2012 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

May 2013

Prepared for:

Naval Facilities Engineering Command Mid-Atlantic
9742 Maryland Avenue
Norfolk, VA 23511

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5/20/13

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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
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
NYSDOH	New York State Department of Health
NYSDEC	New York State Department of Environmental Conservation
O&M	Operation and Maintenance
ORP	oxidation reduction potential
OU	operable unit

PC	personal computer
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	U.S. 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 2012 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 U.S. Department of the Navy (Navy), Naval Facilities Engineering Command (NAVFAC), Mid-Atlantic, under Contract N40085-10-D-9409, Task Order No. 0002. This 2012 Annual Operations Report summarizes activities that occurred during 2012 and also further details activities that occurred during the Fourth Quarter 2012 (October 2012 through December 2012). Data was collected and operational activities were performed by H&S in accordance with the following documents:

- *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."
- *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* prepared by TtEC in 2010.

The following quarterly reports, along with data collected during the Fourth Quarter (October through December), are used as a basis for this 2012 Annual Operations Report:

- *Final Quarterly Operations Report, First Quarter 2012, Groundwater Treatment Plant, GM-38 Area Groundwater Remediation, Naval Weapons Industrial Reserve Plant, Bethpage, New York* prepared by H&S in 2012.
- *Final Quarterly Operations Report, Second Quarter 2012, Groundwater Treatment Plant, GM-38 Area Groundwater Remediation, Naval Weapons Industrial Reserve Plant, Bethpage, New York* prepared by H&S in 2012.
- *Final Quarterly Operations Report, Third Quarter 2012, Groundwater Treatment Plant, GM-38 Area Groundwater Remediation, Naval Weapons Industrial Reserve Plant, Bethpage, New York* prepared by H&S in 2013.

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 downgradient of NWIRP Bethpage. The GWTP is located within a utility easement with a street address of 100 Broadway, Bethpage, NY.

The "hot spot" 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 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, and liquid-phase carbon treatment. 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), 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), 1,2-dichloroethane (1,2-DCA), benzene, toluene, and total xylenes.

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 vessel containing zeolite impregnated with potassium permanganate (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 subsequently processed 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 OPERATIONS 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. The GWTP is equipped with telemetry that will alert an on-call operator in the event of a plant shutdown.

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, differential pressures across the AS, carbon units, bag filter units and blower discharge pressures, tank levels and totalizer readings), measurement of water levels 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.

In addition, the following routine maintenance tasks were also performed at the GWTP in 2012:

- The system was shut down from 3-5 January in order to change out the carbon in VGAC-1 and VGAC-2. The LGAC units were also backwashed during this time.
- On 22 March, the annual backflow preventer inspection was performed. Results were submitted to Bethpage Water District and New York State Department of Health (NYSDOH), as required.
- On 26 April, 11 June, 14 July and 31 July, the 12 bag filters housed in the bag filter unit were changed out.
- The system was shut down from 7-8 August in order to change out the carbon in LGAC-1, LGAC-2, and LGAC-3.

2.2 Non-routine Maintenance Activities

The following non-routine activities were performed at the GWTP in 2012:

- On 20 January, a vapor leak was observed in a fitting between the air stripper and VGAC train. A temporary solution was enacted while further evaluation was conducted; design of a permanent solution is currently underway.
- On 8 February, the system went down due to a high level AS alarm. The system was restarted following response by the operator, resetting the LGAC feed pump.
- On 25 February, 13 March, 14 March, 16 March, 24 April, 25 April, 23 June, and 25 June, and 22 September, the system went down due to power interruptions apparently caused by storms in the area. On each occasion, the system was restarted upon arrival by the operator and restoration of power.
- On 10 May, 21 May, and 22 May, 27 August, and 13 October, the system went down due to a high rain gauge alarm. On each occasion, the system was restarted once heavy rainfall subsided.

- On 18 July, the heater for the vapor stream stopped working properly and a temporary repair was performed. The heating unit again stopped working and a replacement unit was ordered on 21 August and installed on 2 October.

- On 7 August, the in-line effluent pH meter malfunctioned. A new replacement unit was procured and installed on 15 October. Manual recordings of the effluent pH were collected in the interim.

- The GWTP was shut down on 29 October in preparation for Superstorm Sandy. The GWTP resumed operation once power was restored on 5 November.

- On 13 December, the GWTP personal computer (PC) malfunctioned and the system was shut down as a result. Troubleshooting was performed and a replacement PC was procured. Configuration of the new PC was performed from 17-21 December. The system resumed operation on 21 December.

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. It is anticipated that GWTP operation will minimize contaminant impacts on water supply wells and currently unaffected portions of the groundwater aquifer. The GWTP is not intended to remediate groundwater contamination in the local aquifer to non-detectable levels (TtEC 2010). Various process samples (water and vapor) are collected on a monthly basis to monitor GWTP efficiency and to ensure compliance with Federal and State effluent discharge and air emission requirements. 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 2012 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 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.

Monthly DMRs for the Fourth Quarter (October - December 2012) are included in **Appendix A**. DMRs for January – September 2012 are included in previously submitted quarterly operations reports as indicated in Section 1.0.

3.1.2 2012 Annual Summary

Flow Totals

Annual flow volumes and system operation for 2012 are summarized in **Table 2**. As indicated, the total volume of groundwater treated during the 12-month period based on effluent flow totals was 483,867,320 gallons. The GWTP operated with an average uptime of 91.9% at an average effluent flowrate of 921 gpm.

Mass Removal

Mass removal was calculated based on monthly influent concentrations combined with monthly influent flow totals. During 2012, approximately 1,535 lbs of VOCs were removed by the GWTP, for an average

monthly mass removal rate of approximately 128 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 2012 Summary

While sampling of the stack emissions is required for NYSDEC compliance, process vapor samples are also collected using 6-L 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 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 constituents were within the regulatory requirements during the quarter based on the emission rates in pounds per hour (lb/hr).

3.2.2 2012 Annual Summary

Table 6 summarizes annual air emissions based on monthly emissions during the 12-month period. During 2012, total annual air emissions of permitted constituents consisted of 4.4 lbs. of TCE, 0.16 lbs. of vinyl chloride, and 19.6 lbs of 1,2-DCE.

3.3 Groundwater Quality Monitoring

The groundwater monitoring well system at the GM-38 Groundwater Remediation Area consists of fourteen 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 twelve 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 U.S. Environmental Protection Agency (USEPA) low-flow sampling methodologies. Results of the groundwater sampling for the Fourth Quarter 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.

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.

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.

3.3.1 Groundwater Quality Results

H&S collected groundwater samples for the Fourth Quarter from 4-7 December 2012. 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. The samples are analyzed for 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 August 2012 monitoring event are summarized in **Table 9.** Data validation reports

and a validated analytical data summary are presented in **Appendix D**. Raw analytical data is provided under separate cover.

3.3.2 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 RW3-MW2 during the Fourth Quarter), 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 blank or trip blank submitted for this event. The overall lack of contamination in the blanks indicates that quality control requirements were achieved.

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, RPDs for all analytes were well below the guideline of 50%. 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 2012 are presented in **Table 10**. Groundwater analytical results of select VOCs (cis-1,2-DCE, PCE, TCE, and VC) for each of the 2012 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 2012 quarterly monitoring event 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 and around or below 300 µg/L for the latter half of 2012. Concentrations of cis-1,2-DCE have followed a similar trend, decreasing from a high of 160 µg/L in February 2010 to a low of 20.5 µg/L in November 2012. PCE concentrations have also exhibited decreasing trends over time, with concentrations decreasing from 180 µg/L in February 2010 to a low of 41.2 µg/L in April 2012. Concentrations of VC have decreased below initial concentrations in 2010. After reaching a maximum concentration of 61 µg/L in February 2010, VC concentrations have remained below 5.0 µg/L since the final quarter of 2011, decreasing to non-detectable levels in four out of twelve months in 2012.

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 and throughout 2012, with a low of 193 µg/L in November 2012. Concentrations of cis-1,2-DCE have remained consistently below 4.0 µg/L. PCE has been detected during only four sampling events: June 2011 (0.69 J µg/L), May 2012 (0.29 J µg/L), June 2012 (3.4 µg/L), and December 2012 (1.9 µg/L).

Figure 7 presents concentrations detected at RW1-MW1. Concentrations of TCE and cis-1,2-DCE in 2012 (ranging from 85-126 µg/L and 108-179 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 remain below 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 cis-1,2-DCE and PCE have consistently remained below 1.0 µg/L and concentrations of TCE have remained near or 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, remaining below 2.0 µg/L until June 2012 when a concentration of 9.0 µg/L was observed followed by a concentration of 20.8 µg/L in August 2012. Concentrations again decreased to below 1.0 µg/L in December 2012. 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 2012 (ranging from 37.7-59.0 µg/L) were higher than 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). No overall trend is discernible. Concentrations of cis-1,2-DCE and PCE have exhibited similar trends, increasing slightly from initial concentrations, but remaining consistently below 2.0 µg/L.

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 concentrations of TCE observed in 2012 (ranging from 96.5-209 µg/L) are greater than concentrations observed initially, but still less than the maximum observed concentration. 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 with the exception of August 2012, when a concentration of 0.28 J µg/L was observed.

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). The concentrations of TCE observed in 2012 (ranging from 248-312 µg/L) have decreased from the initial collected sample, though no overall trend is discernible. Concentrations of cis-1,2-DCE have remained near 2.0 µg/L and PCE has remained below 1.0 µg/L.

Figure 13 presents concentrations detected at RW3-MW4. TCE concentrations have decreased since the initial sampling event in January 2010 (21 µg/L) with concentrations ranging from 4.6-5.5 µg/L in 2012. 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 decreased since the initial sampling event in January 2010 (65 µg/L). In 2012, TCE concentrations ranged from 22.0-38.1 µg/L,

with the concentration of 22.0 µg/L constituting the lowest observed to date. 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 a low of 4.2 µg/L in December 2012, with concentrations fluctuating over time. PCE concentrations have remained fairly consistent over time, ranging from 3.3 µg/L in June 2011 to 6.0 µg/L in June 2012.

4.0 CONCLUSIONS AND RECOMMENDATIONS

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 downgradient water supply wells and currently unaffected portions of the aquifer. Based on the annual removal of 1,535 lbs. of VOCs by the GWTP in 2012 and decreasing contaminant concentration trends observed in the recovery wells and several of the monitoring wells, progress toward these goals is apparent. The GWTP should continue to be operated and monitored on a quarterly basis using the 14 monitoring wells. In addition, an evaluation should be conducted to better determine the capture zone.

5.0 REFERENCES

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TABLES

Table 1
GM-38 Area Groundwater Remediation
Groundwater Treatment Plant
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Discharge Monitoring Results
Fourth Quarter 2012

SPDES Parameters	Daily Maximum Goal	Units	October 2012									
Process Stream			RW-1	RW-3	Combined Influent [1] (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)	Treated Effluent Duplicate
Well Depth		ft	445	530	NA	NA	NA	NA	NA	NA	NA	NA
Screened Interval		ft	335-395 410-430	392-412 442-504	NA	NA	NA	NA	NA	NA	NA	NA
Sampling Date			10/9/12									
Average Flowrate	1100	GPM	685	143	828	NR	826	NR	NR	NR	829	NR
Total Flow		gallons	30,587,400	6,372,525	36,959,925	NR	36,852,400	NR	NR	NR	37,001,000	NR
pH	5.5 - 8.5	SU	5.9	6.0	5.9	6.3	6.4	6.5 #	6.5	6.8	6.8	6.8
Carbon Tetrachloride	NA	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	5	µg/L	2.8 J	2.1 J	2.7 J	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	5.8	2.0 J	5.1 J	ND	ND	ND	ND	ND	ND	ND
cis 1,2-Dichloroethene	5	µg/L	34.2	2.3 J	28.7 J	0.63 J	0.65 J	ND	ND	ND	ND	ND
trans 1,2-Dichloroethene	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	5	µg/L	56.9	ND	47.1	0.38 J	0.35 J	ND	ND	ND	ND	ND
1,1,1-Trichloroethene	5	µg/L	4.4 J	ND	3.6 J	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	5	µg/L	275	274	275	3.1	3.0	ND	ND	ND	ND	ND
Vinyl Chloride	2	µg/L	ND	ND	ND	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 2012

SPDES Parameters	Daily Maximum Goal	Units	November 2012									
Process Stream			RW-1	RW-3	Combined Influent [1] (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)	Treated Effluent (TE) Duplicate
Well Depth		ft	445	530	NA	NA	NA	NA	NA	NA	NA	NA
Screened Interval		ft	335-395 410-430	392-412 442-504	NA	NA	NA	NA	NA	NA	NA	NA
Sampling Date			11/13/12									
Average Flowrate	1100	GPM	685	143	828	NR	826	NR	NR	NR	829	NR
Total Flow		gallons	29,098,520	6,923,700	36,022,220	NR	35,941,780	NR	NR	NR	36,020,800	NR
pH	5.5 - 8.5	SU	5.18	5.00	5.15	6.04	6.16	6.70	6.59	6.44	6.96	6.96
Carbon Tetrachloride	NA	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	5	µg/L	2.0 J	1.7 J	1.9 J	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	2.8 J	1.1 J	2.5 J	ND	ND	ND	ND	ND	ND	ND
cis 1,2-Dichloroethene	5	µg/L	20.5	ND	17.0	0.30 J	0.41 J	ND	ND	ND	ND	ND
trans 1,2-Dichloroethene	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	5	µg/L	44.1	ND	36.5	0.35 J	0.33 J	ND	ND	ND	ND	ND
1,1,1-Trichloroethene	5	µg/L	2.4 J	ND	2.0 J	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	5	µg/L	188	193	189	1.9	1.8	ND	ND	ND	ND	ND
Vinyl Chloride	2	µg/L	ND	ND	ND	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	5	6	ND	ND

Table 1
GM-38 Area Groundwater Remediation
Groundwater Treatment Plant
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Discharge Monitoring Results
Fourth Quarter 2012

SPDES Parameters	Daily Maximum Goal	Units	December 2012									
Process Stream			RW-1	RW-3	Combined Influent [(1)] (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)	Treated Effluent (TE) Duplicate
Well Depth		ft	445	530	NA	NA	NA	NA	NA	NA	NA	NA
Screened Interval		ft	335-395 410-430	392-412 442-504	NA	NA	NA	NA	NA	NA	NA	NA
Sampling Date			12/12/12									
Average Flowrate	1100	GPM	588	144	733	NR	731	NR	NR	NR	733	NR
Total Flow		gallons	26,268,130	6,446,300	32,714,430	NR	32,639,720	NR	NR	NR	32,721,600	NR
pH	5.5 - 8.5	SU	4.82	4.80	4.82	6.55	6.61	6.56 #	6.59	6.58	7.12	7.18
Carbon Tetrachloride	NA	µg/L	0.34 J	ND	0.27 J	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	5	µg/L	2.7	2.4 J	2.6 J	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	0.6	µg/L	0.42 J	ND	0.34 J	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	5	µg/L	4.1	1.3 J	3.5 J	ND	ND	ND	ND	ND	ND	ND
cis 1,2-Dichloroethene	5	µg/L	32.4	1.6 J	26.3 J	0.49 J	0.47 J	ND	ND	ND	ND	ND
trans 1,2-Dichloroethene	5	µg/L	0.47 J	ND	0.38 J	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	5	µg/L	65.2	1.9 J	52.7 J	0.41 J	0.39 J	ND	ND	ND	ND	ND
1,1,1-Trichloroethene	5	µg/L	3.5	ND	2.8	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	5	µg/L	232	261	238	2.7	2.3	ND	0.35 J	ND	ND	ND
Vinyl Chloride	2	µg/L	1.4 J	ND	1.1 J	ND	ND	ND	ND	ND	ND	ND
Mercruy	0.25	µg/L	ND	ND	ND	0.00089	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 - Estimated result between laboratory method detection limit and reporting limit
NA - Not Applicable
ND - Not detected above laboratory method detection limit
NR - Not Recorded
gpm - gallons per minute

(1) Influent concentrations presented are the weighted average concentrations of RW-1 and RW-3.

Table 2
GM-38 Area Groundwater Remediation
Groundwater Treatment Plant
Naval Weapons Industrial Reserve Plant - Bethpage, NY
2012 Annual Flow Summary

Monthly Flow Totals		
Month	**Total GWTP Influent Flow (gal)**	**Total GWTP Effluent Flow (gal)**
Jan-12	45,158,060	45,523,120
Feb-12	40,742,940	42,066,120
Mar-12	44,135,760	45,100,947
Apr-12	42,132,500	42,168,983
May-12	43,493,400	43,524,850
Jun-12	40,514,000	40,217,533
Jul-12	38,980,400	39,373,467
Aug-12	36,715,029	36,744,714
Sep-12	43,386,346	43,404,186
Oct-12	36,959,925	37,001,000
Nov-12	36,022,220	36,020,800
Dec-12	32,714,430	32,721,600
Annual Flow Summary		
	GWTP Influent	**GWTP Effluent**
2012 Total (gal)	480,955,010	483,867,320
2012 Monthly Average (gal)	40,079,584	40,322,277
2012 Effective Flowrate (gpm)	915	921
2012 Average Flowrate (gpm)	995	1001

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)

Table 3
GM-38 Area Groundwater Remediation
Groundwater Treatment Plant
Naval Weapons Industrial Reserve Plant - Bethpage, NY
2012 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	2012 Cumulative Influent	Influent Concentration (µg/L)	Mass Removal (lb)	2012 Cumulative Mass Removal (lb)	Influent Concentration (µg/L)	Mass Removal (lb)	2012 Cumulative Mass Removal (lb)	Influent Concentration (µg/L)	Mass Removal (lb)	2012 Cumulative Mass Removal (lb)	Influent Concentration (µg/L)	Mass Removal (lb)	2012 Cumulative Mass Removal (lb)	Influent Concentration (µg/L)	Mass Removal (lb)	2012 Cumulative Mass Removal (lb)
Jan-12	45,523,120	45,158,060	45,158,060	0.0	0.0000	0.0000	2.7	1.0073	1.0073	0.0	0.0000	0.0000	4.7	1.7620	1.7620	32.1	12.1009	12.1009
Feb-12	42,066,120	40,742,940	85,901,000	0.0	0.0000	0.0000	2.6	0.8877	1.8949	0.0	0.0000	0.0000	4.6	1.5557	3.3177	30.4	10.3215	22.4223
Mar-12	45,100,947	44,135,760	130,036,760	0.0	0.0000	0.0000	2.5	0.9351	2.8300	0.0	0.0000	0.0000	4.2	1.5571	4.8748	31.0	11.4038	33.8261
Apr-12	42,168,983	42,132,500	172,169,260	0.0	0.0000	0.0000	0.0	0.0000	2.8300	0.0	0.0000	0.0000	2.0	0.6975	5.5724	20.7	7.2645	41.0906
May-12	43,524,850	43,493,400	215,662,660	0.27	0.0988	0.0988	2.7	0.9945	3.8246	0.37	0.1337	0.1337	4.7	1.7150	7.2873	32.6	11.8441	52.9347
Jun-12	40,217,533	40,514,000	256,176,660	0.33	0.1107	0.2096	2.0	0.6895	4.5141	0.0	0.0000	0.1337	4.8	1.6279	8.9152	31.7	10.7096	63.6443
Jul-12	39,373,467	38,980,400	295,157,060	0.0	0.0000	0.2096	2.9	0.9445	5.4586	0.0	0.0000	0.1337	5.8	1.8915	10.8067	27.2	8.8396	72.4839
Aug-12	36,744,714	36,715,029	331,872,089	0.0	0.0000	0.2096	2.8	0.8587	6.3173	0.0	0.0000	0.1337	4.7	1.4459	12.2526	29.2	8.9358	81.4197
Sep-12	43,404,186	43,386,346	375,258,435	0.0	0.0000	0.2096	2.2	0.7895	7.1068	0.0	0.0000	0.1337	5.0	1.7987	14.0513	25.4	9.1933	90.6131
Oct-12	37,001,000	36,959,925	412,218,360	0.0	0.0000	0.2096	2.7	0.8263	7.9332	0.0	0.0000	0.1337	5.1	1.5867	15.6381	28.7	8.8514	99.4644
Nov-12	36,020,800	36,022,220	448,240,580	0.0	0.0000	0.2096	1.9	0.5856	8.5188	0.0	0.0000	0.1337	2.5	0.7535	16.3916	17.0	5.0996	104.5640
Dec-12	32,721,600	32,714,430	480,955,010	0.27	0.0745	0.2841	2.6	0.7209	9.2397	0.34	0.0921	0.2258	3.5	0.9686	17.3602	26.3	7.1880	111.7520
2012 Totals	**483,867,320**	**480,955,010**			**0.2841**			**9.2397**			**0.2258**			**17.3602**			**111.7520**	

	Total Flow (gal)			trans-1,2-DCE			PCE			1,1,1-TCA			TCE			VC		
Month	GWTP Effluent	GWTP Influent	2012 Cumulative Influent	Influent Concentration (µg/L)	Mass Removal (lb)	2012 Cumulative Mass Removal (lb)	Influent Concentration (µg/L)	Mass Removal (lb)	2012 Cumulative Mass Removal (lb)	Influent Concentration (µg/L)	Mass Removal (lb)	2012 Cumulative Mass Removal (lb)	Influent Concentration (µg/L)	Mass Removal (lb)	2012 Cumulative Mass Removal (lb)	Influent Concentration (µg/L)	Mass Removal (lb)	2012 Cumulative Mass Removal (lb)
Jan-12	45,523,120	45,158,060	1,007,068,080	0.0	0.0000	0.0000	67.7	25.5216	25.5216	4.9	1.8446	1.8446	351	132.3919	132.3919	2.5	0.9361	0.9361
Feb-12	42,066,120	40,742,940	1,047,811,020	0.0	0.0000	0.0000	75.9	25.7914	51.3130	3.7	1.2420	3.0866	331	112.6412	245.0331	3.3	1.1363	2.0724
Mar-12	45,100,947	44,135,760	1,091,946,780	0.0	0.0000	0.0000	62.9	23.1544	74.4674	4.3	1.5847	4.6713	328	120.6952	365.7284	2.2	0.7924	2.8647
Apr-12	42,168,983	42,132,500	1,134,079,280	0.0	0.0000	0.0000	32.7	11.4951	85.9625	2.9	1.0044	5.6757	243	85.5443	451.2727	1.6	0.5580	3.4227
May-12	43,524,850	43,493,400	1,177,572,680	0.45	0.1628	0.1628	63.8	23.1584	109.1209	3.9	1.4326	7.1084	278	101.0407	552.3134	2.7	0.9883	4.4110
Jun-12	40,217,533	40,514,000	1,218,086,680	0.38	0.1269	0.2897	61.4	20.7578	129.8787	4.9	1.6475	8.7559	306	103.3093	655.6228	1.7	0.5672	4.9782
Jul-12	39,373,467	38,980,400	1,257,067,080	0.0	0.0000	0.2897	54.3	17.6542	147.5329	3.8	1.2347	9.9907	275	89.4496	745.0724	0.0	0.0000	4.9782
Aug-12	36,744,714	36,715,029	1,293,782,109	0.0	0.0000	0.2897	53.8	16.4861	164.0190	4.1	1.2587	11.2493	309	94.7528	839.8252	0.0	0.0000	4.9782
Sep-12	43,404,186	43,386,346	1,337,168,455	0.0	0.0000	0.2897	58.1	21.0186	185.0376	3.6	1.3155	12.5648	288	104.1564	943.9816	0.0	0.0000	4.9782
Oct-12	37,001,000	36,959,925	1,374,128,380	0.0	0.0000	0.2897	47.1	14.5229	199.5605	3.6	1.1230	13.6879	275	84.7600	1,028.7416	0.0	0.0000	4.9782
Nov-12	36,020,800	36,022,220	1,410,150,600	0.0	0.0000	0.2897	36.5	10.9703	210.5308	2.0	0.5970	14.2849	189	56.7695	1,085.5111	0.0	0.0000	4.9782
Dec-12	32,721,600	32,714,430	1,442,865,030	0.38	0.1030	0.3927	52.7	14.3937	224.9245	2.8	0.7672	15.0521	238	64.8925	1,150.4036	1.1	0.3069	5.2851
2012 Totals	**483,867,320**	**480,955,010**			**0.3927**			**224.9245**			**15.0521**			**1,150.4036**			**5.2851**	

2012 Cumulative Mass (VOCs) Removed (lb) **1535**

2012 Average Monthly Mass (VOCs) Removed (lb) **128**

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) * (1 kg/10^9 ug)

Table 4
GM-38 Area Groundwater Remediation
Groundwater Treatment Plant
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Air Sampling Results
Fourth Quarter 2012

DAR Parameters	SGC	Units	October 2012					November 2012				
Process Stream			Influent (VCI1)	VC12	VC23	Effluent	Effluent Duplicate	Influent (VCI1)	VCI1 Duplicate	VC12	VC23	Effluent
Sampling Date			10/9/12					11/14/12				
Average Flowrate		CFM	NR	NR	NR	8,167	NR	NR	NR	NR	NR	8,227
Total Flow [(1)]		ft^3	NR	NR	NR	364,574,880	NR	NR	NR	NR	NR	355,401,000
Total Flow [(2)]		m^3	NR	NR	NR	10,323,611	NR	NR	NR	NR	NR	10,063,836
1,2-Dichloroethane	-	$\mu g/m^3$	4.2 J	ND	2.4 J	2.8 J	2.4 J	3.9 J	1.6 J	1.3 J	1.6 J	1.9 J
cis 1,2-Dichloroethene	-	$\mu g/m^3$	280	7.4	210	7.5	6.0	300	140	120	8.0	5.6
trans 1,2-Dichloroethene	-	$\mu g/m^3$	2.6 J	ND	4.6	ND	ND	3.2 J	2.2 J	2.0 J	ND	ND
1,2-Dichloroethene (total)	-	$\mu g/m^3$	290	7.1	210	7.5	5.9	300	140	120	7.9	5.6
Toluene	37000	$\mu g/m^3$	3.2 J	ND	ND	2.6 J	ND	2.1 J	4.4	25	29	2.3 J
Xylene	4300	$\mu g/m^3$	4.1 J	ND	1.1 J	1.8 J	ND	ND	4.4	1.8 J	10	1.0 J
1,1,2-Trichloroethane	-	$\mu g/m^3$	ND	ND	ND	ND	ND	3.2 J	ND	ND	ND	ND
Trichloroethene	14000	$\mu g/m^3$	3100	96	90	24	10	2600	1500	84	55	13
Vinyl Chloride	180000	$\mu g/m^3$	9.9	ND	11	ND	ND	9.9	7.2	7.2	ND	ND
Tetrachloroethene	1000	$\mu g/m^3$	660	18	7.8	6.1	ND	570	330	9.9	12	2.8 J

Table 4
GM-38 Area Groundwater Remediation
Groundwater Treatment Plant
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Air Sampling Results
Fourth Quarter 2012

DAR Parameters	SGC	Units	December 2012				
Process Stream			Influent (VCI1)	VC12	VC23	Effluent	Effluent Duplicate
Sampling Date			12/6/12				
Average Flowrate		CFM	NR	NR	NR	8,207	NR
Total Flow [(1)]		ft^3	NR	NR	NR	366,360,480	NR
Total Flow [(2)]		m^3	NR	NR	NR	10,374,174	NR
1,2-Dichloroethane	-	$\mu g/m^3$	3.8 J	ND	1.7 J	1.5 J	1.9 J
cis 1,2-Dichloroethene	-	$\mu g/m^3$	280	84	130	5.7	4.5
trans 1,2-Dichloroethene	-	$\mu g/m^3$	ND	ND	1.5 J	ND	ND
1,2-Dichloroethene (total)	-	$\mu g/m^3$	280	83	140	5.6 J	4.4 J
Toluene	37000	$\mu g/m^3$	5.0 J	1.6 J	1.4 J	ND	ND
Xylene	4300	$\mu g/m^3$	0.83 J	0.80 J	ND	ND	ND
1,1,2-Trichloroethane	-	$\mu g/m^3$	ND	ND	ND	ND	ND
Trichloroethene	14000	$\mu g/m^3$	3500	970	72	29	8.0
Vinyl Chloride	180000	$\mu g/m^3$	9.6	4.5	9.7	ND	ND
Tetrachloroethene	1000	$\mu g/m^3$	670	200	4.2 J	4.8 J	ND

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

Table 5
GM-38 Area Groundwater Remediation
Groundwater Treatment Plant
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Stack Emissions
Fourth Quarter 2012

