AECOM Environment

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December 2012

Periodic Review Report
Former Ward Products Site
Amsterdam, New York
Site # 429004

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Prepared By Paul Kilchenstein

Reviewed By Scott Underhill

Contents

List of Appendices

List of Figures

Engineering Certification

I, Scott A. Underhill, certify that I am currently a NYS registered professional engineer and that this Periodic Review Report for the Former Ward Products Site (Site No. 4-29-004) was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

For each institutional or engineering control identified for the site, I certify that all of the following statements are true:

(a) The institutional control and/or engineering control employed at this site is unchanged from the date the control was put in place, or last approved by DER.

(b) Nothing has occurred that would impair the ability of such control to protect public health and the environment.

(c) Nothing has occurred that would constitute a violation or failure to comply with any Site Management Plan for this control.

(d) Access to the site will continue to be provided to DER to evaluate the remedy, including access to evaluate the continued maintenance of this control.

Respectfully submitted,

AECOM Technical Services Northeast, Inc.

Scott T. Underhill DEC. 18, 2012

Scott Underhill — Date
Registered Professional Engineer
New York License No. 075332

Executive Summary

The Former Ward Products Site (Site) is located in Amsterdam, Montgomery County, NY (Figure 1) and was a former car antenna manufacturer. As part of the manufacturing process, small metal parts were cleaned with solvents (vapor degreasing) prior to electroplating operations using nickel/chromium, zinc/cyanide, and cadmium/cyanide lines. The Site encompasses approximately 8.6 acres and is located within an active industrial park. The Site was added by the New York State Department of Environmental Conservation (NYSDEC) Registry of Inactive Hazardous Waste Sites as a Class 2 site (Site # 4-29-004). A remedial investigation was performed on the site between 1997 and 2005, and a feasibility study was performed in 2006.

A Record of Decision (ROD) was issued in March 2007. Under the ROD the remedial activities for the Site included In-Situ Chemical Oxidation (ISCO) with a supplemental Ground Water Extraction and Treatment System (GWETS), clean-up and maintenance of the downstream sediment basins, continued operation of the Sub-Slab Depressurization System (SSDS) when the building is occupied, unless future data warrants otherwise, and the implementation of a Site Management Plan (SMP).

Contaminated sediment was removed from the drainage ways downgradient from the Site between December 2008 and February 2009 in which approximately 3,475 tons of impacted sediments were removed. An SMP was developed for the Site and approved by the NYSDEC in March 2011. In August 2011 an Environmental Easement was recorded; the Easement defines and regulates approximately 2.49 acres of the Site as Controlled Property. In April 2012, the NYSDEC issued a Certificate of Completion, documenting that the cleanup activities had been completed and that the Site activities had shifted to long term monitoring. A copy of the Certificate of Completion can be found in Appendix A.

A total of 13 groundwater wells were sampled in May and August 2012. Volatile Organic Compounds (VOCs) were detected in 10 of the 13 wells and Chromium levels that exceeded the Ambient Water Quality Standards (AWQS) were detected in two samples. A summary of all analytical data is in Appendix B.

The GWETS was installed on the Site consisting of a single recovery well and a groundwater treatment system in June 2009. ISCO injections utilizing potassium permanganate was conducted on June 15, 2009 and May 10, 2010. The GWETS was enhanced in August 2012 by installation of a second recovery well.

Quarterly QWETS effluent sampling of the discharge from the GWETS is conducted in accordance with the City of Amsterdam's Publically Owned Treatment Works (POTW) Permit issued in April of 2009 and renewed in October of 2011. The GWETS is inspected on a regular basis and copies of system inspection records and repairs are stored in the on-site treatment shed.

Annual sediment basin inspection was performed in August 2012 in accordance with the SMP. The specific results of that inspection can be found in Appendix B.

Recommendations for the Site include continuing the semi-annual groundwater monitoring, annual sediment basin inspections, continuing to operate the GWETS and overall Site inspections as required by the SMP. In the event that the building is occupied, operation of the SSDS will be conducted if necessary.

1.0 Site Overview

The periodic review process is used for determining if a remedy is properly managed, as set forth in site documents, and if the remedy is protective of human health and the environment. This Periodic Review Report (PRR) includes historical information, and all groundwater monitoring well data for 2012.

This PRR has been prepared to evaluate the overall effectiveness of the existing remedies and their performance at the site. AECOM Environment, Inc. (AECOM) monitors the Former Ward Products Site for the New Water Realty Corporation (NWR). The Former Ward Products Site (Site) is located at 61 Edson Street in the Amsterdam Industrial Park, Amsterdam, NY in Montgomery County. The Site is listed in the Registry of Inactive Hazardous Waste Disposal Sites in New York State as Site Number 4-29-004 by the NYSDEC and was the subject of Orders on Consent Index #W4-0762-96-06 and #A4-0588-0507 between NWR and NYSDEC. An SMP was developed for the Site and approved by the NYSDEC in March 2011. On August 25 2011 an Environmental Easement for the Site's Controlled Property was recorded under instrument No. 2011-43591 in the Montgomery County Clerk's Office. A Certificate of Completion (COC) was issued by the NYSDEC in April of 2012 classifying the site (NYSDEC Site No. 4-29-004) as Class 4. Class 4 is defined as being properly closed but requires on-going management.

The Site is near the eastern boundary of the City of Amsterdam within the Town of Amsterdam, approximately 3,300 feet northeast of the Mohawk River. The Site encompasses approximately 8.6 acres and includes a 69,556 square foot single story building, a large paved parking lot, lawn areas, and approximately 3.5 acres of undeveloped land behind the building.

Fiber Glass Industries (FGI), a manufacturer of fiberglass insulation, occupies the property adjacent to the site to the east. Prozone Lockers, a firm that manufactures lockers for professional sports teams, is located across Edson Street to the south (in the building formerly occupied by UCMI). A business dealing in custom horse clothing and accessories is to the west, and undeveloped land lies to the north. Other commercial businesses are located in the industrial park in the general vicinity of the site.

A small intermittent tributary begins uphill of the Ward Products building and flows in the ditch on the eastern property line. In the past, this drainage way split into two branches, which emptied into the Mohawk River. Development of commercial property located to the south of the Ward products Site channeled the drainage from the Ward Products building into one branch.

Soils at the site consist of glacial till atop Chuctanunda Creek dolostone bedrock. The till layer is only about two feet thick near the north end of the Ward Products building but it increases to over fifty feet thick on the custom mill work property to the south. Groundwater is scarce in the glacial till geological unit, and thus only a few overburden wells have been placed on the site. Bedrock groundwater is mostly contained in fractures and joints in the shallow bedrock. Groundwater flow is generally southeast of the site.

1.1 Remedial History

The Site building was initially constructed in 1957, although expanded thereafter, and was first occupied by the Gabriel Corporation, which manufactured car antennas. Ward Products (now NWR)

purchased Gabriel's operation and the Site in 1959. As part of the manufacturing process, small metal parts were cleaned with solvents (vapor degreasing) prior to electroplating operations using nickel/chromium, zinc/cyanide, and cadmium/cyanide lines.

Between 1957 and 1973, untreated electroplating bath solutions containing chromium, zinc, cadmium, and nickel, and the degreasing solvent trichloroethene (TCE), were discharged to the nearby drainage ditch east of the Ward Products building. From 1973 through 1985, operations pretreated the plating solutions from the nickel/chromium line and dried the resulting sludge on an outdoor concrete pad prior to removal for off-site disposal. The spent cadmium/cyanide plating solution was discharged to an outdoor tank for both natural and mechanical evaporation and off-site disposal of the remaining sludges. The zinc/cyanide line was discontinued in 1973.

Ward Products connected to Amsterdam's sewer system in 1983 and then discontinued the vapor degreasing system. All electroplating operations at the Site were discontinued in 1985. In 1988 and 1989, the plant expanded with a new grinding shop built over the former sludge drying pad and a new warehouse area built to the north. The expansion of the manufacturing building over this area has eliminated some of the contaminant mass during removal of soil during the construction of the building footers and reduced the potential for migration of and exposure to the residuals remaining. The soils from the former sludge drying pad were excavated during the building expansion, stockpiled, and then removed from the Site during a subsequent Interim Remedial Measure (IRM).

In 1985, NYSDEC first listed the Site as a Class 2a site in the Registry of Inactive Hazardous Waste Disposal Sites in New York (the Registry). Class 2a was a temporary classification assigned to a site that had inadequate and/or insufficient data for inclusion in any of the other classifications.

A hydrogeologic investigation of the Site took place in 1986 and again in 1988. The 1988 investigation included excavation of test pits east and southeast of the former electroplating and treatment operations. Surface water and sediment samples were collected from the drainage ditch. Shallow soil samples were also collected from beneath the sludge drying pad and analyzed for metals and Volatile Organic Compounds (VOCs). In 1989, NYSDEC listed the Site as a Class 2 site in the Registry. Class 2 is where hazardous waste presents a significant threat to the public health or the environment and action is required. Further hydrogeologic investigation of the Site in 1996 included the installation of four (4) groundwater monitoring wells and additional sediment sample collection from the drainage ditch.

In 1997 Ward Products removed and properly disposed of offsite 30 cubic yards (CY) of contaminated soil stockpiled during the plant expansion of 1988-1989. This soil exceeded the Toxicity Characteristics Leaching Procedure (TCLP) standard for cadmium and contained high concentrations of other electroplating-related materials.

In 1999, fifteen cubic yards of soil were excavated and properly disposed of offsite adjacent to the Ward Products building in the vicinity of the fenced-in transformers. The soil contained low concentrations of polychlorinated biphenyls (PCBs) as well as electroplating materials.

The Ward Products facility connected to the municipal sewers in 1983, the main effluent pipe, previously used to discharge plant effluent to the ditch on the eastern property line, was utilized to direct stormwater runoff from the roof away from the building. However, examination of the inside of the pipe revealed sediment deposits which contained significantly elevated metals and VOC concentrations. This sediment was removed in an IRM in 2000 and was properly disposed of offsite.

In 2004, 700 tons of contaminated soil around the Ward Products building and 350 tons sediment from the on-site and off-site drainage ditch were removed and properly disposed of offsite.

In 2005, mitigation measures were taken at the Ward Products building to address current human exposures (via inhalation) to VOCs associated with soil vapor intrusion. A sub-slab depressurization system was installed to create a negative pressure gradient below the slab, thus minimizing infiltration into the building.

The ROD was issued in March 2007 and included a summary of the remedial investigations, Site geology and hydrogeology, nature and extent of the contamination, IRMs, human exposure pathways, and environmental impacts. The components of the remedy are as follows:

- Removal of approximately 400 CY of contaminated sediments from the eastern branch of the tributary draining from the site. Removal of 700 CY of contaminated sediment from the Mohawk River at the mouth of the eastern branch of the tributary.
- Construction of two sediment collection basins: one immediately north of the CSX railroad tracks on the east branch, and one immediately north of the rail spur on the west branch.
- Pilot testing of potassium permanganate injection into the bedrock aquifer followed by full scale implementation of potassium permanganate injection into the bedrock aquifer.
- Drilling of a recovery well at a central location on the site. Extracted groundwater is pumped to a GWETS, where VOCs will be reduced through the use of an air stripper.
- Maintaining the existing cover system to restrict exposure to impacted materials below the soil cover or building (removal of the contaminated soils from beneath the building will be required when they become accessible).
- Development and implementation of a Site Management Plan (SMP) for long-term management of remaining contamination as required by the Environmental Easement, which includes plans for institutional and engineering controls (IC/EC), monitoring, operation and maintenance, and reporting.
- On-site and off-site inspections, sampling and corrective actions, occurring and certified at a frequency and in a manner defined in the SMP.
- On-site environmental treatment and monitoring devices inspected, protected, repaired, and replaced as necessary to ensure continued functioning in the manner specified in the SMP.
- Periodic certification of the ICs and ECs.

