
Acetone	ND	ND	ND	NR	ND	ND	ND	ND	NR	NR	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	NR	NR	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	NR	ND	ND	ND	ND	NR	NR	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	NR	ND	ND	ND	ND	NR	NR	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	NR	ND	ND	ND	ND	NR	NR	ND	ND	ND	ND	ND
Carbon tetrachloride	ND	ND	0.32J	ND	ND	ND	0.17J	ND	NR	NR	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	NR	NR	ND	ND	ND	ND	ND
Dibromochloromethane	NR	NR	ND	NR	ND	ND	ND	ND	NR	NR	ND	ND	NR	NR	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND	NR	NR	ND	ND	ND	ND	ND
2-chloroethylvinyl ether	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	NR	NR	NR
Chloroform	ND	0.7J	1.1	ND	0.70J	0.65J	0.56J	0.55J	NR	NR	ND	ND	ND	1.4	ND
Chloromethane	ND	ND	ND	NR	ND	ND	ND	ND	NR	NR	ND	ND	ND	ND	ND
1,2-dichlorobenzene	NR	NR	ND	NR	NR	NR	NR	NR	NR	NR	ND	ND	NR	NR	ND
1,3-dichlorobenzene	NR	NR	ND	NR	NR	NR	NR	NR	NR	NR	ND	ND	NR	NR	ND
1,4-dichlorobenzene	NR	NR	ND	NR	NR	NR	NR	NR	NR	NR	ND	ND	NR	NR	ND
1,1-dichloroethane	0.74J	0.79J	3.3	2.9J	2.8	2.8	3.0	3.6	1.6 J	4.2 J	4.0 J	4.1	4.6	5.5	3.4
1,2-dichloroethane	ND	ND	0.29J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-dichloroethene	1.3	2.8	3.1	1.7J	1.9	1.7	1.7	1.9	0.85 J	2.1 J	2.3 J	2.1	3.2	12.3	ND
cis-1,2-dichloroethene	78.6	80.4	180D	130	121	118	108	121	55.8 J	145 J	164	132	181.0	47.6	160.0
trans-1,2-dichloroethene	2.0	1.3J	2.8	4J	2.9	2.1	1.3	4.2	0.71 J	2.0 J	2.0 J	1.7	2.5	7.6	2.5
1,2-dichloropropane	ND	ND	ND	NR	ND	ND	ND	ND	NR	NR	ND	ND	ND	ND	ND
cis-1,3-dichloropropene	ND	ND	ND	NR	ND	ND	ND	ND	NR	NR	ND	ND	ND	ND	ND
trans-1,3-dichloropropene	ND	ND	ND	NR	ND	ND	ND	ND	NR	NR	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	NR	NR	ND	ND	ND	ND	ND
Methylene chloride	ND	ND	ND	NR	ND	ND	ND	ND	NR	NR	ND	ND	1.0	ND	ND
1,1,2,2-tetrachloroethane	ND	ND	ND	NR	ND	ND	ND	ND	NR	NR	ND	ND	ND	ND	ND
Tetrachloroethene	ND	ND	0.72J	ND	0.42J	ND	ND	ND	ND	ND	0.36 J	ND	ND	134.0	19.0
Toluene	ND	0.33J	0.68	ND	ND	ND	ND	ND	NR	NR	ND	ND	0.32J	ND	ND
1,1,1-trichloroethane	ND	ND	0.71J	ND	0.52J	0.43J	0.53J	0.79J	ND	0.63 J	1.1 J	0.66 J	1.3	1.0	ND
1,1,2-trichloroethane	ND	ND	0.58J	NR	ND	ND	ND	ND	NR	NR	ND	0.33 J	ND	0.65J	ND
Trichloroethene	53.6	52.7	140.0	79.0	116	95.4	84.2	97.6	26.6 J	73.8 J	129	84.5	158.0	198.0	200.0
Trichlorofluoromethane	NR	NR	ND	NR	NR	NR	NR	NR	NR	NR	ND	ND	NR	NR	ND
Vinyl chloride	ND	ND	1.6	ND	ND	ND	0.17J	ND	ND	0.38 J	0.29 J	ND	12.9	187.0	4.1
Mercury (EPA 245.1) ug/L	NR	NR	ND	0.20	<0.20	<0.20	<0.20	<0.20	ND	ND	ND	ND	NR	NR	0.20
TSS (SM20 2540D) mg/L	NR	NR	2.8	2.8	6.0	4.0	4.0	4.0	ND	6	ND	11	NR	NR	4.0

Table 10
GM-38 Area Groundwater Remediation
Groundwater Treatment Plant
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Summary of Historical Groundwater Analytical Results

Sample ID	RW1-MW3								RW2-MW1										
Sample Date	1/20/2010	4/21/2010	7/29/2010	11/10/2010	3/25/2011	6/14/2011	9/28/2011	11/30/2011	5/4/2005	7/20/2005	5/27/2009	1/18/2010	4/21/2010	7/28/2010	11/3/2010	3/24/2011	6/14/2011	9/27/2011	11/29/2011
Comments												EPA 624							
Well Depth (Ft)	435								510										
Screened Interval (Ft)	395-435								470-510										
VOCS (EPA 624) ug/L																			
Acrolein	NR	NR	NR	NR	NR	NR	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND
Acrylonitrile	NR	NR	NR	NR	NR	NR	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND
Acetone	NR	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	NR	ND	ND
Benzene	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	0.15J	0.69J	0.58J	0.30J	NR	0.22 J	0.27 J
Bromodichloromethane	NR	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	NR	ND	ND
Bromoform	NR	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	NR	ND	ND
Bromomethane	NR	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	NR	ND	ND
Carbon tetrachloride	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NR	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NR	ND	ND
Dibromochloromethane	NR	NR	NR	NR	NR	NR	ND	ND	NR	NR	ND	NR	ND	ND	ND	ND	NR	ND	ND
Chloroethane	NR	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	NR	ND	ND
2-chloroethylvinyl ether	NR	NR	NR	NR	NR	NR	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND
Chloroform	0.67J	0.80J	0.47J	0.69J	0.73J	NR	0.97 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	NR	ND	ND
Chloromethane	NR	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	NR	ND	ND
1,2-dichlorobenzene	NR	NR	NR	NR	NR	NR	ND	ND	NR	NR	ND	NR	NR	NR	NR	NR	NR	ND	ND
1,3-dichlorobenzene	NR	NR	NR	NR	NR	NR	ND	ND	NR	NR	ND	NR	NR	NR	NR	NR	NR	ND	ND
1,4-dichlorobenzene	NR	NR	NR	NR	NR	NR	ND	ND	NR	NR	ND	NR	NR	NR	NR	NR	NR	ND	ND
1,1-dichloroethane	2.4	4.6	1.5	2.3	2.4	9.3	10.1 J	2.1	0.53J	0.93J	1.2J	0.82J	0.60J	0.58J	0.42J	ND	0.61 J	0.64 J	ND
1,2-dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-dichloroethene	0.42J	1.10	ND	0.28J	ND	1.8	2.2 J	ND	ND	0.58J	0.55J	0.63J	ND	ND	ND	ND	ND	ND	ND
cis-1,2-dichloroethene	0.54J	0.48J	0.36J	0.55J	0.58J	0.59 J	0.43 J	0.55 J	ND	0.55J	1.9	1.0	0.78J	0.80J	0.55J	0.43J	0.56 J	0.32 J	0.39 J
trans-1,2-dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-dichloropropane	NR	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	NR	ND	ND
cis-1,3-dichloropropene	NR	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	NR	ND	ND
trans-1,3-dichloropropene	NR	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	NR	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NR	ND	ND
Methylene chloride	NR	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	NR	ND	ND
1,1,2,2-tetrachloroethane	NR	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	NR	ND	ND
Tetrachloroethene	ND	049J	ND	ND	ND	0.33 J	0.62 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	NR	ND	ND	ND	0.85J	1.0	ND	0.52J	0.49J	0.50J	ND	NR	0.24 J	0.29 J
1,1,1-trichloroethane	0.41J	0.98J	ND	0.26J	0.33J	1.6	2.7 J	ND	ND	0.37J	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-trichloroethane	0.62J	0.60J	0.36J	0.55J	0.41J	NR	0.57 J	0.63 J	ND	ND	ND	ND	ND	ND	ND	ND	NR	ND	ND
Trichloroethene	1.2	1.6	0.58J	0.91J	1.0	1.4	1.8 J	1.0 J	37.6	34.6	12.0	15.0	0.42J	ND	ND	1.7	1.6	0.89 J	0.67 J
Trichlorofluoromethane	NR	NR	NR	NR	NR	NR	ND	ND	NR	NR	ND	NR	NR	NR	NR	NR	NR	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Mercury (EPA 245.1) ug/L	NR	<0.20	<0.20	<0.20	<0.20	ND	ND	ND	NR	NR	0.05J	NR	<0.20	<0.20	<0.20	<0.20	ND	ND	ND
TSS (SM20 2540D) mg/L	NR	8.0	<4.0	<4.0	<4.0	ND	ND	ND	NR	NR	2260.0	NR	58.0	<4.0	<4.0	<4.0	181	5	36

Table 10
GM-38 Area Groundwater Remediation
Groundwater Treatment Plant
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Summary of Historical Groundwater Analytical Results

Sample ID	RW2-MW3			RW3-MW1										RW2-MW2	
Sample Date	5/3/2005	7/20/2005	5/28/2009	1/19/2010	4/22/2010	7/29/2010	11/9/2010	3/25/2011	3/25/2011	6/14/2011	9/27/2011	11/30/2011	11/30/2011	5/4/2005	7/21/2005
Comments									duplicate				duplicate		
Well Depth (Ft)	510			350										510	
Screened Interval (Ft)	470-510			330-350										470-510	
VOCS (EPA 624) ug/L															
Acrolein	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	NR	NR
Acrylonitrile	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	NR	NR
Acetone	ND	ND	ND	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND
Carbon tetrachloride	ND	ND	ND	ND	ND	ND	0.19J	ND	ND	NR	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND
Dibromochloromethane	NR	NR	ND	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	NR	NR
Chloroethane	ND	ND	ND	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND
2-chloroethylvinyl ether	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	NR	NR
Chloroform	ND	ND	ND	ND	ND	ND	0.20J	ND	ND	NR	ND	ND	ND	ND	ND
Chloromethane	ND	ND	ND	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND
1,2-dichlorobenzene	NR	NR	ND	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	NR	NR
1,3-dichlorobenzene	NR	NR	ND	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	NR	NR
1,4-dichlorobenzene	NR	NR	ND	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	NR	NR
1,1-dichloroethane	0.68J	0.31J	1.4	1.6	1.5	1.7	1.4	1.3	1.3	1.1	1.0 J	0.96 J	0.93 J	ND	0.78J
1,2-dichloroethane	ND	ND	ND	0.27J	ND	ND	ND	ND	ND	ND	0.57 J	ND	ND	ND	ND
1,1-dichloroethene	ND	ND	0.42J	1.2	1.3	1.2	1.2	1.2	1.1	0.85 J	0.65 J	0.64 J	0.66 J	ND	0.41J
cis-1,2-dichloroethene	0.40J	0.66J	2.3	0.37J	ND	0.32J	0.45J	0.47J	0.45J	0.48 J	0.31 J	0.36 J	0.43 J	0.33J	0.41J
trans-1,2-dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-dichloropropane	ND	ND	ND	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND
cis-1,3-dichloropropene	ND	ND	ND	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND
trans-1,3-dichloropropene	ND	ND	ND	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND
Methylene chloride	ND	ND	ND	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND
1,1,2,2-tetrachloroethane	ND	ND	ND	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	0.49J	0.81J	0.73J	1.5	1.4	1.6	1.2	1.3 J	1.0	1.1	ND	ND
Toluene	ND	0.50J	0.39J	ND	ND	ND	ND	ND	ND	NR	ND	ND	ND	0.33J	0.53J
1,1,1-trichloroethane	ND	ND	ND	ND	0.98J	0.84J	1.2	1.1	1.1	0.78 J	1.0 J	0.59 J	0.63 J	ND	ND
1,1,2-trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	NR	ND	ND	ND	D	ND
Trichloroethene	16.2	20.6	18.0	35.0	53.2	52.3	77.6	76.2	77.9	63.1	72.4 J	51.0	55.2	7.8	13.8
Trichlorofluoromethane	NR	NR	ND	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	NR	NR
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Mercury (EPA 245.1) ug/L	NR	NR	ND	NR	<0.20	<0.20	<0.20	<0.20	<0.20	ND	ND	ND	ND	NR	NR
TSS (SM20 2540D) mg/L	NR	NR	14.8	NR	<4.0	<4.0	<4.0	<4.0	<4.0	5160	ND	ND	ND	NR	NR

Table 10
GM-38 Area Groundwater Remediation
Groundwater Treatment Plant
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Summary of Historical Groundwater Analytical Results

Sample ID	RW3-MW2										RW3-MW3								
Sample Date	1/19/2010	1/19/2010	4/22/2010	7/29/2010	11/9/2010	11/9/2010	3/25/2011	6/14/2011	9/27/2011	11/30/2011	1/20/2010	4/22/2010	4/22/2010	7/28/2010	11/3/2010 [1]	3/25/2011	6/15/2011	9/28/2011	11/29/2011
Comments		duplicate			duplicate								duplicate						
Well Depth (Ft)	495										340								
Screened Interval (Ft)	475-495										320-340								
VOCS (EPA 624) ug/L																			
Acrolein	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	NR	NR	NR	NR	NR	NR	NR	ND	ND
Acrylonitrile	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	NR	NR	NR	NR	NR	NR	NR	ND	ND
Acetone	NR	NR	ND	ND	ND	ND	ND	NR	ND	ND	NR	ND	ND	ND	ND	ND	NR	ND	ND
Benzene	ND	ND	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND	ND	NR	ND	ND
Bromodichloromethane	NR	NR	ND	ND	ND	ND	ND	NR	ND	ND	NR	ND	ND	ND	ND	ND	NR	ND	ND
Bromoform	NR	NR	ND	ND	ND	ND	ND	NR	ND	ND	NR	ND	ND	ND	ND	ND	NR	ND	ND
Bromomethane	NR	NR	ND	ND	ND	ND	ND	NR	ND	ND	NR	ND	ND	ND	ND	ND	NR	ND	ND
Carbon tetrachloride	ND	ND	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND	ND	NR	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND	ND	NR	ND	ND
Dibromochloromethane	NR	NR	ND	ND	ND	ND	ND	NR	ND	ND	NR	ND	ND	ND	ND	ND	NR	ND	ND
Chloroethane	NR	NR	ND	ND	ND	ND	ND	NR	ND	ND	NR	NR	NR	NR	NR	NR	NR	ND	ND
2-chloroethylvinyl ether	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	NR	NR	NR	NR	NR	NR	NR	ND	ND
Chloroform	ND	ND	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	0.40J	0.46J	ND	0.33J	NR	0.48 J	ND
Chloromethane	NR	NR	ND	ND	ND	ND	ND	NR	ND	ND	NR	ND	ND	ND	ND	ND	NR	ND	ND
1,2-dichlorobenzene	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	NR	NR	NR	NR	NR	NR	NR	ND	ND
1,3-dichlorobenzene	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	NR	NR	NR	NR	NR	NR	NR	ND	ND
1,4-dichlorobenzene	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	NR	NR	NR	NR	NR	NR	NR	ND	ND
1,1-dichloroethane	ND	ND	0.54J	ND	ND	ND	ND	0.52 J	0.37 J	ND	ND	1.6	1.6	2.3	1.0	1.5	7.1	3.2 J	1.5
1,2-dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.52J	0.54J	ND	ND	ND	0.37 J	ND	ND
1,1-dichloroethene	ND	ND	1.2	ND	ND	ND	ND	0.57 J	0.45 J	0.27 J	ND	1.1	1.3	1.2	ND	0.96J	2.6	1.8 J	0.96 J
cis-1,2-dichloroethene	1.5J	1.6J	2.4	1.1	0.92J	0.92J	1.6	1.7	1.1	1.4	ND	2.1	2.1	1.7	ND	2.3	1.2	1.9	2.1
trans-1,2-dichloroethene	ND	ND	0.43 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-dichloropropane	NR	NR	ND	ND	ND	ND	ND	NR	ND	ND	NR	ND	ND	ND	ND	ND	NR	ND	ND
cis-1,3-dichloropropene	NR	NR	ND	ND	ND	ND	ND	NR	ND	ND	NR	ND	ND	ND	ND	ND	NR	ND	ND
trans-1,3-dichloropropene	NR	NR	ND	ND	ND	ND	ND	NR	ND	ND	NR	ND	ND	ND	ND	ND	NR	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND	ND	NR	ND	ND
Methylene chloride	NR	NR	ND	ND	ND	ND	ND	NR	ND	ND	NR	ND	ND	ND	ND	ND	NR	ND	ND
1,1,2,2-tetrachloroethane	NR	NR	ND	ND	ND	ND	ND	NR	ND	ND	NR	ND	ND	ND	ND	ND	NR	ND	ND
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.45J	0.49J	ND	ND	ND	0.40 J	0.50 J	ND
Toluene	ND	ND	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND	ND	NR	ND	ND
1,1,1-trichloroethane	ND	ND	0.58J	ND	ND	ND	ND	0.39 J	0.43 J	ND	ND	0.95J	1.0J	0.72J	ND	0.62J	1.3	1.0 J	0.49 J
1,1,2-trichloroethane	ND	ND	ND	ND	0.25 J	0.27J	ND	NR	0.32 J	0.32 J	ND	ND	ND	ND	ND	ND	NR	ND	ND
Trichloroethene	160	170	211	73	58.2	60.9	110	135	151	71.9	350	397	382	297	8.5	288	331	215 J	250
Trichlorofluoromethane	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	NR	NR	NR	NR	NR	NR	NR	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Mercury (EPA 245.1) ug/L	NR	NR	<0.20	<0.20	<0.20	<0.20	<0.20	ND	ND	ND	NR	<0.20	<0.20	<0.20	<0.20	ND	ND	ND	ND
TSS (SM20 2540D) mg/L	NR	NR	5.0	6.0	ND	10.0	10.0	7	6	ND	NR	4.0	5.0	<4.0	<4.0	<4.0	ND	ND	ND

Table 10
GM-38 Area Groundwater Remediation
Groundwater Treatment Plant
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Summary of Historical Groundwater Analytical Results

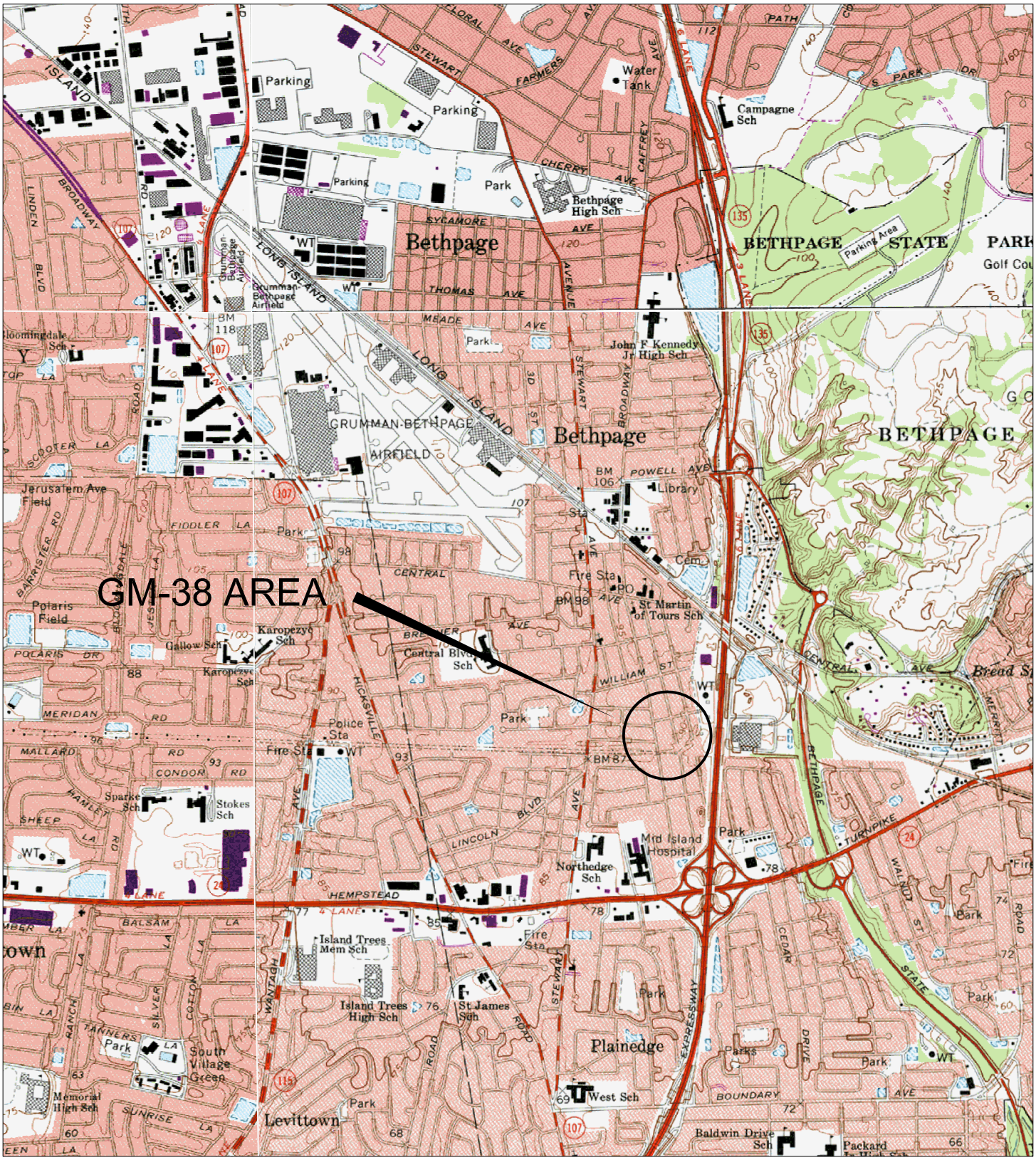
Sample ID	RW3-MW4									TP-01					IW-1 MW-1	IW-1
Sample Date	1/20/2010	4/22/2010	7/28/2010	7/28/2010	11/3/2010 [1]	3/24/2011	6/15/2011	9/28/2011	11/29/2011	1/21/2010	6/15/2011	9/27/2011	9/27/2011	11/30/2011	5/3/2005	5/27/2009
Comments				duplicate									Duplicate			
Well Depth (Ft)	495									470					150	230
Screened Interval (Ft)	475-495									470-510					130-150	200-230
VOCS (EPA 624) ug/L																
Acrolein	NR	NR	NR	NR	NR	NR	NR	ND	ND	NR	NR	ND	ND	ND	NR	NR
Acrylonitrile	NR	NR	NR	NR	NR	NR	NR	ND	ND	NR	NR	ND	ND	ND	NR	NR
Acetone	NR	ND	ND	ND	ND	ND	NR	ND	ND	NR	NR	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND	ND	NR	ND	ND	ND	NR	ND	ND	ND	ND	ND
Bromodichloromethane	NR	ND	ND	ND	ND	ND	NR	ND	ND	NR	NR	ND	ND	ND	ND	ND
Bromoform	NR	ND	ND	ND	ND	ND	NR	ND	ND	NR	NR	ND	ND	ND	ND	ND
Bromomethane	NR	ND	ND	ND	ND	ND	NR	ND	ND	NR	NR	ND	ND	ND	ND	ND
Carbon tetrachloride	ND	ND	ND	ND	ND	ND	NR	ND	ND	ND	NR	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND	ND	NR	ND	ND	ND	NR	ND	ND	ND	ND	ND
Dibromochloromethane	NR	ND	ND	ND	ND	ND	NR	ND	ND	NR	NR	ND	ND	ND	NR	ND
Chloroethane	NR	NR	NR	NR	NR	NR	NR	ND	ND	NR	NR	ND	ND	ND	ND	ND
2-chloroethylvinyl ether	NR	NR	NR	NR	NR	NR	NR	ND	ND	NR	NR	ND	ND	ND	NR	NR
Chloroform	ND	ND	ND	ND	0.32J	ND	NR	0.87 J	ND	ND	NR	0.68 J	0.74 J	ND	0.94J	0.98J
Chloromethane	NR	ND	ND	ND	ND	ND	NR	ND	ND	NR	NR	ND	ND	ND	ND	ND
1,2-dichlorobenzene	NR	NR	NR	NR	NR	NR	NR	ND	ND	NR	NR	ND	ND	ND	NR	ND
1,3-dichlorobenzene	NR	NR	NR	NR	NR	NR	NR	ND	ND	NR	NR	ND	ND	ND	NR	ND
1,4-dichlorobenzene	NR	NR	NR	NR	NR	NR	NR	ND	ND	NR	NR	ND	ND	ND	NR	ND
1,1-dichloroethane	2.5	0.6	0.54J	0.50J	1.8	0.81	0.78 J	5.4 J	0.84 J	3.6J	5.0	3.7	3.7	2.9	0.39J	0.22J
1,2-dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-dichloroethene	1.0	ND	ND	ND	0.86J	ND	0.20 J	0.53 J	ND	ND	1.7	1.1	1.0	1.0	ND	ND
cis-1,2-dichloroethene	0.46J	ND	ND	ND	1.6	ND	ND	ND	ND	190	43.4	40.4	40.2	74.9	ND	ND
trans-1,2-dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.0J	1.1	1.0 J	0.92 J	1.1	ND	ND
1,2-dichloropropane	NR	ND	ND	ND	ND	ND	NR	ND	ND	NR	NR	ND	ND	ND	ND	ND
cis-1,3-dichloropropene	NR	ND	ND	ND	ND	ND	NR	ND	ND	NR	NR	ND	ND	ND	ND	ND
trans-1,3-dichloropropene	NR	ND	ND	ND	ND	ND	NR	ND	ND	NR	NR	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	NR	ND	ND	ND	NR	ND	ND	ND	ND	ND
Methylene chloride	NR	ND	ND	ND	ND	ND	NR	ND	ND	NR	NR	ND	ND	ND	ND	ND
1,1,2,2-tetrachloroethane	NR	ND	ND	ND	ND	ND	NR	ND	ND	NR	NR	ND	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.4J	3.3	4.4	4.4	3.6	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	NR	ND	ND	ND	NR	ND	ND	ND	ND	0.19J
1,1,1-trichloroethane	ND	ND	ND	ND	0.67J	ND	ND	0.66 J	ND	ND	0.63 J	0.73 J	0.76 J	0.29 J	0.47	0.49J
1,1,2-trichloroethane	ND	ND	ND	ND	ND	ND	NR	ND	ND	ND	NR	0.31 J	0.31 J	0.32 J	ND	ND
Trichloroethene	21	11	7.5	8.0	308	7.7	6.7	3.4 J	5.6	65	35.3	41.0	39.6	38.0	ND	0.17J
Trichlorofluoromethane	NR	NR	NR	NR	NR	NR	NR	ND	ND	NR	NR	ND	ND	ND	NR	ND
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Mercury (EPA 245.1) ug/L	NR	<0.20	<0.20	<0.20	<0.20	<0.20	ND	ND	ND	NR	ND	ND	ND	ND	NR	0.20
TSS (SM20 2540D) mg/L	NR	16.0	<4.0	<4.0	<4.0	<4.0	ND	11	6	NR	63	18	NR	ND	NR	2.4

Note:
VOC analysis changed from SW846 8260B to EPA Method 624 in January 2010.
D = Dilution
J = estimated value
ND = not detected
NR = not requested
R = rejected
mg/L - milligrams per liter
µg/L - micrograms per liter

(1) Analytical results presented above for samples collected from RW3-MW3 and RW3-MW4 in November 2010 are not in line with historical trends indicating samples may have been switched. For trend analysis, concentrations for RW3-MW3 were used for RW3-MW4 for November 2010 and vise versa.

Data prior to June 2011 were collected by others.

FIGURES



Source: U.S.G.S. Topographic Maps (7.5 Minute)
Amityville, Freeport, Hicksville, Huntington, NY Quadrangles

U.S. Navy RAC
Engineering Field Activity, Northeast

GM-38 Area (Offsite)
NWIRP Bethpage
Bethpage, NY

Figure 1
Site Location Map

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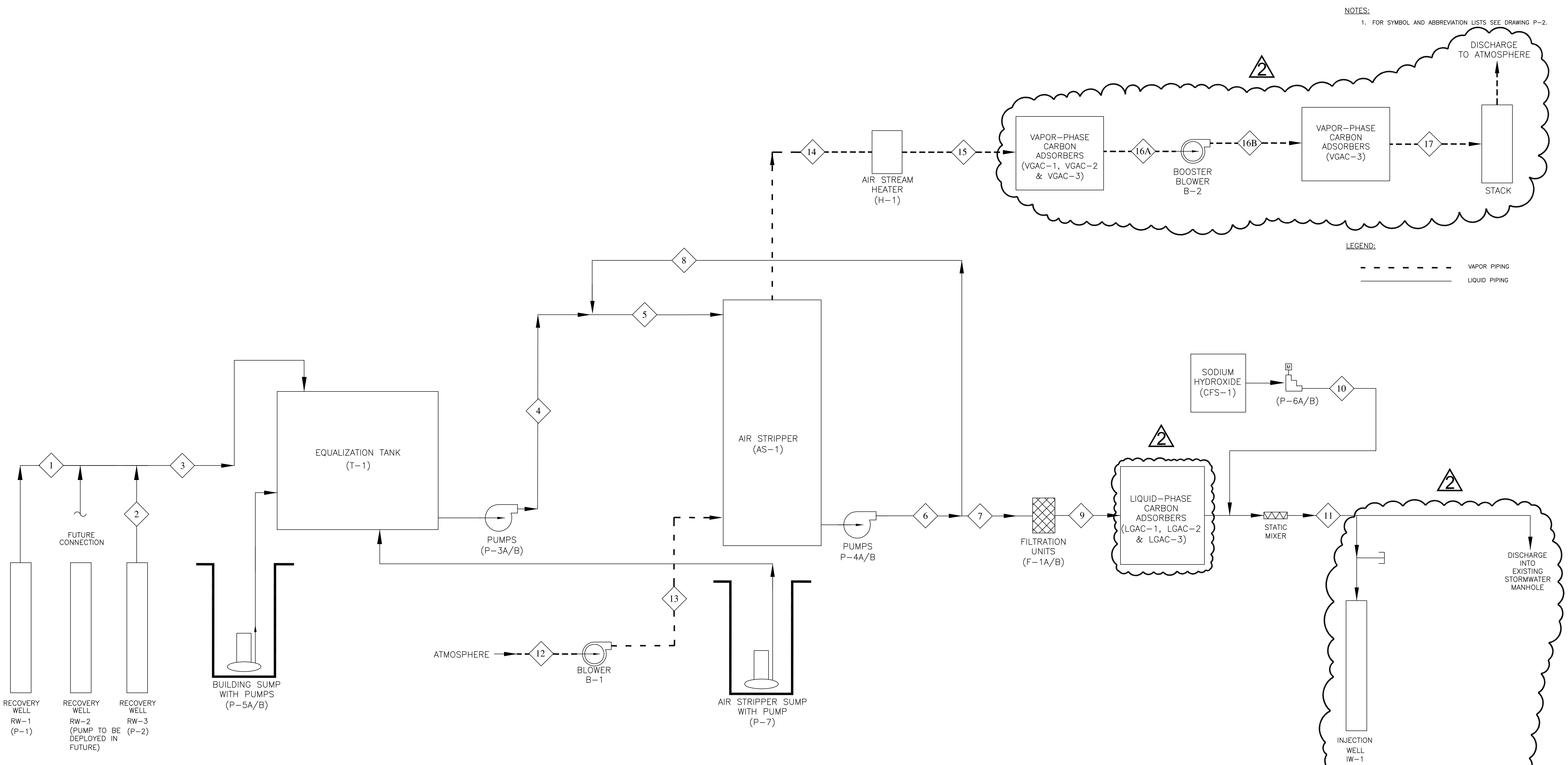

STREAM NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
COMPOSITION (UG/L, UNLESS OTHERWISE NOTED)																
BENZENE	4	4	4	4	3	-	-	-	-		-					
TOLUENE	15	15	15	15	12	-	-	-	-		-					
XYLENES, TOTAL	16	16	16	16	12	-	-	-	-		-					
1,2-DICHLOROETHANE	3	3	3	3	2.8						2.7 E-07					
cis 1,2-DICHLOROETHENE	1100	1100	1100	1100	1008	0.10	0.10	0.10	0.10		1.0 E-04					
VINYL CHLORIDE	300	300	300	300	275	0.03	0.03	0.03	0.03		2.7 E-05					
TETRACHLOROETHENE (PCE)	900	900	900	900	825	0.08	0.08	0.08	0.08		8.2 E-05					
TRICHLOROETHENE (TCE)	3400	3400	3400	3400	3117	3.12	3.12	3.12	3.12		3.1 E-03					
WATER FLOW RATE (GPM)	800	300	1100	1100	1200	1200	1100	100	1100	1.1 gpd	1100					
TEMPERATURE (°F)	55	55	55	55	55	55	55	55	55	60	55					
PRESSURE (PSIG)												-0.27	1.50	1.36	1.18	0.53
DENSITY (lb/ft^3)										95.5		0.077	0.085	0.084	0.082	0.079
MASS FLOW RATE (lb/hr)	400364	150136	550500	550500	600545	600545	550500	50,045	550500	0.59	550500	36,960	40,800	40,320	39,360	37,920
RELATIVE HUMIDITY (%)												50	50	100	50	50
STATIC PRESSURE (PSIA)												0.214	0.214	0.214	0.275	0.275
pH (S.U.)	5.5	5.5	5.5	5.5	5.5	6.0	6.0	6.0	6.0	14	7.0					
VAPOR FLOW RATE (CFM)												8000	8000	8000	8000	8000
TOTAL VAPOR VOC (PPMV)												-	-	25.5	25.5	1.2
TOTAL VAPOR VOC (LBS/HR)												-	-	3.18	3.18	0.15

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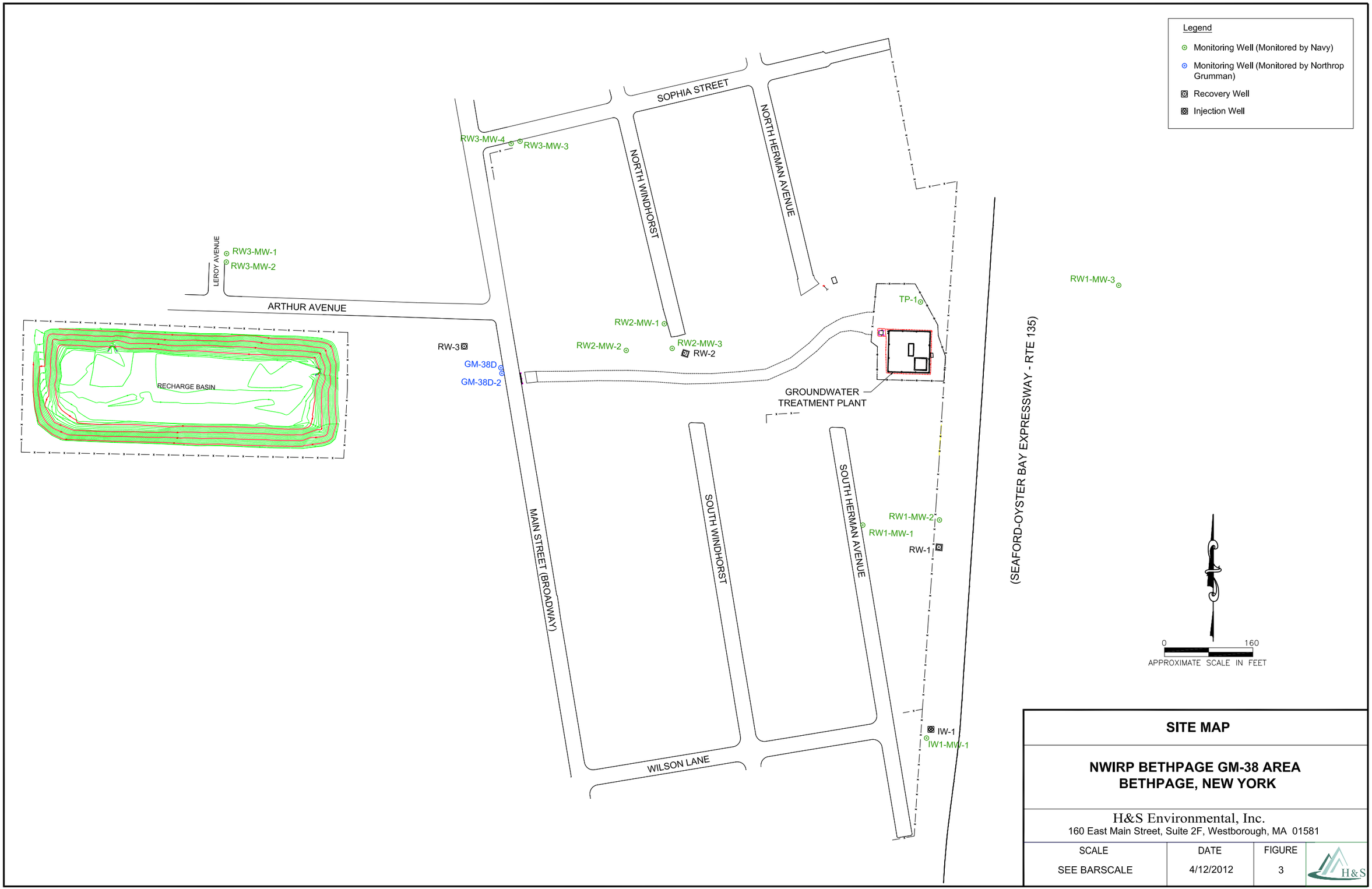
TETRA TECH ENGINEERING CORPORATION PC

REV	DESCRIPTION	PREP BY	DATE	APPRVD
0	FINAL DESIGN	DL	05/05/06	BKB
1	ADDED RECOVERY WELL RW-3, CHANGED RW-2 TO FUTURE CONNECTION	DLB	03/31/08	BKB
2	REVISED BASED ON VENDOR SUBMITTALS, DRAWING UPDATES FOR CONSTRUCTION	DLB	02/24/09	BKB

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
ENGINEERING FIELD ACTIVITY – NORTHEAST
NAVAL WEAPONS INDUSTRIAL RESERVE PLANT — BETHPAGE, NEW YORK
GM-38 AREA
GROUNDWATER TREATMENT PLANT
PROCESS FLOW DIAGRAM – GROUNDWATER AND OFF-GAS TREATMENT

SAT TO — DATE 05/05/06
CODE I.D. NO. 80091
SCALE : AS SHOWN
SPEC. NO.
CONSTR. CONTR. NO. N62472-99-D-0032
NAVFAC DRAWING NO. Figure 2
SHEET OF
SIZE: D — DIS. SH. NO. 1-4



SITE MAP

NWIRP BETHPAGE GM-38 AREA
BETHPAGE, NEW YORK

H&S Environmental, Inc.
160 East Main Street, Suite 2F, Westborough, MA 01581

SCALE	DATE	FIGURE
SEE BARSCALE	4/12/2012	3

X:\HS_Environmental\NWIRP-NY\As-Built 2008-PM.dwg 4/12/2012

RW3-MW4	3/24/2011	6/15/2011	9/28/2011	11/29/2011
cis-1,2-DCE	ND	ND	ND	ND
PCE	ND	ND	ND	ND
TCE	7.7	6.7	3.4 J	5.6
VC	ND	ND	ND	ND

RW3-MW3	3/25/2011	6/15/2011	9/28/2011	11/29/2011
cis-1,2-DCE	2.3	1.2	1.9	2.1
PCE	ND	0.40 J	0.50 J	ND
TCE	288	331	215 J	250
VC	ND	ND	ND	ND

RW3-MW1	3/25/2011	3/25/2011 - DUP	6/14/2011	9/27/2011	11/30/2011	11/30/2011 - DUP
cis-1,2-DCE	0.47 J	0.45 J	0.48 J	0.31 J	0.36 J	0.43 J
PCE	1.4	1.6	1.2	1.3 J	1.0	1.1
TCE	76.2	77.9	63.1	72.4 J	51.0	55.2
VC	ND	ND	ND	ND	ND	ND

RW3-MW2	3/25/2011	6/14/2011	9/27/2011	11/30/2011
cis-1,2-DCE	1.6	1.7	1.1	1.4
PCE	ND	ND	ND	ND
TCE	110	135	151	71.9
VC	ND	ND	ND	ND

TP-01	3/24/2011	6/15/2011	9/27/2011	9/27/2011 - DUP	11/30/2011
cis-1,2-DCE	NS	43.4	40.4	40.2	74.9
PCE	NS	3.3	4.4	4.4	3.6
TCE	NS	35.3	41.0	39.6	38.0
VC	NS	ND	ND	ND	ND

RW1-MW3	3/25/2011	6/14/2011	9/28/2011	11/30/2011
cis-1,2-DCE	0.58 J	0.59 J	0.43 J	0.55 J
PCE	ND	0.33 J	0.62 J	ND
TCE	1.0	1.4	1.8 J	1.0 J
VC	ND	ND	ND	ND

RW2-MW1	3/24/2011	6/14/2011	9/27/2011	11/29/2011
cis-1,2-DCE	0.43 J	0.56 J	0.32 J	0.39 J
PCE	ND	ND	ND	ND
TCE	1.7	1.6	0.89 J	0.67 J
VC	ND	ND	ND	ND

RW-3	3/21/2011	6/15/2011	9/20/2011	11/7/2011
cis-1,2-DCE	1.9	2.0	1.5	1.5
PCE	ND	0.69 J	ND	ND
TCE	285	230	298	292
VC	ND	ND	ND	ND

RW1-MW1	3/25/2011	6/14/2011	6/14/2011 - DUP	9/28/2011	11/30/2011
cis-1,2-DCE	121	55.8 J	145 J	164	132
PCE	ND	ND	ND	0.36 J	ND
TCE	97.6	26.6 J	73.8 J	129	84.5
VC	ND	ND	0.38 J	0.29 J	ND

RW-1	3/21/2011	6/15/2011	10/14/2011	11/7/2011
cis-1,2-DCE	61.5	59.9	58.5	48.4
PCE	100	110	107	90.1
TCE	330	287	323	309
VC	6.9	5.3	4.4	4.9

Legend

- Monitoring Well (Monitored by Navy)
- Monitoring Well (Monitored by Northrop Grumman)
- Recovery Well
- Injection Well
- J Estimated value
- ND Not Detected above laboratory method detection limit
- NS Not Sampled
- DCE Dichloroethene
- PCE Tetrachloroethane
- TCE Trichloroethane
- VC Vinyl Chloride

Notes:
All concentrations reported in µg/L.
Data prior to June 2011 was collected by others.
Monitoring wells were sampled on a quarterly basis. Recovery wells RW-1 and RW-3 were sampled on a monthly basis, and those results coinciding with quarterly monitoring events are presented here. RW-1 was inoperable in Sept 2011 so results from Oct 2011 are presented here.

SOPHIA STREET
NORTH WINDHORST
NORTH HERMAN AVENUE
LEROY AVENUE
ARTHUR AVENUE
RW3-MW4
RW3-MW3
RW3-MW1
RW3-MW2
RW3-MW-1
RW3-MW-2
RW3-MW-4
RW3-MW-3
RW2-MW1
RW2-MW-1
RW2-MW-2
RW2-MW-3
RW-2
RW-3
GM-38D
GM-38D-2
RECHARGE BASIN
TP-1
GROUNDWATER TREATMENT PLANT
RW1-MW3
RW1-MW-3
(SEAFORD-OYSTER BAY EXPRESSWAY - RTE 135)
SOUTH HERMAN AVENUE
SOUTH WINDHORST
MAIN STREET (BROADWAY)
WILSON LANE
RW1-MW-2
RW1-MW-1
RW-1
IW-1
IW1-MW-1

0 160
APPROXIMATE SCALE IN FEET

2011 GROUNDWATER ANALYTICAL MAP SELECT VOC CONCENTRATIONS

NWIRP BETHPAGE GM-38 AREA BETHPAGE, NEW YORK

H&S Environmental, Inc.
160 East Main Street, Suite 2F, Westborough, MA 01581

SCALE	DATE	FIGURE
SEE BARSCALE	4/24/2012	4

X:\HS_Environmental\NWIRP-NY\2011-GW-VOC.dwg 4/24/2012

Figure 5
GM-38 Area Groundwater Remediation
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Groundwater Concentration Trends of Select VOCs

RW1

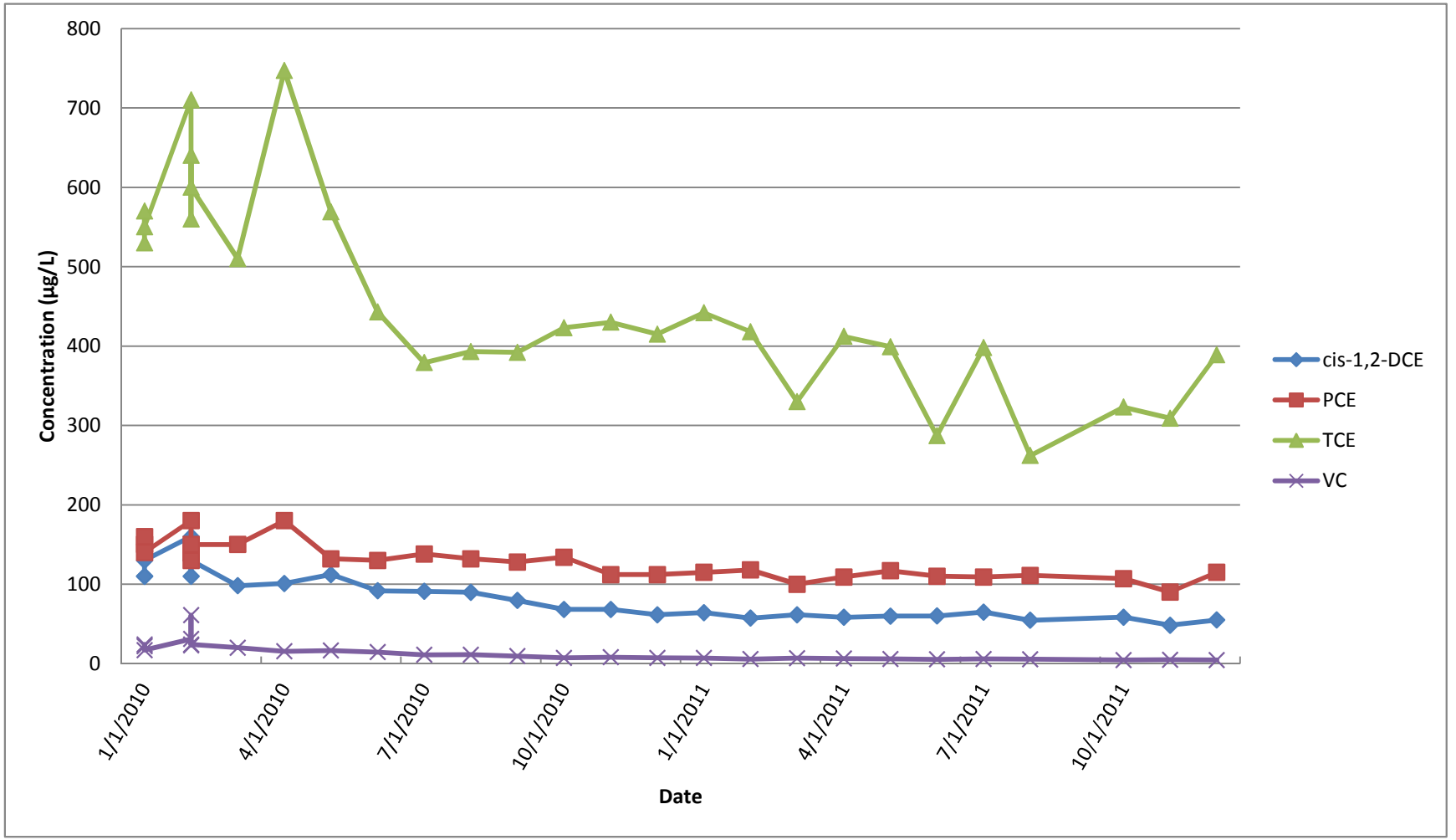


Figure 6
GM-38 Area Groundwater Remediation
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Groundwater Concentration Trends of Select VOCs

RW3

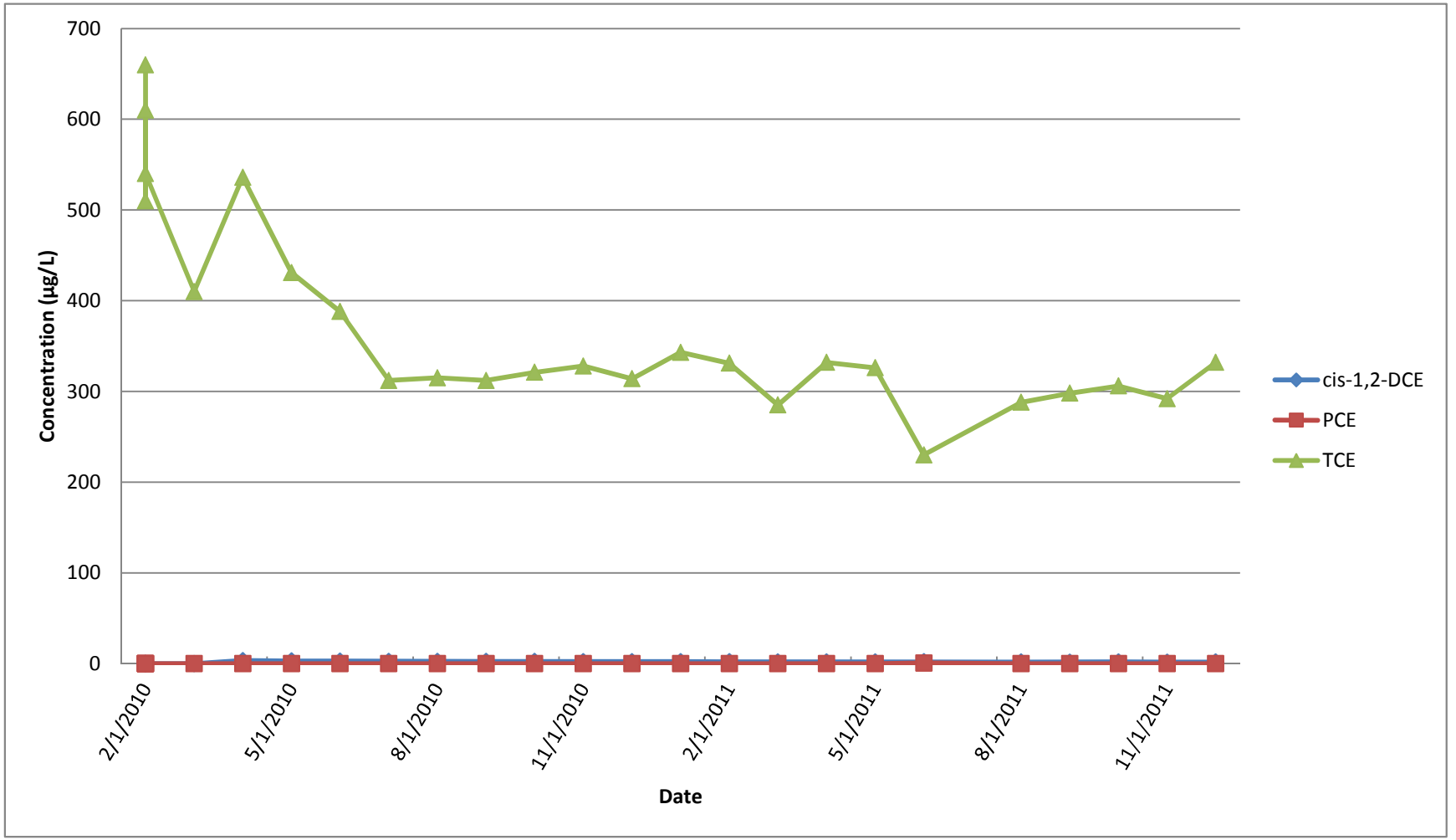


Figure 7
GM-38 Area Groundwater Remediation
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Groundwater Concentration Trends of Select VOCs

RW1-MW1

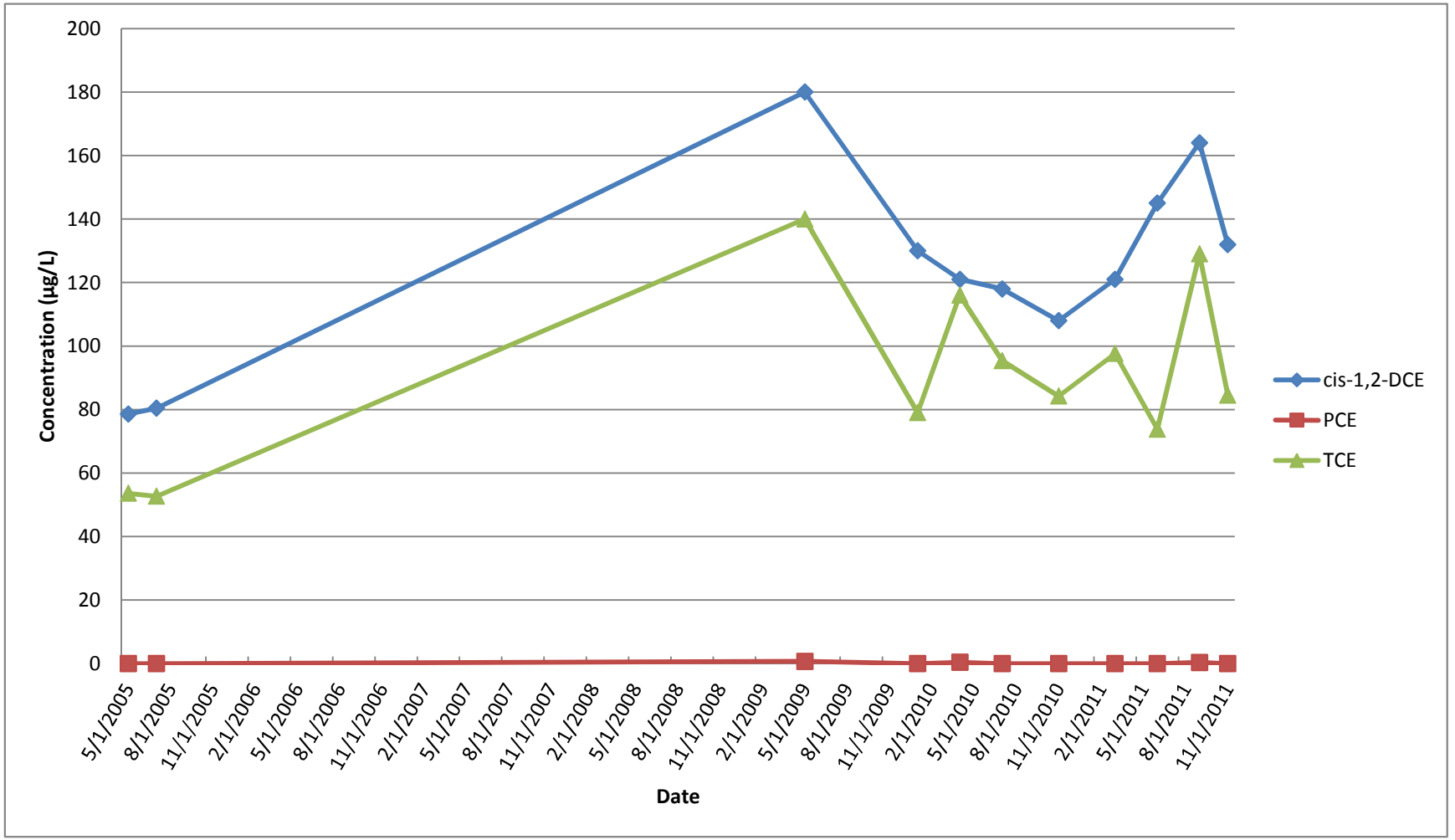


Figure 8
GM-38 Area Groundwater Remediation
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Groundwater Concentration Trends of Select VOCs