DAR Parameters	Discharge Goal	Units	October 2012	November 2012	December 2012
Sampling Date			10/9/12	11/14/12	12/6/12
Average Flowrate		CFM	8,167	8,227	8,207
Total Flow		ft^3	364,574,880	355,401,000	366,360,480
Total Flow		m^3	10,323,611	10,063,836	10,374,174
Trichloroethene	0.09	lb/hr	0.00073	0.00039	0.00089
Vinyl Chloride	0.01	lb/hr	0.00000	0.00000	0.00000
1,2 Dichloroethene	0.03	lb/hr	0.00023	0.00017	0.00017
1,2-Dichloroethane	BRT	lb/hr	0.00009	0.00006	0.00005
Toluene	BRT	lb/hr	0.00008	0.00007	0.00000
Xylene	BRT	lb/hr	0.00006	0.00003	0.00000
1,1,2-Trichloroethane	BRT	lb/hr	0.00000	0.00000	0.00000
Tetrachloroethene	--	lb/hr	0.00019	0.00008	0.00015

Notes:
BRT - Below reporting thresholds
lb/hr - pounds per hour
DAR - Divison of Air Resources
CFM - Cubic feet per minute
Stack Emissions (lb/hr) = average flowrate (cfm) * $(0.3048^{\wedge 3})m^3/ft^3$ * conc.(ug/m^3) * 1 lb/453592370 ug * 60 min/hr

Table 6
GM-38 Area Groundwater Remediation
Groundwater Treatment Plant
Naval Weapons Industrial Reserve Plant - Bethpage, NY
2012 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-12	0.000144	0.107215	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Feb-12	0.000385	0.258625	0.000000	0.000000	0.000028	0.018750	0.000148	0.099139
Mar-12	0.000310	0.230575	0.000000	0.000000	0.000019	0.014025	0.000118	0.087951
Apr-12	0.000230	0.165819	0.000000	0.000000	0.000000	0.000000	0.000079	0.056727
May-12	0.000185	0.137855	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Jun-12	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Jul-12	0.000278	0.206655	0.000131	0.097523	0.019662	14.628411	0.000081	0.060371
Aug-12	0.000433	0.321823	0.000037	0.027585	0.003399	2.528606	0.000139	0.103443
Sep-12	0.002109	1.518536	0.000046	0.033012	0.003057	2.200777	0.000196	0.140850
Oct-12	0.000734	0.546232	0.000000	0.000000	0.000229	0.170697	0.000187	0.138834
Nov-12	0.000388	0.279126	0.000000	0.000000	0.000167	0.120239	0.000083	0.060120
Dec-12	0.000891	0.663263	0.000000	0.000000	0.000172	0.128078	0.000148	0.109781

	TCE	VC	1,2-DCE	PCE
Discharge Goal (lb/yr)	**99**	**3.7**	**7.3**	**NA**
2012 Total Emissions (lb/yr)	**4.4**	**0.16**	**19.6**	**0.86**

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

Stack Emissions (lb/hr) = average flowrate (cfm) * $(0.3048^{\wedge 3})m^3/ft^3$ * conc.(ug/m^3) * 1 lb/453592370 ug * 60 min/hr

Stack Emissions (lb/mo) = average flowrate (cfm) * $(0.3048^{\wedge 3})m^3/ft^3$ * conc.(ug/m^3) * 1 lb/453592370 ug * 60 min/hr * operational time (hr/mo)

Table 7
GM-38 Area Groundwater Remediation
Groundwater Treatment Plant
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Groundwater Level Measurements
December 2012

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	12/03/12	1140	85.86	435	395-435	35.52	50.34
RW1-MW2	12/03/12	1340	87.35	435	395-435	37.57	49.78
RW1-MW3	12/03/12	1430	80.34	435	395-435	28.20	52.14
RW2-MW1	12/03/12	1330	90.75	510	470-510	38.80	51.95
RW2-MW2	12/03/12	1505	90.15	510	470-510	38.04	52.11
RW2-MW3	12/03/12	1200	89.75	510	470-510	38.01	51.74
RW3-MW1	12/03/12	1250	92.22	350	330-350	37.49	54.73
RW3-MW2	12/03/12	1253	91.98	495	475-495	39.05	52.93
RW3-MW3	12/03/12	1305	92.98	340	320-340	38.79	54.19
RW3-MW4	12/03/12	1300	92.92	495	475-495	39.80	53.12
TP-1	12/03/12	1125	85.91	470	450-470	34.25	51.66
IW1-MW1	12/03/12	1400	89.41	150	130-150	36.47	52.94
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
December 2012

Location	Temp (ºC)	pH (SU)	S.C. (uS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Color (Visual)
RW1-MW1	13.89	4.29	165	0.89	415.9	0.63	clear
RW1-MW3	13.53	5.03	163	0.63	169.0	1.49	clear
RW2-MW1	12.61	8.65(1)	48	0.26	208.3	7.39	clear
RW3-MW1	13.88	5.01	125	3.88	264.2	4.12	clear
RW3-MW2	13.74	5.01	68	0.35	323.9	1.63	clear
RW3-MW3	14.54	5.38	123	0.77	207.9	8.79	clear
RW3-MW4	13.96	4.58	97	0.32	360.8	3.65	clear
TP-1	12.81	5.20	173	5.37	383.8	1.96	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
(1) Reading not consistent with historical trends; likely in error.

Table 9
GM-38 Area Groundwater Remediation
Groundwater Treatment Plant
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Summary of Detected Groundwater Analytical Results
December 2012

Sample ID	RW1-MW1	RW1-MW3	RW2-MW1	RW3-MW1	RW3-MW2		RW3-MW3	RW3-MW4	TP-01
Sample Date	12/4/2012	12/7/2012	12/7/2012	12/6/2012	12/4/2012	12/4/2012	12/4/2012	12/4/2012	12/4/2012
Comments						Duplicate			
VOCS (EPA 624) ug/L									
Benzene	ND	ND	0.68 J	ND	ND	ND	ND	ND	ND
Chloroform	ND	1.2 J	ND	0.63 J	0.62 J	0.64 J	0.88 J	0.71 J	2.5 J
1,1-dichloroethane	4.9	9.3	0.58 J	0.98 J	0.69 J	0.71 J	4.2	1.2	1.1
1,2-dichloroethane	ND	ND	ND	0.50 J	ND	ND	ND	ND	0.35 J
1,1-dichloroethene	2.0	2.2	0.19 J	0.65 J	0.40 J	0.43 J	1.9	0.19 J	0.23 J
cis-1,2-dichloroethene	108	0.46 J	0.33 J	0.44 J	1.6	1.6	1.2	ND	4.2
trans-1,2-dichloroethene	1.8	ND	ND	ND	ND	ND	ND	ND	ND
1,2-dichloropropane	ND	ND	ND	ND	ND	0.69 J	ND	ND	ND
Tetrachloroethene	ND	0.40 J	ND	0.44 J	ND	ND	0.43 J	ND	0.42 J
Toluene	ND	ND	0.27 J	ND	ND	ND	ND	ND	ND
1,1,1-trichloroethane	0.88 J	1.7	ND	0.34 J	0.42 J	0.43 J	0.85 J	ND	ND
1,1,2-trichloroethane	ND	0.54 J	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	85	1.6	0.73 J	42.8	173 J	171	291	4.5	22.0
Mercury (EPA 245.1) ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND
TSS (SM20 2540D) mg/L	ND	ND	10	ND	ND	ND	5	ND	ND

Note:

J = estimated value
ND - Not detected above laboratory method detection limit
mg/L = milligrams per liter
μg/L = micrograms per liter

Samples were analyzed for TCL VOCs by Method 624. Only those VOCs 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
Through Fourth Quarter 2012

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	3/8/2012	6/6/2012	6/6/2012	8/21/2012	12/4/2012	5/4/2005	7/22/2005	5/28/2009
Comments										Duplicate					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	ND	ND	ND	30 R	ND	NR	NR	NR
Acrylonitrile	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	NR	NR	NR
Acetone	ND	ND	ND	NR	ND	ND	ND	ND	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	NR	ND	ND	ND	ND	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	NR	ND	ND	ND	ND	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	NR	ND	ND	ND	ND	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	ND	ND	0.32J	ND	ND	ND	0.17J	ND	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	NR	NR	ND	NR	ND	ND	ND	ND	NR	NR	ND	ND	ND	ND	ND	ND	ND	NR	NR	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-chloroethylvinyl ether	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND	1.4	ND
Chloromethane	ND	ND	ND	NR	ND	ND	ND	ND	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-dichlorobenzene	NR	NR	ND	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	NR	NR	ND
1,3-dichlorobenzene	NR	NR	ND	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	NR	NR	ND
1,4-dichlorobenzene	NR	NR	ND	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	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	5.2	4.8	4.3	5.3	4.9	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	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	2.7	2.5	2.3	2.8	2.0	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	179	165	145	167	108	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	3.0	3.7	2.6	2.4	1.8	2.5	7.6	2.5
1,2-dichloropropane	ND	ND	ND	NR	ND	ND	ND	ND	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-dichloropropene	ND	ND	ND	NR	ND	ND	ND	ND	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-dichloropropene	ND	ND	ND	NR	ND	ND	ND	ND	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	ND	ND	ND	NR	ND	ND	ND	ND	NR	NR	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Tetrachloroethene	ND	ND	0.72J	ND	0.42J	ND	ND	ND	ND	ND	0.36 J	ND	ND	ND	ND	ND	ND	ND	134.0	19.0
Toluene	ND	0.33J	0.68	ND	ND	ND	ND	ND	NR	NR	ND	ND	ND	ND	ND	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	0.96 J	0.98 J	0.89 J	0.99 J	0.88 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	ND	ND	ND	ND	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	115	107	102	126	85	158.0	198.0	200.0
Trichlorofluoromethane	NR	NR	ND	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	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	ND	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	16	9	5	6	ND	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
Through Fourth Quarter 2012

Sample ID	RW1-MW3											
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	3/8/2012	6/7/2012	8/22/2012	12/7/2012
Comments												
Well Depth (Ft)	435											
Screened Interval (Ft)	395-435											
VOCS (EPA 624) ug/L												
Acrolein	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	30 R	ND
Acrylonitrile	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND
Acetone	NR	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND
Bromodichloromethane	NR	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND
Bromoform	NR	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND
Bromomethane	NR	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND
Dibromochloromethane	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND
Chloroethane	NR	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND
2-chloroethylvinyl ether	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND
Chloroform	0.67J	0.80J	0.47J	0.69J	0.73J	NR	0.97 J	ND	0.73 J	0.64 J	ND	1.2 J
Chloromethane	NR	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND
1,2-dichlorobenzene	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND
1,3-dichlorobenzene	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND
1,4-dichlorobenzene	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND
1,1-dichloroethane	2.4	4.6	1.5	2.3	2.4	9.3	10.1 J	2.1	8.4	5.7	9.4	9.3
1,2-dichloroethane	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	1.8	0.86 J	2.4	2.2
cis-1,2-dichloroethene	0.54J	0.48J	0.36J	0.55J	0.58J	0.59 J	0.43 J	0.55 J	0.68 J	0.33 J	0.56 J	0.46 J
trans-1,2-dichloroethene	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	ND
cis-1,3-dichloropropene	NR	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND
trans-1,3-dichloropropene	NR	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND
Methylene chloride	NR	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND
1,1,2,2-tetrachloroethane	NR	ND	ND	ND	ND	NR	ND	ND	ND	0.23 J	ND	ND
Tetrachloroethene	ND	049J	ND	ND	ND	0.33 J	0.62 J	ND	0.65 J	0.30 J	0.97 J	0.40 J
Toluene	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND
1,1,1-trichloroethane	0.41J	0.98J	ND	0.26J	0.33J	1.6	2.7 J	ND	ND	1.1 J	1.9	1.7
1,1,2-trichloroethane	0.62J	0.60J	0.36J	0.55J	0.41J	NR	0.57 J	0.63 J	0.70 J	0.61 J	0.56 J	0.54 J
Trichloroethene	1.2	1.6	0.58J	0.91J	1.0	1.4	1.8 J	1.0 J	2.2	1.3	2.3	1.6
Trichlorofluoromethane	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND
Vinyl chloride	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	ND	ND	ND	ND
TSS (SM20 2540D) mg/L	NR	8.0	<4.0	<4.0	<4.0	ND	ND	ND	5	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
Through Fourth Quarter 2012

Sample ID	RW2-MW1															RW2-MW2		RW2-MW3		
Sample Date	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	3/7/2012	6/6/2012	8/21/2012	12/7/2012	5/4/2005	7/21/2005	5/3/2005	7/20/2005	5/28/2009
Comments				EPA 624																
Well Depth (Ft)	510															510		510		
Screened Interval (Ft)	470-510															470-510		470-510		
VOCS (EPA 624) ug/L																				
Acrolein	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	30 R	ND	NR	NR	NR	NR	30 R
Acrylonitrile	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	NR	NR	NR	NR	NR
Acetone	ND	ND	ND	NR	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	0.15J	0.69J	0.58J	0.30J	NR	0.22 J	0.27 J	0.22 J	ND	ND	0.68 J	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	NR	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	NR	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	NR	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	NR	NR	ND	NR	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	NR	NR	NR	NR	ND
Chloroethane	ND	ND	ND	NR	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-chloroethylvinyl ether	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	NR	NR	NR	NR	NR
Chloroform	ND	ND	ND	ND	ND	ND	ND	ND	NR	ND	ND	ND	0.38 J	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ND	ND	ND	NR	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-dichlorobenzene	NR	NR	ND	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	NR	NR	NR	NR	ND
1,3-dichlorobenzene	NR	NR	ND	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	NR	NR	NR	NR	ND
1,4-dichlorobenzene	NR	NR	ND	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	NR	NR	NR	NR	ND
1,1-dichloroethane	0.53J	0.93J	1.2J	0.82J	0.60J	0.58J	0.42J	ND	0.61 J	0.64 J	ND	0.50 J	4.2	4.8	0.58 J	ND	0.78J	0.68J	0.31J	1.4
1,2-dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-dichloroethene	ND	0.58J	0.55J	0.63J	ND	ND	ND	ND	ND	ND	ND	ND	0.55 J	0.95 J	0.19 J	ND	0.41J	ND	ND	0.42J
cis-1,2-dichloroethene	ND	0.55J	1.9	1.0	0.78J	0.80J	0.55J	0.43J	0.56 J	0.32 J	0.39 J	0.34 J	0.32 J	0.39 J	0.33 J	0.33J	0.41J	0.40J	0.66J	2.3
trans-1,2-dichloroethene	ND	ND	ND	ND	ND	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	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-dichloropropene	ND	ND	ND	NR	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-dichloropropene	ND	ND	ND	NR	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	ND	ND	ND	NR	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-tetrachloroethane	ND	ND	ND	NR	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	0.85J	1.0	ND	0.52J	0.49J	0.50J	ND	NR	0.24 J	0.29 J	0.19 J	ND	ND	0.27 J	0.33J	0.53J	ND	0.50J	0.39J
1,1,1-trichloroethane	ND	0.37J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.33 J	ND	ND	ND	ND	ND	ND
1,1,2-trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	D	ND	ND	ND	ND
Trichloroethene	37.6	34.6	12.0	15.0	0.42J	ND	ND	1.7	1.6	0.89 J	0.67 J	0.67 J	9.0	20.8	0.73 J	7.8	13.8	16.2	20.6	18.0
Trichlorofluoromethane	NR	NR	ND	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	NR	NR	NR	NR	ND
Vinyl chloride	ND	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	0.05J	NR	<0.20	<0.20	<0.20	<0.20	ND	ND	ND	ND	ND	ND	ND	NR	NR	NR	NR	ND
TSS (SM20 2540D) mg/L	NR	NR	2260.0	NR	58.0	<4.0	<4.0	<4.0	181	5	36	6	25	12	10	NR	NR	NR	NR	14.8

Table 10
GM-38 Area Groundwater Remediation
Groundwater Treatment Plant
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Summary of Historical Groundwater Analytical Results
Through Fourth Quarter 2012

Sample ID	RW3-MW1													
Sample Date	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	3/7/2012	6/7/2012	8/22/2012	12/6/2012
Comments						duplicate				duplicate				
Well Depth (Ft)	350													
Screened Interval (Ft)	330-350													
VOCS (EPA 624) ug/L														
Acrolein	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	30 R	ND
Acrylonitrile	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND
Acetone	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND
Bromoform	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND
Bromomethane	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	ND	ND	ND	0.19J	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND
Chloroethane	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND
2-chloroethylvinyl ether	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	0.20J	ND	ND	NR	ND	ND	ND	ND	ND	ND	0.63 J
Chloromethane	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND
1,2-dichlorobenzene	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND
1,3-dichlorobenzene	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND
1,4-dichlorobenzene	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND
1,1-dichloroethane	1.6	1.5	1.7	1.4	1.3	1.3	1.1	1.0 J	0.96 J	0.93 J	0.90 J	0.80 J	0.87 J	0.98 J
1,2-dichloroethane	0.27J	ND	ND	ND	ND	ND	ND	0.57 J	ND	ND	0.43 J	ND	ND	0.50 J
1,1-dichloroethene	1.2	1.3	1.2	1.2	1.2	1.1	0.85 J	0.65 J	0.64 J	0.66 J	0.47 J	0.19 J	0.54 J	0.65 J
cis-1,2-dichloroethene	0.37J	ND	0.32J	0.45J	0.47J	0.45J	0.48 J	0.31 J	0.36 J	0.43 J	0.37 J	0.39 J	0.36 J	0.44 J
trans-1,2-dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-dichloropropane	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND
cis-1,3-dichloropropene	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND
trans-1,3-dichloropropene	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-tetrachloroethane	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	0.49J	0.81J	0.73J	1.5	1.4	1.6	1.2	1.3 J	1.0	1.1	1.0	0.33 J	ND	0.44 J
Toluene	ND	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	0.26 J	ND	ND
1,1,1-trichloroethane	ND	0.98J	0.84J	1.2	1.1	1.1	0.78 J	1.0 J	0.59 J	0.63 J	0.58 J	0.54 J	0.42 J	0.34 J
1,1,2-trichloroethane	ND	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	35.0	53.2	52.3	77.6	76.2	77.9	63.1	72.4 J	51.0	55.2	59.0	42.5	37.7	42.8
Trichlorofluoromethane	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	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	ND	ND	ND	ND	ND
TSS (SM20 2540D) mg/L	NR	<4.0	<4.0	<4.0	<4.0	<4.0	5160	ND	ND	ND	NR	17	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
Through Fourth Quarter 2012

Sample ID	RW3-MW2															
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	3/8/2012	6/7/2012	8/22/2012	8/22/2012	12/4/2012	12/4/2012
Comments		duplicate			duplicate									duplicate		duplicate
Well Depth (Ft)	495															
Screened Interval (Ft)	475-495															
VOCS (EPA 624) ug/L																
Acrolein	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	30 R	30 R	ND	ND
Acrylonitrile	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	NR	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	NR	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	NR	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	NR	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	ND	ND	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	NR	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	NR	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND	ND
2-chloroethylvinyl ether	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND	ND	ND	ND	NR	ND	ND	ND	0.23 J	ND	ND	0.62 J	0.64 J
Chloromethane	NR	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND	ND
1,2-dichlorobenzene	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND
1,3-dichlorobenzene	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND
1,4-dichlorobenzene	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND
1,1-dichloroethane	ND	ND	0.54J	ND	ND	ND	ND	0.52 J	0.37 J	ND	0.41 J	0.66 J	0.74 J	0.73 J	0.69 J	0.71 J
1,2-dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-dichloroethene	ND	ND	1.2	ND	ND	ND	ND	0.57 J	0.45 J	0.27 J	0.27 J	0.36 J	0.49 J	0.49 J	0.40 J	0.43 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	1.3	1.5	1.6	1.5	1.6	1.6
trans-1,2-dichloroethene	ND	ND	0.43 J	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	ND	ND	ND	ND	ND	0.69 J
cis-1,3-dichloropropene	NR	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-dichloropropene	NR	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	NR	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-tetrachloroethane	NR	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.28 J	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-trichloroethane	ND	ND	0.58J	ND	ND	ND	ND	0.39 J	0.43 J	ND	ND	0.54 J	0.52 J	0.49 J	0.42 J	0.43 J
1,1,2-trichloroethane	ND	ND	ND	ND	0.25 J	0.27J	ND	NR	0.32 J	0.32 J	0.32 J	ND	ND	ND	ND	ND
Trichloroethene	160	170	211	73	58.2	60.9	110	135	151	71.9	96.5	209	198	192	173 J	171
Trichlorofluoromethane	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	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	NR	<0.20	<0.20	<0.20	<0.20	<0.20	ND	ND	ND	ND	ND	ND	ND	ND	ND
TSS (SM20 2540D) mg/L	NR	NR	5.0	6.0	ND	10.0	10.0	7	6	ND	8	ND	ND	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
Through Fourth Quarter 2012

Sample ID	RW3-MW3													
Sample Date	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	3/7/2012	3/7/2012	6/7/2012	8/22/2012	12/4/2012
Comments			duplicate								duplicate			
Well Depth (Ft)	340													
Screened Interval (Ft)	320-340													
VOCS (EPA 624) ug/L														
Acrolein	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	150 R	ND
Acrylonitrile	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND
Acetone	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND
Bromoform	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND
Bromomethane	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	ND	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND
Chloroethane	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND
2-chloroethylvinyl ether	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND
Chloroform	ND	ND	0.40J	0.46J	ND	0.33J	NR	0.48 J	ND	0.42 J	0.42 J	2.3 J	ND	0.88 J
Chloromethane	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND
1,2-dichlorobenzene	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND
1,3-dichlorobenzene	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND
1,4-dichlorobenzene	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND
1,1-dichloroethane	ND	1.6	1.6	2.3	1.0	1.5	7.1	3.2 J	1.5	3.3	3.3	2.6 J	ND	4.2
1,2-dichloroethane	ND	0.52J	0.54J	ND	ND	ND	0.37 J	ND	ND	ND	ND	ND	ND	ND
1,1-dichloroethene	ND	1.1	1.3	1.2	ND	0.96J	2.6	1.8 J	0.96 J	1.9	1.9	1.7 J	1.4 J	1.9
cis-1,2-dichloroethene	ND	2.1	2.1	1.7	ND	2.3	1.2	1.9	2.1	2.1	2.1	1.4 J	1.8 J	1.2
trans-1,2-dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-dichloropropane	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND
cis-1,3-dichloropropene	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND
trans-1,3-dichloropropene	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-tetrachloroethane	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	ND	0.45J	0.49J	ND	ND	ND	0.40 J	0.50 J	ND	0.72 J	0.69 J	ND	ND	0.43 J
Toluene	ND	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND
1,1,1-trichloroethane	ND	0.95J	1.0J	0.72J	ND	0.62J	1.3	1.0 J	0.49 J	0.84 J	0.87 J	ND	ND	0.85 J
1,1,2-trichloroethane	ND	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	350	397	382	297	8.5	288	331	215 J	250	312	325	285	248	291
Trichlorofluoromethane	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	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	ND	ND	ND	ND	ND	ND
TSS (SM20 2540D) mg/L	NR	4.0	5.0	<4.0	<4.0	<4.0	ND	ND	ND	ND	ND	13	10	5

Table 10
GM-38 Area Groundwater Remediation
Groundwater Treatment Plant
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Summary of Historical Groundwater Analytical Results
Through Fourth Quarter 2012

Sample ID	RW3-MW4												
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	3/7/2012	6/7/2012	8/22/2012	12/4/2012
Comments				duplicate									
Well Depth (Ft)	495												
Screened Interval (Ft)	475-495												
VOCS (EPA 624) ug/L													
Acrolein	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	30 R	ND
Acrylonitrile	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND
Acetone	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND
Bromodichloromethane	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND
Bromoform	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND
Bromomethane	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	ND	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND
Dibromochloromethane	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND
Chloroethane	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND
2-chloroethylvinyl ether	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND	0.32J	ND	NR	0.87 J	ND	0.38 J	ND	ND	0.71 J
Chloromethane	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND
1,2-dichlorobenzene	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND
1,3-dichlorobenzene	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND
1,4-dichlorobenzene	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	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	1.8	0.50 J	ND	1.2
1,2-dichloroethane	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	0.21 J	ND	ND	0.19 J
cis-1,2-dichloroethene	0.46J	ND	ND	ND	1.6	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-dichloropropane	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND
cis-1,3-dichloropropene	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND
trans-1,3-dichloropropene	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND
Methylene chloride	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND
1,1,2,2-tetrachloroethane	NR	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND
1,1,1-trichloroethane	ND	ND	ND	ND	0.67J	ND	ND	0.66 J	ND	ND	ND	ND	ND
1,1,2-trichloroethane	ND	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND
Trichloroethene	21	11	7.5	8.0	308	7.7	6.7	3.4 J	5.6	4.6	5.4	5.5	4.5
Trichlorofluoromethane	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND
Vinyl chloride	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	ND	ND	ND	ND
TSS (SM20 2540D) mg/L	NR	16.0	<4.0	<4.0	<4.0	<4.0	ND	11	6	5	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
Through Fourth Quarter 2012

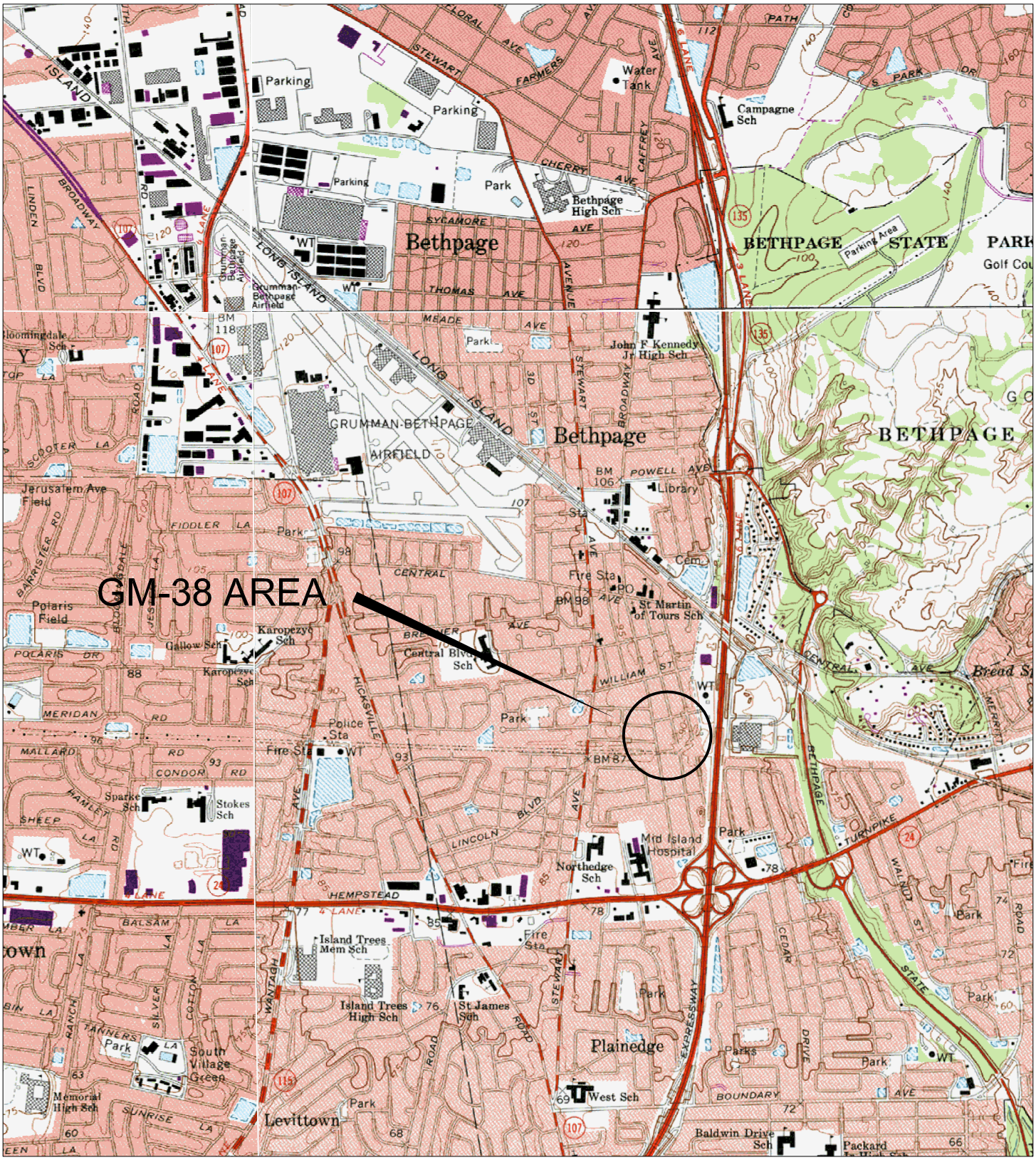
Sample ID	TP-01									IW-1 MW-1	IW-1
Sample Date	1/21/2010	6/15/2011	9/27/2011	9/27/2011	11/30/2011	3/8/2012	6/6/2012	8/22/2012	12/4/2012	5/3/2005	5/27/2009
Comments				Duplicate							
Well Depth (Ft)	470									150	230
Screened Interval (Ft)	470-510									130-150	200-230
VOCS (EPA 624) ug/L											
Acrolein	NR	NR	ND	ND	ND	ND	ND	30 R	ND	NR	NR
Acrylonitrile	NR	NR	ND	ND	ND	ND	ND	ND	ND	NR	NR
Acetone	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ND	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	ND	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ND	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	NR	NR	ND	ND	ND	ND	ND	ND	ND	NR	ND
Chloroethane	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-chloroethylvinyl ether	NR	NR	ND	ND	ND	ND	ND	ND	ND	NR	NR
Chloroform	ND	NR	0.68 J	0.74 J	ND	0.74 J	0.82 J	ND	2.5 J	0.94J	0.98J
Chloromethane	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-dichlorobenzene	NR	NR	ND	ND	ND	ND	ND	ND	ND	NR	ND
1,3-dichlorobenzene	NR	NR	ND	ND	ND	ND	ND	ND	ND	NR	ND
1,4-dichlorobenzene	NR	NR	ND	ND	ND	ND	ND	ND	ND	NR	ND
1,1-dichloroethane	3.6J	5.0	3.7	3.7	2.9	3.7	3.7	3.4	1.1	0.39J	0.22J
1,2-dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	0.35 J	ND	ND
1,1-dichloroethene	ND	1.7	1.1	1.0	1.0	1.2	1.4	1.1	0.23 J	ND	ND
cis-1,2-dichloroethene	190	43.4	40.4	40.2	74.9	53.3	29.9	16.1	4.2	ND	ND
trans-1,2-dichloroethene	3.0J	1.1	1.0 J	0.92 J	1.1	0.87 J	0.79 J	0.35 J	ND	ND	ND
1,2-dichloropropane	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-dichloropropene	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-dichloropropene	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-tetrachloroethane	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	3.4J	3.3	4.4	4.4	3.6	4.7	6.0	4.0	0.42 J	ND	ND
Toluene	ND	NR	ND	ND	ND	ND	ND	ND	ND	ND	0.19J
1,1,1-trichloroethane	ND	0.63 J	0.73 J	0.76 J	0.29 J	0.57 J	1.1 J	0.86 J	ND	0.47	0.49J
1,1,2-trichloroethane	ND	NR	0.31 J	0.31 J	0.32 J	ND	ND	ND	ND	ND	ND
Trichloroethene	65	35.3	41.0	39.6	38.0	38.1	40.4	27.9	22.0	ND	0.17J
Trichlorofluoromethane	NR	NR	ND	ND	ND	ND	ND	ND	ND	NR	ND
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Mercury (EPA 245.1) ug/L	NR	ND	ND	ND	ND	ND	ND	ND	ND	NR	0.20
TSS (SM20 2540D) mg/L	NR	63	18	NR	ND	7	6	ND	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 consistent 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