After the ROD was issued, the following activities were performed:

- Approximately 3,475 tons of metals impacted sediments were removed from the drainage ways downgradient from the Ward Product Site from December 2008 to February 2009. The sediment and soil remediation was performed in general accordance with the ROD (March 2007), Order on Consent (Index #A4-0588-0507, June 2007), and the Remedial Design/Remedial Action Work Plan (December 2007). All soils within the removal limits indicated in the feasibility study and ROD were removed during the remediation, however some impacted material above LEL and SEL remains in the drainage areas. These areas have been capped with at least 18 inches of clean soil or 12 inches of armor stone to prevent or minimize exposures to and/or erosion of soils containing Site related contaminants. The sediment and soil remediation also included the construction of two sediment basins, one

along the east branch drainage and one along the west branch drainage. All excavated sediment was properly disposed offsite.

- A GWETS was installed outside the southeast portion of the Ward Products building located on 61 Edson Street to reduce on-site source of contaminants in groundwater and to reduce future migration from the Site. The system was installed in June 2009 and pumping began on June 15, 2009. (The GWETS has since been enhanced by installation of a second recovery well).
- A limited ISCO program was implemented to reduce TCE concentration within the area of MW-4R, MW-6, and MW-10, in accordance with the feasibility study, the ROD, and the Order on Consent of July 2007. The first two ISCO injections were performed the weeks of June 15, 2009 and May 10, 2010. During the first injection, each injection well (IW-01 through IW-04) was injected with 25 lbs of potassium permanganate. During the second ISCO injection, each well (IW-01, MW-4R, MW-6, and MW-10) was injected with approximately 20 lbs of potassium permanganate Based upon the results of the two full scale injections, it was determined that the third round would not be effective and with NYSDEC approval, was eliminated from the program.
- A SMP was developed for the Site and approved by the NYSDEC in February 2011. A revision to the SMP was submitted to the NYSDEC on July 26, 2011 that would allow future use of the site to be either commercial or industrial. The revision was approved by the NYSDEC on July 27, 2011.
- On August 25 2011 an Environmental Easement for the Site's Controlled Property was recorded under instrument No. 2011-43591 in the Montgomery County Clerk's Office.
- A COC was issued by the NYSDEC in April of 2012.
- In accordance with the SMP, the following activities were performed:
    - Performed quarterly sampling of the GWETS effluent in accordance with the City of Amsterdam's POTW Permit.
    - Performed semi-annual groundwater sampling of 13 monitoring wells in May and August 2012.
    - Inspected the sediment basins in August 2012 in accordance with the SMP.

1.1.1 Groundwater Monitoring

Groundwater monitoring of the Site includes sampling of 13 wells for VOCs, total chromium, hexavalent chromium, and dissolved chromium. See Figure 2 for groundwater monitoring well locations. Sampling occurred at the Site in May and August 2012.

In addition to collecting groundwater samples, depth-to-groundwater and water quality parameters are measured and recorded for all 13 wells. Water quality parameters, which include temperature, specific conductivity, conductivity, pH, turbidity, dissolved oxygen (DO), oxygen-reduction potential (ORP), color, and odor, are measured with a water quality meter (e.g., YSI-556). The depth-to-groundwater measurements are used to calculate groundwater elevations and develop contour maps.

All groundwater samples, including a blind field duplicate, were sent to Adirondack Environmental Services, Inc., a New York certified laboratory, utilizing standard chain-of-custody and quality assurance/quality control (A/QC) procedures. QA/QC procedures include the addition of a trip blank with every shipping container (i.e., cooler) with VOC samples and a matrix spike/matrix spike

duplicate with all sample delivery groups. Data from all sampling events are used to evaluate the post remedial aquifer conditions. In addition, analytical data for the constituents of concern (COCs) in the groundwater at the Site are tabulated after each sampling event to assess the effectiveness of the selected remedy for the Site. All monitoring data is compared to the NYS Ambient Water Quality Standards (AWQS) and Guidance Values (GV). All groundwater analytical data can be found in Appendix B.

1.1.2 Groundwater Extraction and Treatment System Sampling

Sampling of the on-site GWETS includes quarterly sampling of the effluent from the GWETS for chromium, TCE, and pH. Sampling is conducted in accordance with the City of Amsterdam issued Publically Owned Treatment Works (POTW) Permit.

1.1.3 Sediment Basin Monitoring

Each of the three sediment basins downgradient from the Site, Sam Stratton Rd., Chapman Street, and Rt. 5 is inspected annually and subsequent to any emergency which might affect them (such as might occur after an extraordinary rain event), in accordance with the SMP. Inspection frequency is subject to change with the approval of the NYSDEC. The inspection will consist of an assessment of the annual (since the last inspection) and total accumulation of sediment within the basins and the overall functionality of the basins. If the annual accumulation in a basin exceeds 4 inches or if there is a total accumulation in the basin exceeding 18 inches (all measured from the basin bottom at the end of the 2009 Sediment projects), then sediment samples will be collected from the top 4 inches of sediment. The sediment samples will be analyzed for cadmium, chromium, nickel and zinc. In case of the smaller basins (Route 5 Basin and Chapman Drive Basin), all sediments will be removed and in case of the bigger basins, sediments from the zone sampled will be removed and disposed offsite if:

- There is 18 inches of accumulated sediment and the sample results are above LEL, or
- Sample results are above the SEL.

1.1.4 Sub-Slab Depressurization System

Currently, the building located on the Site is not occupied; therefore, no operation or inspection of the SSDS was required.

2.0 Evaluate Remedy Performance, Effectiveness, and Protectiveness

2.1 IC/EC Report

The Site is located in the City of Amsterdam, Montgomery County, State of New York. The Site consists of one parcel with an area of 8.6 acres located at 61 Edson Street. The Recorded Owner is New Water Reality (NWR).

During the reporting period, the Site property was not sold, subdivided, merged, did not undergo a tax map amendment, and was not issued any federal, state, and/or local permits and is unoccupied.

The institutional controls (ICs) reported by the NYSDEC and included for evaluation in this PRR are:

- Environmental Easement.

The engineering controls (ECs) reported by the NYSDEC and included for evaluation in this PRR are:

- Existing cover system to restrict exposure to impacted materials below the soil cover or building.
- Continued operation of the SSDS at the Site whenever the building is occupied, unless future data warrants otherwise.
- Continued operation of the GWETS.

During the reporting period, the current use of the Site was consistent with the ICs imposed on the property.

The Environmental Easement (EE) was signed between NWR and the NYSDEC on August 11, 2011 and filed with the Montgomery County Clerk's office on August 25, 2011. A copy of the EE can be found in Appendix C.

An inspection of the ECs occurred on August 24, 2012. All ECs that are on the site have been unchanged since the date the controls were implemented or approved by the NYSDEC.

A SMP was developed for the Site and approved by the NYSDEC in February 2011.

2.2 Monitoring Plan Compliance

2.2.1 Confirmation Compliance with Site Management Plan

The SMP, which was approved by the NYSDEC in February 2011, established a sampling and monitoring program that requires the monitoring of the GWETS effluent, groundwater sampling, and sediment basin inspections.

Activity	Required Frequency (X)			Compliance Dates
	Quarter	Semi-Annual	As Required	
GWETS Effluent	X			2011-2012
Groundwater Sampling		X		2012
Sediment Basin			X	2012
Sub-Slab Depressurization System				As Required

2.2.2 Confirm that Performance Standards are Being Met

2.2.2.1 GWETS Effluent Monitoring

Quarterly Monitoring of the GWETS System occurred in February, May, August and November 2012. The system effluent discharging to the City of Amsterdam's POTW is being monitored in accordance with the POTW permit dated April 1, 2009 and renewed in October 2011. The limits are set by the permit to ensure that the integrity of the waste water treatment plant is not compromised. A list of protocols and sampling frequencies are included below:

Parameter	Frequency	Sample Type	Limit
Flow, gpd	Continuous	Meter	Average not to exceed 20,000 gpd
pH	Quarterly	Grab	6.0 - 9.0
Trichloroethene	Quarterly	Grab	Monitor Only
Chromium	Quarterly	24 hr. composite	10 mg/L

Effluent samples were collected on: February 10, 1212; May 5, 2012; September 21, 2012; and November 29, 2012. All required monitoring parameters were within the constraints of the POTW Permit.

Quarter	Date
1st Q 2012	2/10/12
2nd Q 2012	5/25/12
3rd Q 2012	9/21/12
4th Q 2012	11/29/12

2.2.2.2 Groundwater Monitoring

A long term groundwater monitoring program has been established to monitor the extent of the groundwater contamination and to determine the effectiveness of the groundwater remedy. In May and August groundwater samples were collected from a subset 13 monitoring wells of the existing 22 monitoring wells per the SMP. The selected monitoring wells, well type, and rationale are included below:

Monitoring Well	Well Type	Rationale
MW-1R	Bedrock	Along plume centerline; upgradient of source
MW-4	Overburden	In overburden above source area
MW-4R	Bedrock	Source area well
MW-10	Bedrock	Along plume centerline; downgradient of source
MW-11	Bedrock	Upgradient sentinel well
MW-13	Bedrock	Along plume centerline; downgradient of source
MW-14	Bedrock	Downgradient sentinel well
MW-15	Bedrock	Downgradient sentinel well
MW-16	Bedrock	Downgradient sentinel well
MW-17	Bedrock	Along plume centerline; downgradient of source
MW-18	Bedrock	Downgradient sentinel well
MW-19	Bedrock	Downgradient sentinel well
MW-20	Bedrock	Downgradient sentinel well

Samples collected were analyzed by a New York State Department of Health Environmental Laboratory Approval Program (NYSDOH ELAP) certified laboratory, Adirondack Environmental Services, Inc., for VOCs, total chromium, and hexavalent chromium. The groundwater samples results are tabulated and shown in Appendix B.

VOCs were detected in ten of fifteen groundwater samples collected during the August 2012 sampling event. VOCs were detected at concentrations exceeded AWQS in six samples.

Cyanide was detected in only two samples (MW-1R and MW-4) at concentrations exceeding the AWQS.

The groundwater extraction system shows a zone of depression around recovery well RW-01 approximately 40 to 80 feet in diameter with approximately 40 feet of drawdown in the immediate vicinity of the recovery well.

TCE continues to be detected in the monitoring wells located both on- and off-site at concentrations that exceed the NYSDEC GQS. The May and August 2012 TCE results indicate that the downgradient limits of the TCE plume continue to be delineated at wells MW-14, MW-15, MW-16, MW-19 and MW-20, where TCE results are typically below the NYSDEC GQS of 5 µg/L, although detections of TCE above the NYSDEC GQS were observed at wells MW-14 and MW-15 in the May 2012 event (detections were all below the NYSDEC GQS in the August 2012 event).

Detections of hexavalent and total chromium in the May and August 2012 events were mostly similar to those previously observed, except for a detection of total chromium in MW-4R in May 2012. However, this well was non-detect for total chromium in August 2012, and will continue to be evaluated.

With NYSDEC's approval, a second recovery well (RW-02) was installed and brought online in late August 2012 (after the August groundwater monitoring event). Preliminary evaluation of water levels collected in October 2012 indicates that the second recovery well may provide capture at off-site wells MW-13 and MW-17 where TCE concentrations are typically observed above the NYSDEC GQS. The full effect of the second recovery well on the off-site extent of the TCE plume will be evaluated after the May 2013 groundwater monitoring event.