RW1-MW3

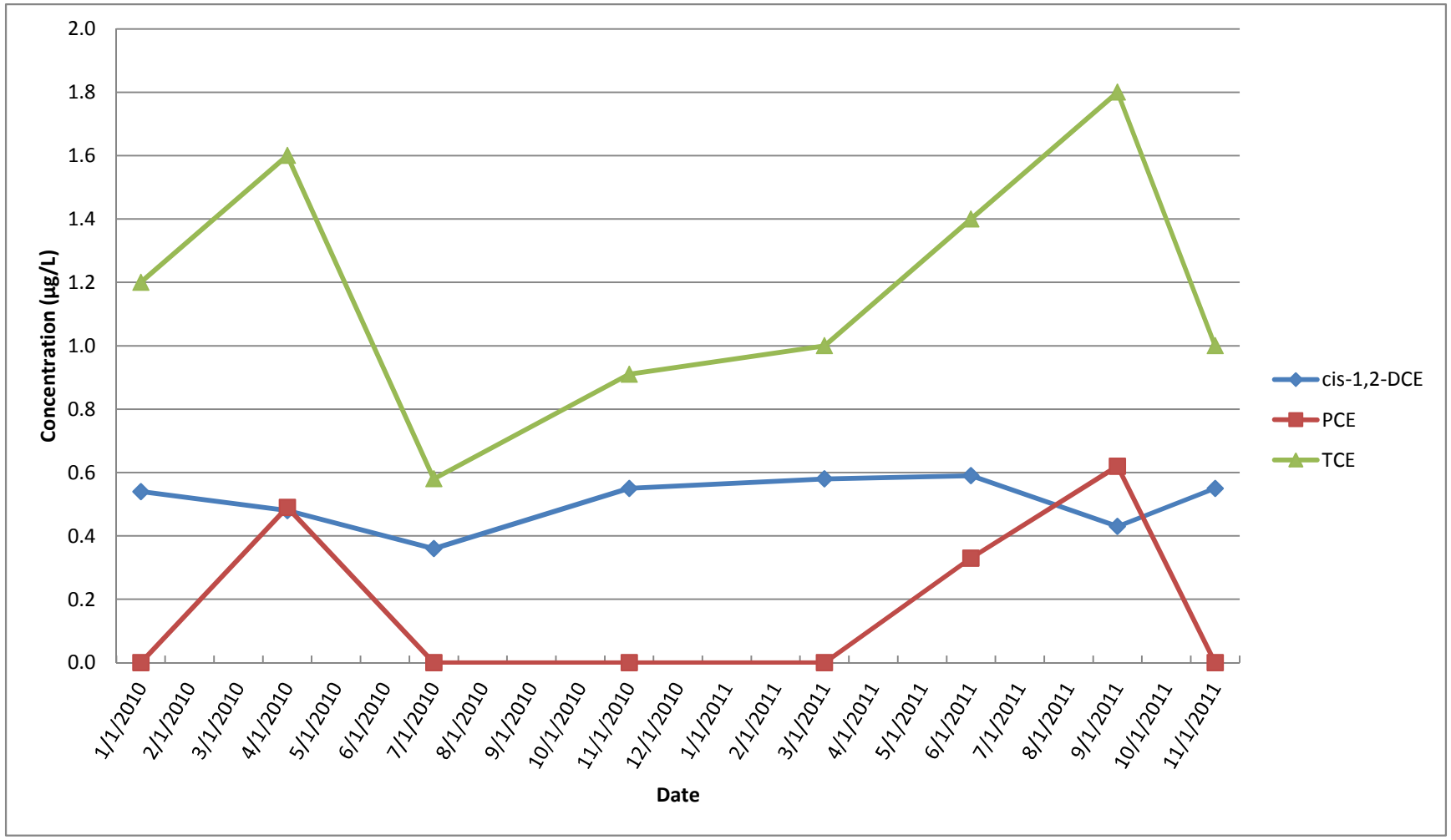


Figure 9
GM-38 Area Groundwater Remediation
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Groundwater Concentration Trends of Select VOCs

RW2-MW1

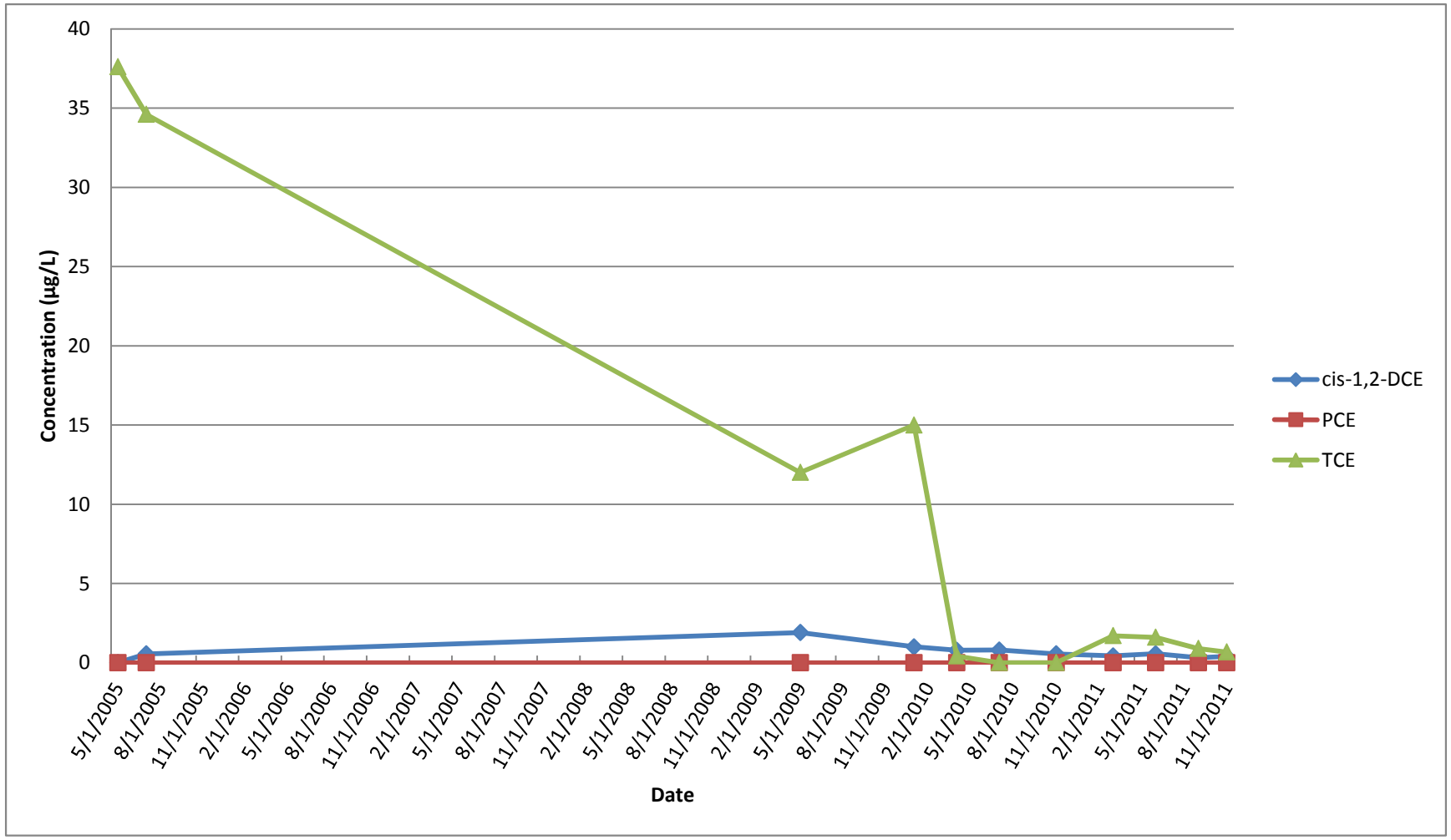


Figure 10
GM-38 Area Groundwater Remediation
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Groundwater Concentration Trends of Select VOCs

RW3-MW1

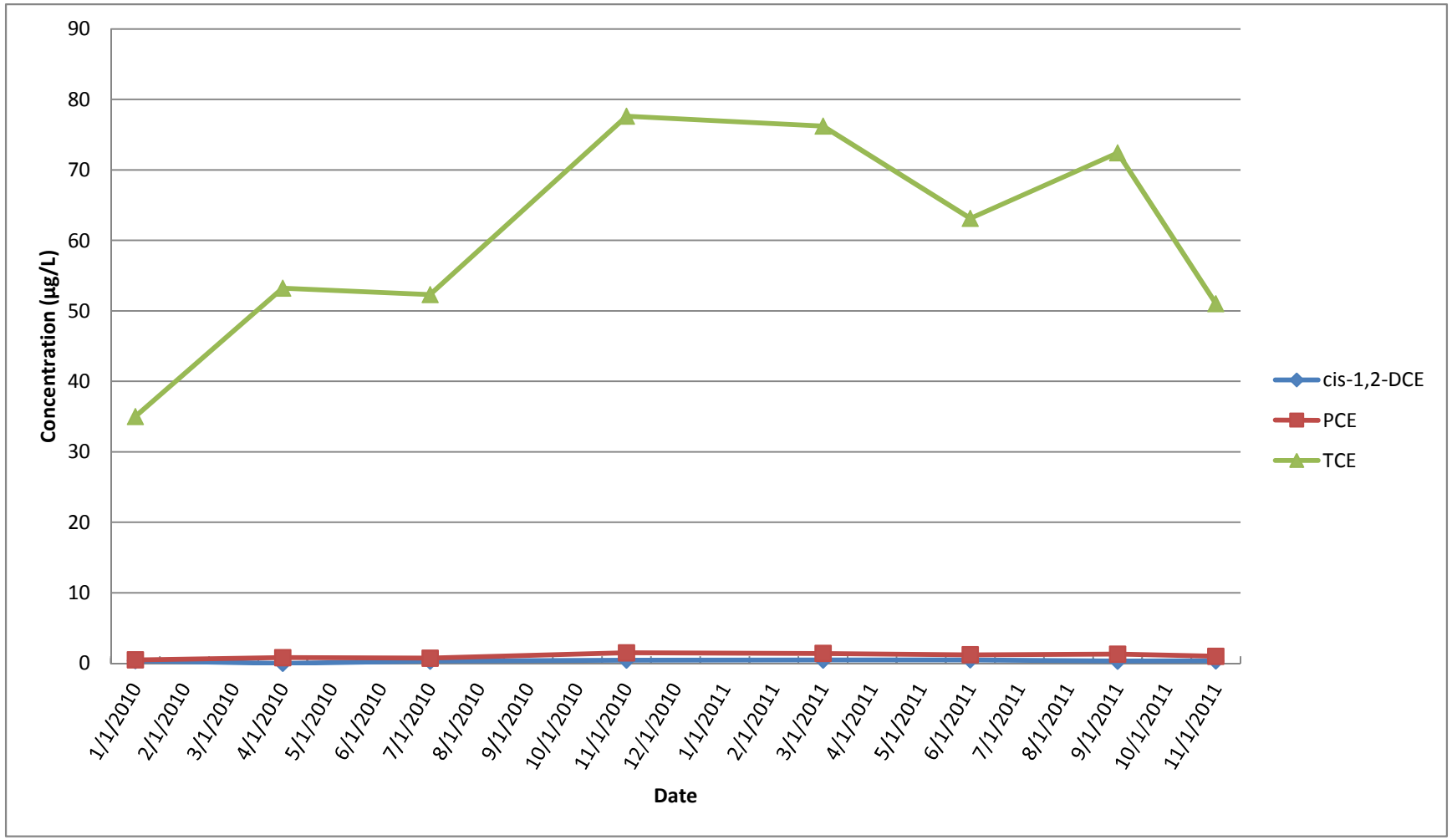


Figure 11
GM-38 Area Groundwater Remediation
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Groundwater Concentration Trends of Select VOCs

RW3-MW2

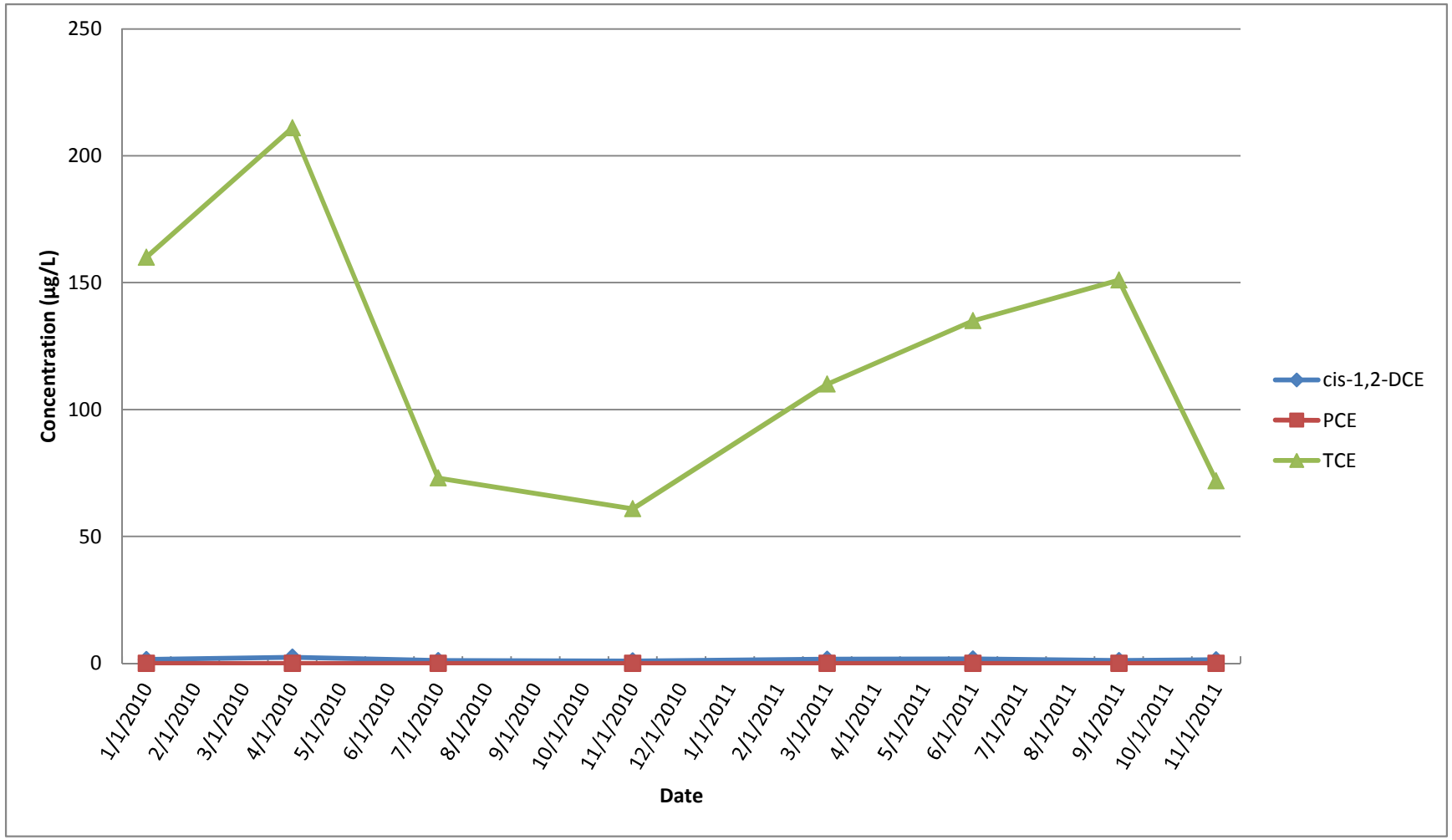


Figure 12
GM-38 Area Groundwater Remediation
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Groundwater Concentration Trends of Select VOCs

RW3-MW3

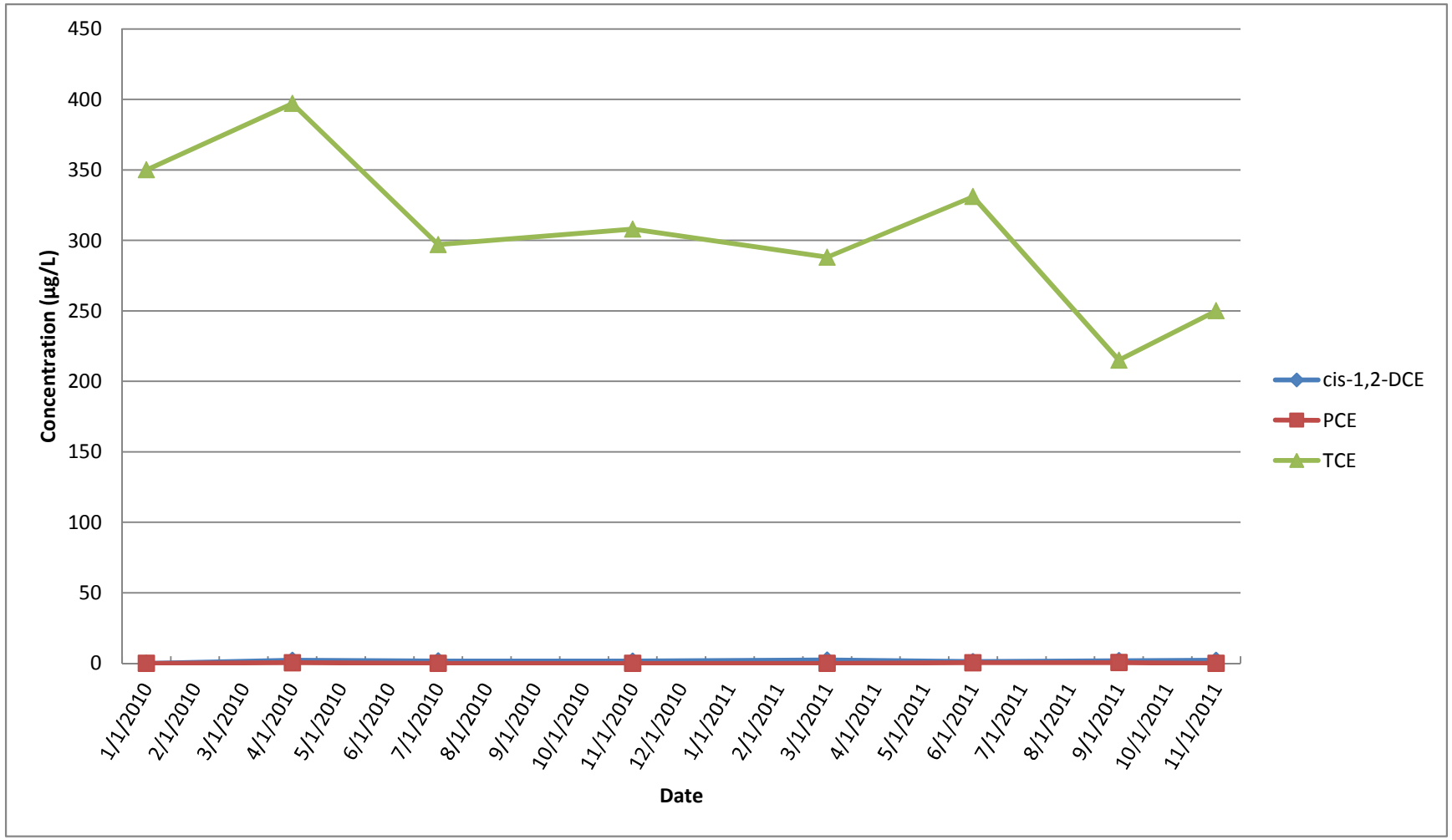


Figure 13
GM-38 Area Groundwater Remediation
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Groundwater Concentration Trends of Select VOCs

RW3-MW4

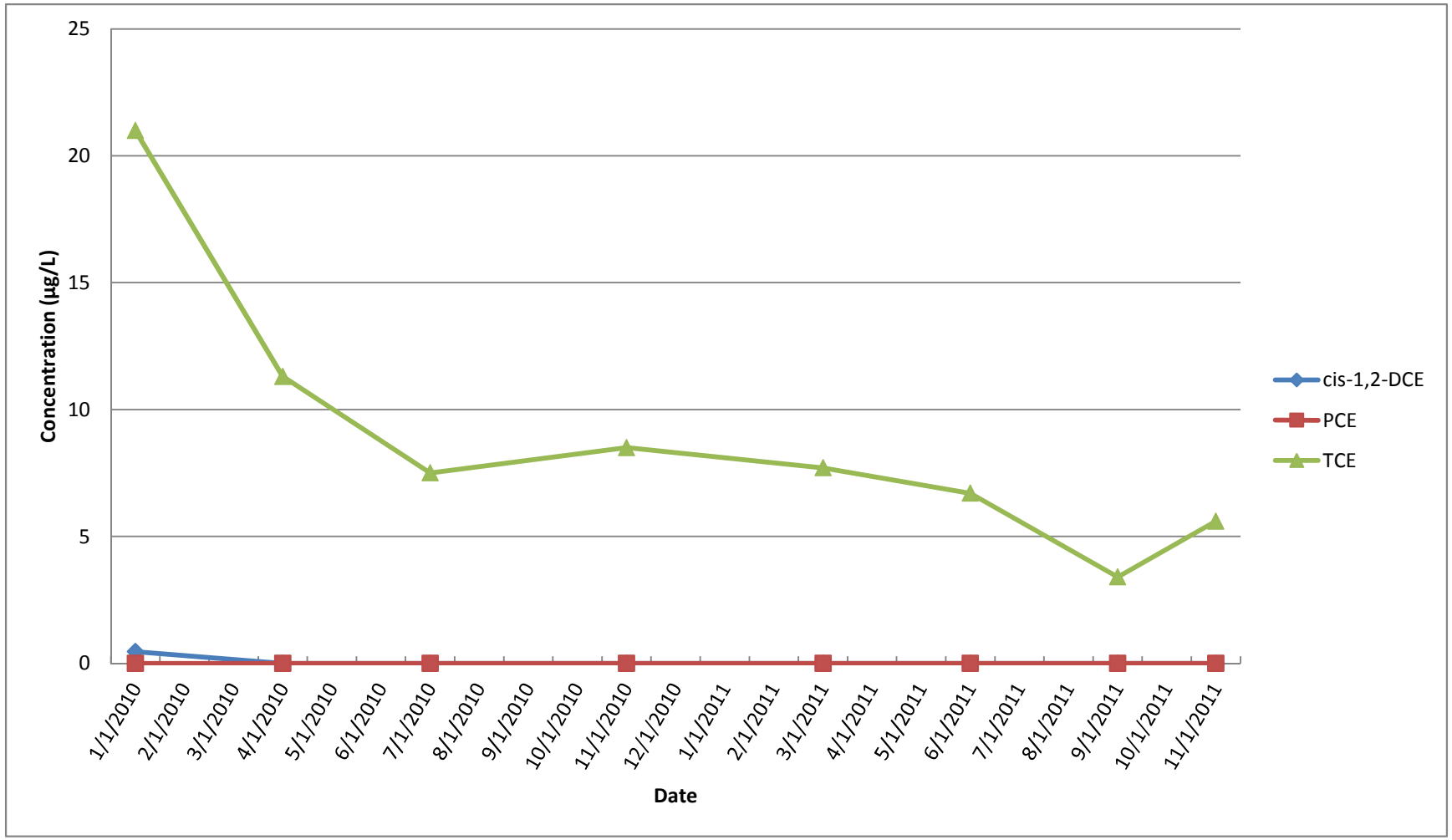
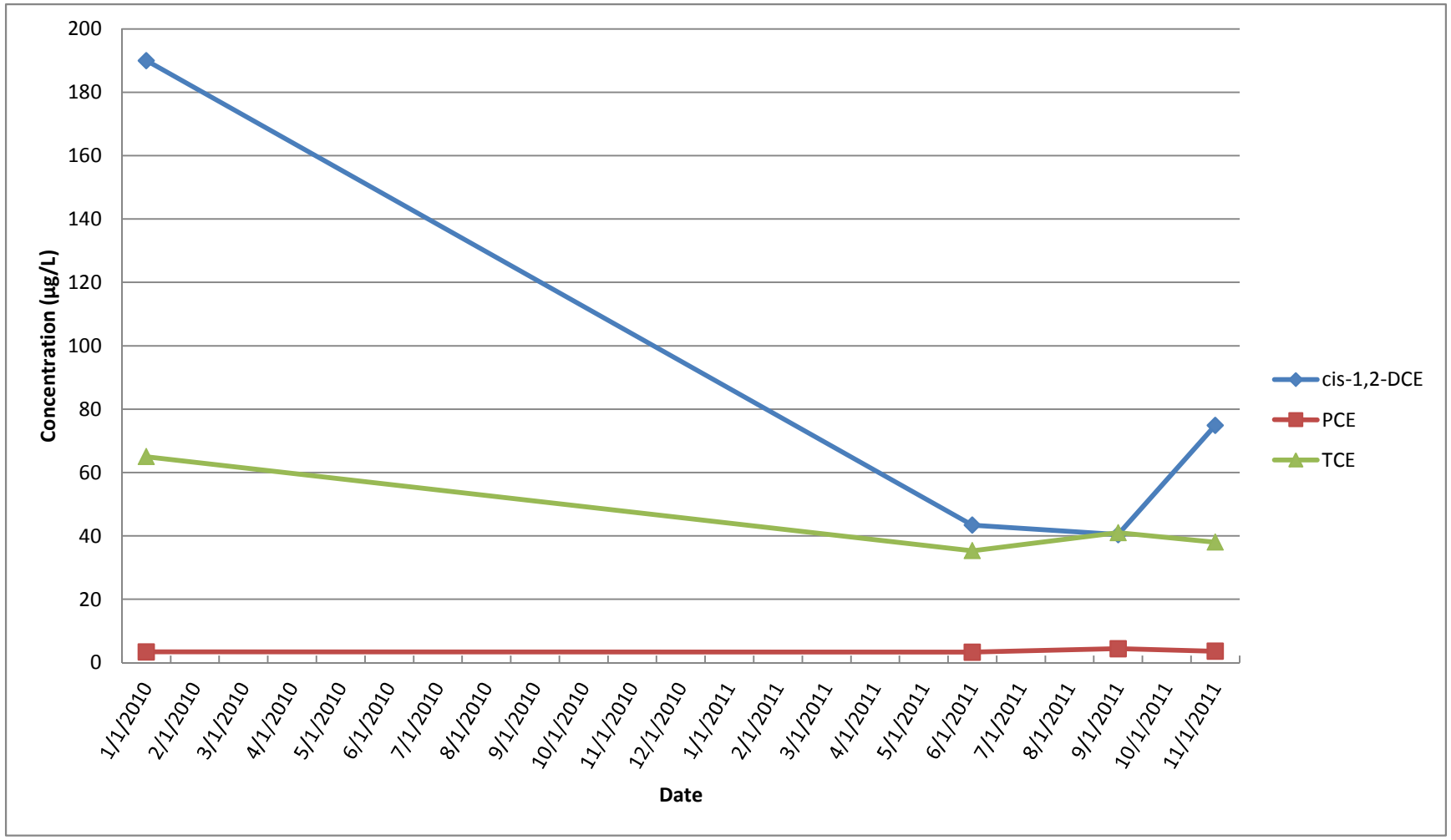


Figure 14
GM-38 Area Groundwater Remediation
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Groundwater Concentration Trends of Select VOCs

TP-01



APPENDIX A
NYSDEC Effluent Limitations and Monitoring Requirements and Monthly DMRs

New York State Department of Environmental Conservation
Division of Water
Bureau of Water Permits, 4th Floor
625 Broadway, Albany, New York 12233-3505
Phone: (518) 402-8111 • **FAX:** (518) 402-9029
Website: www.dec.state.ny.us

Alexander B. Grannis
Commissioner

MEMORANDUM

TO: Steven Scharf, DER

FROM: Jean Occidental, DOW, Bureau of Water Permits JO

SUBJECT: Naval Weapons Industrial Reserve Plant (NWIRP); DER Site # 1-01-001

DRAINAGE BASIN: na

DATE: June 6, 2008

In response to your request and the permittee's SPDES Permit Equivalent Application dated April 27, 2008, attached is the effluent criteria for the above noted groundwater remediation discharge.

The Division of Water does not have any regulatory authority over a discharge from a State, PRP, or Federal Superfund Site. The Division of Environmental Remediation will be responsible for ensuring compliance with the attached effluent criteria and approval of all engineering submissions. Additional Condition (1) identifies the contact to send all effluent results, engineering submissions, and modification requests. The Regional Water Engineer should be kept appraised of the status of these discharges and, in accordance with the attached criteria, receive a copy of the effluent results for informational purposes.

If you have any questions, please call me at (518) 402-8116.

Attachment

cc: (w/att) RWE, Region 1
C. Webber
BWP Permit Coordinator

Naval Weapons Industrial Reserve Plant

DER site # 1-01-001
Page 1 of 2

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning: April 1, 2009

and lasting until: April 1, 2014

the discharges from the treatment facility to Groundwater shall be limited and monitored by the operator as specified below:

Outfall and Parameters	Limitations		Units	Minimum Monitoring Requirements	
	Daily Avg.	Daily Max.		Measurement Frequency	Sample Type
Treated Groundwater Remediation Discharge from: Recovery Wells 1, 2, and 3					
Flow	Monitor	1100	GPM	Continuous	Recorder
pH (range)	5.5 - 8.5		SU	Weekly	Grab
1,1-Dichloroethane	NA	5	µg/l	Monthly [1]	Grab
1,2-Dichloroethane	NA	0.6	µg/l	Monthly [1]	Grab
1,1-Dichloroethene	NA	5	µg/l	Monthly [1]	Grab
cis-1,2-Dichloroethene	NA	5	µg/l	Monthly [1]	Grab
trans-1,2-Dichloroethene	NA	5	µg/l	Monthly [1]	Grab
Tetrachloroethene	NA	5	µg/l	Monthly [1]	Grab
1,1,1-Trichloroethane	NA	5	µg/l	Monthly [1]	Grab
Trichloroethene	NA	5	µg/l	Monthly [1]	Grab
Vinyl chloride	NA	2	µg/l	Monthly [1]	Grab
Mercury	NA	0.25	µg/l	Monthly [1]	Grab

Footnotes:

(1) The minimum measurement frequency shall be monthly following a period of 24 consecutive weekly sampling events showing no exceedances of the stated discharge limitations.

Additional Conditions:

(1) Discharge is not authorized until such time as an engineering submission showing the method of treatment is approved by the Department. The discharge rate may not exceed the effective or design treatment system capacity. All monitoring data, engineering submissions and modification requests must be submitted to:

Steven Scharf
Division of Environmental Remediation
NYSDEC, 625 Broadway
Albany, NY 12233-7015
Phone: (518) 402-9620

With a copy sent to:

Regional Water Engineer
NYSDEC - Region 1
Building 40, SUNY Campus
Stony Brook, New York 11790-2356
Phone: (631) 444-0354

(2) Only site generated wastewater is authorized for treatment and discharge.

(3) Authorization to discharge is valid only for the period noted above but may be renewed if appropriate. A request for renewal must be received 6 months prior to the expiration date to allow for a review of monitoring data and reassessment of monitoring requirements.

(4) Any use of corrosion/scale inhibitors, biocidal-type compounds, or other water treatment chemicals used in the treatment process must be approved by the department prior to use.

(5) This discharge and administration of this discharge must comply with the substantive requirements of 6NYCRR Part 750.

October 2011

H&S ENVIRONMENTAL
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9 November 2011

Mr. Steven Scharf
New York State Department of Environmental Conversation
Division of Environmental Remediation
Remedial Action, Bureau A
625 Broadway
Albany, NY 12233-7015

Subject: GROUNDWATER DISCHARGE MONITORING/AIR EMISSION REPORT GM-38 AREA, NWIRP BETHPAGE, NY; DER SITE # 1-30-003B-OU 2 OCTOBER 2011 REPORTING PERIOD

Dear Mr. Scharf:

H&S Environmental, Inc. (H&S) is submitting this monthly monitoring report of the groundwater discharge and air emission results for the Groundwater Treatment Plant (GWTP) located at the Former Naval Industrial Reserve Plant (NWIRP), Bethpage, NY, GM-38 Area. This report was prepared in accordance with GWTP operational requirements for DER Site # 1-30-003B-OU 2. H&S assumed operational responsibility of the GWTP on 1 June 2011. GWTP operational data from 1 October to 31 October 2011 are included in Attachment A. All constituents were within permit limitations during this reporting period.

The pump in extraction well RW-1 malfunctioned on 16 August 2011 and was inoperable for part of the month of October, resulting in lower than normal process flowrates during this reporting period. A replacement pump and motor were installed on 14 October 2011 and the pump was brought on-line 17 October 2011 and continues to operate normally.

Please contact Ms. Jennifer Good or myself at 508-366-7442 with any questions or concerns you may have regarding this report.

Sincerely,
H&S Environmental, Inc.

Patrick Schauble, P.E.
Senior Project Manager

Attachment A: Groundwater and Air Sampling Results from October 2011

Cc: Jean Occidental - NYSDEC Division of Water
William Spitz - NYSDEC – Region 1 Water Engineer
Gerard Ennis - Nassau County Department of Public Works
Richard Pfaender - Town of Oyster Bay
Lora Fly - NAVFAC Mid-Atlantic RPM
Al Taormina – ECOR
GM-38 Copy

ATTACHMENT A

GROUNDWATER AND AIR SAMPLING RESULTS

OCTOBER 2011

GM-38 Area Groundwater Remediation
Groundwater Treatment Plant
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Discharge Monitoring Report
October 2011

SPDES Parameters			October 2011			
Process Stream	Daily Treated Effluent Maximum	Units	RW-1 (2)	RW-3	Combined Influent (1) (2) (RW-1 + RW-3)	Treated Effluent (2)
Well Depth	N/A	ft	500	500	500	N/A
Screened Interval	N/A	ft	470-500	470-500	470-500	N/A
Sampling Date	N/A		10/14/11 (2)			
Average Flowrate	1100	GPM	370	280	650	672
Total Flow	N/A	gallons	29,989,400	12,482,100	42,471,500	29,989,400
pH	5.5 - 8.5	SU	5.78	6.04	5.89	7.09
Carbon Tetrachloride	NA	µg/L	ND	ND	ND	ND
1,1-Dichloroethane	5	µg/L	2.9 J	2.8	2.9	ND
1,2-Dichloroethane	0.6	µg/L	ND	ND	ND	ND
1,1-Dichloroethene	5	µg/L	7.3 J	1.9	5.0	ND
cis 1,2-Dichloroethene	5	µg/L	58.5	1.9	34.2	0.97 J
trans 1,2-Dichloroethene	5	µg/L	ND	ND	ND	ND
Tetrachloroethene	5	µg/L	107	ND	61	ND
1,1,1-Trichloroethene	5	µg/L	6.7 J	1.1	4.3	ND
Trichloroethene	5	µg/L	323	306	316	ND
Vinyl Chloride	2	µg/L	4.4 J	ND	2.5 J	ND
Mercury	0.25	µg/L	ND	ND	ND	ND
Total Suspended Solids (TSS)	N/A	µg/L	5,000	ND	2,849	ND

Notes:
J - Estimated result between laboratory method detection limit and reporting limit
ND - Not detected above laboratory method detection limit
N/A - Not Applicable
(1) Influent concentrations presented are the weighted average concentrations of RW-1 and RW-3.
(2) The pump in RW-1 malfunctioned on 16 August 2011 and was inoperable until 17 October 2011, resulting in less than average flow rates for the month. RW-1 was sampled 20 October 2011 after the pump was brought back on-line.

GM-38 Area Groundwater Remediation
Groundwater Treatment Plant
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Air Sampling Results
October 2011

DAR Parameters	Units	SGC	October 2011	
Process Stream			**Influent**	**Effluent**
Sampling Date	N/A	N/A	10/14/11	
Average Flowrate	CFM	N/A	NR	9,460
Total Flow	ft^3	N/A	NR	422,298,458
Total Flow	m^3	N/A	NR	11,958,161
1,2-Dichloroethane	$\mu g/m^3$	N/A	1 J	0.6 J
cis 1,2-Dichloroethene	$\mu g/m^3$	N/A	8	2
trans 1,2-Dichloroethene	$\mu g/m^3$	N/A	1 J	0.4 J
1,2-Dichloroethene (total)	$\mu g/m^3$	N/A	9	2
Toluene	$\mu g/m^3$	37,000	3	0.5 J
Total Xylene	$\mu g/m^3$	4,300	3 J	1 J
1,1,2-Trichloroethane	$\mu g/m^3$	N/A	2 J	0.6 J
Trichloroethene	$\mu g/m^3$	14,000	1,400	3
Vinyl Chloride	$\mu g/m^3$	180,000	ND	0.3 J
Tetrachloroethene	$\mu g/m^3$	1,000	450	0.9 J

Notes:
CFM - cubic feet per minute
DAR - Division of Air Resources
J - Estimated result between laboratory method detection limit and reporting limit
N/A - Not Applicable
NR - Not recorded
SGC - Short-term Guideline Concentration

GM-38 Area Groundwater Remediation
Groundwater Treatment Plant
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Controlled Stack Emissions
October 2011

DAR Parameters	Units	Discharge Goal	October 2011
Sampling Date	N/A	N/A	10/14/11
Average Flowrate	CFM	N/A	9460
Total Flow	ft^3	N/A	422,298,458
Total Flow	m^3	N/A	11,958,161
Trichloroethene	lb/hr	0.09	0.0001
Vinyl Chloride	lb/hr	0.01	0.0000
1,2 Dichloroethene	lb/hr	0.03	0.0001
1,2-Dichloroethane	lb/hr	BRT	0.0000
Toluene	lb/hr	BRT	0.0000
Total Xylene	lb/hr	BRT	0.0000
1,1,2-Trichloroethane	lb/hr	BRT	0.0000
Tetrachloroethene	lb/hr	0.02	0.0000

Notes:
BRT - below reporting thresholds
CFM - cubic feet per minute
DAR - Division of Air Resources
N/A - Not Applicable

November 2011

H&S ENVIRONMENTAL
...an 8(a), SDB, woman-owned company

12 December 2011

Mr. Steven Scharf
New York State Department of Environmental Conversation
Division of Environmental Remediation
Remedial Action, Bureau A
625 Broadway
Albany, NY 12233-7015

Subject: GROUNDWATER DISCHARGE MONITORING/AIR EMISSION REPORT GM-38 AREA, NWIRP BETHPAGE, NY; DER SITE # 1-30-003B-OU 2 NOVEMBER 2011 REPORTING PERIOD

Dear Mr. Scharf:

H&S Environmental, Inc. (H&S) is submitting this monthly monitoring report of the groundwater discharge and air emission results for the Groundwater Treatment Plant (GWTP) located at the Former Naval Industrial Reserve Plant (NWIRP), Bethpage, NY, GM-38 Area. This report was prepared in accordance with GWTP operational requirements for DER Site # 1-30-003B-OU 2. H&S assumed operational responsibility of the GWTP on 1 June 2011. GWTP operational data from 1 November to 30 November 2011 are included in Attachment A. All constituents were within permit limitations during this reporting period.

Please contact Ms. Jennifer Good or myself at 508-366-7442 with any questions or concerns you may have regarding this report.

Sincerely,
H&S Environmental, Inc.

Patrick Schauble, P.E.
Senior Project Manager

Attachment A: Groundwater and Air Sampling Results from October 2011

Cc: Jean Occidental - NYSDEC Division of Water
William Spitz - NYSDEC – Region 1 Water Engineer
Gerard Ennis - Nassau County Department of Public Works
Richard Pfaender - Town of Oyster Bay
Lora Fly - NAVFAC Mid-Atlantic RPM
Al Taormina – ECOR
GM-38 Copy

ATTACHMENT A

GROUNDWATER AND AIR SAMPLING RESULTS

NOVEMBER 2011

GM-38 Area Groundwater Remediation
Groundwater Treatment Plant
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Discharge Monitoring Report
November 2011

SPDES Parameters	November 2011					
Process Stream	Daily Treated Effluent Maximum	Units	RW-1	RW-3	Combined Influent (1) (2) (RW-1 + RW-3)	Treated Effluent (2)
Well Depth	N/A	ft	500	500	500	N/A
Screened Interval	N/A	ft	470-500	470-500	470-500	N/A
Sampling Date	N/A		11/7/11			
Average Flowrate	1100	GPM	691	231	922	955
Total Flow	N/A	gallons	28,849,000	9,665,300	38,514,300	39,877,100
pH	5.5 - 8.5	SU	5.85	5.90	5.86	7.32
Carbon Tetrachloride	NA	µg/L	ND	ND	ND	ND
1,1-Dichloroethane	5	µg/L	2.5 J	2.6 J	2.5	ND
1,2-Dichloroethane	0.6	µg/L	ND	ND	ND	ND
1,1-Dichloroethene	5	µg/L	5.4 J	1.1 J	4.3	ND
cis 1,2-Dichloroethene	5	µg/L	48.4	1.5 J	36.6	1.0 J
trans 1,2-Dichloroethene	5	µg/L	ND	ND	ND	ND
Tetrachloroethene	5	µg/L	90.1	ND	67	ND
1,1,1-Trichloroethene	5	µg/L	6.0 J	ND	4.5	ND
Trichloroethene	5	µg/L	309	292	305	ND
Vinyl Chloride	2	µg/L	4.9 J	ND	3.7 J	ND
Mercury	0.25	µg/L	ND	ND	ND	ND
Total Suspended Solids (TSS)	N/A	µg/L	ND	ND	ND	ND

Notes:
J - Estimated result between laboratory method detection limit and reporting limit
ND - Not detected above laboratory method detection limit
N/A - Not Applicable
(1) Influent concentrations presented are the weighted average concentrations of RW-1 and RW-3.
(2) System downtime from 4-7 November 2011 resulted in lower than average flowrates during this reporting period.

GM-38 Area Groundwater Remediation
Groundwater Treatment Plant
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Air Sampling Results
November 2011

DAR Parameters	Units	SGC	November 2011	
Process Stream			**Influent**	**Effluent**
Sampling Date	N/A	N/A	11/3/11	
Average Flowrate	CFM	N/A	NR	9,677
Total Flow	ft^3	N/A	NR	418,058,182
Total Flow	m^3	N/A	NR	11,838,089
1,2-Dichloroethane	$\mu g/m^3$	N/A	5 J	2
cis 1,2-Dichloroethene	$\mu g/m^3$	N/A	530	37
trans 1,2-Dichloroethene	$\mu g/m^3$	N/A	8	ND
1,2-Dichloroethene (total)	$\mu g/m^3$	N/A	538	37
Toluene	$\mu g/m^3$	37,000	ND	ND
Total Xylene	$\mu g/m^3$	4,300	ND	ND
1,1,2-Trichloroethane	$\mu g/m^3$	N/A	ND	ND
Trichloroethene	$\mu g/m^3$	14,000	4200	6
Vinyl Chloride	$\mu g/m^3$	180,000	42	0.7
Tetrachloroethene	$\mu g/m^3$	1,000	1200	0.7 J

Notes:
CFM - cubic feet per minute
DAR - Division of Air Resources
J - Estimated result between laboratory method detection limit and reporting limit
N/A - Not Applicable
NR - Not recorded
SGC - Short-term Guideline Concentration

GM-38 Area Groundwater Remediation
Groundwater Treatment Plant
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Controlled Stack Emissions
November 2011

DAR Parameters	Units	Discharge Goal	November 2011
Sampling Date	N/A	N/A	11/3/11
Average Flowrate	CFM	N/A	9677
Total Flow	ft^3	N/A	418,058,182
Total Flow	m^3	N/A	11,838,089
Trichloroethene	lb/hr	0.09	0.0002
Vinyl Chloride	lb/hr	0.01	0.0000
1,2 Dichloroethene	lb/hr	0.03	0.0013
1,2-Dichloroethane	lb/hr	BRT	0.0001
Toluene	lb/hr	BRT	0.0000
Total Xylene	lb/hr	BRT	0.0000
1,1,2-Trichloroethane	lb/hr	BRT	0.0000
Tetrachloroethene	lb/hr	0.02	0.0000

Notes:
BRT - below reporting thresholds
CFM - cubic feet per minute
DAR - Division of Air Resources
N/A - Not Applicable

December 2011

H&S ENVIRONMENTAL
...an 8(a), SDB, woman-owned company

13 January 2012

Mr. Steven Scharf
New York State Department of Environmental Conversation
Division of Environmental Remediation
Remedial Action, Bureau A
625 Broadway
Albany, NY 12233-7015

Subject: GROUNDWATER DISCHARGE MONITORING/AIR EMISSION REPORT GM-38 AREA, NWIRP BETHPAGE, NY; DER SITE # 1-30-003B-OU 2 DECEMBER 2011 REPORTING PERIOD

Dear Mr. Scharf:

H&S Environmental, Inc. (H&S) is submitting this monthly monitoring report of the groundwater discharge and air emission results for the Groundwater Treatment Plant (GWTP) located at the Former Naval Industrial Reserve Plant (NWIRP), Bethpage, NY, GM-38 Area. This report was prepared in accordance with GWTP operational requirements for DER Site # 1-30-003B-OU 2. H&S assumed operational responsibility of the GWTP on 1 June 2011. GWTP operational data from 1 December to 31 December 2011 are included in Attachment A. All constituents were within permit limitations during this reporting period.

Please contact Ms. Jennifer Good or myself at 508-366-7442 with any questions or concerns you may have regarding this report.

Sincerely,
H&S Environmental, Inc.

Patrick Schauble, P.E.
Senior Project Manager

Attachment A: Groundwater and Air Sampling Results from October 2011

Cc: Jean Occidental - NYSDEC Division of Water
William Spitz - NYSDEC – Region 1 Water Engineer
Gerard Ennis - Nassau County Department of Public Works
Richard Pfaender - Town of Oyster Bay
Lora Fly - NAVFAC Mid-Atlantic RPM
Al Taormina – ECOR
GM-38 Copy

ATTACHMENT A

GROUNDWATER AND AIR SAMPLING RESULTS

DECEMBER 2011

GM-38 Area Groundwater Remediation
Groundwater Treatment Plant
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Discharge Monitoring Report
December 2011

SPDES Parameters	December 2011					
Process Stream	Daily Treated Effluent Maximum	Units	RW-1	RW-3	Combined Influent (1) (2) (RW-1 + RW-3)	Treated Effluent (2)
Well Depth	N/A	ft	500	500	500	N/A
Screened Interval	N/A	ft	470-500	470-500	470-500	N/A
Sampling Date	N/A		12/8/11			
Average Flowrate	1100	GPM	736	200	935	963
Total Flow	N/A	gallons	32,833,565	8,909,900	41,743,465	42,997,830
pH	5.5 - 8.5	SU	6.29	6.17	6.26	6.99
Carbon Tetrachloride	NA	µg/L	0.52 J	ND	0.41 J	ND
1,1-Dichloroethane	5	µg/L	3.0	3.1	3.0	ND
1,2-Dichloroethane	0.6	µg/L	ND	ND	ND	ND
1,1-Dichloroethene	5	µg/L	7.6	1.7	6.3	ND
cis 1,2-Dichloroethene	5	µg/L	54.9	1.7	43.5	1.1
trans 1,2-Dichloroethene	5	µg/L	1.1	ND	0.9	ND
Tetrachloroethene	5	µg/L	115	ND	90.5	ND
1,1,1-Trichloroethene	5	µg/L	7.6	1.4	6.0	ND
Trichloroethene	5	µg/L	389	332	377	0.38 J
Vinyl Chloride	2	µg/L	4.5	ND	3.5	ND
Mercury	0.25	µg/L	ND	ND	ND	ND
Total Suspended Solids (TSS)	N/A	µg/L	ND	ND	ND	ND

Notes:
J - Estimated result between laboratory method detection limit and reporting limit
ND - Not detected above laboratory method detection limit
N/A - Not Applicable
(1) Influent concentrations presented are the weighted average concentrations of RW-1 and RW-3.
(2) System downtime from 13-15 December 2011 while the computer was being repaired resulted in lower than average flowrates during this reporting period.

GM-38 Area Groundwater Remediation
Groundwater Treatment Plant
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Air Sampling Results
December 2011

DAR Parameters	Units	SGC	December 2011	
Process Stream			**Influent**	**Effluent**
Sampling Date	N/A	N/A	12/22/11	
Average Flowrate	CFM	N/A	NR	9,258
Total Flow	ft^3	N/A	NR	413,277,120
Total Flow	m^3	N/A	NR	11,702,705
1,2-Dichloroethane	$\mu g/m^3$	N/A	4.0 J	0.93 J
cis 1,2-Dichloroethene	$\mu g/m^3$	N/A	490	10
trans 1,2-Dichloroethene	$\mu g/m^3$	N/A	7.6 J	ND
1,2-Dichloroethene (total)	$\mu g/m^3$	N/A	500	10
Toluene	$\mu g/m^3$	37,000	7.7 J	0.51 J
Total Xylene	$\mu g/m^3$	4,300	16	ND
1,1,2-Trichloroethane	$\mu g/m^3$	N/A	3.8 J	ND
Trichloroethene	$\mu g/m^3$	14,000	3300	2.8 J
Vinyl Chloride	$\mu g/m^3$	180,000	28	1.1 J
Tetrachloroethene	$\mu g/m^3$	1,300	1300	0.77 J

Notes:
CFM - cubic feet per minute
DAR - Division of Air Resources
J - Estimated result between laboratory method detection limit and reporting limit
N/A - Not Applicable
NR - Not recorded
SGC - Short-term Guideline Concentration

GM-38 Area Groundwater Remediation
Groundwater Treatment Plant
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Controlled Stack Emissions
December 2011

DAR Parameters	Units	Discharge Goal	December 2011
Sampling Date	N/A	N/A	12/22/11
Average Flowrate	CFM	N/A	9258
Total Flow	ft^3	N/A	413,277,120
Total Flow	m^3	N/A	11,702,705
Trichloroethene	lb/hr	0.09	0.0001
Vinyl Chloride	lb/hr	0.01	0.0000
1,2 Dichloroethene	lb/hr	0.03	0.0003
1,2-Dichloroethane	lb/hr	BRT	0.0000
Toluene	lb/hr	BRT	0.0000
Total Xylene	lb/hr	BRT	0.0000
1,1,2-Trichloroethane	lb/hr	BRT	0.0000
Tetrachloroethene	lb/hr	0.02	0.0000

Notes:
BRT - below reporting thresholds
CFM - cubic feet per minute
DAR - Division of Air Resources
N/A - Not Applicable

APPENDIX B
NYSDEC Air Permit Equivalent Approval

New York State Department of Environmental Conservation
Division of Environmental Remediation
Bureau of Remedial Action A
625 Broadway, 11th Floor
Albany, New York 12233-7015
Phone: (518) 402-9625 • Fax: (518) 402-9022
Website: www.dec.state.ny.us

Alexander P. Grannis
Commissioner

July 24, 2009

Lora Fly, Project Manager
Naval Facilities Engineering Command-Midlant
9742 Maryland Avenue
Norfolk, VA 23511-3095

RE: Naval Weapons Industrial Research Plant(NWIRP)
Site-Bethpage, NYSDEC No. 1-30-003B.
Grumman Aerospace Site, NYSDEC Site No. 1-30-003A

Dear Ms. Fly:

Tetra Tech FW, on behalf of the Department of the Navy (Navy), has submitted the enclosed New York State Department of Environmental Conservation (NYSDEC) Division of Air Resources (DAR) Air Permit Application as a permit equivalent. This DAR Air permit equivalent is for the air stripper discharge at the GM 38 Area groundwater remediation system, Near Broadway and North Herman Avenue in Bethpage, NY. The NYSDEC Division of Environmental Remediation (DER) has reviewed the permit equivalent and, by means of this letter approves the GM 38 Area remedy air discharge for immediate operation.

The GM 38 Area remedial system utilizes the best available control technology (BACT) with activated carbon followed by potassium permanganate impregnated xeolite resin. The air discharge will be periodically monitored at start up and will be added for routine monitoring in the operation, maintenance and monitoring (OMM) plan, to be submitted shortly for Departmental review.

If you have any questions, please contact me at your earliest convenience at (518)402-9620.

Sincerely,

Steven M. Scharf, P.E.
Project Engineer
Division of Environmental Remediation
Bureau of Remedial Action A

Enclosure
ec/w/enc:
J. Swartwout/S. Scharf/File
W. Parish, Region 1 NYSDEC
A. J. Shah, region 1 NYSDEC
S. Patselos, Tetra Tech FW
J. Cofman, Northrop Grumman]
edocs: Region 1, Nassau, Oyster Bay (T): Grumman Aerospace 130003A-OU2-OMM and NWIRP Bethpage 130003B-OU2-OMM

New York State Department of Environmental Conservation
Air Permit Application

DEC ID	APPLICATION ID	OFFICE USE ONLY
- -	- /	/ /

Section I - Certification

Title V Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information [required pursuant to 6 NYCRR 201-6.3(d)] I believe the information is, true, accurate and complete I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations

Responsible Official	Title
Signature	Date / /

State Facility Certification

I certify that this facility will be operated in conformance with all provisions of existing regulations.

Responsible Official	Title
Signature	Date / /

Section II - Identification Information

Title V Facility Permit N/A	State Facility Permit N/A
❑ New ❑ Significant Modification ❑ Administrative Amendment	❑ New ❑ Modification
❑ Renewal ❑ Minor Modification General Permit Title:	General Permit Title:
☒ Application involves construction of new facility ❑ Application involves construction of new emission unit(s)	

Owner/Firm

Name	US Navy/NAVFAC Midlant			
Street Address	9742 Maryland Ave, Bldg Z-144			
City	Norfolk	State VA	Country US	Zip 23511-3095
Owner Classification	☒ Federal ❑ State ❑ Municipal ❑ Corporation/Partnership ❑ Individual			Taxpayer ID

Facility

❑ Confidential

Name	Naval Weapons Industrial Reserve Plant (NWIRP) GM-38 Area	
Location Address	Bethpage	
❑ City / ☒ Town / ❑ Village	Oyster Bay, New York	Zip 11714

Project Description

❑ Continuation Sheet(s)

Air stripping of groundwater to remove VOCs

Owner/Firm Contact Mailing Address

Name (Last, First, Middle Initial)	Fly, Lora		Phone No. (757) 444-0781
Affiliation	Department of the Navy	Title Remedial PM	Fax No. ( )
Street Address	9742 Maryland Ave. Bldg Z-144		
City	Norfolk	State VA	Country US	Zip 23511-3095

Facility Contact Mailing Address

Name (Last, First, Middle Initial)	Same		Phone No. ( )
Affiliation		Title	Fax No. ( )
Street Address			
City		State	Country	Zip

New York State Department of Environmental Conservation
Air Permit Application

DEC ID
- -

Section III - Facility Information

Classification

❑ Hospital ❑ Residential ❑ Educational/Institutional ❑ Commercial ☒ Industrial ❑ Utility

Affected States (Title V Only) N/A

❑ Vermont ❑ Massachusetts ❑ Rhode Island ❑ Pennsylvania Tribal Land:_____
❑ New Hampshire ❑ Connecticut ❑ New Jersey ❑ Ohio Tribal Land:_____

SIC Codes

9999												

Facility Description ❑ Continuation Sheet(s)

Groundwater Remediation by Air Stripping followed by Vapor-Phase GAC for emission control

Compliance Statements (Title V Only) N/A

I certify that as of the date of this application the facility is in compliance with all applicable requirements: ❑ YES ❑ NO

If one or more emission units at the facility are not in compliance with all applicable requirements at the time of signing this application (the 'NO' box must be checked), the noncomplying units must be identified in the "Compliance Plan" block on page 8 of this form along with the compliance plan information required. For all emission units at this facility that are operating in compliance with all applicable requirements complete the following:

- ❑ This facility will continue to be operated and maintained in such a manner as to assure compliance for the duration of the permit, except those units referenced in the compliance plan portion of Section IV of this application.
- ❑ For all emission units, subject to any applicable requirements that will become effective during the term of the permit, this facility will meet all such requirements on a timely basis.
- ❑ Compliance certification reports will be submitted at least once a year. Each report will certify compliance status with respect to each requirement, and the method used to determine the status.