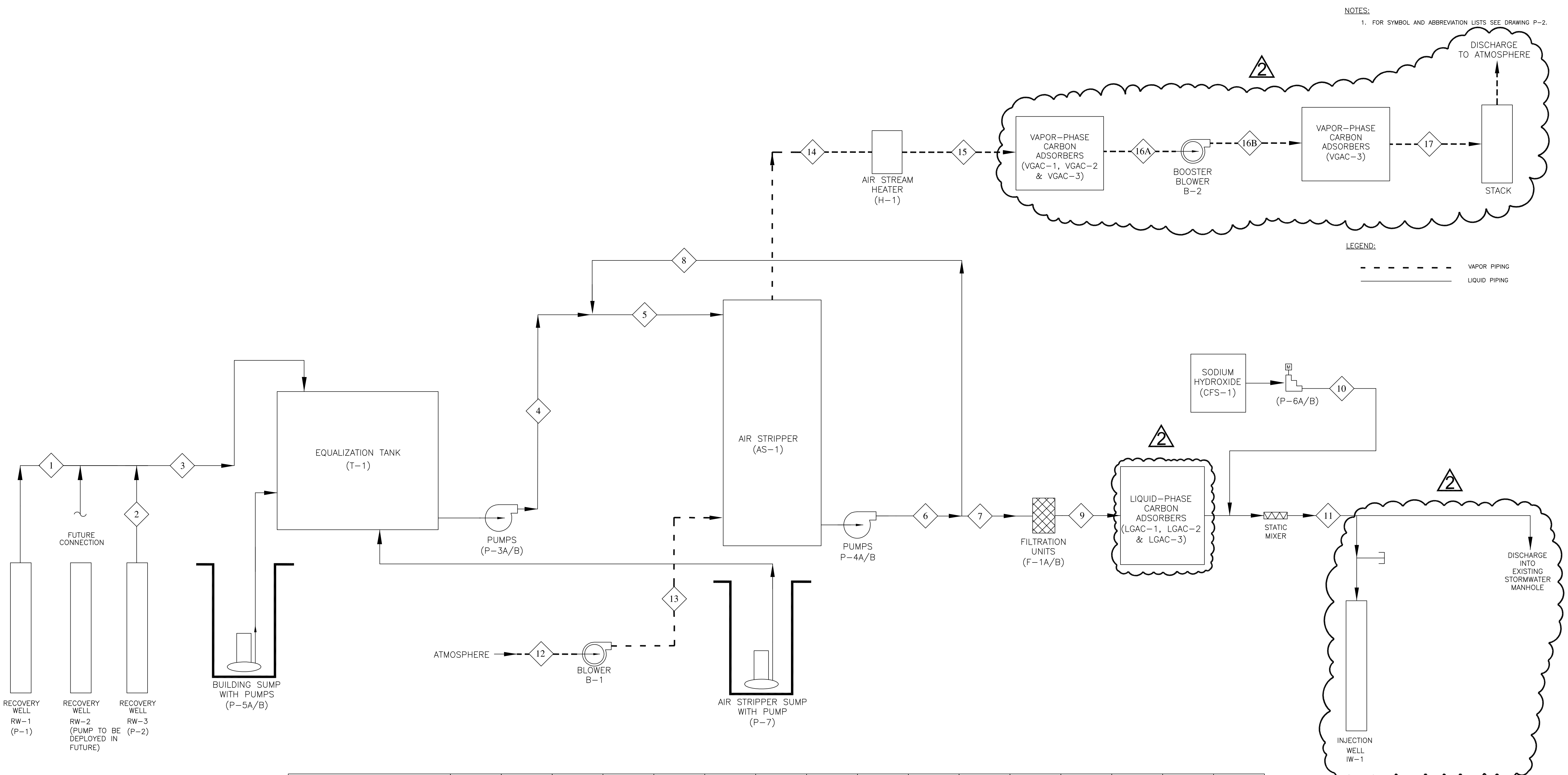
Source: U.S.G.S. Topographic Maps (7.5 Minute)
Amityville, Freeport, Hicksville, Huntington, NY Quadrangles

U.S. Navy RAC
Engineering Field Activity, Northeast

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

Figure 1
Site Location Map

P:\LantDiv\Bethpage\CAD - GIS\Dwg\O&M Manual\Site Location Map.dwg, 6/29/2009 3:33:52 PM



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

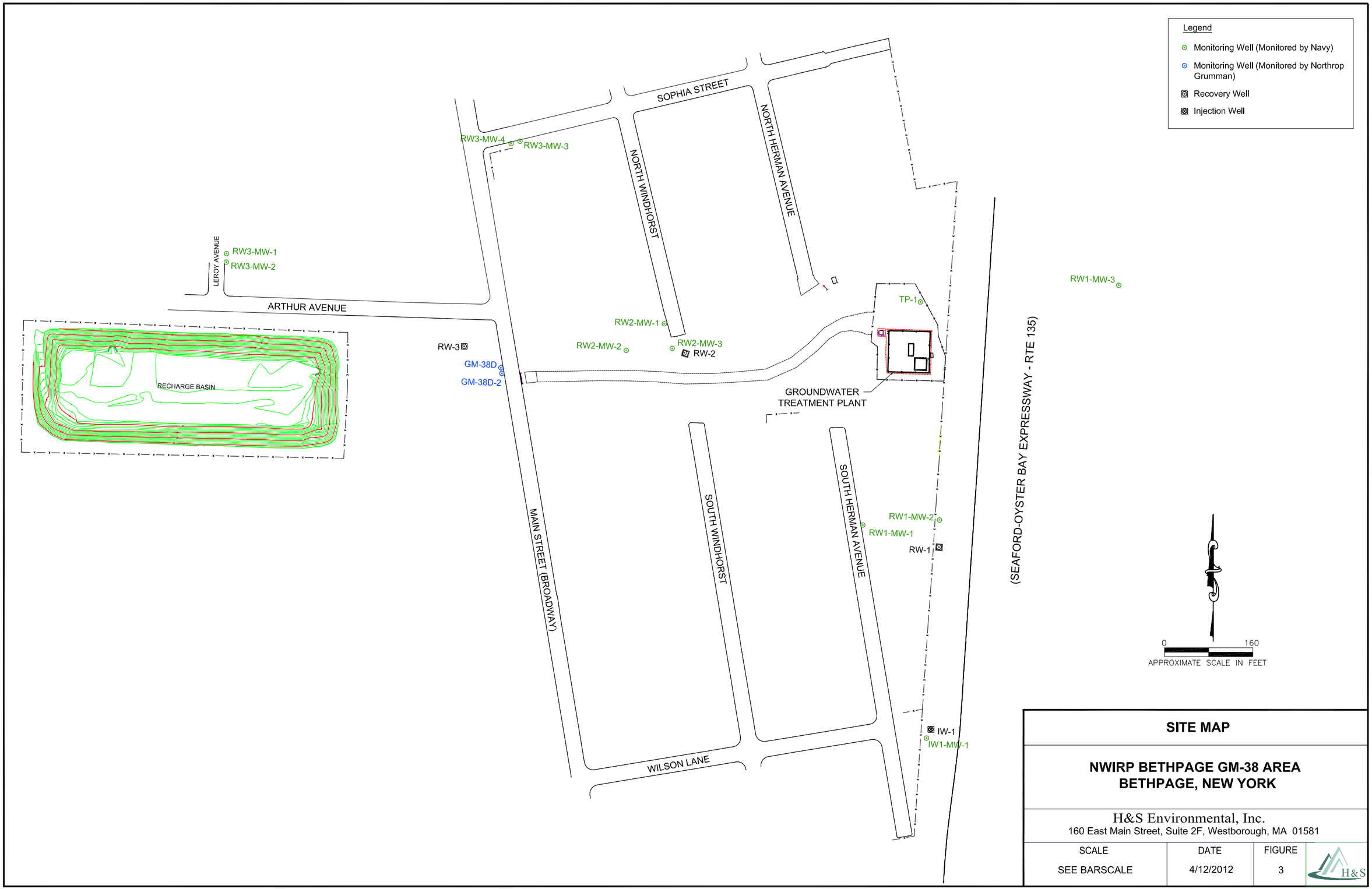
THIS DRAWING PRODUCED ON AUTOCAD DO NOT REVISE MANUALLY

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
CONSTR. CONTR. NO. N62472-99-D-0032
NAVFAC DRAWING NO. Figure 2
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	3/7/2012	6/7/2012	8/22/2012	12/4/2012
cis-1,2-DCE	ND	ND	ND	ND
PCE	ND	ND	ND	ND
TCE	4.6	5.4	5.5	4.5
VC	ND	ND	ND	ND

RW3-MW3	3/7/2012	3/7/2012 - DUP	6/7/2012	8/22/2012	12/4/2012
cis-1,2-DCE	2.1	2.1	1.4 J	1.8 J	1.2
PCE	0.72 J	0.69 J	ND	ND	0.43 J
TCE	312	325	285	248	291
VC	ND	ND	ND	ND	ND

RW3-MW2	3/8/2012	6/7/2012	8/22/2012	8/22/2012 - DUP	12/4/2012	12/4/2012 - DUP
cis-1,2-DCE	1.3	1.5	1.6	1.5	1.6	1.6
PCE	ND	ND	0.28 J	ND	ND	ND
TCE	96.5	209	198	192	173 J	171
VC	ND	ND	ND	ND	ND	ND

RW3-MW1	3/7/2012	6/7/2012	8/22/2012	12/6/2012
cis-1,2-DCE	0.37 J	0.39 J	0.36 J	0.44 J
PCE	1.0	0.33 J	ND	0.44 J
TCE	59.0	42.5	37.7	42.8
VC	ND	ND	ND	ND

RW2-MW1	3/7/2012	6/6/2012	8/21/2012	12/7/2012
cis-1,2-DCE	0.34 J	0.32 J	0.39 J	0.33 J
PCE	ND	ND	ND	ND
TCE	0.67 J	9.0	20.8	0.73 J
VC	ND	ND	ND	ND

TP-01	3/8/2012	6/6/2012	8/22/2012	12/4/2012
cis-1,2-DCE	53.3	29.9	16.1	4.2
PCE	4.7	6.0	4.0	0.42 J
TCE	38.1	40.4	27.9	22.0
VC	ND	ND	ND	ND

RW1-MW3	3/8/2012	6/7/2012	8/22/2012	12/7/2012
cis-1,2-DCE	0.68 J	0.33 J	0.56 J	0.46 J
PCE	0.65 J	0.30 J	0.97 J	0.40 J
TCE	2.2	1.3	2.3	1.6
VC	ND	ND	ND	ND

RW-3	3/7/2012	6/6/2012	8/6/2012	12/12/2012
cis-1,2-DCE	1.8 J	1.4 J	2.1 J	1.6 J
PCE	ND	3.4 J	ND	1.9 J
TCE	307	296	327	261
VC	ND	ND	ND	ND

RW1-MW1	3/8/2012	6/6/2012	6/6/2012 - DUP	8/21/2012	12/4/2012
cis-1,2-DCE	179	165	145	167	108
PCE	ND	ND	ND	ND	ND
TCE	115	107	102	126	85
VC	ND	ND	ND	ND	ND

RW-1	3/7/2012	6/6/2012	8/6/2012	12/12/2012
cis-1,2-DCE	38.4	39.3	35.7	32.4
PCE	78.9	76.0	66.8	65.2
TCE	333	308	305	232
VC	2.7 J	2.1	2.3 J	1.4 J

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
- DCE Dichloroethene
- PCE Tetrachloroethane
- TCE Trichloroethane
- VC Vinyl Chloride

Notes:
All concentrations reported in µg/L.

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.

SOPHIA STREET
NORTH WINDHORST
NORTH HERMAN AVENUE
LEROY AVENUE
ARTHUR AVENUE
RECHARGE BASIN
GROUNDWATER TREATMENT PLANT
SOUTH WINDHORST
SOUTH HERMAN AVENUE
MAIN STREET (BROADWAY)
WILSON LANE
(SEAFORD-OYSTER BAY EXPRESSWAY - RTE 135)

RW3-MW-4
RW3-MW-3
RW3-MW-1
RW3-MW-2
RW2-MW-1
RW2-MW-2
RW2-MW-3
RW-2
RW-3
GM-38D
GM-38D-2
TP-1
RW1-MW-3
RW1-MW-2
RW1-MW-1
RW-1
IW-1
IW1-MW-1

0 160
APPROXIMATE SCALE IN FEET

2012 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	4/24/2013	4

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

RW1

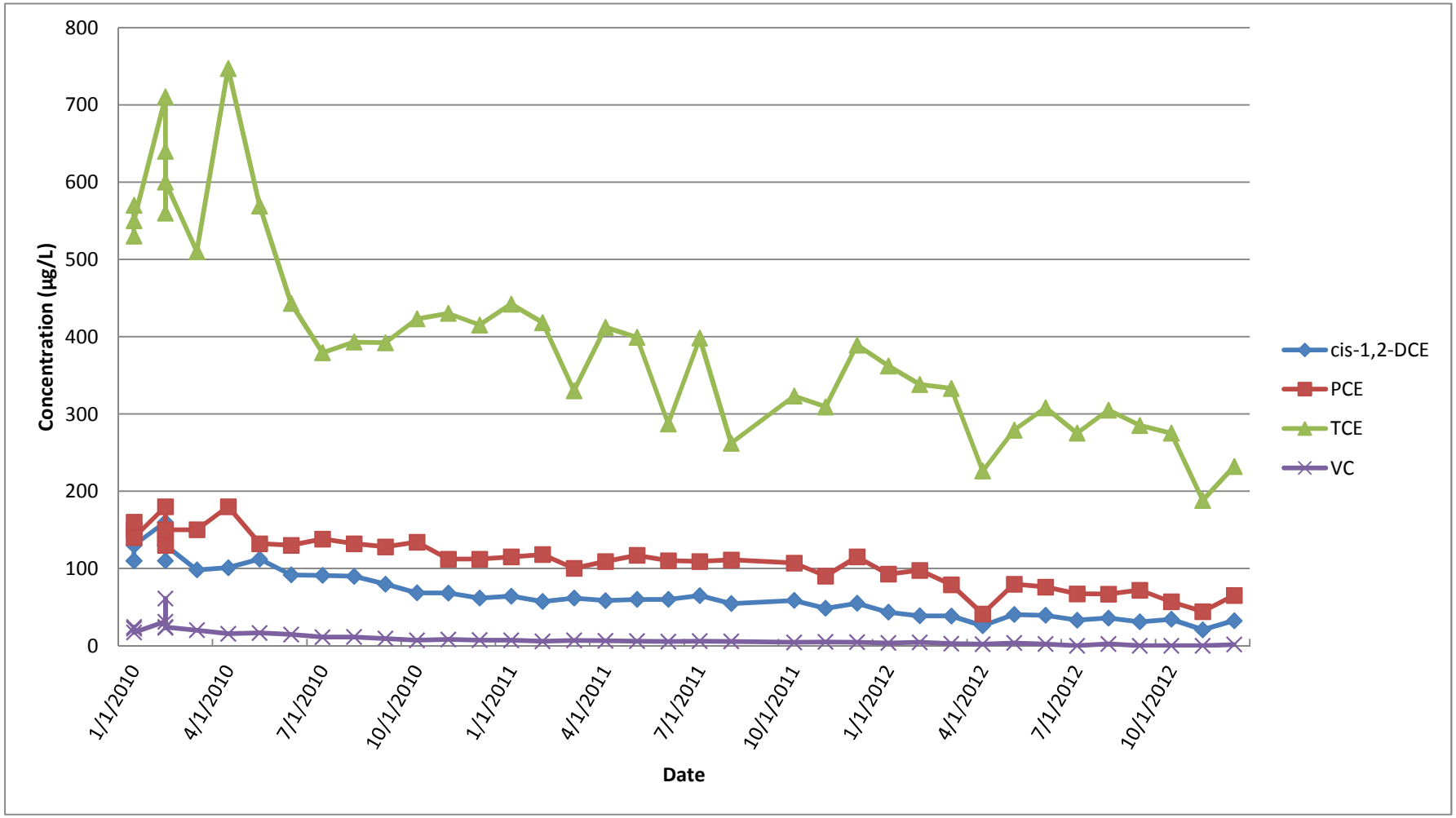


Figure 6
GM-38 Area Groundwater Remediation
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Groundwater Concentration Trends of Select VOCs

RW3

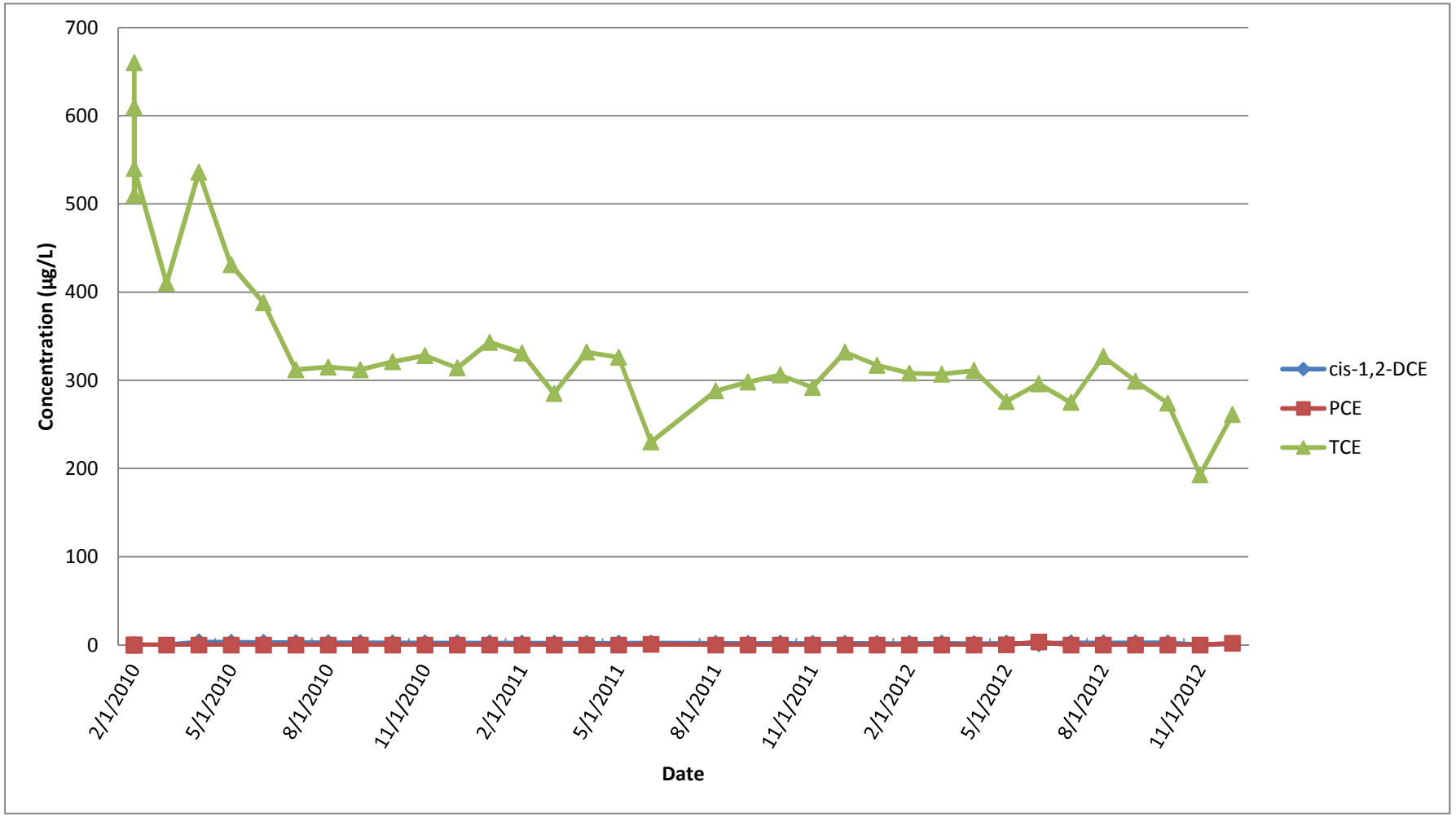


Figure 7
GM-38 Area Groundwater Remediation
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Groundwater Concentration Trends of Select VOCs

RW1-MW1

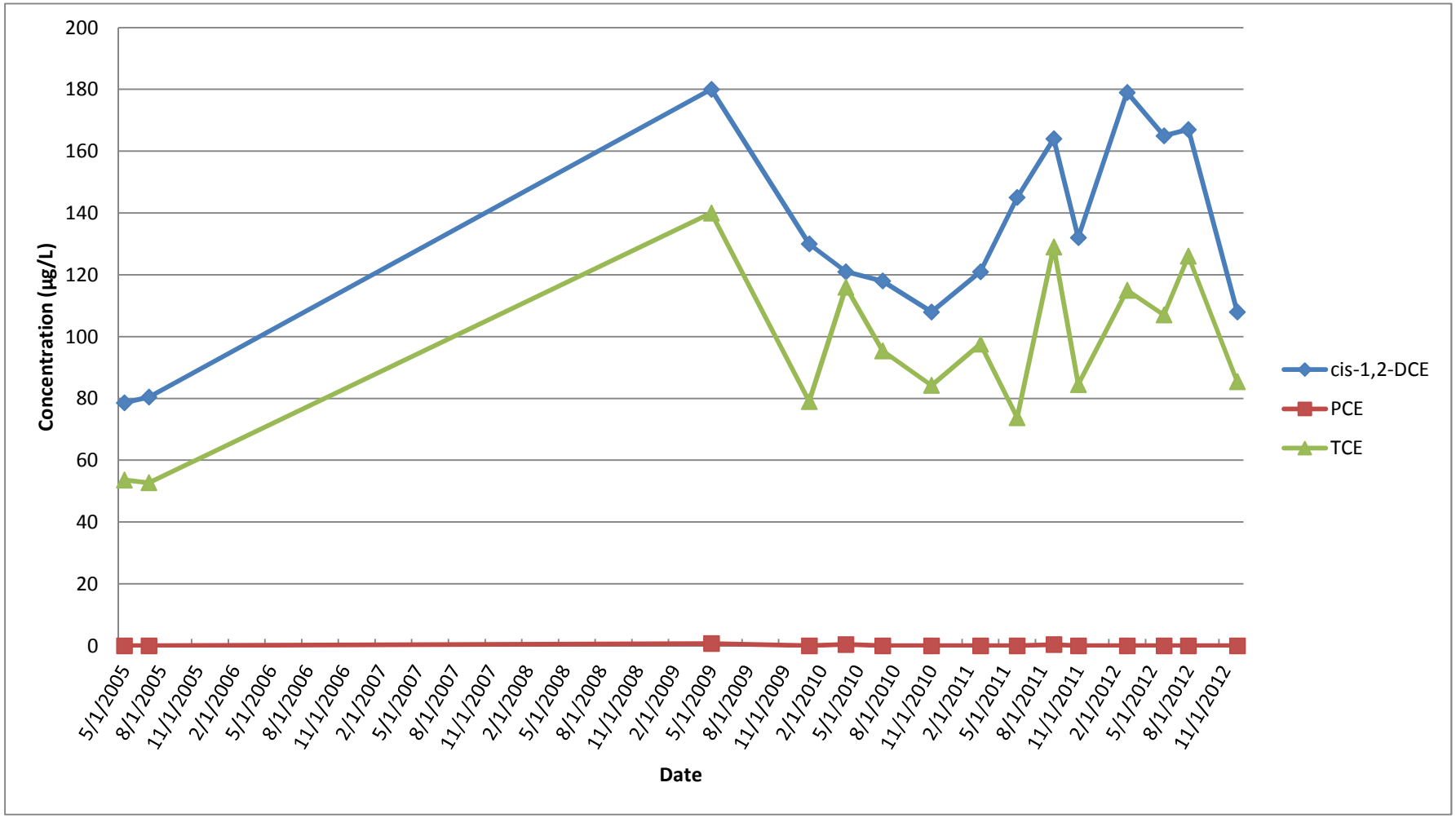


Figure 8
GM-38 Area Groundwater Remediation
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Groundwater Concentration Trends of Select VOCs