2.2.2.3 Sediment Basin Monitoring

There are three sediment basins associated with the Site: Route 5 Area Basin, the Chapman Drive Basin, and the Sam Stratton Road Basin. These were last inspected in August 2012.

The results of the inspection indicate that the Sam Stratton and the Chapman Road sedimentation basins each had small isolated pockets of sediment accumulation of more than 4 inches since the last inspection. Therefore, sediment samples were collected and analyzed for the required metals (total cadmium, chromium, nickel and zinc) from these two sedimentation basins. The samples were sent to Adirondack Environmental Services, a New York certified laboratory for analysis. Table 4, in Appendix B, summarizes the sediment analytical results from August 2012. NWR will continue to monitor these small pockets of sediment in the sedimentation basins. Photographs of each basin can be found in Appendix D.

2.2.2.4 Sub-Slab Depressurization System Monitoring

Currently the building remains unoccupied therefore no inspection of the system was required.

2.2.2.5 Site Management Periodic Review Report and IC/EC Certification Submittal

The completed Site Management Periodic Review Report and IC/EC Certification Submittal can be found in Appendix E.

3.0 Evaluate Costs

Total costs for completing the required activities associated with site monitoring in 2012 are approximately $106,049 which includes routine Operations and Maintenance of the GWETS, Semi-Annual Groundwater Monitoring/Sampling and the submittal of the PRR. In addition to these costs, the installation of the second recovery well, which was a onetime cost incurred in 2012 was $88,238. Subsequent costs are expected to decrease as monitoring requirements decrease. Major costs components consist of routine operation and maintenance, semi-annual groundwater monitoring/sampling and the submittal of the PRR.

4.0 Conclusions and Recommendations

This periodic review process is used to determine if the selected remedy continues to be properly managed (as set forth by the ROD), and if remedy continues to be protective of human health and the environment. This PRR is the first PRR for the site since NYSDEC issuance of the COC and covers the period of January 1, 2012 through December 1, 2012.

4.1 Conclusions

The following conclusions discuss the effectiveness of the Site remedy in comparison to the applicable Site remedial goals derived from the ROD.

1. **Implement a remedial design program to provide the necessary details for the construction, operation, maintenance, and monitoring of the remedial program.**

   A Remedial Design/Remedial Action Work Plan was submitted to the NYSDEC (RETEC, December 2007). It has been implemented since then.

2. **Remove approximately 400 cubic yards of contaminated sediments from a 600-foot section (south of the railroad tracks) of the eastern branch of the tributary draining the site. Additionally, 700 cubic yards of contaminated sediment will be excavated from the Mohawk River at the mouth of the eastern branch of the tributary. Two sediment collection basins will be constructed: one immediately north of the CSX railroad tracks on the east branch, and one immediately north of the rail spur (North of Chapman Street) on the west branch. An existing sediment basin exists on the east branch just south of Sam Stratton Road. The three sediment basins will be inspected annually and periodically sampled to determine if the sediment collecting in them would need to be removed for off-site disposal.**

   A sediment removal action performed between December 2008 and January 2009 removed approximately 1,600 tons of contaminated sediments. A sediment basin (Route 5 Area Sediment Basin) was constructed immediately north of the railroad tracks on the east branch in January 2009. A sediment basin (Chapman Road Area Sediment Basin) was also constructed on the west branch between January 2009 and February 2009 (AECOM, 2009). The basins have been inspected and sampled as required. Additional removal is not required.

3. **Conduct a treatability study and/or pilot study to determine the effectiveness of injection of an oxidant such as potassium permanganate into the bedrock via an existing monitoring well. Groundwater will be tested immediately before and after the injection. The information gathered during the pilot study will be used to determine the efficiency of the technology and the potential for a full-scale application. The results of the treatability study and/or pilot tests will determine the feasibility of this option.**

   A treatability study was performed during the week of June 15, 2009 to determine the effectiveness of potassium permanganate injections. Four wells were injected with 25 pounds of permanganate. The study indicated that full scale injections could be effective in reducing the TCE concentration in the groundwater. However, after completing two full rounds of

permanganate injections and based upon analytical data, it was determined that the injections did not have the anticipated result of reducing TCE concentrations in the groundwater. Based on the analytical data NWR petitioned the NYSDEC not to pursue the third round of injections and on April 4, 2012 the NYSDEC concurred. In lieu of the third round of permanganate injections, NWR enhanced the GWETS by installation of a second groundwater recovery well in August of 2012.

4. **Install a recovery well at a central location on the site. Extracted groundwater will be pumped to a heated treatment shed, where the concentrations of VOCs will be reduced through use of an air stripper before the water is discharged to a sanitary sewer or re-injected into the bedrock.**

   A single well (RW-01) GWETS was installed outside the southeast portion of the building located on 61 Edson Street to reduce on-site source of contaminants in groundwater and to reduce future migration from the Site. The system was installed in June 2009 and started up on June 15, 2009. In August of 2012 a second groundwater extraction well was installed to attempt to reduce migration of TCE off site and piped into the existing GWETS. The specific details of the installation of second groundwater extraction well can be found in Appendix F.

5. **Following a successful pilot test, the in situ chemical oxidation will be implemented full scale in conjunction with the extraction and treatment system. The oxidant injections will be repeated as necessary as long as it remains cost effective to do so, though there will probably be no more than three events.**

   Please refer to Item 3.

6. **Imposition of an institutional control in the form of an environmental easement that will (a) limit the use and development of the property to industrial use; (b) require compliance with the approved site management plan; (c) restrict the groundwater as a source of potable or process water, without necessary water quality treatment as determined by NYSDOH; and (d) require the property owner to complete and submit to the Department a periodic certification of institutional and engineering controls.**

   An environmental easement was submitted to the NYSDEC and approved on August 11, 2011 and filed with Montgomery County on August 25, 2011 (please refer to Appendix C). This PRR includes the required periodic certification.

7. **Develop a site management plan which will include the following institutional and engineering controls: (a) management of the final cover system to restrict excavation below the soil cover or buildings. Excavated soil would be tested, properly handles to protect the health and safety of the workers and the nearby community, and would be properly managed in a manner acceptable to the Department. Entities responsible for maintenance of sediment basins downstream from the site will be notified that sediment collecting in those basins may be contaminated; (b) if contaminated soils beneath the building slab ever become accessible, it will be removed and properly managed; (c) continued operation of the sub-slab depressurization system at the Ward Products building whenever it is occupied, unless future data warrants otherwise; (d) soil vapor intrusion evaluations at any buildings located above the contaminated groundwater plume if there is a change in the current use of the building; (e)**

monitoring of groundwater, sediment and indoor air; (f) identification of any use restrictions on the site; and (g) provisions for the continued proper operation and maintenance of the components of the remedy.

The SMP was approved by the NYSDEC in March 2011. Revisions to the SMP were submitted in September 2011 and approved by the NYSDEC in September 2011. Excavation of soils for installation of the 2012 enhancement of the GWETS has occurred, was properly managed and reported to NYSDEC. No other excavation of soil cover or beneath the building has occurred. The building has been unoccupied so operation of the SSDS is required. Monitoring has occurred as required. Use restrictions are set forth in the Easement and have not been violated. Continuing components of the remedy are being properly operated and maintained as anticipated, except for isolated deviations separately reported to NYSDEC.

8. **The property owner will provide a periodic certification of institutional and engineering controls, prepared and submitted by a professional engineer or such other expert acceptable to the Department until the Department notifies the property owner in writing that this certification is no longer needed. This submittal will: (a) contain certification that the institutional controls and engineering controls put in place are still in place and are either unchanged from the previous certification or are compliant with Department-approved modifications; (b) allow the Department access to the site; and (c) state that nothing has occurred that will impair the ability to the control to protect public health or the environment, or constitute a violation or failure to comply with the site management plan unless otherwise approved by the Department.**

   This PRR satisfies this item.

9. **The operation of the component of the remedy will continue until the remedial objectives have been achieved, or until the Department determines that continued operation is technically impracticable or not feasible.**

   The GWETS installed in June 2009 is still operating to reduce on-site sources of contaminants in groundwater and to control and reduce future migration of contaminated groundwater from the Site. Based on the analytical data generated from the semi-annual groundwater monitoring, a portion of the trichloroethene (TCE) plume was not being captured by the existing groundwater extraction well. A pumping test conducted the week of July 9, 2012 utilizing injection well IW-01 determined that this well could effectively extract groundwater and increase the zone of capture and was subsequently converted to an extraction well and piped into the existing GWETS. The specific results of this work can be found in Appendix F.

10. **Institute a long-term monitoring program for the site. The monitoring well network at the site will be sampled semi-annually to monitor the extent of the groundwater contamination. This program will allow the effectiveness of the oxidant injections and the groundwater extraction and treatment system to be monitored and will be a component of the long-term management for the site. Sediment in the three basins will also be periodically monitored and the results will be sent to the entities responsible for maintenance of the basins.**

    A long-term monitoring program was implemented in the SMP submitted and approved in March 2011. A subset 13 monitoring wells have been selected out of the existing complete

22 monitoring well network for long-term monitoring. Monitoring/inspection of the three sediment basins occur annually with additional inspections after any emergency which might affect them (such as might occur after an extraordinary rain event).

4.2 Recommendations

The following recommendations are made for the Site:

1. Continued operation of the GWETS as outlined in the SMP and recently enhanced until further communication with, and approval of, NYSDEC otherwise.
2. Groundwater monitoring should continue to be performed at the semi-annual interval established in the SMP. The sampling should include the 13 wells selected out of the existing 22 monitoring well network until further communication with, and approval of, NYSDEC otherwise. The next sampling event will be in May 2013.
3. Sediment basin monitoring should continue annually and after extraordinary rain events.
4. Perform annual site inspections as outlined in the SMP.
5. The SMP requires periodic PRRs, not annual PRRs. Given the results shown in this PRR, we recommend preparation and filing of the next PRR in December 2014 for the period of December 1, 2012 through December 1, 2014. We may recommend a different frequency thereafter.