Facility Applicable Federal Requirements N/A ❑ Continuation Sheet(s)

Title	Type	Part	Sub Part	Section	Sub Division	Paragraph	Sub Paragraph	Clause	Sub Clause
	CERCLA	all substantive requirements							

Facility State Only Requirements ❑ Continuation Sheet(s)

Title	Type	Part	Sub Part	Section	Sub Division	Paragraph	Sub Paragraph	Clause	Sub Clause

New York State Department of Environmental Conservation
Air Permit Application

DEC ID
- - - - - - - - - -

Section III - Facility Information (continued)

Facility Compliance Certification N/A ❑ Continuation Sheet(s)

Rule Citation

Title	Type	Part	Sub Part	Section	Sub Division	Paragraph	Sub Paragraph	Clause	Sub Clause

❑ Applicable Federal Requirement ❑ State Only Requirement	❑ Capping	CAS No.	Contaminant Name
		- -	

Monitoring Information

❑ Ambient Air Monitoring ❑ Work Practice Involving Specific Operations ❑ Record Keeping/Maintenance Procedures

Description

Work Practice Type	Process Material Code	Process Material Description	Reference Test Method

Parameter Code	Parameter Description	Manufacturer Name/Model No.

Limit Upper	Limit Lower	Limit Units Code	Limit Units Description

Averaging Method Code	Averaging Method Description	Monitoring Frequency Code	Monitoring Frequency Description	Reporting Requirements Code	Reporting Requirements Description

Facility Emissions Summary ❑ Continuation Sheet(s)

CAS No.	Contaminant Name	PTE (lbs/yr)	PTE Range Code	Actual (lbs/yr)
NY075 - 00 - 5	PM-10			
NY075 - 00 - 0	PARTICULATES			
7446 - 09 - 5	SULFUR DIOXIDE			
NY210 - 00 - 0	OXIDES OF NITROGEN			
630 - 08 - 0	CARBON MONOXIDE			
7439 - 92 - 1	LEAD			
NY998 - 00 - 0	VOC	117		
NY100 - 00 - 0	HAP	110		
0079 - 01 - 6	Trichloroethylene	99		
00075 - 01 - 4	Vinyl Chloride	3.7		
00540 - 59 - 0	1,2-Dichloroethylene	7.3		
- -				
- -				

New York State Department of Environmental Conservation
Air Permit Application

DEC ID
- - -

Section IV - Emission Unit Information

Emission Unit Description

❑ Continuation Sheet(s)

EMISSION UNIT: 0-00EU1

Air Stripper AS-1 for groundwater remediation, provided with activated carbon for emission control. The emission point is stack 00ST-1. The 2-stage VGAC is followed by a 3rd vessel containing a potassium permanganate zeolite media for increased VC capacity.

Building

❑ Continuation Sheet(s)

Building	Building Name	Length (ft)	Width (ft)	Orientation
BLDG-1	Treatment Plant	75	75	0

Emission Point

❑ Continuation Sheet(s)

EMISSION PT.: 00ST1

Ground Elev. (ft)	Height (ft)	Height Above Structure (ft)	Inside Diameter (in)	Exit Temp. (°F)	Cross Section	
					Length (in)	Width (in)
90	40	15	36	80		
Exit Velocity (FPS)	**Exit Flow (ACFM)**	**NYTM (E) (KM)**	**NYTM (N) (KM)**	**Building**	**Distance to Property Line (ft)**	**Date of Removal**
19	8020			BLDG-1	50	

EMISSION PT.:

Ground Elev. (ft)	Height (ft)	Height Above Structure (ft)	Inside Diameter (in)	Exit Temp. (°F)	Cross Section	
					Length (in)	Width (in)
Exit Velocity (FPS)	**Exit Flow (ACFM)**	**NYTM (E) (KM)**	**NYTM (N) (KM)**	**Building**	**Distance to Property Line (ft)**	**Date of Removal**

Emission Source/Control

❑ Continuation Sheet(s)

Emission Source ID	Emission Source Type	Date of Construction	Date of Operation	Date of Removal	Control Type Code	Control Type Description	Manufacturer's Name/Model No.
AS-1	I				048	Granular Act. Carbon	Air Stripping Column

Design Capacity	Design Capacity Units Code	Design Capacity Units Description	Waste Feed Code	Waste Feed Description	Waste Type Code	Waste Type Description

Emission Source ID	Emission Source Type	Date of Construction	Date of Operation	Date of Removal	Control Type Code	Control Type Description	Manufacturer's Name/Model No.

Design Capacity	Design Capacity Units Code	Design Capacity Units Description	Waste Feed Code	Waste Feed Description	Waste Type Code	Waste Type Description

New York State Department of Environmental Conservation
Air Permit Application

DEC ID
- - -

Section IV - Emission Unit Information (continued)

Process Information ❑ Continuation Sheet(s)

EMISSION UNIT 0-00EU1 PROCESS PR1

Description

The remedial system is air stripping, using a packed column at a groundwater flow rate of 1,100 gpm (plus 100 gpm recycle, for a total of 1,200 gpm). Vapor phase treatment includes the use of 3 vessels, a 2-stage GAC unit, followed by a 3rd vessel containing a potassium permanganate impregnated zeolite for increased VC capacity. Prior to entering the vapor-phase GAC adsorption system, the humidity of the air stripper exhaust is reduced to approximately 50 percent or less to optimize the efficiency of the vapor-phase GAC.

Air Stripper AS-1: Existing. Type: Vertical, Cylindrical Construction: Aluminum

Packing: 25-foot Jaeger Tripack. Dimensions: 10.0 ft. Dia x 47 ft. H

Source Classification Code (SCC)	Total Thruput		Thruput Quantity Units	
	Quantity/Hr	Quantity/Yr	Code	Description

❑ Confidential ☒ Operating at Maximum Capacity ❑ Activity with Insignificant Emissions	Operating Schedule		Building	Floor/Location
	Hrs/Day	Days/Yr		
	24	365	BLDG-1	Main

Emission Source/Control Identifier(s)

AS-1							

EMISSION UNIT - PROCESS

Description

Source Classification Code (SCC)	Total Thruput		Thruput Quantity Units	
	Quantity/Hr	Quantity/Yr	Code	Description

❑ Confidential ❑ Operating at Maximum Capacity ❑ Activity with Insignificant Emissions	Operating Schedule		Building	Floor/Location
	Hrs/Day	Days/Yr		

Emission Source/Control Identifier(s)

New York State Department of Environmental Conservation
Air Permit Application

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- -

Section IV - Emission Unit Information (continued)

Emission Unit	Emission Point	Process	Emission Source	Emission Unit Applicable Federal Requirements ❑ Continuation Sheet(s)									
				Title	Type	Part	Sub Part	Section	Sub Division	Parag.	Sub Parag.	Clause	Sub Clause
-													
-													
-													
-													

Emission Unit	Emission Point	Process	Emission Source	Emission Unit State Only Requirements ❑ Continuation Sheet(s)									
				Title	Type	Part	Sub Part	Section	Sub Division	Parag.	Sub Parag.	Clause	Sub Clause
-													
-													
-													
-													

Emission Unit Compliance Certification ❑ Continuation Sheet(s)

Rule Citation

Title	Type	Part	Sub Part	Section	Sub Division	Paragraph	Sub Paragraph	Clause	Sub Clause
6	NYCRR	212							

☒ Applicable Federal Requirement ❑ State Only Requirement ❑ Capping

Emission Unit	Emission Point	Process	Emission Source	CAS No.	Contaminant Name
0-00EU1	00ST1	PR1	AS-1	00079 - 01 - 6	Trichloroethylene

Monitoring Information

❑ Continuous Emission Monitoring
☒ Intermittent Emission Testing
❑ Ambient Air Monitoring
❑ Monitoring of Process or Control Device Parameters as Surrogate
❑ Work Practice Involving Specific Operations
❑ Record Keeping/Maintenance Procedures

Description

Monthly grab samples analyzed for VOCs from the vapor phase treatment system influent, effluent and two intermediate locations.

Work Practice Type	Process Material Code	Process Material Description	Reference Test Method

Parameter Code	Parameter Description	Manufacturer Name/Model No.
23	Concentration	

Limit Upper	Limit Lower	Limit Units Code	Limit Units Description
3,125		255	micrograms per cubic meter

Averaging Method Code	Averaging Method Description	Monitoring Frequency Code	Monitoring Frequency Description	Reporting Requirements Code	Reporting Requirements Description
01	Instantaneous	05	Monthly	10	Upon Request

DEC ID
- -

Section IV - Emission Unit Information (continued)

Determination of Non-Applicability (Title V Only) N/A ❑ Continuation Sheet(s)

Rule Citation

Title	Type	Part	Sub Part	Section	Sub Division	Paragraph	Sub Paragraph	Clause	Sub Clause

Emission Unit	Emission Point	Process	Emission Source	❑ Applicable Federal Requirement ❑ State Only Requirement
-				

Description

Rule Citation

Title	Type	Part	Sub Part	Section	Sub Division	Paragraph	Sub Paragraph	Clause	Sub Clause

Emission Unit	Emission Point	Process	Emission Source	❑ Applicable Federal Requirement ❑ State Only Requirement
-				

Description

Process Emissions Summary ❑ Continuation Sheet(s)

EMISSION UNIT	0-00EU1				PROCESS	P R 1
CAS No.	Contaminant Name	% Thruput	% Capture	% Control	ERP (lbs/hr)	ERP How Determined
0079 - 01 - 6	Trichloroethylene			95	1.87	02

PTE (lbs/hr)	PTE (lbs/yr)	PTE (standard units)	Standard Units	PTE How Determined	Actual (lbs/hr)	Actual (lbs/yr)
0.09	99			02		

EMISSION UNIT	0-00EU1				PROCESS	P R 1
CAS No.	Contaminant Name	% Thruput	% Capture	% Control	ERP (lbs/hr)	ERP How Determined
00075- 01 - 4	Vinyl Chloride			95	0.17	03

PTE (lbs/hr)	PTE (lbs/yr)	PTE (standard units)	Standard Units	PTE How Determined	Actual (lbs/hr)	Actual (lbs/yr)
0.01	3.7			02		

EMISSION UNIT	0-00EU1				PROCESS	P R 1
CAS No.	Contaminant Name	% Thruput	% Capture	% Control	ERP (lbs/hr)	ERP How Determined
000540 - 59 - 0	1,2-Dichloroethylene			95	0.6	02

PTE (lbs/hr)	PTE (lbs/yr)	PTE (standard units)	Standard Units	PTE How Determined	Actual (lbs/hr)	Actual (lbs/yr)
0.03	7.3			02		

DEC ID
- - -

Section IV - Emission Unit Information (continued)

EMISSION UNIT 0-00EU1	Emission Unit Emissions Summary			❑ Continuation Sheet(s)
CAS No.	Contaminant Name			
00107-06-2	1,2-Dichloroethane			
ERP (lbs/yr)	PTE Emissions		Actual	
	(lbs/hr)	(lbs/yr)	(lbs/hr)	(lbs/yr)
13.4	Below Reporting Threshold BRT			
CAS No.	Contaminant Name			
00108-88-3	Toluene			
ERP (lbs/yr)	PTE Emissions		Actual	
	(lbs/hr)	(lbs/yr)	(lbs/hr)	(lbs/yr)
72.7	BRT	BRT		
CAS No.	Contaminant Name			
01330-20-7	Xylene			
ERP (lbs/yr)	PTE Emissions		Actual	
	(lbs/hr)	(lbs/yr)	(lbs/hr)	(lbs/yr)
77.1	BRT	BRT		
CAS No.	Contaminant Name			
- -	1,1,2-Trichloroethane			
ERP (lbs/yr)	PTE Emissions		Actual	
	(lbs/hr)	(lbs/yr)	(lbs/hr)	(lbs/yr)
	BRT	BRT		

Compliance Plan

❑ Continuation Sheet(s)

For any emission units which are not in compliance at the time of permit application, the applicant shall complete the following

Consent Order — Certified progress reports are to be submitted every 6 months beginning ____/____/____

Emission Unit	Process	Emission Source	Applicable Federal Requirement									
			Title	Type	Part	Sub Part	Section	Sub Division	Parag.	Sub Parag.	Clause	Sub Clause
-												

Remedial Measure / Intermediate Milestones	R/I	Date Scheduled

DEC ID

Section IV - Emission Unit Information (continued)

Request for Emission Reduction Credits

❑ Continuation Sheet(s)

EMISSION UNIT

Emission Reduction Description

Contaminant Emission Reduction Data

Baseline Period ____/____/____ to ____/____/____

Reduction Date	Reduction Method
/ /	

CAS No.	Contaminant Name	ERC (lbs/yr) Netting	ERC (lbs/yr) Offset
- -			
- -			
- -			

Facility to Use Future Reduction

Name

APPLICATION ID

Location Address

❑ City / ❑ Town / ❑ Village | State | Zip

Use of Emission Reduction Credits

❑ Continuation Sheet(s)

EMISSION UNIT

Proposed Project Description

Contaminant Emissions Increase Data

CAS No.	Contaminant Name	PEP (lbs/yr)
- -		

Statement of Compliance

❑ All facilities under the ownership of this "ownership/firm" are operating in compliance with all applicable requirements and state regulations including any compliance certification requirements under Section 114(a)(3) of the Clean Air Act Amendments of 1990, or are meeting the schedule of a consent order.

Source of Emission Reduction Credit - Facility

Name

PERMIT ID

Location Address

❑ City / ❑ Town / ❑ Village | State | Zip

Emission Unit	CAS No.	Contaminant Name	ERC (lbs/yr) Netting	ERC (lbs/yr) Offset
-	- -			
-	- -			
-	- -			

DEC ID
- -

Supporting Documentation

- ☒ P.E. Certification (form attached)
- ☐ List of Exempt Activities (form attached)
- ☒ Plot Plan
- ☐ Methods Used to Determine Compliance (form attached)
- ☒ Calculations
- ☐ Air Quality Model (_____ / _____ / _____)
- ☐ Confidentiality Justification
- ☐ Ambient Air Monitoring Plan (_____ / _____ / _____)
- ☐ Stack Test Protocols/Reports (_____ / _____ / _____)
- ☐ Continuous Emissions Monitoring Plans/QA/QC (_____ / _____ / _____)
- ☐ MACT Demonstration (_____ / _____ / _____)
- ☐ Operational Flexibility: Description of Alternative Operating Scenarios and Protocols
- ☐ Title IV: Application/Registration
- ☐ ERC Quantification (form attached)
- ☐ Use of ERC(s) (form attached)
- ☐ Baseline Period Demonstration
- ☐ Analysis of Contemporaneous Emission Increase/Decrease
- ☐ LAER Demonstration (_____ / _____ / _____)
- ☐ BACT Demonstration (_____ / _____ / _____)
- ☐ Other Document(s): _____ (/ /)

_____ (/ /)
_____ (/ /)
_____ (/ /)
_____ (/ /)
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ATTACHMENT 1
Emission Estimate

Feed Water Flow	1,100	gpm: max or normal
	250	m^3/hr
Water Flow Including Recycle	1,200	gpm: max or normal
	273	m^3/hr
Air Flow	8,000	cfm
	13,592	m^3/hr
A/W vol ratio	50	

EXAMPLE EMISSION CALC: Vinyl Chloride
4.8 ug/L x 1000 L/m^3 x 250 m^3 water/13,623 m^3 air = 88 ug/m^3

					GW Conc.[1]		Effluent Conc[1]		Uncontrolled Stripper Exhaust							
	CAS	Toxicity:			Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg
Name	Number	H/M/L[2]	VOC[3]	HAP[4]	ug/L	ug/L	ug/L	ug/L	lb/day	lb/day	lb/hr	lb/hr	gm/sec	gm/sec	ug/m^3	ug/m^3
1,1,1-Trichloroethane (Methyl Chloroform)	00071-55-6	L	**No**	Yes	3	3.0			0.04	0.04	0.00	0.00	2.08E-04	2.08E-04	55	55
1,1,2-Trichloroethane	00079-00-5	M	Yes	Yes	3.5	0.3			0.05	0.00	0.00	0.00	2.43E-04	2.08E-05	64	6
1,1-Dichloroethane	00075-34-3	L	Yes	Yes	4	0.7			0.05	0.01	0.00	0.00	2.77E-04	4.85E-05	74	13
1,2-Dichloroethane	00107-06-2	M	Yes	Yes	3	1.0	0.3	0.1	0.04	0.01	0.00	0.00	1.87E-04	6.24E-05	55	18
1,1-Dichloroethylene (Vinylidene Chloride)	00075-35-4	M	Yes	Yes	9	1.6			0.12	0.02	0.00	0.00	6.24E-04	1.11E-04	165	29
1,2-Dichloroethylene	00540-59-0	M	Yes	**No**	1,100	31.5	1.3	0.0	14.51	0.42	0.60	0.02	7.62E-02	2.18E-03	20,219	579
Benzene	00071-43-2	H	Yes	Yes	4	0.1			0.05	0.00	0.00	0.00	2.77E-04	6.94E-06	74	2
Carbon Tetrachloride	00056-23-5	H	Yes	Yes	4	0.1			0.05	0.00	0.00	0.00	2.77E-04	6.94E-06	74	2
Chlorobenzene (Monochlorobenzene)	00108-90-7	M	Yes	Yes	1	0.1			0.01	0.00	0.00	0.00	6.94E-05	6.94E-06	18	2
Chloroform	00067-66-3	M	Yes	Yes	2	0.8			0.03	0.01	0.00	0.00	1.39E-04	5.55E-05	37	15
Methyl Tert Butyl Ether	01634-04-4	M	Yes	Yes	2	0.1			0.03	0.00	0.00	0.00	1.39E-04	6.94E-06	37	2
Tetrachloroethylene	00127-18-4	M	Yes	Yes	900	33.8	0.9	0.0	11.88	0.45	0.49	0.02	6.24E-02	2.34E-03	16,543	621
Toluene	00108-88-3	L	Yes	Yes	15	0.7			0.20	0.01	0.01	0.00	1.04E-03	4.85E-05	276	13
Trichloroethylene	00079-01-6	M	Yes	Yes	3,400	411.5	4.5	0.5	44.86	5.43	1.87	0.23	2.35E-01	2.85E-02	62,494	7,564
Vinyl chloride	00075-01-4	H	Yes	Yes	300	4.8	0.0	0.0	3.96	0.06	0.17	0.00	2.08E-02	3.33E-04	5,514	88
Xylenes	01330-20-7	M	Yes	Yes	16	0.2			0.21	0.00	0.01	0.00	1.11E-03	1.39E-05	294	4
Total VOCs					5,764	487.3	7.0	0.6	76.05	6.43	3.17	0.27				
Total HAPs					4,667	458.8	5.7	0.6	61.57	6.05	2.57	0.25				

Total Uncontrolled VOC 2,347 lb/yr
Total Uncontrolled HAP 2,209 lb/yr

1. Source: "GM-38 Groundwater Remedy Analysis Report", February 2003
2. Source: DAR-1 AGC/SGC Tables, NYSDEC Division of Air Resources, Air Toxics Section, September 10, 2007.
3. Source: 6 NYCRR Part 200.1(cg)
4. Source: 6 NYCRR Part 200.1(ag)

ATTACHMENT 1
Emission Estimate

Feed Water Flow	1,100	gpm: max or normal
	250	m^3/hr
Water Flow Including Recycle	1,200	gpm: max or normal
	273	m^3/hr
Air Flow	8,000	cfm
	13,592	m^3/hr
A/W vol ratio	50	

								Controlled Stripper Exhaust	
Name	CAS Number	Toxicity: H/M/L[2]	VOC[3]	HAP[4]	Control by GAC	Max lb/day	Avg lb/day	Max gm/sec	Avg gm/sec
1,1,1-Trichloroethane (Methyl Chloroform)	00071-55-6	L	**No**	Yes	95%	0.00	0.00	1.04E-05	1.04E-05
1,1,2-Trichloroethane	00079-00-5	M	Yes	Yes	95%	0.00	0.00	1.21E-05	1.04E-06
1,1-Dichloroethane	00075-34-3	L	Yes	Yes	95%	0.00	0.00	1.39E-05	2.43E-06
1,2-Dichloroethane	00107-06-2	M	Yes	Yes	95%	0.00	0.00	9.36E-06	3.12E-06
1,1-Dichloroethylene (Vinylidene Chloride)	00075-35-4	M	Yes	Yes	95%	0.01	0.00	3.12E-05	5.55E-06
1,2-Dichloroethylene	00540-59-0	M	Yes	**No**	95%	0.73	0.02	3.81E-03	1.09E-04
Benzene	00071-43-2	H	Yes	Yes	95%	0.00	0.00	1.39E-05	3.47E-07
Carbon Tetrachloride	00056-23-5	H	Yes	Yes	95%	0.00	0.00	1.39E-05	3.47E-07
Chlorobenzene (Monochlorobenzene)	00108-90-7	M	Yes	Yes	95%	0.00	0.00	3.47E-06	3.47E-07
Chloroform	00067-66-3	M	Yes	Yes	95%	0.00	0.00	6.94E-06	2.77E-06
Methyl Tert Butyl Ether	01634-04-4	M	Yes	Yes	95%	0.00	0.00	6.94E-06	3.47E-07
Tetrachloroethylene	00127-18-4	M	Yes	Yes	95%	0.59	0.02	3.12E-03	1.17E-04
Toluene	00108-88-3	L	Yes	Yes	95%	0.01	0.00	5.20E-05	2.43E-06
Trichloroethylene	00079-01-6	M	Yes	Yes	95%	2.24	0.27	1.18E-02	1.43E-03
Vinyl chloride	00075-01-4	H	Yes	Yes	95%	0.20	0.00	1.04E-03	1.66E-05
Xylenes	01330-20-7	M	Yes	Yes	95%	0.01	0.00	5.55E-05	6.94E-07
Total VOCs						3.80	0.32		
Total HAPs						3.08	0.30		

Total Controlled VOC	117	lb/yr
Total Controlled HAP	110	lb/yr

1. Source: "GM-38 Groundwater Remedy Analysis Report", February 2003
2. Source: DAR-1 AGC/SGC Tables, NYSDEC Division of Air Resources, Air Tox
3. Source: 6 NYCRR Part 200.1(cg)
4. Source: 6 NYCRR Part 200.1(ag)

ATTACHMENT 2
AIR SCREENING ANALYSIS:
Annual

BETHPAGE SCREENING ANALYSIS					1-Hour Impact	405.7	(ug/m^3)	
ANNUAL IMPACTS COMPARED TO ANNUAL GUIDELINE CONCENTRATIONS (AGCs)					Annual Impact	32.456	(ug/m^3)	
		NYSDEC Guideline	Estimated Emissions		Predicted Annual Impact		Maximum Percent of AGC	
		AGC	Uncontrolled	Controlled	Uncontrolled	Controlled	Uncontrolled	Controlled
Pollutant	CAS Number	(ug/m^3)	(g/s)	(g/s)	(ug/m^3)	(ug/m^3)	Pct	Pct
1,1,1-Trichloroethane (Methyl Chloroform)	00071-55-6	1000.00	2.08E-04	1.04E-05	0.0068	0.0003	0.0%	0.0%
1,1,2-Trichloroethane	00079-00-5	1.40	2.08E-05	1.04E-06	0.0007	0.0000	0.0%	0.0%
1,1-Dichloroethane	00075-34-3	0.63	4.85E-05	2.43E-06	0.0016	0.0001	0.3%	0.0%
1,2-Dichloroethane	00107-06-2	0.04	6.24E-05	3.12E-06	0.0020	0.0001	5.3%	0.3%
1,1-Dichloroethylene (Vinylidene Chloride)	00075-35-4	70.00	1.11E-04	5.55E-06	0.0036	0.0002	0.0%	0.0%
1,2-Dichloroethylene	00540-59-0	63.00	2.18E-03	1.09E-04	0.0709	0.0035	0.1%	0.0%
Benzene	00071-43-2	0.13	6.94E-06	3.47E-07	0.0002	0.0000	0.2%	0.0%
Carbon Tetrachloride	00056-23-5	0.07	6.94E-06	3.47E-07	0.0002	0.0000	0.3%	0.0%
Chlorobenzene (Monochlorobenzene)	00108-90-7	110.00	6.94E-06	3.47E-07	0.0002	0.0000	0.0%	0.0%
Chloroform	00067-66-3	0.04	5.55E-05	2.77E-06	0.0018	0.0001	4.2%	0.2%
Methyl tert-Butyl Ether	01634-04-4	3000.00	6.94E-06	3.47E-07	0.0002	0.0000	0.0%	0.0%
Tetrachloroethylene	00127-18-4	1.00	2.34E-03	1.17E-04	0.0761	0.0038	7.6%	0.4%
Toluene	00108-88-3	5000.00	4.85E-05	2.43E-06	0.0016	0.0001	0.0%	0.0%
Trichloroethylene	00079-01-6	0.50	2.85E-02	1.43E-03	0.9252	0.0463	**185.0%**	9.3%
Vinyl Chloride	00075-01-4	0.11	3.33E-04	1.66E-05	0.0108	0.0005	9.8%	0.5%
Xylenes	01330-20-7	100.00	1.39E-05	6.94E-07	0.0005	0.0000	0.0%	0.0%

ATTACHMENT 2
AIR SCREENING ANALYSIS:
Short term

BETHPAGE SCREENING ANALYSIS					1-Hour Impact	405.7	(ug/m^3)
SHORT-TERM IMPACTS COMPARED TO SHORT-TERM GUIDELINE CONCENTRATIONS (SGCs)					Annual Impact	32.456	(ug/m^3)

		NYSDEC Guideline	Estimated Emissions		Predicted Short-term Impact		Maximum Percent of SGC	
		SGC	Uncontrolled	Controlled	Uncontrolled	Controlled	Uncontrolled	Controlled
Pollutant	CAS Number	(ug/m^3)	(g/s)	(g/s)	(ug/m^3)	(ug/m^3)	Pct	Pct
1,1,1-Trichloroethane (Methyl Chloroform)	00071-55-6	68000.00	2.08E-04	1.04E-05	0.084	0.004	0.0%	0.0%
1,1,2-Trichloroethane	00079-00-5	-	2.43E-04	1.21E-05	0.098	0.005	-	-
1,1-Dichloroethane	00075-34-3	-	2.77E-04	1.39E-05	0.113	0.006	-	-
1,2-Dichloroethane	00107-06-2	-	1.87E-04	9.36E-06	0.076	0.004	-	-
1,1-Dichloroethylene (Vinylidene Chloride)	00075-35-4	-	6.24E-04	3.12E-05	0.253	0.013	-	-
1,2-Dichloroethylene	00540-59-0	-	7.62E-02	3.81E-03	30.915	1.546	-	-
Benzene	00071-43-2	1300.00	2.77E-04	1.39E-05	0.113	0.006	0.0%	0.0%
Carbon Tetrachloride	00056-23-5	1900.00	2.77E-04	1.39E-05	0.113	0.006	0.0%	0.0%
Chlorobenzene (Monochlorobenzene)	00108-90-7	-	6.94E-05	3.47E-06	0.028	0.001	-	-
Chloroform	00067-66-3	150.00	1.39E-04	6.94E-06	0.056	0.003	0.0%	0.0%
Methyl tert-Butyl Ether	01634-04-4	-	1.39E-04	6.94E-06	0.056	0.003	-	-
Tetrachloroethylene	00127-18-4	1000.00	6.24E-02	3.12E-03	25.298	1.265	2.5%	0.1%
Toluene	00108-88-3	37000.00	1.04E-03	5.20E-05	0.422	0.021	0.0%	0.0%
Trichloroethylene	00079-01-6	14000.00	2.35E-01	1.18E-02	95.541	4.777	0.7%	0.0%
Vinyl Chloride	00075-01-4	180000.00	2.08E-02	1.04E-03	8.441	0.422	0.0%	0.0%
Xylenes	01330-20-7	4300.00	1.11E-03	5.55E-05	0.450	0.023	0.0%	0.0%

ATTACHMENT 2
AIR SCREENING ANALYSIS:
Short term

BETHPAGE SCREENING ANALYSIS					1-Hour Impact	405.7	(ug/m^3)	
SHORT-TERM IMPACTS COMPARED TO SHORT-TERM GUIDELINE CONCENTRATIONS (SGCs)					Annual Impact	32.456	(ug/m^3)	
		NYSDEC Guideline	Estimated Emissions		Predicted Short-term Impact		Maximum Percent of SGC	
		SGC	Uncontrolled	Controlled	Uncontrolled	Controlled	Uncontrolled	Controlled
Pollutant	CAS Number	(ug/m^3)	(g/s)	(g/s)	(ug/m^3)	(ug/m^3)	Pct	Pct
1,1,1-Trichloroethane (Methyl Chloroform)	00071-55-6	68000.00	2.08E-04	1.04E-05	0.084	0.004	0.0%	0.0%
1,1,2-Trichloroethane	00079-00-5	-	2.43E-04	1.21E-05	0.098	0.005	-	-
1,1-Dichloroethane	00075-34-3	-	2.77E-04	1.39E-05	0.113	0.006	-	-
1,2-Dichloroethane	00107-06-2	-	1.87E-04	9.36E-06	0.076	0.004	-	-
1,1-Dichloroethylene (Vinylidene Chloride)	00075-35-4	-	6.24E-04	3.12E-05	0.253	0.013	-	-
1,2-Dichloroethylene	00540-59-0	-	7.62E-02	3.81E-03	30.915	1.546	-	-
Benzene	00071-43-2	1300.00	2.77E-04	1.39E-05	0.113	0.006	0.0%	0.0%
Carbon Tetrachloride	00056-23-5	1900.00	2.77E-04	1.39E-05	0.113	0.006	0.0%	0.0%
Chlorobenzene (Monochlorobenzene)	00108-90-7	-	6.94E-05	3.47E-06	0.028	0.001	-	-
Chloroform	00067-66-3	150.00	1.39E-04	6.94E-06	0.056	0.003	0.0%	0.0%
Methyl tert-Butyl Ether	01634-04-4	-	1.39E-04	6.94E-06	0.056	0.003	-	-
Tetrachloroethylene	00127-18-4	1000.00	6.24E-02	3.12E-03	25.298	1.265	2.5%	0.1%
Toluene	00108-88-3	37000.00	1.04E-03	5.20E-05	0.422	0.021	0.0%	0.0%
Trichloroethylene	00079-01-6	14000.00	2.35E-01	1.18E-02	95.541	4.777	0.7%	0.0%
Vinyl Chloride	00075-01-4	180000.00	2.08E-02	1.04E-03	8.441	0.422	0.0%	0.0%
Xylenes	01330-20-7	4300.00	1.11E-03	5.55E-05	0.450	0.023	0.0%	0.0%

03/16/09
11:26:15

*** SCREEN3 MODEL RUN ***
*** VERSION DATED 96043 ***

Bethpage GM-38 Air Stripper Uncontrolled

SIMPLE TERRAIN INPUTS:

SOURCE TYPE	=	POINT
EMISSION RATE (G/S)	=	1.00000
STACK HEIGHT (M)	=	12.2000
STK INSIDE DIAM (M)	=	.9100
STK EXIT VELOCITY (M/S)	=	5.7700
STK GAS EXIT TEMP (K)	=	294.0000
AMBIENT AIR TEMP (K)	=	293.0000
RECEPTOR HEIGHT (M)	=	.0000
URBAN/RURAL OPTION	=	URBAN
BUILDING HEIGHT (M)	=	7.6000
MIN HORIZ BLDG DIM (M)	=	22.9000
MAX HORIZ BLDG DIM (M)	=	22.9000

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

BUOY. FLUX = .040 M**4/S**3; MOM. FLUX = 6.869 M**4/S**2.

*** FULL METEOROLOGY ***

****
*** SCREEN AUTOMATED DISTANCES ***
****

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
10.	.1323E-07	1	1.5	1.5	480.0	22.39	3.65	2.99	NO
100.	278.3	3	1.0	1.0	320.0	27.34	22.00	20.46	NO
200.	339.9	6	1.0	1.1	10000.0	20.81	21.31	14.25	NO
MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 10. M:									
201.	339.9	6	1.0	1.1	10000.0	20.81	21.51	14.37	NO

****
*** SCREEN AUTOMATED DISTANCES ***
****

*** TERRAIN HEIGHT OF 2. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
210.	405.7	6	1.0	1.1	10000.0	18.81	22.32	14.86	NO
300.	307.9	6	1.0	1.1	10000.0	18.81	31.28	20.08	NO
400.	219.2	6	1.0	1.1	10000.0	18.81	40.93	25.42	NO

500.	162.3	6	1.0	1.1	10000.0	18.81	50.27	30.34	NO
600.	125.2	6	1.0	1.1	10000.0	18.81	59.32	34.91	NO

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 210. M:

210.	405.7	6	1.0	1.1	10000.0	18.81	22.32	14.86	NO

****
*** SCREEN AUTOMATED DISTANCES ***
****

*** TERRAIN HEIGHT OF 9. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
610.	133.2	6	1.0	1.1	10000.0	11.81	60.21	35.35	NO
700.	107.4	6	1.0	1.1	10000.0	11.81	68.10	39.19	NO
800.	87.22	6	1.0	1.1	10000.0	11.81	76.63	43.22	NO
900.	72.75	6	1.0	1.1	10000.0	11.81	84.93	47.03	NO

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 610. M:

610.	133.2	6	1.0	1.1	10000.0	11.81	60.21	35.35	NO

****
*** SCREEN AUTOMATED DISTANCES ***
****

*** TERRAIN HEIGHT OF 11. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
1000.	62.47	6	1.0	1.1	10000.0	9.81	93.00	50.66	NO
1100.	54.05	6	1.0	1.1	10000.0	9.81	100.86	54.11	NO
1200.	47.42	6	1.0	1.1	10000.0	9.81	108.53	57.42	NO
1300.	42.10	6	1.0	1.1	10000.0	9.81	116.01	60.60	NO

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 1000. M:

1000.	62.47	6	1.0	1.1	10000.0	9.81	93.00	50.66	NO

DWASH= MEANS NO CALC MADE (CONC = 0.0)
DWASH=NO MEANS NO BUILDING DOWNWASH USED
DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

****
* SUMMARY OF TERRAIN HEIGHTS ENTERED FOR *
* SIMPLE ELEVATED TERRAIN PROCEDURE *
****

TERRAIN HT (M)	DISTANCE RANGE (M) MINIMUM	MAXIMUM
0.	10.	200.
2.	210.	600.
9.	610.	920.

```
          11.         1000.       1300.

****************************************
     *** REGULATORY (Default) ***
    PERFORMING CAVITY CALCULATIONS
  WITH ORIGINAL SCREEN CAVITY MODEL
          (BRODE, 1988)
****************************************
```

*** CAVITY CALCULATION - 1 ***			*** CAVITY CALCULATION - 2 ***		
CONC (UG/M**3)	=	.0000	CONC (UG/M**3)	=	.0000
CRIT WS @10M (M/S)	=	99.99	CRIT WS @10M (M/S)	=	99.99
CRIT WS @ HS (M/S)	=	99.99	CRIT WS @ HS (M/S)	=	99.99
DILUTION WS (M/S)	=	99.99	DILUTION WS (M/S)	=	99.99
CAVITY HT (M)	=	7.84	CAVITY HT (M)	=	7.84
CAVITY LENGTH (M)	=	22.86	CAVITY LENGTH (M)	=	22.86
ALONGWIND DIM (M)	=	22.90			

APPENDIX C
Field Data Sheets and
Chain of Custody Documentation

Date: 11/29/11

H&S

Groundwater Level Measurement Sheet

Project Site: NWIRP Bethpage – GM-38
Location: Bethpage, NY
Field Crew: V. LeClerc, R. Mastracola

Water Level Meter: Solinst
Weather: Cloudy 64°F
Time of Low Tide: N/A
Time of High Tide: N/A

Well ID	Time	Depth to Water (ft.)	Total Depth of Well / Screed Interval (ft.)	PID (ppm)	Comments
RW1-MW1	12:25	32.99	435 / 395-435	N/A	
RW1-MW2	12:13	37.31	435 / 395-435	N/A	Gauge only
RW1-MW3	07:05	26.98	435 / 395-435	N/A	
RW2-MW1	12:56	36.62	510 / 470-510	N/A	
RW2-MW2	16:50	36.88	510 / 470-510	N/A	Gauge only
RW2-MW3	13:05	35.80	510 / 470-510	N/A	Gauge only
RW3-MW1	12:33	35.11	350 / 330-350	N/A	
RW3-MW2	12:35	37.10	495 / 475-495	N/A	
RW3-MW3	12:41	36.38	340 / 320-340	N/A	
RW3-MW4	12:40	37.82	495 / 475-495	N/A	
TP1	12:10	31.57	470 / 450-470	N/A	
IW1-MW1	12:17	33.87	470 / 450-470	N/A	Gauge only

Signature: [signature]

Date: 11/29/11

H&S Environmental, Inc.

Low Flow/ Low Stress Groundwater Sampling Log

Project: NWIRP Bethpage - GM-38
Location: Bethpage, NY
Well ID: RW 1 - MW 1

Date: 11/30 /11
Sampler: RM, VL
PID: ------

Start Time: 1020 End Time: 1040
Well Construction: 4" PVC
Depth to Water: 32.05
Well Depth: 435FT
Water Column: 402.95
Total Volume Removed (L): 3.75
Dedicated Pump in Well?: No

Field Testing Equipment

Make	Model	Serial #
YSI	556	10H100928
LaMotte	2020e	ME15044
QED	MP15	
Marschalk Bladder Pu	24"	ID#9975

Time (hh:mm)	Volume Removed (L)	Flow Rate (ml/min)	Depth to Water (ft)	Temp (°C)	pH (STD)	SPC (µS/cm^c)	DO (mg/L)	ORP (mv)	Turbidity (NTU)	Color
1020	.75	150	32.05	15.58	4.81	224	3.73	142.1	NR	clear
1025	.75	150	32.01	15.58	4.92	222	3.63	170.1	↓	clear
1030	.75	150	32.03	15.55	4.86	220	3.35	185.8	↓	clear
1035	.75	150	32.02	15.58	4.39	226	3.24	186.2	↓	clear
1040	.75	150	32.02	15.54	4.88	217	3.17	188.6	↓	clear
Acceptance Criteria:		<0.3ft	3%	±0.1	3%	10%	± 10mv	10%		

2" Screen Volume = 0.163 gal/ft or 616 ml per foot

Sample Collection

Time	Sample ID	Container	# Bottles	Preservative	Analysis
1040	NWIRP-GM-38-GW- RW1-MW1 -	40 mL CG	3	HCl	TCL VOCs (624)
	1130 11	500 mL PL	1	HNO_3	Hg (245.1)
	↓	250 mL PL	1	---	TSS (SM2540D)

Comments

Signature

11/30/11
Date

H&S Environmental, Inc.

Low Flow/ Low Stress Groundwater Sampling Log

Project: NWIRP Bethpage - GM-38
Location: Bethpage, NY
Well ID: RW 1 - MW 3

Date: 11/30 /11
Sampler: RM, VL
PID: ------

Start Time: 0910 End Time: 0935
Well Construction: 4" PVC
Depth to Water: 26.98
Well Depth: 435FT
Water Column: 408.02
Total Volume Removed (L): 4.5
Dedicated Pump in Well?: No

Field Testing Equipment

Make	Model	Serial #
YSI	556	10H100928
LaMotte	2020e	ME15044
QED	MP15	
Marschalk Bladder Pui	24"	ID#9975

Time (hh:mm)	Volume Removed (L)	Flow Rate (ml/min)	Depth to Water (ft)	Temp (°C)	pH (STD)	SPC (µS/cm^c)	DO (mg/L)	ORP (mv)	Turbidity (NTU)	Color
0910	.75	150	26.98	14.26	4.82	150	4.04	169.0	0.54	Clear
0915	.75	150	26.96	14.13	4.79	151	3.70	195.9	3.40	Clear
0920	.75	150	26.95	14.09	4.78	149	3.78	204.1	3.41	Clear
0925	.75	150	26.96	13.75	4.80	150	3.65	204.2	2.03	Clear
0930	.75	150	26.95	13.75	4.81	151	3.49	209.7	1.01	Clear
0935	.75	150	26.95	13.72	4.81	150	3.45	204.9	0.12	Clear
Acceptance Criteria:			<0.3ft	3%	±0.1	3%	10%	± 10mv	10%	

2" Screen Volume = 0.163 gal/ft or 616 ml per foot

Sample Collection

Time	Sample ID	Container	# Bottles	Preservative	Analysis
0935	NWIRP-GM-38-GW-RW1-MW3-113011	40 mL CG	3	HCl	TCL VOCs (624)
↓	↓	500 mL PL	1	HNO_3	Hg (245.1)
↓	↓	250 mL PL	1	---	TSS (SM2540D)

Comments

[redacted]
Signature

11/30/11
Date

H&S Environmental, Inc.

Low Flow/ Low Stress Groundwater Sampling Log

Project: NWIRP Bethpage - GM-38

Location: Bethpage, NY

Well ID: RW2 - MW1

Date: 11/29/11

Sampler: VL, RM

PID: ------

Start Time: ~~8:00~~ 14:20 **End Time:** 1450

Well Construction: 4" Steel

Depth to Water: 36.62

Well Depth: 510 ft

Water Column: 473.38

Total Volume Removed (L): 5.25 L

Dedicated Pump in Well?: No

Field Testing Equipment

Make	Model	Serial #
YSI	556	10H100928
LaMotte	2020e	ME15044
QED	MP15	
Marschalk Bladder Pui	24"	ID#9975

Time (hh:mm)	Volume Removed (L)	Flow Rate (ml/min)	Depth to Water (ft)	Temp (°C)	pH (STD)	SPC (µS/cm^c)	DO (mg/L)	ORP (mv)	Turbidity (NTU)	Color
1420	.75	150	36.62	13.41	8.63	117	3.79	-38.0	39.6	clear
1425	.75	100	36.67	13.40	7.98	116	3.45	-34.5	38.9	clear
1430	.75	150	36.85	13.46	7.98	116	3.38	-36.8	22.3	clear
1435	.75	150	36.79	13.27	7.67	116	3.15	-35.9	18.91	clear
1440	.75	150	36.78	13.29	7.38	116	2.81	-35.7	14.36	clear
1445	.75	150	36.70	13.30	7.35	117	2.70	-34.3	11.06	clear
1450	.75	150	36.71	13.33	7.29	117	2.59	-34.1	9.94	clear
Acceptance Criteria:			<0.3ft	3%	±0.1	3%	10%	± 10mv	10%	

2" Screen Volume = 0.163 gal/ft or 616 ml per foot

Sample Collection

Time	Sample ID	Container	# Bottles	Preservative	Analysis
1450	NWIRP-GM-38-GW-RW2-MW1-112911	40 mL CG	3 (lim. H2O sample)	HCl	TCL VOCs (624)
		500 mL PL	1	HNO_3	Hg (245.1)
		250 mL PL	1	---	TSS (SM2540D)

Comments

Signature: [signature]

Date: 11/29/11

H&S Environmental, Inc.

Low Flow/ Low Stress Groundwater Sampling Log

Project: NWIRP Bethpage - GM-38
Location: Bethpage, NY
Well ID: RW 3- MW 1

Date: 11/30/11
Sampler: RM, VL
PID: ------

Start Time: 1145 End Time: 1205
Well Construction: 4" PVC
Depth to Water: 35.70
Well Depth: 350 ft
Water Column: 314.3 ft
Total Volume Removed (L): 3.75
Dedicated Pump in Well?: No

Field Testing Equipment

Make	Model	Serial #
YSI	556	10H100928
LaMotte	2020e	ME15044
QED	MP15	
Marschalk Bladder Pui	24"	ID#9975

Time (hh:mm)	Volume Removed (L)	Flow Rate (ml/min)	Depth to Water (ft)	Temp (°C)	pH (STD)	SPC (µS/cm^c)	DO (mg/L)	ORP (mv)	Turbidity (NTU)	Color
1145	.75	150	35.70	16.00	4.85	128	4.31	173.5	8.9	Clear
1150	.75	150	35.68	16.06	4.90	128	4.42	192.0	8.1	Clear
1155	.75	150	35.70	16.10	4.98	129	3.83	194.3	7.9	Clear
1200	.75	150	35.69	16.09	4.98	129	3.82	198.5	7.8	Clear
1205	.75	150	35.68	16.10	4.93	130	3.66	196.7	7.9	Clear
Acceptance Criteria:			<0.3ft	3%	±0.1	3%	10%	± 10mv	10%	

2" Screen Volume = 0.163 gal/ft or 616 ml per foot

Sample Collection

Time	Sample ID	Container	# Bottles	Preservative	Analysis
1205	NWIRP-GM-38-GW-RW3-MW1-	40 mL CG	3	HCl	TCL VOCs (624)
	113011	500 mL PL	1	HNO_3	Hg (245.1)
	NWIRP-GM-38-GW-RW3-MW1-	250 mL PL	1	---	TSS (SM2540D)
	113011-MS				
	NWIRP-GM-38-GW-RW3-MW1-				
	113011-MSD				

0000 NW IRP-GM-38-GW-RW3-MW1-1150 11-DUP

Comments

0000 DUP collected for VOCs, Hg, TSS
MS/MSD collected for VOCs, Hg only

Signature

11/30/11
Date

H&S Environmental, Inc.

Low Flow/ Low Stress Groundwater Sampling Log

Project: NWIRP Bethpage - GM-38
Location: Bethpage, NY
Well ID: RW3 - MW2

Date: 11/30 /11
Sampler: RM, VL
PID: ------

Start Time: ~~1335~~ 1340 End Time: 1400
Well Construction: 4" PVC
Depth to Water: 36.41
Well Depth: 495
Water Column: 458.59
Total Volume Removed (L): 4.5L
Dedicated Pump in Well?: No

Field Testing Equipment

Make	Model	Serial #
YSI	556	10H100928
LaMotte	2020e	ME15044
QED	MP15	
Marschalk Bladder Pui	24"	ID#9975

Time (hh:mm)	Volume Removed (L)	Flow Rate (ml/min)	Depth to Water (ft)	Temp (°C)	pH (STD)	SPC (µS/cm°)	DO (mg/L)	ORP (mv)	Turbidity (NTU)	Color
1335	.75	150	36.41	14.98	4.81	89	4.03	191.8	1.2	clear
1340	.75	150	36.39	14.99	4.79	94	4.02	198.2	3.1	clear
1345	.75	150	36.39	15.00	4.91	91	4.13	181.2	3.4	clear
1350	.75	150	36.40	15.04	4.83	88	4.06	194.1	3.3	clear
1355	.75	160	36.39	15.01	4.80	88	4.04	196.3	3.5	clear
1400	.75	150	36.38	15.02	4.84	88	3.39	190.1	3.3	clear
Acceptance Criteria:			<0.3ft	3%	±0.1	3%	10%	± 10mv	10%	

2" Screen Volume = 0.163 gal/ft or 616 ml per foot

Sample Collection

Time	Sample ID	Container	# Bottles	Preservative	Analysis
1400	NWIRP-GM-38-GW-RW3-MW2-113011	40 mL CG	3	HCl	TCL VOCs (624)
	↓	500 mL PL	1	HNO_3	Hg (245.1)
	↓	250 mL PL	1	---	TSS (SM2540D)

Comments

Signature

11/30/11
Date

H&S Environmental, Inc.

Low Flow/ Low Stress Groundwater Sampling Log

Project: NWIRP Bethpage - GM-38
Location: Bethpage, NY
Well ID: RW3 - MW 3

Date: 11/ 29/11
Sampler: RM, VL
PID: ------

H&S

Start Time: 1620
End Time:
Well Construction: 4" PVC
Depth to Water: 36.38 ft
Well Depth: 340 ft
Water Column: 303.62
Total Volume Removed (L): 5
Dedicated Pump in Well?: No

Field Testing Equipment

Make	Model	Serial #
YSI	556	10H100928
LaMotte	2020e	ME15044
QED	MP15	
Marschalk Bladder Pu	24"	ID#9975

Time (hh:mm)	Volume Removed (L)	Flow Rate (ml/min)	Depth to Water (ft)	Temp (°C)	pH (STD)	SPC (µS/cm^c)	DO (mg/L)	ORP (mv)	Turbidity (NTU)	Color
1620	1	200	36.55	14.95	5.17	136	4.23	238.6	5.75	clear
1625	1	↓	36.57	14.93	5.21	137	4.12	230.8	5.61	clear
1630	1		36.54	14.95	5.23	137	3.20	227.1	5.49	clear
1635	1		36.55	14.94	5.24	137	2.95	224.8	4.62	Clear
1640	1		36.58	14.94	5.24	138	2.87	224.3	4.58	Clear
Acceptance Criteria:			<0.3ft	3%	±0.1	3%	10%	± 10mv	10%	

2" Screen Volume = 0.163 gal/ft or 616 ml per foot

Sample Collection

Time	Sample ID	Container	# Bottles	Preservative	Analysis
1640	NWIRP-GM-38-GW- RW3-MW3-11 29 11	40 mL CG	3	HCl	TCL VOCs (624)
	↓	500 mL PL	1	HNO_3	Hg (245.1)
		250 mL PL	1	---	TSS (SM2540D)

Comments

Signature: [signature]

Date: 11/29/11

H&S Environmental, Inc.

Low Flow/ Low Stress Groundwater Sampling Log

Project: NWIRP Bethpage - GM-38
Location: Bethpage, NY
Well ID: RW 3 - MW 4

Date: 11/29/11
Sampler: VLecierc/Remastro...
PID: ------

H&S

Start Time: 15:35 End Time: 16:05
Well Construction: 4" PVC
Depth to Water: 37.91
Well Depth: 495 FT
Water Column: 457.09
Total Volume Removed (L): 6 L
Dedicated Pump in Well?: No

Field Testing Equipment

Make	Model	Serial #
YSI	556	10H100928
LaMotte	2020e	ME15044
QED	MP15	
Marschalk Bladder Pui	24"	ID#9975

Time (hh:mm)	Volume Removed (L)	Flow Rate (ml/min)	Depth to Water (ft)	Temp (°C)	pH (STD)	SPC (µS/cm^c)	DO (mg/L)	ORP (mv)	Turbidity (NTU)	Color
15:40	1	200-L	37.92	15.58	4.82	128	4.15	240.1	13.7	Clear
15:45	1	"	38.21	15.56	4.82	128	3.98	255.0	10.73	"
15:50	1	"	38.22	15.49	4.93	127	3.68	269.7	8.43	"
15:55	1	"	38.22	15.39	4.81	127	3.47	274.1	6.27	"
16:00	1	"	38.21	15.40	4.84	128	3.39	272.9	3.82	"
16:05	1	"	38.20	15.40	4.85	128	3.40	273.1	3.91	"

Acceptance Criteria: <0.3ft 3% ±0.1 3% 10% ± 10mv 10%

2" Screen Volume = 0.163 gal/ft or 616 ml per foot

Sample Collection

Time	Sample ID	Container	# Bottles	Preservative	Analysis
16:05	NWIRP-GM-38-GW-RW3-MW4-112911	40 mL CG	3	HCl	TCL VOCs (624)
↓		500 mL PL	1	HNO_3	Hg (245.1)
		250 mL PL	1	---	TSS (SM2540D)

Comments

Signature: [signature]

Date: 11/29/11

H&S Environmental, Inc.

Low Flow/ Low Stress Groundwater Sampling Log

Project: NWIRP Bethpage - GM-38
Location: Bethpage, NY
Well ID: TP1

Date: 11/30/11
Sampler: V.L.
PID: ------

Start Time: 0820 End Time: _____
Well Construction: 4" PVC
Depth to Water: 33.06
Well Depth: 470 ft
Water Column: 436.94
Total Volume Removed (L): 4.5
Dedicated Pump in Well?: No

Field Testing Equipment

Make	Model	Serial #
YSI	556	10H100928
LaMotte	2020e	ME15044
QED	MP15	
Marschalk Bladder Pur	24"	ID#9975

Time (hh:mm)	Volume Removed (L)	Flow Rate (ml/min)	Depth to Water (ft)	Temp (°C)	pH (STD)	SPC (µS/cm°)	DO (mg/L)	ORP (mv)	Turbidity (NTU)	Color
0820	.75	150	33.31	13.95	5.31	208	4.06	210.6	1.81	clear
0825	.75	150	33.28	13.84	5.27	209	4.03	210.2	3.41	clear
0830	.75	150	33.25	13.83	5.26	208	3.91	210.5	3.32	clear
0835	.75	150	33.19	13.64	5.29	211	3.65	207.1	4.29	clear
0840	.75	150	33.10	13.56	5.27	211	3.55	206.7	4.25	clear
0845	.75	150	33.12	13.61	5.29	209	3.63	206.3	4.27	clear
Acceptance Criteria:			<0.3ft	3%	±0.1	3%	10%	± 10mv	10%	

2" Screen Volume = 0.163 gal/ft or 616 ml per foot

Sample Collection

Time	Sample ID	Container	# Bottles	Preservative	Analysis
0845	NWIRP-GM-38-GW-TP1- 1130 11	40 mL CG	3	HCl	TCL VOCs (624)
	↓	500 mL PL	1	HNO_3	Hg (245.1)
		250 mL PL	1	---	TSS (SM2540D)

Comments

_____

_____

_____

[signature] 11/30/11

Signature Date

H&S

Instrument Calibration Log

Project/Site Name: NWIRP Bethpage – GM-38 **Date:** 11/30/11 **Weather:** Cloudy 47° F

Calibrated By: R MASTROCOLA **Instrument:** YSI 556 **Serial Number:** 10H100928

Parameters	Morning Calibration Time: 0800	Cal. Temperature °C	Afternoon Cal. Check Time: 1530	Comments
Conductivity (µS/cm°) 1000	974 / 1000	11.32	1089	
pH (7)	7.49 / 7.00	10.61	6.87	
pH (4)	4.39 / 4.00	10.08	3.98	
pH (10)	10.16 / 10.00	10.11	9.97	
ORP (mv)	206.5 / 200	11.96	196.8	
Dissolved Oxygen (%)	101.0 % / 99.8 %	11.52	98.9 %	
Zero Dissolved Oxygen (mg/L)	N/A	N/A	N/A	N/A
Barometric Pressure (mmHg)	758.8	11.52	758.8	

pH Check (Every 3 hrs):

Time:	Time:	Time:
Standard:	Standard:	Standard:
Reading:	Reading:	Reading:

Signature: [signature] Date: 11/30/11

H&S

Instrument Calibration Log

Project/Site Name: NWIRP Bethpage – GM-38 **Date:** 11/29/11 **Weather:** Cloudy

Calibrated By: Victor LeClerc **Instrument:** YSI 556 **Serial Number:** 10H100928

Parameters	Morning Calibration Time: 11:35	Cal. Temperature °C	Afternoon Cal. Check Time: 1700	Comments
Conductivity 1000 (µS/cm^c)	987 / 1000	17.92	974	
pH (7)	6.92 / 7.00	16.94	7.49	
pH (4)	4.05 / 4.00	16.93	4.39	
pH (10)	10.06 / 10.01	17.23	10.16	
ORP 200 (mv)	210.0 / 200.1	15.36	206.5	
Dissolved Oxygen (%)	98.8% / 99.7%	17.96	101.0	
Zero Dissolved Oxygen (mg/L)	N/A	N/A	N/A	N/A
Barometric Pressure (mmHg)	758.8	17.96	758.8	

pH Check (Every 3 hrs):

Time:	Time:	Time:
Standard:	Standard:	Standard:
Reading:	Reading:	Reading:

Signature: _____ Date: 11/29/11

H&S

Instrument Calibration Log

Project/Site Name: NWIRP Bethpage GM-38 **Calibrated By:** [redacted] RM

Instrument/Serial Number	Pre-Cal 1-AM (NTU)	Pre-Cal 1-PM (NTU)	Pre-Cal 10-AM (NTU)	Pre-Cal 10-PM (NTU)	Post-Cal 1-AM (NTU)	Post-Cal 1-PM (NTU)	Post-Cal 10-AM (NTU)	Post-Cal 10-PM (NTU)	Date 11/29/11
LaMotte 2020e / ME15044	0.89	1.08	10.89	9.89	1.00	1.00	10.00	10.00	Time: 1145 & 1700
	1.09	1.03	9.89	10.11	1.00	1.00	10.00	10.00	11/30/11 Time: 0815 & 1530
									Time: &
									Time: &
									Time: &
									Time: &
									Time: &
									Time: &
									Time: &
									Time: &
									Time: &

Signature: [redacted] Date: 11/30/11

Analytical Laboratory Services, Inc.
Environmental • Industrial Hygiene • Field Services
34 Dogwood Lane • Middletown, PA 17057 • 717.944.5541 • Fax: 717.944.1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Page 1 of 2

Courier:

Tracking #:

Co. Name: H&S Environmental, Inc.