RW1-MW3

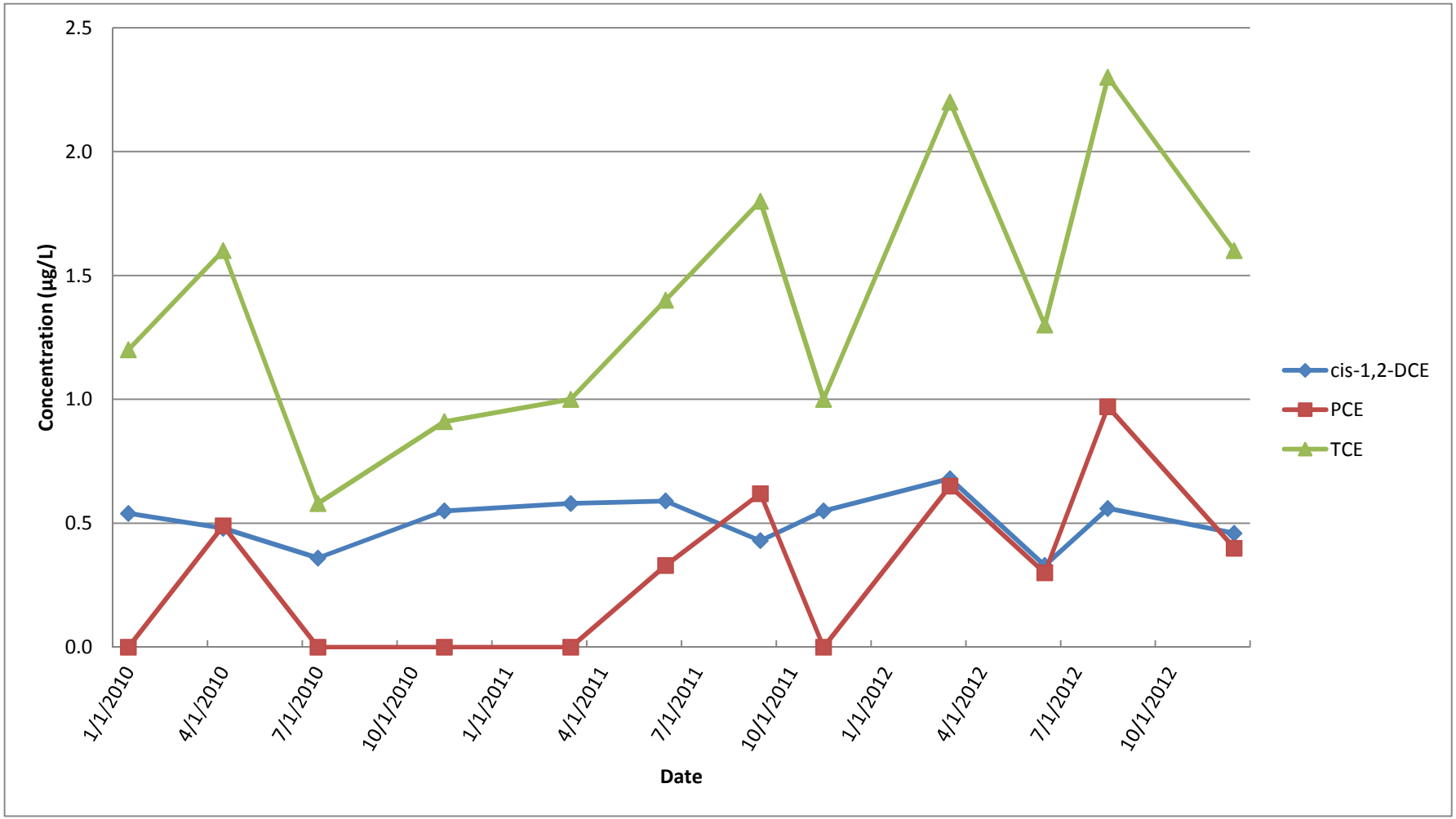


Figure 9
GM-38 Area Groundwater Remediation
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Groundwater Concentration Trends of Select VOCs

RW2-MW1

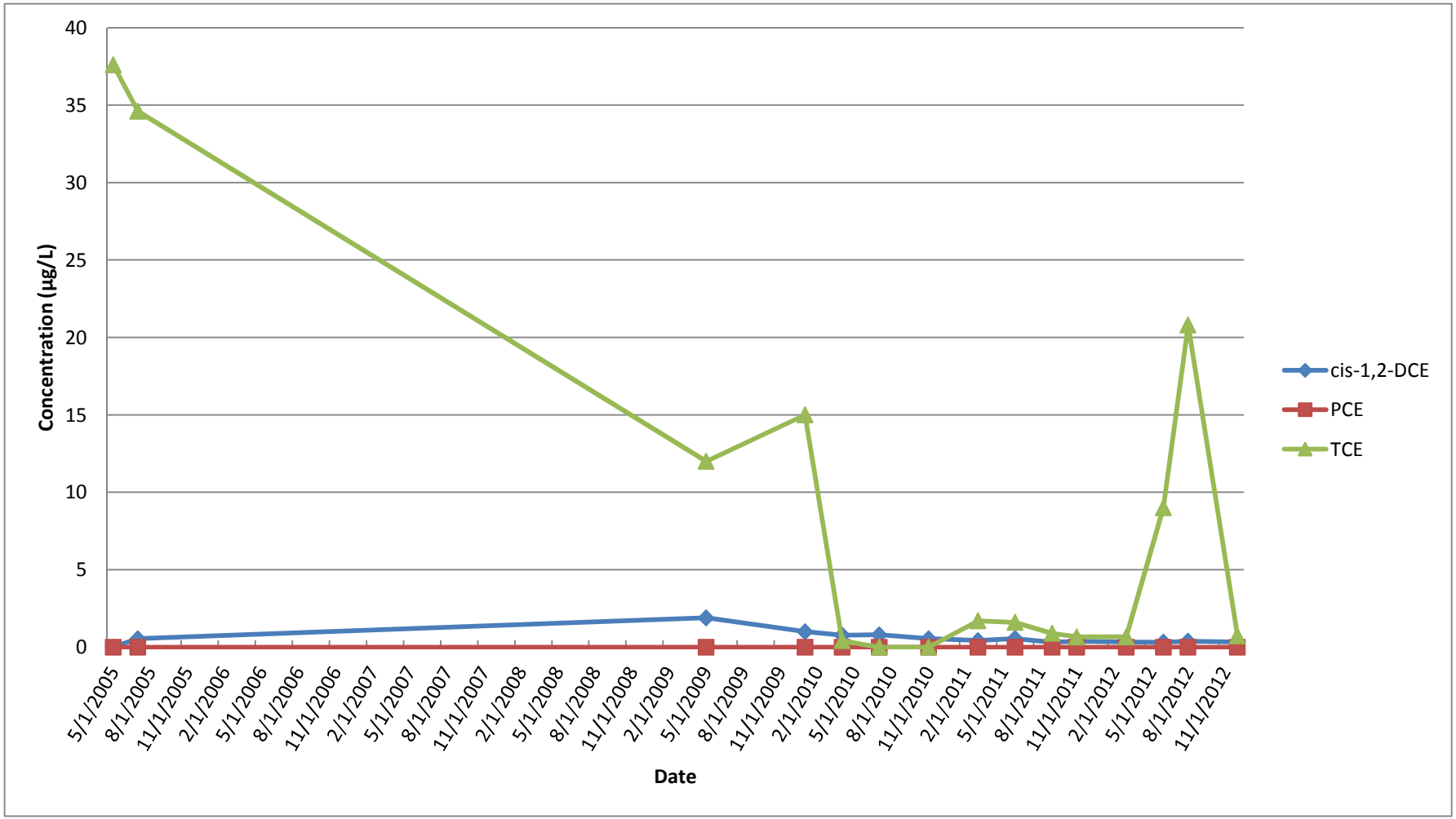


Figure 10
GM-38 Area Groundwater Remediation
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Groundwater Concentration Trends of Select VOCs

RW3-MW1

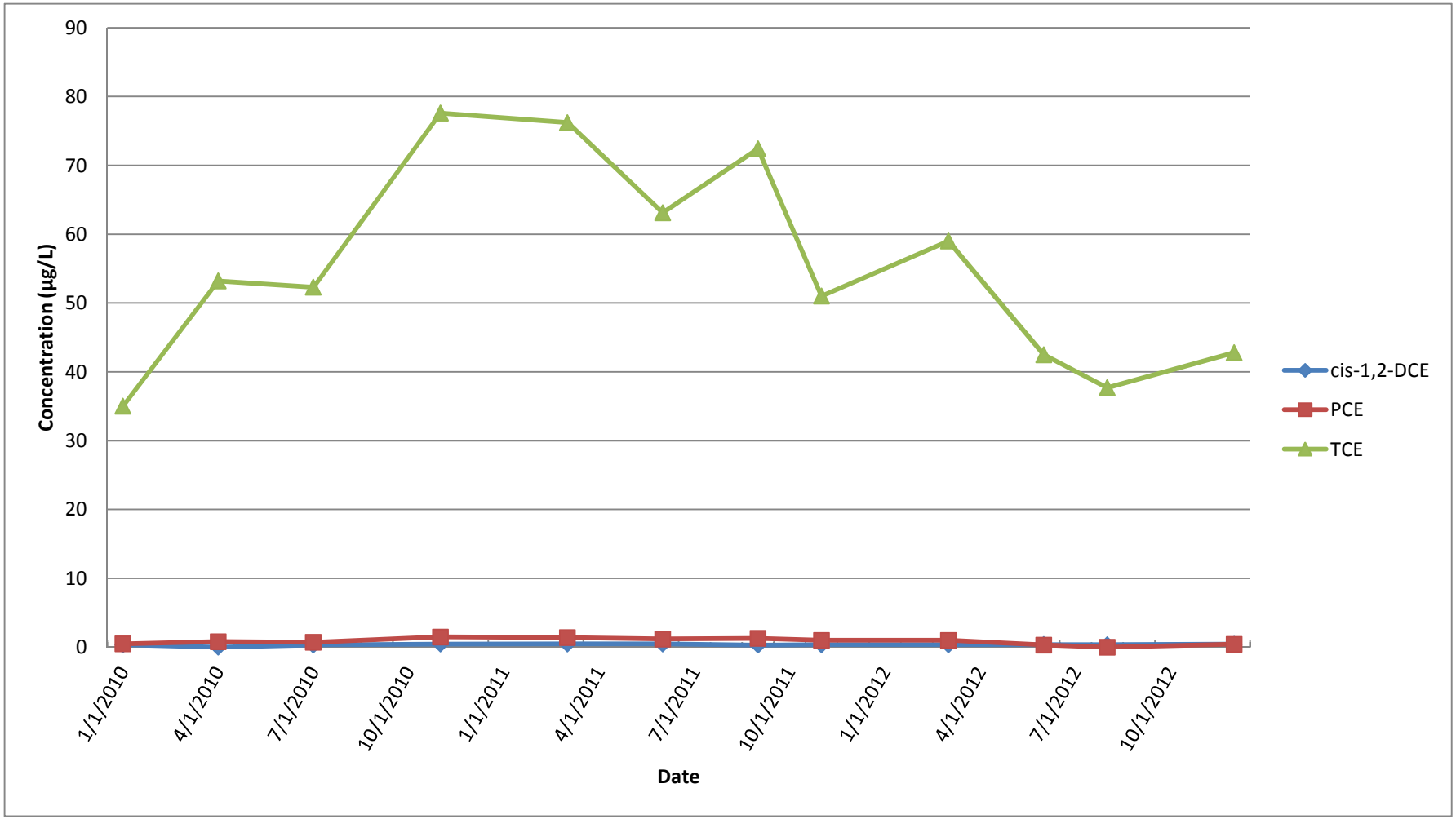


Figure 11
GM-38 Area Groundwater Remediation
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Groundwater Concentration Trends of Select VOCs

RW3-MW2

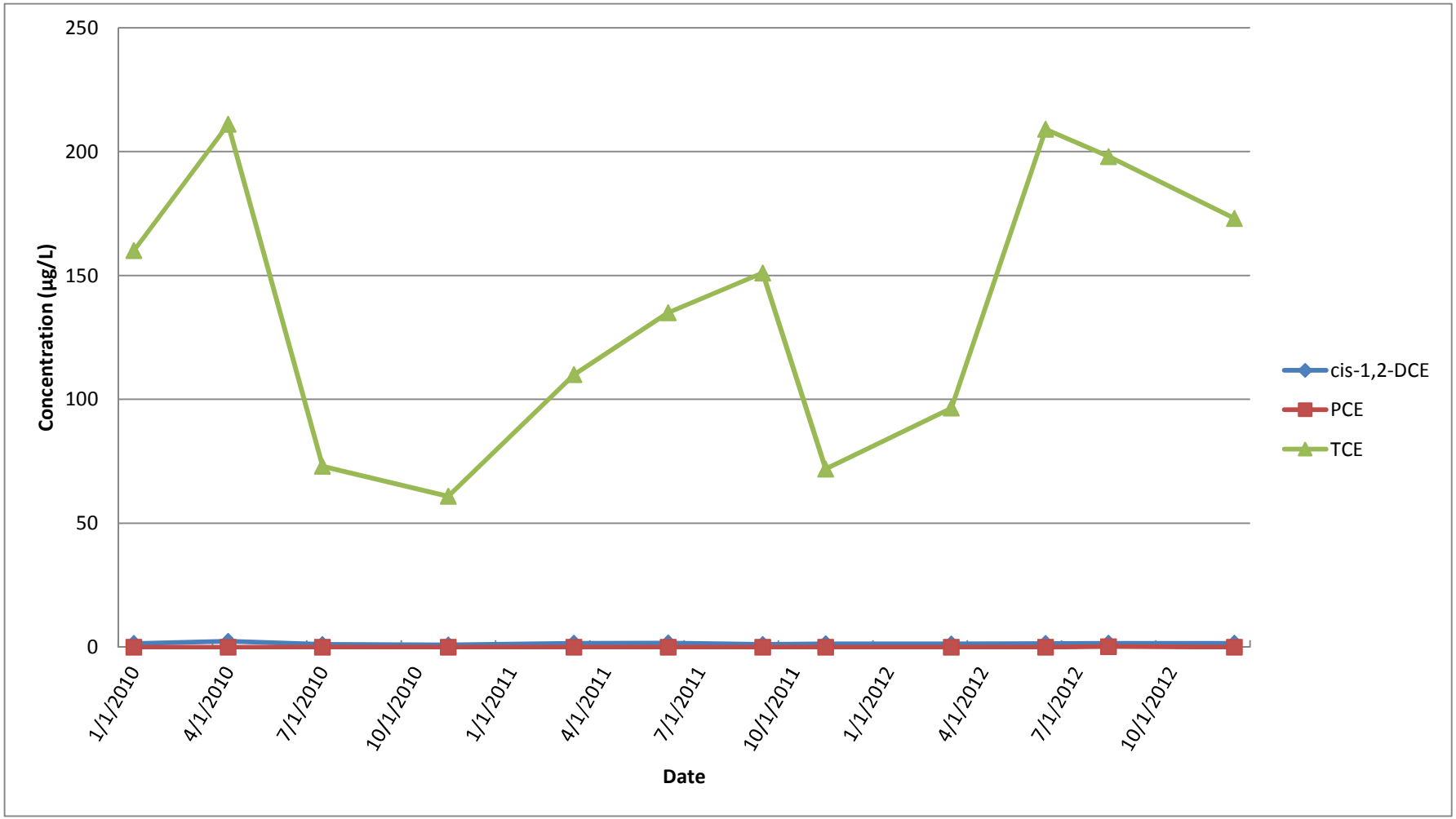


Figure 12
GM-38 Area Groundwater Remediation
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Groundwater Concentration Trends of Select VOCs

RW3-MW3

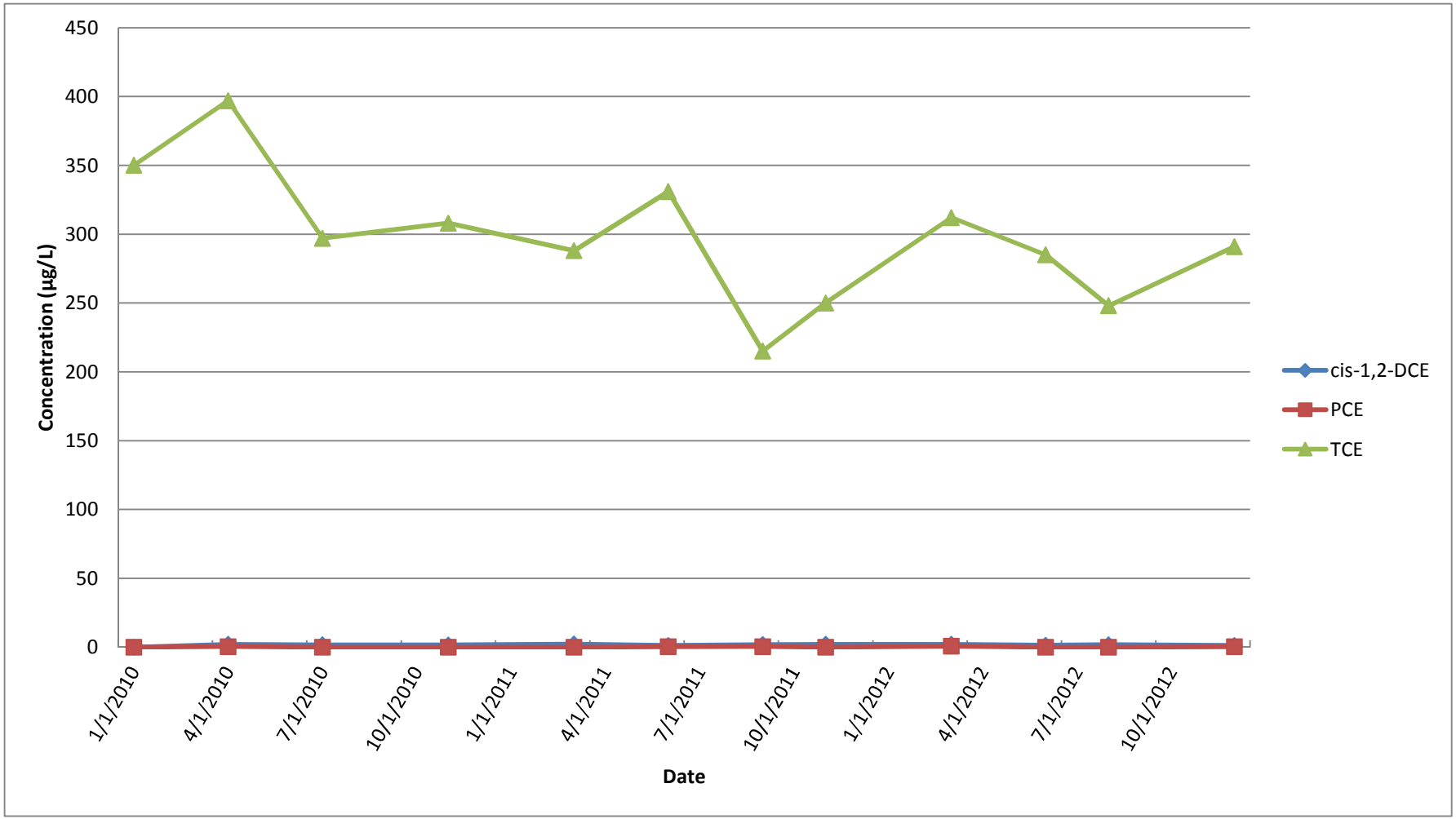


Figure 13
GM-38 Area Groundwater Remediation
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Groundwater Concentration Trends of Select VOCs

RW3-MW4

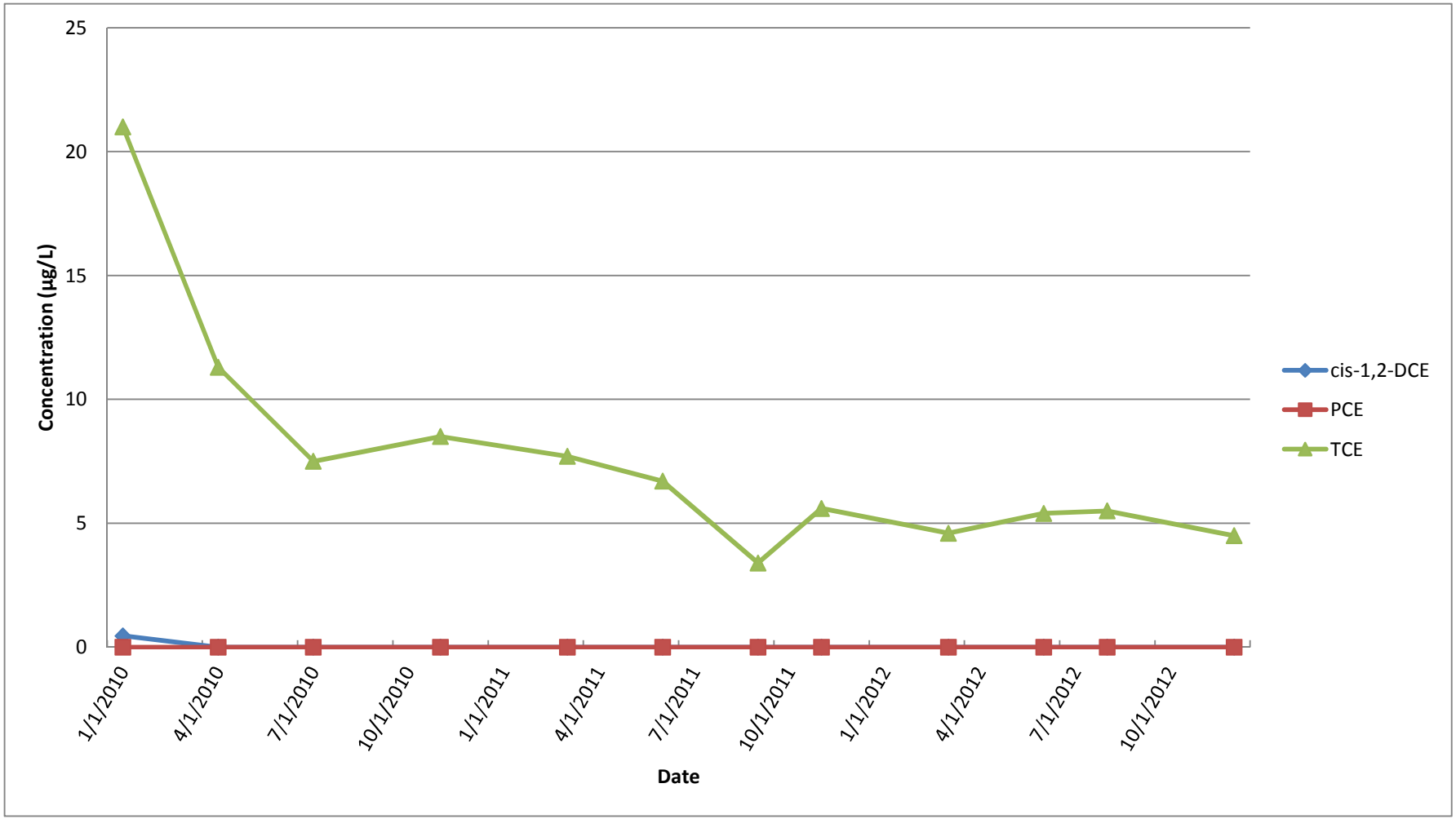
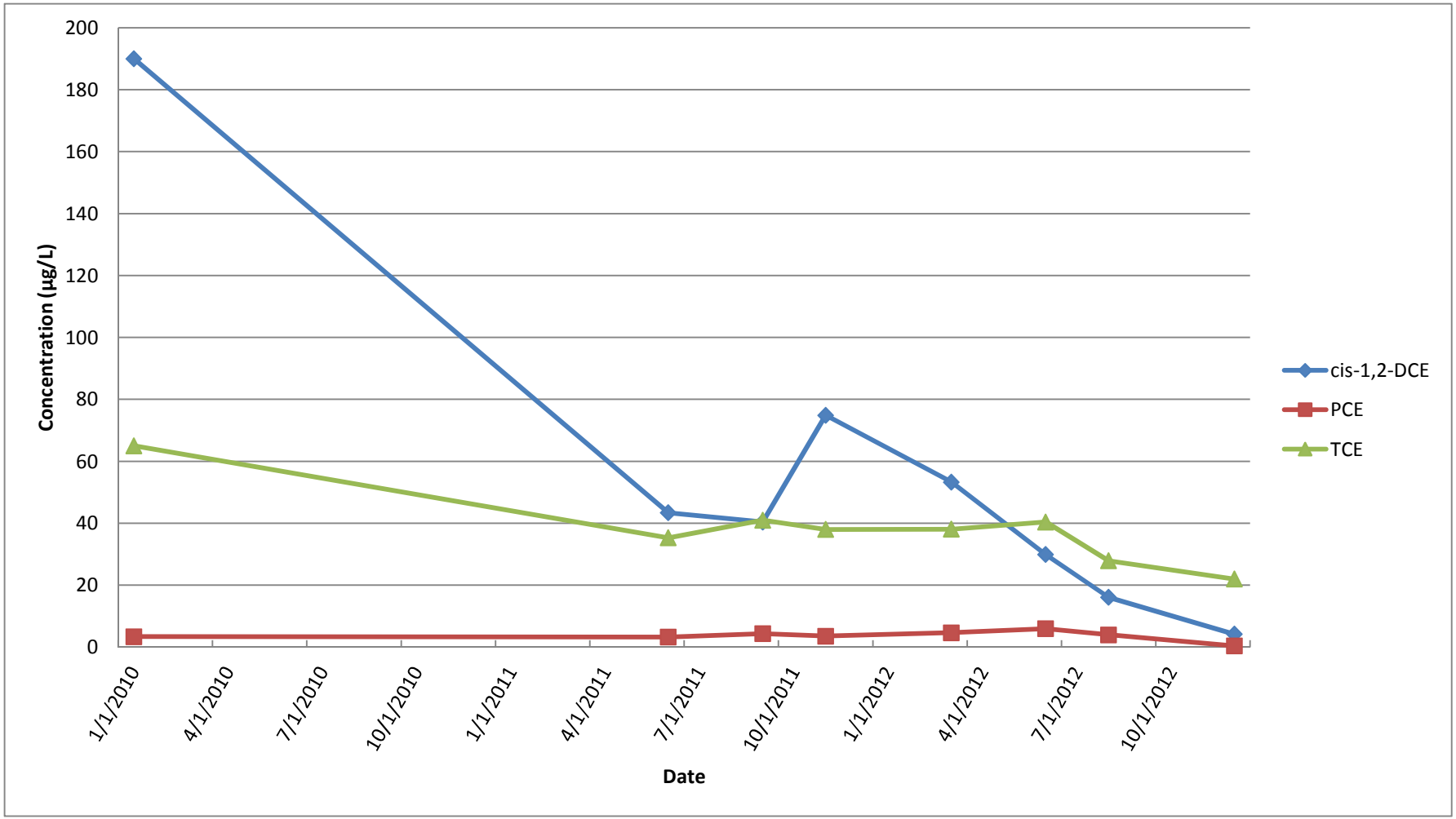


Figure 14
GM-38 Area Groundwater Remediation
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Groundwater Concentration Trends of Select VOCs

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 2012

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

14 November 2012

Mr. Steven Scharf
New York State Department of Environmental Conservation
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 2012 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 2012 to 31 October 2012 are included in Attachment A. All constituents were within permit limitations during this reporting period.

Please contact me at 508-366-7442 with any questions or concerns you may have regarding this report.

Sincerely,
H&S Environmental, Inc.

Jennifer Good, P.G.
Project Manager

Attachment A: Groundwater and Air Sampling Results from October 2012

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 – H&S
GM-38 Copy

ATTACHMENT A

GROUNDWATER AND AIR SAMPLING RESULTS

OCTOBER 2012

GM-38 Area Groundwater Remediation
Groundwater Treatment Plant
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Controlled Stack Emissions
October 2012

SPDES Parameters	October 2012					
Process Stream	Daily Treated Effluent Maximum	Units	RW-1	RW-3	Combined Influent [(1)] (RW-1 + RW-3)	Treated Effluent
Well Depth	N/A	ft	445	530	N/A	N/A
Screened Interval	N/A	ft bgs	335-395 410-430	392-412 442-504	N/A	N/A
Sampling Date	N/A		10/9/12			
Average Flowrate	1100	GPM	685	143	828	829
Total Flow	N/A	gallons	30,587,400	6,372,525	36,959,925	37,001,000
pH	5.5 - 8.5	SU	5.9	6.0	5.9	6.8
Carbon Tetrachloride	NA	µg/L	ND	ND	ND	ND
1,1-Dichloroethane	5	µg/L	2.8 J	2.1 J	2.7 J	ND
1,2-Dichloroethane	0.6	µg/L	ND	ND	ND	ND
1,1-Dichloroethene	5	µg/L	5.8	2.0 J	5.1 J	ND
cis 1,2-Dichloroethene	5	µg/L	34.2	2.3 J	28.7 J	ND
trans 1,2-Dichloroethene	5	µg/L	ND	ND	ND	ND
Tetrachloroethene	5	µg/L	56.9	ND	47.1	ND
1,1,1-Trichloroethene	5	µg/L	4.4 J	ND	3.6 J	ND
Trichloroethene	5	µg/L	275	274	275	ND
Vinyl Chloride	2	µg/L	ND	ND	ND	ND
Mercury	0.25	µg/L	ND	ND	ND	ND
Total Suspended Solids (TSS)	N/A	mg/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.