5.0 References

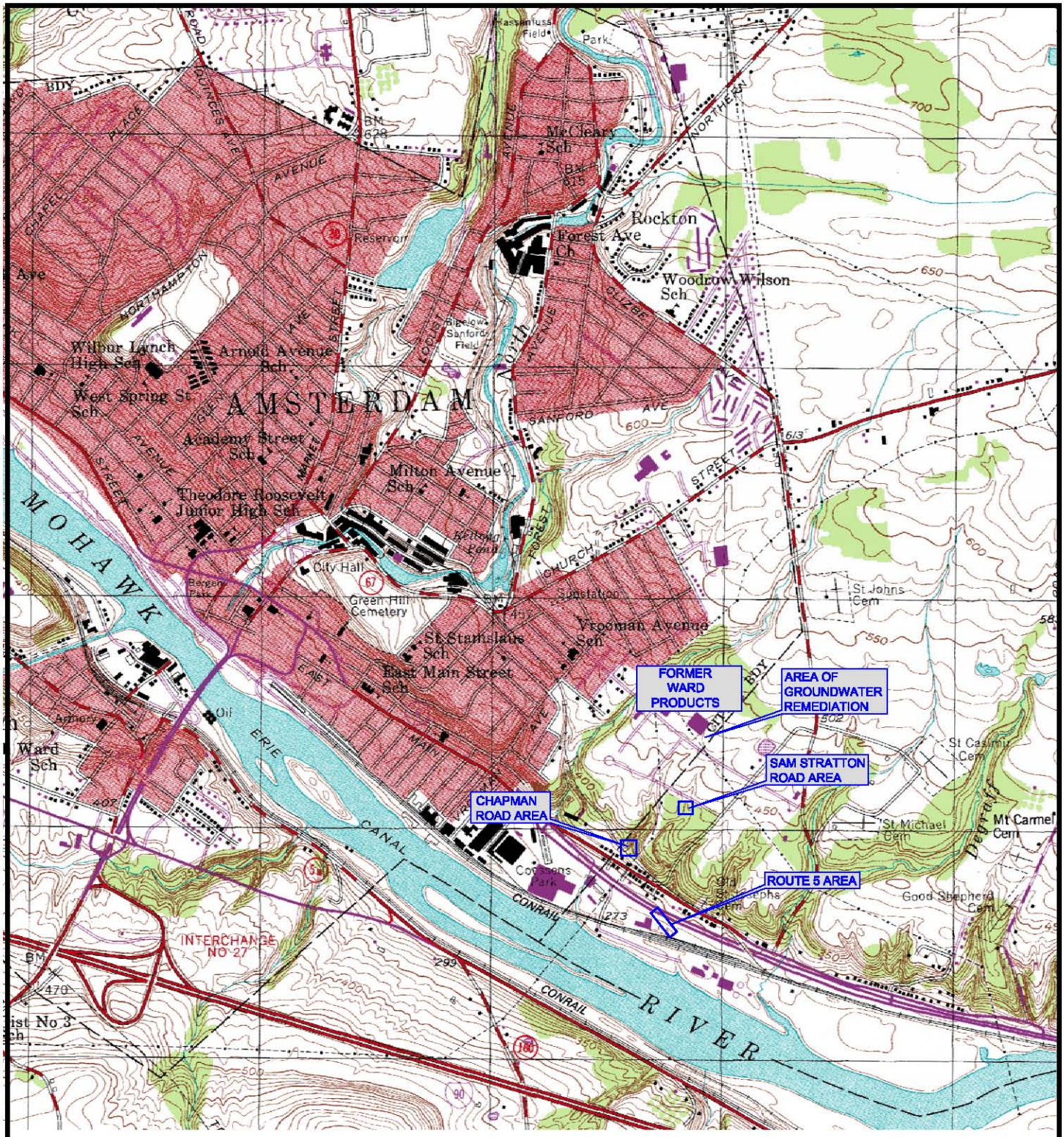
AECOM, 2010. Construction Completion Report, Ward Products Site, Amsterdam, NY. January.

AECOM, 2009. Final Remediation Report, Former Ward Products Site, Amsterdam, NY. July.

AECOM, 2011. Site Management Plan, Ward Products Site, Amsterdam, NY. February.

NYSDEC, 2007. Record of Decision. March.

Figures



UNITED STATES GEOLOGIC SURVEY
AMSTERDAM QUADRANGLE
NEW YORK
7.5 MINUTE SERIES (TOPOGRAPHY)

0' 1000' 2000' 4000'

AECOM

FIGURE 1
SITE LOCATION MAP
FORMER WARD PRODUCTS

AMSTERDAM, NEW YORK

FILE NAME:	DRN	PROJECT NO.	DATE	FIGURE NO.
	KAM	60134119	11 - 2010	1

Plotted By: MeisterK
Layout-Sheet Name: 1
Plot File Date Created: Nov/11/2010 8:23 AM

Filename: L:\WORK\107297\CADD\AECOM-CADD\SITE_MANAGEMENT\WARDS-SITE-MAP_NAD83_EAST-ZONE_FT.DWG

SARATOGA HORSEWORKS
57 EDSON ST.

PARKING AREA

WARD PRODUCTS
61 EDSON ST.

BUSH MILLWORKS
54 EDSON ST.

GRAVEL PARKING LOT

EDSON STREET

SAM STRATTON ROAD

PROZONE LOCKERS
FORMERLY UCMI
1 SAM STRATTON RD.

DRIVEWAY AND PARKING LOT

STORAGE BUILDING

OFFICES AND MANUFACTURING BUILDING

SAFARI ENTERPRISES INC.
64 EDSON ST.

FIBER GLASS INDUSTRIES, INC.
69 EDSON ST.

MW-11
MW-5
MW-12
MW-18
MW-1
MW-1R
MW-2
MW-6
IW-04
MW-3
IW-03
MW-13
MW-10
RW-02
MW-7
RW-01
MW-9
IW-02
MW-8
MW-4R
MW-4
MW-14
MW-17
MW-16
MW-15
MW-19
MW-20

LEGEND

- SURFACE DITCH
- CHAINLINK FENCE
- MONITORING WELL LOCATION
- RECOVERY WELL
- ISCO INJECTION WELL

N

50 0 100

1"=100'

AECOM

WARD PRODUCTS SITE AMSTERDAM, NEW YORK 60268873-500			**GROUNDWATER MONITORING WELL NETWORK**
DATE: 12/11/12	DRWN: BcV/C-MA		**FIGURE 2**

Appendix A

Certificate of Completion

New York State Department of Environmental Conservation
Division of Environmental Remediation
Office of the Director, 12th Floor
625 Broadway, Albany, New York 12233-7011
Phone: (518) 402-9706 • **Fax:** (518) 402-9020
Website: www.dec.ny.gov

Joe Martens
Commissioner

MAR 12 2012

Mrs. Barbara C. Littleton, CEO
New Water Realty Corporation
2900 Orchard Place
Orchard Lake, MI 48324

Re: Certificate of Completion and Registry Reclassification
Site Name: Ward Products
Site No.: 429004
City of Amsterdam, Montgomery County,

Dear Mrs. Littleton:

Congratulations on having satisfactorily completed the remedial program at the Ward Products site. Enclosed please find an original, signed Certificate of Completion (COC). The New York State Department of Environmental Conservation (Department) is pleased to inform you that this also results in the reclassification of the site on the Registry of Inactive Hazardous Waste Disposal Sites ("Registry").

Please note that you are required to perform the following tasks:

- If you are the site owner, you must record a notice of the COC in the recording office for the County (or Counties) where any portion of the site is located within 30 days of issuance of the COC; or if you are a prospective purchaser of the site, you must record a notice of the COC within 30 days of the date that you acquire the site. If you are a non-owner, you must work with the owner to assure the notice of COC is recorded within the time frame specified. A standard notice form is enclosed with this letter.

- Implement the Department-approved Site Management Plan (SMP) which details the activities necessary to assure the performance, effectiveness, and protectiveness of the remedial program. You must report the results of these activities to the Department in a Periodic Review Report (PRR) which also includes any required IC/EC certifications. The site IC/ECs are identified on the enclosed Site Management Form. The first PRR including the certification of the IC/ECs is due to the Department in June 2013.

Please contact project manager Lawrence Alden, P.E. at (518) 402-9767, if you have any questions.

Sincerely,

Robert W. Schick, P.E.
Acting Director
Division of Environmental Remediation

Enclosure

ec:

R. Conway, Jr. (RJC@spsk.com)
S. Bates – NYSDOH
C. Doroski - NYSDOH
R. Cozzy
M. Caruso
B. Conlon
M. Komoroske
L. Alden
K. Goertz
K. Lewandowski

NYSDEC STATE SUPERFUND PROGRAM (SSF)

CERTIFICATE OF COMPLETION

CERTIFICATE HOLDER(S):

Name	**Address**
New Water Realty Corporation	2900 Orchard Place, Orchard Lake, MI 48324

SITE INFORMATION

Site No.: 429004 **Site Name:** Ward Products
Order on Consent: Index No. A4-0588-0507 **Order Execution Date:** 7/9/07
Site Owner: New Water Realty Corporation
Street Address: Edson Street
Municipality: Amsterdam **County:** Montgomery **DEC Region:** 4
Site Size: 2.490 Acres
Tax Map Identification Number(s): 56.10-2-34

A description of the property subject to this Certificate is attached as Exhibit A and a site survey is attached as Exhibit B.

CERTIFICATE ISSUANCE

This Certificate of Completion, hereinafter referred to as the "Certificate," is issued pursuant to 6 NYCRR §375-1.9.

This Certificate has been issued upon satisfaction of the Commissioner, following review by the Department of the final engineering report and data submitted pursuant to the Order on Consent as well as any other relevant information regarding the Site, that the applicable remediation requirements set forth in the Environmental Conservation Law (ECL) and 6NYCRR Part 375 have been or will be achieved in accordance with the time frames, if any, established in the remedial work plan.

The remedial program for the Site has achieved a cleanup level that would be consistent with the following categories of uses:

Allowable Uses under the SSF: Commercial and Industrial

The Remedial Program includes use restrictions or reliance on the long term employment of institutional or engineering controls which are contained in the approved Site Management Plan and an Environmental Easement granted pursuant to ECL Article 71, Title 36 which has been duly recorded in the Recording Office for Montgomery County with recording identifier 2011-43591.

LIABILITY LIMITATION

Upon issuance of this Certificate of Completion, and subject to the terms and conditions set forth herein, the Certificate holder(s) shall be entitled to the liability limitation provided in 6NYCRR §375-2.9. The liability limitation shall run with the land, extending to the Certificate holder's successors or assigns through acquisition of title to the Site and to a person who develops or otherwise occupies the Site, subject to certain limitations as set forth in 6NYCRR §375-2.9(d). The liability limitation shall be subject to all rights reserved to the State by ECL §27-1321 and any other applicable provision of law.

CERTIFICATE TRANSFERABILITY

This Certificate may be transferred to the Certificate holder's successors or assigns upon transfer or sale of the Site as provided by 6NYCRR §375-1.9(f)-(g).

CERTIFICATE MODIFICATION/REVOCATION

This Certificate of Completion may be modified or revoked by the Commissioner following notice and an opportunity for a hearing in accordance with 6NYCRR §375-1.9(e)(2) upon a finding that:

(1) the remedial party has failed to manage the controls or monitoring in full compliance with the terms of the approved remedial program;

(2) there has been a failure to comply with the terms and conditions of the order;

(3) there was a misrepresentation of a material fact tending to demonstrate that the cleanup levels were reached;

(4) the terms and conditions of any environmental easement have been intentionally violated or found to be not protective or enforceable;

(5) for good cause;

(6) environmental contamination at, on, under, or emanating from the site if, in light of such conditions, the site is no longer protective of public health or the environment, and the remedial party is not in good faith negotiating, and/or following its approval by the Department, implementing a work plan to achieve conditions at the site which are protective of public health and the environment;

(7) non-compliance with the terms of the order, the remedial work plan, site management plan, or the certificate of completion after notice of the failure and reasonable opportunity to cure has been afforded to the remedial party by the Department as provided for at paragraph 375-1.9(e)(2);

(8) fraud related to the remedial program for the site committed by the certificate holder;

(9) a finding by the Department that a change in an environmental standard, factor, or criterion upon which the remedial work plan was based renders the remedial program implemented at the site no longer protective of public health or the environment, and the remedial party is not in good faith negotiating, and/or following its approval by the Department, implementing a work plan to achieve conditions at the site which are protective of public health and the environment; or

(10) a change in the site's use subsequent to the Department's issuance of the certificate of completion, unless additional remediation is undertaken which shall meet the standard for protection of the public health and environment that applies to this site.

The Certificate holder(s) (including its successors or assigns) shall have thirty (30) days within which to cure any deficiency or to seek a hearing. If the deficiency is not cured or a request for a hearing received within such 30-day period, the Certificate shall be deemed modified or vacated on the 31st day after the Department's notice.