Contact (Report to): Jen Good **Phone:** 508.366.7442

Address: 160 E. Main St., Suite 2F
Westborough, MA 01581

Bill to (if different than Report to): Same

PO#: 2031-005

Project Name/#: NWIRP Bethpage GM-38 Qtrly LTM **ALSI Quote #:**

TAT: [x] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALSI approval and surcharges. **Date Required:** **Approved By:**

Email? [x] -Y jgood@hsenv.com **Fax?** [ ] -Y No.:

	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Time	*G or C	**Matrix	TCL VOCs (Method 624)+CIS-1,2-DCE	Mercury (Method 245.1)	TSS (SM2540D)
	***Container Type						40 mL	500 mL	250 mL
	***Container Size						CG	PL	PL
	*** Preservative						HCL	HNO3	—
1	NWIRP-GM-38-GW-RW1-MW1-113011		11/30/11	1040	G	GW	3	1	1
2	NWIRP-GM-38-GW-RW1-MW3-113011		11/30/11	0935	G	GW	3	1	1
3	NWIRP-GM-38-GW-RW2-MW1-112911	(limited VOC sample)	11/29/11	1450	G	GW	3	1	1
4	NWIRP-GM-38-GW-RW3-MW1-113011	MS/MSD for VOCs, Hg	11/30/11	1205	G	GW	9	3	1
5	NWIRP-GM-38-GW-RW3-MW2-113011		11/30/11	1400	G	GW	3	1	1
6	NWIRP-GM-38-GW-RW3-MW3-112911		11/29/11	1040	G	GW	3	1	1
7	NWIRP-GM-38-GW-RW3-MW4-112911		11/29/11	1605	G	GW	3	1	1
8	NWIRP-GM-38-GW-TP1-113011		11/30/11	0845	G	GW	3	1	1

ANALYSES/METHOD REQUESTED — Enter Number of Containers Per Analysis

Receipt Information (completed by Sample)
Performed by: INITIAL HERE
Cooler Temp:
Therm. ID:
No. of Coolers:
Notes:

	Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Volatiles?	Circle appropriate Y or N
	N	N	N	N	
	Y	Y	Y	Y	

	Custody seals Present?	(if present) Seals intact?	Received on ice?	COC/Labels complete/accurate?	Container in good condition?
	N	N	N	N	N
	Y	Y	Y	Y	Y

SAMPLED BY (Please Print): ~~G. Gangemi, J. Good~~ V. LeClerc R. Mastro Cola

LOGGED BY(signature): DATE TIME

REVIEWED BY(signature): DATE TIME

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 ~~R. Mastro Cola~~	12/1/11	0945	2		
3			4		
5			6		
7			8		
9			10		

Data Deliverables: [ ] Standard [ ] CLP-like [ ] NJ-Reduced [ ] NJ-Full (other) [ ]
EDDs Required? [ ] If yes, format type:
DOD Criteria Required?

SDWA Forms? yes [ ] yes [ ] yes [ ] yes [ ]
State Samples Collected In? MD [ ] NJ [ ] NY [x] PA [ ]
Other
PWSID

ALSI FIELD SERVICES
[ ] Pickup [ ] Labor [ ] Composite Sampling [ ] Rental Equipment [ ] Other:

* G=Grab; C=Composite **Matrix: Al=Air; DW=Drinking Water; GW=Groundwater; Oil=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY ***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Rev 08-2008

Analytical Laboratory Services, Inc.
Environmental • Industrial Hygiene • Field Services
34 Dogwood Lane • Middletown, PA 17057 • 717.944.5541 • Fax: 717.944.1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Courier:
Tracking #:

Co. Name: H&S Environmental, Inc.
Contact (Report to): Jen Good
Phone: 508.366.7442
Address: 160 E. Main St., Suite 2F, Westborough, MA 01581

Bill to (if different than Report to): Same
PO#: 2031-005

Project Name/#: NWIRP Bethpage GM-38 Qtrly LTM
ALSI Quote #:
Date Required:
Approved By:

TAT: [x] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALSI approval and surcharges.

Email? [x] -Y jgood@hsenv.com
Fax? [ ] -Y No

	***Container Type	40 mL	500 mL	250 mL
	***Container Size	CG	PL	PL
	***Preservative	HCL	HNO3	---

ANALYSES/METHOD REQUESTED — Enter Number of Containers Per Analysis

#	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	TCL VOCs (Method 624)+Cis-1,2-DCE	Mercury (Method 245.1)	TSS (SM2540D)
1	NWIRP-GM-38-GW-RW3MW1-113011-DUP		11/30/11	0000	G	GW	3	1	1
2	NWIRP-GM-38-FB-113011		11/30/11	1500	G	GW	3	1	
3	NWIRP-GM-38-TB-113011				G	GW	3		
4					G	GW			
5					G	GW			
6					G	GW			
7					G	GW			
8					G	GW			

Receipt Information (completed by Sample ...)
Performed by:
Cooler Temp:
Therm. ID:
No. of Coolers:
Notes:

Y / N: Correct containers? Correct sample volume? Correct preservation? Headspace/Volatiles? Circle appropriate Y or N.
Y / N: Custody seals Present? (If present) Seals intact? Received on ice? COC/Labels complete/accurate? Container in good condition?

SAMPLED BY (Please Print): ~~G. Gangemi, J. Good~~ W. Leclerc, R. Nasmo...
LOGGED BY(signature): DATE TIME
REVIEWED BY(signature): DATE TIME

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 [signature]	12/1/11	0945	2		
3			4		
5			6		
7			8		
9			10		

Data Deliverables: [ ] Standard [ ] CLP-like [ ] NJ-Reduced [ ] NJ-Full [ ] (other)
EDDs Required? [ ] If yes, format type:
DOD Criteria Required?

SDWA Forms? yes [ ] yes [ ] yes [ ] yes [ ]
State Samples Collected In? MD [ ] NJ [ ] NY [X] PA [ ]
Other
PWSID

ALSI FIELD SERVICES: [ ] Pickup [ ] Labor [ ] Composite Sampling [ ] Rental Equipment [ ] Other:

* G=Grab; C=Composite **Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY ***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

APPENDIX D
Data Validation Reports

VOLATILE ORGANIC COMPOUNDS
USEPA Region II – Tier II Data Validation

Project Name: Naval Weapons Industrial Reserve Plant, GM-38 Area-LTM

Location: 100 Broadway, Bethpage, NY

Project Number: 2031-005

SDG #: 9940528-HNW-033

Client: H&S Environmental, Inc.

Date: 01/09/2012

Laboratory: ALS Environmental, Middletown, PA

Reviewer: Samir A. Naguib

Summary:

1. Tier II data validation was performed on the data for nine (9) water samples, one (1) trip blank and one (1) field blank analyzed for Volatiles by EPA Method 624.

2. The samples were collected on 11/29-30/2011 and 12/02/2011. The samples were submitted to ALS Environmental, Middletown, PA on 12/02/2011 for analysis.

3. The USEPA Region II SOP HW-24, Revision No.: 2, August 2008: Validating Volatile Organic Compounds by SW-846 Method 8260B; USEPA National Functional Guidelines for Organic Data Review, EPA 540/R-99/008, October 1999; EPA Method 624 and Quality Assurance Project Plan for GM-38 Area, Naval Weapons Industrial Reserve Plant, Bethpage, NY; September 3, 2009 were used in evaluating the Volatiles data in this summary report.

4. In general, the data are valid as reported and may be used for decision making purposes. Selected data points were qualified due to nonconformance of certain Quality Control criteria (See discussion below).

Samples:

The samples included in this review are listed below:

Client Sample ID	Laboratory Sample ID	Collection Date	Matrix	Sample Status
NWIRP-GM-38-GW-RW1-MW1-113011	9940528001	11/30/11	Water	
NWIRP-GM-38-GW-RW1-MW3-113011	9940528002	11/30/11	Water	
NWIRP-GM-38-GW-RW2-MW1-112911	9940528003	11/29/11	Water	
NWIRP-GM-38-GW-RW3-MW1-113011	9940528004	11/30/11	Water	
NWIRP-GM-38-GW-RW3-MW2-113011	9940528005	11/30/11	Water	
NWIRP-GM-38-GW-RW3-MW3-112911	9940528006	11/29/11	Water	
NWIRP-GM-38-GW-RW3-MW4-112911	9940528007	11/29/11	Water	
NWIRP-GM-38-GW-TP1-113011	9940528008	11/30/11	Water	
NWIRP-GM-38-GW-RW3-MW1-113011D	9940528009	11/30/11	Water	Field Duplicate of sample NWIRP-GM-38-GW-RW3-MW1-113011
NWIRP-GM-38-FB-113011	9940528010	11/30/11	Water	Field Blank
NWIRP-GM-38-TB-113011	9940528011	12/2/11	Water	Trip Blank

Sample Conditions/Problems:

1. The Traffic Reports/Chain-of-Custody Records, Sampling Report and/or Laboratory Case Narrative did not indicate any problems with sample receipt, condition of samples, analytical problems or special circumstances affecting the quality of the data. No qualifications were required.

Holding Times:

1. All water samples were analyzed within 14days from sample collection. No qualifications were required.

2. All water samples were properly preserved (pH<2.0). No qualifications were required.

GC/MS Tuning:

1. All of the BFB tunes in the initial and continuing calibrations met the percent relative abundance criteria. No qualifications were required.

Initial Calibration:

1. Initial calibration curve analyzed on 12/05/2011 (ms03.i) exhibited acceptable %RSD and average RRF values for all compounds. No qualifications were required.

Continuing Calibration Verification (CCV):

1. CCV analyzed on 12/06/2011 @ 12:09 AM (ms03.i) exhibited acceptable %Ds (≤15.0%) for all compounds with the following exception(s):

Compound	%D
Acrolein	78.0
Chloroethane	19.1
Trichlorofluoromethane	17.4

Client Sample ID	Laboratory Sample ID	Compound	Action
NWIRP-GM-38-GW-RW3-MW3-112911	9940528006	Acrolein, Chloroethane Trichlorofluoromethane	UJ UJ

Surrogates:

1. All surrogates %REC values for all water samples and associated QC were within the laboratory control limits. No qualifications were required.

Internal Standard (IS) Area Performance:

1. All samples exhibited acceptable area count for all five internal standards. No qualifications were required.

Method Blank (MB), Storage Blank (SB), Trip Blank (TB), Field Blank (FB), Rinsate Blank (RB) and Equipment Blank (EB):

1. Method Blank (922901) was analyzed on 12/05/2011.

Laboratory Sample ID	Compound	Result (µg/l)	CRQL* (µg/l)	Sample(s) Affected	Action
922901	1,4-Dichlorobenzene	0.21	1.00	NWIRP-GM-38-GW-RW1-MW1-113011 NWIRP-GM-38-GW-RW1-MW3-113011 NWIRP-GM-38-GW-RW2-MW1-112911 NWIRP-GM-38-GW-RW3-MW1-113011 NWIRP-GM-38-GW-RW3-MW2-113011 NWIRP-GM-38-GW-RW3-MW4-112911 NWIRP-GM-38-GW-TP1-113011 NWIRP-GM-38-GW-RW3-MW1-113011D NWIRP-GM-38-FB-113011 NWIRP-GM-38-TB-113011	None

*= If sample concentration >MDL but < CRQL, then sample result qualified as non-detect (U).

2. Method Blank (923456) was analyzed on 12/06/2011.

Laboratory Sample ID	Compound	Result (µg/l)	CRQL* (µg/l)	Sample(s) Affected	Action
923456	Methylene Chloride	0.53	1.00	NWIRP-GM-38-GW-RW3-MW3-112911	None

*= If sample concentration >MDL but < 2x CRQL, then sample result qualified as non-detect (U).

3. Field Blank (NWIRP-GM38-FB-113011) (9940528010) analyzed on 12/05/2011was free of contamination. No qualifications were required.

4. Trip Blank (NWIRP-GM38-TB-113011) (9940528011) analyzed on 12/05/2011 was free of contamination. No qualifications were required.

Laboratory Control Sample (LCS)/ Laboratory Control Sample Duplicate (LCSD):

1. Laboratory Control Sample (922902) was analyzed on 12/05/2011. All %RECs were within the laboratory control limits. No qualifications were required.

2. Laboratory Control Sample (923457) was analyzed on 12/06/2011. All %RECs were within the laboratory control limits. No qualifications were required.

Field Duplicate:

1. Sample NWIRP-GM-38-GW-RW3-MW1-113011D (9940528009) was collected as field duplicate for sample NWIRP-GM-38-GW-RW3-MW1-113011 (9940528004). All RPDs were ≤50.0%. No qualifications were required.

Field Sample	Compound	Analytical Method	Result	Units	Field Duplicate	Result	Units	RPD	Qualifier
MWIRP-GM-38-GW-RW3-MW1-113011	Tetrachloroethylene	EPA 624	1.0	µg/l	MWIRP-GM-38-RW3-MW1-113011D	1.1	µg/l	9.5	None
MWIRP-GM-38-GW-RW3-MW1-113011	Trichloroethylene	EPA 624	51.0	µg/l	MWIRP-GM-38-RW3-MW1-113011D	55.2	µg/l	7.9	None

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

1. Matrix Spike (MS) and Matrix Spike Duplicate (MSD) were performed on sample NWIRP-GM-38-GW-RW3-MW1-113011 (9940528004). All %RECs and RPDs were within the laboratory control limits with the following exception(s):

Compound	%REC/%REC/RPD	Action
2-Chloroethylvinyl ether	0/0/A(1)	R
Trans-1,2-Dichloroethene	A/A/28	UJ

A= Acceptable

[1]= R qualifier was used due to both MS and MSD were 0%

Compound Quantitation and Reported Contract Required Quantitation Limits (CRQLs):

1. All results were within the linear calibration range. No qualifications were required.

Target Compound Identification:

1. All Relative Retention Times (RRTs) of the reported compounds were within ± 0.06 RRT units of the standard (opening CCV).

2. Sample compound spectra were compared against the laboratory standard spectra.

3. No QC deviations were observed.

Comments:

1. Validation qualifiers (if required) were entered into the EDD for SDG: 9940528-HNW-033.

MERCURY

USEPA Region II – Tier II Data Validation

Project Name: Naval Weapons Industrial Reserve Plant, GM-38 Area-LTM

Location: 100 Broadway, Bethpage, NY

Project Number: 2031-005

SDG #: 9940528-HNW-033

Client: H&S Environmental, Inc.

Date: 01/09/2012

Laboratory: ALS Environmental, Middletown, PA

Reviewer: Samir A. Naguib

Summary:

1. Tier II data validation was performed on the data for nine (9) water samples and one (1) field blank analyzed for Mercury by EPA Method 245.1.

2. The samples were collected on 11/29 and 30/2011. The samples were submitted to ALS Environmental, Middletown, PA on 12/02/2011 for analysis.

3. The USEPA Region II SOP No. HW-2, Revision 13, September 2006, for Evaluation of Metals Data for Contract Laboratory Program (CLP), based on SOW-ILM05.3 (SOP Revision 13); USEPA National Functional Guidelines for Inorganic Data Review, EPA 540-R-04-004, October 2004 and Quality Assurance Project Plan for GM-38 Area, Naval Weapons Industrial Reserve Plant, Bethpage, NY; September 3, 2009 were used in evaluating the Mercury data in this summary report.

4. In general, the data are valid as reported and may be used for decision making purposes. Selected data points were qualified due to nonconformance of certain Quality Control criteria (See discussion below).

Samples:

The samples included in this review are listed below:

Client Sample ID	Laboratory Sample ID	Collection Date	Matrix	Sample Status
NWIRP-GM-38-GW-RW1-MW1-113011	9940528001	11/30/11	Water	
NWIRP-GM-38-GW-RW1-MW3-113011	9940528002	11/30/11	Water	
NWIRP-GM-38-GW-RW2-MW1-112911	9940528003	11/29/11	Water	
NWIRP-GM-38-GW-RW3-MW1-113011	9940528004	11/30/11	Water	
NWIRP-GM-38-GW-RW3-MW2-113011	9940528005	11/30/11	Water	
NWIRP-GM-38-GW-RW3-MW3-112911	9940528006	11/29/11	Water	
NWIRP-GM-38-GW-RW3-MW4-112911	9940528007	11/29/11	Water	
NWIRP-GM-38-GW-TP1-113011	9940528008	11/30/11	Water	
NWIRP-GM-38-GW-RW3-MW1-113011D	9940528009	11/30/11	Water	Field Duplicate of sample NWIRP-GM-38-GW-RW3-MW1-113011
NWIRP-GM-38-FB-113011	9940528010	11/30/11	Water	Field Blank

Sample Conditions/Problems:

1. The Traffic Reports/Chain-of-Custody Records, Sampling Report and/or Laboratory Case Narrative did not indicate any problems with sample receipt, condition of samples, analytical problems or special circumstances affecting the quality of the data. No qualifications were required.

Holding Times:

1. All water samples were digested and analyzed within the 28days holding times for Mercury. No qualifications were required.

Initial and Continuing Calibration Verification (ICV and CCV):

Mercury:

1 All correlation coefficient for Mercury calibration curve analyzed were ≥0.995. No qualifications were required.

2. All ICVs and CCVs %REC values were within the QC limits (80-120%). No qualifications were required.

CRQL Check Standard (CRI):

1. The CRI %REC was within the control limits (70-130%). No qualifications were required.

Blanks (Method Blank, ICB and CCB):

1. All ICBs and CCBs were free of contamination. No qualifications were required.

2. Method Blank (923903) digested on 12/09/2011 was free of contamination. No qualifications were required.

Field Blank (FB) and Equipment Blank (EB):

1. Field Blank (NWIRP-GM-38-FB-113011) (9940528010) analyzed on 12/09/2011 was free of contamination. No qualifications were required.

Laboratory Control Sample (LCS)/ Laboratory Control Sample Duplicate (LCSD):

1. Mercury %REC in Laboratory Control Sample (923904) analyzed on 12/09/2011 was within the laboratory control limits. No qualifications were required.

Field Duplicate:

1. Sample NWIRP-GM-38-GW-RW3-MW1-113011D (9940528009) was collected as field duplicate for sample NWIRP-GM-38-GW-RW3-MW1-113011 (9940528004). Both samples were reported as non-detects. No qualifications were required.

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

1. Matrix Spike (MS) and Matrix Spike Duplicate (MSD) were performed on sample NWIRP-GM-38-GW-RW3-MW1-113011 (9940528004). All %RECs and RPD were within the laboratory control limits. No qualifications were required.

Compound Quantitation and Reported Detection Limits:

1. All sample results were reported within the linear calibration range.

Comments:

1. Validation qualifiers (if required) were entered into the EDD for SDG: 9940528-HNW-033.

GENERAL CHEMISTRY
USEPA Region II – Tier II Data Validation

Project Name: Naval Weapons Industrial Reserve Plant, GM-38 Area-LTM

Location: 100 Broadway, Bethpage, NY

Project Number: 2031-005

SDG #: 9940528-HNW-033

Client: H&S Environmental, Inc.

Date: 01/09/2012

Laboratory: ALS Environmental, Middletown, PA

Reviewer: Samir A. Naguib

Summary:

1. Tier II data validation was performed on the data for nine (9) water samples analyzed for Solids, Total Suspended (TSS) by SM20th 2540D.

2. The samples were collected on 11/29 and 30/2011. The samples were submitted to ALS Environmental, Middletown, PA on 12/02/2011 for analysis.

3. The USEPA Region II SOP No. HW-2, Revision 13, September 2006, for Evaluation of Metals Data for Contract Laboratory Program (CLP), based on SOW-ILM05.3 (SOP Revision 13); USEPA National Functional Guidelines for Inorganic Data Review, EPA 540-R-04-004, October 2004 and Quality Assurance Project Plan for GM-38 Area, Naval Weapons Industrial Reserve Plant, Bethpage, NY; September 3, 2009 were used in evaluating the Solids, Total Suspended data in this summary report.

4. In general, the data are valid as reported and may be used for decision making purposes. Selected data points were qualified due to nonconformance of certain Quality Control criteria (See discussion below).

Samples:

The samples included in this review are listed below:

Client Sample ID	Laboratory Sample ID	Collection Date	Matrix	Sample Status
NWIRP-GM-38-GW-RW1-MW1-113011	9940528001	11/30/11	Water	
NWIRP-GM-38-GW-RW1-MW3-113011	9940528002	11/30/11	Water	
NWIRP-GM-38-GW-RW2-MW1-112911	9940528003	11/29/11	Water	
NWIRP-GM-38-GW-RW3-MW1-113011	9940528004	11/30/11	Water	
NWIRP-GM-38-GW-RW3-MW2-113011	9940528005	11/30/11	Water	
NWIRP-GM-38-GW-RW3-MW3-112911	9940528006	11/29/11	Water	
NWIRP-GM-38-GW-RW3-MW4-112911	9940528007	11/29/11	Water	
NWIRP-GM-38-GW-TP1-113011	9940528008	11/30/11	Water	
NWIRP-GM-38-GW-RW3-MW1-113011D	9940528009	11/30/11	Water	Field Duplicate of sample NWIRP-GM-38-GW-RW3-MW1-113011

Sample Conditions/Problems:

1. The Traffic Reports/Chain-of-Custody Records, Sampling Report and/or Laboratory Case Narrative did not indicate any problems with sample receipt, condition of samples, analytical problems or special circumstances affecting the quality of the data. No qualifications were required.

Holding Times:

1. All water samples were analyzed within the 7days holding times for Solids, Total Suspended. No qualifications were required.

Method Blank (MB), Storage Blank (SB), Field Blank (FB), Rinsate Blank (RB) and Equipment Blank (EB):

1. Method Blank (922835) analyzed on 12/05/2011 was free of contamination. No qualifications were required.

Field Duplicate:

1. Sample NWIRP-GM-38-GW-RW3-MW1-113011D (9940528009) was collected as field duplicate for sample NWIRP-GM-38-GW-RW3-MW1-113011 (9940528004). Both samples were reported as non-detects. No qualifications were required.

Laboratory Duplicate:

1. Laboratory Duplicate was performed on sample NWIRP-GM-38-GW-RW3-MW4-112911(9940528007). TSS RPD was 15% within the laboratory control limits (≤20.0%). No qualifications were required.

Compound Quantitation and Reported Detection Limits:

1. All sample results were reported within the linear calibration range.

Comments:

1. Validation qualifiers (if required) were entered into the EDD for SDG: 9940528-HNW-033.

APPENDIX E
Raw Analytical Data

October 2011 O&M Data

ALS Environmental

34 Dogwood Lane ■ Middletown, PA 17057 ■ Phone: 717-944-5541 ■ Fax: 717-944-1430 ■ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: CT PH-0224 , DE ID 11 , GA 914 , MA PA0102 , MD 128 , LA 04162 , VA 421 , WY EPA Region 8 , WV 343

October 25, 2011

Ms. Jennifer Good
H & S Environmental
160 East Main Street, 2F
Westborough, MA 01581

Certificate of Analysis

Project Name:	**NWIRP Bethpage - GM-38**	Workorder:	**9932356**
Purchase Order:	**2031-003**	Workorder ID:	**HNW027|NWIRP Bethpage - GM-38**

Dear Ms. Good,

Enclosed are the analytical results for samples received by the laboratory on Saturday, October 15, 2011.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Tonya Hironimus (Project Coordinator) or Anna G Milliken (Technical Manager) at (717) 944-5541.

Please visit us at www.analyticallab.com for a listing of ALS' NELAP accreditations and Scope of Work, as well as other links to Water Quality documentation on the internet.

This laboratory report may not be reproduced, except in full, without the written approval of ALS Environmental.

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

Anna G Milliken
Technical Manager

ALS Environmental

34 Dogwood Lane ■ Middletown, PA 17057 ■ Phone: 717-944-5541 ■ Fax: 717-944-1430 ■ www.alsglobal.com

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State Certifications: CT PH-0224 , DE ID 11 , GA 914 , MA PA0102 , MD 128 , LA 04162 , VA 421 , WY EPA Region 8 , WV 343

SAMPLE SUMMARY

Workorder: 9932356 HNW027|NWIRP Bethpage - GM-38 Discard Date: 12/23/2011

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
9932356001	NWIRP-GM-38-PS-RW3-101411	Water	10/14/11 09:25	10/15/11 09:00	Customer
9932356002	NWIRP-GM-38-PS-ASE-101411	Water	10/14/11 09:40	10/15/11 09:00	Customer
9932356003	NWIRP-GM-38-PS-BFE-101411	Water	10/14/11 09:42	10/15/11 09:00	Customer
9932356004	NWIRP-GM-38-PS-TE-101411	Water	10/14/11 09:45	10/15/11 09:00	Customer
9932356005	NWIRP-GM-38-PS-LC1-101411	Water	10/14/11 09:48	10/15/11 09:00	Customer
9932356006	NWIRP-GM-38-PS-LC2-101411	Water	10/14/11 09:50	10/15/11 09:00	Customer
9932356007	NWIRP-GM-38-PS-LC3-101411	Water	10/14/11 09:52	10/15/11 09:00	Customer
9932356008	NWIRP-GM-38-PS-RW3-DUP-101411	Water	10/14/11 10:00	10/15/11 09:00	Customer
9932356009	NWIRP-GM-38-TB-101411	Water	10/15/11 09:00	10/15/11 09:00	Customer

Workorder Comments:

Notes

-- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
-- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
-- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
-- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
-- The Chain of Custody document is included as part of this report.
-- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.

Standard Acronyms/Flags

J, B	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference

ALS Environmental

34 Dogwood Lane ■ Middletown, PA 17057 ■ Phone: 717-944-5541 ■ Fax: 717-944-1430 ■ www.alsglobal.com

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State Certifications: CT PH-0224 , DE ID 11 , GA 914 , MA PA0102 , MD 128 , LA 04162 , VA 421 , WY EPA Region 8 , WV 343

ANALYTICAL RESULTS

Workorder: 9932356 HNW027|NWIRP Bethpage - GM-38

Lab ID: **9932356001** Date Collected: 10/14/2011 09:25 Matrix: Water

Sample ID: **NWIRP-GM-38-PS-RW3-101411** Date Received: 10/15/2011 09:00

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr
VOLATILE ORGANICS											
Carbon Tetrachloride	1.0U	ug/L		1.0	1.0	0.24	EPA 624		10/19/11 11:01	TMP	A
1,1-Dichloroethane	2.8	ug/L		1.0	1.0	0.19	EPA 624		10/19/11 11:01	TMP	A
1,2-Dichloroethane	1.0U	ug/L		1.0	1.0	0.22	EPA 624		10/19/11 11:01	TMP	A
1,1-Dichloroethene	1.9	ug/L		1.0	1.0	0.17	EPA 624		10/19/11 11:01	TMP	A
cis-1,2-Dichloroethene	1.9	ug/L		1.0	1.0	0.26	EPA 624		10/19/11 11:01	TMP	A
trans-1,2-Dichloroethene	1.0U	ug/L		1.0	1.0	0.12	EPA 624		10/19/11 11:01	TMP	A
Tetrachloroethene	1.0U	ug/L		1.0	1.0	0.26	EPA 624		10/19/11 11:01	TMP	A
1,1,1-Trichloroethane	1.1	ug/L		1.0	1.0	0.27	EPA 624		10/19/11 11:01	TMP	A
Trichloroethene	306	ug/L		5.0	5.0	1.1	EPA 624		10/20/11 08:59	TMP	G
Vinyl Chloride	2.0U	ug/L		2.0	2.0	0.24	EPA 624		10/19/11 11:01	TMP	A
Surrogate Recoveries	*Results*	*Units*	*Footnotes*	*Limits*			*Method*	*Prepared*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	108	%		72-142			EPA 624		10/19/11 11:01	TMP	A
4-Bromofluorobenzene (S)	93.4	%		73-119			EPA 624		10/19/11 11:01	TMP	A
Dibromofluoromethane (S)	99.9	%		74-132			EPA 624		10/19/11 11:01	TMP	A
Toluene-d8 (S)	108	%		75-133			EPA 624		10/19/11 11:01	TMP	A
1,2-Dichloroethane-d4 (S)	126	%		72-142			EPA 624		10/20/11 08:59	TMP	G
4-Bromofluorobenzene (S)	92.5	%		73-119			EPA 624		10/20/11 08:59	TMP	G
Dibromofluoromethane (S)	104	%		74-132			EPA 624		10/20/11 08:59	TMP	G
Toluene-d8 (S)	118	%		75-133			EPA 624		10/20/11 08:59	TMP	G
WET CHEMISTRY											
Total Suspended Solids	5U	mg/L		5	5	5	SM20-2540 D		10/18/11 11:19	KAK	M
METALS											
Mercury, Total	0.00050 U	mg/L		0.00050	0.00050	0.00016	EPA 245.1	10/21/11	10/21/11 10:29	MNP	J1

Sample Comments:

Anna G Milliken
Technical Manager

ALS Environmental

34 Dogwood Lane ■ Middletown, PA 17057 ■ Phone: 717-944-5541 ■ Fax: 717-944-1430 ■ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: CT PH-0224 , DE ID 11 , GA 914 , MA PA0102 , MD 128 , LA 04162 , VA 421 , WY EPA Region 8 , WV 343

ANALYTICAL RESULTS

Workorder: 9932356 HNW027|NWIRP Bethpage - GM-38

Lab ID: **9932356002** Date Collected: 10/14/2011 09:40 Matrix: Water

Sample ID: **NWIRP-GM-38-PS-ASE-101411** Date Received: 10/15/2011 09:00

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr
VOLATILE ORGANICS											
Carbon Tetrachloride	1.0U	ug/L		1.0	1.0	0.24	EPA 624		10/19/11 07:44	TMP	A
1,1-Dichloroethane	1.0U	ug/L		1.0	1.0	0.19	EPA 624		10/19/11 07:44	TMP	A
1,2-Dichloroethane	1.0U	ug/L		1.0	1.0	0.22	EPA 624		10/19/11 07:44	TMP	A
1,1-Dichloroethene	1.0U	ug/L		1.0	1.0	0.17	EPA 624		10/19/11 07:44	TMP	A
cis-1,2-Dichloroethene	1.0U	ug/L		1.0	1.0	0.26	EPA 624		10/19/11 07:44	TMP	A
trans-1,2-Dichloroethene	1.0U	ug/L		1.0	1.0	0.12	EPA 624		10/19/11 07:44	TMP	A
Tetrachloroethene	1.0U	ug/L		1.0	1.0	0.26	EPA 624		10/19/11 07:44	TMP	A
1,1,1-Trichloroethane	1.0U	ug/L		1.0	1.0	0.27	EPA 624		10/19/11 07:44	TMP	A
Trichloroethene	0.82J	ug/L		1.0	1.0	0.21	EPA 624		10/19/11 07:44	TMP	A
Vinyl Chloride	2.0U	ug/L		2.0	2.0	0.24	EPA 624		10/19/11 07:44	TMP	A
Surrogate Recoveries	*Results*	*Units*	*Footnotes*	*Limits*			*Method*	*Prepared*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	97.9	%		72-142			EPA 624		10/19/11 07:44	TMP	A
4-Bromofluorobenzene (S)	95.7	%		73-119			EPA 624		10/19/11 07:44	TMP	A
Dibromofluoromethane (S)	98.8	%		74-132			EPA 624		10/19/11 07:44	TMP	A
Toluene-d8 (S)	109	%		75-133			EPA 624		10/19/11 07:44	TMP	A
WET CHEMISTRY											
Total Suspended Solids	5U	mg/L		5	5	5	SM20-2540 D		10/18/11 13:07	KAK	E
METALS											
Mercury, Total	0.00050 U	mg/L		0.00050	0.00050	0.00016	EPA 245.1	10/21/11	10/21/11 10:32	MNP	D1

Sample Comments:

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Technical Manager

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ANALYTICAL RESULTS

Workorder: 9932356 HNW027|NWIRP Bethpage - GM-38

Lab ID: **9932356003** Date Collected: 10/14/2011 09:42 Matrix: Water

Sample ID: **NWIRP-GM-38-PS-BFE-101411** Date Received: 10/15/2011 09:00

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr
VOLATILE ORGANICS											
Carbon Tetrachloride	1.0U	ug/L		1.0	1.0	0.24	EPA 624		10/19/11 08:17	TMP	A
1,1-Dichloroethane	1.0U	ug/L		1.0	1.0	0.19	EPA 624		10/19/11 08:17	TMP	A
1,2-Dichloroethane	1.0U	ug/L		1.0	1.0	0.22	EPA 624		10/19/11 08:17	TMP	A
1,1-Dichloroethene	1.0U	ug/L		1.0	1.0	0.17	EPA 624		10/19/11 08:17	TMP	A
cis-1,2-Dichloroethene	1.0U	ug/L		1.0	1.0	0.26	EPA 624		10/19/11 08:17	TMP	A
trans-1,2-Dichloroethene	1.0U	ug/L		1.0	1.0	0.12	EPA 624		10/19/11 08:17	TMP	A
Tetrachloroethene	1.0U	ug/L		1.0	1.0	0.26	EPA 624		10/19/11 08:17	TMP	A
1,1,1-Trichloroethane	1.0U	ug/L		1.0	1.0	0.27	EPA 624		10/19/11 08:17	TMP	A
Trichloroethene	0.83J	ug/L		1.0	1.0	0.21	EPA 624		10/19/11 08:17	TMP	A
Vinyl Chloride	2.0U	ug/L		2.0	2.0	0.24	EPA 624		10/19/11 08:17	TMP	A
Surrogate Recoveries	*Results*	*Units*	*Footnotes*	*Limits*			*Method*	*Prepared*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	98.2	%		72-142			EPA 624		10/19/11 08:17	TMP	A
4-Bromofluorobenzene (S)	93.1	%		73-119			EPA 624		10/19/11 08:17	TMP	A
Dibromofluoromethane (S)	100	%		74-132			EPA 624		10/19/11 08:17	TMP	A
Toluene-d8 (S)	110	%		75-133			EPA 624		10/19/11 08:17	TMP	A
WET CHEMISTRY											
Total Suspended Solids	5U	mg/L		5	5	5	SM20-2540 D		10/19/11 09:15	KAK	E
METALS											
Mercury, Total	0.00050 U	mg/L		0.00050	0.00050	0.00016	EPA 245.1	10/21/11	10/21/11 10:35	MNP	D1

Sample Comments:

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ANALYTICAL RESULTS

Workorder: 9932356 HNW027|NWIRP Bethpage - GM-38

Lab ID: **9932356004** Date Collected: 10/14/2011 09:45 Matrix: Water

Sample ID: **NWIRP-GM-38-PS-TE-101411** Date Received: 10/15/2011 09:00

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr
VOLATILE ORGANICS											
Carbon Tetrachloride	1.0U	ug/L		1.0	1.0	0.24	EPA 624		10/19/11 08:50	TMP	A
1,1-Dichloroethane	1.0U	ug/L		1.0	1.0	0.19	EPA 624		10/19/11 08:50	TMP	A
1,2-Dichloroethane	1.0U	ug/L		1.0	1.0	0.22	EPA 624		10/19/11 08:50	TMP	A
1,1-Dichloroethene	1.0U	ug/L		1.0	1.0	0.17	EPA 624		10/19/11 08:50	TMP	A
cis-1,2-Dichloroethene	0.97J	ug/L		1.0	1.0	0.26	EPA 624		10/19/11 08:50	TMP	A
trans-1,2-Dichloroethene	1.0U	ug/L		1.0	1.0	0.12	EPA 624		10/19/11 08:50	TMP	A
Tetrachloroethene	1.0U	ug/L		1.0	1.0	0.26	EPA 624		10/19/11 08:50	TMP	A
1,1,1-Trichloroethane	1.0U	ug/L		1.0	1.0	0.27	EPA 624		10/19/11 08:50	TMP	A
Trichloroethene	1.0U	ug/L		1.0	1.0	0.21	EPA 624		10/19/11 08:50	TMP	A
Vinyl Chloride	2.0U	ug/L		2.0	2.0	0.24	EPA 624		10/19/11 08:50	TMP	A
Surrogate Recoveries	*Results*	*Units*	*Footnotes*	*Limits*			*Method*	*Prepared*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	97.9	%		72-142			EPA 624		10/19/11 08:50	TMP	A
4-Bromofluorobenzene (S)	93.3	%		73-119			EPA 624		10/19/11 08:50	TMP	A
Dibromofluoromethane (S)	99	%		74-132			EPA 624		10/19/11 08:50	TMP	A
Toluene-d8 (S)	111	%		75-133			EPA 624		10/19/11 08:50	TMP	A
WET CHEMISTRY											
Total Suspended Solids	5U	mg/L		5	5	5	SM20-2540 D		10/19/11 09:15	KAK	E
METALS											
Mercury, Total	0.00050 U	mg/L		0.00050	0.00050	0.00016	EPA 245.1	10/21/11	10/21/11 10:36	MNP	D1

Sample Comments:

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ANALYTICAL RESULTS

Workorder: 9932356 HNW027|NWIRP Bethpage - GM-38

Lab ID: **9932356005** Date Collected: 10/14/2011 09:48 Matrix: Water

Sample ID: **NWIRP-GM-38-PS-LC1-101411** Date Received: 10/15/2011 09:00

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr
VOLATILE ORGANICS											
Carbon Tetrachloride	1.0U	ug/L		1.0	1.0	0.24	EPA 624		10/19/11 09:22	TMP	A
1,1-Dichloroethane	1.0U	ug/L		1.0	1.0	0.19	EPA 624		10/19/11 09:22	TMP	A
1,2-Dichloroethane	1.0U	ug/L		1.0	1.0	0.22	EPA 624		10/19/11 09:22	TMP	A
1,1-Dichloroethene	1.0U	ug/L		1.0	1.0	0.17	EPA 624		10/19/11 09:22	TMP	A
cis-1,2-Dichloroethene	1.1	ug/L		1.0	1.0	0.26	EPA 624		10/19/11 09:22	TMP	A
trans-1,2-Dichloroethene	1.0U	ug/L		1.0	1.0	0.12	EPA 624		10/19/11 09:22	TMP	A
Tetrachloroethene	1.0U	ug/L		1.0	1.0	0.26	EPA 624		10/19/11 09:22	TMP	A
1,1,1-Trichloroethane	1.0U	ug/L		1.0	1.0	0.27	EPA 624		10/19/11 09:22	TMP	A
Trichloroethene	1.0U	ug/L		1.0	1.0	0.21	EPA 624		10/19/11 09:22	TMP	A
Vinyl Chloride	2.0U	ug/L		2.0	2.0	0.24	EPA 624		10/19/11 09:22	TMP	A
Surrogate Recoveries	*Results*	*Units*	*Footnotes*	*Limits*			*Method*	*Prepared*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	101	%		72-142			EPA 624		10/19/11 09:22	TMP	A
4-Bromofluorobenzene (S)	96.2	%		73-119			EPA 624		10/19/11 09:22	TMP	A
Dibromofluoromethane (S)	99.7	%		74-132			EPA 624		10/19/11 09:22	TMP	A
Toluene-d8 (S)	110	%		75-133			EPA 624		10/19/11 09:22	TMP	A
WET CHEMISTRY											
Total Suspended Solids	5U	mg/L		5	5	5	SM20-2540 D		10/19/11 09:15	KAK	E
METALS											
Mercury, Total	0.00050 U	mg/L		0.00050	0.00050	0.00016	EPA 245.1	10/21/11	10/21/11 10:37	MNP	D1

Sample Comments:

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Technical Manager

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ANALYTICAL RESULTS

Workorder: 9932356 HNW027|NWIRP Bethpage - GM-38

Lab ID: **9932356006** Date Collected: 10/14/2011 09:50 Matrix: Water

Sample ID: **NWIRP-GM-38-PS-LC2-101411** Date Received: 10/15/2011 09:00

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr
VOLATILE ORGANICS											
Carbon Tetrachloride	1.0U	ug/L		1.0	1.0	0.24	EPA 624		10/19/11 09:55	TMP	A
1,1-Dichloroethane	1.0U	ug/L		1.0	1.0	0.19	EPA 624		10/19/11 09:55	TMP	A
1,2-Dichloroethane	1.0U	ug/L		1.0	1.0	0.22	EPA 624		10/19/11 09:55	TMP	A
1,1-Dichloroethene	1.0U	ug/L		1.0	1.0	0.17	EPA 624		10/19/11 09:55	TMP	A
cis-1,2-Dichloroethene	1.1	ug/L		1.0	1.0	0.26	EPA 624		10/19/11 09:55	TMP	A
trans-1,2-Dichloroethene	1.0U	ug/L		1.0	1.0	0.12	EPA 624		10/19/11 09:55	TMP	A
Tetrachloroethene	1.0U	ug/L		1.0	1.0	0.26	EPA 624		10/19/11 09:55	TMP	A
1,1,1-Trichloroethane	1.0U	ug/L		1.0	1.0	0.27	EPA 624		10/19/11 09:55	TMP	A
Trichloroethene	1.0U	ug/L		1.0	1.0	0.21	EPA 624		10/19/11 09:55	TMP	A
Vinyl Chloride	2.0U	ug/L		2.0	2.0	0.24	EPA 624		10/19/11 09:55	TMP	A
Surrogate Recoveries	*Results*	*Units*	*Footnotes*	*Limits*			*Method*	*Prepared*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	106	%		72-142			EPA 624		10/19/11 09:55	TMP	A
4-Bromofluorobenzene (S)	92	%		73-119			EPA 624		10/19/11 09:55	TMP	A
Dibromofluoromethane (S)	102	%		74-132			EPA 624		10/19/11 09:55	TMP	A
Toluene-d8 (S)	112	%		75-133			EPA 624		10/19/11 09:55	TMP	A
WET CHEMISTRY											
Total Suspended Solids	5U	mg/L		5	5	5	SM20-2540 D		10/19/11 09:15	KAK	E
METALS											
Mercury, Total	0.00050 U	mg/L		0.00050	0.00050	0.00016	EPA 245.1	10/21/11	10/21/11 10:38	MNP	D1

Sample Comments:

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ANALYTICAL RESULTS

Workorder: 9932356 HNW027|NWIRP Bethpage - GM-38

Lab ID: **9932356007** Date Collected: 10/14/2011 09:52 Matrix: Water

Sample ID: **NWIRP-GM-38-PS-LC3-101411** Date Received: 10/15/2011 09:00

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr
VOLATILE ORGANICS											
Carbon Tetrachloride	1.0U	ug/L		1.0	1.0	0.24	EPA 624		10/19/11 10:28	TMP	A
1,1-Dichloroethane	1.0U	ug/L		1.0	1.0	0.19	EPA 624		10/19/11 10:28	TMP	A
1,2-Dichloroethane	1.0U	ug/L		1.0	1.0	0.22	EPA 624		10/19/11 10:28	TMP	A
1,1-Dichloroethene	1.0U	ug/L		1.0	1.0	0.17	EPA 624		10/19/11 10:28	TMP	A
cis-1,2-Dichloroethene	1.0	ug/L		1.0	1.0	0.26	EPA 624		10/19/11 10:28	TMP	A
trans-1,2-Dichloroethene	1.0U	ug/L		1.0	1.0	0.12	EPA 624		10/19/11 10:28	TMP	A
Tetrachloroethene	1.0U	ug/L		1.0	1.0	0.26	EPA 624		10/19/11 10:28	TMP	A
1,1,1-Trichloroethane	1.0U	ug/L		1.0	1.0	0.27	EPA 624		10/19/11 10:28	TMP	A
Trichloroethene	1.0U	ug/L		1.0	1.0	0.21	EPA 624		10/19/11 10:28	TMP	A
Vinyl Chloride	2.0U	ug/L		2.0	2.0	0.24	EPA 624		10/19/11 10:28	TMP	A
Surrogate Recoveries	*Results*	*Units*	*Footnotes*	*Limits*			*Method*	*Prepared*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	105	%		72-142			EPA 624		10/19/11 10:28	TMP	A
4-Bromofluorobenzene (S)	93.5	%		73-119			EPA 624		10/19/11 10:28	TMP	A
Dibromofluoromethane (S)	101	%		74-132			EPA 624		10/19/11 10:28	TMP	A
Toluene-d8 (S)	110	%		75-133			EPA 624		10/19/11 10:28	TMP	A
WET CHEMISTRY											
Total Suspended Solids	5U	mg/L		5	5	5	SM20-2540 D		10/19/11 09:15	KAK	E
METALS											
Mercury, Total	0.00050 U	mg/L		0.00050	0.00050	0.00016	EPA 245.1	10/21/11	10/21/11 10:39	MNP	D1

Sample Comments:

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ANALYTICAL RESULTS

Workorder: 9932356 HNW027|NWIRP Bethpage - GM-38

Lab ID: **9932356008** Date Collected: 10/14/2011 10:00 Matrix: Water

Sample ID: **NWIRP-GM-38-PS-RW3-DUP-101411** Date Received: 10/15/2011 09:00

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr
VOLATILE ORGANICS											
Carbon Tetrachloride	1.0U	ug/L		1.0	1.0	0.24	EPA 624		10/19/11 11:34	TMP	A
1,1-Dichloroethane	2.8	ug/L		1.0	1.0	0.19	EPA 624		10/19/11 11:34	TMP	A
1,2-Dichloroethane	1.0U	ug/L		1.0	1.0	0.22	EPA 624		10/19/11 11:34	TMP	A
1,1-Dichloroethene	1.8	ug/L		1.0	1.0	0.17	EPA 624		10/19/11 11:34	TMP	A
cis-1,2-Dichloroethene	1.9	ug/L		1.0	1.0	0.26	EPA 624		10/19/11 11:34	TMP	A
trans-1,2-Dichloroethene	1.0U	ug/L		1.0	1.0	0.12	EPA 624		10/19/11 11:34	TMP	A
Tetrachloroethene	1.0U	ug/L		1.0	1.0	0.26	EPA 624		10/19/11 11:34	TMP	A
1,1,1-Trichloroethane	1.1	ug/L		1.0	1.0	0.27	EPA 624		10/19/11 11:34	TMP	A
Trichloroethene	298	ug/L		5.0	5.0	1.1	EPA 624		10/20/11 09:32	TMP	B
Vinyl Chloride	2.0U	ug/L		2.0	2.0	0.24	EPA 624		10/19/11 11:34	TMP	A
Surrogate Recoveries	*Results*	*Units*	*Footnotes*	*Limits*			*Method*	*Prepared*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	111	%		72-142			EPA 624		10/19/11 11:34	TMP	A
4-Bromofluorobenzene (S)	94.4	%		73-119			EPA 624		10/19/11 11:34	TMP	A
Dibromofluoromethane (S)	101	%		74-132			EPA 624		10/19/11 11:34	TMP	A
Toluene-d8 (S)	113	%		75-133			EPA 624		10/19/11 11:34	TMP	A
1,2-Dichloroethane-d4 (S)	126	%		72-142			EPA 624		10/20/11 09:32	TMP	B
4-Bromofluorobenzene (S)	89.7	%		73-119			EPA 624		10/20/11 09:32	TMP	B
Dibromofluoromethane (S)	104	%		74-132			EPA 624		10/20/11 09:32	TMP	B
Toluene-d8 (S)	114	%		75-133			EPA 624		10/20/11 09:32	TMP	B
WET CHEMISTRY											
Total Suspended Solids	5	mg/L		5	5	5	SM20-2540 D		10/19/11 09:15	KAK	E
METALS											
Mercury, Total	0.00050 U	mg/L		0.00050	0.00050	0.00016	EPA 245.1	10/21/11	10/21/11 10:40	MNP	D1

Sample Comments:

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ANALYTICAL RESULTS

Workorder: 9932356 HNW027|NWIRP Bethpage - GM-38

Lab ID: **9932356009** Date Collected: 10/15/2011 09:00 Matrix: Water

Sample ID: **NWIRP-GM-38-TB-101411** Date Received: 10/15/2011 09:00

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr
VOLATILE ORGANICS											
Carbon Tetrachloride	1.0U	ug/L		1.0	1.0	0.24	EPA 624		10/19/11 03:21	TMP	A
1,1-Dichloroethane	1.0U	ug/L		1.0	1.0	0.19	EPA 624		10/19/11 03:21	TMP	A
1,2-Dichloroethane	1.0U	ug/L		1.0	1.0	0.22	EPA 624		10/19/11 03:21	TMP	A
1,1-Dichloroethene	1.0U	ug/L		1.0	1.0	0.17	EPA 624		10/19/11 03:21	TMP	A
cis-1,2-Dichloroethene	1.0U	ug/L		1.0	1.0	0.26	EPA 624		10/19/11 03:21	TMP	A
trans-1,2-Dichloroethene	1.0U	ug/L		1.0	1.0	0.12	EPA 624		10/19/11 03:21	TMP	A
Tetrachloroethene	1.0U	ug/L		1.0	1.0	0.26	EPA 624		10/19/11 03:21	TMP	A
1,1,1-Trichloroethane	1.0U	ug/L		1.0	1.0	0.27	EPA 624		10/19/11 03:21	TMP	A
Trichloroethene	1.0U	ug/L		1.0	1.0	0.21	EPA 624		10/19/11 03:21	TMP	A
Vinyl Chloride	2.0U	ug/L		2.0	2.0	0.24	EPA 624		10/19/11 03:21	TMP	A
Surrogate Recoveries	*Results*	*Units*	*Footnotes*	*Limits*			*Method*	*Prepared*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	111	%		72-142			EPA 624		10/19/11 03:21	TMP	A
4-Bromofluorobenzene (S)	92.9	%		73-119			EPA 624		10/19/11 03:21	TMP	A
Dibromofluoromethane (S)	101	%		74-132			EPA 624		10/19/11 03:21	TMP	A
Toluene-d8 (S)	109	%		75-133			EPA 624		10/19/11 03:21	TMP	A

Sample Comments:

Anna G Milliken
Technical Manager

Analytical Laboratory Services, Inc.
Environmental • Industrial Hygiene • Field Services
34 Dogwood Lane • Middletown, PA 17057 • 717.944.5541 • Fax: 717.944.1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Page 1 of 2
Courier: Fed Ex
Tracking #: 8652 0108 5097

9932356

Co. Name: H&S Environmental, Inc.
Contact (Report to): Jen Good **Phone:** 508.366.7442
Address: 160 E. Main St., Suite 2F
Westborough, MA 01581

Bill to (if different than Report to): Same **PO#:** 2031-003

Project Name/#: NWIRP Bethpage GM-38 Monthly O&M **ALSI Quote #:**

TAT: [x] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALSI approval and surcharges. Date Required: Approved By:

Email? [x] -Y jgood@hsenv.com
Fax? [ ] -Y No.:

***Container Type	40 mL	500 mL	250 mL
***Container Size	CG	PL	PL
***Preservative	HCL	HNO3	–

ANALYSES/METHOD REQUESTED — Enter Number of Containers Per Analysis

#	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Select VOCs (Method 624) - incl. CCl4	Mercury (Method 245.1)	TSS (SM2540D)	pH (measured in the field)
1										
2	NWIRP-GM-38-PS-RW3-101411	MS/MSD for VOCs, Hg	10/14/11	0925	G	GW	9	3	1	6.04
3	NWIRP-GM-38-PS-ASE-101411		10/14/11	0943	G	GW	3	1	1	7.54
4	NWIRP-GM-38-PS-BFE-101411		10/14/11	0942	G	GW	3	1	1	7.77
5	NWIRP-GM-38-PS-TE-101411		10/14/11	0945	G	GW	3	1	1	7.09
6	NWIRP-GM-38-PS-LC1-101411		10/14/11	0948	G	GW	3	1	1	7.63
7	NWIRP-GM-38-PS-LC2-101411		10/14/11	0950	G	GW	3	1	1	7.18
8	NWIRP-GM-38-PS-LC3-101411		10/14/11	0952	G	GW	3	1	1	7.50

Receipt Information (completed by Sample Custodian)
Performed by: [signature]
Cooler Temp: 4°C
Therm. ID: THC5
No. of Coolers:
Notes:

Circle appropriate Y or N.

Correct containers?	(Y) N
Correct sample volume?	(Y) N
Correct preservation?	(Y) N
Headspace/Volatiles?	Y (N)
Custody seals Present?	Y (N)
(if present) Seals intact?	Y N
Received on ice?	(Y) N
COC/Labels complete/accurate?	(Y) N
Container in good condition?	(Y) N

SAMPLED BY (Please Print): G. Gangemi
LOGGED BY (signature): [signature] Date 10/17/11 Time 0800
REVIEWED BY (signature): [signature] Date 10/18/11 Time 1605

#	Relinquished By / Company Name	Date	Time	#	Received By / Company Name	Date	Time
1	[signature]	10/14	1000	2	[signature]	10/15	9:00
3				4			
5				6			
7				8			
9				10			

Data Deliverables: [x] Standard [ ] CLP-like [ ] NJ-Reduced [ ] NJ-Full [ ] (other)
EDDs Required? [ ] If yes, format type:
DOD Criteria Required?

SDWA Forms? yes [ ] yes [ ] yes [ ] yes [ ]
Other
PWSID

State Samples Collected In? MD [ ] NJ [ ] NY [x] PA [ ]

ALSI FIELD SERVICES: [ ] Pickup [ ] Labor [ ] Composite Sampling [ ] Rental Equipment [ ] Other:

* G=Grab; C=Composite **Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater
Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY ***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.
Rev 08-2008

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Environmental • Industrial Hygiene • Field Services
34 Dogwood Lane • Middletown, PA 17057 • 717.944.5541 • Fax: 717.944.1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Page 2 of 2
Courier: FED EX
Tracking #: 8602 0108 5097
9932356

Co. Name: H&S Environmental, Inc.
Contact (Report to): Jen Good Phone: 508.366.7442
Address: 160 E. Main St., Suite 2F
Westborough, MA 01581

Bill to (if different than Report to): Same PO#: 2031-003

Project Name/#: NWIRP Bethpage GM-38 Monthly O&M ALSI Quote #:

TAT: [x] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALSI approval and surcharges. Date Required: Approved By:

Email? [x] -Y jgood@hsenv.com
Fax? [ ] -Y No.:

***Container Type	CG	PL	PL
***Container Size	40 mL	500 mL	250 mL
***Preservative	HCL	HNO3	—

ANALYSES/METHOD REQUESTED

Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Select VOCs (Method 624) - incl CCl4	Mercury (Method 245.1)	TSS (SM2540D)	pH (measured in the field)
1 NWIRP-GM-38-PS-KW3-DUP-101411		10/14/11	830	G	GW	3	1	1	6.04
2 NWIRP-GM-38-TB-101411		10/14/11	—	G	GW	3			
3									
4									
5									
6									
7									
8									

Enter Number of Containers Per Analysis

Receipt Information (completed by Sample...)
Performed by: AM
Cooler Temp: 4
Therm. ID: T4125
No. of Coolers:
Notes:

Correct containers?	(Y)	N
Correct sample volume?	(Y)	N
Correct preservation?	(Y)	N
Headspace/Volatiles?	Y	(N)
Circle appropriate Y or N.		
Custody seals Present?	Y	(N)
(if present) Seals intact?	Y	N
Received on ice?	(Y)	N
COC/Labels complete/accurate?	(Y)	N
Container in good condition?	(Y)	N

SAMPLED BY (Please Print): G. Gangemi
LOGGED BY(signature): K. Snow DATE 10/17/11 0800
REVIEWED BY(signature): [signature] DATE 10/18/11 TIME 1605

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 [signature]	10/14		2 [signature]	10/15	900
3			4		
5			6		
7			8		
9			10		

Data Deliverables: [ ] Standard [ ] CLP-like [ ] NJ-Reduced [ ] NJ-Full [ ] (other)
EDDs Required? [ ] If yes, format type:
DOD Criteria Required?