GM-38 Area Groundwater Remediation
Groundwater Treatment Plant
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Controlled Stack Emissions
October 2012

DAR Parameters	Units	SGC	October 2012	
Process Stream			**Influent**	**Effluent**
Sampling Date	N/A	N/A	10/9/12	
Average Flowrate	CFM	N/A	NR	8,167
Total Flow	ft^3	N/A	NR	364,574,880
Total Flow	m^3	N/A	NR	10,323,611
1,2-Dichloroethane	$\mu g/m^3$	N/A	4.2 J	2.8 J
cis 1,2-Dichloroethene	$\mu g/m^3$	N/A	280	7.5
trans 1,2-Dichloroethene	$\mu g/m^3$	N/A	2.6 J	ND
1,2-Dichloroethene (total)	$\mu g/m^3$	N/A	290	7.5
Toluene	$\mu g/m^3$	37,000	3.2 J	2.6 J
Total Xylene	$\mu g/m^3$	4,300	4.1 J	1.8 J
1,1,2-Trichloroethane	$\mu g/m^3$	N/A	ND	ND
Trichloroethene	$\mu g/m^3$	14,000	3100	24
Vinyl Chloride	$\mu g/m^3$	180,000	9.9	ND
Tetrachloroethene	$\mu g/m^3$	1,300	660	6.1

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 2012

DAR Parameters	Units	Discharge Goal	October 2012
Sampling Date	N/A	N/A	10/9/12
Average Flowrate	CFM	N/A	8,167
Total Flow	ft^3	N/A	364,574,880
Total Flow	m^3	N/A	10,323,611
Trichloroethene	lb/hr	0.09	0.00073
Vinyl Chloride	lb/hr	0.01	0.00000
1,2 Dichloroethene	lb/hr	0.03	0.00023
1,2-Dichloroethane	lb/hr	BRT	0.00009
Toluene	lb/hr	BRT	0.00008
Total Xylene	lb/hr	BRT	0.00006
1,1,2-Trichloroethane	lb/hr	BRT	0.00000
Tetrachloroethene	lb/hr	0.02	0.00019

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

NOVEMBER 2012

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

12 December 2012

Mr. Steven Scharf
New York State Department of Environmental Conservation
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 2012 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 2012 to 30 November 2012 are included in Attachment A. All constituents were within permit limitations during this reporting period.

Please contact me at 508-366-7442 with any questions or concerns you may have regarding this report.

Sincerely,
H&S Environmental, Inc.

Jennifer Good, P.G.
Project Manager

Attachment A: Groundwater and Air Sampling Results from November 2012

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 – H&S
GM-38 Copy

ATTACHMENT A

GROUNDWATER AND AIR SAMPLING RESULTS

NOVEMBER 2012

GM-38 Area Groundwater Remediation
Groundwater Treatment Plant
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Controlled Stack Emissions
November 2012

SPDES Parameters	**November 2012**					
Process Stream	**Daily Treated Effluent Maximum**	**Units**	**RW-1**	**RW-3**	**Combined Influent [(1)] (RW-1 + RW-3)**	**Treated Effluent**
Well Depth	N/A	ft	445	530	N/A	N/A
Screened Interval	N/A	ft bgs	335-395 410-430	392-412 442-504	N/A	N/A
Sampling Date	N/A		11/13/12			
Average Flowrate	1100	GPM	685	143	828	829
Total Flow	N/A	gallons	29,098,520	6,923,700	36,022,220	36,020,800
pH	5.5 - 8.5	SU	5.18	5.00	5.15	6.96
Carbon Tetrachloride	NA	µg/L	ND	ND	ND	ND
1,1-Dichloroethane	5	µg/L	2.0 J	1.7 J	1.9 J	ND
1,2-Dichloroethane	0.6	µg/L	ND	ND	ND	ND
1,1-Dichloroethene	5	µg/L	2.8 J	1.1 J	2.5 J	ND
cis 1,2-Dichloroethene	5	µg/L	20.5	ND	17.0	ND
trans 1,2-Dichloroethene	5	µg/L	ND	ND	ND	ND
Tetrachloroethene	5	µg/L	44.1	ND	36.5	ND
1,1,1-Trichloroethene	5	µg/L	2.4 J	ND	2.0 J	ND
Trichloroethene	5	µg/L	188	193	189	ND
Vinyl Chloride	2	µg/L	ND	ND	ND	ND
Mercury	0.25	µg/L	ND	ND	ND	ND
Total Suspended Solids (TSS)	N/A	mg/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.

GM-38 Area Groundwater Remediation
Groundwater Treatment Plant
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Controlled Stack Emissions
November 2012

DAR Parameters	Units	SGC	November 2012	
Process Stream			**Influent**	**Effluent**
Sampling Date	N/A	N/A	11/14/12	
Average Flowrate	CFM	N/A	NR	8,227
Total Flow	ft^3	N/A	NR	355,401,000
Total Flow	m^3	N/A	NR	10,063,836
1,2-Dichloroethane	$\mu g/m^3$	N/A	3.9 J	1.9 J
cis 1,2-Dichloroethene	$\mu g/m^3$	N/A	300	5.6
trans 1,2-Dichloroethene	$\mu g/m^3$	N/A	3.2 J	ND
1,2-Dichloroethene (total)	$\mu g/m^3$	N/A	300	5.6
Toluene	$\mu g/m^3$	37,000	2.1 J	2.3 J
Total Xylene	$\mu g/m^3$	4,300	ND	1.0 J
1,1,2-Trichloroethane	$\mu g/m^3$	N/A	3.2 J	ND
Trichloroethene	$\mu g/m^3$	14,000	2600	13
Vinyl Chloride	$\mu g/m^3$	180,000	9.9	ND
Tetrachloroethene	$\mu g/m^3$	1,300	570	2.8 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 2012

DAR Parameters	Units	Discharge Goal	November 2012
Sampling Date	N/A	N/A	11/14/12
Average Flowrate	CFM	N/A	8,227
Total Flow	ft^3	N/A	355,401,000
Total Flow	m^3	N/A	10,063,836
Trichloroethene	lb/hr	0.09	0.00039
Vinyl Chloride	lb/hr	0.01	0.00000
1,2 Dichloroethene	lb/hr	0.03	0.00017
1,2-Dichloroethane	lb/hr	BRT	0.00006
Toluene	lb/hr	BRT	0.00007
Total Xylene	lb/hr	BRT	0.00003
1,1,2-Trichloroethane	lb/hr	BRT	0.00000
Tetrachloroethene	lb/hr	0.02	0.00008

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

DECEMBER 2012

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

9 January 2013

Mr. Steven Scharf
New York State Department of Environmental Conservation
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 2012 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 2012 to 31 December 2012 are included in Attachment A. All constituents were within permit limitations during this reporting period.

Please contact me at 508-366-7442 with any questions or concerns you may have regarding this report.

Sincerely,
H&S Environmental, Inc.

Jennifer Good, P.G.
Project Manager

Attachment A: Groundwater and Air Sampling Results from December 2012

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 – H&S
GM-38 Copy

ATTACHMENT A

GROUNDWATER AND AIR SAMPLING RESULTS

DECEMBER 2012

GM-38 Area Groundwater Remediation
Groundwater Treatment Plant
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Controlled Stack Emissions
December 2012

SPDES Parameters	December 2012					
Process Stream	Daily Treated Effluent Maximum	Units	RW-1	RW-3	Combined Influent [(1)] (RW-1 + RW-3)	Treated Effluent
Well Depth	N/A	ft	445	530	N/A	N/A
Screened Interval	N/A	ft bgs	335-395 410-430	392-412 442-504	N/A	N/A
Sampling Date	N/A		12/12/12			
Average Flowrate	1100	GPM	588	144	733	733
Total Flow	N/A	gallons	26,268,130	6,446,300	32,714,430	32,721,600
pH	5.5 - 8.5	SU	4.82	4.80	4.82	7.12
Carbon Tetrachloride	NA	µg/L	0.34 J	ND	0.27 J	ND
1,1-Dichloroethane	5	µg/L	2.7	2.4 J	2.6 J	ND
1,2-Dichloroethane	0.6	µg/L	0.42 J	ND	0.34 J	ND
1,1-Dichloroethene	5	µg/L	4.1	1.3 J	3.5 J	ND
cis 1,2-Dichloroethene	5	µg/L	32.4	1.6 J	26.3 J	ND
trans 1,2-Dichloroethene	5	µg/L	0.47 J	ND	0.38 J	ND
Tetrachloroethene	5	µg/L	65.2	1.9 J	52.7 J	ND
1,1,1-Trichloroethene	5	µg/L	3.5	ND	2.8	ND
Trichloroethene	5	µg/L	232	261	238	ND
Vinyl Chloride	2	µg/L	1.4 J	ND	1.1 J	ND
Mercury	0.25	µg/L	ND	ND	ND	ND
Total Suspended Solids (TSS)	N/A	mg/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.

GM-38 Area Groundwater Remediation
Groundwater Treatment Plant
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Controlled Stack Emissions
December 2012

DAR Parameters	Units	SGC	December 2012	
Process Stream			Influent	Effluent
Sampling Date	N/A	N/A	12/6/12	
Average Flowrate	CFM	N/A	NR	8,207
Total Flow	ft^3	N/A	NR	366,360,480
Total Flow	m^3	N/A	NR	10,374,174
1,2-Dichloroethane	$\mu g/m^3$	N/A	3.8 J	1.5 J
cis 1,2-Dichloroethene	$\mu g/m^3$	N/A	280	5.7
trans 1,2-Dichloroethene	$\mu g/m^3$	N/A	ND	ND
1,2-Dichloroethene (total)	$\mu g/m^3$	N/A	280	5.6 J
Toluene	$\mu g/m^3$	37,000	5.0 J	ND
Total Xylene	$\mu g/m^3$	4,300	0.83 J	ND
1,1,2-Trichloroethane	$\mu g/m^3$	N/A	ND	ND
Trichloroethene	$\mu g/m^3$	14,000	3500	29
Vinyl Chloride	$\mu g/m^3$	180,000	9.6	ND
Tetrachloroethene	$\mu g/m^3$	1,300	670	4.8 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 2012

DAR Parameters	Units	Discharge Goal	December 2012
Sampling Date	N/A	N/A	12/6/12
Average Flowrate	CFM	N/A	8,207
Total Flow	ft^3	N/A	366,360,480
Total Flow	m^3	N/A	10,374,174
Trichloroethene	lb/hr	0.09	0.00089
Vinyl Chloride	lb/hr	0.01	0.00000
1,2 Dichloroethene	lb/hr	0.03	0.00017
1,2-Dichloroethane	lb/hr	BRT	0.00005
Toluene	lb/hr	BRT	0.00000
Total Xylene	lb/hr	BRT	0.00000
1,1,2-Trichloroethane	lb/hr	BRT	0.00000
Tetrachloroethene	lb/hr	0.02	0.00015

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

DEC ID
- -

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
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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: 12/03/12

H&S

Groundwater Level Measurement Sheet

Project Site: NWIRP Bethpage – GM-38
Location: Bethpage, NY
Field Crew: ROSA MASTROCOLA / VICTOR LECLERC

Water Level Meter: Solinst
Weather: Clear, 55°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	11:40	35.52	435 / 395-435	N/A	
RW1-MW2	13:46	37.57	435 / 395-435	N/A	Gauge only
RW1-MW3	14:30	28.20	435 / 395-435	N/A	
RW2-MW1	~~13:30~~	~~38.82~~	510 / 470-510	—	~~illegible~~ RCM
RW2-MW2	15:05	38.04	510 / 470-510	N/A	Gauge only
RW2-MW3	1200	38.01	510 / 470-510	N/A	Gauge only missing bolts/cap unscrew
RW3-MW1	1250	37.49	350 / 330-350	N/A	1 bolt
RW3-MW2	1253	39.65	495 / 475-495	N/A	1 bolt
RW3-MW3	13:05	38.79	340 / 320-340	N/A	1 bolt
RW3-MW4	13:00	39.80	495 / 475-495	N/A	
TP1	11:25	34.25	470 / 450-470	N/A	1 Bolt
IW1-MW1	14:00	36.47	470 / 450-470	N/A	Gauge only

Signature: [signature]

Date: 12-03-12

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: 12/04 /12
Sampler: LeClerc Victor
PID: ----

Start Time: 08:00 **End Time:** 0830
Well Construction: 4"
Depth to Water: 35.52 / 34.91
Well Depth: 435
Water Column: 399.48
Total Volume Removed (L): 3.75L
Dedicated Pump in Well?: No

Field Testing Equipment

Make	Model	Serial #
YSI	556	10H1009,28
LaMotte	2020e	ME15044
QED	MP15	
Marschalk Bladder Pump	24"	ID# PINES01

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
0805	0.75	150mL	34.92	13.64	4.01	164	1.08	436.7	1.09	Clear
0810	"	"	34.92	13.91	4.04	165	0.62	404.1	1.02	"
0815	"	"	34.92	14.03	4.08	165	0.88	417.4	0.79	"
0820	"	"	34.92	13.91	4.08	165	0.87	416.4	0.77	"
0825	"	"	34.92	13.86	4.08	164	0.88	46.4	0.65	"
0830	"	"	34.92	13.89	4.09	165	0.89	415.9	0.63	"
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
0830	NWIRP-GM-38-GW-120412	40 mL CG	3	HCl	TCL VOCs (624)
"	RW1 -MW 1 - 120412	500 mL PL	1	HNO_3	Hg (245.1)
"	RW1 -MW1- 120412	250 mL PL	1	---	TSS (SM2540D)

Comments

Signature

12/04/12
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
Start Time: ~~1330~~ 1390 End Time: 1435
Well Construction: 4"
Depth to Water: 28.20
Well Depth: 435
Water Column: 406.8
Total Volume Removed (L): 2 2 1/4 L
Dedicated Pump in Well?: No

Date: 12/07/12
Sampler: R Mastrocola
PID: ----

H&S

Field Testing Equipment

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

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
~~1330~~		no flow								
1350	Start Pump									
1355	2 1/4	450	28.33	13.61	5.34	170	1.76	144.1	1.46	Clear
1400		450	28.41	13.57	5.24	167	0.76	159.6	2.03	clear
1405		450	28.45	13.53	5.06	161	0.60	165.0	2.94	clear
1410		450	28.43	13.55	5.05	163	0.59	165.5	2.47	clear
1415		450	28.42	13.54	5.05	163	0.57	165.7	2.16	Clear
1420		450	28.43	13.52	5.05	163	0.55	167.8	1.79	Clear
1425		450	28.42	13.53	5.04	162	0.53	169.6	1.53	Clear
1430		450	28.42	13.53	5.03	163	0.61	172.10	1.58	Clear
1435		450	28.43	13.53	5.03	163	0.63	169	1.49	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
1435	NWIRP-GM-38-GW-	40 mL CG	3	HCl	TCL VOCs (624)
	RW 1 -MW 3- 120712	500 mL PL	1	HNO_3	Hg (245.1)
		250 mL PL	1	---	TSS (SM2540D)

Comments

Signature

12/7/12
Date

H&S Environmental, Inc.

Low Flow/ Low Stress Groundwater Sampling Log

Project: NWIRP Bethpage - GM-38
Location: Bethpage, NY
Well ID: RW 2 - MW 1

Date: 12/7/12
Sampler: Lecian Victor
PID: ----

Start Time: 1330 **End Time:** 1410
Well Construction: 4"
Depth to Water: 38.80
Well Depth: 510
Water Column: ~471
Total Volume Removed (L): ~6.0
Dedicated Pump in Well?: No

Field Testing Equipment

Make	Model	Serial #
YSI	556	rental
LaMotte	2020e	ME15044
QED	MP15	
Marschalk Bladder Pump	24"	ID#

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	0.75	150mL	38.82	10.25	6.77	59	4.72	243.6	10.44	Clear
1340		"	38.82	10.83	6.85	56	3.82	237.3	9.97	"
1345		"	38.82	11.11	6.94	55	3.07	235.3	12.0	"
1350		"	38.82	12.23	8.01	49	0.89	219.5	10.67	"
1355		"	38.81	12.44	8.02	48	0.40	212.1	7.86	"
1400		"	38.81	12.59	8.05	48	0.25	209.1	8.31	"
1405		"	38.80	12.60	8.09	48	0.25	208.9	8.21	"
1410		"	38.80	12.61	8.05	48	0.26	208.3	7.39	"
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-20121 2	40 mL CG	3	HCl	TCL VOCs (624)
1410	RW 2 -MW 1 -	500 mL PL	1	HNO_3	Hg (245.1)
		250 mL PL	1	—	TSS (SM2540D)

Comments

Signature

12/7/12
Date

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: 12/06/12
Sampler: R Mastrocola J Good
PID: ------

Start Time: ~~1130~~ 1210 End Time: 1630
Well Construction: 4"
Depth to Water: 37.49
Well Depth: 350
Water Column: 312.51
Total Volume Removed (L): ~15
Dedicated Pump in Well?: No

Field Testing Equipment

Make	Model	Serial #
YSI	556	~~MPS1019448~~ 17675
LaMotte	2020e	~~ME15044~~ ME12295
QED	MP15	Rental
Marschalk Bladder Pump	24"	ID# ~~9463/9479~~ 405

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
1210 ~~1130~~	2.5	50	~~37.49~~	13.95	5.05	126	6.98	120.8	6.10	Clear
1220 ~~1200~~			~~37.50~~	13.88	5.10	127	6.24	269.5	7.95	"
1225 ~~1230~~			~~37.50~~	13.96	5.10	126	4.72	267.0	6.12	"
1230 ~~1445~~			~~37.58~~	13.80	5.08	126	4.29	265.4	5.00	"
1235			—	13.91	5.01	124	4.02	264.6	4.98	"
1240	↓	↓	37.56	13.88	5.01	125	3.88	264.2	4.12	"

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
1240	NWIRP-GM-38-GW-	40 mL CG	3	HCl	TCL VOCs (624)
	RW 3 -MW 1 - 2012~~1206~~	500 mL PL	1	HNO_3	Hg (245.1)
		250 mL PL	1	—	TSS (SM2540D)

Comments

Pump start @ N/A ; water drawn @ 1st reading/full flow thru cell @ J2-
QED set @ 35 ft throttle, 5 GPM
CO2 out @ 1230 See field notes ~~Restart w/ new pump & new canister @ 1445~~
See field notes - continued

Signature

12/6/12
Date

H&S Environmental, Inc.

Low Flow/ Low Stress Groundwater Sampling Log

Project: NWIRP Bethpage - GM-38
Location: Bethpage, NY
Well ID: RW3 - MW 2

Date: 12/04/12
Sampler: LeClair Victor
PID: ----

Start Time: 15:10 End Time: 15:55
Well Construction: 4"
Depth to Water: 39.05 / 39.45
Well Depth: 495
Water Column: 455.95
Total Volume Removed (L): ~5 1/4
Dedicated Pump in Well?: No

Field Testing Equipment

Make	Model	Serial #
YSI	556	10H100928
LaMotte	2020e	ME15044
QED	MP15	
Marschalk Bladder Pump	24"	ID# PIVC501

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
15:15	0.75	150mL	39.45	14.14	4.96	306.3	0.81	326.1	3.08	Clear
15:20	"	"	39.60	13.97	5.01	319.4	0.60	319.3	3.15	"
(*) 15:25	----	"	39.60	STOP	→ New Tank	----	----	----	----	"
15:35	0.75	150mL	39.55	14.02	5.02	69	0.49	326.5	2.93	Clear
15:40	"	"	39.61	13.86	5.01	69	0.44	327.3	2.42	"
15:45	"	"	39.62	13.78	5.01	68	0.39	325.0	0.99	"
15:50	"	"	39.64	13.74	5.01	68	0.37	324.8	0.81	"
15:55	"	"	39.66	13.74	5.01	68	0.35	323.9	1.63	"
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
1555	NWIRP-GM-38-GW-20120412	40 mL CG	3	HCl	TCL VOCs (624)
"	RW 3 -MW2- 20120412	500 mL PL	1	HNO_3	Hg (245.1)
		250 mL PL	1	---	TSS (SM2540D)
"	NWIRP-GM-38-GW-RW3-MW2-20120412-MS				
"	NWIRP-GM-38-GW-RW3-MW2-20120412-MSD				
00:00	~~NWIRP-GM38-GW-DUP01~~ NWIRP-GM38-GW-DUP01				

Comments

Also collected MS/MSD (*)New Air tank Verified, New Start 15:35
DUP-01

Signature

12/4/12
Date

H&S Environmental, Inc.

Low Flow/ Low Stress Groundwater Sampling Log

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

Date: 12/04 /12
Sampler: LeClerc Victor
PID: -----

Start Time: 11:30 End Time: 1240
Well Construction: 4"
Depth to Water: 38.79 / 38.89
Well Depth: 340
Water Column: 301.21
Total Volume Removed (L): _____
Dedicated Pump in Well?: No

Field Testing Equipment

Make	Model	Serial #
YSI	556	10H100928
LaMotte	2020e	ME15044
QED	MP15	
Marschalk Bladder Pump	24"	ID# PNE501

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
1135	.75	150mL	38.94	14.84	5.19	123	2.75	251.1	1.34	Clear
1140	"	"	39.05	14.97	5.34	122	2.68	253.1	1.28	"
* 1145	"	"	39.05	STOP Work - Change Air Tank						"
NEW 1210		150mL	39.10	14.30	5.35	123	2.09	230.4	4.85	"
1215		"	39.10	14.38	5.37	123	1.26	218.5	8.07	"
1220		"	39.10	14.35	5.37	124	1.07	215.7	8.53	"
1225		"	39.10	14.55	5.37	124	0.81	212.1	9.06	"
1230		"	39.10	14.56	5.37	124	0.79	210.5	8.87	"
1235		"	39.10	14.48	5.38	123	0.75	209.3	8.90	"
1240		"	39.10	14.54	5.38	123	0.77	207.9	8.79	"
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
1240	NWIRP-GM-38-GW-~~20120412~~	40 mL CG	3	HCl	TCL VOCs (624)
"	RW 3 -MW3 - 20120412	500 mL PL	1	HNO_3	Hg (245.1)
	RW3 MW3 20120412	250 mL PL	1	---	TSS (SM2540D)

Comments

* New air tank needed, Change out one restrict well sampling.

Signature

12/4/12
Date

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: 12/04/12
Sampler: LeCkee Victor
PID: ------

Start Time: 0955 End Time: 1030
Well Construction: 4"
Depth to Water: 39.80 / 39.56
Well Depth: 495
Water Column: 455.20
Total Volume Removed (L): 4.5 L
Dedicated Pump in Well?: No

Field Testing Equipment

Make	Model	Serial #
YSI	556	10H100928
LaMotte	2020e	ME15044
QED	MP15	
Marschalk Bladder Pump	24"	ID# PINE501

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
1000	0.75	150mL	39.56	11.99	4.50	83	3.94	369.7	1.72	Clear
1005	"	"	39.55	13.76	4.58	92	0.47	364.5	2.65	"
1010	"	"	39.56	13.80	4.58	93	0.41	363.8	2.84	"
1015	"	"	39.56	13.98	4.59	95	0.37	361.5	2.09	"
1020	"	"	39.56	13.93	4.59	96	0.34	360.7	3.94	"
1025	"	"	39.56	13.96	4.58	97	0.35	360.5	3.63	"
1030	"	"	39.56	13.96	4.58	97	0.32	360.8	3.65	"
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
1030	NWIRP-GM-38-GW-20121204 (RW3-MW4)	40 mL CG	3	HCl	TCL VOCs (624)
"	RW 3 -MW 4 - 20120412	500 mL PL	1	HNO_3	Hg (245.1)
"	RW3-MW4 - 20120412	250 mL PL	1	---	TSS (SM2540D)

Comments

Signature

12/04/12
Date

H&S Environmental, Inc.

Low Flow/ Low Stress Groundwater Sampling Log

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

Date: 12 / 04 /12
Sampler: RMastroccia NTeClerc
PID: ----

Start Time: 0800 End Time: 10:00
Well Construction: 4"
Depth to Water: ~~33.75~~ 32.57
Well Depth: ~~470~~ 470
Water Column: ~~435.75~~ 437.43
Total Volume Removed (L): ~9½ L
Dedicated Pump in Well?: No

Field Testing Equipment

Make	Model	Serial #
YSI	556	11D1019 43
LaMotte	2020e	~~ME15044~~ ME12295
QED	MP15	Rental
Marschalk Bladder Pump	24"	ID# 9983

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
~~0800~~										
~~0830~~			33.75							
0910	1.5	150	33.50	12.03	2.24	223	6.72	528.3	0.57	Clear
0920	1.5	150	33.45	12.42	3.77	190	6.23	428.0	0.98	Clear
0930	1.5	150	33.45	12.63	4.31	184	5.91	427.2	1.43	Clear
0940	1.5	150	33.46	12.67	4.76	182	5.60	422.9	2.55	Clear
0945	0.75	150	33.45	12.70	4.89	180	5.62	417.5	1.86	clear
0950	0.75	150	33.45	12.76	5.09	177	5.53	388.0	2.21	Clear
0955	0.75	150	33.45	12.79	5.19	175	5.56	386.5	2.40	clear
1000	0.75	150	33.45	12.81	5.20	173	5.37	383.8	1.96	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
1000	NWIRP-GM-38-GW-TP1- 20120412	40 mL CG	3	HCl	TCL VOCs (624)
		500 mL PL	1	HNO_3	Hg (245.1)
		250 mL PL	1	---	TSS (SM2540D)

Comments

pump start @ 0800; water drawn @ 0830 QED set @ 5 LPM; 50ft throttle flow thru cell fill / first reading @ 0910
pH low

Signature

12/4/12
Date

H&S

Instrument Calibration Log

Project/Site Name: NWIRP - Bethpage - OM38 **Date:** 12/3/12 **Weather:** Clear 60°F

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

Parameters	Morning Calibration Time: 1545	Cal. Temperature °C	Afternoon Cal. Check Time:	Comments
Conductivity 1413 (µS/cm°)	1381 / 1413	18.62		
pH (7)	6.79 / 7.00	19.28		
pH (4)	4.14 / 4.00	18.88		
pH (10)	10.02 / 10.00	18.79		
ORP 400 (mv)	400.1 / 400.0	19.05		
Dissolved Oxygen (%)	97.9 / 101.8	19.38		
Zero Dissolved Oxygen (mg/L)	—	—		
Barometric Pressure (mmHg)	774	—		
				Not used for sampling this day

Signature: [signature] Date: 12/3/12

H&S

Instrument Calibration Log

Project/Site Name: NWIRP Bethpage GM38 **Date:** 12/3/12 **Weather:** Clear 60°F

Calibrated By: RMOSTROM **Instrument:** YSI 556 **Serial Number:** 11D1019498

Parameters	Morning Calibration Time: 1545	Cal. Temperature °C	Afternoon Cal. Check Time:	Comments
Conductivity (µS/cm°)	1371 / 1413	18.13		
pH (7)	6.84 / 7.00	19.38		
pH (4)	4.00 / 4.00	18.70		
pH (10)	10.05 / 10.00	18.74		
ORP 400 (mv)	414.3 / 400	19.62		
Dissolved Oxygen (%)	99.99 / 100	19.36		
Zero Dissolved Oxygen (mg/L)	-	-		
Barometric Pressure (mmHg)	760	-		

Signature: [redacted] Date: 12/3/12

H&S

Instrument Calibration Log

Project/Site Name: NWIRP Bethpage-GM38 **Date:** 12/4/12 **Weather:** Cloudy 51°F

Calibrated By: RMastrocola **Instrument:** YSI 556 **Serial Number:** 10H100928

Parameters	Morning Calibration Time: 0845	Cal. Temperature °C	Afternoon Cal. Check Time: 1640	Comments
Conductivity 1000 (µS/cm°)	1280 / 1000	19.17	998	
pH (7)	6.88 / 7.80	19.02	6.95	
pH (4)	4.02 / 4.00	19.11	4.02	
pH (10)	10.25 / 10.04	19.00	10.04	
ORP 400 (mv)	393.6 / 400.0	19.16	401	
Dissolved Oxygen (%)	103.0 / 102.0	18.95	99.8	
Zero Dissolved Oxygen (mg/L)	—	—	—	
Barometric Pressure (mmHg)	776.0	—	768.6	

Signature: [signature] Date: 12/4/12

H&S

Instrument Calibration Log

Project/Site Name: NWIRP Bethpage GM38 **Date:** 12/4/12 **Weather:** 51 °F Cloudy

Calibrated By: RMastrocola **Instrument:** YSI 556 **Serial Number:** 11D101948

Parameters	Morning Calibration Time: 0645	Cal. Temperature °C	Afternoon Cal. Check Time: 1640	Comments
Conductivity 1000 (µS/cm°)	1194 / 1000	19.19	1340	
pH (7)	6.93 / 7.00	19.27	6.91	
pH (4)	3.98 / 4.00	19.18	3.96	
pH (10)	10.10 / 10.00	19.08	10.10	
ORP (mv)	379.5 / 400.1	19.44	-	
Dissolved Oxygen (%)	101.2 / 100.0	19.12	98.7	
Zero Dissolved Oxygen (mg/L)	-	-	-	
Barometric Pressure (mmHg)	760	-	760	