Joseph J. Martens
Commissioner
New York State Department of Environmental Conservation

By: _____ Date: MARCH 12, 2012
Robert W. Schick, P.E., Director
Division of Environmental Remediation

NOTICE OF CERTIFICATE OF COMPLETION
Inactive Hazardous Waste Disposal Site Program
Pursuant to 6 NYCRR Part 375-1.9(d)

Ward Products, Site ID No. 429004
61 Edson Street, Amsterdam, NY 12010
City of Amsterdam, Montgomery County, Tax Map Identification Number 56.10-2-34

PLEASE TAKE NOTICE, the New York State Department of Environmental Conservation (Department) has issued a Certificate of Completion (Certificate) pursuant to 6 NYCRR Part 375 to New Water Realty Corporation for a parcel approximately 8.6 acres located at 61 Edson Street, Amsterdam, NY 12010 in the City of Amsterdam, MontgomeryCounty.

PLEASE TAKE NOTICE, the Certificate was issued upon satisfaction of the Commissioner, following review by the Department of the final engineering report and data submitted pursuant to the Order on Consent, as well as any other relevant information regarding the Site, that the remediation requirements set forth in ECL Article 27, Title 13 have been or will be achieved in accordance with the time frames, if any, established in the remedial work plan.

PLEASE TAKE NOTICE, the remedial program for the Site has achieved a cleanup level that would be consistent with the following categories of uses (actual site use is subject to local zoning requirements):

- ☐ Residential Use, as set forth in 6NYCRR 375-1.8(g)(2)i.
- ☐ Restricted Residential Use, as set forth in 6NYCRR 375-1.8(g)(2)ii.
- ■ Commercial Use, as set forth in 6NYCRR 375-1.8(g)(2)iii.
- ■ Industrial Use, as set forth in 6NYCRR 375-1.8(g)(2)iv.

Further, the use of groundwater is restricted and may not be used, unless treated in accordance with the requirements provided by the New York State Department of Health, or a local County Health Department with jurisdiction in such matters and such is approved by the Department as not inconsistent with the remedy.

PLEASE TAKE NOTICE, since the remedial program relies upon use restrictions or the long term employment of institutional or engineering controls; such institutional or engineering controls are contained in an Environmental Easement granted pursuant to ECL Article 71, Title 36 which has been duly recorded in the Recording Office for Montgomery County as instrument number 2011-43591.

PLEASE TAKE NOTICE, the Environmental Easement requires that the approved site management plan (SMP) for this property be adhered to. The SMP, which may be amended from time to time, may include sampling, monitoring, and/or operating a treatment system on the property, providing certified reports to the NYSDEC, and generally provides for the management of any and all plans and limitations on the property. A copy of the SMP is available upon request by writing to the Department's Division of Environmental Remediation, Site Control Section,625 Broadway, Albany, New York 12233.

PLEASE TAKE NOTICE, provided that the Environmental Easement, SMP and Certificate are complied with, the Certificate holder(s) shall be entitled to the liability limitation provided in 6 NYCRR Part 375-2.9. The liability limitation shall run with the land, extending to the Certificate holder's successors or assigns through acquisition of title to the Site and to a person who develops or otherwise occupies the Site, subject to certain limitations as set forth in 6 NYCRR Part 375-2.9. The liability limitation shall be subject to all rights reserved to the State by 6 NYCRR Part 375-2.9 and any other applicable provision of law.

PLEASE TAKE NOTICE, any change of use of the site, as defined in 6 NYCRR 375, must be preceded by notice to the Department in accordance with 6 NYCRR 375-1.11(d). A transfer of any or all of the property constitutes a change of use.

PLEASE TAKE NOTICE, the Certificate may be only be transferred to the Certificate holder's successors or assigns upon transfer or sale of the Site as provided by 6 NYCRR Part 375-1.9. Failure to comply with the regulatory requirements for transfer **WILL** bar the successors and assigns from the benefits of the Certificate.

PLEASE TAKE NOTICE, the Certificate may be modified or revoked by the Commissioner as set forth in the applicable regulations.

PLEASE TAKE NOTICE, the Certificate may be revoked if the Environmental Easement as implemented, if applicable, isnot protective or enforceable.

PLEASE TAKE NOTICE, a copy of the Certificate can be reviewed at the NYSDEC's Region 4 located at 1130 North Westcott Road, Schenectady, NY 12306, by contacting the Regional Environmental Remediation Engineer.

WHEREFORE, the undersigned has signed this Notice of Certificate

New Water Realty Corporation

By: _____

Title: _____

Date: _____

STATE OF) SS:
COUNTY OF)

On the _____ day of _____, in the year 20__, before me, the undersigned, personally appeared _____, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

_____
Signature and Office of individual
taking acknowledgment

Please record and return to:
New Water Realty Corporation
c/o Mrs. Barbara C. Littleton, CEO
2900 Orchard Place
Orchard Lake, MI 48324

12/03/09

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Site Management Form
2/27/2012

SITE DESCRIPTION

SITE NO. 429004

SITE NAME Ward Products

SITE ADDRESS: Edson Street ZIP CODE: 12010

CITY/TOWN: Amsterdam

COUNTY: Montgomery

ALLOWABLE USE: Commercial and Industrial

SITE MANAGEMENT DESCRIPTION

SITE MANAGEMENT PLAN INCLUDES:	YES	NO
IC/EC Certification Plan	☒	☐
Monitoring Plan	☒	☐
Operation and Maintenance (O&M) Plan	☒	☐

Periodic Review Frequency: 1 year

Periodic Review Report Submittal Date: 03/16/2013

Description of Institutional Control

Ward Products
61 Edson Street
Environmental Easement
Block: 0002
Lot: 34
Sublot:
Section: 056
Subsection: 10
S_B_L Image: 56.10-2-34

Building Use Restriction

Ground Water Use Restriction

IC/EC Plan

Landuse Restriction

Monitoring Plan

O&M Plan

Site Management Plan

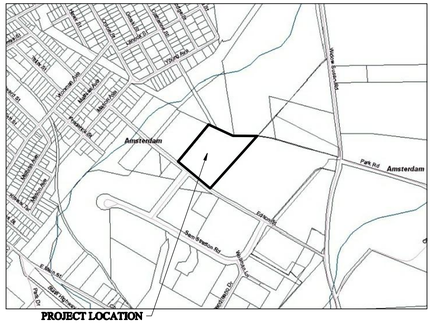
Soil Management Plan

	Description of Engineering Control
Ward Products 61 Edson Street Environmental Easement Block: 0002 Lot: 34 Sublot: Section: 056 Subsection: 10 S_B_L Image: 56.10-2-34	Cover System Groundwater Containment Groundwater Treatment System Vapor Mitigation

SCHEDULE "A" PROPERTY DESCRIPTION

Address: New Water Realty Corp., 61 Edson Street, Town of Amsterdam, Montgomery County, NY
Tax Map: 56.10-2-34

BEGINNING AT A CONCRETE POST IN THE NORTHWESTERLY LINE OF EDSON STREET AT THE SOUTHWESTERLY CORNER OF THE LANDS OF FIBERGLASS INDUSTRIES, INC., RUNNING THENCE ALONG THE NORTHWESTERLY LINE OF EDSON STREET N 50° 02' W 144.1', THENCE RUNNING THROUGH THE LANDS OF WATER REALTY COMPANY THE FOLLOWING 10 COURSES; N 41°15'E 168.0', N 48°45'W 75.0', N 41°15' E 270.0', N48°45'W 240.0 ', N 41° 15' E 25.0', S 48° 45' E 240.0', N58°54'E 115.4', S48°45'E 80.0' S 14°41'W 123.0', S 48°45'E 49.0', TO THE NORTHWESTERLY LINE OF THE LANDS OF FIBERGLASS INDUSTRIES, INC., THENCE ALONG THE NORTHWESTERLY LINE OF FIBERGLASS INDUSTRIES, INC. S41°15'E 459.7' TO THE POINT OF BEGINNING, CONTAINING 2.49 ACRES.



PROJECT LOCATION

1 LOCATION MAP

DEED DESCRIPTION: LIBER 391/PAGE 345

ALL THAT PIECE OR PARCEL OF LAND, LOCATED ON EDSON STREET IN THE FOURTH WARD OF THE CITY OF AMSTERDAM, COUNTY OF MONTGOMERY, AND STATE OF NEW YORK, BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT IN THE NORTHERLY MARGIN OF EDSON STREET, SAID POINT BEING THE WESTERLY MARGIN OF LANDS OF CISKANOW, MARKED BY A CONCRETE POST, RUNNING THENCE N50°02'W 510.9 FEET ALONG THE NORTHERLY MARGIN OF EDSON STREET TO A POINT; THENCE N39°58'E 619.7 FEET THROUGH THE LANDS OF THE PARTIES OF THE FIRST PART AND 130 FEET WESTERLY OF AND IN LINE WITH THE SOUTHERLY FACE OF CONCRETE BUILDING TO A POINT IN THE SOUTHERLY MARGIN OF THE LANDS OF PARTYKA; THENCE S64°54'E 296.15 FEET ALONG THE SOUTHERLY MARGIN OF LANDS OF PARTYKA TO A POINT IN THE WESTERLY MARGIN OF LANDS OF THE DEGRAFF ESTATE MARKED BY AN IRON PIPE AND A FENCE POST; THENCE S88°08E 311 FEET ALONG THE SOUTHERLY MARGIN OF THE DEGRAFF ESTATE TO A POINT IN THE WESTERLY MARGIN OF LANDS OF CISKANOW, MARKED BY A SMALL ELM TREE AND A STONE WALL AND WIRE FENCE;THENCE S41°15'W 887.4 FEET ALONG THE WESTERLY MARGIN OF LANDS OF CISKANOW TO THE NORTHERLY MARGIN OF EDSON STREET TO THE PLACE OF BEGINNING. CONTAINING 8.2 ± ACRES.

ENVIRONMENTAL EASEMENT DESCRIPTION:

BEGINNING AT A CONCRETE POST IN THE NORTHEASTERLY LINE OF EDSON STREET AT THE SOUTHWESTERLY CORNER OF THE LANDS OF FIBERGLASS INDUSTRIES, INC., RUNNING THENCE ALONG THE NORTHEASTERLY LINE OF EDSON STREET N50°02'W 144.1', THENCE RUNNING THROUGH THE LANDS OF WATER REALTY COMPANY THE FOLLOWING 10 COURSES; N41°15'E 168.0', N48°45'W 75.0', N41°15'E 270.0', N48°45'W 240.0', N41°15'E 25.0', S48°45'E 240.0', N58°54'E 115.4', S48°45'E 80.0' S14°41'W 123.0', & S48°45'E 49.0', TO THE NORTHWESTERLY LINE OF THE LANDS OF FIBERGLASS INDUSTRIES, INC., THENCE ALONG THE NORTHWESTERLY LINE OF FIBERGLASS INDUSTRIES, INC. S41°15'E 459.7' TO THE POINT OF BEGINNING, CONTAINING 2.49 ACRES.