SDWA Forms? yes [ ] yes [ ] yes [ ] yes [ ]
State Samples Collected In? MD [ ] NJ [ ] NY [x] PA [ ]
Other
PWSID

ALSI FIELD SERVICES: [ ] Pickup [ ] Labor [ ] Composite Sampling [ ] Rental Equipment [ ] Other:

* G=Grab; C=Composite **Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater
Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY ***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.
Rev 08-2008

ALS Environmental

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NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: CT PH-0224 , DE ID 11 , GA 914 , MA PA0102 , MD 128 , LA 04162 , VA 421 , WY EPA Region 8 , WV 343

October 27, 2011

Ms. Jennifer Good
H & S Environmental
160 East Main Street, 2F
Westborough, MA 01581

Certificate of Analysis

Project Name:	**NWIRP Bethpage - GM-38**	Workorder:	**9933398**
Purchase Order:		Workorder ID:	**HNW029|NWIRP Bethpage - GM-38**

Dear Ms. Good,

Enclosed are the analytical results for samples received by the laboratory on Friday, October 21, 2011.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Tonya Hironimus (Project Coordinator) or Anna G Milliken (Technical Manager) at (717) 944-5541.

Please visit us at www.analyticallab.com for a listing of ALS' NELAP accreditations and Scope of Work, as well as other links to Water Quality documentation on the internet.

This laboratory report may not be reproduced, except in full, without the written approval of ALS Environmental.

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

Anna G Milliken
Technical Manager

ALS Environmental

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NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: CT PH-0224 , DE ID 11 , GA 914 , MA PA0102 , MD 128 , LA 04162 , VA 421 , WY EPA Region 8 , WV 343

SAMPLE SUMMARY

Workorder: 9933398 HNW029|NWIRP Bethpage - GM-38 Discard Date: 12/26/2011

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
9933398001	NWIRP-GM-38-PS-RW1-102011	Water	10/20/11 14:00	10/21/11 09:10	Customer

Workorder Comments:

Notes

-- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
-- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
-- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
-- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
-- The Chain of Custody document is included as part of this report.
-- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.

Standard Acronyms/Flags

J, B	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference

ALS Environmental

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NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: CT PH-0224 , DE ID 11 , GA 914 , MA PA0102 , MD 128 , LA 04162 , VA 421 , WY EPA Region 8 , WV 343

ANALYTICAL RESULTS

Workorder: 9933398 HNW029|NWIRP Bethpage - GM-38

Lab ID: **9933398001** Date Collected: 10/20/2011 14:00 Matrix: Water

Sample ID: **NWIRP-GM-38-PS-RW1-102011** Date Received: 10/21/2011 09:10

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr
VOLATILE ORGANICS											
Carbon Tetrachloride	10.0U	ug/L		10.0	10.0	2.4	EPA 624		10/26/11 20:19	DD	A
1,1-Dichloroethane	2.9J	ug/L		10.0	10.0	1.9	EPA 624		10/26/11 20:19	DD	A
1,2-Dichloroethane	10.0U	ug/L		10.0	10.0	2.2	EPA 624		10/26/11 20:19	DD	A
1,1-Dichloroethene	7.3J	ug/L		10.0	10.0	1.7	EPA 624		10/26/11 20:19	DD	A
cis-1,2-Dichloroethene	58.5	ug/L		10.0	10.0	2.6	EPA 624		10/26/11 20:19	DD	A
trans-1,2-Dichloroethene	10.0U	ug/L		10.0	10.0	1.2	EPA 624		10/26/11 20:19	DD	A
Tetrachloroethene	107	ug/L		10.0	10.0	2.6	EPA 624		10/26/11 20:19	DD	A
1,1,1-Trichloroethane	6.7J	ug/L		10.0	10.0	2.7	EPA 624		10/26/11 20:19	DD	A
Trichloroethene	323	ug/L		10.0	10.0	2.1	EPA 624		10/26/11 20:19	DD	A
Vinyl Chloride	4.4J	ug/L		20.0	20.0	2.4	EPA 624		10/26/11 20:19	DD	A
Surrogate Recoveries	*Results*	*Units*	*Footnotes*	*Limits*			*Method*	*Prepared*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	94.4	%		72-142			EPA 624		10/26/11 20:19	DD	A
4-Bromofluorobenzene (S)	81.3	%		73-119			EPA 624		10/26/11 20:19	DD	A
Dibromofluoromethane (S)	89.1	%		74-132			EPA 624		10/26/11 20:19	DD	A
Toluene-d8 (S)	102	%		75-133			EPA 624		10/26/11 20:19	DD	A
WET CHEMISTRY											
Total Suspended Solids	5	mg/L		5	5	5	SM20-2540 D		10/25/11 16:20	KAK	E
METALS											
Mercury, Total	0.00050 U	mg/L		0.00050	0.00050	0.00016	EPA 245.1	10/25/11	10/25/11 11:17	MNP	D1

Sample Comments:

Anna G Milliken
Technical Manager

ALS Environmental

Ship to: 34 Dogwood Lane • Middletown, PA 17057 • 717.944.5541 • Fax: 717.944.1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Page __ of __

Courier:

Tracking #:

* 9 9 3 3 3 9 8 *

Co. Name: H&S environmental

Contact (Report to): Jen Good

Phone: 5083667442

Address: 160 E Main St Suite 2 F, WestBorough MA 01581

Bill to (if different than Report to): SAME

PO#: 2031-003

Project Name/#:

ALS Quote #:

TAT: [X] Normal-Standard TAT is 10 business days. [ ] Rush-Subject to ALS approval and surcharges.

Date Required:

Approved By:

Email? [X] -Y JGood@hsenvi.com

Fax? [ ] -Y No.:

***Container Type	40ml	500ml	250ml
***Container Size	CG	Pl	PL
***Preservative	HCL	HNO3	—

ANALYSES/METHOD REQUESTED: Select VOC's method 624 include CCl4 | mercury 245.1 | TSS SM2540D

Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Select VOC's method 624 include CCl4	mercury 245.1	TSS SM2540D
1 mwirp-GW-38-PS-RW1-102011		10/20	1900			3	1	1
2								
3								
4								
5								
6								
7								
8								

Enter Number of Containers Per Analysis

Receipt Information (completed by Sample Receiving)

Performed by: AM

Cooler Temp: 3°C

Therm. ID: TH 215

No. of Coolers:

Notes: JWL 10/21/11

Circle appropriate Y or N.

Correct containers?	(Y)	N
Correct sample volume?	(Y)	N
Correct preservation?	(Y)	N
Headspace/Volatiles?	/	(N)
Custody seals Present?	Y	(N)
(if present) Seals intact?	Y	N
Received on Ice?	(Y)	N
COC/Labels complete/accurate?	(Y)	N
Container in good condition?	(Y)	N

SAMPLED BY (Please Print): Cris Gransen

LOGGED BY(signature): K. Snow — Date 10/21/11 — Time 1246

REVIEWED BY(signature): [signature] — Date 10/21/11

	Relinquished By / Company Name	Date	Time		Received By / Company Name	Date	Time
1	[signature]	10/20	1800	2	[signature] ALS	10/21/11	0910
3				4			
5				6			
7				8			
9				10			

Data Deliverables: [ ] Standard [ ] CLP-like [ ] NJ-Reduced [ ] NJ-Full [ ]

SDWA Forms?: yes [ ] yes [ ] yes [ ] yes [ ] yes [ ]

State Samples Collected In?: MD [ ] NJ [ ] NY [ ] PA [ ]

EDDs Required? [ ] If yes, format type: Other

DOD Criteria Required?

ALS FIELD SERVICES: [ ] Pickup [ ] Labor [ ] Composite Sampling [ ] Rental Equipment [ ] Other:

* G=Grab; C=Composite **Matrix: Al=Air; DW=Drinking Water; GW=Groundwater; Ol=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY ***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Rev 6/2011

ALS Environmental

34 Dogwood Lane ■ Middletown, PA 17057 ■ Phone: 717-944-5541 ■ Fax: 717-944-1430 ■ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: CT PH-0224 , DE ID 11 , GA 914 , MA PA0102 , MD 128 , LA 04162 , VA 421 , WY EPA Region 8 , WV 343

October 19, 2011

Ms. Jennifer Good
H & S Environmental
160 East Main Street, 2F
Westborough, MA 01581

Certificate of Analysis

Project Name:	**NWIRP Bethpage - GM-38**	Workorder:	**9932358**
Purchase Order:	**2031-004**	Workorder ID:	**HNW026|NWIRP Bethpage GM38**

Dear Ms. Good,

Enclosed are the analytical results for samples received by the laboratory on Saturday, October 15, 2011.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Tonya Hironimus (Project Coordinator) or Anna G Milliken (Technical Manager) at (717) 944-5541.

Please visit us at www.analyticallab.com for a listing of ALS' NELAP accreditations and Scope of Work, as well as other links to Water Quality documentation on the internet.

This laboratory report may not be reproduced, except in full, without the written approval of ALS Environmental.

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

Anna G Milliken
Technical Manager

ALS Environmental

34 Dogwood Lane ■ Middletown, PA 17057 ■ Phone: 717-944-5541 ■ Fax: 717-944-1430 ■ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: CT PH-0224 , DE ID 11 , GA 914 , MA PA0102 , MD 128 , LA 04162 , VA 421 , WY EPA Region 8 , WV 343

SAMPLE SUMMARY

Workorder: 9932358 HNW026|NWIRP Bethpage GM38 Discard Date: 12/18/2011

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
9932358001	NWIRP-GM-38-AIR-VCI1-101411	Air	10/14/11 08:33	10/15/11 09:00	Customer
9932358002	NWIRP-GM-38-AIR-VC12-101411	Air	10/14/11 08:33	10/15/11 09:00	Customer
9932358003	NWIRP-GM-38-AIR-VC23-101411	Air	10/14/11 08:33	10/15/11 09:00	Customer
9932358004	NWIRP-GM-38-AIR-ES-101411	Air	10/14/11 08:33	10/15/11 09:00	Customer
9932358005	NWIRP-GM-38-AIR-ES-101411-DUP	Air	10/14/11 09:03	10/15/11 09:00	Customer

Workorder Comments:

Notes

-- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
-- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
-- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
-- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
-- The Chain of Custody document is included as part of this report.
-- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.

Standard Acronyms/Flags

J, B	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference

ALS Environmental

34 Dogwood Lane ■ Middletown, PA 17057 ■ Phone: 717-944-5541 ■ Fax: 717-944-1430 ■ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: CT PH-0224 , DE ID 11 , GA 914 , MA PA0102 , MD 128 , LA 04162 , VA 421 , WY EPA Region 8 , WV 343

ANALYTICAL RESULTS

Workorder: 9932358 HNW026|NWIRP Bethpage GM38

Lab ID: **9932358001** Date Collected: 10/14/2011 08:33 Matrix: Air

Sample ID: **NWIRP-GM-38-AIR-VCI1-101411** Date Received: 10/15/2011 09:00

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr
VOLATILE ORGANICS @ STP											
1,2-Dichloroethane	0.28J	ppbv		0.40	0.20	0.20	TO-15		10/19/11 06:22	ECB	A
cis-1,2-Dichloroethene	2.1	ppbv		0.40	0.20	0.20	TO-15		10/19/11 06:22	ECB	A
trans-1,2-Dichloroethene	0.26J	ppbv		0.40	0.20	0.20	TO-15		10/19/11 06:22	ECB	A
Tetrachloroethene	66	ppbv		0.40	0.20	0.20	TO-15		10/19/11 06:22	ECB	A
Toluene	0.70	ppbv		0.40	0.20	0.20	TO-15		10/19/11 06:22	ECB	A
Total Xylenes	0.70J	ppbv		1.2	0.60	0.60	TO-15		10/19/11 06:22	ECB	A
1,1,2-Trichloroethane	0.29J	ppbv		0.40	0.20	0.20	TO-15		10/19/11 06:22	ECB	A
Trichloroethene	270	ppbv		2.0	1.0	1.0	TO-15		10/18/11 06:34	ECB	A
Vinyl Chloride	0.20U	ppbv		0.40	0.20	0.20	TO-15		10/19/11 06:22	ECB	A
1,2-Dichloroethane	1J	ug/m3		2	0.8	0.8	TO-15		10/19/11 06:22	ECB	A
cis-1,2-Dichloroethene	8	ug/m3		2	0.8	0.8	TO-15		10/19/11 06:22	ECB	A
trans-1,2-Dichloroethene	1J	ug/m3		2	0.8	0.8	TO-15		10/19/11 06:22	ECB	A
Tetrachloroethene	450	ug/m3		3	1	1	TO-15		10/19/11 06:22	ECB	A
Toluene	3	ug/m3		2	0.8	0.8	TO-15		10/19/11 06:22	ECB	A
Total Xylenes	3J	ug/m3		5	3	3	TO-15		10/19/11 06:22	ECB	A
1,1,2-Trichloroethane	2J	ug/m3		2	1	1	TO-15		10/19/11 06:22	ECB	A
Trichloroethene	1400	ug/m3		11	5	5	TO-15		10/18/11 06:34	ECB	A
Vinyl Chloride	0.5U	ug/m3		1	0.5	0.5	TO-15		10/19/11 06:22	ECB	A
Surrogate Recoveries	*Results*	*Units*	*Footnotes*	*Limits*			*Method*	*Prepared*	*Analyzed*	*By*	*Cntr*
4-Bromofluorobenzene (S)	93	%		70-130			TO-15		10/18/11 06:34	ECB	A
4-Bromofluorobenzene (S)	95	%		70-130			TO-15		10/19/11 06:22	ECB	A

Sample Comments:

The reporting limits for the TO15 analytes were raised due to the dilution of the sample caused by the level of target compounds.

Anna G Milliken
Technical Manager

ALS Environmental

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State Certifications: CT PH-0224 , DE ID 11 , GA 914 , MA PA0102 , MD 128 , LA 04162 , VA 421 , WY EPA Region 8 , WV 343

ANALYTICAL RESULTS

Workorder: 9932358 HNW026|NWIRP Bethpage GM38

Lab ID: **9932358002** Date Collected: 10/14/2011 08:33 Matrix: Air

Sample ID: **NWIRP-GM-38-AIR-VC12-101411** Date Received: 10/15/2011 09:00

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr
VOLATILE ORGANICS @ STP											
1,2-Dichloroethane	0.19J	ppbv		0.20	0.10	0.10	TO-15		10/19/11 07:07	ECB	A
cis-1,2-Dichloroethene	4.4	ppbv		0.20	0.10	0.10	TO-15		10/19/11 07:07	ECB	A
trans-1,2-Dichloroethene	0.23	ppbv		0.20	0.10	0.10	TO-15		10/19/11 07:07	ECB	A
Tetrachloroethene	0.11J	ppbv		0.20	0.10	0.10	TO-15		10/19/11 07:07	ECB	A
Toluene	0.13J	ppbv		0.20	0.10	0.10	TO-15		10/19/11 07:07	ECB	A
Total Xylenes	0.30U	ppbv		0.60	0.30	0.30	TO-15		10/19/11 07:07	ECB	A
1,1,2-Trichloroethane	0.10U	ppbv		0.20	0.10	0.10	TO-15		10/19/11 07:07	ECB	A
Trichloroethene	130	ppbv		2.0	1.0	1.0	TO-15		10/18/11 07:17	ECB	A
Vinyl Chloride	0.11J	ppbv	1	0.20	0.10	0.10	TO-15		10/19/11 07:07	ECB	A
1,2-Dichloroethane	0.8J	ug/m3		0.8	0.4	0.4	TO-15		10/19/11 07:07	ECB	A
cis-1,2-Dichloroethene	17	ug/m3		0.8	0.4	0.4	TO-15		10/19/11 07:07	ECB	A
trans-1,2-Dichloroethene	0.9	ug/m3		0.8	0.4	0.4	TO-15		10/19/11 07:07	ECB	A
Tetrachloroethene	0.7J	ug/m3		1	0.7	0.7	TO-15		10/19/11 07:07	ECB	A
Toluene	0.5J	ug/m3		0.8	0.4	0.4	TO-15		10/19/11 07:07	ECB	A
Total Xylenes	1U	ug/m3		3	1	1	TO-15		10/19/11 07:07	ECB	A
1,1,2-Trichloroethane	0.6U	ug/m3		1	0.6	0.6	TO-15		10/19/11 07:07	ECB	A
Trichloroethene	710	ug/m3		11	5	5	TO-15		10/18/11 07:17	ECB	A
Vinyl Chloride	0.3J	ug/m3	1	0.5	0.3	0.3	TO-15		10/19/11 07:07	ECB	A
Surrogate Recoveries	*Results*	*Units*	*Footnotes*	*Limits*			*Method*	*Prepared*	*Analyzed*	*By*	*Cntr*
4-Bromofluorobenzene (S)	96	%		70-130			TO-15		10/18/11 07:17	ECB	A
4-Bromofluorobenzene (S)	98	%		70-130			TO-15		10/19/11 07:07	ECB	A

Sample Comments:

Anna G Milliken
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ANALYTICAL RESULTS

Workorder: 9932358 HNW026|NWIRP Bethpage GM38

Lab ID: **9932358003** Date Collected: 10/14/2011 08:33 Matrix: Air

Sample ID: **NWIRP-GM-38-AIR-VC23-101411** Date Received: 10/15/2011 09:00

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr
VOLATILE ORGANICS @ STP											
1,2-Dichloroethane	0.12J	ppbv		0.20	0.10	0.10	TO-15		10/19/11 07:52	ECB	A
cis-1,2-Dichloroethene	73	ppbv		2.0	1.0	1.0	TO-15		10/18/11 08:01	ECB	A
trans-1,2-Dichloroethene	0.94	ppbv		0.20	0.10	0.10	TO-15		10/19/11 07:52	ECB	A
Tetrachloroethene	0.12J	ppbv		0.20	0.10	0.10	TO-15		10/19/11 07:52	ECB	A
Toluene	0.11J	ppbv		0.20	0.10	0.10	TO-15		10/19/11 07:52	ECB	A
Total Xylenes	0.41J	ppbv		0.60	0.30	0.30	TO-15		10/19/11 07:52	ECB	A
1,1,2-Trichloroethane	0.10U	ppbv		0.20	0.10	0.10	TO-15		10/19/11 07:52	ECB	A
Trichloroethene	0.42	ppbv		0.20	0.10	0.10	TO-15		10/19/11 07:52	ECB	A
Vinyl Chloride	0.12J	ppbv	1	0.20	0.10	0.10	TO-15		10/19/11 07:52	ECB	A
1,2-Dichloroethane	0.5J	ug/m3		0.8	0.4	0.4	TO-15		10/19/11 07:52	ECB	A
cis-1,2-Dichloroethene	290	ug/m3		8	4	4	TO-15		10/18/11 08:01	ECB	A
trans-1,2-Dichloroethene	4	ug/m3		0.8	0.4	0.4	TO-15		10/19/11 07:52	ECB	A
Tetrachloroethene	0.8J	ug/m3		1	0.7	0.7	TO-15		10/19/11 07:52	ECB	A
Toluene	0.4J	ug/m3		0.8	0.4	0.4	TO-15		10/19/11 07:52	ECB	A
Total Xylenes	2J	ug/m3		3	1	1	TO-15		10/19/11 07:52	ECB	A
1,1,2-Trichloroethane	0.6U	ug/m3		1	0.6	0.6	TO-15		10/19/11 07:52	ECB	A
Trichloroethene	2	ug/m3		1	0.5	0.5	TO-15		10/19/11 07:52	ECB	A
Vinyl Chloride	0.3J	ug/m3	1	0.5	0.3	0.3	TO-15		10/19/11 07:52	ECB	A
Surrogate Recoveries	*Results*	*Units*	*Footnotes*	*Limits*			*Method*	*Prepared*	*Analyzed*	*By*	*Cntr*
4-Bromofluorobenzene (S)	97	%		70-130			TO-15		10/18/11 08:01	ECB	A
4-Bromofluorobenzene (S)	99	%		70-130			TO-15		10/19/11 07:52	ECB	A

Sample Comments:

Anna G Milliken
Technical Manager

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ANALYTICAL RESULTS

Workorder: 9932358 HNW026|NWIRP Bethpage GM38

Lab ID: **9932358004** Date Collected: 10/14/2011 08:33 Matrix: Air

Sample ID: **NWIRP-GM-38-AIR-ES-101411** Date Received: 10/15/2011 09:00

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr
VOLATILE ORGANICS @ STP											
1,2-Dichloroethane	0.14J	ppbv		0.20	0.10	0.10	TO-15		10/19/11 08:36	ECB	A
cis-1,2-Dichloroethene	0.38	ppbv		0.20	0.10	0.10	TO-15		10/19/11 08:36	ECB	A
trans-1,2-Dichloroethene	0.11J	ppbv		0.20	0.10	0.10	TO-15		10/19/11 08:36	ECB	A
Tetrachloroethene	0.13J	ppbv		0.20	0.10	0.10	TO-15		10/19/11 08:36	ECB	A
Toluene	0.15J	ppbv		0.20	0.10	0.10	TO-15		10/19/11 08:36	ECB	A
Total Xylenes	0.30J	ppbv		0.60	0.30	0.30	TO-15		10/19/11 08:36	ECB	A
1,1,2-Trichloroethane	0.11J	ppbv		0.20	0.10	0.10	TO-15		10/19/11 08:36	ECB	A
Trichloroethene	0.62	ppbv		0.20	0.10	0.10	TO-15		10/19/11 08:36	ECB	A
Vinyl Chloride	0.11J	ppbv	1	0.20	0.10	0.10	TO-15		10/19/11 08:36	ECB	A
1,2-Dichloroethane	0.6J	ug/m3		0.8	0.4	0.4	TO-15		10/19/11 08:36	ECB	A
cis-1,2-Dichloroethene	2	ug/m3		0.8	0.4	0.4	TO-15		10/19/11 08:36	ECB	A
trans-1,2-Dichloroethene	0.4J	ug/m3		0.8	0.4	0.4	TO-15		10/19/11 08:36	ECB	A
Tetrachloroethene	0.9J	ug/m3		1	0.7	0.7	TO-15		10/19/11 08:36	ECB	A
Toluene	0.5J	ug/m3		0.8	0.4	0.4	TO-15		10/19/11 08:36	ECB	A
Total Xylenes	1J	ug/m3		3	1	1	TO-15		10/19/11 08:36	ECB	A
1,1,2-Trichloroethane	0.6J	ug/m3		1	0.6	0.6	TO-15		10/19/11 08:36	ECB	A
Trichloroethene	3	ug/m3		1	0.5	0.5	TO-15		10/19/11 08:36	ECB	A
Vinyl Chloride	0.3J	ug/m3	1	0.5	0.3	0.3	TO-15		10/19/11 08:36	ECB	A
Surrogate Recoveries	*Results*	*Units*	*Footnotes*	*Limits*			*Method*	*Prepared*	*Analyzed*	*By*	*Cntr*
4-Bromofluorobenzene (S)	95	%		70-130			TO-15		10/19/11 08:36	ECB	A

Sample Comments:

Anna G Milliken
Technical Manager

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ANALYTICAL RESULTS

Workorder: 9932358 HNW026|NWIRP Bethpage GM38

Lab ID: **9932358005** Date Collected: 10/14/2011 09:03 Matrix: Air

Sample ID: **NWIRP-GM-38-AIR-ES-101411-DUP** Date Received: 10/15/2011 09:00

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr
VOLATILE ORGANICS @ STP											
1,2-Dichloroethane	0.13J	ppbv		0.20	0.10	0.10	TO-15		10/19/11 09:18	ECB	A
cis-1,2-Dichloroethene	0.28	ppbv		0.20	0.10	0.10	TO-15		10/19/11 09:18	ECB	A
trans-1,2-Dichloroethene	0.10U	ppbv		0.20	0.10	0.10	TO-15		10/19/11 09:18	ECB	A
Tetrachloroethene	0.10U	ppbv		0.20	0.10	0.10	TO-15		10/19/11 09:18	ECB	A
Toluene	0.36	ppbv		0.20	0.10	0.10	TO-15		10/19/11 09:18	ECB	A
Total Xylenes	0.30U	ppbv		0.60	0.30	0.30	TO-15		10/19/11 09:18	ECB	A
1,1,2-Trichloroethane	0.10U	ppbv		0.20	0.10	0.10	TO-15		10/19/11 09:18	ECB	A
Trichloroethene	0.16J	ppbv		0.20	0.10	0.10	TO-15		10/19/11 09:18	ECB	A
Vinyl Chloride	0.10J	ppbv	1	0.20	0.10	0.10	TO-15		10/19/11 09:18	ECB	A
1,2-Dichloroethane	0.5J	ug/m3		0.8	0.4	0.4	TO-15		10/19/11 09:18	ECB	A
cis-1,2-Dichloroethene	1	ug/m3		0.8	0.4	0.4	TO-15		10/19/11 09:18	ECB	A
trans-1,2-Dichloroethene	0.4U	ug/m3		0.8	0.4	0.4	TO-15		10/19/11 09:18	ECB	A
Tetrachloroethene	0.7U	ug/m3		1	0.7	0.7	TO-15		10/19/11 09:18	ECB	A
Toluene	1	ug/m3		0.8	0.4	0.4	TO-15		10/19/11 09:18	ECB	A
Total Xylenes	1U	ug/m3		3	1	1	TO-15		10/19/11 09:18	ECB	A
1,1,2-Trichloroethane	0.6U	ug/m3		1	0.6	0.6	TO-15		10/19/11 09:18	ECB	A
Trichloroethene	0.8J	ug/m3		1	0.5	0.5	TO-15		10/19/11 09:18	ECB	A
Vinyl Chloride	0.3U	ug/m3	1	0.5	0.3	0.3	TO-15		10/19/11 09:18	ECB	A
Surrogate Recoveries	*Results*	*Units*	*Footnotes*	*Limits*			*Method*	*Prepared*	*Analyzed*	*By*	*Cntr*
4-Bromofluorobenzene (S)	98	%		70-130			TO-15		10/19/11 09:18	ECB	A

Sample Comments:

Anna G Milliken
Technical Manager

ALS Environmental

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ANALYTICAL RESULTS QUALIFIERS\FLAGS

Workorder: 9932358 HNW026|NWIRP Bethpage GM38

PARAMETER QUALIFIERS\FLAGS

[1] The QC sample type LCSD for method TO-15 was outside the control limits for the analyte Vinyl Chloride. The % Recovery was reported as 141 and the control limits were 60 to 140.

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Analytical Laboratory Services, Inc.
Environmental • Industrial Hygiene • Field Services
34 Dogwood Lane • Middletown, PA 17057 • 717.944.5541 • Fax: 717.944.1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Page 1 of 1
Courier: Fed Ex
Tracking #:

9932358

Co. Name: H&S Environmental, Inc.
Contact (Report to): Jen Good
Phone: 508.366.7442
Address: 160 E. Main St., Suite 2F, Westborough, MA 01581

Bill to (if different than Report to): Same
PO#: 2031-004
Project Name/#: NWIRP Bethpage GM-38 Monthly O&M
ALSI Quote #:
TAT: [✓] Normal-Standard TAT is 10-12 business days. [X] Rush-Subject to ALSI approval and surcharges.
Date Required: 10/19/11
Approved By: Tanya Hrowna...
Email? X -Y jgood@hsenv.com
Fax? -Y No.:

***Container Type: 6L | ***Container Size: summa | ***Preservative: —

ANALYSES/METHOD REQUESTED: Select VOCs (TO-15) - Incl. PCE

Enter Number of Containers Per Analysis

#	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Select VOCs (TO-15) - Incl. PCE
1	NWIRP-GM-38-AIR-VC11- 101411		10/14/11	0833	G	AIR	1
2	NWIRP-GM-38-AIR-VC12- 101411		↓		G	AIR	1
3	NWIRP-GM-38-AIR-VC23- 101411				G	AIR	1
4	NWIRP-GM-38-AIR-ES- 101411			↓	G	AIR	1
5	NWIRP-GM-38-AIR-ES- 101411-DUP		↓	0933	G	AIR	1
6							
7							
8							

Receipt Information (completed by Sample Receiving)
Performed by: [initials]
Cooler Temp:
Therm. ID:
No. of Coolers:
Notes:

Check	Y	N
Custody seals Present?	Y	(N)
(If present) Seals Intact?	Y	N
Received on Ice?	Y	N
COC/Labels complete/accurate?	(Y)	N
Container in good condition?	(Y)	N
Correct containers?	(Y)	N
Correct sample volume?	(Y)	N
Correct preservation?	Y	N
Headspace/Volatiles?	Y	N

Circle appropriate Y or N.

SAMPLED BY (Please Print): G. Gangemi
LOGGED BY (signature): [signature] 10/17/11 0849
REVIEWED BY (signature): [signature] 10/18/11 1603

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1			2 [signature]	10/15	900
3			4		
5			6		
7			8		
9			10		

Data Deliverables: [ ] Standard [ ] CLP-like [ ] NJ-Reduced [ ] NJ-Full [ ] (other)
EDDs Required? [ ] If yes, format type:
DOD Criteria Required?
SDWA Permit? yes [ ] yes [ ] yes [ ] yes [ ]
State Samples Collected In? MD [ ] NJ [ ] NY [X] PA [ ]
Other:

ALSI FIELD SERVICES
[ ] Pickup
[ ] Labor
[ ] Composite Sampling
[ ] Rental Equipment
[ ] Other:

* G=Grab; C=Composite
**Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater
***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY

Rev 06-2008

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GM 38 — Summa Can Sampling
GWTP-Bethpage — Date - 10/14/11

Sample Port	Locations	Regulator #	Suma Can #	System pressure	Start/ Time Vac Hg (Can)	End /Time Vac Hg	SAMPLING Start Time	SAMPLING End Time
BV 132	~~VG42~~ VC#1	7266943 (1012)	1364	18	0803 / 28	0833 / 0	0803	0833
BV 134	~~VG44~~ VC12	7282088 (1057)	1370	0	0803 / 29	0833 / 5	0803	0833
BV 136	VC23	ALSI#1 (1052)	1265	2	0803 / 31	0833 / 4	0803	0833
BV 138	VCES-01	7302223 (1072)	1128	|	0803 / 30	0833 / 6	0803	0833
BV 139	VCES-02	7305291 (1016)	1192	|	0833 / 30	0903 / 4	0833	0903

Vac readings	Vac/ Time 5 Min	Vac/Time 10 Min	Vac/Time15 Min	Vac/time20 Min	Vac/Time25 Min	Gauge Start (Can) (0803)	Gauge End (Can) (0833)
~~VG42~~ VC11	24 / 0808	18 / 0813	14 / 0818	[illegible] / 0823	4 / 0828	28	0
~~VC44~~ VC12	25 / 0808	18 / 0813	15 / 0818	10 / 0823	8 / 0828	29	5
VC23	26 / 0808	22 / 0813	17 / 0818	11 / 0823	8 / 0828	31	4
VCES-01	26 / 0838	22 / 0813	18 / 0818	12 / 0823	9 / 0828	30	6
VCES-02	25 / 0838	22 / 0843	16 / 0848	12 / 0853	7 / 0858	30	4

VC11, VC23 → Regulator gauge don't work, all readings for all 5 samples taken from can

Heater in piping between VC11 and 1st VGAC unit — Main Temp 106°F, 110 SV; Element High Temp 84°F

ALS Environmental

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ALS-Middletown

TO-15 Sample Receipt Checklist

Client ID: H3S Env. Inc.
Horizon WO#: 9932358
Sample Delivery Group ID:
Log In By/Date: Kelli Snow 10/17/11
(signature) Kelli Snow
Number of Shipping containers received:

Project Name/#: NWIRP Bethpage GM-38 Monthly 08M
Date/Time received: 10/15/11 0900
Received By: Matthew Wolf
Project Manager Review (date)
(signature)
Courier: Fed Ex

Circle the response below as appropriate.

1.	Did kit(s) come with a shipping slip (airbill, etc.)?	YES	(NO)	NA
	If YES, enter airbill numbers:			
Shipping Container Information:				
2.	Were shipping containers received without signs of tampering?	(YES)	NO	NA
	Comments			
3.	Were custody seals present and intact?	YES	(NO)	NA
4.	Were custody seals numbers present?	YES	(NO)	NA
	List Custody Seal Numbers:			
Sample Condition:				
5.	Were sample containers received intact without signs of tampering?	(YES)	NO	NA
	Comments			
Chain of Custody:				
6.	Did COC arrive with the samples?	(YES)	NO	NA
7.	Do sample ID/Sample Description(s) match samples submitted?	(YES)	NO	NA
8.	Is date and time of collection listed on the COC for all samples?	(YES)	NO	NA
9.	Is identification of sampler on COC?	(YES)	NO	NA
10.	Are requested test method(s) on COC?	(YES)	NO	NA
11.	Are necessary signatures on COC?	(YES)	NO	NA
12.	Was Internal COC initiated? (should always be YES)	(YES)	NO	NA
Sample Integrity Usability:				
13.	Do sample containers match the COC?	(YES)	NO	NA
14.	Were sample canisters received within 15 days of shipment to client	(YES)	NO	NA

Anomalies or Non-Conformances:

Rev. 2/2011

November 2011 O&M Data

ALS Environmental

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November 15, 2011

Ms. Jennifer Good
H & S Environmental
160 East Main Street, 2F
Westborough, MA 01581

Certificate of Analysis

Project Name:	**NWIRP Bethpage - GM-38**	Workorder:	**9936158**
Purchase Order:	**2031-003**	Workorder ID:	**HNW032|NWIRP Bethpage - GM-38**

Dear Ms. Good,

Enclosed are the analytical results for samples received by the laboratory on Tuesday, November 08, 2011.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Tonya Hironimus (Project Coordinator) or Anna G Milliken (Technical Manager) at (717) 944-5541.

Please visit us at www.analyticallab.com for a listing of ALS' NELAP accreditations and Scope of Work, as well as other links to Water Quality documentation on the internet.

This laboratory report may not be reproduced, except in full, without the written approval of ALS Environmental.

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

Anna G Milliken
Technical Manager

ALS Environmental

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SAMPLE SUMMARY

Workorder: 9936158 HNW032|NWIRP Bethpage - GM-38 Discard Date: 01/14/2012

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
9936158001	NWIRP-GM-38-PS-RW1-11711	Water	11/7/11 11:20	11/8/11 09:20	Customer
9936158002	NWIRP-GM-38-PS-RW3-11711	Water	11/7/11 11:30	11/8/11 09:20	Customer
9936158003	NWIRP-GM-38-PS-ASE-11711	Water	11/7/11 11:35	11/8/11 09:20	Customer
9936158004	NWIRP-GM-38-PS-BFE-11711	Water	11/7/11 11:40	11/8/11 09:20	Customer
9936158005	NWIRP-GM-38-PS-TE-11711	Water	11/7/11 11:45	11/8/11 09:20	Customer
9936158006	NWIRP-GM-38-PS-LC1-11711	Water	11/7/11 11:50	11/8/11 09:20	Customer
9936158007	NWIRP-GM-38-PS-LC2-11711	Water	11/7/11 11:55	11/8/11 09:20	Customer
9936158008	NWIRP-GM-38-PS-LC3-11711	Water	11/7/11 12:00	11/8/11 09:20	Customer
9936158009	NWIRP-GM-38-PS-0000-DUP-11711	Water	11/7/11 12:10	11/8/11 09:20	Customer
9936158010	NWIRP-GM-38-TB	Water	11/7/11 12:30	11/8/11 09:20	Customer

Workorder Comments:

Notes

-- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
-- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
-- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
-- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
-- The Chain of Custody document is included as part of this report.
-- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.

Standard Acronyms/Flags

J, B	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference

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ANALYTICAL RESULTS

Workorder: 9936158 HNW032|NWIRP Bethpage - GM-38

Lab ID: **9936158001** Date Collected: 11/7/2011 11:20 Matrix: Water

Sample ID: **NWIRP-GM-38-PS-RW1-11711** Date Received: 11/8/2011 09:20

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr
VOLATILE ORGANICS											
Carbon Tetrachloride	10.0U	ug/L	1	10.0	10.0	2.4	EPA 624		11/10/11 02:44	MES	A
1,1-Dichloroethane	2.5J	ug/L		10.0	10.0	1.9	EPA 624		11/10/11 02:44	MES	A
1,2-Dichloroethane	10.0U	ug/L		10.0	10.0	2.2	EPA 624		11/10/11 02:44	MES	A
1,1-Dichloroethene	5.4J	ug/L		10.0	10.0	1.7	EPA 624		11/10/11 02:44	MES	A
cis-1,2-Dichloroethene	48.4	ug/L		10.0	10.0	2.6	EPA 624		11/10/11 02:44	MES	A
trans-1,2-Dichloroethene	10.0U	ug/L		10.0	10.0	1.2	EPA 624		11/10/11 02:44	MES	A
Tetrachloroethene	90.1	ug/L		10.0	10.0	2.6	EPA 624		11/10/11 02:44	MES	A
1,1,1-Trichloroethane	6.0J	ug/L		10.0	10.0	2.7	EPA 624		11/10/11 02:44	MES	A
Trichloroethene	309	ug/L		10.0	10.0	2.1	EPA 624		11/10/11 02:44	MES	A
Vinyl Chloride	4.9J	ug/L	2	20.0	20.0	2.4	EPA 624		11/10/11 02:44	MES	A
Surrogate Recoveries	*Results*	*Units*	*Footnotes*	*Limits*			*Method*	*Prepared*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	111	%		72-142			EPA 624		11/10/11 02:44	MES	A
4-Bromofluorobenzene (S)	85.8	%		73-119			EPA 624		11/10/11 02:44	MES	A
Dibromofluoromethane (S)	97.7	%		74-132			EPA 624		11/10/11 02:44	MES	A
Toluene-d8 (S)	113	%		75-133			EPA 624		11/10/11 02:44	MES	A
WET CHEMISTRY											
Total Suspended Solids	5U	mg/L		5	5	5	SM20-2540 D		11/9/11 09:25	CSB	M
METALS											
Mercury, Total	0.00050 U	mg/L		0.00050	0.00050	0.00016	EPA 245.1	11/15/11	11/15/11 11:17	MNP	J1

Sample Comments:

The GCMS volatiles analysis was performed at a dilution due to the level of target compounds.

Anna G Milliken
Technical Manager

ALS Environmental

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ANALYTICAL RESULTS

Workorder: 9936158 HNW032|NWIRP Bethpage - GM-38

Lab ID: **9936158002** Date Collected: 11/7/2011 11:30 Matrix: Water

Sample ID: **NWIRP-GM-38-PS-RW3-11711** Date Received: 11/8/2011 09:20

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr
VOLATILE ORGANICS											
Carbon Tetrachloride	5.0U	ug/L		5.0	5.0	1.2	EPA 624		11/10/11 03:16	MES	A
1,1-Dichloroethane	2.6J	ug/L		5.0	5.0	0.95	EPA 624		11/10/11 03:16	MES	A
1,2-Dichloroethane	5.0U	ug/L		5.0	5.0	1.1	EPA 624		11/10/11 03:16	MES	A
1,1-Dichloroethene	1.1J	ug/L		5.0	5.0	0.85	EPA 624		11/10/11 03:16	MES	A
cis-1,2-Dichloroethene	1.5J	ug/L		5.0	5.0	1.3	EPA 624		11/10/11 03:16	MES	A
trans-1,2-Dichloroethene	5.0U	ug/L		5.0	5.0	0.60	EPA 624		11/10/11 03:16	MES	A
Tetrachloroethene	5.0U	ug/L		5.0	5.0	1.3	EPA 624		11/10/11 03:16	MES	A
1,1,1-Trichloroethane	5.0U	ug/L		5.0	5.0	1.4	EPA 624		11/10/11 03:16	MES	A
Trichloroethene	292	ug/L		5.0	5.0	1.1	EPA 624		11/10/11 03:16	MES	A
Vinyl Chloride	10.0U	ug/L		10.0	10.0	1.2	EPA 624		11/10/11 03:16	MES	A
Surrogate Recoveries	*Results*	*Units*	*Footnotes*	*Limits*			*Method*	*Prepared*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	118	%		72-142			EPA 624		11/10/11 03:16	MES	A
4-Bromofluorobenzene (S)	86	%		73-119			EPA 624		11/10/11 03:16	MES	A
Dibromofluoromethane (S)	100	%		74-132			EPA 624		11/10/11 03:16	MES	A
Toluene-d8 (S)	115	%		75-133			EPA 624		11/10/11 03:16	MES	A
WET CHEMISTRY											
Total Suspended Solids	5U	mg/L		5	5	5	SM20-2540 D		11/9/11 09:25	CSB	E
METALS											
Mercury, Total	0.00050 U	mg/L		0.00050	0.00050	0.00016	EPA 245.1	11/15/11	11/15/11 11:22	MNP	D1

Sample Comments:

The GCMS volatiles analysis was performed at a dilution due to the level of target compounds.

Anna G Milliken
Technical Manager

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ANALYTICAL RESULTS

Workorder: 9936158 HNW032|NWIRP Bethpage - GM-38

Lab ID: **9936158003** Date Collected: 11/7/2011 11:35 Matrix: Water

Sample ID: **NWIRP-GM-38-PS-ASE-11711** Date Received: 11/8/2011 09:20

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr
VOLATILE ORGANICS											
Carbon Tetrachloride	1.0U	ug/L		1.0	1.0	0.24	EPA 624		11/10/11 03:49	MES	A
1,1-Dichloroethane	1.0U	ug/L		1.0	1.0	0.19	EPA 624		11/10/11 03:49	MES	A
1,2-Dichloroethane	1.0U	ug/L		1.0	1.0	0.22	EPA 624		11/10/11 03:49	MES	A
1,1-Dichloroethene	1.0U	ug/L		1.0	1.0	0.17	EPA 624		11/10/11 03:49	MES	A
cis-1,2-Dichloroethene	0.87J	ug/L		1.0	1.0	0.26	EPA 624		11/10/11 03:49	MES	A
trans-1,2-Dichloroethene	1.0U	ug/L		1.0	1.0	0.12	EPA 624		11/10/11 03:49	MES	A
Tetrachloroethene	0.42J	ug/L		1.0	1.0	0.26	EPA 624		11/10/11 03:49	MES	A
1,1,1-Trichloroethane	1.0U	ug/L		1.0	1.0	0.27	EPA 624		11/10/11 03:49	MES	A
Trichloroethene	3.0	ug/L		1.0	1.0	0.21	EPA 624		11/10/11 03:49	MES	A
Vinyl Chloride	2.0U	ug/L		2.0	2.0	0.24	EPA 624		11/10/11 03:49	MES	A
Surrogate Recoveries	*Results*	*Units*	*Footnotes*	*Limits*			*Method*	*Prepared*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	118	%		72-142			EPA 624		11/10/11 03:49	MES	A
4-Bromofluorobenzene (S)	85.9	%		73-119			EPA 624		11/10/11 03:49	MES	A
Dibromofluoromethane (S)	101	%		74-132			EPA 624		11/10/11 03:49	MES	A
Toluene-d8 (S)	112	%		75-133			EPA 624		11/10/11 03:49	MES	A
WET CHEMISTRY											
Total Suspended Solids	5U	mg/L		5	5	5	SM20-2540 D		11/9/11 09:25	CSB	E
METALS											
Mercury, Total	0.00050 U	mg/L		0.00050	0.00050	0.00016	EPA 245.1	11/15/11	11/15/11 11:23	MNP	D1

Sample Comments:

Anna G Milliken
Technical Manager

ALS Environmental

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ANALYTICAL RESULTS

Workorder: 9936158 HNW032|NWIRP Bethpage - GM-38

Lab ID: **9936158004** Date Collected: 11/7/2011 11:40 Matrix: Water

Sample ID: **NWIRP-GM-38-PS-BFE-11711** Date Received: 11/8/2011 09:20

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr
VOLATILE ORGANICS											
Carbon Tetrachloride	1.0U	ug/L		1.0	1.0	0.24	EPA 624		11/10/11 04:21	MES	A
1,1-Dichloroethane	1.0U	ug/L		1.0	1.0	0.19	EPA 624		11/10/11 04:21	MES	A
1,2-Dichloroethane	1.0U	ug/L		1.0	1.0	0.22	EPA 624		11/10/11 04:21	MES	A
1,1-Dichloroethene	1.0U	ug/L		1.0	1.0	0.17	EPA 624		11/10/11 04:21	MES	A
cis-1,2-Dichloroethene	0.89J	ug/L		1.0	1.0	0.26	EPA 624		11/10/11 04:21	MES	A
trans-1,2-Dichloroethene	1.0U	ug/L		1.0	1.0	0.12	EPA 624		11/10/11 04:21	MES	A
Tetrachloroethene	0.51J	ug/L		1.0	1.0	0.26	EPA 624		11/10/11 04:21	MES	A
1,1,1-Trichloroethane	1.0U	ug/L		1.0	1.0	0.27	EPA 624		11/10/11 04:21	MES	A
Trichloroethene	3.0	ug/L		1.0	1.0	0.21	EPA 624		11/10/11 04:21	MES	A
Vinyl Chloride	2.0U	ug/L		2.0	2.0	0.24	EPA 624		11/10/11 04:21	MES	A
Surrogate Recoveries	*Results*	*Units*	*Footnotes*	*Limits*			*Method*	*Prepared*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	119	%		72-142			EPA 624		11/10/11 04:21	MES	A
4-Bromofluorobenzene (S)	86.2	%		73-119			EPA 624		11/10/11 04:21	MES	A
Dibromofluoromethane (S)	101	%		74-132			EPA 624		11/10/11 04:21	MES	A
Toluene-d8 (S)	112	%		75-133			EPA 624		11/10/11 04:21	MES	A
WET CHEMISTRY											
Total Suspended Solids	5U	mg/L		5	5	5	SM20-2540 D		11/9/11 09:25	CSB	E
METALS											
Mercury, Total	0.00050 U	mg/L		0.00050	0.00050	0.00016	EPA 245.1	11/15/11	11/15/11 11:24	MNP	D1

Sample Comments:

Anna G Milliken
Technical Manager

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ANALYTICAL RESULTS

Workorder: 9936158 HNW032|NWIRP Bethpage - GM-38

Lab ID: **9936158005** Date Collected: 11/7/2011 11:45 Matrix: Water

Sample ID: **NWIRP-GM-38-PS-TE-11711** Date Received: 11/8/2011 09:20

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr
VOLATILE ORGANICS											
Carbon Tetrachloride	1.0U	ug/L		1.0	1.0	0.24	EPA 624		11/10/11 04:54	MES	A
1,1-Dichloroethane	1.0U	ug/L		1.0	1.0	0.19	EPA 624		11/10/11 04:54	MES	A
1,2-Dichloroethane	1.0U	ug/L		1.0	1.0	0.22	EPA 624		11/10/11 04:54	MES	A
1,1-Dichloroethene	1.0U	ug/L		1.0	1.0	0.17	EPA 624		11/10/11 04:54	MES	A
cis-1,2-Dichloroethene	1.0J	ug/L		1.0	1.0	0.26	EPA 624		11/10/11 04:54	MES	A
trans-1,2-Dichloroethene	1.0U	ug/L		1.0	1.0	0.12	EPA 624		11/10/11 04:54	MES	A
Tetrachloroethene	1.0U	ug/L		1.0	1.0	0.26	EPA 624		11/10/11 04:54	MES	A
1,1,1-Trichloroethane	1.0U	ug/L		1.0	1.0	0.27	EPA 624		11/10/11 04:54	MES	A
Trichloroethene	1.0U	ug/L		1.0	1.0	0.21	EPA 624		11/10/11 04:54	MES	A
Vinyl Chloride	2.0U	ug/L		2.0	2.0	0.24	EPA 624		11/10/11 04:54	MES	A
Surrogate Recoveries	*Results*	*Units*	*Footnotes*	*Limits*			*Method*	*Prepared*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	117	%		72-142			EPA 624		11/10/11 04:54	MES	A
4-Bromofluorobenzene (S)	85.5	%		73-119			EPA 624		11/10/11 04:54	MES	A
Dibromofluoromethane (S)	98.2	%		74-132			EPA 624		11/10/11 04:54	MES	A
Toluene-d8 (S)	108	%		75-133			EPA 624		11/10/11 04:54	MES	A
WET CHEMISTRY											
Total Suspended Solids	5U	mg/L		5	5	5	SM20-2540 D		11/9/11 09:25	CSB	E
METALS											
Mercury, Total	0.00050 U	mg/L		0.00050	0.00050	0.00016	EPA 245.1	11/15/11	11/15/11 11:25	MNP	D1

Sample Comments:

Anna G Milliken
Technical Manager

ALS Environmental

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ANALYTICAL RESULTS

Workorder: 9936158 HNW032|NWIRP Bethpage - GM-38

Lab ID: **9936158006** Date Collected: 11/7/2011 11:50 Matrix: Water

Sample ID: **NWIRP-GM-38-PS-LC1-11711** Date Received: 11/8/2011 09:20

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr
VOLATILE ORGANICS											
Carbon Tetrachloride	1.0U	ug/L		1.0	1.0	0.24	EPA 624		11/10/11 05:27	MES	A
1,1-Dichloroethane	1.0U	ug/L		1.0	1.0	0.19	EPA 624		11/10/11 05:27	MES	A
1,2-Dichloroethane	1.0U	ug/L		1.0	1.0	0.22	EPA 624		11/10/11 05:27	MES	A
1,1-Dichloroethene	1.0U	ug/L		1.0	1.0	0.17	EPA 624		11/10/11 05:27	MES	A
cis-1,2-Dichloroethene	0.93J	ug/L		1.0	1.0	0.26	EPA 624		11/10/11 05:27	MES	A
trans-1,2-Dichloroethene	1.0U	ug/L		1.0	1.0	0.12	EPA 624		11/10/11 05:27	MES	A
Tetrachloroethene	1.0U	ug/L		1.0	1.0	0.26	EPA 624		11/10/11 05:27	MES	A
1,1,1-Trichloroethane	1.0U	ug/L		1.0	1.0	0.27	EPA 624		11/10/11 05:27	MES	A
Trichloroethene	1.0U	ug/L		1.0	1.0	0.21	EPA 624		11/10/11 05:27	MES	A
Vinyl Chloride	2.0U	ug/L		2.0	2.0	0.24	EPA 624		11/10/11 05:27	MES	A
Surrogate Recoveries	*Results*	*Units*	*Footnotes*	*Limits*			*Method*	*Prepared*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	116	%		72-142			EPA 624		11/10/11 05:27	MES	A
4-Bromofluorobenzene (S)	82.1	%		73-119			EPA 624		11/10/11 05:27	MES	A
Dibromofluoromethane (S)	100	%		74-132			EPA 624		11/10/11 05:27	MES	A
Toluene-d8 (S)	112	%		75-133			EPA 624		11/10/11 05:27	MES	A
WET CHEMISTRY											
Total Suspended Solids	5U	mg/L		5	5	5	SM20-2540 D		11/9/11 09:25	CSB	E
METALS											
Mercury, Total	0.00050 U	mg/L		0.00050	0.00050	0.00016	EPA 245.1	11/15/11	11/15/11 11:26	MNP	D1

Sample Comments:

Anna G Milliken
Technical Manager

ALS Environmental

34 Dogwood Lane ■ Middletown, PA 17057 ■ Phone: 717-944-5541 ■ Fax: 717-944-1430 ■ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: CT PH-0224 , DE ID 11 , GA 914 , MA PA0102 , MD 128 , LA 04162 , VA 421 , WY EPA Region 8 , WV 343

ANALYTICAL RESULTS

Workorder: 9936158 HNW032|NWIRP Bethpage - GM-38

Lab ID: **9936158007** Date Collected: 11/7/2011 11:55 Matrix: Water

Sample ID: **NWIRP-GM-38-PS-LC2-11711** Date Received: 11/8/2011 09:20

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr
VOLATILE ORGANICS											
Carbon Tetrachloride	1.0U	ug/L		1.0	1.0	0.24	EPA 624		11/10/11 06:00	MES	A
1,1-Dichloroethane	1.0U	ug/L		1.0	1.0	0.19	EPA 624		11/10/11 06:00	MES	A
1,2-Dichloroethane	1.0U	ug/L		1.0	1.0	0.22	EPA 624		11/10/11 06:00	MES	A
1,1-Dichloroethene	1.0U	ug/L		1.0	1.0	0.17	EPA 624		11/10/11 06:00	MES	A
cis-1,2-Dichloroethene	1.0	ug/L		1.0	1.0	0.26	EPA 624		11/10/11 06:00	MES	A
trans-1,2-Dichloroethene	1.0U	ug/L		1.0	1.0	0.12	EPA 624		11/10/11 06:00	MES	A
Tetrachloroethene	1.0U	ug/L		1.0	1.0	0.26	EPA 624		11/10/11 06:00	MES	A
1,1,1-Trichloroethane	1.0U	ug/L		1.0	1.0	0.27	EPA 624		11/10/11 06:00	MES	A
Trichloroethene	1.0U	ug/L		1.0	1.0	0.21	EPA 624		11/10/11 06:00	MES	A
Vinyl Chloride	2.0U	ug/L		2.0	2.0	0.24	EPA 624		11/10/11 06:00	MES	A
Surrogate Recoveries	*Results*	*Units*	*Footnotes*	*Limits*			*Method*	*Prepared*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	117	%		72-142			EPA 624		11/10/11 06:00	MES	A
4-Bromofluorobenzene (S)	87.2	%		73-119			EPA 624		11/10/11 06:00	MES	A
Dibromofluoromethane (S)	101	%		74-132			EPA 624		11/10/11 06:00	MES	A
Toluene-d8 (S)	114	%		75-133			EPA 624		11/10/11 06:00	MES	A
WET CHEMISTRY											
Total Suspended Solids	5U	mg/L		5	5	5	SM20-2540 D		11/9/11 09:25	CSB	E
METALS											
Mercury, Total	0.00050 U	mg/L		0.00050	0.00050	0.00016	EPA 245.1	11/15/11	11/15/11 11:27	MNP	D1

Sample Comments:

Anna G Milliken
Technical Manager

ALS Environmental

34 Dogwood Lane ■ Middletown, PA 17057 ■ Phone: 717-944-5541 ■ Fax: 717-944-1430 ■ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: CT PH-0224 , DE ID 11 , GA 914 , MA PA0102 , MD 128 , LA 04162 , VA 421 , WY EPA Region 8 , WV 343

ANALYTICAL RESULTS

Workorder: 9936158 HNW032|NWIRP Bethpage - GM-38

Lab ID: **9936158008** Date Collected: 11/7/2011 12:00 Matrix: Water

Sample ID: **NWIRP-GM-38-PS-LC3-11711** Date Received: 11/8/2011 09:20

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr
VOLATILE ORGANICS											
Carbon Tetrachloride	1.0U	ug/L		1.0	1.0	0.24	EPA 624		11/10/11 06:33	MES	A
1,1-Dichloroethane	1.0U	ug/L		1.0	1.0	0.19	EPA 624		11/10/11 06:33	MES	A
1,2-Dichloroethane	1.0U	ug/L		1.0	1.0	0.22	EPA 624		11/10/11 06:33	MES	A
1,1-Dichloroethene	1.0U	ug/L		1.0	1.0	0.17	EPA 624		11/10/11 06:33	MES	A
cis-1,2-Dichloroethene	0.96J	ug/L		1.0	1.0	0.26	EPA 624		11/10/11 06:33	MES	A
trans-1,2-Dichloroethene	1.0U	ug/L		1.0	1.0	0.12	EPA 624		11/10/11 06:33	MES	A
Tetrachloroethene	1.0U	ug/L		1.0	1.0	0.26	EPA 624		11/10/11 06:33	MES	A
1,1,1-Trichloroethane	1.0U	ug/L		1.0	1.0	0.27	EPA 624		11/10/11 06:33	MES	A
Trichloroethene	1.0U	ug/L		1.0	1.0	0.21	EPA 624		11/10/11 06:33	MES	A
Vinyl Chloride	2.0U	ug/L		2.0	2.0	0.24	EPA 624		11/10/11 06:33	MES	A
Surrogate Recoveries	*Results*	*Units*	*Footnotes*	*Limits*			*Method*	*Prepared*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	119	%		72-142			EPA 624		11/10/11 06:33	MES	A
4-Bromofluorobenzene (S)	86	%		73-119			EPA 624		11/10/11 06:33	MES	A
Dibromofluoromethane (S)	101	%		74-132			EPA 624		11/10/11 06:33	MES	A
Toluene-d8 (S)	113	%		75-133			EPA 624		11/10/11 06:33	MES	A
WET CHEMISTRY											
Total Suspended Solids	5U	mg/L		5	5	5	SM20-2540 D		11/9/11 09:25	CSB	E
METALS											
Mercury, Total	0.00050 U	mg/L		0.00050	0.00050	0.00016	EPA 245.1	11/15/11	11/15/11 11:28	MNP	D1

Sample Comments:

Anna G Milliken
Technical Manager

ALS Environmental

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ANALYTICAL RESULTS

Workorder: 9936158 HNW032|NWIRP Bethpage - GM-38

Lab ID: **9936158009** Date Collected: 11/7/2011 12:10 Matrix: Water

Sample ID: **NWIRP-GM-38-PS-0000-DUP-11711** Date Received: 11/8/2011 09:20

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr
VOLATILE ORGANICS											
Carbon Tetrachloride	1.0U	ug/L		1.0	1.0	0.24	EPA 624		11/10/11 07:06	MES	A
1,1-Dichloroethane	1.0U	ug/L		1.0	1.0	0.19	EPA 624		11/10/11 07:06	MES	A
1,2-Dichloroethane	1.0U	ug/L		1.0	1.0	0.22	EPA 624		11/10/11 07:06	MES	A
1,1-Dichloroethene	1.0U	ug/L		1.0	1.0	0.17	EPA 624		11/10/11 07:06	MES	A
cis-1,2-Dichloroethene	1.0	ug/L		1.0	1.0	0.26	EPA 624		11/10/11 07:06	MES	A
trans-1,2-Dichloroethene	1.0U	ug/L		1.0	1.0	0.12	EPA 624		11/10/11 07:06	MES	A
Tetrachloroethene	1.0U	ug/L		1.0	1.0	0.26	EPA 624		11/10/11 07:06	MES	A
1,1,1-Trichloroethane	1.0U	ug/L		1.0	1.0	0.27	EPA 624		11/10/11 07:06	MES	A
Trichloroethene	1.0U	ug/L		1.0	1.0	0.21	EPA 624		11/10/11 07:06	MES	A
Vinyl Chloride	2.0U	ug/L		2.0	2.0	0.24	EPA 624		11/10/11 07:06	MES	A
Surrogate Recoveries	*Results*	*Units*	*Footnotes*	*Limits*			*Method*	*Prepared*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	117	%		72-142			EPA 624		11/10/11 07:06	MES	A
4-Bromofluorobenzene (S)	82.4	%		73-119			EPA 624		11/10/11 07:06	MES	A
Dibromofluoromethane (S)	98.3	%		74-132			EPA 624		11/10/11 07:06	MES	A
Toluene-d8 (S)	111	%		75-133			EPA 624		11/10/11 07:06	MES	A
WET CHEMISTRY											
Total Suspended Solids	5U	mg/L		5	5	5	SM20-2540 D		11/9/11 09:25	CSB	D
METALS											
Mercury, Total	0.00050 U	mg/L		0.00050	0.00050	0.00016	EPA 245.1	11/15/11	11/15/11 11:30	MNP	C1

Sample Comments:

Anna G Milliken
Technical Manager

ALS Environmental

34 Dogwood Lane ■ Middletown, PA 17057 ■ Phone: 717-944-5541 ■ Fax: 717-944-1430 ■ www.alsglobal.com

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State Certifications: CT PH-0224 , DE ID 11 , GA 914 , MA PA0102 , MD 128 , LA 04162 , VA 421 , WY EPA Region 8 , WV 343

ANALYTICAL RESULTS

Workorder: 9936158 HNW032|NWIRP Bethpage - GM-38

Lab ID: **9936158010** Date Collected: 11/7/2011 12:30 Matrix: Water

Sample ID: **NWIRP-GM-38-TB** Date Received: 11/8/2011 09:20

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr
VOLATILE ORGANICS											
Carbon Tetrachloride	1.0U	ug/L		1.0	1.0	0.24	EPA 624		11/9/11 19:38	MES	A
1,1-Dichloroethane	1.0U	ug/L		1.0	1.0	0.19	EPA 624		11/9/11 19:38	MES	A
1,2-Dichloroethane	1.0U	ug/L		1.0	1.0	0.22	EPA 624		11/9/11 19:38	MES	A
1,1-Dichloroethene	1.0U	ug/L		1.0	1.0	0.17	EPA 624		11/9/11 19:38	MES	A
cis-1,2-Dichloroethene	1.0U	ug/L		1.0	1.0	0.26	EPA 624		11/9/11 19:38	MES	A
trans-1,2-Dichloroethene	1.0U	ug/L		1.0	1.0	0.12	EPA 624		11/9/11 19:38	MES	A
Tetrachloroethene	1.0U	ug/L		1.0	1.0	0.26	EPA 624		11/9/11 19:38	MES	A
1,1,1-Trichloroethane	1.0U	ug/L		1.0	1.0	0.27	EPA 624		11/9/11 19:38	MES	A
Trichloroethene	1.0U	ug/L		1.0	1.0	0.21	EPA 624		11/9/11 19:38	MES	A
Vinyl Chloride	2.0U	ug/L		2.0	2.0	0.24	EPA 624		11/9/11 19:38	MES	A
Surrogate Recoveries	*Results*	*Units*	*Footnotes*	*Limits*			*Method*	*Prepared*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	112	%		72-142			EPA 624		11/9/11 19:38	MES	A
4-Bromofluorobenzene (S)	86.9	%		73-119			EPA 624		11/9/11 19:38	MES	A
Dibromofluoromethane (S)	100	%		74-132			EPA 624		11/9/11 19:38	MES	A
Toluene-d8 (S)	114	%		75-133			EPA 624		11/9/11 19:38	MES	A

Sample Comments:

Anna G Milliken
Technical Manager

ANALYTICAL RESULTS QUALIFIERS\FLAGS

Workorder: 9936158 HNW032|NWIRP Bethpage - GM-38

PARAMETER QUALIFIERS\FLAGS

[1] The QC sample type MSD for method EPA 624 was outside the control limits for the analyte Carbon Tetrachloride. The RPD was reported as 19.2 and the upper control limit is 18.