Signature: [signature] Date: 12/3/12

H&S

Instrument Calibration Log

Project/Site Name: NWIRP Bethpage GM-38 **Calibrated By:** R Mastrocola

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
LaMotte 2020e / ME15044	0.94	1.14	9.65	14.6	1.00	1.00	10.00	10.00	12/03/12 Time: 1545 &
↓	1.14	1.11	14.6	12.1	1.00	1.00	10.00	10.00	12/4/12 Time: 0040 & 1640
									Time: &
									Time: &
									Time: &
									Time: &
									Time: &
									Time: &
									Time: &
									Time: &
									Time: &

Signature: [signature] Date: 12/4/12

H&S

Instrument Calibration Log

Project/Site Name: NWIRP Bethpage GM-38

Calibrated By: R MASTROCCA

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
LaMotte 2020e / ME 12295	1.05	1.07	9.43	10.3	1.00	1.00	10.00	10.00	12/03/12 Time: 1545 &
	1.07	0.96	10.3	10.1	1.00	1.00	10.00	10.00	12/4/12 Time: 0640 & 1040
									Time: &
									Time: &
									Time: &
									Time: &
									Time: &
									Time: &
									Time: &
									Time: &
									Time: &

Signature: [signature]

Date: 12/4/12

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 #: 7955 4024 9004

1002349

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#: 2031-107
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: TCL VOCs (Method 624); Mercury (Method 245.1); TSS (SM2540D)

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)	Mercury (Method 245.1)	TSS (SM2540D)
1	NWIRP-GM-38-GW-RW1-MW1-20120412		12/4/12	0830	G	GW	3	1	1
2	NWIRP-GM-38-GW-RW1-MW3-20120712		12/7/12	1435	G	GW	3	1	1
3	NWIRP-GM-38-GW-RW2-MW1-20120712		12/7/12	1410	G	GW	3	1	1
4	NWIRP-GM-38-GW-RW3-MW1-20121206		12/6/12	1245	G	GW	3	1	1
5	NWIRP-GM-38-GW-RW3-MW2-20120412	MS/MSD for VOCs, Hg	12/4/12	1555	G	GW	9	3	1
6	NWIRP-GM-38-GW-RW3-MW3-20120412		12/4/12	1240	G	GW	3	1	1
7	NWIRP-GM-38-GW-RW3-MW4-20120412		12/4/12	1030	G	GW	3	1	1
8	NWIRP-GM-38-GW-TP1-20120412		12/4/12	1000	G	GW	3	1	1

(completed by Sample) Performed by: INITIAL HERE
Cooler Temp:
Therm. ID: TH-25
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): R. Mastroccola, V. Leclere
LOGGED BY (signature): K. Snow DATE 12/10/12 TIME 1049
REVIEWED BY (signature): [signature] DATE 12/11/12 TIME 1028

	Relinquished By / Company Name	Date	Time		Received By / Company Name	Date	Time
1	R. Mastroccola H&S	12/7/12	1600	2			
3				4			
5				6	Kelli Snow	12/10	0835
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

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

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CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

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

Courier:
Tracking #:
COC# 1002349

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#:** 2031-107

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: TCL VOCs (Method 624); Mercury (Method 245.1); TSS (SM2540D)

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)	Mercury (Method 245.1)	TSS (SM2540D)
1	[redacted] KM		/ /12		G	GW	3	1	1
9 2	NWIRP-GM-38-FB-20120412		12/4/12	1515	G	GW	3	1	
10 3	NWIRP-GM-38-TB-20120412						3		
11 4	NWIRP-GM-38-DUP01-2020412		12/4/12	1000	G	GW	3	1	1
5									
6									
7									
8									

Receipt Information (completed by Sample Custodian)
Performed by: INITIAL HERE
Cooler Temp: 1.5
Therm. ID: TH-215
No. of Coolers:
Notes:

Check	Y/N
Correct containers?	Y
Correct sample volume?	Y
Correct preservation?	Y
Headspace/Volatiles?	N
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): RMastrocola, VLeClerc
LOGGED BY (signature): K. Snow DATE 12/10/12 TIME 1049
REVIEWED BY (signature): MK DATE 12/11/12 TIME 1028

	Relinquished By / Company Name	Date	Time		Received By / Company Name	Date	Time
1	[signature] H&S	12/7/12	1600	2			
3				4			
5				6	Kelli Snow	12/10	0835
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

NELAP ACCREDITED TNI LABORATORY

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APPENDIX D

DATA VALIDATION REPORTS AND VALIDATED DATA SUMMARY

VOLATILE ORGANIC COMPOUNDS
USEPA Region II –Data Validation

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

Location: 100 Broadway, Bethpage, NY

Project Number: 2031-108

SDG #: G1002349-HNW-053

Client: H&S Environmental, Inc.

Date: 03/06/2013

Laboratory: ALS Environmental, Middletown, PA

Reviewer: Sherri Pullar

Summary:

1. 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 12/04, 06, and 07/2012. The samples were submitted to ALS Environmental, Middletown, PA on 12/10/2012 for analysis.

3. The USEPA Region II SOP HW-24, Revision No.: 2, August 2008, Validating Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry, 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-MW1-20120412	1002349001	12/04/2012	Water	
NWIRP-GM-38-GW-RW1-MW3-20120712	1002349002	12/07/2012	Water	
NWIRP-GM-38-GW-RW2-MW1-20120712	1002349003	12/07/2012	Water	
NWIRP-GM-38-GW-RW3-MW1-20121206	1002349004	12/06/2012	Water	
NWIRP-GM-38-GW-RW3-MW2-20120412	1002349005	12/04/2012	Water	
NWIRP-GM-38-GW-RW3-MW3-20120412	1002349006	12/04/2012	Water	
NWIRP-GM-38-GW-RW3-MW4-20120412	1002349007	12/04/2012	Water	
NWIRP-GM-38-GW-TP1-20120412	1002349008	12/04/2012	Water	
NWIRP-GM-38-DUP01-20120412	1002349011	12/04/2012	Water	Field Duplicate of sample NWIRP-GM-38-GW-RW3-MW2-20120412
NWIRP-GM-38-FB-20120412	1002349009	12/04/2012	Water	Field Blank
NWIRP-GM-38-TB-20120412	1002349010	12/04/2012	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 12/11/2012 (ms03.i) exhibited acceptable %RSD and average RRF values for all compounds with the following exception(s):

Compound	RRF	%RSD
Methylene chloride	A	57.63
Chloroform	A	44.86

A= Acceptable

Client Sample ID	Laboratory Sample ID	Compound	Action
NWIRP-GM-38-GW-RW1-MW1-20120412	1002349001	Methylene Chloride, Chloroform	UJ
NWIRP-GM-38-GW-RW1-MW3-20120712	1002349002	Methylene Chloride Chloroform	UJ J
NWIRP-GM-38-GW-RW2-MW1-20120712	1002349003	Methylene Chloride, Chloroform	UJ
NWIRP-GM-38-GW-RW3-MW1-20121206	1002349004	Methylene Chloride Chloroform	UJ J
NWIRP-GM-38-GW-RW3-MW2-20120412	1002349005	Methylene Chloride Chloroform	UJ J
NWIRP-GM-38-GW-RW3-MW3-20120412	1002349006	Methylene Chloride Chloroform	UJ J
NWIRP-GM-38-GW-RW3-MW4-20120412	1002349007	Methylene Chloride Chloroform	UJ J
NWIRP-GM-38-GW-TP1-20120412	1002349008	Methylene Chloride Chloroform	UJ J
NWIRP-GM-38-FB-20120412	1002349009	Methylene Chloride, Chloroform	UJ
NWIRP-GM-38-TB-20120412	1002349010	Methylene Chloride, Chloroform	UJ
NWIRP-GM-38-DUP01-20120412	1002349011	Methylene Chloride Chloroform	UJ J

Continuing Calibration Verification (CCV):

1. CCV analyzed on 12/12/2012 @ 10:10 AM (ms03.i) exhibited acceptable %Ds (≤15.0%) for all compounds with the following exception(s):

Compound	%D
Acrolein	-44.6
Bromomethane	-29.4
Vinyl Chloride	-38.6

Client Sample ID	Laboratory Sample ID	Compound	Action
NWIRP-GM-38-GW-RW1-MW1-20120412	1002349001	Bromomethane, Vinyl Chloride	UJ
NWIRP-GM-38-GW-RW1-MW3-20120712	1002349002	Bromomethane, Vinyl Chloride	UJ
NWIRP-GM-38-GW-RW2-MW1-20120712	1002349003	Bromomethane, Vinyl Chloride	UJ
NWIRP-GM-38-GW-RW3-MW1-20121206	1002349004	Bromomethane, Vinyl Chloride	UJ
NWIRP-GM-38-GW-RW3-MW2-20120412	1002349005	Bromomethane, Vinyl Chloride	UJ
NWIRP-GM-38-GW-RW3-MW3-20120412	1002349006	Bromomethane, Vinyl Chloride	UJ
NWIRP-GM-38-GW-RW3-MW4-20120412	1002349007	Bromomethane, Vinyl Chloride	UJ
NWIRP-GM-38-GW-TP1-20120412	1002349008	Bromomethane, Vinyl Chloride	UJ
NWIRP-GM-38-FB-20120412	1002349009	Bromomethane, Vinyl Chloride	UJ
NWIRP-GM-38-TB-20120412	1002349010	Bromomethane, Vinyl Chloride	UJ
NWIRP-GM-38-DUP01-20120412	1002349011	Bromomethane, Vinyl Chloride	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 three 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 (1071244) analyzed on 12/11/2012 was free of contamination. No qualifications were required.

Sample ID	Compound	Result (µg/l)	Action Level (5x)* (µg/l)	Sample(s) Affected	Action
1071244	1,4-Dichlorobenzene	0.22	1.1	NWIRP-GM-38-GW-RW1-MW1-20120412	None
				NWIRP-GM-38-GW-RW1-MW3-20120712	None
				NWIRP-GM-38-GW-RW2-MW1-20120712	None
				NWIRP-GM-38-GW-RW3-MW1-20121206	None
				NWIRP-GM-38-GW-RW3-MW2-20120412	None
				NWIRP-GM-38-GW-RW3-MW3-20120412	None
				NWIRP-GM-38-GW-RW3-MW4-20120412	None
				NWIRP-GM-38-GW-TP1-20120412	None
				NWIRP-GM-38-DUP01-20120412	None
				NWIRP-GW-38-FB-20120412	None
				NWIRP-GW-38-TP-20120412	None

*= If sample concentration less than the Action Level (AL), then sample result qualified as non-detect (U). If sample concentration greater than the Action Level (AL) or sample result was not detected, no qualifications/action required.

2. Method Blank (1071715) analyzed on 12/12/2012 was free of contamination. No qualifications were required.

3. Field Blank (NWIRP-GM-38-FB-20120412) (1002349009) analyzed on 12/11/2012 was free of contamination. No qualifications were required.

4. Trip Blank (NWIRP-GM-38-TB-20120412) (1002349010) analyzed on 12/12/2012 was free of contamination. No qualifications were required.

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

1. Laboratory Control Sample (1071245) was analyzed on 12/11/2012. All %RECs were within the laboratory control limits. No qualifications were required.

2. Laboratory Control Sample (1071716) was analyzed on 12/12/2012. All %RECs were within the laboratory control limits. No qualifications were required.

Field Duplicate:

1. Sample NWIRP-GM-38-DUP01-20120412 (1002349011) was collected as field duplicate for sample NWIRP-GM-38-GW-RW3-MW2-20120412 (100234905). All RPDs were ≤50.0%. 1,2-Dichloropropane and 1,1,2-Trichloroethane were detected in the field duplicates sample but were not detected in the field sample.

Field Sample	Compound	Analytical Method	Result	Units	Field Duplicate	Result	Units	RPD	Qualifier
MWIRP-GM-38-GW-RW3-MW2-20120412	cis-1,2-Dichloroethene	EPA 624	1.6	µg/l	MWIRP-GM-38-DUP01-20120412	1.6	µg/l	0.0	None
MWIRP-GM-38-GW-RW3-MW2-20120412	Chloroform	EPA 624	0.62	µg/l	MWIRP-GM-38-DUP01-20120412	0.64	µg/l	3.2	None
MWIRP-GM-38-GW-RW3-MW2-20120412	1,1,1-Trichloroethane	EPA 624	0.42	µg/l	MWIRP-GM-38-DUP01-20120412	0.43	µg/l	2.4	None
MWIRP-GM-38-GW-RW3-MW2-20120412	1,1-Dichloroethane	EPA 624	0.69	µg/l	MWIRP-GM-38-DUP01-20120412	0.71	µg/l	2.9	None
MWIRP-GM-38-GW-RW3-MW2-20120412	1,1-Dichloroethene	EPA 624	0.4	µg/l	MWIRP-GM-38-DUP01-20120412	0.43	µg/l	7.2	None
MWIRP-GM-38-GW-RW3-MW2-20120412	1,2-Dichloropropane	EPA 624	1	µg/l	MWIRP-GM-38-DUP01-20120412	0.69	µg/l	NC	UJ/J
MWIRP-GM-38-GW-RW3-MW2-20120412	1,1,2-Trichloroethane	EPA 624	1	µg/l	MWIRP-GM-38-DUP01-20120412	0.34	µg/l	NC	UJ/J
MWIRP-GM-38-GW-RW3-MW2-20120412	Trichloroethene	EPA 624	173	µg/l	MWIRP-GM-38-DUP01-20120412	171	µg/l	1.2	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-MW2-20120412 (1002349005). 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/NA	R[(1)]
Bromomethane	A/A/30	UJ
Trichloroethene	A/47.5/A	J
Vinyl Chloride	A/A/42	UJ

NA= Not Applicable

[(1)]= R qualifier was used due to both MS and MSD were not recovered.

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: G1002349-HNW-043.

MERCURY
USEPA Region II – Data Validation

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

Location: 100 Broadway, Bethpage, NY

Project Number: 2031-108

SDG #: G1002349-HNW-053

Client: H&S Environmental, Inc.

Date: 03/06/2013

Laboratory: ALS Environmental, Middletown, PA

Reviewer: Sherri Pullar

Summary:

1. 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 12/04, 06, and 07/2012. The samples were submitted to ALS Environmental, Middletown, PA on 12/10/2012 for analysis.

3. The USEPA Region II SOP No. HW-2, Revision 13, September 2006, Validation of Metals for Contract Laboratory Program (CLP), 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-MW1-20120412	1002349001	12/04/2012	Water	
NWIRP-GM-38-GW-RW1-MW3-20120712	1002349002	12/07/2012	Water	
NWIRP-GM-38-GW-RW2-MW1-20120712	1002349003	12/07/2012	Water	
NWIRP-GM-38-GW-RW3-MW1-20121206	1002349004	12/06/2012	Water	
NWIRP-GM-38-GW-RW3-MW2-20120412	1002349005	12/04/2012	Water	
NWIRP-GM-38-GW-RW3-MW3-20120412	1002349006	12/04/2012	Water	
NWIRP-GM-38-GW-RW3-MW4-20120412	1002349007	12/04/2012	Water	
NWIRP-GM-38-GW-TP1-20120412	1002349008	12/04/2012	Water	
NWIRP-GM-38-DUP01-20120412	1002349011	12/04/2012	Water	Field Duplicate of sample NWIRP-GM-38-GW-RW3-MW2-20120412
NWIRP-GM-38-FB-20120412	1002349009	12/04/2012	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):

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

2. All ICVs and CCVs %REC values were within the QC limits (80-120%). 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 (1074684) digested on 12/20/2012 was free of contamination. No qualifications were required.

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

1. Field Blank (NWIRP-GM-38-FB-20120412) (1002349009) analyzed on 12/20/2012 was free of contamination. No qualifications were required.

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

1. Mercury %REC in Laboratory Control Sample (1074685) analyzed on 12/20/2012 was within the laboratory control limits. No qualifications were required.

Field Duplicate:

1. Sample NWIRP-GM-38-DUP01-20120412 (1002349011) was collected as field duplicate for sample NWIRP-GM-38-GW-RW3-MW2-20120412 (1002349005). 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-MW2-20120412 (1002349005). 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: G1002349-HNW-043.

GENERAL CHEMISTRY
USEPA Region II – Data Validation

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

Location: 100 Broadway, Bethpage, NY

Project Number: 2031-108

SDG #: G1002349-HNW-053

Client: H&S Environmental, Inc.

Date: 03/06/2013

Laboratory: ALS Environmental, Middletown, PA

Reviewer: Sherri Pullar

Summary:

1. 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 12/04, 06, and 07/2012. The samples were submitted to ALS Environmental, Middletown, PA on 12/10/2012 for analysis.

3. The USEPA Region II SOP No. HW-2, Revision 13, September 2006, Validation of Metals for Contract Laboratory Program (CLP), 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-MW1-20120412	1002349001	12/04/2012	Water	
NWIRP-GM-38-GW-RW1-MW3-20120712	1002349002	12/07/2012	Water	
NWIRP-GM-38-GW-RW2-MW1-20120712	1002349003	12/07/2012	Water	
NWIRP-GM-38-GW-RW3-MW1-20121206	1002349004	12/06/2012	Water	
NWIRP-GM-38-GW-RW3-MW2-20120412	1002349005	12/04/2012	Water	
NWIRP-GM-38-GW-RW3-MW3-20120412	1002349006	12/04/2012	Water	
NWIRP-GM-38-GW-RW3-MW4-20120412	1002349007	12/04/2012	Water	
NWIRP-GM-38-GW-TP1-20120412	1002349008	12/04/2012	Water	
NWIRP-GM-38-DUP01-20120412	1002349011	12/04/2012	Water	Field Duplicate of sample NWIRP-GM-38-GW-RW3-MW2-20120412

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 (1070642) analyzed on 12/10/2012 was free of contamination. No qualifications were required.

Field Duplicate:

1. Sample NWIRP-GM-38-DUP01-20120412 (1002349011) was collected as field duplicate for sample NWIRP-GM-38-GW-RW3-MW2-20120412 (1002349005). Both samples were reported as non-detects. No qualifications were required.

Laboratory Duplicate:

1. Laboratory Duplicate source sample was associated with a different SDG.

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: G1002349-HNW-043.

NWIRP BETHPAGE GM-38
DECEMBER 2012 EVENT
DATA SUMMARY TABLE
AQUEOUS
SDG: 1002349, HNW-043

Sample Name	Lab ID	Analytical Method	Sample Date	Dilution Factor	Analyte	Result	Unit	Qualifier	MDL	RL
NWIRP-GM-38-RW1-MW1-20120412	1002349001	624	04-Dec-12	1	Ethylbenzene	1	ug/L	U	0.16	1
NWIRP-GM-38-RW1-MW1-20120412	1002349001	624	04-Dec-12	1	cis-1,3-Dichloropropene	1	ug/L	U	0.12	1
NWIRP-GM-38-RW1-MW1-20120412	1002349001	624	04-Dec-12	1	trans-1,3-Dichloropropene	1	ug/L	U	0.14	1
NWIRP-GM-38-RW1-MW1-20120412	1002349001	624	04-Dec-12	1	1,4-Dichlorobenzene	1	ug/L	U	0.15	1
NWIRP-GM-38-RW1-MW1-20120412	1002349001	624	04-Dec-12	1	Acrolein	30	ug/L	U	2.4	30
NWIRP-GM-38-RW1-MW1-20120412	1002349001	624	04-Dec-12	1	1,2-Dichloroethane	1	ug/L	U	0.22	1
NWIRP-GM-38-RW1-MW1-20120412	1002349001	624	04-Dec-12	1	Acrylonitrile	5	ug/L	U	0.89	5
NWIRP-GM-38-RW1-MW1-20120412	1002349001	624	04-Dec-12	1	Toluene	1	ug/L	U	0.12	1
NWIRP-GM-38-RW1-MW1-20120412	1002349001	624	04-Dec-12	1	Chlorobenzene	1	ug/L	U	0.11	1
NWIRP-GM-38-RW1-MW1-20120412	1002349001	624	04-Dec-12	1	2-Chloroethylvinyl ether	2	ug/L	U	0.28	2
NWIRP-GM-38-RW1-MW1-20120412	1002349001	624	04-Dec-12	1	Chlorodibromomethane	1	ug/L	U	0.22	1
NWIRP-GM-38-RW1-MW1-20120412	1002349001	624	04-Dec-12	1	Tetrachloroethene	1	ug/L	U	0.26	1
NWIRP-GM-38-RW1-MW1-20120412	1002349001	624	04-Dec-12	1	cis-1,2-Dichloroethene	108	ug/L		0.26	1
NWIRP-GM-38-RW1-MW1-20120412	1002349001	624	04-Dec-12	1	trans-1,2-Dichloroethene	1.8	ug/L		0.12	1
NWIRP-GM-38-RW1-MW1-20120412	1002349001	624	04-Dec-12	1	1,3-Dichlorobenzene	1	ug/L	U	0.14	1
NWIRP-GM-38-RW1-MW1-20120412	1002349001	624	04-Dec-12	1	1,3-Dichloropropene, Total	1	ug/L	U	0.19	1
NWIRP-GM-38-RW1-MW1-20120412	1002349001	624	04-Dec-12	1	Carbon Tetrachloride	1	ug/L	U	0.24	1
NWIRP-GM-38-RW1-MW1-20120412	1002349001	624	04-Dec-12	1	Chloroform	1	ug/L	UJ	0.15	1
NWIRP-GM-38-RW1-MW1-20120412	1002349001	624	04-Dec-12	1	Benzene	1	ug/L	U	0.16	1
NWIRP-GM-38-RW1-MW1-20120412	1002349001	624	04-Dec-12	1	1,1,1-Trichloroethane	0.88	ug/L	J	0.27	1
NWIRP-GM-38-RW1-MW1-20120412	1002349001	624	04-Dec-12	1	Bromomethane	2	ug/L	UJ	0.27	2
NWIRP-GM-38-RW1-MW1-20120412	1002349001	624	04-Dec-12	1	Chloromethane	1	ug/L	U	0.25	1
NWIRP-GM-38-RW1-MW1-20120412	1002349001	624	04-Dec-12	1	Chloroethane	1	ug/L	U	0.24	1
NWIRP-GM-38-RW1-MW1-20120412	1002349001	624	04-Dec-12	1	Vinyl Chloride	2	ug/L	UJ	0.24	2
NWIRP-GM-38-RW1-MW1-20120412	1002349001	624	04-Dec-12	1	Methylene Chloride	1	ug/L	UJ	0.32	1
NWIRP-GM-38-RW1-MW1-20120412	1002349001	624	04-Dec-12	1	Bromoform	2	ug/L	U	0.21	2
NWIRP-GM-38-RW1-MW1-20120412	1002349001	624	04-Dec-12	1	Bromodichloromethane	1	ug/L	U	0.13	1
NWIRP-GM-38-RW1-MW1-20120412	1002349001	624	04-Dec-12	1	1,1-Dichloroethane	4.9	ug/L		0.19	1
NWIRP-GM-38-RW1-MW1-20120412	1002349001	624	04-Dec-12	1	1,1-Dichloroethene	2	ug/L		0.17	1
NWIRP-GM-38-RW1-MW1-20120412	1002349001	624	04-Dec-12	1	Trichlorofluoromethane	1	ug/L	U	0.21	1
NWIRP-GM-38-RW1-MW1-20120412	1002349001	624	04-Dec-12	1	1,2-Dichloropropane	1	ug/L	U	0.24	1
NWIRP-GM-38-RW1-MW1-20120412	1002349001	624	04-Dec-12	1	1,1,2-Trichloroethane	1	ug/L	U	0.3	1
NWIRP-GM-38-RW1-MW1-20120412	1002349001	624	04-Dec-12	1	Trichloroethene	85.4	ug/L		0.21	1

NWIRP BETHPAGE GM-38
DECEMBER 2012 EVENT
DATA SUMMARY TABLE
AQUEOUS
SDG: 1002349, HNW-043

Sample Name	Lab ID	Analytical Method	Sample Date	Dilution Factor	Analyte	Result	Unit	Qualifier	MDL	RL
NWIRP-GM-38-RW1-MW1-20120412	1002349001	624	04-Dec-12	1	1,1,2,2-Tetrachloroethane	1	ug/L	U	0.22	1
NWIRP-GM-38-RW1-MW1-20120412	1002349001	624	04-Dec-12	1	1,2-Dichlorobenzene	1	ug/L	U	0.2	1
NWIRP-GM-38-RW1-MW1-20120412	1002349001	245.1	04-Dec-12	1	Mercury, Total	0.0005	mg/L	U	0.0002	0.0005
NWIRP-GM-38-RW1-MW1-20120412	1002349001	2540D	04-Dec-12	1	Total Suspended Solids	5	mg/L	U	5	5
NWIRP-GM-38-RW1-MW3-20120712	1002349002	624	07-Dec-12	1	Ethylbenzene	1	ug/L	U	0.16	1
NWIRP-GM-38-RW1-MW3-20120712	1002349002	624	07-Dec-12	1	cis-1,3-Dichloropropene	1	ug/L	U	0.12	1
NWIRP-GM-38-RW1-MW3-20120712	1002349002	624	07-Dec-12	1	trans-1,3-Dichloropropene	1	ug/L	U	0.14	1
NWIRP-GM-38-RW1-MW3-20120712	1002349002	624	07-Dec-12	1	1,4-Dichlorobenzene	1	ug/L	U	0.15	1
NWIRP-GM-38-RW1-MW3-20120712	1002349002	624	07-Dec-12	1	Acrolein	30	ug/L	U	2.4	30
NWIRP-GM-38-RW1-MW3-20120712	1002349002	624	07-Dec-12	1	1,2-Dichloroethane	1	ug/L	U	0.22	1
NWIRP-GM-38-RW1-MW3-20120712	1002349002	624	07-Dec-12	1	Acrylonitrile	5	ug/L	U	0.89	5
NWIRP-GM-38-RW1-MW3-20120712	1002349002	624	07-Dec-12	1	Toluene	1	ug/L	U	0.12	1
NWIRP-GM-38-RW1-MW3-20120712	1002349002	624	07-Dec-12	1	Chlorobenzene	1	ug/L	U	0.11	1
NWIRP-GM-38-RW1-MW3-20120712	1002349002	624	07-Dec-12	1	2-Chloroethylvinyl ether	2	ug/L	U	0.28	2
NWIRP-GM-38-RW1-MW3-20120712	1002349002	624	07-Dec-12	1	Chlorodibromomethane	1	ug/L	U	0.22	1
NWIRP-GM-38-RW1-MW3-20120712	1002349002	624	07-Dec-12	1	Tetrachloroethene	0.4	ug/L	J	0.26	1
NWIRP-GM-38-RW1-MW3-20120712	1002349002	624	07-Dec-12	1	cis-1,2-Dichloroethene	0.46	ug/L	J	0.26	1
NWIRP-GM-38-RW1-MW3-20120712	1002349002	624	07-Dec-12	1	trans-1,2-Dichloroethene	1	ug/L	U	0.12	1
NWIRP-GM-38-RW1-MW3-20120712	1002349002	624	07-Dec-12	1	1,3-Dichlorobenzene	1	ug/L	U	0.14	1
NWIRP-GM-38-RW1-MW3-20120712	1002349002	624	07-Dec-12	1	1,3-Dichloropropene, Total	1	ug/L	U	0.19	1
NWIRP-GM-38-RW1-MW3-20120712	1002349002	624	07-Dec-12	1	Carbon Tetrachloride	1	ug/L	U	0.24	1
NWIRP-GM-38-RW1-MW3-20120712	1002349002	624	07-Dec-12	1	Chloroform	1.2	ug/L	J	0.15	1
NWIRP-GM-38-RW1-MW3-20120712	1002349002	624	07-Dec-12	1	Benzene	1	ug/L	U	0.16	1
NWIRP-GM-38-RW1-MW3-20120712	1002349002	624	07-Dec-12	1	1,1,1-Trichloroethane	1.7	ug/L		0.27	1
NWIRP-GM-38-RW1-MW3-20120712	1002349002	624	07-Dec-12	1	Bromomethane	2	ug/L	UJ	0.27	2
NWIRP-GM-38-RW1-MW3-20120712	1002349002	624	07-Dec-12	1	Chloromethane	1	ug/L	U	0.25	1
NWIRP-GM-38-RW1-MW3-20120712	1002349002	624	07-Dec-12	1	Chloroethane	1	ug/L	U	0.24	1
NWIRP-GM-38-RW1-MW3-20120712	1002349002	624	07-Dec-12	1	Vinyl Chloride	2	ug/L	UJ	0.24	2
NWIRP-GM-38-RW1-MW3-20120712	1002349002	624	07-Dec-12	1	Methylene Chloride	1	ug/L	UJ	0.32	1
NWIRP-GM-38-RW1-MW3-20120712	1002349002	624	07-Dec-12	1	Bromoform	2	ug/L	U	0.21	2
NWIRP-GM-38-RW1-MW3-20120712	1002349002	624	07-Dec-12	1	Bromodichloromethane	1	ug/L	U	0.13	1
NWIRP-GM-38-RW1-MW3-20120712	1002349002	624	07-Dec-12	1	1,1-Dichloroethane	9.3	ug/L		0.19	1
NWIRP-GM-38-RW1-MW3-20120712	1002349002	624	07-Dec-12	1	1,1-Dichloroethene	2.2	ug/L		0.17	1