LEGEND	
△	CONCRETE MONUMENT
○	IRON PIPE FOUND
⊚	WATER VALVE
–○–	OVERHEAD UTILITY LINE
P	EXTRACTION WELL
●	IRON ROD SET
⊡	SEWER MANHOLE
T	TELEPHONE RISER
⊙	DECIDIOUS TREE
¤	LIGHT POLE
✳	CONIFER TREE
-○-	HYDRANT
■	MONITORING WELL
⊗	STORM MANHOLE
□	CATCH BASIN

ENGINEERING / INSTITUTIONAL CONTROLS

- EXISTING COVER SYSTEM - TO RESTRICT EXPOSURE TO IMPACTED MATERIALS BELOW THE SOIL COVER OR BUILDING.
- SUB-SLAB DEPRESSURIZATION SYATEM (SSDS) - CONTINUED OPERATION OF THE SSDS SYSTEM TO BE MAINTAINED
- GROUND WATER USE IS RESTRICTED - AS A SOURCE OF POTABLE OR PROCESS WATER WITHOUT NECESSARY WATER QUALITY TREATMENT AS DETERMINED BY NYSDOH.
- INDUSTRIAL USE - THE USE AND DEVELOPMENT OF THE SITE IS RESTRICTED TO INDUSTRIAL USE.

▨	EXISTING COVER SYSTEM
▨	EXISTING SUB-SLAB DEPRESSURIZATION SYSTEM

THE ENGINEERING & INSTITUTIONAL CONTROLS FOR THIS EASEMENT ARE SET FORTH IN THE SITE MANAGEMENT PLAN (SMP). A COPY OF THE SMP MUST BE OBTAINED BY ANY PARTY WITH AN INTEREST IN THE PROPERTY. THE SMP CAN BE OBTAINED FROM NYS DEPARTMENT OF ENVIRONMENTAL CONSERVATION, DIVISION OF ENVIRONMENTAL REMEDIATION, SITE CONTROL SECTION, 625 BROADWAY, ALBANY, NEW YORK 12233 OR AT DERWEB@GW.DEC.STATE.NY.US

TO NEW WATER REALTY COMPANY (F/K/A/ WARD PRODUCTS, INC.), , AND THE PEOPLE OF THE STATE OF NEW YORK ACTING THROUGH THEIR COMMISSIONER OF THE DEPARTMENT OF ENVIRONMENTAL CONSERVATION AND THE NEW YOURK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION AND STEWART TITLE INSURANCE COMPANY:

THIS IS TO CERTIFY THAT THIS MAP WAS PREPARED TO GENERALLY ACCEPTED STANDARDS FOR TITLE SURVEYS

FLOOD ZONE CLASSIFICATION:
FLOOD ZONE C PER FLOOD INSURANCE RATE MAP FOR
CITY OF AMSTERDAM, NEW YORK

NOTES:

1) LOCATIONS OF UNDERGROUND UTILITIES MAY VARY FROM LOCATIONS AS SHOWN HEREON. ADDITIONAL BURIED UTLITIES AND/OR STRUCTURES MAY BE ENCOUNTERED. NO EXCAVATIONS HAVE BEEN MADE IN THE COURRSE OF THIS SURVEY. VERFICATION SHOULD BE MADE BEFORE STARTING ANY EXCAVATION.

2) UNDERGROUND UTILITIES AS SHOWN BASED ON VISIBLE EVIDENCE INCLUDING EXISTING PAINT MARKS ON ROAD.

3) S.B.L. REFERS TO SECTION-BLOCK-LOT NUMBER AS FOUND IN MONTGOMERY COUNTY REAL PROPERTY TAX SERVICE

4) CONTOUR INTERVAL - 2'

5) SEE DECLARATION OF ENVIRONMENTAL COVENANTS & RESTRICTIONS, DATED: APRIL 29, 1997 FILED LIBER 620/PAGE 324 & SECOND DECLARATION OF ENVIRONMENTAL COVENANTS & RESTRICTIONS AND NOTICE OF 2007 ORDER, DATED: JULY 20, 2007 FILED BOOK 1570 PAGE 209.

6) HATCHED AREA INDICATES THE AREA OF ENVIRONMENTAL EASEMENT IN FAVOR OF THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION.

SURVEY MAP SHOWING ENVIRONMENTAL EASEMENT ON LANDS OF

NEW WATER REALTY CORPORATION

(F/K/A/ WARD PRODUCTS, INC.)
(SUCCESSOR BY MERGER TO WATER REALTY COMPANY)
CITY OF AMSTERDAM
COUNTY OF MONTGOMERY
STATE OF NEW YORK
SCALE: 1"=50'(15.24 METERS) MAY 11, 2011

LAST REVISED JULY 1, 2011

THIS PROPERTY IS SUBJECT TO AN ENVIRONMENTAL EASEMENT HELD BY THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION PERSUANT TO TITLE 36 OF ARTICLE 71 OF THE NEW YORK STATE ENVIRONMENTAL CONSERVATION LAW.

WARD PRODUCTS - SITE #429004

PROPERTY ADDRESS:
61 EDSON STREET
AMSTERDAM, NY 12010

ONLY COPIES FROM THE ORIGINAL OF THIS SURVEY WITH AN ORIGINAL OF THE LAND SURVEYOR'S SEAL SHALL BE CONSIDERED TO BE VALID TRUE COPIES.

UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209-3 OF THE NEW YORK STATE EDUCATION LAW.

J. CHRISTOPHER FOSS
P.L.S. #50044

FERGUSON & FOSS
PROFESSIONAL LAND SURVEYORS, PC
P.O. BOX 356~JOHNSTOWN, NY 12095 518-762-9997
P.O. BOX 1328~NORTHVILLE, NY 12134 518-863-6616
EMAIL: fergusonandfoss@frontiernet.net

Appendix B

Semiannual Groundwater Monitoring Report

AECOM Environment

Prepared for:
New Water Realty Corporation
(f/k/a Ward Products Corporation)
c/o 2900 Orchard Place
Orchard Lake, Michigan 48324

Prepared by:
AECOM
Chelmsford, MA
Project: 60268763
December 2012

Report on Groundwater Monitoring for 2012

Ward Products Site, NYSDEC Site ID #429004
Amsterdam, New York

AECOM Environment

Prepared for:
New Water Realty Corporation
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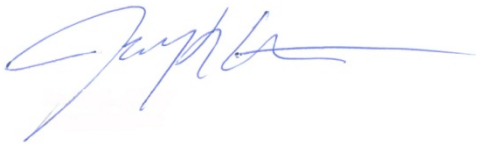
Report on Groundwater Monitoring for 2012

Ward Products Site, NYSDEC Site ID #429004
Amsterdam, New York



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Contents

List of Appendices

List of Tables

List of Figures

1.0 Introduction

This report provides a summary of the groundwater monitoring conducted in May and August 2012 at the Ward Products Site (the Site), located at 61 Edson Street in the Amsterdam Industrial Park, Amsterdam, Montgomery County, NY. The Site is listed in the Registry of Inactive Hazardous Waste Disposal Sites in New York State as Site Number 4-29-004 by the New York State Department of Environmental Conservation (NYSDEC) and was the subject of Orders on Consent Index #W4-0762-96-06 and #A4-0588-0507 between New Water Realty and NYSDEC.

The Site encompasses approximately 8.6 acres and includes a 69,000+ square foot single story building, a large paved parking lot, lawn areas, and approximately 3.5 acres of undeveloped land behind the building (Figure 1). There is no current use of the Site as the building is unoccupied, but its most significant historic use was industrial/commercial, although most recently the building was used, after notice to NYSDEC, for retail furniture sales. Possible future uses include industrial or commercial uses, but excludes residential uses.

Under the Record of Decision (ROD), the remedial activities for the Site included in-situ chemical oxidation (ISCO) with a supplemental groundwater extraction and treatment system (GWETS). The GWETS was installed outside the southeast portion of the Ward Products building to reduce on-site source of contaminants in groundwater and to reduce future migration from the Site. The system was started up in June 2009. Initially, the treatment system treated groundwater extracted from a single recovery well (RW-01) screened within bedrock from 20 to 80 feet below ground surface. A second recovery well was installed in late August 2012, after the second semiannual groundwater monitoring event was conducted. Extracted groundwater is treated by an air stripper and discharged to the City of Amsterdam Publicly Owned Treatment Works (POTW) under a discharge Permit obtained from the City of Amsterdam.

Semiannual groundwater monitoring follows the requirements of the NYSDEC-approved "Site Management Plan, Ward Products Site, Site # 4-29-004, Amsterdam, New York" (SMP) (AECOM, February 2011). Revisions to the SMP were submitted in September 2011 and approved by the NYSDEC in September 2011. The SMP requires semiannual measurement of groundwater levels in 22 monitoring wells plus the groundwater recovery well, and collection of groundwater quality samples for volatile organic compounds (VOCs), total chromium and hexavalent chromium analyses from 13 of the 22 monitoring wells, as listed below:

MW-1R	MW-4	MW-4R	MW-10	MW-11
MW-13	MW-14	MW-15	MW-16	MW-17
MW-18	MW-19	MW-20		

2.0 Field Activities

On May 22-24 and August 22-24, 2012, water levels were measured at 22 monitoring wells and groundwater quality samples were collected from the 13 monitoring wells, as specified under the SMP. The results of the sampling are discussed in Section 3.0. The methods used to collect the samples and the sampling results are discussed in the following sections. Copies of the field sheets for the May and August sampling events are provided in Appendices A and B, respectively.

2.1 Measurement of Groundwater Levels

Prior to sampling the wells, depth to groundwater was measured at the 22 Site monitoring wells and the recovery well (RW-01) using a water level indicator. The depth to groundwater and the elevation of groundwater in each of the wells for the May and August sampling events are summarized in Table 1. Elevation contours of the bedrock aquifer based on May and August measurements are shown in Figures 1 and 2, respectively, and groundwater flow is discussed in Section 3.1.

2.2 Water Quality Sampling

Thirteen wells were purged and sampled with a submersible pump using methods specified by the United States Environmental Protection Agency (USEPA) for low flow/low stress sampling [USEPA, 2010]. For each well, the intake of the pump was lowered to the middle of the screened interval and water was then pumped at a low flow rate to match the well infiltration rate, with a maximum flow rate of 0.5 liters per minute. Purge water was pumped through an in-line water quality meter to establish that stabilization of the groundwater had occurred prior to sample collection. Water quality readings were documented approximately every five minutes. Stabilization parameters included pH, conductivity, temperature, dissolved oxygen (D.O.), oxidation reduction potential (ORP), and turbidity and are shown on Tables 2 and 3 for the May and August events, respectively.

Samples from the May and August sampling events were analyzed for volatile organic compounds (VOCs) by EPA Method 8260B, total chromium by Method E200.7, and hexavalent chromium by method SM3500-CR.

During the May sampling event, a duplicate sample (DUP) was collected from monitoring well MW-17 for quality assurance/quality control (QA/QC). In the August sampling event, a duplicate sample was collected from monitoring well MW-15. Trip blanks were also submitted during both sampling events for analysis of VOCs.

3.0 Water Quality Results

On May 22-24 and August 22-24, 2012, water levels were measured at 22 monitoring wells and groundwater quality samples were collected from the 13 monitoring wells, as specified under the SMP, and submitted to Adirondack Environmental Services, Inc. in Albany, New York (a New York State Certified Environmental Laboratory) for analysis for the site constituents of concern (VOCs, and total and hexavalent chromium). The results of these sampling events are discussed in this section.

3.1 Groundwater Flow Direction

The May and August 2012 bedrock groundwater elevation contours (Figures 1 and 2) indicate that groundwater flow in the bedrock south of most of the Ward Products property is to the south-southeast. In the western portion of the property, groundwater flow in the bedrock is to the west-southwest at a much shallower gradient than the rest of the property.

On the property, the effect of the recovery well, RW-01 is evident by the cone of depression shown immediately to the south-southeast of the building, as seen in the May 2012 contours in Figure 1. The radius of influence of that recovery well is limited to approximately 40 to 80 ft, and the drawdown at that recovery well is approximately 40 ft.