[2] The QC sample type MSD for method EPA 624 was outside the control limits for the analyte Vinyl Chloride. The RPD was reported as 29.7 and the upper control limit is 29.

Analytical Laboratory Services, Inc.
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CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Page 1 of 2
Courier:
Tracking #: 875042004583

* 9 9 3 6 1 5 8 *

Co. Name: H&S Environmental, Inc.
Contact (Report to): Jen Good **Phone:** 508.366.7442
Address: 160 E. Main St., Suite 2F, Westborough, MA 01581
Bill to (if different than Report to): Same **PO#:** 2031-003
Project Name/#: NWIRP Bathpage GM-38 Monthly O&M **ALSI Quote #:**
TAT: [x] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALSI approval and surcharges. Date Required: Approved By:
Email? [x] -Y jgood@hsenv.com
Fax? [ ] -Y No.:

	Select VOCs (Method 624) - incl. CCl4	Mercury (Method 245.1)	TSS (SM2540D)
***Container Type	40 mL	500 mL	250 mL
***Container Size	CG	PL	PL
***Preservative	HCL	HNO3	–

ANALYSES/METHOD REQUESTED — Enter Number of Containers Per Analysis

#	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Select VOCs (Method 624) - incl. CCl4	Mercury (Method 245.1)	TSS (SM2540D)	pH (measured in the field)
1	NWIRP-GM-38-PS-RW1-11711 - MS/MSD for VOC's, Hg		11/7	1120	G	GW	9	3	1	5.85
2	NWIRP-GM-38-PS-RW3-11711	~~MS/MSD for VOCs, Hg~~ GL	11/7	1130	G	GW	~~3~~	~~1~~	~~1~~	5.90
3	NWIRP-GM-38-PS-ASE-11711		11/7	1135	G	GW	3	1	1	6.98
4	NWIRP-GM-38-PS-BFE-11711		11/7	1140	G	GW	3	1	1	7.08
5	NWIRP-GM-38-PS-TE-11711		11/7	1145	G	GW	3	1	1	7.32
6	NWIRP-GM-38-PS-LC1-11711		11/7	1150	G	GW	3	1	1	7.33
7	NWIRP-GM-38-PS-LC2-11711		11/7	1155	G	GW	3	1	1	7.37
8	NWIRP-GM-38-PS-LC3-11711		11/7	1200	G	GW	3	1	1	7.28

(completed by Sample...) Performed by: [signature]
Cooler Temp: 6
Therm. ID: TH21
No. of Coolers:
Notes:

	Y	N
Correct containers?	✓	
Correct sample volume?	✓	
Correct preservation?	✓	
Headspace/Volatiles?		✓
Custody seals Present?		✓
(if present) Seals intact?		
Received on ice?	✓	
COC/Labels complete/accurate?	✓	
Container in good condition?	✓	

Circle appropriate Y or N.

SAMPLED BY (Please Print): G. Gangemi
LOGGED BY (signature): K. Snow Date: 11/8/11 Time: 1044
REVIEWED BY (signature):

#	Relinquished By / Company Name	Date	Time	#	Received By / Company Name	Date	Time
1	[signature]	11/7	1300	2	[signature]	11/8/11	0920
3				4			
5				6			
7				8			
9				10			

Data Deliverables: [ ] Standard [ ] CLP-like [ ] NJ-Reduced [ ] NJ-Full [ ] (other)
EDDs Required? [ ] If yes, format type:
DOD Criteria Required?
SDWA Forms? yes [ ] yes [ ] yes [ ] yes [ ]
State Samples Collected In? MD [ ] NJ [ ] NY [x] PA [ ]
Other
PWSID
ALSI FIELD SERVICES: [ ] Pickup [ ] Labor [ ] Composite Sampling [ ] Rental Equipment [ ] Other:

* G=Grab; C=Composite **Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater
Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY ***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.
Rev 08-2008

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CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Page 2 of 2
Courier:
Tracking #: 8 7504 4583
9936158

Co. Name: H&S Environmental, Inc.
Contact (Report to): Jen Good Phone: 508.366.7442
Address: 160 E. Main St., Suite 2F
Westborough, MA 01581

Bill to (if different than Report to): Same PO#: 2031-003

Project Name/#: NWIRP Bethpage GM-38 Monthly O&M ALSI Quote #:

TAT: [x] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALSI approval and surcharges. Date Required: Approved By:

Email? x Y jgood@hsenv.com
Fax? Y No.:

	***Container Type	CG	PL	PL
	***Container Size	40 mL	500 mL	250 mL
	**Preservative	HCL	HNO3	—

ANALYSES/METHOD REQUESTED

Enter Number of Containers Per Analysis

#	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Select VOCs (Method 624) - incl CCl4	Mercury (Method 245.1)	TSS (SM2540D)	pH (measured in the field)
1	NWIRP-GM-38-PS-0000-DUP-11711		11/7	1210	G	GW	~~3~~ 2	1	1	7.32
2	NWIRP-GM-38-TB-11711		11/7	1230	G	GW	3			
3										
4										
5										
6										
7										
8										

1 Broke in transit, RW

Receipt Information (completed by Sample Receiving)
Performed by: [initials]
Cooler Temp: 10°
Therm. ID: 7421
No. of Coolers:
Notes:

Circle appropriate Y or N.

Correct containers?	Y	N
Correct sample volume?	Y	N
Correct preservation?	Y	N
Headspace/Volatiles?	Y	N
Custody seals Present?	Y	N
(if present) Seals intact?	Y	N
Received on ice?	Y	N
COC/Labels complete/accurate?	Y	N
Container in good condition?	Y	N

SAMPLED BY (Please Print): G. Gangemi
LOGGED BY (signature): K. Shaw DATE 11/8/11 TIME 1044
REVIEWED BY (signature): DATE TIME

	Relinquished By / Company Name	Date	Time		Received By / Company Name	Date	Time
1	[signature]	11/7	1300	2	[signature]	11/8/11	0920
3				4			
5				6			
7				8			
9				10			

Data Deliverables: [ ] Standard [ ] CLP-like [ ] NJ-Reduced [ ] NJ-Full [ ] (other)
EDDs Required? [ ] If yes, format type:
DOD Criteria Required?

SDWA Forms? yes [ ] yes [ ] yes [ ] yes [ ]
State Samples Collected In? MD [ ] NJ [ ] NY [X] PA [ ]
Other
PWSID

ALSI FIELD SERVICES
[ ] Pickup [ ] Labor [ ] Composite Sampling [ ] Rental Equipment [ ] Other:

* G=Grab; C=Composite
**Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater
***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY
Rev 08-2008

ALS Environmental

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November 22, 2011

Ms. Jennifer Good
H & S Environmental
160 East Main Street, 2F
Westborough, MA 01581

Certificate of Analysis

Project Name:	**NWIRP Bethpage - GM-38**	Workorder:	**9936004**
Purchase Order:		Workorder ID:	**HNW030|NWIRP Bethpage - GM-38**

Dear Ms. Good,

Enclosed are the analytical results for samples received by the laboratory on Friday, November 04, 2011.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Tonya Hironimus (Project Coordinator) or Anna G Milliken (Technical Manager) at (717) 944-5541.

Please visit us at www.analyticallab.com for a listing of ALS' NELAP accreditations and Scope of Work, as well as other links to Water Quality documentation on the internet.

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This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

Anna G Milliken
Technical Manager

ALS Environmental

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State Certifications: CT PH-0224 , DE ID 11 , GA 914 , MA PA0102 , MD 128 , LA 04162 , VA 421 , WY EPA Region 8 , WV 343

SAMPLE SUMMARY

Workorder: 9936004 HNW030|NWIRP Bethpage - GM-38 Discard Date: 01/21/2012

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
9936004001	NWIRP-GM-38-AIR-VCI1	Air	11/3/11 11:46	11/4/11 09:30	Customer
9936004002	NWIRP-GM-38-AIR-VC12	Air	11/3/11 11:46	11/4/11 09:30	Customer
9936004003	NWIRP-GM-38-AIR-VC23	Air	11/3/11 11:46	11/4/11 09:30	Customer
9936004004	NWIRP-GM-38-AIR-ES	Air	11/3/11 11:46	11/4/11 09:30	Customer
9936004005	NWIRP-GM-38-AIR-ES-DUP	Air	11/3/11 12:18	11/4/11 09:30	Customer

Workorder Comments:

This workorder was modified to switch the data that was originally reported as 9936004001 and 9936004005 as the ALS labels on these canisters were incorrect. Initially, 9936004001 was reporting the NWIRP-GM-38-AIR-ES-DUP data (not the NWIRP-GM-38-AIR-VCI1 as stated on the report) and vice versa. This is now corrected. TMH 11/17/11

Notes

-- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
-- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
-- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
-- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
-- The Chain of Custody document is included as part of this report.
-- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.

Standard Acronyms/Flags

J, B	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference

ALS Environmental

34 Dogwood Lane ■ Middletown, PA 17057 ■ Phone: 717-944-5541 ■ Fax: 717-944-1430 ■ www.alsglobal.com

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State Certifications: CT PH-0224 , DE ID 11 , GA 914 , MA PA0102 , MD 128 , LA 04162 , VA 421 , WY EPA Region 8 , WV 343

ANALYTICAL RESULTS

Workorder: 9936004 HNW030|NWIRP Bethpage - GM-38

Lab ID: **9936004001** Date Collected: 11/3/2011 11:46 Matrix: Air

Sample ID: **NWIRP-GM-38-AIR-VCI1** Date Received: 11/4/2011 09:30

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr
VOLATILE ORGANICS @ STP											
1,2-Dichloroethane	1.3J	ppbv		2.0	1.0	1.0	TO-15		11/9/11 05:00	ECB	A
cis-1,2-Dichloroethene	130	ppbv		2.0	1.0	1.0	TO-15		11/9/11 05:00	ECB	A
trans-1,2-Dichloroethene	2.0	ppbv		2.0	1.0	1.0	TO-15		11/9/11 05:00	ECB	A
Tetrachloroethene	180	ppbv		2.0	1.0	1.0	TO-15		11/9/11 05:00	ECB	A
Toluene	1.0U	ppbv		2.0	1.0	1.0	TO-15		11/9/11 05:00	ECB	A
Total Xylenes	3.0U	ppbv		6.0	3.0	3.0	TO-15		11/9/11 05:00	ECB	A
1,1,2-Trichloroethane	1.0U	ppbv		2.0	1.0	1.0	TO-15		11/9/11 05:00	ECB	A
Trichloroethene	770	ppbv		6.0	3.0	3.0	TO-15		11/9/11 11:56	ECB	A
Vinyl Chloride	16	ppbv		2.0	1.0	1.0	TO-15		11/9/11 05:00	ECB	A
1,2-Dichloroethane	5J	ug/m3		8	4	4	TO-15		11/9/11 05:00	ECB	A
cis-1,2-Dichloroethene	530	ug/m3		8	4	4	TO-15		11/9/11 05:00	ECB	A
trans-1,2-Dichloroethene	8	ug/m3		8	4	4	TO-15		11/9/11 05:00	ECB	A
Tetrachloroethene	1200	ug/m3		14	7	7	TO-15		11/9/11 05:00	ECB	A
Toluene	4U	ug/m3		8	4	4	TO-15		11/9/11 05:00	ECB	A
Total Xylenes	13U	ug/m3		26	13	13	TO-15		11/9/11 05:00	ECB	A
1,1,2-Trichloroethane	6U	ug/m3		11	6	6	TO-15		11/9/11 05:00	ECB	A
Trichloroethene	4200	ug/m3		32	16	16	TO-15		11/9/11 11:56	ECB	A
Vinyl Chloride	42	ug/m3		5	3	3	TO-15		11/9/11 05:00	ECB	A
Surrogate Recoveries	*Results*	*Units*	*Footnotes*	*Limits*			*Method*	*Prepared*	*Analyzed*	*By*	*Cntr*
4-Bromofluorobenzene (S)	96	%		70-130			TO-15		11/9/11 05:00	ECB	A
4-Bromofluorobenzene (S)	99	%		70-130			TO-15		11/9/11 11:56	ECB	A

Sample Comments:

The reporting limits for the TO15 analytes were raised due to the dilution of the sample caused by the level of target compounds.

Anna G Milliken
Technical Manager

ALS Environmental

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ANALYTICAL RESULTS

Workorder: 9936004 HNW030|NWIRP Bethpage - GM-38

Lab ID: **9936004002** Date Collected: 11/3/2011 11:46 Matrix: Air

Sample ID: **NWIRP-GM-38-AIR-VC12** Date Received: 11/4/2011 09:30

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr
VOLATILE ORGANICS @ STP											
1,2-Dichloroethane	1.0U	ppbv		2.0	1.0	1.0	TO-15		11/9/11 02:49	ECB	A
cis-1,2-Dichloroethene	42	ppbv		2.0	1.0	1.0	TO-15		11/9/11 02:49	ECB	A
trans-1,2-Dichloroethene	1.3J	ppbv		2.0	1.0	1.0	TO-15		11/9/11 02:49	ECB	A
Tetrachloroethene	1.0U	ppbv		2.0	1.0	1.0	TO-15		11/9/11 02:49	ECB	A
Toluene	1.0U	ppbv		2.0	1.0	1.0	TO-15		11/9/11 02:49	ECB	A
Total Xylenes	3.0U	ppbv		6.0	3.0	3.0	TO-15		11/9/11 02:49	ECB	A
1,1,2-Trichloroethane	1.0U	ppbv		2.0	1.0	1.0	TO-15		11/9/11 02:49	ECB	A
Trichloroethene	430	ppbv		6.0	3.0	3.0	TO-15		11/9/11 12:38	ECB	A
Vinyl Chloride	14	ppbv		2.0	1.0	1.0	TO-15		11/9/11 02:49	ECB	A
1,2-Dichloroethane	4U	ug/m3		8	4	4	TO-15		11/9/11 02:49	ECB	A
cis-1,2-Dichloroethene	170	ug/m3		8	4	4	TO-15		11/9/11 02:49	ECB	A
trans-1,2-Dichloroethene	5J	ug/m3		8	4	4	TO-15		11/9/11 02:49	ECB	A
Tetrachloroethene	7U	ug/m3		14	7	7	TO-15		11/9/11 02:49	ECB	A
Toluene	4U	ug/m3		8	4	4	TO-15		11/9/11 02:49	ECB	A
Total Xylenes	13U	ug/m3		26	13	13	TO-15		11/9/11 02:49	ECB	A
1,1,2-Trichloroethane	6U	ug/m3		11	6	6	TO-15		11/9/11 02:49	ECB	A
Trichloroethene	2300	ug/m3		32	16	16	TO-15		11/9/11 12:38	ECB	A
Vinyl Chloride	36	ug/m3		5	3	3	TO-15		11/9/11 02:49	ECB	A
Surrogate Recoveries	*Results*	*Units*	*Footnotes*	*Limits*			*Method*	*Prepared*	*Analyzed*	*By*	*Cntr*
4-Bromofluorobenzene (S)	97	%		70-130			TO-15		11/9/11 02:49	ECB	A
4-Bromofluorobenzene (S)	97	%		70-130			TO-15		11/9/11 12:38	ECB	A

Sample Comments:

The reporting limits for the TO15 analytes were raised due to the dilution of the sample caused by the level of target compounds.

Anna G Milliken
Technical Manager

ALS Environmental

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ANALYTICAL RESULTS

Workorder: 9936004 HNW030|NWIRP Bethpage - GM-38

Lab ID: **9936004003** Date Collected: 11/3/2011 11:46 Matrix: Air

Sample ID: **NWIRP-GM-38-AIR-VC23** Date Received: 11/4/2011 09:30

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr
VOLATILE ORGANICS @ STP											
1,2-Dichloroethane	0.47	ppbv		0.40	0.20	0.20	TO-15		11/9/11 10:29	ECB	A
cis-1,2-Dichloroethene	290	ppbv		2.0	1.0	1.0	TO-15		11/9/11 03:32	ECB	A
trans-1,2-Dichloroethene	3.7	ppbv		0.40	0.20	0.20	TO-15		11/9/11 10:29	ECB	A
Tetrachloroethene	0.20U	ppbv		0.40	0.20	0.20	TO-15		11/9/11 10:29	ECB	A
Toluene	0.26J	ppbv		0.40	0.20	0.20	TO-15		11/9/11 10:29	ECB	A
Total Xylenes	0.60U	ppbv		1.2	0.60	0.60	TO-15		11/9/11 10:29	ECB	A
1,1,2-Trichloroethane	0.20U	ppbv		0.40	0.20	0.20	TO-15		11/9/11 10:29	ECB	A
Trichloroethene	1.9	ppbv		0.40	0.20	0.20	TO-15		11/9/11 10:29	ECB	A
Vinyl Chloride	11	ppbv		0.40	0.20	0.20	TO-15		11/9/11 10:29	ECB	A
1,2-Dichloroethane	2	ug/m3		2	0.8	0.8	TO-15		11/9/11 10:29	ECB	A
cis-1,2-Dichloroethene	1200	ug/m3		8	4	4	TO-15		11/9/11 03:32	ECB	A
trans-1,2-Dichloroethene	15	ug/m3		2	0.8	0.8	TO-15		11/9/11 10:29	ECB	A
Tetrachloroethene	1U	ug/m3		3	1	1	TO-15		11/9/11 10:29	ECB	A
Toluene	1J	ug/m3		2	0.8	0.8	TO-15		11/9/11 10:29	ECB	A
Total Xylenes	3U	ug/m3		5	3	3	TO-15		11/9/11 10:29	ECB	A
1,1,2-Trichloroethane	1U	ug/m3		2	1	1	TO-15		11/9/11 10:29	ECB	A
Trichloroethene	10	ug/m3		2	1	1	TO-15		11/9/11 10:29	ECB	A
Vinyl Chloride	29	ug/m3		1	0.5	0.5	TO-15		11/9/11 10:29	ECB	A
Surrogate Recoveries	*Results*	*Units*	*Footnotes*	*Limits*			*Method*	*Prepared*	*Analyzed*	*By*	*Cntr*
4-Bromofluorobenzene (S)	98	%		70-130			TO-15		11/9/11 03:32	ECB	A
4-Bromofluorobenzene (S)	101	%		70-130			TO-15		11/9/11 10:29	ECB	A

Sample Comments:

The reporting limits for the TO15 analytes were raised due to the dilution of the sample caused by the level of target compounds.

Anna G Milliken
Technical Manager

ALS Environmental

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ANALYTICAL RESULTS

Workorder: 9936004 HNW030|NWIRP Bethpage - GM-38

Lab ID: **9936004004** Date Collected: 11/3/2011 11:46 Matrix: Air

Sample ID: **NWIRP-GM-38-AIR-ES** Date Received: 11/4/2011 09:30

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr
VOLATILE ORGANICS @ STP											
1,2-Dichloroethane	0.46	ppbv		0.20	0.10	0.10	TO-15		11/9/11 11:13	ECB	A
cis-1,2-Dichloroethene	9.4	ppbv		0.20	0.10	0.10	TO-15		11/9/11 11:13	ECB	A
trans-1,2-Dichloroethene	0.10U	ppbv		0.20	0.10	0.10	TO-15		11/9/11 11:13	ECB	A
Tetrachloroethene	0.10J	ppbv		0.20	0.10	0.10	TO-15		11/9/11 11:13	ECB	A
Toluene	0.10U	ppbv		0.20	0.10	0.10	TO-15		11/9/11 11:13	ECB	A
Total Xylenes	0.30U	ppbv		0.60	0.30	0.30	TO-15		11/9/11 11:13	ECB	A
1,1,2-Trichloroethane	0.10U	ppbv		0.20	0.10	0.10	TO-15		11/9/11 11:13	ECB	A
Trichloroethene	1.1	ppbv		0.20	0.10	0.10	TO-15		11/9/11 11:13	ECB	A
Vinyl Chloride	0.27	ppbv		0.20	0.10	0.10	TO-15		11/9/11 11:13	ECB	A
1,2-Dichloroethane	2	ug/m3		0.8	0.4	0.4	TO-15		11/9/11 11:13	ECB	A
cis-1,2-Dichloroethene	37	ug/m3		0.8	0.4	0.4	TO-15		11/9/11 11:13	ECB	A
trans-1,2-Dichloroethene	0.4U	ug/m3		0.8	0.4	0.4	TO-15		11/9/11 11:13	ECB	A
Tetrachloroethene	0.7J	ug/m3		1	0.7	0.7	TO-15		11/9/11 11:13	ECB	A
Toluene	0.4U	ug/m3		0.8	0.4	0.4	TO-15		11/9/11 11:13	ECB	A
Total Xylenes	1U	ug/m3		3	1	1	TO-15		11/9/11 11:13	ECB	A
1,1,2-Trichloroethane	0.6U	ug/m3		1	0.6	0.6	TO-15		11/9/11 11:13	ECB	A
Trichloroethene	6	ug/m3		1	0.5	0.5	TO-15		11/9/11 11:13	ECB	A
Vinyl Chloride	0.7	ug/m3		0.5	0.3	0.3	TO-15		11/9/11 11:13	ECB	A
Surrogate Recoveries	*Results*	*Units*	*Footnotes*	*Limits*			*Method*	*Prepared*	*Analyzed*	*By*	*Cntr*
4-Bromofluorobenzene (S)	100	%		70-130			TO-15		11/9/11 11:13	ECB	A

Sample Comments:

Anna G Milliken
Technical Manager

ALS Environmental

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ANALYTICAL RESULTS

Workorder: 9936004 HNW030|NWIRP Bethpage - GM-38

Lab ID: **9936004005** Date Collected: 11/3/2011 12:18 Matrix: Air

Sample ID: **NWIRP-GM-38-AIR-ES-DUP** Date Received: 11/4/2011 09:30

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr
VOLATILE ORGANICS @ STP											
1,2-Dichloroethane	0.47	ppbv		0.20	0.10	0.10	TO-15		11/9/11 09:43	ECB	A
cis-1,2-Dichloroethene	9.4	ppbv		0.20	0.10	0.10	TO-15		11/9/11 09:43	ECB	A
trans-1,2-Dichloroethene	0.10U	ppbv		0.20	0.10	0.10	TO-15		11/9/11 09:43	ECB	A
Tetrachloroethene	0.11J	ppbv		0.20	0.10	0.10	TO-15		11/9/11 09:43	ECB	A
Toluene	0.10U	ppbv		0.20	0.10	0.10	TO-15		11/9/11 09:43	ECB	A
Total Xylenes	0.30U	ppbv		0.60	0.30	0.30	TO-15		11/9/11 09:43	ECB	A
1,1,2-Trichloroethane	0.10U	ppbv		0.20	0.10	0.10	TO-15		11/9/11 09:43	ECB	A
Trichloroethene	0.74	ppbv		0.20	0.10	0.10	TO-15		11/9/11 09:43	ECB	A
Vinyl Chloride	0.28	ppbv		0.20	0.10	0.10	TO-15		11/9/11 09:43	ECB	A
1,2-Dichloroethane	2	ug/m3		0.8	0.4	0.4	TO-15		11/9/11 09:43	ECB	A
cis-1,2-Dichloroethene	37	ug/m3		0.8	0.4	0.4	TO-15		11/9/11 09:43	ECB	A
trans-1,2-Dichloroethene	0.4U	ug/m3		0.8	0.4	0.4	TO-15		11/9/11 09:43	ECB	A
Tetrachloroethene	0.7J	ug/m3		1	0.7	0.7	TO-15		11/9/11 09:43	ECB	A
Toluene	0.4U	ug/m3		0.8	0.4	0.4	TO-15		11/9/11 09:43	ECB	A
Total Xylenes	1U	ug/m3		3	1	1	TO-15		11/9/11 09:43	ECB	A
1,1,2-Trichloroethane	0.6U	ug/m3		1	0.6	0.6	TO-15		11/9/11 09:43	ECB	A
Trichloroethene	4	ug/m3		1	0.5	0.5	TO-15		11/9/11 09:43	ECB	A
Vinyl Chloride	0.7	ug/m3		0.5	0.3	0.3	TO-15		11/9/11 09:43	ECB	A
Surrogate Recoveries	*Results*	*Units*	*Footnotes*	*Limits*			*Method*	*Prepared*	*Analyzed*	*By*	*Cntr*
4-Bromofluorobenzene (S)	97	%		70-130			TO-15		11/9/11 09:43	ECB	A

Sample Comments:

Anna G Milliken
Technical Manager

Analytical Laboratory Services, Inc.
Environmental • Industrial Hygiene • Field Services
34 Dogwood Lane • Middletown, PA 17057 • 717.944.5541 • Fax: 717.944.1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Page 1 of 1
Courier:
Tracking #:
9936004

Co. Name: H&S Environmental, Inc.
Contact (Report to): Jen Good **Phone:** 508.366.7442
Address: 160 E. Main St., Suite 2F, Westborough, MA 01581

Bill to (if different than Report to): Same **PO#:** 2031-004

Project Name/#: NWIRP Bethpage GM-38 Monthly O&M **ALSI Quote #:**

TAT: [x] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALSI approval and surcharges.
Date Required:
Approved By:

Email? [x] -Y jgood@hsenv.com
Fax? [ ] -Y No.:

***Container Type: 6L ***Container Size: summa ***Preservative: —

ANALYSES/METHOD REQUESTED: Select VOCs (TO-15) - incl. PCE

Enter Number of Containers Per Analysis

	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Select VOCs (TO-15) - incl. PCE
1	NWIRP-GM-38-AIR-VCI1-110311		11/03	1146	G	AIR	1
2	NWIRP-GM-38-AIR-VC12-110311		11/03	1146	G	AIR	1
3	NWIRP-GM-38-AIR-VC23-110311		11/03	1146	G	AIR	1
4	NWIRP-GM-38-AIR-ES-110311		11/03	1146	G	AIR	1
5	NWIRP-GM-38-AIR-~~VCI1~~ ES 110311-DUP		11/03	1218	G	AIR	1
6							
7							
8							

Receipt Information (completed by Sample ...)
Performed by: INITIAL HERE
Cooler Temp:
Therm. ID:
No. of Coolers:
Notes:

Correct containers?	Y	N
Correct sample volume?	Y	N
Correct preservation?	Y	N
Headspace/Volatiles?	Y	N
Circle appropriate Y or N.		
Custody seals Present?	Y	N
(if present) Seals intact?	Y	N
Received on ice?	Y	N
COC/Labels complete/accurate?	Y	N
Container in good condition?	Y	N

SAMPLED BY (Please Print): G. Gangemi
LOGGED BY (signature): K. Snow DATE: 11/7/11 TIME: 1319
REVIEWED BY (signature): DATE: TIME:

	Relinquished By / Company Name	Date	Time		Received By / Company Name	Date	Time
1	[signature]	11/03/11	1230	2	[signature]	11/4/11	0930
3				4			
5				6			
7				8			
9				10			

Data Deliverables: [ ] Standard [ ] CLP-like [ ] NJ-Reduced [ ] NJ-Full [ ] (other)
EDDs Required? [ ] If yes, format type:
DOD Criteria Required?

SDWA Forms? yes [ ] yes [ ] yes [ ] yes [ ] Other PWSID
State Samples Collected In? MD [ ] NJ [ ] NY [X] PA [ ]

ALSI FIELD SERVICES
[ ] Pickup
[ ] Labor
[ ] Composite Sampling
[ ] Rental Equipment
[ ] Other:

* G=Grab; C=Composite
**Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater
***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

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State Certifications: CT PH-0224 , DE ID 11 , GA 914 , MA PA0102 , MD 128 , LA 04162 , VA 421 , WY EPA Region 8 , WV 343

GM 38	Summa Can Sampling
GWTP-Bethpage	Date - 11/03/11

Locations	Regulator #	Suma Can #	System pressure	Start/ Time	Vac Hg	End /Time	Vac Hg	SAMPLING Start Time	SAMPLING End Time
~~VC12~~ VCI1	7281480	~~2442~~ 1050	19	1116	30	1146	2	1146	1146
~~VC14~~ VCI2	7335291	10374	20	1116	27	1146	-1	1116	1146
VC23	7343845	1074	2	1116	31	1146	4	1116	1146
VCES-01	7266943	10060	|	1116	>30 (35)	1146	6	1116	1146
VCES-02	7337308	1125	|	1148	30	1218	5	1248	1218

Vac readings	Vac/ Time 5 Min	Vac/Time 10 Min	Vac/Time15 Min	Vac/time20 Min	Vac/Time25 Min	Gauge Start	Gauge End
~~VC12~~ VCI1	23 /1121	20 /1126	5 /1131	6 /1136	5 /1141	35	2
~~VC11~~ VCI2	19 /1121	17 /1126	12 /1131	5 /1136	5 /1141	27	-1
VC23	25 /1121	23 /1126	19 /1131	10 /1136	9 /1141	31	4
VCES-01	25 /1121	23 /1126	19 /1131	12 /1136	10 /1141	35	6
VCES-02	25 /1153	20 /1158	16 /1203	12 /1208	8 /1213	30	5

no can controller use regulator
no can controller use regulator

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ALS-Middletown

TO-15 Sample Receipt Checklist

Client ID: H+S Environmental
Horizon WO#: 9936004 4
Sample Delivery Group ID:
Log In By/Date: Kelli Snow 11/7/11
(signature) Kelli Snow
Number of Shipping containers received:

Project Name/#: NWRP Bethpage-GM-38 Monthly O+M
Date/Time received: 11/4/11 0930
Received By:
Project Manager Review (date)
(signature)
Courier FedEx 875042004526

Circle the response below as appropriate.

1.	Did kit(s) come with a shipping slip (airbill, etc.)?	YES	(NO)	NA
	If YES, enter airbill numbers:			
Shipping Container Information:				
2.	Were shipping containers received without signs of tampering?	(YES)	NO	NA
	Comments			
3.	Were custody seals present and intact?	YES	(NO)	NA
4.	Were custody seals numbers present?	YES	(NO)	NA
	List Custody Seal Numbers:			
Sample Condition:				
5.	Were sample containers received intact without signs of tampering?	(YES)	NO	NA
	Comments			
Chain of Custody:				
6.	Did COC arrive with the samples?	(YES)	NO	NA
7.	Do sample ID/Sample Description(s) match samples submitted?	(YES)	NO	NA
8.	Is date and time of collection listed on the COC for all samples?	(YES)	NO	NA
9.	Is identification of sampler on COC?	(YES)	NO	NA
10.	Are requested test method(s) on COC?	(YES)	NO	NA
11.	Are necessary signatures on COC?	(YES)	NO	NA
12.	Was Internal COC initiated? (should always be YES)	(YES)	NO	NA
Sample Integrity Usability:				
13.	Do sample containers match the COC?	YES	(NO)	NA
14.	Were sample canisters received within 15 days of shipment to client	YES	(NO)	NA

Anomalies or Non-Conformances:

Rev. 2/2011

December 2011 O&M Data

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December 20, 2011

Ms. Jennifer Good
H & S Environmental
160 East Main Street, 2F
Westborough, MA 01581

Certificate of Analysis

Project Name:	**NWIRP Bethpage - GM-38**	Workorder:	**9941844**
Purchase Order:	**2031-003**	Workorder ID:	**HNW035|NWIRP Bethpage - GM-38**

Dear Ms. Good,

Enclosed are the analytical results for samples received by the laboratory on Friday, December 09, 2011.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Tonya Hironimus (Project Coordinator) or Anna G Milliken (Technical Manager) at (717) 944-5541.

Please visit us at www.analyticallab.com for a listing of ALS' NELAP accreditations and Scope of Work, as well as other links to Water Quality documentation on the internet.

This laboratory report may not be reproduced, except in full, without the written approval of ALS Environmental.

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

Anna G Milliken
Technical Manager

ALS Environmental

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SAMPLE SUMMARY

Workorder: 9941844 HNW035|NWIRP Bethpage - GM-38 Discard Date: 02/18/2012

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
9941844001	NWIRP-GM-38-PS-RW1-12811	Water	12/8/11 13:00	12/9/11 09:05	Customer
9941844002	NWIRP-GM-38-PS-RW3-12811	Water	12/8/11 13:05	12/9/11 09:05	Customer
9941844003	NWIRP-GM-38-PS-ASE-12811	Water	12/8/11 13:10	12/9/11 09:05	Customer
9941844004	NWIRP-GM-38-PS-BFE-12811	Water	12/8/11 13:20	12/9/11 09:05	Customer
9941844005	NWIRP-GM-38-PS-TE-12811	Water	12/8/11 13:25	12/9/11 09:05	Customer
9941844006	NWIRP-GM-38-PS-LC1-12811	Water	12/8/11 13:30	12/9/11 09:05	Customer
9941844007	NWIRP-GM-38-PS-LC2-12811	Water	12/8/11 13:40	12/9/11 09:05	Customer
9941844008	NWIRP-GM-38-PS-LC3-12811	Water	12/8/11 13:50	12/9/11 09:05	Customer
9941844009	NWIRP-GM-38-PS-DUP-12811	Water	12/8/11 14:00	12/9/11 09:05	Customer
9941844010	NWIRP-GM-38-TB-12811	Water	12/9/11 09:05	12/9/11 09:05	Customer

Workorder Comments:

Notes

-- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
-- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
-- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
-- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
-- The Chain of Custody document is included as part of this report.
-- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.

Standard Acronyms/Flags

J, B	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference

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ANALYTICAL RESULTS

Workorder: 9941844 HNW035|NWIRP Bethpage - GM-38

Lab ID: **9941844001** Date Collected: 12/8/2011 13:00 Matrix: Water

Sample ID: **NWIRP-GM-38-PS-RW1-12811** Date Received: 12/9/2011 09:05

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr
VOLATILE ORGANICS											
Carbon Tetrachloride	0.52J	ug/L	1,2	1.0	1.0	0.24	EPA 624		12/14/11 22:14	GLQ	A
1,1-Dichloroethane	3.0	ug/L		1.0	1.0	0.19	EPA 624		12/14/11 22:14	GLQ	A
1,2-Dichloroethane	1.0U	ug/L		1.0	1.0	0.22	EPA 624		12/14/11 22:14	GLQ	A
1,1-Dichloroethene	7.6	ug/L		1.0	1.0	0.17	EPA 624		12/14/11 22:14	GLQ	A
cis-1,2-Dichloroethene	54.9	ug/L	3	1.0	1.0	0.26	EPA 624		12/14/11 22:14	GLQ	A
trans-1,2-Dichloroethene	1.1	ug/L		1.0	1.0	0.12	EPA 624		12/14/11 22:14	GLQ	A
Tetrachloroethene	115	ug/L	4,5	1.0	1.0	0.26	EPA 624		12/14/11 22:14	GLQ	A
1,1,1-Trichloroethane	7.6	ug/L		1.0	1.0	0.27	EPA 624		12/14/11 22:14	GLQ	A
Trichloroethene	389	ug/L		10.0	10.0	2.1	EPA 624		12/16/11 13:47	MES	G
Vinyl Chloride	4.5	ug/L		2.0	2.0	0.24	EPA 624		12/14/11 22:14	GLQ	A
Surrogate Recoveries	*Results*	*Units*	*Footnotes*	*Limits*			*Method*	*Prepared*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	111	%		72-142			EPA 624		12/14/11 22:14	GLQ	A
4-Bromofluorobenzene (S)	93.6	%		73-119			EPA 624		12/14/11 22:14	GLQ	A
Dibromofluoromethane (S)	108	%		74-132			EPA 624		12/14/11 22:14	GLQ	A
Toluene-d8 (S)	106	%		75-133			EPA 624		12/14/11 22:14	GLQ	A
1,2-Dichloroethane-d4 (S)	116	%		72-142			EPA 624		12/16/11 13:47	MES	G
4-Bromofluorobenzene (S)	84.5	%		73-119			EPA 624		12/16/11 13:47	MES	G
Dibromofluoromethane (S)	110	%		74-132			EPA 624		12/16/11 13:47	MES	G
Toluene-d8 (S)	103	%		75-133			EPA 624		12/16/11 13:47	MES	G
WET CHEMISTRY											
Total Suspended Solids	5U	mg/L		5	5	5	SM20-2540 D		12/13/11 11:17	CSB	M
METALS											
Mercury, Total	0.00050 U	mg/L		0.00050	0.00050	0.00016	EPA 245.1	12/14/11	12/14/11 11:59	MNP	J1

Sample Comments:

Anna G Milliken
Technical Manager

ALS Environmental

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ANALYTICAL RESULTS

Workorder: 9941844 HNW035|NWIRP Bethpage - GM-38

Lab ID: **9941844002** Date Collected: 12/8/2011 13:05 Matrix: Water

Sample ID: **NWIRP-GM-38-PS-RW3-12811** Date Received: 12/9/2011 09:05

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr
VOLATILE ORGANICS											
Carbon Tetrachloride	1.0U	ug/L		1.0	1.0	0.24	EPA 624		12/15/11 05:54	GLQ	A
1,1-Dichloroethane	3.1	ug/L		1.0	1.0	0.19	EPA 624		12/15/11 05:54	GLQ	A
1,2-Dichloroethane	1.0U	ug/L		1.0	1.0	0.22	EPA 624		12/15/11 05:54	GLQ	A
1,1-Dichloroethene	1.7	ug/L		1.0	1.0	0.17	EPA 624		12/15/11 05:54	GLQ	A
cis-1,2-Dichloroethene	1.7	ug/L		1.0	1.0	0.26	EPA 624		12/15/11 05:54	GLQ	A
trans-1,2-Dichloroethene	1.0U	ug/L		1.0	1.0	0.12	EPA 624		12/15/11 05:54	GLQ	A
Tetrachloroethene	1.0U	ug/L		1.0	1.0	0.26	EPA 624		12/15/11 05:54	GLQ	A
1,1,1-Trichloroethane	1.4	ug/L		1.0	1.0	0.27	EPA 624		12/15/11 05:54	GLQ	A
Trichloroethene	332	ug/L		5.0	5.0	1.1	EPA 624		12/16/11 14:20	MES	C
Vinyl Chloride	2.0U	ug/L		2.0	2.0	0.24	EPA 624		12/15/11 05:54	GLQ	A
Surrogate Recoveries	*Results*	*Units*	*Footnotes*	*Limits*			*Method*	*Prepared*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	125	%		72-142			EPA 624		12/15/11 05:54	GLQ	A
4-Bromofluorobenzene (S)	90.8	%		73-119			EPA 624		12/15/11 05:54	GLQ	A
Dibromofluoromethane (S)	115	%		74-132			EPA 624		12/15/11 05:54	GLQ	A
Toluene-d8 (S)	104	%		75-133			EPA 624		12/15/11 05:54	GLQ	A
1,2-Dichloroethane-d4 (S)	126	%		72-142			EPA 624		12/16/11 14:20	MES	C
4-Bromofluorobenzene (S)	82.5	%		73-119			EPA 624		12/16/11 14:20	MES	C
Dibromofluoromethane (S)	113	%		74-132			EPA 624		12/16/11 14:20	MES	C
Toluene-d8 (S)	102	%		75-133			EPA 624		12/16/11 14:20	MES	C
WET CHEMISTRY											
Total Suspended Solids	5U	mg/L		5	5	5	SM20-2540 D		12/13/11 11:17	CSB	E
METALS											
Mercury, Total	0.00050 U	mg/L		0.00050	0.00050	0.00016	EPA 245.1	12/14/11	12/14/11 12:02	MNP	D1

Sample Comments:

Anna G Milliken
Technical Manager

ALS Environmental

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ANALYTICAL RESULTS

Workorder: 9941844 HNW035|NWIRP Bethpage - GM-38

Lab ID: **9941844003** Date Collected: 12/8/2011 13:10 Matrix: Water

Sample ID: **NWIRP-GM-38-PS-ASE-12811** Date Received: 12/9/2011 09:05

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr
VOLATILE ORGANICS											
Carbon Tetrachloride	1.0U	ug/L		1.0	1.0	0.24	EPA 624		12/14/11 22:47	GLQ	A
1,1-Dichloroethane	1.0U	ug/L		1.0	1.0	0.19	EPA 624		12/14/11 22:47	GLQ	A
1,2-Dichloroethane	1.0U	ug/L		1.0	1.0	0.22	EPA 624		12/14/11 22:47	GLQ	A
1,1-Dichloroethene	1.0U	ug/L		1.0	1.0	0.17	EPA 624		12/14/11 22:47	GLQ	A
cis-1,2-Dichloroethene	1.0	ug/L		1.0	1.0	0.26	EPA 624		12/14/11 22:47	GLQ	A
trans-1,2-Dichloroethene	1.0U	ug/L		1.0	1.0	0.12	EPA 624		12/14/11 22:47	GLQ	A
Tetrachloroethene	0.99J	ug/L		1.0	1.0	0.26	EPA 624		12/14/11 22:47	GLQ	A
1,1,1-Trichloroethane	1.0U	ug/L		1.0	1.0	0.27	EPA 624		12/14/11 22:47	GLQ	A
Trichloroethene	4.5	ug/L		1.0	1.0	0.21	EPA 624		12/14/11 22:47	GLQ	A
Vinyl Chloride	2.0U	ug/L		2.0	2.0	0.24	EPA 624		12/14/11 22:47	GLQ	A
Surrogate Recoveries	*Results*	*Units*	*Footnotes*	*Limits*			*Method*	*Prepared*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	113	%		72-142			EPA 624		12/14/11 22:47	GLQ	A
4-Bromofluorobenzene (S)	90	%		73-119			EPA 624		12/14/11 22:47	GLQ	A
Dibromofluoromethane (S)	108	%		74-132			EPA 624		12/14/11 22:47	GLQ	A
Toluene-d8 (S)	106	%		75-133			EPA 624		12/14/11 22:47	GLQ	A
WET CHEMISTRY											
Total Suspended Solids	5U	mg/L		5	5	5	SM20-2540 D		12/13/11 11:17	CSB	E
METALS											
Mercury, Total	0.00050 U	mg/L		0.00050	0.00050	0.00016	EPA 245.1	12/14/11	12/14/11 12:03	MNP	D1

Sample Comments:

Anna G Milliken
Technical Manager

ALS Environmental

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ANALYTICAL RESULTS

Workorder: 9941844 HNW035|NWIRP Bethpage - GM-38

Lab ID: **9941844004** Date Collected: 12/8/2011 13:20 Matrix: Water

Sample ID: **NWIRP-GM-38-PS-BFE-12811** Date Received: 12/9/2011 09:05

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr
VOLATILE ORGANICS											
Carbon Tetrachloride	1.0U	ug/L		1.0	1.0	0.24	EPA 624		12/14/11 23:20	GLQ	A
1,1-Dichloroethane	1.0U	ug/L		1.0	1.0	0.19	EPA 624		12/14/11 23:20	GLQ	A
1,2-Dichloroethane	1.0U	ug/L		1.0	1.0	0.22	EPA 624		12/14/11 23:20	GLQ	A
1,1-Dichloroethene	1.0U	ug/L		1.0	1.0	0.17	EPA 624		12/14/11 23:20	GLQ	A
cis-1,2-Dichloroethene	0.97J	ug/L		1.0	1.0	0.26	EPA 624		12/14/11 23:20	GLQ	A
trans-1,2-Dichloroethene	1.0U	ug/L		1.0	1.0	0.12	EPA 624		12/14/11 23:20	GLQ	A
Tetrachloroethene	0.70J	ug/L		1.0	1.0	0.26	EPA 624		12/14/11 23:20	GLQ	A
1,1,1-Trichloroethane	1.0U	ug/L		1.0	1.0	0.27	EPA 624		12/14/11 23:20	GLQ	A
Trichloroethene	4.0	ug/L		1.0	1.0	0.21	EPA 624		12/14/11 23:20	GLQ	A
Vinyl Chloride	2.0U	ug/L		2.0	2.0	0.24	EPA 624		12/14/11 23:20	GLQ	A
Surrogate Recoveries	*Results*	*Units*	*Footnotes*	*Limits*			*Method*	*Prepared*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	113	%		72-142			EPA 624		12/14/11 23:20	GLQ	A
4-Bromofluorobenzene (S)	92.1	%		73-119			EPA 624		12/14/11 23:20	GLQ	A
Dibromofluoromethane (S)	111	%		74-132			EPA 624		12/14/11 23:20	GLQ	A
Toluene-d8 (S)	106	%		75-133			EPA 624		12/14/11 23:20	GLQ	A
WET CHEMISTRY											
Total Suspended Solids	5U	mg/L		5	5	5	SM20-2540 D		12/13/11 11:17	CSB	E
METALS											
Mercury, Total	0.00050 U	mg/L		0.00050	0.00050	0.00016	EPA 245.1	12/14/11	12/14/11 12:04	MNP	D1

Sample Comments:

Anna G Milliken
Technical Manager

ALS Environmental

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ANALYTICAL RESULTS

Workorder: 9941844 HNW035|NWIRP Bethpage - GM-38

Lab ID: **9941844005** Date Collected: 12/8/2011 13:25 Matrix: Water

Sample ID: **NWIRP-GM-38-PS-TE-12811** Date Received: 12/9/2011 09:05

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr
VOLATILE ORGANICS											
Carbon Tetrachloride	1.0U	ug/L		1.0	1.0	0.24	EPA 624		12/14/11 23:53	GLQ	A
1,1-Dichloroethane	1.0U	ug/L		1.0	1.0	0.19	EPA 624		12/14/11 23:53	GLQ	A
1,2-Dichloroethane	1.0U	ug/L		1.0	1.0	0.22	EPA 624		12/14/11 23:53	GLQ	A
1,1-Dichloroethene	1.0U	ug/L		1.0	1.0	0.17	EPA 624		12/14/11 23:53	GLQ	A
cis-1,2-Dichloroethene	1.1	ug/L		1.0	1.0	0.26	EPA 624		12/14/11 23:53	GLQ	A
trans-1,2-Dichloroethene	1.0U	ug/L		1.0	1.0	0.12	EPA 624		12/14/11 23:53	GLQ	A
Tetrachloroethene	1.0U	ug/L		1.0	1.0	0.26	EPA 624		12/14/11 23:53	GLQ	A
1,1,1-Trichloroethane	1.0U	ug/L		1.0	1.0	0.27	EPA 624		12/14/11 23:53	GLQ	A
Trichloroethene	0.38J	ug/L		1.0	1.0	0.21	EPA 624		12/14/11 23:53	GLQ	A
Vinyl Chloride	2.0U	ug/L		2.0	2.0	0.24	EPA 624		12/14/11 23:53	GLQ	A
Surrogate Recoveries	*Results*	*Units*	*Footnotes*	*Limits*			*Method*	*Prepared*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	111	%		72-142			EPA 624		12/14/11 23:53	GLQ	A
4-Bromofluorobenzene (S)	90.5	%		73-119			EPA 624		12/14/11 23:53	GLQ	A
Dibromofluoromethane (S)	111	%		74-132			EPA 624		12/14/11 23:53	GLQ	A
Toluene-d8 (S)	107	%		75-133			EPA 624		12/14/11 23:53	GLQ	A
WET CHEMISTRY											
Total Suspended Solids	5U	mg/L		5	5	5	SM20-2540 D		12/13/11 11:17	CSB	E
METALS											
Mercury, Total	0.00050 U	mg/L		0.00050	0.00050	0.00016	EPA 245.1	12/14/11	12/14/11 12:05	MNP	D1

Sample Comments:

Anna G Milliken
Technical Manager

ALS Environmental

34 Dogwood Lane ■ Middletown, PA 17057 ■ Phone: 717-944-5541 ■ Fax: 717-944-1430 ■ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: CT PH-0224 , DE ID 11 , GA 914 , MA PA0102 , MD 128 , LA 04162 , VA 421 , WY EPA Region 8 , WV 343

ANALYTICAL RESULTS

Workorder: 9941844 HNW035|NWIRP Bethpage - GM-38

Lab ID: **9941844006** Date Collected: 12/8/2011 13:30 Matrix: Water

Sample ID: **NWIRP-GM-38-PS-LC1-12811** Date Received: 12/9/2011 09:05

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr
VOLATILE ORGANICS											
Carbon Tetrachloride	1.0U	ug/L		1.0	1.0	0.24	EPA 624		12/15/11 00:27	GLQ	A
1,1-Dichloroethane	1.0U	ug/L		1.0	1.0	0.19	EPA 624		12/15/11 00:27	GLQ	A
1,2-Dichloroethane	1.0U	ug/L		1.0	1.0	0.22	EPA 624		12/15/11 00:27	GLQ	A
1,1-Dichloroethene	1.0U	ug/L		1.0	1.0	0.17	EPA 624		12/15/11 00:27	GLQ	A
cis-1,2-Dichloroethene	1.0	ug/L		1.0	1.0	0.26	EPA 624		12/15/11 00:27	GLQ	A
trans-1,2-Dichloroethene	1.0U	ug/L		1.0	1.0	0.12	EPA 624		12/15/11 00:27	GLQ	A
Tetrachloroethene	1.0U	ug/L		1.0	1.0	0.26	EPA 624		12/15/11 00:27	GLQ	A
1,1,1-Trichloroethane	1.0U	ug/L		1.0	1.0	0.27	EPA 624		12/15/11 00:27	GLQ	A
Trichloroethene	1.0U	ug/L		1.0	1.0	0.21	EPA 624		12/15/11 00:27	GLQ	A
Vinyl Chloride	2.0U	ug/L		2.0	2.0	0.24	EPA 624		12/15/11 00:27	GLQ	A
Surrogate Recoveries	*Results*	*Units*	*Footnotes*	*Limits*			*Method*	*Prepared*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	114	%		72-142			EPA 624		12/15/11 00:27	GLQ	A
4-Bromofluorobenzene (S)	94.4	%		73-119			EPA 624		12/15/11 00:27	GLQ	A
Dibromofluoromethane (S)	109	%		74-132			EPA 624		12/15/11 00:27	GLQ	A
Toluene-d8 (S)	105	%		75-133			EPA 624		12/15/11 00:27	GLQ	A
WET CHEMISTRY											
Total Suspended Solids	5U	mg/L		5	5	5	SM20-2540 D		12/13/11 11:17	CSB	E
METALS											
Mercury, Total	0.00050 U	mg/L		0.00050	0.00050	0.00016	EPA 245.1	12/14/11	12/14/11 12:06	MNP	D1

Sample Comments:

Anna G Milliken
Technical Manager

ALS Environmental

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State Certifications: CT PH-0224 , DE ID 11 , GA 914 , MA PA0102 , MD 128 , LA 04162 , VA 421 , WY EPA Region 8 , WV 343

ANALYTICAL RESULTS

Workorder: 9941844 HNW035|NWIRP Bethpage - GM-38

Lab ID: **9941844007** Date Collected: 12/8/2011 13:40 Matrix: Water

Sample ID: **NWIRP-GM-38-PS-LC2-12811** Date Received: 12/9/2011 09:05

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr
VOLATILE ORGANICS											
Carbon Tetrachloride	1.0U	ug/L		1.0	1.0	0.24	EPA 624		12/15/11 00:59	GLQ	A
1,1-Dichloroethane	1.0U	ug/L		1.0	1.0	0.19	EPA 624		12/15/11 00:59	GLQ	A
1,2-Dichloroethane	1.0U	ug/L		1.0	1.0	0.22	EPA 624		12/15/11 00:59	GLQ	A
1,1-Dichloroethene	1.0U	ug/L		1.0	1.0	0.17	EPA 624		12/15/11 00:59	GLQ	A
cis-1,2-Dichloroethene	1.1	ug/L		1.0	1.0	0.26	EPA 624		12/15/11 00:59	GLQ	A
trans-1,2-Dichloroethene	1.0U	ug/L		1.0	1.0	0.12	EPA 624		12/15/11 00:59	GLQ	A
Tetrachloroethene	1.0U	ug/L		1.0	1.0	0.26	EPA 624		12/15/11 00:59	GLQ	A
1,1,1-Trichloroethane	1.0U	ug/L		1.0	1.0	0.27	EPA 624		12/15/11 00:59	GLQ	A
Trichloroethene	0.38J	ug/L		1.0	1.0	0.21	EPA 624		12/15/11 00:59	GLQ	A
Vinyl Chloride	2.0U	ug/L		2.0	2.0	0.24	EPA 624		12/15/11 00:59	GLQ	A
Surrogate Recoveries	*Results*	*Units*	*Footnotes*	*Limits*			*Method*	*Prepared*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	113	%		72-142			EPA 624		12/15/11 00:59	GLQ	A
4-Bromofluorobenzene (S)	91.9	%		73-119			EPA 624		12/15/11 00:59	GLQ	A
Dibromofluoromethane (S)	110	%		74-132			EPA 624		12/15/11 00:59	GLQ	A
Toluene-d8 (S)	102	%		75-133			EPA 624		12/15/11 00:59	GLQ	A
WET CHEMISTRY											
Total Suspended Solids	5U	mg/L		5	5	5	SM20-2540 D		12/13/11 11:17	CSB	E
METALS											
Mercury, Total	0.00050 U	mg/L		0.00050	0.00050	0.00016	EPA 245.1	12/14/11	12/14/11 12:09	MNP	D1

Sample Comments:

Anna G Milliken
Technical Manager

ALS Environmental

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State Certifications: CT PH-0224 , DE ID 11 , GA 914 , MA PA0102 , MD 128 , LA 04162 , VA 421 , WY EPA Region 8 , WV 343

ANALYTICAL RESULTS

Workorder: 9941844 HNW035|NWIRP Bethpage - GM-38

Lab ID: **9941844008** Date Collected: 12/8/2011 13:50 Matrix: Water

Sample ID: **NWIRP-GM-38-PS-LC3-12811** Date Received: 12/9/2011 09:05

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr
VOLATILE ORGANICS											
Carbon Tetrachloride	1.0U	ug/L		1.0	1.0	0.24	EPA 624		12/15/11 01:32	GLQ	A
1,1-Dichloroethane	1.0U	ug/L		1.0	1.0	0.19	EPA 624		12/15/11 01:32	GLQ	A
1,2-Dichloroethane	1.0U	ug/L		1.0	1.0	0.22	EPA 624		12/15/11 01:32	GLQ	A
1,1-Dichloroethene	1.0U	ug/L		1.0	1.0	0.17	EPA 624		12/15/11 01:32	GLQ	A
cis-1,2-Dichloroethene	1.1	ug/L		1.0	1.0	0.26	EPA 624		12/15/11 01:32	GLQ	A
trans-1,2-Dichloroethene	1.0U	ug/L		1.0	1.0	0.12	EPA 624		12/15/11 01:32	GLQ	A
Tetrachloroethene	1.0U	ug/L		1.0	1.0	0.26	EPA 624		12/15/11 01:32	GLQ	A
1,1,1-Trichloroethane	1.0U	ug/L		1.0	1.0	0.27	EPA 624		12/15/11 01:32	GLQ	A
Trichloroethene	1.0U	ug/L		1.0	1.0	0.21	EPA 624		12/15/11 01:32	GLQ	A
Vinyl Chloride	2.0U	ug/L		2.0	2.0	0.24	EPA 624		12/15/11 01:32	GLQ	A
Surrogate Recoveries	*Results*	*Units*	*Footnotes*	*Limits*			*Method*	*Prepared*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	118	%		72-142			EPA 624		12/15/11 01:32	GLQ	A
4-Bromofluorobenzene (S)	89.7	%		73-119			EPA 624		12/15/11 01:32	GLQ	A
Dibromofluoromethane (S)	113	%		74-132			EPA 624		12/15/11 01:32	GLQ	A
Toluene-d8 (S)	104	%		75-133			EPA 624		12/15/11 01:32	GLQ	A
WET CHEMISTRY											
Total Suspended Solids	5U	mg/L		5	5	5	SM20-2540 D		12/13/11 11:17	CSB	E
METALS											
Mercury, Total	0.00050 U	mg/L		0.00050	0.00050	0.00016	EPA 245.1	12/14/11	12/14/11 12:10	MNP	D1

Sample Comments:

Anna G Milliken
Technical Manager

ALS Environmental

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ANALYTICAL RESULTS

Workorder: 9941844 HNW035|NWIRP Bethpage - GM-38

Lab ID: **9941844009** Date Collected: 12/8/2011 14:00 Matrix: Water

Sample ID: **NWIRP-GM-38-PS-DUP-12811** Date Received: 12/9/2011 09:05

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr
VOLATILE ORGANICS											
Carbon Tetrachloride	1.0U	ug/L		1.0	1.0	0.24	EPA 624		12/16/11 12:41	MES	C
1,1-Dichloroethane	1.0U	ug/L		1.0	1.0	0.19	EPA 624		12/16/11 12:41	MES	C
1,2-Dichloroethane	1.0U	ug/L		1.0	1.0	0.22	EPA 624		12/16/11 12:41	MES	C
1,1-Dichloroethene	1.0U	ug/L		1.0	1.0	0.17	EPA 624		12/16/11 12:41	MES	C
cis-1,2-Dichloroethene	1.1	ug/L		1.0	1.0	0.26	EPA 624		12/16/11 12:41	MES	C
trans-1,2-Dichloroethene	1.0U	ug/L		1.0	1.0	0.12	EPA 624		12/16/11 12:41	MES	C
Tetrachloroethene	1.0U	ug/L		1.0	1.0	0.26	EPA 624		12/16/11 12:41	MES	C
1,1,1-Trichloroethane	1.0U	ug/L		1.0	1.0	0.27	EPA 624		12/16/11 12:41	MES	C
Trichloroethene	0.34J	ug/L		1.0	1.0	0.21	EPA 624		12/16/11 12:41	MES	C
Vinyl Chloride	2.0U	ug/L		2.0	2.0	0.24	EPA 624		12/16/11 12:41	MES	C
Surrogate Recoveries	*Results*	*Units*	*Footnotes*	*Limits*			*Method*	*Prepared*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	117	%		72-142			EPA 624		12/16/11 12:41	MES	C
4-Bromofluorobenzene (S)	82.4	%		73-119			EPA 624		12/16/11 12:41	MES	C
Dibromofluoromethane (S)	111	%		74-132			EPA 624		12/16/11 12:41	MES	C
Toluene-d8 (S)	102	%		75-133			EPA 624		12/16/11 12:41	MES	C
WET CHEMISTRY											
Total Suspended Solids	5U	mg/L		5	5	5	SM20-2540 D		12/13/11 11:17	CSB	E
METALS											
Mercury, Total	0.00050 U	mg/L		0.00050	0.00050	0.00016	EPA 245.1	12/14/11	12/14/11 12:11	MNP	D1

Sample Comments:

Methods for the analysis of volatile organics require that the sample be preserved to a pH less than 2 using HCl. This sample had a pH greater than 2 when received by the lab.