NWIRP BETHPAGE GM-38
DECEMBER 2012 EVENT
DATA SUMMARY TABLE
AQUEOUS
SDG: 1002349, HNW-043

Sample Name	Lab ID	Analytical Method	Sample Date	Dilution Factor	Analyte	Result	Unit	Qualifier	MDL	RL
NWIRP-GM-38-RW1-MW3-20120712	1002349002	624	07-Dec-12	1	Trichlorofluoromethane	1	ug/L	U	0.21	1
NWIRP-GM-38-RW1-MW3-20120712	1002349002	624	07-Dec-12	1	1,2-Dichloropropane	1	ug/L	U	0.24	1
NWIRP-GM-38-RW1-MW3-20120712	1002349002	624	07-Dec-12	1	1,1,2-Trichloroethane	0.54	ug/L	J	0.3	1
NWIRP-GM-38-RW1-MW3-20120712	1002349002	624	07-Dec-12	1	Trichloroethene	1.6	ug/L		0.21	1
NWIRP-GM-38-RW1-MW3-20120712	1002349002	624	07-Dec-12	1	1,1,2,2-Tetrachloroethane	1	ug/L	U	0.22	1
NWIRP-GM-38-RW1-MW3-20120712	1002349002	624	07-Dec-12	1	1,2-Dichlorobenzene	1	ug/L	U	0.2	1
NWIRP-GM-38-RW1-MW3-20120712	1002349002	245.1	07-Dec-12	1	Mercury, Total	0.0005	mg/L	U	0.0002	0.0005
NWIRP-GM-38-RW1-MW3-20120712	1002349002	2540D	07-Dec-12	1	Total Suspended Solids	5	mg/L	U	5	5
NWIRP-GM-38-RW2-MW1-20120712	1002349003	624	07-Dec-12	1	Ethylbenzene	1	ug/L	U	0.16	1
NWIRP-GM-38-RW2-MW1-20120712	1002349003	624	07-Dec-12	1	cis-1,3-Dichloropropene	1	ug/L	U	0.12	1
NWIRP-GM-38-RW2-MW1-20120712	1002349003	624	07-Dec-12	1	trans-1,3-Dichloropropene	1	ug/L	U	0.14	1
NWIRP-GM-38-RW2-MW1-20120712	1002349003	624	07-Dec-12	1	1,4-Dichlorobenzene	1	ug/L	U	0.15	1
NWIRP-GM-38-RW2-MW1-20120712	1002349003	624	07-Dec-12	1	Acrolein	30	ug/L	U	2.4	30
NWIRP-GM-38-RW2-MW1-20120712	1002349003	624	07-Dec-12	1	1,2-Dichloroethane	1	ug/L	U	0.22	1
NWIRP-GM-38-RW2-MW1-20120712	1002349003	624	07-Dec-12	1	Acrylonitrile	5	ug/L	U	0.89	5
NWIRP-GM-38-RW2-MW1-20120712	1002349003	624	07-Dec-12	1	Toluene	0.27	ug/L	J	0.12	1
NWIRP-GM-38-RW2-MW1-20120712	1002349003	624	07-Dec-12	1	Chlorobenzene	1	ug/L	U	0.11	1
NWIRP-GM-38-RW2-MW1-20120712	1002349003	624	07-Dec-12	1	2-Chloroethylvinyl ether	2	ug/L	U	0.28	2
NWIRP-GM-38-RW2-MW1-20120712	1002349003	624	07-Dec-12	1	Chlorodibromomethane	1	ug/L	U	0.22	1
NWIRP-GM-38-RW2-MW1-20120712	1002349003	624	07-Dec-12	1	Tetrachloroethene	1	ug/L	U	0.26	1
NWIRP-GM-38-RW2-MW1-20120712	1002349003	624	07-Dec-12	1	cis-1,2-Dichloroethene	0.33	ug/L	J	0.26	1
NWIRP-GM-38-RW2-MW1-20120712	1002349003	624	07-Dec-12	1	trans-1,2-Dichloroethene	1	ug/L	U	0.12	1
NWIRP-GM-38-RW2-MW1-20120712	1002349003	624	07-Dec-12	1	1,3-Dichlorobenzene	1	ug/L	U	0.14	1
NWIRP-GM-38-RW2-MW1-20120712	1002349003	624	07-Dec-12	1	1,3-Dichloropropene, Total	1	ug/L	U	0.19	1
NWIRP-GM-38-RW2-MW1-20120712	1002349003	624	07-Dec-12	1	Carbon Tetrachloride	1	ug/L	U	0.24	1
NWIRP-GM-38-RW2-MW1-20120712	1002349003	624	07-Dec-12	1	Chloroform	1	ug/L	UJ	0.15	1
NWIRP-GM-38-RW2-MW1-20120712	1002349003	624	07-Dec-12	1	Benzene	0.68	ug/L	J	0.16	1
NWIRP-GM-38-RW2-MW1-20120712	1002349003	624	07-Dec-12	1	1,1,1-Trichloroethane	1	ug/L	U	0.27	1
NWIRP-GM-38-RW2-MW1-20120712	1002349003	624	07-Dec-12	1	Bromomethane	2	ug/L	UJ	0.27	2
NWIRP-GM-38-RW2-MW1-20120712	1002349003	624	07-Dec-12	1	Chloromethane	1	ug/L	U	0.25	1
NWIRP-GM-38-RW2-MW1-20120712	1002349003	624	07-Dec-12	1	Chloroethane	1	ug/L	U	0.24	1
NWIRP-GM-38-RW2-MW1-20120712	1002349003	624	07-Dec-12	1	Vinyl Chloride	2	ug/L	UJ	0.24	2
NWIRP-GM-38-RW2-MW1-20120712	1002349003	624	07-Dec-12	1	Methylene Chloride	1	ug/L	UJ	0.32	1

NWIRP BETHPAGE GM-38
DECEMBER 2012 EVENT
DATA SUMMARY TABLE
AQUEOUS
SDG: 1002349, HNW-043

Sample Name	Lab ID	Analytical Method	Sample Date	Dilution Factor	Analyte	Result	Unit	Qualifier	MDL	RL
NWIRP-GM-38-RW2-MW1-20120712	1002349003	624	07-Dec-12	1	Bromoform	2	ug/L	U	0.21	2
NWIRP-GM-38-RW2-MW1-20120712	1002349003	624	07-Dec-12	1	Bromodichloromethane	1	ug/L	U	0.13	1
NWIRP-GM-38-RW2-MW1-20120712	1002349003	624	07-Dec-12	1	1,1-Dichloroethane	0.58	ug/L	J	0.19	1
NWIRP-GM-38-RW2-MW1-20120712	1002349003	624	07-Dec-12	1	1,1-Dichloroethene	0.19	ug/L	J	0.17	1
NWIRP-GM-38-RW2-MW1-20120712	1002349003	624	07-Dec-12	1	Trichlorofluoromethane	1	ug/L	U	0.21	1
NWIRP-GM-38-RW2-MW1-20120712	1002349003	624	07-Dec-12	1	1,2-Dichloropropane	1	ug/L	U	0.24	1
NWIRP-GM-38-RW2-MW1-20120712	1002349003	624	07-Dec-12	1	1,1,2-Trichloroethane	1	ug/L	U	0.3	1
NWIRP-GM-38-RW2-MW1-20120712	1002349003	624	07-Dec-12	1	Trichloroethene	0.73	ug/L	J	0.21	1
NWIRP-GM-38-RW2-MW1-20120712	1002349003	624	07-Dec-12	1	1,1,2,2-Tetrachloroethane	1	ug/L	U	0.22	1
NWIRP-GM-38-RW2-MW1-20120712	1002349003	624	07-Dec-12	1	1,2-Dichlorobenzene	1	ug/L	U	0.2	1
NWIRP-GM-38-RW2-MW1-20120712	1002349003	245.1	07-Dec-12	1	Mercury, Total	0.0005	mg/L	U	0.0002	0.0005
NWIRP-GM-38-RW2-MW1-20120712	1002349003	2540D	07-Dec-12	1	Total Suspended Solids	10	mg/L		5	5
NWIRP-GM-38-RW3-MW1-20120612	1002349006	624	06-Dec-12	1	Ethylbenzene	1	ug/L	U	0.16	1
NWIRP-GM-38-RW3-MW1-20120612	1002349006	624	06-Dec-12	1	cis-1,3-Dichloropropene	1	ug/L	U	0.12	1
NWIRP-GM-38-RW3-MW1-20120612	1002349006	624	06-Dec-12	1	trans-1,3-Dichloropropene	1	ug/L	U	0.14	1
NWIRP-GM-38-RW3-MW1-20120612	1002349006	624	06-Dec-12	1	1,4-Dichlorobenzene	1	ug/L	U	0.15	1
NWIRP-GM-38-RW3-MW1-20120612	1002349006	624	06-Dec-12	1	Acrolein	30	ug/L	U	2.4	30
NWIRP-GM-38-RW3-MW1-20120612	1002349006	624	06-Dec-12	1	1,2-Dichloroethane	1	ug/L	U	0.22	1
NWIRP-GM-38-RW3-MW1-20120612	1002349006	624	06-Dec-12	1	Acrylonitrile	5	ug/L	U	0.89	5
NWIRP-GM-38-RW3-MW1-20120612	1002349006	624	06-Dec-12	1	Toluene	1	ug/L	U	0.12	1
NWIRP-GM-38-RW3-MW1-20120612	1002349006	624	06-Dec-12	1	Chlorobenzene	1	ug/L	U	0.11	1
NWIRP-GM-38-RW3-MW1-20120612	1002349006	624	06-Dec-12	1	2-Chloroethylvinyl ether	2	ug/L	U	0.28	2
NWIRP-GM-38-RW3-MW1-20120612	1002349006	624	06-Dec-12	1	Chlorodibromomethane	1	ug/L	U	0.22	1
NWIRP-GM-38-RW3-MW1-20120612	1002349006	624	06-Dec-12	1	Tetrachloroethene	0.43	ug/L	J	0.26	1
NWIRP-GM-38-RW3-MW1-20120612	1002349006	624	06-Dec-12	1	cis-1,2-Dichloroethene	1.2	ug/L		0.26	1
NWIRP-GM-38-RW3-MW1-20120612	1002349006	624	06-Dec-12	1	trans-1,2-Dichloroethene	1	ug/L	U	0.12	1
NWIRP-GM-38-RW3-MW1-20120612	1002349006	624	06-Dec-12	1	1,3-Dichlorobenzene	1	ug/L	U	0.14	1
NWIRP-GM-38-RW3-MW1-20120612	1002349006	624	06-Dec-12	1	1,3-Dichloropropene, Total	1	ug/L	U	0.19	1
NWIRP-GM-38-RW3-MW1-20120612	1002349006	624	06-Dec-12	1	Carbon Tetrachloride	1	ug/L	U	0.24	1
NWIRP-GM-38-RW3-MW1-20120612	1002349006	624	06-Dec-12	1	Chloroform	0.88	ug/L	J	0.15	1
NWIRP-GM-38-RW3-MW1-20120612	1002349006	624	06-Dec-12	1	Benzene	1	ug/L	U	0.16	1
NWIRP-GM-38-RW3-MW1-20120612	1002349006	624	06-Dec-12	1	1,1,1-Trichloroethane	0.85	ug/L	J	0.27	1
NWIRP-GM-38-RW3-MW1-20120612	1002349006	624	06-Dec-12	1	Bromomethane	2	ug/L	UJ	0.27	2

NWIRP BETHPAGE GM-38
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DATA SUMMARY TABLE
AQUEOUS
SDG: 1002349, HNW-043

Sample Name	Lab ID	Analytical Method	Sample Date	Dilution Factor	Analyte	Result	Unit	Qualifier	MDL	RL
NWIRP-GM-38-RW3-MW1-20120612	1002349006	624	06-Dec-12	1	Chloromethane	1	ug/L	U	0.25	1
NWIRP-GM-38-RW3-MW1-20120612	1002349006	624	06-Dec-12	1	Chloroethane	1	ug/L	U	0.24	1
NWIRP-GM-38-RW3-MW1-20120612	1002349006	624	06-Dec-12	1	Vinyl Chloride	2	ug/L	UJ	0.24	2
NWIRP-GM-38-RW3-MW1-20120612	1002349006	624	06-Dec-12	1	Methylene Chloride	1	ug/L	UJ	0.32	1
NWIRP-GM-38-RW3-MW1-20120612	1002349006	624	06-Dec-12	1	Bromoform	2	ug/L	U	0.21	2
NWIRP-GM-38-RW3-MW1-20120612	1002349006	624	06-Dec-12	1	Bromodichloromethane	1	ug/L	U	0.13	1
NWIRP-GM-38-RW3-MW1-20120612	1002349006	624	06-Dec-12	1	1,1-Dichloroethane	4.2	ug/L		0.19	1
NWIRP-GM-38-RW3-MW1-20120612	1002349006	624	06-Dec-12	1	1,1-Dichloroethene	1.9	ug/L		0.17	1
NWIRP-GM-38-RW3-MW1-20120612	1002349006	624	06-Dec-12	1	Trichlorofluoromethane	1	ug/L	U	0.21	1
NWIRP-GM-38-RW3-MW1-20120612	1002349006	624	06-Dec-12	1	1,2-Dichloropropane	1	ug/L	U	0.24	1
NWIRP-GM-38-RW3-MW1-20120612	1002349006	624	06-Dec-12	1	1,1,2-Trichloroethane	1	ug/L	U	0.3	1
NWIRP-GM-38-RW3-MW1-20120612	1002349006	624	06-Dec-12	1	Trichloroethene	1	ug/L	U	0.22	1
NWIRP-GM-38-RW3-MW1-20120612	1002349006	624	06-Dec-12	1	1,1,2,2-Tetrachloroethane	1	ug/L	U	0.2	1
NWIRP-GM-38-RW3-MW1-20120612	1002349006	624	06-Dec-12	1	1,2-Dichlorobenzene	291	ug/L		1.1	5
NWIRP-GM-38-RW3-MW1-20120612	1002349004	245.1	06-Dec-12	1	Mercury, Total	0.0005	mg/L	U	0.0002	0.0005
NWIRP-GM-38-RW3-MW1-20120612	1002349004	2540D	06-Dec-12	1	Total Suspended Solids	5	mg/L	U	5	5
NWIRP-GM-38-RW3-MW2-20120412	1002349005	624	04-Dec-12	1	Ethylbenzene	1	ug/L	U	0.16	1
NWIRP-GM-38-RW3-MW2-20120412	1002349005	624	04-Dec-12	1	cis-1,3-Dichloropropene	1	ug/L	U	0.12	1
NWIRP-GM-38-RW3-MW2-20120412	1002349005	624	04-Dec-12	1	trans-1,3-Dichloropropene	1	ug/L	U	0.14	1
NWIRP-GM-38-RW3-MW2-20120412	1002349005	624	04-Dec-12	1	1,4-Dichlorobenzene	1	ug/L	U	0.15	1
NWIRP-GM-38-RW3-MW2-20120412	1002349005	624	04-Dec-12	1	Acrolein	30	ug/L	U	2.4	30
NWIRP-GM-38-RW3-MW2-20120412	1002349005	624	04-Dec-12	1	1,2-Dichloroethane	1	ug/L	U	0.22	1
NWIRP-GM-38-RW3-MW2-20120412	1002349005	624	04-Dec-12	1	Acrylonitrile	5	ug/L	U	0.89	5
NWIRP-GM-38-RW3-MW2-20120412	1002349005	624	04-Dec-12	1	Toluene	1	ug/L	U	0.12	1
NWIRP-GM-38-RW3-MW2-20120412	1002349005	624	04-Dec-12	1	Chlorobenzene	1	ug/L	U	0.11	1
NWIRP-GM-38-RW3-MW2-20120412	1002349005	624	04-Dec-12	1	2-Chloroethylvinyl ether	2	ug/L	R	0.28	2
NWIRP-GM-38-RW3-MW2-20120412	1002349005	624	04-Dec-12	1	Chlorodibromomethane	1	ug/L	U	0.22	1
NWIRP-GM-38-RW3-MW2-20120412	1002349005	624	04-Dec-12	1	Tetrachloroethene	1	ug/L	U	0.26	1
NWIRP-GM-38-RW3-MW2-20120412	1002349005	624	04-Dec-12	1	cis-1,2-Dichloroethene	1.6	ug/L		0.26	1
NWIRP-GM-38-RW3-MW2-20120412	1002349005	624	04-Dec-12	1	trans-1,2-Dichloroethene	1	ug/L	U	0.12	1
NWIRP-GM-38-RW3-MW2-20120412	1002349005	624	04-Dec-12	1	1,3-Dichlorobenzene	1	ug/L	U	0.14	1
NWIRP-GM-38-RW3-MW2-20120412	1002349005	624	04-Dec-12	1	1,3-Dichloropropene, Total	1	ug/L	U	0.19	1
NWIRP-GM-38-RW3-MW2-20120412	1002349005	624	04-Dec-12	1	Carbon Tetrachloride	1	ug/L	U	0.24	1

NWIRP BETHPAGE GM-38
DECEMBER 2012 EVENT
DATA SUMMARY TABLE
AQUEOUS
SDG: 1002349, HNW-043

Sample Name	Lab ID	Analytical Method	Sample Date	Dilution Factor	Analyte	Result	Unit	Qualifier	MDL	RL
NWIRP-GM-38-RW3-MW2-20120412	1002349005	624	04-Dec-12	1	Chloroform	0.62	ug/L	J	0.15	1
NWIRP-GM-38-RW3-MW2-20120412	1002349005	624	04-Dec-12	1	Benzene	1	ug/L	U	0.16	1
NWIRP-GM-38-RW3-MW2-20120412	1002349005	624	04-Dec-12	1	1,1,1-Trichloroethane	0.42	ug/L	J	0.27	1
NWIRP-GM-38-RW3-MW2-20120412	1002349005	624	04-Dec-12	1	Bromomethane	2	ug/L	UJ	0.27	2
NWIRP-GM-38-RW3-MW2-20120412	1002349005	624	04-Dec-12	1	Chloromethane	1	ug/L	U	0.25	1
NWIRP-GM-38-RW3-MW2-20120412	1002349005	624	04-Dec-12	1	Chloroethane	1	ug/L	U	0.24	1
NWIRP-GM-38-RW3-MW2-20120412	1002349005	624	04-Dec-12	1	Vinyl Chloride	2	ug/L	UJ	0.24	2
NWIRP-GM-38-RW3-MW2-20120412	1002349005	624	04-Dec-12	1	Methylene Chloride	1	ug/L	UJ	0.32	1
NWIRP-GM-38-RW3-MW2-20120412	1002349005	624	04-Dec-12	1	Bromoform	2	ug/L	U	0.21	2
NWIRP-GM-38-RW3-MW2-20120412	1002349005	624	04-Dec-12	1	Bromodichloromethane	1	ug/L	U	0.13	1
NWIRP-GM-38-RW3-MW2-20120412	1002349005	624	04-Dec-12	1	1,1-Dichloroethane	0.69	ug/L	J	0.19	1
NWIRP-GM-38-RW3-MW2-20120412	1002349005	624	04-Dec-12	1	1,1-Dichloroethene	0.4	ug/L	J	0.17	1
NWIRP-GM-38-RW3-MW2-20120412	1002349005	624	04-Dec-12	1	Trichlorofluoromethane	1	ug/L	U	0.21	1
NWIRP-GM-38-RW3-MW2-20120412	1002349005	624	04-Dec-12	1	1,2-Dichloropropane	1	ug/L	U	0.24	1
NWIRP-GM-38-RW3-MW2-20120412	1002349005	624	04-Dec-12	1	1,1,2-Trichloroethane	1	ug/L	U	0.3	1
NWIRP-GM-38-RW3-MW2-20120412	1002349005	624	04-Dec-12	1	Trichloroethene	173	ug/L	J	0.21	1
NWIRP-GM-38-RW3-MW2-20120412	1002349005	624	04-Dec-12	1	1,1,2,2-Tetrachloroethane	1	ug/L	U	0.22	1
NWIRP-GM-38-RW3-MW2-20120412	1002349005	624	04-Dec-12	1	1,2-Dichlorobenzene	1	ug/L	U	0.2	1
NWIRP-GM-38-RW3-MW2-20120412	1002349005	245.1	04-Dec-12	1	Mercury, Total	0.0005	mg/L	U	0.0002	0.0005
NWIRP-GM-38-RW3-MW2-20120412	1002349005	2540D	04-Dec-12	1	Total Suspended Solids	5	mg/L	U	5	5
NWIRP-GM-38-RW3-MW3-20120412	1002349004	624	04-Dec-12	1	Ethylbenzene	1	ug/L	U	0.16	1
NWIRP-GM-38-RW3-MW3-20120412	1002349004	624	04-Dec-12	1	cis-1,3-Dichloropropene	1	ug/L	U	0.12	1
NWIRP-GM-38-RW3-MW3-20120412	1002349004	624	04-Dec-12	1	trans-1,3-Dichloropropene	1	ug/L	U	0.14	1
NWIRP-GM-38-RW3-MW3-20120412	1002349004	624	04-Dec-12	1	1,4-Dichlorobenzene	1	ug/L	U	0.15	1
NWIRP-GM-38-RW3-MW3-20120412	1002349004	624	04-Dec-12	1	Acrolein	30	ug/L	U	2.4	30
NWIRP-GM-38-RW3-MW3-20120412	1002349004	624	04-Dec-12	1	1,2-Dichloroethane	0.5	ug/L	J	0.22	1
NWIRP-GM-38-RW3-MW3-20120412	1002349004	624	04-Dec-12	1	Acrylonitrile	5	ug/L	U	0.89	5
NWIRP-GM-38-RW3-MW3-20120412	1002349004	624	04-Dec-12	1	Toluene	1	ug/L	U	0.12	1
NWIRP-GM-38-RW3-MW3-20120412	1002349004	624	04-Dec-12	1	Chlorobenzene	1	ug/L	U	0.11	1
NWIRP-GM-38-RW3-MW3-20120412	1002349004	624	04-Dec-12	1	2-Chloroethylvinyl ether	2	ug/L	U	0.28	2
NWIRP-GM-38-RW3-MW3-20120412	1002349004	624	04-Dec-12	1	Chlorodibromomethane	1	ug/L	U	0.22	1
NWIRP-GM-38-RW3-MW3-20120412	1002349004	624	04-Dec-12	1	Tetrachloroethene	0.44	ug/L	J	0.26	1
NWIRP-GM-38-RW3-MW3-20120412	1002349004	624	04-Dec-12	1	cis-1,2-Dichloroethene	0.44	ug/L	J	0.26	1

NWIRP BETHPAGE GM-38
DECEMBER 2012 EVENT
DATA SUMMARY TABLE
AQUEOUS
SDG: 1002349, HNW-043

Sample Name	Lab ID	Analytical Method	Sample Date	Dilution Factor	Analyte	Result	Unit	Qualifier	MDL	RL
NWIRP-GM-38-RW3-MW3-20120412	1002349004	624	04-Dec-12	1	trans-1,2-Dichloroethene	1	ug/L	U	0.12	1
NWIRP-GM-38-RW3-MW3-20120412	1002349004	624	04-Dec-12	1	1,3-Dichlorobenzene	1	ug/L	U	0.14	1
NWIRP-GM-38-RW3-MW3-20120412	1002349004	624	04-Dec-12	1	1,3-Dichloropropene, Total	1	ug/L	U	0.19	1
NWIRP-GM-38-RW3-MW3-20120412	1002349004	624	04-Dec-12	1	Carbon Tetrachloride	1	ug/L	U	0.24	1
NWIRP-GM-38-RW3-MW3-20120412	1002349004	624	04-Dec-12	1	Chloroform	0.63	ug/L	J	0.15	1
NWIRP-GM-38-RW3-MW3-20120412	1002349004	624	04-Dec-12	1	Benzene	1	ug/L	U	0.16	1
NWIRP-GM-38-RW3-MW3-20120412	1002349004	624	04-Dec-12	1	1,1,1-Trichloroethane	0.34	ug/L	J	0.27	1
NWIRP-GM-38-RW3-MW3-20120412	1002349004	624	04-Dec-12	1	Bromomethane	2	ug/L	UJ	0.27	2
NWIRP-GM-38-RW3-MW3-20120412	1002349004	624	04-Dec-12	1	Chloromethane	1	ug/L	U	0.25	1
NWIRP-GM-38-RW3-MW3-20120412	1002349004	624	04-Dec-12	1	Chloroethane	1	ug/L	U	0.24	1
NWIRP-GM-38-RW3-MW3-20120412	1002349004	624	04-Dec-12	1	Vinyl Chloride	2	ug/L	UJ	0.24	2
NWIRP-GM-38-RW3-MW3-20120412	1002349004	624	04-Dec-12	1	Methylene Chloride	1	ug/L	UJ	0.32	1
NWIRP-GM-38-RW3-MW3-20120412	1002349004	624	04-Dec-12	1	Bromoform	2	ug/L	U	0.21	2
NWIRP-GM-38-RW3-MW3-20120412	1002349004	624	04-Dec-12	1	Bromodichloromethane	1	ug/L	U	0.13	1
NWIRP-GM-38-RW3-MW3-20120412	1002349004	624	04-Dec-12	1	1,1-Dichloroethane	0.98	ug/L	J	0.19	1
NWIRP-GM-38-RW3-MW3-20120412	1002349004	624	04-Dec-12	1	1,1-Dichloroethene	0.65	ug/L	J	0.17	1
NWIRP-GM-38-RW3-MW3-20120412	1002349004	624	04-Dec-12	1	Trichlorofluoromethane	1	ug/L	U	0.21	1
NWIRP-GM-38-RW3-MW3-20120412	1002349004	624	04-Dec-12	1	1,2-Dichloropropane	1	ug/L	U	0.24	1
NWIRP-GM-38-RW3-MW3-20120412	1002349004	624	04-Dec-12	1	1,1,2-Trichloroethane	1	ug/L	U	0.3	1
NWIRP-GM-38-RW3-MW3-20120412	1002349004	624	04-Dec-12	1	1,1,2,2-Tetrachloroethane	42.8	ug/L		0.21	1
NWIRP-GM-38-RW3-MW3-20120412	1002349004	624	04-Dec-12	1	1,2-Dichlorobenzene	1	ug/L	U	0.22	1
NWIRP-GM-38-RW3-MW3-20120412	1002349004	624	04-Dec-12	5	Trichloroethene	1	ug/L	U	0.2	1
NWIRP-GM-38-RW3-MW3-20120412	1002349006	245.1	04-Dec-12	1	Mercury, Total	0.0005	mg/L	U	0.0002	0.0005
NWIRP-GM-38-RW3-MW3-20120412	1002349006	2540D	04-Dec-12	1	Total Suspended Solids	5	mg/L		5	5
NWIRP-GM-38-RW3-MW4-20120412	1002349007	624	04-Dec-12	1	Ethylbenzene	1	ug/L	U	0.16	1
NWIRP-GM-38-RW3-MW4-20120412	1002349007	624	04-Dec-12	1	cis-1,3-Dichloropropene	1	ug/L	U	0.12	1
NWIRP-GM-38-RW3-MW4-20120412	1002349007	624	04-Dec-12	1	trans-1,3-Dichloropropene	1	ug/L	U	0.14	1
NWIRP-GM-38-RW3-MW4-20120412	1002349007	624	04-Dec-12	1	1,4-Dichlorobenzene	1	ug/L	U	0.15	1
NWIRP-GM-38-RW3-MW4-20120412	1002349007	624	04-Dec-12	1	Acrolein	30	ug/L	U	2.4	30
NWIRP-GM-38-RW3-MW4-20120412	1002349007	624	04-Dec-12	1	1,2-Dichloroethane	1	ug/L	U	0.22	1
NWIRP-GM-38-RW3-MW4-20120412	1002349007	624	04-Dec-12	1	Acrylonitrile	5	ug/L	U	0.89	5
NWIRP-GM-38-RW3-MW4-20120412	1002349007	624	04-Dec-12	1	Toluene	1	ug/L	U	0.12	1
NWIRP-GM-38-RW3-MW4-20120412	1002349007	624	04-Dec-12	1	Chlorobenzene	1	ug/L	U	0.11	1