During the August 2012 groundwater sampling event, the recovery well pump while on line, was not extracting groundwater at the designed flow rate due to a blockage in the control valve located in the treatment building. The blockage was discovered and removed as part of a routine weekly inspection of the system. As soon as the blockage was removed, the groundwater pump resumed operating at normal flow rates. Due to that blockage, the flow rate was reduced and therefore the groundwater elevation contours for that event (Figure 2) do not show the cone of depression.

Historical results show that trichloroethene (TCE) has been detected in groundwater at wells along Edson Street (south of the property) and in two of the wells located on the ProZone Lockers (formerly UCMI) property across Edson Street. These TCE concentrations persist despite two full rounds of ISCO injections and the groundwater treatment system running continuously since June of 2009. With NYSDEC's approval, the GWETS has been enhanced by installation of a second recovery well on the Ward Products property in late August 2012, after the August groundwater monitoring event was conducted. The second recovery well (RW-02) was installed at the location of injection well IW-01. Details on the installation and startup of the second recovery well are provided in the Construction Completion Report included as Appendix D to the Periodic Review Report (PRR) due December 31, 2012 (this groundwater report is Appendix B to the PRR). A round of groundwater levels was measured on October 2, 2012, and the resulting groundwater contour figure (available in the Construction Completion Report) shows that extraction of groundwater from RW-02 has resulted in an improved radius of influence for the GWETS that extends along and across Edson Street on to the ProZone Lockers property and has the potential to capture impacted groundwater that has migrated to this adjacent property. In addition more water is being extracted and treated than is the case with RW-01.

3.2 Groundwater Analytical Results

A summary of the May and August 2012 concentrations of TCE and total and hexavalent chromium (the primary constituents of concern) are provided in Table 4. Field water quality data are summarized in Tables 2 and 3. The results of laboratory analyses (over time) for select constituents in the 13 wells sampled under the SMP are summarized in Table 5. The Form 1 laboratory data sheets for the May and August 2012 events were submitted to NYSDEC under separate cover on July 23 and November 14, 2012, respectively. TCE isoconcentration contours of the bedrock aquifer based on May and August measurements are shown in Figures 3 and 4, respectively.

3.2.1 Volatile Organic Compounds

In both 2012 monitoring events, VOCs were detected in more than half of the 13 wells sampled. TCE continues to be the predominant VOC detected in the groundwater both on- and off-site. In addition, chloroform, 1,1-dichloroethene (DCE), cis-1,2-DCE, and trans-1,2-DCE were detected infrequently at low concentrations in both the May and August events.

Tetrachloroethene (PCE) was detected in well MW-4R at elevated concentrations in both the May and August 2012 sampling events, and in well MW-4 in the August event at a concentration two orders of magnitude lower than MW-4R. August 2012 was the first time that PCE has been detected in well MW-4

On-Site Monitoring Wells

Four on-site monitoring wells are sampled as part of the semiannual groundwater monitoring program under the SMP: three bedrock wells (MW-1R, MW-4R and MW-10) and one well (MW-4) that is mostly screened in overburden (5 feet into bedrock).

The highest TCE concentrations are typically detected in the on-site monitoring wells, particularly MW-4R (37,000 µg/L in May 2012, and 41,000 µg/L in August 2012). These concentrations are similar to the 2011 TCE results for this well and are within the range of historically observed concentrations for this well (see Table 5).

TCE concentrations decrease by two to three orders of magnitude to the north at well MW-1R (58 µg/L in May 2012, and 130 µg/L in August 2012) and downgradient to the west-southwest at MW-10 (700 µg/L in May 2012 , and 980 µg/L in August 2012). These concentrations are consistent with historical results (see Table 5). Well MW-10 was used for injection of permanganate in the May 2010 ISCO event and has exhibited a slight decreasing trend in TCE concentration since then.

Overburden well MW-4, which is adjacent to MW-4R and screened 5 feet into bedrock, had TCE concentrations in 2012 (110 µg/L in May and 1,900 µg/L in August) which are similar to TCE concentrations historically observed in this well (see Table 5). TCE concentrations in this well are typically in the hundreds of µg/L, with occasional spikes an order of magnitude higher (e.g., September 2002 at 6,000 µg/L; September 2005 at 20,000 µg/L; August 2007 at 6,600 µg/L; August 2010 at 5,500 µg/L; and August 2012 at 1,900 µg/L). These spikes correlate to low groundwater elevations measured in this well, when the water table is at or below the top of bedrock (approximately 461 ft msl).

Off-Site Monitoring Wells

Off-site monitoring wells include one upgradient well (MW-11), one cross-gradient well (MW-18) and seven downgradient wells (MW-13, MW-14, MW-15, MW-16, MW-17, MW-19, and MW-20).

The upgradient well (MW-11) continues to be non-detect for TCE.

As shown on Figures 3 and 4, the TCE plume extends to wells MW-13 and MW-17 on the ProZone Lockers property. TCE concentrations at these two wells fluctuated during the 2012 sampling events, but were consistent with historical results (see Table 5). Operation of the second recovery well (RW-02) is expected to provide groundwater capture upgradient of these two wells, and its effect on TCE concentrations at these wells will be evaluated during future groundwater monitoring events.

Figure 3 shows that detected concentrations of TCE extended to wells MW-14 (10 µg/L) and MW-15 (57 µg/L) in May 2012; however, the August 2012 results for these wells were below the NYSDEC Groundwater Quality Standard (GQS) of 5 µg/L. May 2012 is only the second time that TCE was detected at either of these wells above the NYSDEC GQS (see Table 5). Operation of the second recovery well (RW-02) is expected to provide groundwater capture upgradient of at these two wells, and its effect on TCE concentrations at these wells will be evaluated during future groundwater monitoring events.

Cross-gradient well MW-18, which is located on the Bush Millworks property, exhibits occasional low TCE detections above the NYSDEC GQS of 5 µg/L. TCE was detected in the May 2012 event at 12 µg/L but was not detected above the NYSDEC GQS in the August 2012 event. As shown in Table 5, this pattern is similar to historic TCE results for this well. Operation of the second recovery well (RW-02) is expected to provide groundwater capture upgradient of at these two wells, and its effect on TCE concentrations at these wells will be evaluated during future groundwater monitoring events.

At the most southern wells (MW-16, MW-19 and MW-20), TCE was not detected above the NYSDEC GQS of 5 µg/L in either of the 2012 events. The TCE detections at MW-19 and MW-20 observed in the May 2011 event appear to have been anomalous (see Table 5).

3.2.2 Chromium

Groundwater samples were analyzed for hexavalent and total chromium in 2012 (Table 3).

In 2012, hexavalent chromium was only detected in one well above the NYSDEC GQS of 0.05 mg/L (MW-1R at 0.06 mg/L in May 2012 and 0.37 mg/L in August 2012). These results are consistent with the historical hexavalent chromium results for well MW-1R, as shown on Table 5.

Total chromium was detected above the NYSDEC GQS of 0.05 mg/L in two wells in May 2012 (MW-1R at 0.0582 mg/L, and MW-4R at 0.111 mg/L) and two wells in August 2012 (MW-1R at 0.855 mg/L, and MW-4 at 0.0748 mg/L). The detections in well MW-1R for May and August 2012 are consistent with historical results. For MW-4R, the May 2012 result showed and increased concentration compared to historical results, however, total chromium was not detected in the August 2012 event. The May detection may be anomalous and chromium trends in this well will continue to be evaluated during future groundwater monitoring events.

Chromium (hexavalent and total) was not detected in 2012 in any of the off-site wells at concentrations above the NYSDEC GQS.

3.2.3 Enhanced GWETS

We do not yet have data permitting a full assessment of the results of the installation of the second recovery well. Preliminary data suggests that the GWETS is extracting more water from deeper zones with a wider radius of influence and therefore is likely enhancing achievement of the remedial goals for the GWETS. This will be further assessed and reported as additional data becomes available in 2013 and 2014.

4.0 Conclusions and Recommendations

The original GWETS shows a zone of depression around recovery well RW-01 approximately 40 to 80 feet in diameter with approximately 40 feet of drawdown in the immediate vicinity of the recovery well.

TCE continues to be detected in the monitoring wells located both on- and off-site at concentrations that exceed the NYSDEC GQS. The May and August 2012 TCE results indicate that the downgradient limits of the TCE plume continue to be delineated at wells MW-14, MW-15, MW-16, MW-19 and MW-20, where TCE results are typically below the NYSDEC GQS of 5 µg/L, although detections of TCE above the NYSDEC GQS were observed at wells MW-14 and MW-15 in the May 2012 event (they were all below the NYSDEC GQS in the August 2012 event).

Detections of hexavalent and total chromium in the May and August 2012 events were mostly similar to those previously observed, except for a detection of total chromium in MW-4R in May 2012. However, this well was non-detect for total chromium in August 2012, and will continue to be evaluated.

With NYSDEC's approval, a second recovery well (RW-02) was installed and brought online in late August 2012 (after the August groundwater monitoring event). Preliminary evaluation of water levels collected in October 2012 indicates that the second recovery well may provide capture at off-site wells MW-13 and MW-17 where TCE concentrations are typically observed above the NYSDEC GQS. The full effect of the second recovery well on the off-site extent of the TCE plume will be evaluated after the May 2013 groundwater monitoring event and later events.

Tables

Table 1
Summary of Groundwater Elevation Measurements - May and August 2012
61 Edson Street, Amsterdam, NY
NYSDEC Site #4-029-004

Monitoring Well	Top of Casing Elevation (Ft)	May 22, 2012		August 22, 2012	
		Depth to Water (Ft)	Water Elevation (Ft msl)	Depth to Water (Ft)	Water Elevation (Ft msl)
MW-1	471.55	2.39	469.16	6.37	465.18
MW-1R	471.46	3.29	468.17	7.16	464.30
MW-2	471.20	3.14	468.06	7.31	463.89
MW-3	473.03	4.29	468.74	11.24	461.79
MW-4	470.17	5.05	465.12	8.71	461.46
MW-4R	470.29	15.42	454.87	19.00	451.29
MW-5	475.62	16.72	458.90	17.64	457.98
MW-6	470.97	15.50	455.47	19.68	451.29
MW-7	469.14	13.75	455.39	17.41	451.73
MW-8	467.38	11.19	456.19	15.41	451.97
MW-9	465.43	11.91	453.52	16.42	449.01
MW-10	466.77	13.10	453.67	17.54	449.23
MW-11	485.37	16.32	469.05	19.18	466.19
MW-12	468.18	16.37	451.81	20.73	447.45
MW-13	462.12	9.72	452.40	14.24	447.88
MW-14	453.66	6.80	446.86	11.49	442.17
MW-15	445.20	4.82	440.38	11.15	434.05
MW-16	449.50	16.00	433.50	21.56	427.94
MW-17	450.84	3.02	447.82	8.29	442.55
MW-18	463.76	17.67	446.09	22.71	441.05
MW-19	441.64	27.05	414.59	31.84	409.80
MW-20	442.38	19.89	422.49	24.85	417.53
RW-01	472.08	56.13	415.95	17.46	454.62

Table 2
Summary of Field Measurements
61 Edson Street, Amsterdam, NY
NYSDEC Site #4-029-004