Anna G Milliken
Technical Manager

ALS Environmental

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State Certifications: CT PH-0224 , DE ID 11 , GA 914 , MA PA0102 , MD 128 , LA 04162 , VA 421 , WY EPA Region 8 , WV 343

ANALYTICAL RESULTS

Workorder: 9941844 HNW035|NWIRP Bethpage - GM-38

Lab ID: **9941844010** Date Collected: 12/9/2011 09:05 Matrix: Water

Sample ID: **NWIRP-GM-38-TB-12811** Date Received: 12/9/2011 09:05

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr
VOLATILE ORGANICS											
Carbon Tetrachloride	1.0U	ug/L		1.0	1.0	0.24	EPA 624		12/14/11 21:41	GLQ	A
1,1-Dichloroethane	1.0U	ug/L		1.0	1.0	0.19	EPA 624		12/14/11 21:41	GLQ	A
1,2-Dichloroethane	1.0U	ug/L		1.0	1.0	0.22	EPA 624		12/14/11 21:41	GLQ	A
1,1-Dichloroethene	1.0U	ug/L		1.0	1.0	0.17	EPA 624		12/14/11 21:41	GLQ	A
cis-1,2-Dichloroethene	1.0U	ug/L		1.0	1.0	0.26	EPA 624		12/14/11 21:41	GLQ	A
trans-1,2-Dichloroethene	1.0U	ug/L		1.0	1.0	0.12	EPA 624		12/14/11 21:41	GLQ	A
Tetrachloroethene	1.0U	ug/L		1.0	1.0	0.26	EPA 624		12/14/11 21:41	GLQ	A
1,1,1-Trichloroethane	1.0U	ug/L		1.0	1.0	0.27	EPA 624		12/14/11 21:41	GLQ	A
Trichloroethene	1.0U	ug/L		1.0	1.0	0.21	EPA 624		12/14/11 21:41	GLQ	A
Vinyl Chloride	2.0U	ug/L		2.0	2.0	0.24	EPA 624		12/14/11 21:41	GLQ	A
Surrogate Recoveries	*Results*	*Units*	*Footnotes*	*Limits*			*Method*	*Prepared*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	110	%		72-142			EPA 624		12/14/11 21:41	GLQ	A
4-Bromofluorobenzene (S)	94.2	%		73-119			EPA 624		12/14/11 21:41	GLQ	A
Dibromofluoromethane (S)	111	%		74-132			EPA 624		12/14/11 21:41	GLQ	A
Toluene-d8 (S)	106	%		75-133			EPA 624		12/14/11 21:41	GLQ	A

Sample Comments:

Anna G Milliken
Technical Manager

ANALYTICAL RESULTS QUALIFIERS\FLAGS

Workorder: 9941844 HNW035|NWIRP Bethpage - GM-38

PARAMETER QUALIFIERS\FLAGS

[1] The QC sample type MS for method EPA 624 was outside the control limits for the analyte Carbon Tetrachloride. The % Recovery was reported as 149 and the control limits were 70 to 140.

[2] The QC sample type MSD for method EPA 624 was outside the control limits for the analyte Carbon Tetrachloride. The % Recovery was reported as 147 and the control limits were 70 to 140.

[3] The QC sample type MS for method EPA 624 was outside the control limits for the analyte cis-1,2-Dichloroethene. The % Recovery was reported as 142 and the control limits were 80 to 126.

[4] The QC sample type MS for method EPA 624 was outside the control limits for the analyte Tetrachloroethene. The % Recovery was reported as 54.9 and the control limits were 64 to 148.

[5] The QC sample type MSD for method EPA 624 was outside the control limits for the analyte Tetrachloroethene. The % Recovery was reported as 51.7 and the control limits were 64 to 148.

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CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Page 1 of 2
Courier:
Tracking #: 8760 9219 5 0143

* 9 9 4 1 8 4 4 *

Co. Name: H&S Environmental, Inc.
Contact (Report to): Jen Good Phone: 508.366.7442
Address: 160 E. Main St., Suite 2F
Westborough, MA 01581

Bill to (if different than Report to): Same PO#: 2031-003

Project Name/#: NWIRP Bethpage GM-38 Monthly O&M ALSI Quote #:

TAT: [x] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALSI approval and surcharges.
Date Required:
Approved By:

Email? [x] -Y jgood@hsenv.com
Fax? [ ] -Y No.:

***Container Type	40 mL	500 mL	250 mL	
***Container Size	CG	PL	PL	
** Preservative	HCL	HNO3	--	

ANALYSES/METHOD REQUESTED

Enter Number of Containers Per Analysis

#	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Select VOCs (Method 624) - incl. CCl4	Mercury (Method 245.1)	TSS (SM2540D)	pH (measured in the field)
1	NWIRP-GM-38-PS-RW1-12811	MS/MSD for VOC's, Hg	12-8	1300	G	GW	9	3	1	6.29
2	NWIRP-GM-38-PS-RW3-12811	~~MS/MSD for VOCs, Hg~~ GG	12-8	1305	G	GW	~~3~~	~~1~~	~~1~~	6.17
3	NWIRP-GM-38-PS-ASE-12811		12-8	1310	G	GW	3	1	1	7.44
4	NWIRP-GM-38-PS-BFE-12811		12-8	1320	G	GW	3	1	1	7.50
5	NWIRP-GM-38-PS-TE-12811		12-8	1325	G	GW	3	1	1	6.99
6	NWIRP-GM-38-PS-LC1-12811		12-8	1330	G	GW	3	1	1	7.57
7	NWIRP-GM-38-PS-LC2-12811		12-8	1340	G	GW	3	1	1	7.54
8	NWIRP-GM-38-PS-LC3-12811		12-8	1350	G	GW	3	1	1	6.23

Performed by: [signature]
Cooler Temp: 4
Therm. ID: T-7215
No. of Coolers:
Notes:

Check		
Correct containers?	Y	N
Correct sample volume?	Y	N
Correct preservation?	Y	N
Headspace/Volatiles?	Y	N
Circle appropriate Y or N.		
Custody seals Present?	Y	N
(if present) Seals intact?	Y	N
Received on Ice?	Y	N
COC/Labels complete/accurate?	Y	N
Container in good condition?	Y	N

SAMPLED BY (Please Print): G. Gangemi
LOGGED BY (signature): K. Snow DATE 12/9/11 TIME 1130
REVIEWED BY (signature): DATE TIME

	Relinquished By / Company Name	Date	Time		Received By / Company Name	Date	Time
1	[signature]	12-8	1500	2	Kelli Snow	12/9	0905
3				4			
5				6			
7				8			
9				10			

Data Deliverables: [ ] Standard [ ] CLP-like [ ] NJ-Reduced [ ] NJ-Full [ ] (other)
EDDs Required? [ ] If yes, format type:
DOD Criteria Required?

SDWA Forms? yes [ ] yes [ ] yes [ ] yes [ ]
State Samples Collected In? MD [ ] NJ [ ] NY [x] PA [ ] Other
PWSID

ALSI FIELD SERVICES: [ ] Pickup [ ] Labor [ ] Composite Sampling [ ] Rental Equipment [ ] Other:

* G=Grab; C=Composite **Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY ***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc. Rev 08-2006

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CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Page 2 of 2 — 9941844
Courier: -
Tracking #: 87504200 0200

Co. Name: H&S Environmental, Inc.
Contact (Report to): Jen Good — Phone: 508.366.7442
Address: 160 E. Main St., Suite 2F, Westborough, MA 01581

Bill to (if different than Report to): Same — PO#: 2031-003

Project Name/#: NWIRP Bethpage GM-38 Monthly O&M — ALSI Quote #:

TAT: [x] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALSI approval and surcharges. — Date Required: — Approved By:

Email? [x] -Y jgood@hsenv.com
Fax? [ ] -Y No.:

	***Container Type	40 mL	500 mL	250 mL
	***Container Size	CG	PL	PL
	Preservative	HCL	HNO3	—

ANALYSES/METHOD REQUESTED — Enter Number of Containers Per Analysis

	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Select VOCs (Method 624) - incl CCl4	Mercury (Method 245.1)	TSS (SM2540D)	pH (measured in the field)
1	NWIRP-GM-38-PS-DUP-12811		12-8	1400	G	GW	3	1	1	6.96
2	NWIRP-GM-38-TB-12811		~~12-8~~ 12/9	~~1410~~ 0905	G	GW	3			
3		KJ 12/9/11								
4										
5										
6										
7										
8										

SAMPLED BY (Please Print): G. Gangemi

LOGGED BY (signature): K. Snow — Date: 12/9/11 — Time: 1302
REVIEWED BY (signature):

	Relinquished By / Company Name	Date	Time		Received By / Company Name	Date	Time
1	[illegible signature]	12/8	1500	2	Kelli Snow	12/9	0905
3				4			
5				6			
7				8			
9				10			

Data Deliverables: [ ] Standard [ ] CLP-like [ ] NJ-Reduced [ ] NJ-Full [ ] (other)
EDDs Required? [ ] If yes, format type:
DOD Criteria Required?

SDWA Forms? yes [ ] yes [ ] yes [ ] yes [ ] — Other — PWSID
State Samples Collected In? MD [ ] NJ [ ] NY [x] PA [ ]

Receipt Information (completed by Sample...)
Performed by: KJ (INI/AL/S/R)
Cooler Temp: 4
Therm. ID: 7426
No. of Coolers:
Notes:

Correct containers? Y / N
Correct sample volume? Y / N
Correct preservation? Y / N
Headspace/Volatiles? Y / N
Circle appropriate Y or N.

Custody seals Present? Y / N
(if present) Seals intact? Y / N
Received on Ice? Y / N
COC/Labels complete/accurate? Y / N
Container in good condition? Y / N

ALSI FIELD SERVICES: [ ] Pickup [ ] Labor [ ] Composite Sampling [ ] Rental Equipment [ ] Other:

* G=Grab; C=Composite
**Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater
***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY

Rev 08-2008

Air Toxics LTD.
Laboratory Services Since 1989

1/11/2012
Ms. Jennifer Good
H&S Environmental
160 East Main Street #2F

Westborough MA 01581

Project Name: NIRWP GM-38 Bethpage
Project #:
Workorder #: 1112564

Dear Ms. Jennifer Good

The following report includes the data for the above referenced project for sample(s) received on 12/27/2011 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Ausha Scott

Project Manager

Air Toxics LTD.
Laboratory Services Since 1989

WORK ORDER #: 1112564

Work Order Summary

CLIENT:	Ms. Jennifer Good H&S Environmental 160 East Main Street #2F Westborough, MA 01581	**BILL TO:**	Accounts Payable H&S Environmental 160 East Main Street #2F Westborough, MA 01581
PHONE:	508-366-7442	**P.O. #**	11-294
FAX:	508-366-7445	**PROJECT #**	NIRWP GM-38 Bethpage
DATE RECEIVED:	12/27/2011	**CONTACT:**	Ausha Scott
DATE COMPLETED:	01/06/2012		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	NWIRP-GM-38-AIR-VC11-122211	Modified TO-15	3.8 "Hg	5 psi
02A	NWIRP-GM-38-AIR-VC12-122211	Modified TO-15	4.6 "Hg	5 psi
03A	NWIRP-GM-38-AIR-VC23-122211	Modified TO-15	4.0 "Hg	5 psi
04A	NWIRP-GM-38-AIR-VCES-122211-01	Modified TO-15	5.0 "Hg	5 psi
05A	NWIRP-GM-38-AIR-VCES-122211-02	Modified TO-15	4.4 "Hg	5 psi
06A	Lab Blank	Modified TO-15	NA	NA
07A	CCV	Modified TO-15	NA	NA
08A	LCS	Modified TO-15	NA	NA
08AA	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Linda L. Truman DATE: 01/11/12

Laboratory Director

Certfication numbers: AZ Licensure AZ0719, CA NELAP - 02110CA, LA NELAP - 02089, NY NELAP - 11291, TX NELAP - T104704434-11-3, UT NELAP -CA009332011-1, WA NELAP - C935
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act, Accreditation number: E87680, Effective date: 07/01/11 , Expiration date: 06/30/12.
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
EPA Method TO-15
H&S Environmental
Workorder# 1112564

Five 6 Liter Summa Canister samples were received on December 27, 2011. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

As per project specific client request the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (0.2 ppbv for compounds reported at 0.5 ppbv) may be false positives.

Dilution was performed on sample NWIRP-GM-38-AIR-VC11-122211 due to the presence of high level target species.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the reporting limit.
UJ- Non-detected compound associated with low bias in the CCV and/or LCS.
N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

EPA METHOD TO-15 GC/MS FULL SCAN
NIRWP GM-38 Bethpage

Client ID:	NWIRP-GM-38-AIR-VC11-122211		
Lab ID:	1112564-01A	**Date/Time Analyzed:**	12/28/11 06:52 PM
Date/Time Collecte	12/22/11 01:00 PM	**Dilution Factor:**	4.25
Media:	6 Liter Summa Canister	**Instrument/Filename:**	msdm.i / m122811

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,2-Trichloroethane	79-00-5	1.3	3.7	12	3.8 J
1,2-Dichloroethane	107-06-2	0.95	2.8	8.6	4.0 J
1,2-Dichloroethene (Total of cis/trans)	540-59-0	NA	NA	8.4	500
cis-1,2-Dichloroethene	156-59-2	1.0	2.7	8.4	490
Tetrachloroethene	127-18-4	1.8	4.6	14	1300
Toluene	108-88-3	0.39	2.6	8.0	7.7 J
Total Xylenes	9999-9999-015	NA	NA	9.2	16
trans-1,2-Dichloroethene	156-60-5	1.2	2.7	8.4	7.6 J
Trichloroethene	79-01-6	1.6	3.6	11	3300
Vinyl Chloride	75-01-4	0.67	1.7	5.4	28

J = Estimated value.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	61-141	84
4-Bromofluorobenzene	460-00-4	75-126	101
Toluene-d8	2037-26-5	74-121	85

EPA METHOD TO-15 GC/MS FULL SCAN
NIRWP GM-38 Bethpage

Client ID:	NWIRP-GM-38-AIR-VC12-122211		
Lab ID:	1112564-02A	**Date/Time Analyzed:**	12/28/11 07:29 PM
Date/Time Collecte	12/22/11 01:00 PM	**Dilution Factor:**	1.58
Media:	6 Liter Summa Canister	**Instrument/Filename:**	msdm.i / m122812

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,2-Trichloroethane	79-00-5	0.49	1.4	4.3	Not Detected U
1,2-Dichloroethane	107-06-2	0.35	1.0	3.2	0.82 J
1,2-Dichloroethene (Total of cis/trans)	540-59-0	NA	NA	3.1	420
cis-1,2-Dichloroethene	156-59-2	0.38	1.0	3.1	420
Tetrachloroethene	127-18-4	0.66	1.7	5.4	2.6 J
Toluene	108-88-3	0.14	0.95	3.0	0.74 J
Total Xylenes	9999-9999-015	NA	NA	3.4	Not Detected U
trans-1,2-Dichloroethene	156-60-5	0.46	1.0	3.1	7.7
Trichloroethene	79-01-6	0.61	1.4	4.2	780
Vinyl Chloride	75-01-4	0.25	0.65	2.0	29

J = Estimated value.
U = The analyte was analyzed for, but not detected. The associated numerical value is at or below the MDL.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	61-141	82
4-Bromofluorobenzene	460-00-4	75-126	101
Toluene-d8	2037-26-5	74-121	84

EPA METHOD TO-15 GC/MS FULL SCAN
NIRWP GM-38 Bethpage

Client ID:	NWIRP-GM-38-AIR-VC23-122211		
Lab ID:	1112564-03A	**Date/Time Analyzed:**	12/28/11 08:07 PM
Date/Time Collecte	12/22/11 01:00 PM	**Dilution Factor:**	1.55
Media:	6 Liter Summa Canister	**Instrument/Filename:**	msdm.i / m122813

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,2-Trichloroethane	79-00-5	0.48	1.4	4.2	Not Detected U
1,2-Dichloroethane	107-06-2	0.35	1.0	3.1	0.95 J
1,2-Dichloroethene (Total of cis/trans)	540-59-0	NA	NA	3.1	460
cis-1,2-Dichloroethene	156-59-2	0.37	0.98	3.1	450
Tetrachloroethene	127-18-4	0.65	1.7	5.2	6.3
Toluene	108-88-3	0.14	0.93	2.9	0.91 J
Total Xylenes	9999-9999-015	NA	NA	3.4	1.1 J
trans-1,2-Dichloroethene	156-60-5	0.45	0.98	3.1	7.3
Trichloroethene	79-01-6	0.60	1.3	4.2	31
Vinyl Chloride	75-01-4	0.24	0.63	2.0	28

J = Estimated value.
U = The analyte was analyzed for, but not detected. The associated numerical value is at or below the MDL.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	61-141	82
4-Bromofluorobenzene	460-00-4	75-126	102
Toluene-d8	2037-26-5	74-121	84

EPA METHOD TO-15 GC/MS FULL SCAN
NIRWP GM-38 Bethpage

Client ID:	NWIRP-GM-38-AIR-VCES-122211-01		
Lab ID:	1112564-04A	**Date/Time Analyzed:**	12/28/11 08:44 PM
Date/Time Collecte	12/22/11 01:00 PM	**Dilution Factor:**	1.61
Media:	6 Liter Summa Canister	**Instrument/Filename:**	msdm.i / m122814

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,2-Trichloroethane	79-00-5	0.50	1.4	4.4	Not Detected U
1,2-Dichloroethane	107-06-2	0.36	1.0	3.2	0.93 J
1,2-Dichloroethene (Total of cis/trans)	540-59-0	NA	NA	3.2	10
cis-1,2-Dichloroethene	156-59-2	0.39	1.0	3.2	10
Tetrachloroethene	127-18-4	0.68	1.7	5.5	0.77 J
Toluene	108-88-3	0.15	0.97	3.0	0.51 J
Total Xylenes	9999-9999-015	NA	NA	3.5	Not Detected U
trans-1,2-Dichloroethene	156-60-5	0.47	1.0	3.2	Not Detected U
Trichloroethene	79-01-6	0.62	1.4	4.3	2.8 J
Vinyl Chloride	75-01-4	0.25	0.66	2.0	1.1 J

J = Estimated value.
U = The analyte was analyzed for, but not detected. The associated numerical value is at or below the MDL.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	61-141	81
4-Bromofluorobenzene	460-00-4	75-126	100
Toluene-d8	2037-26-5	74-121	84

EPA METHOD TO-15 GC/MS FULL SCAN
NIRWP GM-38 Bethpage

Client ID:	NWIRP-GM-38-AIR-VCES-122211-02		
Lab ID:	1112564-05A	**Date/Time Analyzed:**	12/28/11 09:22 PM
Date/Time Collecte	12/22/11 01:30 PM	**Dilution Factor:**	1.57
Media:	6 Liter Summa Canister	**Instrument/Filename:**	msdm.i / m122815

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,2-Trichloroethane	79-00-5	0.48	1.4	4.3	Not Detected U
1,2-Dichloroethane	107-06-2	0.35	1.0	3.2	0.94 J
1,2-Dichloroethene (Total of cis/trans)	540-59-0	NA	NA	3.1	12
cis-1,2-Dichloroethene	156-59-2	0.38	1.0	3.1	12
Tetrachloroethene	127-18-4	0.66	1.7	5.3	1.4 J
Toluene	108-88-3	0.14	0.95	3.0	0.85 J
Total Xylenes	9999-9999-015	NA	NA	3.4	Not Detected U
trans-1,2-Dichloroethene	156-60-5	0.46	1.0	3.1	Not Detected U
Trichloroethene	79-01-6	0.60	1.3	4.2	5.5
Vinyl Chloride	75-01-4	0.25	0.64	2.0	0.31 J

J = Estimated value.
U = The analyte was analyzed for, but not detected. The associated numerical value is at or below the MDL.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	61-141	83
4-Bromofluorobenzene	460-00-4	75-126	101
Toluene-d8	2037-26-5	74-121	84

EPA METHOD TO-15 GC/MS FULL SCAN
NIRWP GM-38 Bethpage

Client ID:	Lab Blank		
Lab ID:	1112564-06A	**Date/Time Analyzed:**	12/28/11 03:13 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msdm.i / m122807c

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,2-Trichloroethane	79-00-5	0.31	0.87	2.7	0.36 J
1,2-Dichloroethane	107-06-2	0.22	0.65	2.0	0.34 J
1,2-Dichloroethene (Total of cis/trans)	540-59-0	NA	NA	2.0	0.30 J
cis-1,2-Dichloroethene	156-59-2	0.24	0.63	2.0	Not Detected U
Tetrachloroethene	127-18-4	0.42	1.1	3.4	0.44 J
Toluene	108-88-3	0.092	0.60	1.9	0.43 J
Total Xylenes	9999-9999-015	NA	NA	2.2	Not Detected U
trans-1,2-Dichloroethene	156-60-5	0.29	0.63	2.0	0.30 J
Trichloroethene	79-01-6	0.38	0.86	2.7	0.46 J
Vinyl Chloride	75-01-4	0.16	0.41	1.3	0.21 J

J = Estimated value.
U = The analyte was analyzed for, but not detected. The associated numerical value is at or below the MDL.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	61-141	80
4-Bromofluorobenzene	460-00-4	75-126	102
Toluene-d8	2037-26-5	74-121	85

EPA METHOD TO-15 GC/MS FULL SCAN
NIRWP GM-38 Bethpage

Client ID:	CCV		
Lab ID:	1112564-07A	**Date/Time Analyzed:**	12/28/11 12:06 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msdm.i / m122802

Compound	CAS#	%Recovery
1,1,2-Trichloroethane	79-00-5	95
1,2-Dichloroethane	107-06-2	93
1,2-Dichloroethene (Total of cis/trans)	540-59-0	96
cis-1,2-Dichloroethene	156-59-2	95
Tetrachloroethene	127-18-4	102
Toluene	108-88-3	94
Total Xylenes	9999-9999-015	98
trans-1,2-Dichloroethene	156-60-5	98
Trichloroethene	79-01-6	96
Vinyl Chloride	75-01-4	83

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	61-141	80
4-Bromofluorobenzene	460-00-4	75-126	105
Toluene-d8	2037-26-5	74-121	86

EPA METHOD TO-15 GC/MS FULL SCAN
NIRWP GM-38 Bethpage

Client ID:	LCS		
Lab ID:	1112564-08A	**Date/Time Analyzed:**	12/28/11 12:43 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msdm.i / m122803a

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	
1,1,2-Trichloroethane	79-00-5			88
1,2-Dichloroethane	107-06-2			88
1,2-Dichloroethene (Total of cis/trans)	540-59-0			97
cis-1,2-Dichloroethene	156-59-2			91
Tetrachloroethene	127-18-4			94
Toluene	108-88-3			87
Total Xylenes	9999-9999-015			91
trans-1,2-Dichloroethene	156-60-5			103
Trichloroethene	79-01-6			92
Vinyl Chloride	75-01-4			79

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	61-141	80
4-Bromofluorobenzene	460-00-4	75-126	105
Toluene-d8	2037-26-5	74-121	87

* % Recovery is calculated using unrounded analytical results.

EPA METHOD TO-15 GC/MS FULL SCAN
NIRWP GM-38 Bethpage

Client ID:	LCSD		
Lab ID:	1112564-08AA	**Date/Time Analyzed:**	12/28/11 01:20 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msdm.i / m122804a

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	
1,1,2-Trichloroethane	79-00-5			88
1,2-Dichloroethane	107-06-2			86
1,2-Dichloroethene (Total of cis/trans)	540-59-0			95
cis-1,2-Dichloroethene	156-59-2			89
Tetrachloroethene	127-18-4			93
Toluene	108-88-3			87
Total Xylenes	9999-9999-015			92
trans-1,2-Dichloroethene	156-60-5			101
Trichloroethene	79-01-6			90
Vinyl Chloride	75-01-4			78

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	61-141	79
4-Bromofluorobenzene	460-00-4	75-126	104
Toluene-d8	2037-26-5	74-121	86

* % Recovery is calculated using unrounded analytical results.

November 2011 LTM Data

ALS Environmental

34 Dogwood Lane ■ Middletown, PA 17057 ■ Phone: 717-944-5541 ■ Fax: 717-944-1430 ■ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: CT PH-0224 , DE ID 11 , GA 914 , MA PA0102 , MD 128 , LA 04162 , VA 421 , WY EPA Region 8 , WV 343

December 9, 2011

Ms. Jennifer Good
H & S Environmental
160 East Main Street, 2F
Westborough, MA 01581

Certificate of Analysis

Project Name:	**NWIRP Bethpage - GM-38**	Workorder:	**9940528**
Purchase Order:	**2031-005**	Workorder ID:	**HNW033|NWIRP Bethpage - GM-38**

Dear Ms. Good,

Enclosed are the analytical results for samples received by the laboratory on Friday, December 02, 2011.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Tonya Hironimus (Project Coordinator) or Anna G Milliken (Technical Manager) at (717) 944-5541.

Please visit us at www.analyticallab.com for a listing of ALS' NELAP accreditations and Scope of Work, as well as other links to Water Quality documentation on the internet.

This laboratory report may not be reproduced, except in full, without the written approval of ALS Environmental.

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

Anna G Milliken
Technical Manager

ALS Environmental

34 Dogwood Lane ■ Middletown, PA 17057 ■ Phone: 717-944-5541 ■ Fax: 717-944-1430 ■ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: CT PH-0224 , DE ID 11 , GA 914 , MA PA0102 , MD 128 , LA 04162 , VA 421 , WY EPA Region 8 , WV 343

SAMPLE SUMMARY

Workorder: 9940528 HNW033|NWIRP Bethpage - GM-38 Discard Date: 02/07/2012

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
9940528001	NWIRP-GM-38-GW-RW1-MW1-113011	Water	11/30/11 10:40	12/2/11 09:40	Customer
9940528002	NWIRP-GM-38-GW-RW1-MW3-113011	Water	11/30/11 09:35	12/2/11 09:40	Customer
9940528003	NWIRP-GM-38-GW-RW2-MW1-112911	Water	11/29/11 14:50	12/2/11 09:40	Customer
9940528004	NWIRP-GM-38-GW-RW3-MW1-113011	Water	11/30/11 12:05	12/2/11 09:40	Customer
9940528005	NWIRP-GM-38-GW-RW3-MW2-113011	Water	11/30/11 14:00	12/2/11 09:40	Customer
9940528006	NWIRP-GM-38-GW-RW3-MW3-112911	Water	11/29/11 16:40	12/2/11 09:40	Customer
9940528007	NWIRP-GM-38-GW-RW3-MW4-112911	Water	11/29/11 16:05	12/2/11 09:40	Customer
9940528008	NWIRP-GM-38-GW-TP1-113011	Water	11/30/11 08:45	12/2/11 09:40	Customer
9940528009	NWIRP-GM-38-GW-RW3-MW1-113011D	Water	11/30/11 00:00	12/2/11 09:40	Customer
9940528010	NWIRP-GM-38-FB-113011	Water	11/30/11 15:00	12/2/11 09:40	Customer
9940528011	NWIRP-GM-38-TB-113011	Water	12/2/11 09:40	12/2/11 09:40	Customer

Workorder Comments:

Notes

-- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
-- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
-- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
-- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
-- The Chain of Custody document is included as part of this report.
-- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.

Standard Acronyms/Flags

J, B	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference

ALS Environmental

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State Certifications: CT PH-0224 , DE ID 11 , GA 914 , MA PA0102 , MD 128 , LA 04162 , VA 421 , WY EPA Region 8 , WV 343

ANALYTICAL RESULTS

Workorder: 9940528 HNW033|NWIRP Bethpage - GM-38

Lab ID: **9940528001** Date Collected: 11/30/2011 10:40 Matrix: Water

Sample ID: **NWIRP-GM-38-GW-RW1-MW1-113011** Date Received: 12/2/2011 09:40

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr
VOLATILE ORGANICS											
Acrolein	30.0U	ug/L		30.0	30.0	2.4	EPA 624		12/5/11 21:34	TMP	A
Acrylonitrile	5.0U	ug/L		5.0	5.0	0.89	EPA 624		12/5/11 21:34	TMP	A
Benzene	1.0U	ug/L		1.0	1.0	0.16	EPA 624		12/5/11 21:34	TMP	A
Bromodichloromethane	1.0U	ug/L		1.0	1.0	0.13	EPA 624		12/5/11 21:34	TMP	A
Bromoform	2.0U	ug/L		2.0	2.0	0.21	EPA 624		12/5/11 21:34	TMP	A
Bromomethane	2.0U	ug/L		2.0	2.0	0.27	EPA 624		12/5/11 21:34	TMP	A
Carbon Tetrachloride	1.0U	ug/L		1.0	1.0	0.24	EPA 624		12/5/11 21:34	TMP	A
Chlorobenzene	1.0U	ug/L		1.0	1.0	0.11	EPA 624		12/5/11 21:34	TMP	A
Chlorodibromomethane	1.0U	ug/L		1.0	1.0	0.22	EPA 624		12/5/11 21:34	TMP	A
Chloroethane	1.0U	ug/L		1.0	1.0	0.24	EPA 624		12/5/11 21:34	TMP	A
2-Chloroethylvinyl ether	2.0U	ug/L		2.0	2.0	0.28	EPA 624		12/5/11 21:34	TMP	A
Chloroform	1.0U	ug/L		1.0	1.0	0.15	EPA 624		12/5/11 21:34	TMP	A
Chloromethane	1.0U	ug/L		1.0	1.0	0.25	EPA 624		12/5/11 21:34	TMP	A
1,2-Dichlorobenzene	1.0U	ug/L		1.0	1.0	0.20	EPA 624		12/5/11 21:34	TMP	A
1,3-Dichlorobenzene	1.0U	ug/L		1.0	1.0	0.14	EPA 624		12/5/11 21:34	TMP	A
1,4-Dichlorobenzene	1.0U	ug/L		1.0	1.0	0.15	EPA 624		12/5/11 21:34	TMP	A
1,1-Dichloroethane	4.1	ug/L		1.0	1.0	0.19	EPA 624		12/5/11 21:34	TMP	A
1,2-Dichloroethane	1.0U	ug/L		1.0	1.0	0.22	EPA 624		12/5/11 21:34	TMP	A
1,1-Dichloroethene	2.1	ug/L		1.0	1.0	0.17	EPA 624		12/5/11 21:34	TMP	A
cis-1,2-Dichloroethene	132	ug/L		1.0	1.0	0.26	EPA 624		12/5/11 21:34	TMP	A
trans-1,2-Dichloroethene	1.7	ug/L		1.0	1.0	0.12	EPA 624		12/5/11 21:34	TMP	A
1,2-Dichloropropane	1.0U	ug/L		1.0	1.0	0.24	EPA 624		12/5/11 21:34	TMP	A
cis-1,3-Dichloropropene	1.0U	ug/L		1.0	1.0	0.12	EPA 624		12/5/11 21:34	TMP	A
trans-1,3-Dichloropropene	1.0U	ug/L		1.0	1.0	0.14	EPA 624		12/5/11 21:34	TMP	A
1,3-Dichloropropene, Total	1.0U	ug/L		1.0	1.0	0.19	EPA 624		12/5/11 21:34	TMP	A
Ethylbenzene	1.0U	ug/L		1.0	1.0	0.16	EPA 624		12/5/11 21:34	TMP	A
Methylene Chloride	1.0U	ug/L		1.0	1.0	0.32	EPA 624		12/5/11 21:34	TMP	A
1,1,2,2-Tetrachloroethane	1.0U	ug/L		1.0	1.0	0.22	EPA 624		12/5/11 21:34	TMP	A
Tetrachloroethene	1.0U	ug/L		1.0	1.0	0.26	EPA 624		12/5/11 21:34	TMP	A
Toluene	1.0U	ug/L		1.0	1.0	0.12	EPA 624		12/5/11 21:34	TMP	A
1,1,1-Trichloroethane	0.66J	ug/L		1.0	1.0	0.27	EPA 624		12/5/11 21:34	TMP	A
1,1,2-Trichloroethane	0.33J	ug/L		1.0	1.0	0.30	EPA 624		12/5/11 21:34	TMP	A
Trichloroethene	84.5	ug/L		1.0	1.0	0.21	EPA 624		12/5/11 21:34	TMP	A
Trichlorofluoromethane	1.0U	ug/L		1.0	1.0	0.21	EPA 624		12/5/11 21:34	TMP	A
Vinyl Chloride	2.0U	ug/L		2.0	2.0	0.24	EPA 624		12/5/11 21:34	TMP	A
Surrogate Recoveries	*Results*	*Units*	*Footnotes*	*Limits*			*Method*	*Prepared*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	97.3	%		72-142			EPA 624		12/5/11 21:34	TMP	A
4-Bromofluorobenzene (S)	86.8	%		73-119			EPA 624		12/5/11 21:34	TMP	A
Dibromofluoromethane (S)	93.6	%		74-132			EPA 624		12/5/11 21:34	TMP	A
Toluene-d8 (S)	105	%		75-133			EPA 624		12/5/11 21:34	TMP	A

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State Certifications: CT PH-0224 , DE ID 11 , GA 914 , MA PA0102 , MD 128 , LA 04162 , VA 421 , WY EPA Region 8 , WV 343

ANALYTICAL RESULTS

Workorder: 9940528 HNW033|NWIRP Bethpage - GM-38

Lab ID: **9940528001** Date Collected: 11/30/2011 10:40 Matrix: Water

Sample ID: **NWIRP-GM-38-GW-RW1-MW1-113011** Date Received: 12/2/2011 09:40

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr
WET CHEMISTRY											
Total Suspended Solids	11	mg/L		5	5	5	SM20-2540 D		12/5/11 10:10	CSB	E
METALS											
Mercury, Total	0.00050 U	mg/L		0.00050	0.00050	0.00016	EPA 245.1	12/9/11	12/9/11 12:09	MNP	D1

Sample Comments:

Anna G Milliken
Technical Manager

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ANALYTICAL RESULTS

Workorder: 9940528 HNW033|NWIRP Bethpage - GM-38

Lab ID: **9940528002** Date Collected: 11/30/2011 09:35 Matrix: Water

Sample ID: **NWIRP-GM-38-GW-RW1-MW3-113011** Date Received: 12/2/2011 09:40

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr
VOLATILE ORGANICS											
Acrolein	30.0U	ug/L		30.0	30.0	2.4	EPA 624		12/5/11 22:08	TMP	A
Acrylonitrile	5.0U	ug/L		5.0	5.0	0.89	EPA 624		12/5/11 22:08	TMP	A
Benzene	1.0U	ug/L		1.0	1.0	0.16	EPA 624		12/5/11 22:08	TMP	A
Bromodichloromethane	1.0U	ug/L		1.0	1.0	0.13	EPA 624		12/5/11 22:08	TMP	A
Bromoform	2.0U	ug/L		2.0	2.0	0.21	EPA 624		12/5/11 22:08	TMP	A
Bromomethane	2.0U	ug/L		2.0	2.0	0.27	EPA 624		12/5/11 22:08	TMP	A
Carbon Tetrachloride	1.0U	ug/L		1.0	1.0	0.24	EPA 624		12/5/11 22:08	TMP	A
Chlorobenzene	1.0U	ug/L		1.0	1.0	0.11	EPA 624		12/5/11 22:08	TMP	A
Chlorodibromomethane	1.0U	ug/L		1.0	1.0	0.22	EPA 624		12/5/11 22:08	TMP	A
Chloroethane	1.0U	ug/L		1.0	1.0	0.24	EPA 624		12/5/11 22:08	TMP	A
2-Chloroethylvinyl ether	2.0U	ug/L		2.0	2.0	0.28	EPA 624		12/5/11 22:08	TMP	A
Chloroform	1.0U	ug/L		1.0	1.0	0.15	EPA 624		12/5/11 22:08	TMP	A
Chloromethane	1.0U	ug/L		1.0	1.0	0.25	EPA 624		12/5/11 22:08	TMP	A
1,2-Dichlorobenzene	1.0U	ug/L		1.0	1.0	0.20	EPA 624		12/5/11 22:08	TMP	A
1,3-Dichlorobenzene	1.0U	ug/L		1.0	1.0	0.14	EPA 624		12/5/11 22:08	TMP	A
1,4-Dichlorobenzene	1.0U	ug/L		1.0	1.0	0.15	EPA 624		12/5/11 22:08	TMP	A
1,1-Dichloroethane	2.1	ug/L		1.0	1.0	0.19	EPA 624		12/5/11 22:08	TMP	A
1,2-Dichloroethane	1.0U	ug/L		1.0	1.0	0.22	EPA 624		12/5/11 22:08	TMP	A
1,1-Dichloroethene	1.0U	ug/L		1.0	1.0	0.17	EPA 624		12/5/11 22:08	TMP	A
cis-1,2-Dichloroethene	0.55J	ug/L		1.0	1.0	0.26	EPA 624		12/5/11 22:08	TMP	A
trans-1,2-Dichloroethene	1.0U	ug/L		1.0	1.0	0.12	EPA 624		12/5/11 22:08	TMP	A
1,2-Dichloropropane	1.0U	ug/L		1.0	1.0	0.24	EPA 624		12/5/11 22:08	TMP	A
cis-1,3-Dichloropropene	1.0U	ug/L		1.0	1.0	0.12	EPA 624		12/5/11 22:08	TMP	A
trans-1,3-Dichloropropene	1.0U	ug/L		1.0	1.0	0.14	EPA 624		12/5/11 22:08	TMP	A
1,3-Dichloropropene, Total	1.0U	ug/L		1.0	1.0	0.19	EPA 624		12/5/11 22:08	TMP	A
Ethylbenzene	1.0U	ug/L		1.0	1.0	0.16	EPA 624		12/5/11 22:08	TMP	A
Methylene Chloride	1.0U	ug/L		1.0	1.0	0.32	EPA 624		12/5/11 22:08	TMP	A
1,1,2,2-Tetrachloroethane	1.0U	ug/L		1.0	1.0	0.22	EPA 624		12/5/11 22:08	TMP	A
Tetrachloroethene	1.0U	ug/L		1.0	1.0	0.26	EPA 624		12/5/11 22:08	TMP	A
Toluene	1.0U	ug/L		1.0	1.0	0.12	EPA 624		12/5/11 22:08	TMP	A
1,1,1-Trichloroethane	1.0U	ug/L		1.0	1.0	0.27	EPA 624		12/5/11 22:08	TMP	A
1,1,2-Trichloroethane	0.63J	ug/L		1.0	1.0	0.30	EPA 624		12/5/11 22:08	TMP	A
Trichloroethene	1.0J	ug/L		1.0	1.0	0.21	EPA 624		12/5/11 22:08	TMP	A
Trichlorofluoromethane	1.0U	ug/L		1.0	1.0	0.21	EPA 624		12/5/11 22:08	TMP	A
Vinyl Chloride	2.0U	ug/L		2.0	2.0	0.24	EPA 624		12/5/11 22:08	TMP	A
Surrogate Recoveries	*Results*	*Units*	*Footnotes*	*Limits*			*Method*	*Prepared*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	98.3	%		72-142			EPA 624		12/5/11 22:08	TMP	A
4-Bromofluorobenzene (S)	88.2	%		73-119			EPA 624		12/5/11 22:08	TMP	A
Dibromofluoromethane (S)	92.8	%		74-132			EPA 624		12/5/11 22:08	TMP	A
Toluene-d8 (S)	104	%		75-133			EPA 624		12/5/11 22:08	TMP	A

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ANALYTICAL RESULTS

Workorder: 9940528 HNW033|NWIRP Bethpage - GM-38

Lab ID: **9940528002** Date Collected: 11/30/2011 09:35 Matrix: Water

Sample ID: **NWIRP-GM-38-GW-RW1-MW3-113011** Date Received: 12/2/2011 09:40

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr
WET CHEMISTRY											
Total Suspended Solids	5U	mg/L		5	5	5	SM20-2540 D		12/5/11 10:10	CSB	E
METALS											
Mercury, Total	0.00050 U	mg/L		0.00050	0.00050	0.00016	EPA 245.1	12/9/11	12/9/11 12:10	MNP	D1

Sample Comments:

Anna G Milliken
Technical Manager

ALS Environmental

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ANALYTICAL RESULTS

Workorder: 9940528 HNW033|NWIRP Bethpage - GM-38

Lab ID: **9940528003** Date Collected: 11/29/2011 14:50 Matrix: Water

Sample ID: **NWIRP-GM-38-GW-RW2-MW1-112911** Date Received: 12/2/2011 09:40

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr
VOLATILE ORGANICS											
Acrolein	30.0U	ug/L		30.0	30.0	2.4	EPA 624		12/5/11 22:41	TMP	A
Acrylonitrile	5.0U	ug/L		5.0	5.0	0.89	EPA 624		12/5/11 22:41	TMP	A
Benzene	0.27J	ug/L		1.0	1.0	0.16	EPA 624		12/5/11 22:41	TMP	A
Bromodichloromethane	1.0U	ug/L		1.0	1.0	0.13	EPA 624		12/5/11 22:41	TMP	A
Bromoform	2.0U	ug/L		2.0	2.0	0.21	EPA 624		12/5/11 22:41	TMP	A
Bromomethane	2.0U	ug/L		2.0	2.0	0.27	EPA 624		12/5/11 22:41	TMP	A
Carbon Tetrachloride	1.0U	ug/L		1.0	1.0	0.24	EPA 624		12/5/11 22:41	TMP	A
Chlorobenzene	1.0U	ug/L		1.0	1.0	0.11	EPA 624		12/5/11 22:41	TMP	A
Chlorodibromomethane	1.0U	ug/L		1.0	1.0	0.22	EPA 624		12/5/11 22:41	TMP	A
Chloroethane	1.0U	ug/L		1.0	1.0	0.24	EPA 624		12/5/11 22:41	TMP	A
2-Chloroethylvinyl ether	2.0U	ug/L		2.0	2.0	0.28	EPA 624		12/5/11 22:41	TMP	A
Chloroform	1.0U	ug/L		1.0	1.0	0.15	EPA 624		12/5/11 22:41	TMP	A
Chloromethane	1.0U	ug/L		1.0	1.0	0.25	EPA 624		12/5/11 22:41	TMP	A
1,2-Dichlorobenzene	1.0U	ug/L		1.0	1.0	0.20	EPA 624		12/5/11 22:41	TMP	A
1,3-Dichlorobenzene	1.0U	ug/L		1.0	1.0	0.14	EPA 624		12/5/11 22:41	TMP	A
1,4-Dichlorobenzene	1.0U	ug/L		1.0	1.0	0.15	EPA 624		12/5/11 22:41	TMP	A
1,1-Dichloroethane	1.0U	ug/L		1.0	1.0	0.19	EPA 624		12/5/11 22:41	TMP	A
1,2-Dichloroethane	1.0U	ug/L		1.0	1.0	0.22	EPA 624		12/5/11 22:41	TMP	A
1,1-Dichloroethene	1.0U	ug/L		1.0	1.0	0.17	EPA 624		12/5/11 22:41	TMP	A
cis-1,2-Dichloroethene	0.39J	ug/L		1.0	1.0	0.26	EPA 624		12/5/11 22:41	TMP	A
trans-1,2-Dichloroethene	1.0U	ug/L		1.0	1.0	0.12	EPA 624		12/5/11 22:41	TMP	A
1,2-Dichloropropane	1.0U	ug/L		1.0	1.0	0.24	EPA 624		12/5/11 22:41	TMP	A
cis-1,3-Dichloropropene	1.0U	ug/L		1.0	1.0	0.12	EPA 624		12/5/11 22:41	TMP	A
trans-1,3-Dichloropropene	1.0U	ug/L		1.0	1.0	0.14	EPA 624		12/5/11 22:41	TMP	A
1,3-Dichloropropene, Total	1.0U	ug/L		1.0	1.0	0.19	EPA 624		12/5/11 22:41	TMP	A
Ethylbenzene	1.0U	ug/L		1.0	1.0	0.16	EPA 624		12/5/11 22:41	TMP	A
Methylene Chloride	1.0U	ug/L		1.0	1.0	0.32	EPA 624		12/5/11 22:41	TMP	A
1,1,2,2-Tetrachloroethane	1.0U	ug/L		1.0	1.0	0.22	EPA 624		12/5/11 22:41	TMP	A
Tetrachloroethene	1.0U	ug/L		1.0	1.0	0.26	EPA 624		12/5/11 22:41	TMP	A
Toluene	0.29J	ug/L		1.0	1.0	0.12	EPA 624		12/5/11 22:41	TMP	A
1,1,1-Trichloroethane	1.0U	ug/L		1.0	1.0	0.27	EPA 624		12/5/11 22:41	TMP	A
1,1,2-Trichloroethane	1.0U	ug/L		1.0	1.0	0.30	EPA 624		12/5/11 22:41	TMP	A
Trichloroethene	0.67J	ug/L		1.0	1.0	0.21	EPA 624		12/5/11 22:41	TMP	A
Trichlorofluoromethane	1.0U	ug/L		1.0	1.0	0.21	EPA 624		12/5/11 22:41	TMP	A
Vinyl Chloride	2.0U	ug/L		2.0	2.0	0.24	EPA 624		12/5/11 22:41	TMP	A
Surrogate Recoveries	*Results*	*Units*	*Footnotes*	*Limits*			*Method*	*Prepared*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	96.2	%		72-142			EPA 624		12/5/11 22:41	TMP	A
4-Bromofluorobenzene (S)	86.4	%		73-119			EPA 624		12/5/11 22:41	TMP	A
Dibromofluoromethane (S)	93.7	%		74-132			EPA 624		12/5/11 22:41	TMP	A
Toluene-d8 (S)	103	%		75-133			EPA 624		12/5/11 22:41	TMP	A

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State Certifications: CT PH-0224 , DE ID 11 , GA 914 , MA PA0102 , MD 128 , LA 04162 , VA 421 , WY EPA Region 8 , WV 343

ANALYTICAL RESULTS

Workorder: 9940528 HNW033|NWIRP Bethpage - GM-38

Lab ID: **9940528003** Date Collected: 11/29/2011 14:50 Matrix: Water

Sample ID: **NWIRP-GM-38-GW-RW2-MW1-112911** Date Received: 12/2/2011 09:40

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr
WET CHEMISTRY											
Total Suspended Solids	36	mg/L		5	5	5	SM20-2540 D		12/5/11 10:10	CSB	E
METALS											
Mercury, Total	0.00050 U	mg/L		0.00050	0.00050	0.00016	EPA 245.1	12/9/11	12/9/11 12:11	MNP	D1

Sample Comments:

Anna G Milliken
Technical Manager

ALS Environmental

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State Certifications: CT PH-0224 , DE ID 11 , GA 914 , MA PA0102 , MD 128 , LA 04162 , VA 421 , WY EPA Region 8 , WV 343