NWIRP BETHPAGE GM-38
DECEMBER 2012 EVENT
DATA SUMMARY TABLE
AQUEOUS
SDG: 1002349, HNW-043

Sample Name	Lab ID	Analytical Method	Sample Date	Dilution Factor	Analyte	Result	Unit	Qualifier	MDL	RL
NWIRP-GM-38-RW3-MW4-20120412	1002349007	624	04-Dec-12	1	2-Chloroethylvinyl ether	2	ug/L	U	0.28	2
NWIRP-GM-38-RW3-MW4-20120412	1002349007	624	04-Dec-12	1	Chlorodibromomethane	1	ug/L	U	0.22	1
NWIRP-GM-38-RW3-MW4-20120412	1002349007	624	04-Dec-12	1	Tetrachloroethene	1	ug/L	U	0.26	1
NWIRP-GM-38-RW3-MW4-20120412	1002349007	624	04-Dec-12	1	cis-1,2-Dichloroethene	1	ug/L	U	0.26	1
NWIRP-GM-38-RW3-MW4-20120412	1002349007	624	04-Dec-12	1	trans-1,2-Dichloroethene	1	ug/L	U	0.12	1
NWIRP-GM-38-RW3-MW4-20120412	1002349007	624	04-Dec-12	1	1,3-Dichlorobenzene	1	ug/L	U	0.14	1
NWIRP-GM-38-RW3-MW4-20120412	1002349007	624	04-Dec-12	1	1,3-Dichloropropene, Total	1	ug/L	U	0.19	1
NWIRP-GM-38-RW3-MW4-20120412	1002349007	624	04-Dec-12	1	Carbon Tetrachloride	1	ug/L	U	0.24	1
NWIRP-GM-38-RW3-MW4-20120412	1002349007	624	04-Dec-12	1	Chloroform	0.71	ug/L	J	0.15	1
NWIRP-GM-38-RW3-MW4-20120412	1002349007	624	04-Dec-12	1	Benzene	1	ug/L	U	0.16	1
NWIRP-GM-38-RW3-MW4-20120412	1002349007	624	04-Dec-12	1	1,1,1-Trichloroethane	1	ug/L	U	0.27	1
NWIRP-GM-38-RW3-MW4-20120412	1002349007	624	04-Dec-12	1	Bromomethane	2	ug/L	UJ	0.27	2
NWIRP-GM-38-RW3-MW4-20120412	1002349007	624	04-Dec-12	1	Chloromethane	1	ug/L	U	0.25	1
NWIRP-GM-38-RW3-MW4-20120412	1002349007	624	04-Dec-12	1	Chloroethane	1	ug/L	U	0.24	1
NWIRP-GM-38-RW3-MW4-20120412	1002349007	624	04-Dec-12	1	Vinyl Chloride	2	ug/L	UJ	0.24	2
NWIRP-GM-38-RW3-MW4-20120412	1002349007	624	04-Dec-12	1	Methylene Chloride	1	ug/L	UJ	0.32	1
NWIRP-GM-38-RW3-MW4-20120412	1002349007	624	04-Dec-12	1	Bromoform	2	ug/L	U	0.21	2
NWIRP-GM-38-RW3-MW4-20120412	1002349007	624	04-Dec-12	1	Bromodichloromethane	1	ug/L	U	0.13	1
NWIRP-GM-38-RW3-MW4-20120412	1002349007	624	04-Dec-12	1	1,1-Dichloroethane	1.2	ug/L		0.19	1
NWIRP-GM-38-RW3-MW4-20120412	1002349007	624	04-Dec-12	1	1,1-Dichloroethene	0.19	ug/L	J	0.17	1
NWIRP-GM-38-RW3-MW4-20120412	1002349007	624	04-Dec-12	1	Trichlorofluoromethane	1	ug/L	U	0.21	1
NWIRP-GM-38-RW3-MW4-20120412	1002349007	624	04-Dec-12	1	1,2-Dichloropropane	1	ug/L	U	0.24	1
NWIRP-GM-38-RW3-MW4-20120412	1002349007	624	04-Dec-12	1	1,1,2-Trichloroethane	1	ug/L	U	0.3	1
NWIRP-GM-38-RW3-MW4-20120412	1002349007	624	04-Dec-12	1	Trichloroethene	4.5	ug/L		0.21	1
NWIRP-GM-38-RW3-MW4-20120412	1002349007	624	04-Dec-12	1	1,1,2,2-Tetrachloroethane	1	ug/L	U	0.22	1
NWIRP-GM-38-RW3-MW4-20120412	1002349007	624	04-Dec-12	1	1,2-Dichlorobenzene	1	ug/L	U	0.2	1
NWIRP-GM-38-RW3-MW4-20120412	1002349007	245.1	04-Dec-12	1	Mercury, Total	0.0005	mg/L	U	0.0002	0.0005
NWIRP-GM-38-RW3-MW4-20120412	1002349007	2540D	04-Dec-12	1	Total Suspended Solids	5	mg/L	U	5	5
NWIRP-GM-38-GW-TP1-20120412	1002349008	624	04-Dec-12	1	Ethylbenzene	1	ug/L	U	0.16	1
NWIRP-GM-38-GW-TP1-20120412	1002349008	624	04-Dec-12	1	cis-1,3-Dichloropropene	1	ug/L	U	0.12	1
NWIRP-GM-38-GW-TP1-20120412	1002349008	624	04-Dec-12	1	trans-1,3-Dichloropropene	1	ug/L	U	0.14	1
NWIRP-GM-38-GW-TP1-20120412	1002349008	624	04-Dec-12	1	1,4-Dichlorobenzene	1	ug/L	U	0.15	1
NWIRP-GM-38-GW-TP1-20120412	1002349008	624	04-Dec-12	1	Acrolein	30	ug/L	U	2.4	30

NWIRP BETHPAGE GM-38
DECEMBER 2012 EVENT
DATA SUMMARY TABLE
AQUEOUS
SDG: 1002349, HNW-043

Sample Name	Lab ID	Analytical Method	Sample Date	Dilution Factor	Analyte	Result	Unit	Qualifier	MDL	RL
NWIRP-GM-38-GW-TP1-20120412	1002349008	624	04-Dec-12	1	1,2-Dichloroethane	0.35	ug/L	J	0.22	1
NWIRP-GM-38-GW-TP1-20120412	1002349008	624	04-Dec-12	1	Acrylonitrile	5	ug/L	U	0.89	5
NWIRP-GM-38-GW-TP1-20120412	1002349008	624	04-Dec-12	1	Toluene	1	ug/L	U	0.12	1
NWIRP-GM-38-GW-TP1-20120412	1002349008	624	04-Dec-12	1	Chlorobenzene	1	ug/L	U	0.11	1
NWIRP-GM-38-GW-TP1-20120412	1002349008	624	04-Dec-12	1	2-Chloroethylvinyl ether	2	ug/L	U	0.28	2
NWIRP-GM-38-GW-TP1-20120412	1002349008	624	04-Dec-12	1	Chlorodibromomethane	1	ug/L	U	0.22	1
NWIRP-GM-38-GW-TP1-20120412	1002349008	624	04-Dec-12	1	Tetrachloroethene	0.42	ug/L	J	0.26	1
NWIRP-GM-38-GW-TP1-20120412	1002349008	624	04-Dec-12	1	cis-1,2-Dichloroethene	4.2	ug/L		0.26	1
NWIRP-GM-38-GW-TP1-20120412	1002349008	624	04-Dec-12	1	trans-1,2-Dichloroethene	1	ug/L	U	0.12	1
NWIRP-GM-38-GW-TP1-20120412	1002349008	624	04-Dec-12	1	1,3-Dichlorobenzene	1	ug/L	U	0.14	1
NWIRP-GM-38-GW-TP1-20120412	1002349008	624	04-Dec-12	1	1,3-Dichloropropene, Total	1	ug/L	U	0.19	1
NWIRP-GM-38-GW-TP1-20120412	1002349008	624	04-Dec-12	1	Carbon Tetrachloride	1	ug/L	U	0.24	1
NWIRP-GM-38-GW-TP1-20120412	1002349008	624	04-Dec-12	1	Chloroform	2.5	ug/L	J	0.15	1
NWIRP-GM-38-GW-TP1-20120412	1002349008	624	04-Dec-12	1	Benzene	1	ug/L	U	0.16	1
NWIRP-GM-38-GW-TP1-20120412	1002349008	624	04-Dec-12	1	1,1,1-Trichloroethane	1	ug/L	U	0.27	1
NWIRP-GM-38-GW-TP1-20120412	1002349008	624	04-Dec-12	1	Bromomethane	2	ug/L	UJ	0.27	2
NWIRP-GM-38-GW-TP1-20120412	1002349008	624	04-Dec-12	1	Chloromethane	1	ug/L	U	0.25	1
NWIRP-GM-38-GW-TP1-20120412	1002349008	624	04-Dec-12	1	Chloroethane	1	ug/L	U	0.24	1
NWIRP-GM-38-GW-TP1-20120412	1002349008	624	04-Dec-12	1	Vinyl Chloride	2	ug/L	UJ	0.24	2
NWIRP-GM-38-GW-TP1-20120412	1002349008	624	04-Dec-12	1	Methylene Chloride	1	ug/L	UJ	0.32	1
NWIRP-GM-38-GW-TP1-20120412	1002349008	624	04-Dec-12	1	Bromoform	2	ug/L	U	0.21	2
NWIRP-GM-38-GW-TP1-20120412	1002349008	624	04-Dec-12	1	Bromodichloromethane	1	ug/L	U	0.13	1
NWIRP-GM-38-GW-TP1-20120412	1002349008	624	04-Dec-12	1	1,1-Dichloroethane	1.1	ug/L		0.19	1
NWIRP-GM-38-GW-TP1-20120412	1002349008	624	04-Dec-12	1	1,1-Dichloroethene	0.23	ug/L	J	0.17	1
NWIRP-GM-38-GW-TP1-20120412	1002349008	624	04-Dec-12	1	Trichlorofluoromethane	1	ug/L	U	0.21	1
NWIRP-GM-38-GW-TP1-20120412	1002349008	624	04-Dec-12	1	1,2-Dichloropropane	1	ug/L	U	0.24	1
NWIRP-GM-38-GW-TP1-20120412	1002349008	624	04-Dec-12	1	1,1,2-Trichloroethane	1	ug/L	U	0.3	1
NWIRP-GM-38-GW-TP1-20120412	1002349008	624	04-Dec-12	1	Trichloroethene	22	ug/L		0.21	1
NWIRP-GM-38-GW-TP1-20120412	1002349008	624	04-Dec-12	1	1,1,2,2-Tetrachloroethane	1	ug/L	U	0.22	1
NWIRP-GM-38-GW-TP1-20120412	1002349008	624	04-Dec-12	1	1,2-Dichlorobenzene	1	ug/L	U	0.2	1
NWIRP-GM-38-GW-TP1-20120412	1002349008	245.1	04-Dec-12	1	Mercury, Total	0.0005	mg/L	U	0.0002	0.0005
NWIRP-GM-38-GW-TP1-20120412	1002349008	2540D	04-Dec-12	1	Total Suspended Solids	5	mg/L	U	5	5
NWIRP-GM-38-FB-20120412	1002349009	624	04-Dec-12	1	Ethylbenzene	1	ug/L	U	0.16	1

NWIRP BETHPAGE GM-38
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DATA SUMMARY TABLE
AQUEOUS
SDG: 1002349, HNW-043

Sample Name	Lab ID	Analytical Method	Sample Date	Dilution Factor	Analyte	Result	Unit	Qualifier	MDL	RL
NWIRP-GM-38-FB-20120412	1002349009	624	04-Dec-12	1	cis-1,3-Dichloropropene	1	ug/L	U	0.12	1
NWIRP-GM-38-FB-20120412	1002349009	624	04-Dec-12	1	trans-1,3-Dichloropropene	1	ug/L	U	0.14	1
NWIRP-GM-38-FB-20120412	1002349009	624	04-Dec-12	1	1,4-Dichlorobenzene	1	ug/L	U	0.15	1
NWIRP-GM-38-FB-20120412	1002349009	624	04-Dec-12	1	Acrolein	30	ug/L	U	2.4	30
NWIRP-GM-38-FB-20120412	1002349009	624	04-Dec-12	1	1,2-Dichloroethane	1	ug/L	U	0.22	1
NWIRP-GM-38-FB-20120412	1002349009	624	04-Dec-12	1	Acrylonitrile	5	ug/L	U	0.89	5
NWIRP-GM-38-FB-20120412	1002349009	624	04-Dec-12	1	Toluene	1	ug/L	U	0.12	1
NWIRP-GM-38-FB-20120412	1002349009	624	04-Dec-12	1	Chlorobenzene	1	ug/L	U	0.11	1
NWIRP-GM-38-FB-20120412	1002349009	624	04-Dec-12	1	2-Chloroethylvinyl ether	2	ug/L	U	0.28	2
NWIRP-GM-38-FB-20120412	1002349009	624	04-Dec-12	1	Chlorodibromomethane	1	ug/L	U	0.22	1
NWIRP-GM-38-FB-20120412	1002349009	624	04-Dec-12	1	Tetrachloroethene	1	ug/L	U	0.26	1
NWIRP-GM-38-FB-20120412	1002349009	624	04-Dec-12	1	cis-1,2-Dichloroethene	1	ug/L	U	0.26	1
NWIRP-GM-38-FB-20120412	1002349009	624	04-Dec-12	1	trans-1,2-Dichloroethene	1	ug/L	U	0.12	1
NWIRP-GM-38-FB-20120412	1002349009	624	04-Dec-12	1	1,3-Dichlorobenzene	1	ug/L	U	0.14	1
NWIRP-GM-38-FB-20120412	1002349009	624	04-Dec-12	1	1,3-Dichloropropene, Total	1	ug/L	U	0.19	1
NWIRP-GM-38-FB-20120412	1002349009	624	04-Dec-12	1	Carbon Tetrachloride	1	ug/L	U	0.24	1
NWIRP-GM-38-FB-20120412	1002349009	624	04-Dec-12	1	Chloroform	1	ug/L	UJ	0.15	1
NWIRP-GM-38-FB-20120412	1002349009	624	04-Dec-12	1	Benzene	1	ug/L	U	0.16	1
NWIRP-GM-38-FB-20120412	1002349009	624	04-Dec-12	1	1,1,1-Trichloroethane	1	ug/L	U	0.27	1
NWIRP-GM-38-FB-20120412	1002349009	624	04-Dec-12	1	Bromomethane	2	ug/L	UJ	0.27	2
NWIRP-GM-38-FB-20120412	1002349009	624	04-Dec-12	1	Chloromethane	1	ug/L	U	0.25	1
NWIRP-GM-38-FB-20120412	1002349009	624	04-Dec-12	1	Chloroethane	1	ug/L	U	0.24	1
NWIRP-GM-38-FB-20120412	1002349009	624	04-Dec-12	1	Vinyl Chloride	2	ug/L	UJ	0.24	2
NWIRP-GM-38-FB-20120412	1002349009	624	04-Dec-12	1	Methylene Chloride	1	ug/L	UJ	0.32	1
NWIRP-GM-38-FB-20120412	1002349009	624	04-Dec-12	1	Bromoform	2	ug/L	U	0.21	2
NWIRP-GM-38-FB-20120412	1002349009	624	04-Dec-12	1	Bromodichloromethane	1	ug/L	U	0.13	1
NWIRP-GM-38-FB-20120412	1002349009	624	04-Dec-12	1	1,1-Dichloroethane	1	ug/L	U	0.19	1
NWIRP-GM-38-FB-20120412	1002349009	624	04-Dec-12	1	1,1-Dichloroethene	1	ug/L	U	0.17	1
NWIRP-GM-38-FB-20120412	1002349009	624	04-Dec-12	1	Trichlorofluoromethane	1	ug/L	U	0.21	1
NWIRP-GM-38-FB-20120412	1002349009	624	04-Dec-12	1	1,2-Dichloropropane	1	ug/L	U	0.24	1
NWIRP-GM-38-FB-20120412	1002349009	624	04-Dec-12	1	1,1,2-Trichloroethane	1	ug/L	U	0.3	1
NWIRP-GM-38-FB-20120412	1002349009	624	04-Dec-12	1	Trichloroethene	1	ug/L	U	0.21	1
NWIRP-GM-38-FB-20120412	1002349009	624	04-Dec-12	1	1,1,2,2-Tetrachloroethane	1	ug/L	U	0.22	1

NWIRP BETHPAGE GM-38
DECEMBER 2012 EVENT
DATA SUMMARY TABLE
AQUEOUS
SDG: 1002349, HNW-043

Sample Name	Lab ID	Analytical Method	Sample Date	Dilution Factor	Analyte	Result	Unit	Qualifier	MDL	RL
NWIRP-GM-38-FB-20120412	1002349009	624	04-Dec-12	1	1,2-Dichlorobenzene	1	ug/L	U	0.2	1
NWIRP-GM-38-FB-20120412	1002349009	245.1	04-Dec-12	1	Mercury, Total	0.0005	mg/L	U	0.0002	0.0005
NWIRP-GM-38-TB-20120412	1002349010	624	04-Dec-12	1	Ethylbenzene	1	ug/L	U	0.16	1
NWIRP-GM-38-TB-20120412	1002349010	624	04-Dec-12	1	cis-1,3-Dichloropropene	1	ug/L	U	0.12	1
NWIRP-GM-38-TB-20120412	1002349010	624	04-Dec-12	1	trans-1,3-Dichloropropene	1	ug/L	U	0.14	1
NWIRP-GM-38-TB-20120412	1002349010	624	04-Dec-12	1	1,4-Dichlorobenzene	1	ug/L	U	0.15	1
NWIRP-GM-38-TB-20120412	1002349010	624	04-Dec-12	1	Acrolein	30	ug/L	U	2.4	30
NWIRP-GM-38-TB-20120412	1002349010	624	04-Dec-12	1	1,2-Dichloroethane	1	ug/L	U	0.22	1
NWIRP-GM-38-TB-20120412	1002349010	624	04-Dec-12	1	Acrylonitrile	5	ug/L	U	0.89	5
NWIRP-GM-38-TB-20120412	1002349010	624	04-Dec-12	1	Toluene	1	ug/L	U	0.12	1
NWIRP-GM-38-TB-20120412	1002349010	624	04-Dec-12	1	Chlorobenzene	1	ug/L	U	0.11	1
NWIRP-GM-38-TB-20120412	1002349010	624	04-Dec-12	1	2-Chloroethylvinyl ether	2	ug/L	U	0.28	2
NWIRP-GM-38-TB-20120412	1002349010	624	04-Dec-12	1	Chlorodibromomethane	1	ug/L	U	0.22	1
NWIRP-GM-38-TB-20120412	1002349010	624	04-Dec-12	1	Tetrachloroethene	1	ug/L	U	0.26	1
NWIRP-GM-38-TB-20120412	1002349010	624	04-Dec-12	1	cis-1,2-Dichloroethene	1	ug/L	U	0.26	1
NWIRP-GM-38-TB-20120412	1002349010	624	04-Dec-12	1	trans-1,2-Dichloroethene	1	ug/L	U	0.12	1
NWIRP-GM-38-TB-20120412	1002349010	624	04-Dec-12	1	1,3-Dichlorobenzene	1	ug/L	U	0.14	1
NWIRP-GM-38-TB-20120412	1002349010	624	04-Dec-12	1	1,3-Dichloropropene, Total	1	ug/L	U	0.19	1
NWIRP-GM-38-TB-20120412	1002349010	624	04-Dec-12	1	Carbon Tetrachloride	1	ug/L	U	0.24	1
NWIRP-GM-38-TB-20120412	1002349010	624	04-Dec-12	1	Chloroform	1	ug/L	UJ	0.15	1
NWIRP-GM-38-TB-20120412	1002349010	624	04-Dec-12	1	Benzene	1	ug/L	U	0.16	1
NWIRP-GM-38-TB-20120412	1002349010	624	04-Dec-12	1	1,1,1-Trichloroethane	1	ug/L	U	0.27	1
NWIRP-GM-38-TB-20120412	1002349010	624	04-Dec-12	1	Bromomethane	2	ug/L	UJ	0.27	2
NWIRP-GM-38-TB-20120412	1002349010	624	04-Dec-12	1	Chloromethane	1	ug/L	U	0.25	1
NWIRP-GM-38-TB-20120412	1002349010	624	04-Dec-12	1	Chloroethane	1	ug/L	U	0.24	1
NWIRP-GM-38-TB-20120412	1002349010	624	04-Dec-12	1	Vinyl Chloride	2	ug/L	UJ	0.24	2
NWIRP-GM-38-TB-20120412	1002349010	624	04-Dec-12	1	Methylene Chloride	1	ug/L	UJ	0.32	1
NWIRP-GM-38-TB-20120412	1002349010	624	04-Dec-12	1	Bromoform	2	ug/L	U	0.21	2
NWIRP-GM-38-TB-20120412	1002349010	624	04-Dec-12	1	Bromodichloromethane	1	ug/L	U	0.13	1
NWIRP-GM-38-TB-20120412	1002349010	624	04-Dec-12	1	1,1-Dichloroethane	1	ug/L	U	0.19	1
NWIRP-GM-38-TB-20120412	1002349010	624	04-Dec-12	1	1,1-Dichloroethene	1	ug/L	U	0.17	1
NWIRP-GM-38-TB-20120412	1002349010	624	04-Dec-12	1	Trichlorofluoromethane	1	ug/L	U	0.21	1
NWIRP-GM-38-TB-20120412	1002349010	624	04-Dec-12	1	1,2-Dichloropropane	1	ug/L	U	0.24	1

NWIRP BETHPAGE GM-38
DECEMBER 2012 EVENT
DATA SUMMARY TABLE
AQUEOUS
SDG: 1002349, HNW-043

Sample Name	Lab ID	Analytical Method	Sample Date	Dilution Factor	Analyte	Result	Unit	Qualifier	MDL	RL
NWIRP-GM-38-TB-20120412	1002349010	624	04-Dec-12	1	1,1,2-Trichloroethane	1	ug/L	U	0.3	1
NWIRP-GM-38-TB-20120412	1002349010	624	04-Dec-12	1	Trichloroethene	1	ug/L	U	0.21	1
NWIRP-GM-38-TB-20120412	1002349010	624	04-Dec-12	1	1,1,2,2-Tetrachloroethane	1	ug/L	U	0.22	1
NWIRP-GM-38-TB-20120412	1002349010	624	04-Dec-12	1	1,2-Dichlorobenzene	1	ug/L	U	0.2	1
NWIRP-GM-38-DUP01-20120412	1002349011	624	04-Dec-12	1	Ethylbenzene	1	ug/L	U	0.16	1
NWIRP-GM-38-DUP01-20120412	1002349011	624	04-Dec-12	1	cis-1,3-Dichloropropene	1	ug/L	U	0.12	1
NWIRP-GM-38-DUP01-20120412	1002349011	624	04-Dec-12	1	trans-1,3-Dichloropropene	1	ug/L	U	0.14	1
NWIRP-GM-38-DUP01-20120412	1002349011	624	04-Dec-12	1	1,4-Dichlorobenzene	1	ug/L	U	0.15	1
NWIRP-GM-38-DUP01-20120412	1002349011	624	04-Dec-12	1	Acrolein	30	ug/L	U	2.4	30
NWIRP-GM-38-DUP01-20120412	1002349011	624	04-Dec-12	1	1,2-Dichloroethane	1	ug/L	U	0.22	1
NWIRP-GM-38-DUP01-20120412	1002349011	624	04-Dec-12	1	Acrylonitrile	5	ug/L	U	0.89	5
NWIRP-GM-38-DUP01-20120412	1002349011	624	04-Dec-12	1	Toluene	1	ug/L	U	0.12	1
NWIRP-GM-38-DUP01-20120412	1002349011	624	04-Dec-12	1	Chlorobenzene	1	ug/L	U	0.11	1
NWIRP-GM-38-DUP01-20120412	1002349011	624	04-Dec-12	1	2-Chloroethylvinyl ether	2	ug/L	U	0.28	2
NWIRP-GM-38-DUP01-20120412	1002349011	624	04-Dec-12	1	Chlorodibromomethane	1	ug/L	U	0.22	1
NWIRP-GM-38-DUP01-20120412	1002349011	624	04-Dec-12	1	Tetrachloroethene	1	ug/L	U	0.26	1
NWIRP-GM-38-DUP01-20120412	1002349011	624	04-Dec-12	1	cis-1,2-Dichloroethene	1.6	ug/L		0.26	1
NWIRP-GM-38-DUP01-20120412	1002349011	624	04-Dec-12	1	trans-1,2-Dichloroethene	1	ug/L	U	0.12	1
NWIRP-GM-38-DUP01-20120412	1002349011	624	04-Dec-12	1	1,3-Dichlorobenzene	1	ug/L	U	0.14	1
NWIRP-GM-38-DUP01-20120412	1002349011	624	04-Dec-12	1	1,3-Dichloropropene, Total	1	ug/L	U	0.19	1
NWIRP-GM-38-DUP01-20120412	1002349011	624	04-Dec-12	1	Carbon Tetrachloride	1	ug/L	U	0.24	1
NWIRP-GM-38-DUP01-20120412	1002349011	624	04-Dec-12	1	Chloroform	0.64	ug/L	J	0.15	1
NWIRP-GM-38-DUP01-20120412	1002349011	624	04-Dec-12	1	Benzene	1	ug/L	U	0.16	1
NWIRP-GM-38-DUP01-20120412	1002349011	624	04-Dec-12	1	1,1,1-Trichloroethane	0.43	ug/L	J	0.27	1
NWIRP-GM-38-DUP01-20120412	1002349011	624	04-Dec-12	1	Bromomethane	2	ug/L	UJ	0.27	2
NWIRP-GM-38-DUP01-20120412	1002349011	624	04-Dec-12	1	Chloromethane	1	ug/L	U	0.25	1
NWIRP-GM-38-DUP01-20120412	1002349011	624	04-Dec-12	1	Chloroethane	1	ug/L	U	0.24	1
NWIRP-GM-38-DUP01-20120412	1002349011	624	04-Dec-12	1	Vinyl Chloride	2	ug/L	UJ	0.24	2
NWIRP-GM-38-DUP01-20120412	1002349011	624	04-Dec-12	1	Methylene Chloride	1	ug/L	UJ	0.32	1
NWIRP-GM-38-DUP01-20120412	1002349011	624	04-Dec-12	1	Bromoform	2	ug/L	U	0.21	2
NWIRP-GM-38-DUP01-20120412	1002349011	624	04-Dec-12	1	Bromodichloromethane	1	ug/L	U	0.13	1
NWIRP-GM-38-DUP01-20120412	1002349011	624	04-Dec-12	1	1,1-Dichloroethane	0.71	ug/L	J	0.19	1
NWIRP-GM-38-DUP01-20120412	1002349011	624	04-Dec-12	1	1,1-Dichloroethene	0.43	ug/L	J	0.17	1

NWIRP BETHPAGE GM-38
DECEMBER 2012 EVENT
DATA SUMMARY TABLE
AQUEOUS
SDG: 1002349, HNW-043

Sample Name	Lab ID	Analytical Method	Sample Date	Dilution Factor	Analyte	Result	Unit	Qualifier	MDL	RL
NWIRP-GM-38-DUP01-20120412	1002349011	624	04-Dec-12	1	Trichlorofluoromethane	1	ug/L	U	0.21	1
NWIRP-GM-38-DUP01-20120412	1002349011	624	04-Dec-12	1	1,2-Dichloropropane	0.69	ug/L	J	0.24	1
NWIRP-GM-38-DUP01-20120412	1002349011	624	04-Dec-12	1	1,1,2-Trichloroethane	0.34	ug/L	J	0.3	1
NWIRP-GM-38-DUP01-20120412	1002349011	624	04-Dec-12	1	Trichloroethene	171	ug/L		0.21	1
NWIRP-GM-38-DUP01-20120412	1002349011	624	04-Dec-12	1	1,1,2,2-Tetrachloroethane	1	ug/L	U	0.22	1
NWIRP-GM-38-DUP01-20120412	1002349011	624	04-Dec-12	1	1,2-Dichlorobenzene	1	ug/L	U	0.2	1
NWIRP-GM-38-DUP01-20120412	1002349011	245.1	04-Dec-12	1	Mercury, Total	0.0005	mg/L	U	0.0002	0.0005
NWIRP-GM-38-DUP01-20120412	1002349011	2540D	04-Dec-12	1	Total Suspended Solids	5	mg/L	U	5	5