ANALYTICAL RESULTS

Workorder: 9940528 HNW033|NWIRP Bethpage - GM-38

Lab ID: **9940528004** Date Collected: 11/30/2011 12:05 Matrix: Water

Sample ID: **NWIRP-GM-38-GW-RW3-MW1-113011** Date Received: 12/2/2011 09:40

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr
VOLATILE ORGANICS											
Acrolein	30.0U	ug/L		30.0	30.0	2.4	EPA 624		12/5/11 23:14	TMP	A
Acrylonitrile	5.0U	ug/L		5.0	5.0	0.89	EPA 624		12/5/11 23:14	TMP	A
Benzene	1.0U	ug/L		1.0	1.0	0.16	EPA 624		12/5/11 23:14	TMP	A
Bromodichloromethane	1.0U	ug/L		1.0	1.0	0.13	EPA 624		12/5/11 23:14	TMP	A
Bromoform	2.0U	ug/L		2.0	2.0	0.21	EPA 624		12/5/11 23:14	TMP	A
Bromomethane	2.0U	ug/L		2.0	2.0	0.27	EPA 624		12/5/11 23:14	TMP	A
Carbon Tetrachloride	1.0U	ug/L		1.0	1.0	0.24	EPA 624		12/5/11 23:14	TMP	A
Chlorobenzene	1.0U	ug/L		1.0	1.0	0.11	EPA 624		12/5/11 23:14	TMP	A
Chlorodibromomethane	1.0U	ug/L		1.0	1.0	0.22	EPA 624		12/5/11 23:14	TMP	A
Chloroethane	1.0U	ug/L		1.0	1.0	0.24	EPA 624		12/5/11 23:14	TMP	A
2-Chloroethylvinyl ether	2.0U	ug/L	1,2	2.0	2.0	0.28	EPA 624		12/5/11 23:14	TMP	A
Chloroform	1.0U	ug/L		1.0	1.0	0.15	EPA 624		12/5/11 23:14	TMP	A
Chloromethane	1.0U	ug/L		1.0	1.0	0.25	EPA 624		12/5/11 23:14	TMP	A
1,2-Dichlorobenzene	1.0U	ug/L		1.0	1.0	0.20	EPA 624		12/5/11 23:14	TMP	A
1,3-Dichlorobenzene	1.0U	ug/L		1.0	1.0	0.14	EPA 624		12/5/11 23:14	TMP	A
1,4-Dichlorobenzene	1.0U	ug/L		1.0	1.0	0.15	EPA 624		12/5/11 23:14	TMP	A
1,1-Dichloroethane	0.96J	ug/L		1.0	1.0	0.19	EPA 624		12/5/11 23:14	TMP	A
1,2-Dichloroethane	1.0U	ug/L		1.0	1.0	0.22	EPA 624		12/5/11 23:14	TMP	A
1,1-Dichloroethene	0.64J	ug/L		1.0	1.0	0.17	EPA 624		12/5/11 23:14	TMP	A
cis-1,2-Dichloroethene	0.36J	ug/L		1.0	1.0	0.26	EPA 624		12/5/11 23:14	TMP	A
trans-1,2-Dichloroethene	1.0U	ug/L	3	1.0	1.0	0.12	EPA 624		12/5/11 23:14	TMP	A
1,2-Dichloropropane	1.0U	ug/L		1.0	1.0	0.24	EPA 624		12/5/11 23:14	TMP	A
cis-1,3-Dichloropropene	1.0U	ug/L		1.0	1.0	0.12	EPA 624		12/5/11 23:14	TMP	A
trans-1,3-Dichloropropene	1.0U	ug/L		1.0	1.0	0.14	EPA 624		12/5/11 23:14	TMP	A
1,3-Dichloropropene, Total	1.0U	ug/L		1.0	1.0	0.19	EPA 624		12/5/11 23:14	TMP	A
Ethylbenzene	1.0U	ug/L		1.0	1.0	0.16	EPA 624		12/5/11 23:14	TMP	A
Methylene Chloride	1.0U	ug/L		1.0	1.0	0.32	EPA 624		12/5/11 23:14	TMP	A
1,1,2,2-Tetrachloroethane	1.0U	ug/L		1.0	1.0	0.22	EPA 624		12/5/11 23:14	TMP	A
Tetrachloroethene	1.0	ug/L		1.0	1.0	0.26	EPA 624		12/5/11 23:14	TMP	A
Toluene	1.0U	ug/L		1.0	1.0	0.12	EPA 624		12/5/11 23:14	TMP	A
1,1,1-Trichloroethane	0.59J	ug/L		1.0	1.0	0.27	EPA 624		12/5/11 23:14	TMP	A
1,1,2-Trichloroethane	1.0U	ug/L		1.0	1.0	0.30	EPA 624		12/5/11 23:14	TMP	A
Trichloroethene	51.0	ug/L		1.0	1.0	0.21	EPA 624		12/5/11 23:14	TMP	A
Trichlorofluoromethane	1.0U	ug/L		1.0	1.0	0.21	EPA 624		12/5/11 23:14	TMP	A
Vinyl Chloride	2.0U	ug/L		2.0	2.0	0.24	EPA 624		12/5/11 23:14	TMP	A
Surrogate Recoveries	*Results*	*Units*	*Footnotes*	*Limits*			*Method*	*Prepared*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	97.6	%		72-142			EPA 624		12/5/11 23:14	TMP	A
4-Bromofluorobenzene (S)	87.6	%		73-119			EPA 624		12/5/11 23:14	TMP	A
Dibromofluoromethane (S)	92.8	%		74-132			EPA 624		12/5/11 23:14	TMP	A
Toluene-d8 (S)	102	%		75-133			EPA 624		12/5/11 23:14	TMP	A

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State Certifications: CT PH-0224 , DE ID 11 , GA 914 , MA PA0102 , MD 128 , LA 04162 , VA 421 , WY EPA Region 8 , WV 343

ANALYTICAL RESULTS

Workorder: 9940528 HNW033|NWIRP Bethpage - GM-38

Lab ID: **9940528004** Date Collected: 11/30/2011 12:05 Matrix: Water

Sample ID: **NWIRP-GM-38-GW-RW3-MW1-113011** Date Received: 12/2/2011 09:40

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr
WET CHEMISTRY											
Total Suspended Solids	5U	mg/L		5	5	5	SM20-2540 D		12/5/11 10:10	CSB	M
METALS											
Mercury, Total	0.00050 U	mg/L		0.00050	0.00050	0.00016	EPA 245.1	12/9/11	12/9/11 12:12	MNP	J1

Sample Comments:

Anna G Milliken
Technical Manager

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ANALYTICAL RESULTS

Workorder: 9940528 HNW033|NWIRP Bethpage - GM-38

Lab ID: **9940528005** Date Collected: 11/30/2011 14:00 Matrix: Water

Sample ID: **NWIRP-GM-38-GW-RW3-MW2-113011** Date Received: 12/2/2011 09:40

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr
VOLATILE ORGANICS											
Acrolein	30.0U	ug/L		30.0	30.0	2.4	EPA 624		12/5/11 23:47	TMP	A
Acrylonitrile	5.0U	ug/L		5.0	5.0	0.89	EPA 624		12/5/11 23:47	TMP	A
Benzene	1.0U	ug/L		1.0	1.0	0.16	EPA 624		12/5/11 23:47	TMP	A
Bromodichloromethane	1.0U	ug/L		1.0	1.0	0.13	EPA 624		12/5/11 23:47	TMP	A
Bromoform	2.0U	ug/L		2.0	2.0	0.21	EPA 624		12/5/11 23:47	TMP	A
Bromomethane	2.0U	ug/L		2.0	2.0	0.27	EPA 624		12/5/11 23:47	TMP	A
Carbon Tetrachloride	1.0U	ug/L		1.0	1.0	0.24	EPA 624		12/5/11 23:47	TMP	A
Chlorobenzene	1.0U	ug/L		1.0	1.0	0.11	EPA 624		12/5/11 23:47	TMP	A
Chlorodibromomethane	1.0U	ug/L		1.0	1.0	0.22	EPA 624		12/5/11 23:47	TMP	A
Chloroethane	1.0U	ug/L		1.0	1.0	0.24	EPA 624		12/5/11 23:47	TMP	A
2-Chloroethylvinyl ether	2.0U	ug/L		2.0	2.0	0.28	EPA 624		12/5/11 23:47	TMP	A
Chloroform	1.0U	ug/L		1.0	1.0	0.15	EPA 624		12/5/11 23:47	TMP	A
Chloromethane	1.0U	ug/L		1.0	1.0	0.25	EPA 624		12/5/11 23:47	TMP	A
1,2-Dichlorobenzene	1.0U	ug/L		1.0	1.0	0.20	EPA 624		12/5/11 23:47	TMP	A
1,3-Dichlorobenzene	1.0U	ug/L		1.0	1.0	0.14	EPA 624		12/5/11 23:47	TMP	A
1,4-Dichlorobenzene	1.0U	ug/L		1.0	1.0	0.15	EPA 624		12/5/11 23:47	TMP	A
1,1-Dichloroethane	1.0U	ug/L		1.0	1.0	0.19	EPA 624		12/5/11 23:47	TMP	A
1,2-Dichloroethane	1.0U	ug/L		1.0	1.0	0.22	EPA 624		12/5/11 23:47	TMP	A
1,1-Dichloroethene	0.27J	ug/L		1.0	1.0	0.17	EPA 624		12/5/11 23:47	TMP	A
cis-1,2-Dichloroethene	1.4	ug/L		1.0	1.0	0.26	EPA 624		12/5/11 23:47	TMP	A
trans-1,2-Dichloroethene	1.0U	ug/L		1.0	1.0	0.12	EPA 624		12/5/11 23:47	TMP	A
1,2-Dichloropropane	1.0U	ug/L		1.0	1.0	0.24	EPA 624		12/5/11 23:47	TMP	A
cis-1,3-Dichloropropene	1.0U	ug/L		1.0	1.0	0.12	EPA 624		12/5/11 23:47	TMP	A
trans-1,3-Dichloropropene	1.0U	ug/L		1.0	1.0	0.14	EPA 624		12/5/11 23:47	TMP	A
1,3-Dichloropropene, Total	1.0U	ug/L		1.0	1.0	0.19	EPA 624		12/5/11 23:47	TMP	A
Ethylbenzene	1.0U	ug/L		1.0	1.0	0.16	EPA 624		12/5/11 23:47	TMP	A
Methylene Chloride	1.0U	ug/L		1.0	1.0	0.32	EPA 624		12/5/11 23:47	TMP	A
1,1,2,2-Tetrachloroethane	1.0U	ug/L		1.0	1.0	0.22	EPA 624		12/5/11 23:47	TMP	A
Tetrachloroethene	1.0U	ug/L		1.0	1.0	0.26	EPA 624		12/5/11 23:47	TMP	A
Toluene	1.0U	ug/L		1.0	1.0	0.12	EPA 624		12/5/11 23:47	TMP	A
1,1,1-Trichloroethane	1.0U	ug/L		1.0	1.0	0.27	EPA 624		12/5/11 23:47	TMP	A
1,1,2-Trichloroethane	0.32J	ug/L		1.0	1.0	0.30	EPA 624		12/5/11 23:47	TMP	A
Trichloroethene	71.9	ug/L		1.0	1.0	0.21	EPA 624		12/5/11 23:47	TMP	A
Trichlorofluoromethane	1.0U	ug/L		1.0	1.0	0.21	EPA 624		12/5/11 23:47	TMP	A
Vinyl Chloride	2.0U	ug/L		2.0	2.0	0.24	EPA 624		12/5/11 23:47	TMP	A
Surrogate Recoveries	*Results*	*Units*	*Footnotes*	*Limits*			*Method*	*Prepared*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	96.5	%		72-142			EPA 624		12/5/11 23:47	TMP	A
4-Bromofluorobenzene (S)	84.4	%		73-119			EPA 624		12/5/11 23:47	TMP	A
Dibromofluoromethane (S)	91.4	%		74-132			EPA 624		12/5/11 23:47	TMP	A
Toluene-d8 (S)	103	%		75-133			EPA 624		12/5/11 23:47	TMP	A

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ANALYTICAL RESULTS

Workorder: 9940528 HNW033|NWIRP Bethpage - GM-38

Lab ID: **9940528005** Date Collected: 11/30/2011 14:00 Matrix: Water

Sample ID: **NWIRP-GM-38-GW-RW3-MW2-113011** Date Received: 12/2/2011 09:40

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr
WET CHEMISTRY											
Total Suspended Solids	5U	mg/L		5	5	5	SM20-2540 D		12/5/11 10:10	CSB	E
METALS											
Mercury, Total	0.00050 U	mg/L		0.00050	0.00050	0.00016	EPA 245.1	12/9/11	12/9/11 12:17	MNP	D1

Sample Comments:

Anna G Milliken
Technical Manager

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ANALYTICAL RESULTS

Workorder: 9940528 HNW033|NWIRP Bethpage - GM-38

Lab ID: **9940528006** Date Collected: 11/29/2011 16:40 Matrix: Water

Sample ID: **NWIRP-GM-38-GW-RW3-MW3-112911** Date Received: 12/2/2011 09:40

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr
VOLATILE ORGANICS											
Acrolein	30.0U	ug/L		30.0	30.0	2.4	EPA 624		12/6/11 00:20	TMP	A
Acrylonitrile	5.0U	ug/L		5.0	5.0	0.89	EPA 624		12/6/11 00:20	TMP	A
Benzene	1.0U	ug/L		1.0	1.0	0.16	EPA 624		12/6/11 00:20	TMP	A
Bromodichloromethane	1.0U	ug/L		1.0	1.0	0.13	EPA 624		12/6/11 00:20	TMP	A
Bromoform	2.0U	ug/L		2.0	2.0	0.21	EPA 624		12/6/11 00:20	TMP	A
Bromomethane	2.0U	ug/L		2.0	2.0	0.27	EPA 624		12/6/11 00:20	TMP	A
Carbon Tetrachloride	1.0U	ug/L		1.0	1.0	0.24	EPA 624		12/6/11 00:20	TMP	A
Chlorobenzene	1.0U	ug/L		1.0	1.0	0.11	EPA 624		12/6/11 00:20	TMP	A
Chlorodibromomethane	1.0U	ug/L		1.0	1.0	0.22	EPA 624		12/6/11 00:20	TMP	A
Chloroethane	1.0U	ug/L		1.0	1.0	0.24	EPA 624		12/6/11 00:20	TMP	A
2-Chloroethylvinyl ether	2.0U	ug/L		2.0	2.0	0.28	EPA 624		12/6/11 00:20	TMP	A
Chloroform	1.0U	ug/L		1.0	1.0	0.15	EPA 624		12/6/11 00:20	TMP	A
Chloromethane	1.0U	ug/L		1.0	1.0	0.25	EPA 624		12/6/11 00:20	TMP	A
1,2-Dichlorobenzene	1.0U	ug/L		1.0	1.0	0.20	EPA 624		12/6/11 00:20	TMP	A
1,3-Dichlorobenzene	1.0U	ug/L		1.0	1.0	0.14	EPA 624		12/6/11 00:20	TMP	A
1,4-Dichlorobenzene	1.0U	ug/L		1.0	1.0	0.15	EPA 624		12/6/11 00:20	TMP	A
1,1-Dichloroethane	1.5	ug/L		1.0	1.0	0.19	EPA 624		12/6/11 00:20	TMP	A
1,2-Dichloroethane	1.0U	ug/L		1.0	1.0	0.22	EPA 624		12/6/11 00:20	TMP	A
1,1-Dichloroethene	0.96J	ug/L		1.0	1.0	0.17	EPA 624		12/6/11 00:20	TMP	A
cis-1,2-Dichloroethene	2.1	ug/L		1.0	1.0	0.26	EPA 624		12/6/11 00:20	TMP	A
trans-1,2-Dichloroethene	1.0U	ug/L		1.0	1.0	0.12	EPA 624		12/6/11 00:20	TMP	A
1,2-Dichloropropane	1.0U	ug/L		1.0	1.0	0.24	EPA 624		12/6/11 00:20	TMP	A
cis-1,3-Dichloropropene	1.0U	ug/L		1.0	1.0	0.12	EPA 624		12/6/11 00:20	TMP	A
trans-1,3-Dichloropropene	1.0U	ug/L		1.0	1.0	0.14	EPA 624		12/6/11 00:20	TMP	A
1,3-Dichloropropene, Total	1.0U	ug/L		1.0	1.0	0.19	EPA 624		12/6/11 00:20	TMP	A
Ethylbenzene	1.0U	ug/L		1.0	1.0	0.16	EPA 624		12/6/11 00:20	TMP	A
Methylene Chloride	1.0U	ug/L		1.0	1.0	0.32	EPA 624		12/6/11 00:20	TMP	A
1,1,2,2-Tetrachloroethane	1.0U	ug/L		1.0	1.0	0.22	EPA 624		12/6/11 00:20	TMP	A
Tetrachloroethene	1.0U	ug/L		1.0	1.0	0.26	EPA 624		12/6/11 00:20	TMP	A
Toluene	1.0U	ug/L		1.0	1.0	0.12	EPA 624		12/6/11 00:20	TMP	A
1,1,1-Trichloroethane	0.49J	ug/L		1.0	1.0	0.27	EPA 624		12/6/11 00:20	TMP	A
1,1,2-Trichloroethane	1.0U	ug/L		1.0	1.0	0.30	EPA 624		12/6/11 00:20	TMP	A
Trichloroethene	250	ug/L		5.0	5.0	1.1	EPA 624		12/7/11 03:36	TMP	B
Trichlorofluoromethane	1.0U	ug/L		1.0	1.0	0.21	EPA 624		12/6/11 00:20	TMP	A
Vinyl Chloride	2.0U	ug/L		2.0	2.0	0.24	EPA 624		12/6/11 00:20	TMP	A

Surrogate Recoveries	*Results*	*Units*	*Footnotes*	*Limits*	*Method*	*Prepared*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	98.3	%		72-142	EPA 624		12/6/11 00:20	TMP	A
4-Bromofluorobenzene (S)	84.6	%		73-119	EPA 624		12/6/11 00:20	TMP	A
Dibromofluoromethane (S)	93.1	%		74-132	EPA 624		12/6/11 00:20	TMP	A
Toluene-d8 (S)	104	%		75-133	EPA 624		12/6/11 00:20	TMP	A

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ANALYTICAL RESULTS

Workorder: 9940528 HNW033|NWIRP Bethpage - GM-38

Lab ID: **9940528006** Date Collected: 11/29/2011 16:40 Matrix: Water

Sample ID: **NWIRP-GM-38-GW-RW3-MW3-112911** Date Received: 12/2/2011 09:40

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr
1,2-Dichloroethane-d4 (S)	108	%		72-142			EPA 624		12/7/11 03:36	TMP	B
4-Bromofluorobenzene (S)	84.8	%		73-119			EPA 624		12/7/11 03:36	TMP	B
Dibromofluoromethane (S)	93.8	%		74-132			EPA 624		12/7/11 03:36	TMP	B
Toluene-d8 (S)	113	%		75-133			EPA 624		12/7/11 03:36	TMP	B
WET CHEMISTRY											
Total Suspended Solids	5U	mg/L		5	5	5	SM20-2540 D		12/5/11 10:10	CSB	E
METALS											
Mercury, Total	0.00050 U	mg/L		0.00050	0.00050	0.00016	EPA 245.1	12/9/11	12/9/11 12:18	MNP	D1

Sample Comments:

Anna G Milliken
Technical Manager

ALS Environmental

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NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: CT PH-0224 , DE ID 11 , GA 914 , MA PA0102 , MD 128 , LA 04162 , VA 421 , WY EPA Region 8 , WV 343

ANALYTICAL RESULTS

Workorder: 9940528 HNW033|NWIRP Bethpage - GM-38

Lab ID: **9940528007** Date Collected: 11/29/2011 16:05 Matrix: Water

Sample ID: **NWIRP-GM-38-GW-RW3-MW4-112911** Date Received: 12/2/2011 09:40

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr
VOLATILE ORGANICS											
Acrolein	30.0U	ug/L		30.0	30.0	2.4	EPA 624		12/6/11 00:54	TMP	A
Acrylonitrile	5.0U	ug/L		5.0	5.0	0.89	EPA 624		12/6/11 00:54	TMP	A
Benzene	1.0U	ug/L		1.0	1.0	0.16	EPA 624		12/6/11 00:54	TMP	A
Bromodichloromethane	1.0U	ug/L		1.0	1.0	0.13	EPA 624		12/6/11 00:54	TMP	A
Bromoform	2.0U	ug/L		2.0	2.0	0.21	EPA 624		12/6/11 00:54	TMP	A
Bromomethane	2.0U	ug/L		2.0	2.0	0.27	EPA 624		12/6/11 00:54	TMP	A
Carbon Tetrachloride	1.0U	ug/L		1.0	1.0	0.24	EPA 624		12/6/11 00:54	TMP	A
Chlorobenzene	1.0U	ug/L		1.0	1.0	0.11	EPA 624		12/6/11 00:54	TMP	A
Chlorodibromomethane	1.0U	ug/L		1.0	1.0	0.22	EPA 624		12/6/11 00:54	TMP	A
Chloroethane	1.0U	ug/L		1.0	1.0	0.24	EPA 624		12/6/11 00:54	TMP	A
2-Chloroethylvinyl ether	2.0U	ug/L		2.0	2.0	0.28	EPA 624		12/6/11 00:54	TMP	A
Chloroform	1.0U	ug/L		1.0	1.0	0.15	EPA 624		12/6/11 00:54	TMP	A
Chloromethane	1.0U	ug/L		1.0	1.0	0.25	EPA 624		12/6/11 00:54	TMP	A
1,2-Dichlorobenzene	1.0U	ug/L		1.0	1.0	0.20	EPA 624		12/6/11 00:54	TMP	A
1,3-Dichlorobenzene	1.0U	ug/L		1.0	1.0	0.14	EPA 624		12/6/11 00:54	TMP	A
1,4-Dichlorobenzene	1.0U	ug/L		1.0	1.0	0.15	EPA 624		12/6/11 00:54	TMP	A
1,1-Dichloroethane	0.84J	ug/L		1.0	1.0	0.19	EPA 624		12/6/11 00:54	TMP	A
1,2-Dichloroethane	1.0U	ug/L		1.0	1.0	0.22	EPA 624		12/6/11 00:54	TMP	A
1,1-Dichloroethene	1.0U	ug/L		1.0	1.0	0.17	EPA 624		12/6/11 00:54	TMP	A
cis-1,2-Dichloroethene	1.0U	ug/L		1.0	1.0	0.26	EPA 624		12/6/11 00:54	TMP	A
trans-1,2-Dichloroethene	1.0U	ug/L		1.0	1.0	0.12	EPA 624		12/6/11 00:54	TMP	A
1,2-Dichloropropane	1.0U	ug/L		1.0	1.0	0.24	EPA 624		12/6/11 00:54	TMP	A
cis-1,3-Dichloropropene	1.0U	ug/L		1.0	1.0	0.12	EPA 624		12/6/11 00:54	TMP	A
trans-1,3-Dichloropropene	1.0U	ug/L		1.0	1.0	0.14	EPA 624		12/6/11 00:54	TMP	A
1,3-Dichloropropene, Total	1.0U	ug/L		1.0	1.0	0.19	EPA 624		12/6/11 00:54	TMP	A
Ethylbenzene	1.0U	ug/L		1.0	1.0	0.16	EPA 624		12/6/11 00:54	TMP	A
Methylene Chloride	1.0U	ug/L		1.0	1.0	0.32	EPA 624		12/6/11 00:54	TMP	A
1,1,2,2-Tetrachloroethane	1.0U	ug/L		1.0	1.0	0.22	EPA 624		12/6/11 00:54	TMP	A
Tetrachloroethene	1.0U	ug/L		1.0	1.0	0.26	EPA 624		12/6/11 00:54	TMP	A
Toluene	1.0U	ug/L		1.0	1.0	0.12	EPA 624		12/6/11 00:54	TMP	A
1,1,1-Trichloroethane	1.0U	ug/L		1.0	1.0	0.27	EPA 624		12/6/11 00:54	TMP	A
1,1,2-Trichloroethane	1.0U	ug/L		1.0	1.0	0.30	EPA 624		12/6/11 00:54	TMP	A
Trichloroethene	5.6	ug/L		1.0	1.0	0.21	EPA 624		12/6/11 00:54	TMP	A
Trichlorofluoromethane	1.0U	ug/L		1.0	1.0	0.21	EPA 624		12/6/11 00:54	TMP	A
Vinyl Chloride	2.0U	ug/L		2.0	2.0	0.24	EPA 624		12/6/11 00:54	TMP	A
Surrogate Recoveries	*Results*	*Units*	*Footnotes*	*Limits*			*Method*	*Prepared*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	99.2	%		72-142			EPA 624		12/6/11 00:54	TMP	A
4-Bromofluorobenzene (S)	85.5	%		73-119			EPA 624		12/6/11 00:54	TMP	A
Dibromofluoromethane (S)	94.1	%		74-132			EPA 624		12/6/11 00:54	TMP	A
Toluene-d8 (S)	102	%		75-133			EPA 624		12/6/11 00:54	TMP	A

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State Certifications: CT PH-0224 , DE ID 11 , GA 914 , MA PA0102 , MD 128 , LA 04162 , VA 421 , WY EPA Region 8 , WV 343

ANALYTICAL RESULTS

Workorder: 9940528 HNW033|NWIRP Bethpage - GM-38

Lab ID: **9940528007** Date Collected: 11/29/2011 16:05 Matrix: Water

Sample ID: **NWIRP-GM-38-GW-RW3-MW4-112911** Date Received: 12/2/2011 09:40

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr
WET CHEMISTRY											
Total Suspended Solids	6	mg/L		5	5	5	SM20-2540 D		12/5/11 10:10	CSB	E
METALS											
Mercury, Total	0.00050 U	mg/L		0.00050	0.00050	0.00016	EPA 245.1	12/9/11	12/9/11 12:19	MNP	D1

Sample Comments:

Anna G Milliken
Technical Manager

ALS Environmental

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ANALYTICAL RESULTS

Workorder: 9940528 HNW033|NWIRP Bethpage - GM-38

Lab ID: **9940528008** Date Collected: 11/30/2011 08:45 Matrix: Water

Sample ID: **NWIRP-GM-38-GW-TP1-113011** Date Received: 12/2/2011 09:40

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr
VOLATILE ORGANICS											
Acrolein	30.0U	ug/L		30.0	30.0	2.4	EPA 624		12/6/11 01:27	TMP	A
Acrylonitrile	5.0U	ug/L		5.0	5.0	0.89	EPA 624		12/6/11 01:27	TMP	A
Benzene	1.0U	ug/L		1.0	1.0	0.16	EPA 624		12/6/11 01:27	TMP	A
Bromodichloromethane	1.0U	ug/L		1.0	1.0	0.13	EPA 624		12/6/11 01:27	TMP	A
Bromoform	2.0U	ug/L		2.0	2.0	0.21	EPA 624		12/6/11 01:27	TMP	A
Bromomethane	2.0U	ug/L		2.0	2.0	0.27	EPA 624		12/6/11 01:27	TMP	A
Carbon Tetrachloride	1.0U	ug/L		1.0	1.0	0.24	EPA 624		12/6/11 01:27	TMP	A
Chlorobenzene	1.0U	ug/L		1.0	1.0	0.11	EPA 624		12/6/11 01:27	TMP	A
Chlorodibromomethane	1.0U	ug/L		1.0	1.0	0.22	EPA 624		12/6/11 01:27	TMP	A
Chloroethane	1.0U	ug/L		1.0	1.0	0.24	EPA 624		12/6/11 01:27	TMP	A
2-Chloroethylvinyl ether	2.0U	ug/L		2.0	2.0	0.28	EPA 624		12/6/11 01:27	TMP	A
Chloroform	1.0U	ug/L		1.0	1.0	0.15	EPA 624		12/6/11 01:27	TMP	A
Chloromethane	1.0U	ug/L		1.0	1.0	0.25	EPA 624		12/6/11 01:27	TMP	A
1,2-Dichlorobenzene	1.0U	ug/L		1.0	1.0	0.20	EPA 624		12/6/11 01:27	TMP	A
1,3-Dichlorobenzene	1.0U	ug/L		1.0	1.0	0.14	EPA 624		12/6/11 01:27	TMP	A
1,4-Dichlorobenzene	1.0U	ug/L		1.0	1.0	0.15	EPA 624		12/6/11 01:27	TMP	A
1,1-Dichloroethane	2.9	ug/L		1.0	1.0	0.19	EPA 624		12/6/11 01:27	TMP	A
1,2-Dichloroethane	1.0U	ug/L		1.0	1.0	0.22	EPA 624		12/6/11 01:27	TMP	A
1,1-Dichloroethene	1.0	ug/L		1.0	1.0	0.17	EPA 624		12/6/11 01:27	TMP	A
cis-1,2-Dichloroethene	74.9	ug/L		1.0	1.0	0.26	EPA 624		12/6/11 01:27	TMP	A
trans-1,2-Dichloroethene	1.1	ug/L		1.0	1.0	0.12	EPA 624		12/6/11 01:27	TMP	A
1,2-Dichloropropane	1.0U	ug/L		1.0	1.0	0.24	EPA 624		12/6/11 01:27	TMP	A
cis-1,3-Dichloropropene	1.0U	ug/L		1.0	1.0	0.12	EPA 624		12/6/11 01:27	TMP	A
trans-1,3-Dichloropropene	1.0U	ug/L		1.0	1.0	0.14	EPA 624		12/6/11 01:27	TMP	A
1,3-Dichloropropene, Total	1.0U	ug/L		1.0	1.0	0.19	EPA 624		12/6/11 01:27	TMP	A
Ethylbenzene	1.0U	ug/L		1.0	1.0	0.16	EPA 624		12/6/11 01:27	TMP	A
Methylene Chloride	1.0U	ug/L		1.0	1.0	0.32	EPA 624		12/6/11 01:27	TMP	A
1,1,2,2-Tetrachloroethane	1.0U	ug/L		1.0	1.0	0.22	EPA 624		12/6/11 01:27	TMP	A
Tetrachloroethene	3.6	ug/L		1.0	1.0	0.26	EPA 624		12/6/11 01:27	TMP	A
Toluene	1.0U	ug/L		1.0	1.0	0.12	EPA 624		12/6/11 01:27	TMP	A
1,1,1-Trichloroethane	0.29J	ug/L		1.0	1.0	0.27	EPA 624		12/6/11 01:27	TMP	A
1,1,2-Trichloroethane	0.32J	ug/L		1.0	1.0	0.30	EPA 624		12/6/11 01:27	TMP	A
Trichloroethene	38.0	ug/L		1.0	1.0	0.21	EPA 624		12/6/11 01:27	TMP	A
Trichlorofluoromethane	1.0U	ug/L		1.0	1.0	0.21	EPA 624		12/6/11 01:27	TMP	A
Vinyl Chloride	2.0U	ug/L		2.0	2.0	0.24	EPA 624		12/6/11 01:27	TMP	A
Surrogate Recoveries	*Results*	*Units*	*Footnotes*	*Limits*			*Method*	*Prepared*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	96.1	%		72-142			EPA 624		12/6/11 01:27	TMP	A
4-Bromofluorobenzene (S)	85.2	%		73-119			EPA 624		12/6/11 01:27	TMP	A
Dibromofluoromethane (S)	92.2	%		74-132			EPA 624		12/6/11 01:27	TMP	A
Toluene-d8 (S)	101	%		75-133			EPA 624		12/6/11 01:27	TMP	A

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State Certifications: CT PH-0224 , DE ID 11 , GA 914 , MA PA0102 , MD 128 , LA 04162 , VA 421 , WY EPA Region 8 , WV 343

ANALYTICAL RESULTS

Workorder: 9940528 HNW033|NWIRP Bethpage - GM-38

Lab ID: **9940528008** Date Collected: 11/30/2011 08:45 Matrix: Water

Sample ID: **NWIRP-GM-38-GW-TP1-113011** Date Received: 12/2/2011 09:40

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr
WET CHEMISTRY											
Total Suspended Solids	5U	mg/L		5	5	5	SM20-2540 D		12/5/11 10:10	CSB	E
METALS											
Mercury, Total	0.00050 U	mg/L		0.00050	0.00050	0.00016	EPA 245.1	12/9/11	12/9/11 12:20	MNP	D1

Sample Comments:

Anna G Milliken
Technical Manager

ALS Environmental

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ANALYTICAL RESULTS

Workorder: 9940528 HNW033|NWIRP Bethpage - GM-38

Lab ID: **9940528009** Date Collected: 11/30/2011 00:00 Matrix: Water

Sample ID: **NWIRP-GM-38-GW-RW3-MW1-113011D** Date Received: 12/2/2011 09:40

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr
VOLATILE ORGANICS											
Acrolein	30.0U	ug/L		30.0	30.0	2.4	EPA 624		12/6/11 02:00	TMP	A
Acrylonitrile	5.0U	ug/L		5.0	5.0	0.89	EPA 624		12/6/11 02:00	TMP	A
Benzene	1.0U	ug/L		1.0	1.0	0.16	EPA 624		12/6/11 02:00	TMP	A
Bromodichloromethane	1.0U	ug/L		1.0	1.0	0.13	EPA 624		12/6/11 02:00	TMP	A
Bromoform	2.0U	ug/L		2.0	2.0	0.21	EPA 624		12/6/11 02:00	TMP	A
Bromomethane	2.0U	ug/L		2.0	2.0	0.27	EPA 624		12/6/11 02:00	TMP	A
Carbon Tetrachloride	1.0U	ug/L		1.0	1.0	0.24	EPA 624		12/6/11 02:00	TMP	A
Chlorobenzene	1.0U	ug/L		1.0	1.0	0.11	EPA 624		12/6/11 02:00	TMP	A
Chlorodibromomethane	1.0U	ug/L		1.0	1.0	0.22	EPA 624		12/6/11 02:00	TMP	A
Chloroethane	1.0U	ug/L		1.0	1.0	0.24	EPA 624		12/6/11 02:00	TMP	A
2-Chloroethylvinyl ether	2.0U	ug/L		2.0	2.0	0.28	EPA 624		12/6/11 02:00	TMP	A
Chloroform	1.0U	ug/L		1.0	1.0	0.15	EPA 624		12/6/11 02:00	TMP	A
Chloromethane	1.0U	ug/L		1.0	1.0	0.25	EPA 624		12/6/11 02:00	TMP	A
1,2-Dichlorobenzene	1.0U	ug/L		1.0	1.0	0.20	EPA 624		12/6/11 02:00	TMP	A
1,3-Dichlorobenzene	1.0U	ug/L		1.0	1.0	0.14	EPA 624		12/6/11 02:00	TMP	A
1,4-Dichlorobenzene	1.0U	ug/L		1.0	1.0	0.15	EPA 624		12/6/11 02:00	TMP	A
1,1-Dichloroethane	0.93J	ug/L		1.0	1.0	0.19	EPA 624		12/6/11 02:00	TMP	A
1,2-Dichloroethane	1.0U	ug/L		1.0	1.0	0.22	EPA 624		12/6/11 02:00	TMP	A
1,1-Dichloroethene	0.66J	ug/L		1.0	1.0	0.17	EPA 624		12/6/11 02:00	TMP	A
cis-1,2-Dichloroethene	0.43J	ug/L		1.0	1.0	0.26	EPA 624		12/6/11 02:00	TMP	A
trans-1,2-Dichloroethene	1.0U	ug/L		1.0	1.0	0.12	EPA 624		12/6/11 02:00	TMP	A
1,2-Dichloropropane	1.0U	ug/L		1.0	1.0	0.24	EPA 624		12/6/11 02:00	TMP	A
cis-1,3-Dichloropropene	1.0U	ug/L		1.0	1.0	0.12	EPA 624		12/6/11 02:00	TMP	A
trans-1,3-Dichloropropene	1.0U	ug/L		1.0	1.0	0.14	EPA 624		12/6/11 02:00	TMP	A
1,3-Dichloropropene, Total	1.0U	ug/L		1.0	1.0	0.19	EPA 624		12/6/11 02:00	TMP	A
Ethylbenzene	1.0U	ug/L		1.0	1.0	0.16	EPA 624		12/6/11 02:00	TMP	A
Methylene Chloride	1.0U	ug/L		1.0	1.0	0.32	EPA 624		12/6/11 02:00	TMP	A
1,1,2,2-Tetrachloroethane	1.0U	ug/L		1.0	1.0	0.22	EPA 624		12/6/11 02:00	TMP	A
Tetrachloroethene	1.1	ug/L		1.0	1.0	0.26	EPA 624		12/6/11 02:00	TMP	A
Toluene	1.0U	ug/L		1.0	1.0	0.12	EPA 624		12/6/11 02:00	TMP	A
1,1,1-Trichloroethane	0.63J	ug/L		1.0	1.0	0.27	EPA 624		12/6/11 02:00	TMP	A
1,1,2-Trichloroethane	1.0U	ug/L		1.0	1.0	0.30	EPA 624		12/6/11 02:00	TMP	A
Trichloroethene	55.2	ug/L		1.0	1.0	0.21	EPA 624		12/6/11 02:00	TMP	A
Trichlorofluoromethane	1.0U	ug/L		1.0	1.0	0.21	EPA 624		12/6/11 02:00	TMP	A
Vinyl Chloride	2.0U	ug/L		2.0	2.0	0.24	EPA 624		12/6/11 02:00	TMP	A
Surrogate Recoveries	*Results*	*Units*	*Footnotes*	*Limits*			*Method*	*Prepared*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	98.4	%		72-142			EPA 624		12/6/11 02:00	TMP	A
4-Bromofluorobenzene (S)	86.1	%		73-119			EPA 624		12/6/11 02:00	TMP	A
Dibromofluoromethane (S)	92.4	%		74-132			EPA 624		12/6/11 02:00	TMP	A
Toluene-d8 (S)	104	%		75-133			EPA 624		12/6/11 02:00	TMP	A

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State Certifications: CT PH-0224 , DE ID 11 , GA 914 , MA PA0102 , MD 128 , LA 04162 , VA 421 , WY EPA Region 8 , WV 343

ANALYTICAL RESULTS

Workorder: 9940528 HNW033|NWIRP Bethpage - GM-38

Lab ID: **9940528009** Date Collected: 11/30/2011 00:00 Matrix: Water

Sample ID: **NWIRP-GM-38-GW-RW3-MW1-113011D** Date Received: 12/2/2011 09:40

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr
WET CHEMISTRY											
Total Suspended Solids	5U	mg/L		5	5	5	SM20-2540 D		12/5/11 10:10	CSB	E
METALS											
Mercury, Total	0.00050 U	mg/L		0.00050	0.00050	0.00016	EPA 245.1	12/9/11	12/9/11 12:21	MNP	D1

Sample Comments:

Anna G Milliken
Technical Manager

ALS Environmental

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ANALYTICAL RESULTS

Workorder: 9940528 HNW033|NWIRP Bethpage - GM-38

Lab ID: **9940528010** Date Collected: 11/30/2011 15:00 Matrix: Water

Sample ID: **NWIRP-GM-38-FB-113011** Date Received: 12/2/2011 09:40

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr
VOLATILE ORGANICS											
Acrolein	30.0U	ug/L		30.0	30.0	2.4	EPA 624		12/5/11 18:49	TMP	A
Acrylonitrile	5.0U	ug/L		5.0	5.0	0.89	EPA 624		12/5/11 18:49	TMP	A
Benzene	1.0U	ug/L		1.0	1.0	0.16	EPA 624		12/5/11 18:49	TMP	A
Bromodichloromethane	1.0U	ug/L		1.0	1.0	0.13	EPA 624		12/5/11 18:49	TMP	A
Bromoform	2.0U	ug/L		2.0	2.0	0.21	EPA 624		12/5/11 18:49	TMP	A
Bromomethane	2.0U	ug/L		2.0	2.0	0.27	EPA 624		12/5/11 18:49	TMP	A
Carbon Tetrachloride	1.0U	ug/L		1.0	1.0	0.24	EPA 624		12/5/11 18:49	TMP	A
Chlorobenzene	1.0U	ug/L		1.0	1.0	0.11	EPA 624		12/5/11 18:49	TMP	A
Chlorodibromomethane	1.0U	ug/L		1.0	1.0	0.22	EPA 624		12/5/11 18:49	TMP	A
Chloroethane	1.0U	ug/L		1.0	1.0	0.24	EPA 624		12/5/11 18:49	TMP	A
2-Chloroethylvinyl ether	2.0U	ug/L		2.0	2.0	0.28	EPA 624		12/5/11 18:49	TMP	A
Chloroform	1.0U	ug/L		1.0	1.0	0.15	EPA 624		12/5/11 18:49	TMP	A
Chloromethane	1.0U	ug/L		1.0	1.0	0.25	EPA 624		12/5/11 18:49	TMP	A
1,2-Dichlorobenzene	1.0U	ug/L		1.0	1.0	0.20	EPA 624		12/5/11 18:49	TMP	A
1,3-Dichlorobenzene	1.0U	ug/L		1.0	1.0	0.14	EPA 624		12/5/11 18:49	TMP	A
1,4-Dichlorobenzene	1.0U	ug/L		1.0	1.0	0.15	EPA 624		12/5/11 18:49	TMP	A
1,1-Dichloroethane	1.0U	ug/L		1.0	1.0	0.19	EPA 624		12/5/11 18:49	TMP	A
1,2-Dichloroethane	1.0U	ug/L		1.0	1.0	0.22	EPA 624		12/5/11 18:49	TMP	A
1,1-Dichloroethene	1.0U	ug/L		1.0	1.0	0.17	EPA 624		12/5/11 18:49	TMP	A
cis-1,2-Dichloroethene	1.0U	ug/L		1.0	1.0	0.26	EPA 624		12/5/11 18:49	TMP	A
trans-1,2-Dichloroethene	1.0U	ug/L		1.0	1.0	0.12	EPA 624		12/5/11 18:49	TMP	A
1,2-Dichloropropane	1.0U	ug/L		1.0	1.0	0.24	EPA 624		12/5/11 18:49	TMP	A
cis-1,3-Dichloropropene	1.0U	ug/L		1.0	1.0	0.12	EPA 624		12/5/11 18:49	TMP	A
trans-1,3-Dichloropropene	1.0U	ug/L		1.0	1.0	0.14	EPA 624		12/5/11 18:49	TMP	A
1,3-Dichloropropene, Total	1.0U	ug/L		1.0	1.0	0.19	EPA 624		12/5/11 18:49	TMP	A
Ethylbenzene	1.0U	ug/L		1.0	1.0	0.16	EPA 624		12/5/11 18:49	TMP	A
Methylene Chloride	1.0U	ug/L		1.0	1.0	0.32	EPA 624		12/5/11 18:49	TMP	A
1,1,2,2-Tetrachloroethane	1.0U	ug/L		1.0	1.0	0.22	EPA 624		12/5/11 18:49	TMP	A
Tetrachloroethene	1.0U	ug/L		1.0	1.0	0.26	EPA 624		12/5/11 18:49	TMP	A
Toluene	1.0U	ug/L		1.0	1.0	0.12	EPA 624		12/5/11 18:49	TMP	A
1,1,1-Trichloroethane	1.0U	ug/L		1.0	1.0	0.27	EPA 624		12/5/11 18:49	TMP	A
1,1,2-Trichloroethane	1.0U	ug/L		1.0	1.0	0.30	EPA 624		12/5/11 18:49	TMP	A
Trichloroethene	1.0U	ug/L		1.0	1.0	0.21	EPA 624		12/5/11 18:49	TMP	A
Trichlorofluoromethane	1.0U	ug/L		1.0	1.0	0.21	EPA 624		12/5/11 18:49	TMP	A
Vinyl Chloride	2.0U	ug/L		2.0	2.0	0.24	EPA 624		12/5/11 18:49	TMP	A
Surrogate Recoveries	*Results*	*Units*	*Footnotes*	*Limits*			*Method*	*Prepared*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	92.7	%		72-142			EPA 624		12/5/11 18:49	TMP	A
4-Bromofluorobenzene (S)	86.5	%		73-119			EPA 624		12/5/11 18:49	TMP	A
Dibromofluoromethane (S)	94	%		74-132			EPA 624		12/5/11 18:49	TMP	A
Toluene-d8 (S)	102	%		75-133			EPA 624		12/5/11 18:49	TMP	A

ALS Environmental

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NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: CT PH-0224 , DE ID 11 , GA 914 , MA PA0102 , MD 128 , LA 04162 , VA 421 , WY EPA Region 8 , WV 343

ANALYTICAL RESULTS

Workorder: 9940528 HNW033|NWIRP Bethpage - GM-38

Lab ID: **9940528010** Date Collected: 11/30/2011 15:00 Matrix: Water

Sample ID: **NWIRP-GM-38-FB-113011** Date Received: 12/2/2011 09:40

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr
METALS											
Mercury, Total	0.00050 U	mg/L		0.00050	0.00050	0.00016	EPA 245.1	12/9/11	12/9/11 12:22	MNP	D1

Sample Comments:

Anna G Milliken
Technical Manager

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State Certifications: CT PH-0224 , DE ID 11 , GA 914 , MA PA0102 , MD 128 , LA 04162 , VA 421 , WY EPA Region 8 , WV 343

ANALYTICAL RESULTS

Workorder: 9940528 HNW033|NWIRP Bethpage - GM-38

Lab ID: **9940528011** Date Collected: 12/2/2011 09:40 Matrix: Water

Sample ID: **NWIRP-GM-38-TB-113011** Date Received: 12/2/2011 09:40

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr
VOLATILE ORGANICS											
Acrolein	30.0U	ug/L		30.0	30.0	2.4	EPA 624		12/5/11 18:16	TMP	A
Acrylonitrile	5.0U	ug/L		5.0	5.0	0.89	EPA 624		12/5/11 18:16	TMP	A
Benzene	1.0U	ug/L		1.0	1.0	0.16	EPA 624		12/5/11 18:16	TMP	A
Bromodichloromethane	1.0U	ug/L		1.0	1.0	0.13	EPA 624		12/5/11 18:16	TMP	A
Bromoform	2.0U	ug/L		2.0	2.0	0.21	EPA 624		12/5/11 18:16	TMP	A
Bromomethane	2.0U	ug/L		2.0	2.0	0.27	EPA 624		12/5/11 18:16	TMP	A
Carbon Tetrachloride	1.0U	ug/L		1.0	1.0	0.24	EPA 624		12/5/11 18:16	TMP	A
Chlorobenzene	1.0U	ug/L		1.0	1.0	0.11	EPA 624		12/5/11 18:16	TMP	A
Chlorodibromomethane	1.0U	ug/L		1.0	1.0	0.22	EPA 624		12/5/11 18:16	TMP	A
Chloroethane	1.0U	ug/L		1.0	1.0	0.24	EPA 624		12/5/11 18:16	TMP	A
2-Chloroethylvinyl ether	2.0U	ug/L		2.0	2.0	0.28	EPA 624		12/5/11 18:16	TMP	A
Chloroform	1.0U	ug/L		1.0	1.0	0.15	EPA 624		12/5/11 18:16	TMP	A
Chloromethane	1.0U	ug/L		1.0	1.0	0.25	EPA 624		12/5/11 18:16	TMP	A
1,2-Dichlorobenzene	1.0U	ug/L		1.0	1.0	0.20	EPA 624		12/5/11 18:16	TMP	A
1,3-Dichlorobenzene	1.0U	ug/L		1.0	1.0	0.14	EPA 624		12/5/11 18:16	TMP	A
1,4-Dichlorobenzene	1.0U	ug/L		1.0	1.0	0.15	EPA 624		12/5/11 18:16	TMP	A
1,1-Dichloroethane	1.0U	ug/L		1.0	1.0	0.19	EPA 624		12/5/11 18:16	TMP	A
1,2-Dichloroethane	1.0U	ug/L		1.0	1.0	0.22	EPA 624		12/5/11 18:16	TMP	A
1,1-Dichloroethene	1.0U	ug/L		1.0	1.0	0.17	EPA 624		12/5/11 18:16	TMP	A
cis-1,2-Dichloroethene	1.0U	ug/L		1.0	1.0	0.26	EPA 624		12/5/11 18:16	TMP	A
trans-1,2-Dichloroethene	1.0U	ug/L		1.0	1.0	0.12	EPA 624		12/5/11 18:16	TMP	A
1,2-Dichloropropane	1.0U	ug/L		1.0	1.0	0.24	EPA 624		12/5/11 18:16	TMP	A
cis-1,3-Dichloropropene	1.0U	ug/L		1.0	1.0	0.12	EPA 624		12/5/11 18:16	TMP	A
trans-1,3-Dichloropropene	1.0U	ug/L		1.0	1.0	0.14	EPA 624		12/5/11 18:16	TMP	A
1,3-Dichloropropene, Total	1.0U	ug/L		1.0	1.0	0.19	EPA 624		12/5/11 18:16	TMP	A
Ethylbenzene	1.0U	ug/L		1.0	1.0	0.16	EPA 624		12/5/11 18:16	TMP	A
Methylene Chloride	1.0U	ug/L		1.0	1.0	0.32	EPA 624		12/5/11 18:16	TMP	A
1,1,2,2-Tetrachloroethane	1.0U	ug/L		1.0	1.0	0.22	EPA 624		12/5/11 18:16	TMP	A
Tetrachloroethene	1.0U	ug/L		1.0	1.0	0.26	EPA 624		12/5/11 18:16	TMP	A
Toluene	1.0U	ug/L		1.0	1.0	0.12	EPA 624		12/5/11 18:16	TMP	A
1,1,1-Trichloroethane	1.0U	ug/L		1.0	1.0	0.27	EPA 624		12/5/11 18:16	TMP	A
1,1,2-Trichloroethane	1.0U	ug/L		1.0	1.0	0.30	EPA 624		12/5/11 18:16	TMP	A
Trichloroethene	1.0U	ug/L		1.0	1.0	0.21	EPA 624		12/5/11 18:16	TMP	A
Trichlorofluoromethane	1.0U	ug/L		1.0	1.0	0.21	EPA 624		12/5/11 18:16	TMP	A
Vinyl Chloride	2.0U	ug/L		2.0	2.0	0.24	EPA 624		12/5/11 18:16	TMP	A
Surrogate Recoveries	*Results*	*Units*	*Footnotes*	*Limits*			*Method*	*Prepared*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	93.1	%		72-142			EPA 624		12/5/11 18:16	TMP	A
4-Bromofluorobenzene (S)	87.4	%		73-119			EPA 624		12/5/11 18:16	TMP	A
Dibromofluoromethane (S)	93.2	%		74-132			EPA 624		12/5/11 18:16	TMP	A
Toluene-d8 (S)	102	%		75-133			EPA 624		12/5/11 18:16	TMP	A

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ANALYTICAL RESULTS

Workorder: 9940528 HNW033|NWIRP Bethpage - GM-38

Lab ID:	**9940528011**	Date Collected:	12/2/2011 09:40	Matrix:	Water
Sample ID:	**NWIRP-GM-38-TB-113011**	Date Received:	12/2/2011 09:40		

Parameters	Results	Units	Footnotes	LOQ	LOD	DL	Method	Prepared	Analyzed	By	Cntr

Sample Comments:

Anna G Milliken
Technical Manager

ALS Environmental

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ANALYTICAL RESULTS QUALIFIERS\FLAGS

Workorder: 9940528 HNW033|NWIRP Bethpage - GM-38

PARAMETER QUALIFIERS\FLAGS

[1] The QC sample type MS for method EPA 624 was outside the control limits for the analyte 2-Chloroethylvinyl ether. The % Recovery was reported as 0 and the control limits were 1 to 305.

[2] The QC sample type MSD for method EPA 624 was outside the control limits for the analyte 2-Chloroethylvinyl ether. The % Recovery was reported as 0 and the control limits were 1 to 305.

[3] The QC sample type MSD for method EPA 624 was outside the control limits for the analyte trans-1,2-Dichloroethene. The RPD was reported as 27.6 and the upper control limit is 16.

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CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Page 1 of 2
Courier: FED EX
Tracking #: 8726 3910 4337

* 9 9 4 0 5 2 8 *

Co. Name: H&S Environmental, Inc.
Contact (Report to): Jen Good — Phone: 508.366.7442
Address: 160 E. Main St., Suite 2F
Westborough, MA 01581

Bill to (if different than Report to): Same — PO#: 2031-005

Project Name/#: NWIRP Bethpage GM-38 Qtrly LTM — ALSI Quote #:

TAT: [x] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALSI approval and surcharges. — Date Required: — Approved By:

Email? x -Y jgood@hsenv.com
Fax? -Y No.:

***Container Type	40 mL	500 mL	250 mL
***Container Size	CG	PL	PL
*** Preservative	HCL	HNO3	--

ANALYSES/METHOD REQUESTED

	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Time	*G or C	**Matrix	TCL VOCs (Method 624)+cis-1,2-DCE	Mercury (Method 245.1)	TSS (SM2540D)
1	NWIRP-GM-38-GW-RW1-MW1-113011		11/30/11	1040	G	GW	3	1	1
2	NWIRP-GM-38-GW-RW1-MW3-113011		11/30/11	0935	G	GW	3	1	1
3	NWIRP-GM-38-GW-RW2-MW1-112911	(limited VOC Sample)	11/29/11	1450	G	GW	3	1	1
4	NWIRP-GM-38-GW-RW3-MW1-113011	MS/MSD for VOCs, Hg	11/30/11	1205	G	GW	9	3	1
5	NWIRP-GM-38-GW-RW3-MW2-113011		11/30/11	1400	G	GW	3	1	1
6	NWIRP-GM-38-GW-RW3-MW3-112911		11/29/11	1040	G	GW	3	1	1
7	NWIRP-GM-38-GW-RW3-MW4-112911		11/29/11	10:05	G	GW	3	1	1
8	NWIRP-GM-38-GW-TP1-113011		11/30/11	0845	G	GW	3	1	1

Enter Number of Containers Per Analysis

Receipt Information (completed by Sample): Performed by: AM — Cooler Temp: 2°C — Therm. ID: TH 25 — No. of Coolers: — Notes:

Correct containers? Y — Correct sample volume? Y — Correct preservation? Y — Headspace/Volatiles? N/A — Circle appropriate Y or N.
Custody seals Present? N — (if present) Seals Intact? N — Received on ice? Y — COC/Labels complete/accurate? Y — Container in good condition? Y

SAMPLED BY (Please Print): ~~G. Gengemi, J. Good~~ V. Laclera, R. Masondcola
LOGGED BY (signature): [signature] 12/7/11 13:5
REVIEWED BY (signature):

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 [signature]	12/1/11	0945	2 [signature] / ALS	12/2/11	0940
3			4		
5			6		
7			8		
9			10		

Data Deliverables: [ ] Standard [ ] CLP-like [ ] NJ-Reduced [ ] NJ-Full [ ] (other) — EDDs Required? [ ] If yes, format type: — DOD Criteria Required?

SDWA Forms? yes [ ] yes [ ] yes [ ] yes [ ] Other — PWSID

State Samples Collected In? MD [ ] NJ [ ] NY [x] PA [ ]

ALSI FIELD SERVICES: [ ] Pickup [ ] Labor [ ] Composite Sampling [ ] Rental Equipment [ ] Other:

* G=Grab; C=Composite — **Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater
Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY — ***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.
Rev 08-2008

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CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Page 2 of 2
Courier:
Tracking #:

9940528

Co. Name: H&S Environmental, Inc.
Contact (Report to): Jen Good **Phone:** 508.366.7442
Address: 160 E. Main St., Suite 2F, Westborough, MA 01581

Bill to (if different than Report to): Same **PO#:** 2031-005

Project Name/#: NWIRP Bethpage GM-38 Qtrly LTM **ALSI Quote #:**

TAT: [x] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALSI approval and surcharges.
Date Required:
Approved By:

Email? [x] Y jgood@hsenv.com
Fax? [ ] Y No

	40 mL	500 mL	250 mL
***Container Type	CG	PL	PL
***Container Size			
***Preservative	HCL	HNO3	---

ANALYSES/METHOD REQUESTED — Enter Number of Containers Per Analysis

	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	TCL VOCs (Method 624)+Cis-1,2-DCE	Mercury (Method 245.1)	TSS (SM2540D)
1	NWIRP-GM-38-GW-RW3MW1-113011 -DUP		11/30/11	0000	G	GW	3	1	1
2	NWIRP-GM-38-FB-113011		11/30/11	1500	G	GW	3	1	
3	NWIRP-GM-38-TB-113011	12/2/11 0940	11/2 12/2/11		G	GW	3		
4					G	GW			
5					G	GW			
6					G	GW			
7					G	GW			
8					G	GW			

Receipt Information (completed by Sample ...)
Performed by: [signature]
Cooler Temp: 2°C
Therm. ID: TH 215
No. of Coolers:
Notes:

Correct containers? Y N — Y
Correct sample volume? Y N — Y
Correct preservation? Y N — Y
Headspace/Volatiles? Y N — N
Circle appropriate Y or N.
Custody seals Present? Y N — N
(if present) Seals intact? Y N
Received on ice? Y N — Y
COC/Labels complete/accurate? Y N — Y
Container in good condition? Y N — Y

SAMPLED BY (Please Print): ~~G. Sangemi, J. Good~~ V. Lecker, R. Mastro...
LOGGED BY (signature): [signature] Date: 12/2/11 Time: 1357
REVIEWED BY (signature):

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 [signature]	12/1/11	0945	2 [signature] - ALS	12/2/11	0940
3			4		
5			6		
7			8		
9			10		

Data Deliverables: [ ] Standard [ ] CLP-like [ ] NJ-Reduced [ ] NJ-Full [ ] (other)
EDDs Required? [ ] If yes, format type:
DOD Criteria Required?

SDWA Forms? yes [ ] yes [ ] yes [ ] yes [ ]
State Samples Collected In? MD [ ] NJ [ ] NY [x] PA [ ]
Other
PWSID

ALSI FIELD SERVICES: [ ] Pickup [ ] Labor [ ] Composite Sampling [ ] Rental Equipment [ ] Other:

* G=Grab; C=Composite **Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY ***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Rev 08-2008