Sampling Date: May 22-24, 2012

Monitoring Well	pH (SU)	Conductivity (uohms/cm)	Temperature (^{o}C)	D.O. (mg/L)	Turbidity (NTU)	ORP (mV)
MW-1	--	--	--	--	--	--
MW-1R	7.87	0.422	15.17	3.31	31.5	-31.1
MW-2	--	--	--	--	--	--
MW-3	--	--	--	--	--	--
MW-4	7.01	0.303	10.48	6.91	9.14	81.2
MW-4R	7.67	1.057	11.34	0.60	5.74	-29.9
MW-5	--	--	--	--	--	--
MW-6	--	--	--	--	--	--
MW-7	--	--	--	--	--	--
MW-8	--	--	--	--	--	--
MW-9	--	--	--	--	--	--
MW-10	6.87	0.593	11.58	2.77	NM	100.2
MW-11	7.90	0.397	14.32	0.55	39.4	-47.2
MW-12	--	--	--	--	--	--
MW-13	8.22	0.551	19.23	0.69	44.2	-51.9
MW-14	7.08	0.683	12.15	1.89	3.76	-48.7
MW-15	6.85	0.605	10.91	3.75	47.3	17.6
MW-16	7.73	0.186	11.71	1.91	87.1	-40.7
MW-17	7.72	0.388	12.77	3.65	4.97	-38.9
MW-18	6.85	0.196	10.17	6.43	NM	115
MW-19	7.57	0.907	18.75	0.56	16.6	-43.6
MW-20	7.95	0.818	12.26	5.12	1000	-32.6
RW-01	--	--	--	--	--	--

Notes:
-- Not Sampled
NM - not measured, meter malfuctioning

Table 3
Summary of Field Measurements
61 Edson Street, Amsterdam, NY
NYSDEC Site #4-029-004

Sampling Date: August 22-24, 2012

Monitoring Well	pH (SU)	Conductivity (uohms/cm)	Temperature (^{o}C)	D.O. (mg/L)	Turbidity (NTU)	ORP (mV)
MW-1	--	--	--	--	--	--
MW-1R	6.17	0.560	18.44	2.34	NM	181.5
MW-2	--	--	--	--	--	--
MW-3	--	--	--	--	--	--
MW-4	6.94	0.404	15.51	6.30	NM	41.4
MW-4R	7.22	1.082	16.75	0.42	NM	17.5
MW-5	--	--	--	--	--	--
MW-6	--	--	--	--	--	--
MW-7	--	--	--	--	--	--
MW-8	--	--	--	--	--	--
MW-9	--	--	--	--	--	--
MW-10	7.29	0.646	14.76	0.68	NM	29.6
MW-11	7.53	0.425	14.58	2.17	27.3	-56.4
MW-12	--	--	--	--	--	--
MW-13	7.21	0.551	12.95	0.23	45.5	-116.4
MW-14	7.14	0.580	13.74	0.66	NM	-54.4
MW-15	6.88	0.746	14.94	0.16	8.95	-69.1
MW-16	6.85	0.287	12.89	0.27	41	-84.7
MW-17	7.23	0.589	12.59	0.20	8.7	-25.4
MW-18	6.84	0.220	13.10	5.08	36.3	104.2
MW-19	7.22	0.830	12.86	4.10	105.1	48
MW-20	7.35	0.745	13.17	3.30	40	62.1
RW-01	--	--	--	--	--	--

Notes:
-- Not Sampled
NM - not measured, meter malfuctioning

Table 4
Summary of Primary Constituents of Concern
61 Edson Street, Amsterdam, NY
NYSDEC Site #4-029-004

Sampling Date: May 22-24, 2012

Well Number	Trichloroethene ug/L	Total Chromium mg/L	Hexavalent Chromium mg/L
NYSDEC GQS	**5**	**0.05**	**0.05**
MW-1R	**58**	**0.0582**	**0.06**
MW-4	**110**	0.0082 B	<0.02
MW-4R	**37000**	**0.111**	0.04
MW-10	**700**	<0.0051	<0.02
MW-11	<5	<0.0051	<0.02
MW-13	**560**	0.0076 B	<0.02
MW-14	**10**	<0.0051	<0.02
MW-15	**57**	<0.0051	<0.02
MW-16	<5	0.0071 B	<0.02
MW-17*	**99.5**	0.0053 B	<0.02
MW-18	**12**	<0.0051	<0.02
MW-19	<5	<0.0051	<0.02
MW-20	<5	<0.0051	<0.02

Sampling Date: August 22-24, 2012

Well Number	Trichloroethene ug/L	Total Chromium mg/L	Hexavalent Chromium mg/L
NYSDEC GQS	**5**	**0.05**	**0.05**
MW-1R	**130**	**0.855**	**0.370**
MW-4	**1900 D**	**0.0748**	<0.02
MW-4R	**41000**	<0.0051	<0.02
MW-10	**980**	<0.0051	<0.02
MW-11	<5	<0.0051	<0.02
MW-13	**850**	<0.0051	<0.02
MW-14	3.5 J	<0.0051	<0.02
MW-15*	3.8 J	<0.0051	<0.02
MW-16	1.8 J	<0.0051	<0.02
MW-17	**1600**	<0.0051	<0.02
MW-18	2.5 J	<0.0051	<0.02
MW-19	<5	<0.0051	<0.02
MW-20	<5	<0.0051	<0.02

Notes:
BOLD values are greater that NYSDEC Groundwater Quality Standards
NYSDEC GQS - New York State Department of Environmental Conservation Groundwater Quality Standard
* Average of primary and duplicate sample results (reporting limit used for non-detect results)
B - Contamination in associated method blank
D - Parameter detected above calibration range of instrument; sample re-analyzed at dilution and result reported.
J - Estimated value below the Reporting Limit
[a] Beginning in May 2011, semiannual groundwater monitoring followed the requirements of the "Site Management Plan, Ward Products Site, Site # 4-29-004, Amsterdam, New York" (AECOM, February 2011).

Table 5
Select Groundwater Analytical Results
61 Edson Street, Amsterdam, NY
NYSDEC Site #4-029-004

MW-1R												
	METALS (mg/L)		VOCs (µg/L)									
	Hexavalent Chromium	Total Chromium	Carbon Tetrachloride	Chloro-benzene	Chloroform	Dichloro-difluoromethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloro-ethene	Trichloro-ethene	Vinyl Chloride
NYSDEC STANDARD	**0.05**	**0.05**	**5**	**5**	**7**	**5**	**5**	**5**	**5**	**5**	**5**	**2**
9/5/97	**6.77**	**7.16J**	**14**	<1	**4J**	NA	<2	**36**	<2	**3J**	**410**	<2
11/3/97	**12**	**11.5**	**33**	<1	**6**	NA	<2	**34**	<2	**4J**	**690**	<2
5/8/98	**0.89**	**1.48**	<5	<5	<5	<10	<5	NA	NA	<5	**180**	<10
8/26/98	**1.2**	**0.99**	**11**	<5	<5	<10	<5	NA	NA	<5	**280**	<10
11/17/98	**6.4**	**5.71**	**65**	<25	**30**	<50	<25	NA	NA	<25	**550**	<50
5/24/99	**0.55**	**0.451**	<5	<5	<5	<10	<5	NA	NA	<5	**100**	<10
8/24/99	**1.99**	**1.87**	**48**	<10	<10	<20	<10	NA	NA	<10	**420**	<20
11/15/99	**0.68**	**0.5**	**36**	<5	<5	<10	<5	NA	NA	<5	**280**	<10
5/23/00	**0.3**	**0.323**	<10	<10	<10	<20	<10	NA	NA	<10	**160**	<20
8/23/00	**0.41**	**0.349**	**10**	<5	<5	<10	<5	NA	NA	<5	**170**	<10
5/22/01	**0.26**	**0.26**	**10**	<10	<10	<20	<10	NA	NA	<10	**140**	<20
8/29/01	**0.43**	**0.365**	**11**	<10	<10	<20	<10	NA	NA	<10	**170**	<20
6/17/02	**0.16**	**0.216**	<5	<5	<5	<10	<5	NA	NA	<5	**62**	<10
9/16/02	**0.16**	**0.16**	<10	<10	<10	<20	<10	NA	NA	<10	**110**	<20
9/10/03	**0.25**	**0.22**	**17**	<10	<10	<20	<10	**14**	<10	<10	**180**	<20
5/19/04	**0.14**	**0.139**	<5	<5	<5	NA	<5	<5	<5	<5	**96**	<10
8/18/04	**0.2**	**0.214**	<10	<10	<10	NA	<10	<10	<10	<10	**180**	<10
5/11/05	**0.12**	**0.124**	**4J**	<10	<10	<10	<10	**2J**	<10	<10	**94**	<10
9/22/05	**0.03**	**0.319**	**10J**	<10	**2J**	<10	<10	**14**	<10	**2J**	**200E**	<10
5/23/06	**0.13**	**0.132**	**5J**	<10	**6J**	<10	<10	**4J**	<10	<10	**110**	<10
9/22/05	**0.26**	**0.241**	**9J**	<10	<10	<10	<10	**7J**	<10	<10	**150**	<10
5/30/07	**0.119**	**0.117**	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	**68**	<10.0
8/6/07	<.02	**0.019**	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
6/25/08	**0.083**	**0.08**	<10	<10	<10	<10	<10	<10	<10	<10	**59**	<10
8/25/08	**0.09**	**0.135**	<5	<5	<5	<10	<5	<5	<5	<5	**95**	<10
5/19/09	**0.06**	**0.0557**	<5	<5	<5	<10	<5	<5	<5	<5	**68**	<10
8/12/09	**0.11**	**0.122**	**5.3**	<5	<5	<10	<5	<5	<5	<5	**100**	<10
5/5/10	**0.06**	**0.0682**	**2.3 J**	<5	<5	<10	<5	<5	<5	<5	**63**	<10
8/31/10	**0.29**	**0.311**	**5.3**	<5	<5	<10	<5	**6**	<5	<5	**140**	<10
5/26/11	**0.05**	**0.0698**	<5	<5	**4.4J**	<10	<5	<5	<5	<5	**120**	<10
8/30/11	**0.11**	**0.127**	<5	<5	<5	<10	<5	<5	<5	<5	**93**	<10
5/23/12	**0.06**	**0.0582**	<5	<5	<5	<10	<5	<5	<5	<5	**58**	<10
8/22/12	**0.37**	**0.855**	**4.3 J**	<5	<5	<10	<5	**5.1**	<5	<5	**130**	<10

Notes:
NA - not analyzed
NS - not sampled
J - estimated value below the detection limit
E - estimated value ouside of the calibration range
BOLD = detection
BOLD & shaded = value exceeds the NYSDEC Standard

Table 5
Select Groundwater Analytical Results
61 Edson Street, Amsterdam, NY
NYSDEC Site #4-029-004

MW-4												
	METALS (mg/L)		VOCs (µg/L)									
	Hexavalent Chromium	Total Chromium	Carbon Tetrachloride	Chloro-benzene	Chloroform	Dichloro-difluoromethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloro-ethene	Trichloro-ethene	Vinyl Chloride
NYSDEC STANDARD	**0.05**	**0.05**	**5**	**5**	**7**	**5**	**5**	**5**	**5**	**5**	**5**	**2**
8/22/96	**0.07**	**0.09**	<5	<5	<5	NA	<5	<5	<5	<5	**540**	<5
5/22/97	**0.086**	NA	<5	<5	<5	NA	<5	<5	<5	<5	**330**	<5
9/5/97	**0.0817**	**0.078J**	<1	<1	**1J**	NA	<1	<2	<2	<1	**330**	<2
11/3/97	**0.027J**	NA	<1	<1	**1J**	NA	<1	<2	<2	<1	**540**	<2
5/8/98	**0.1**	**0.11**	<5	<5	<5	<10	<5	NA	NA	<5	**300**	<10
8/26/98	**0.1**	**0.07**	<12	<12	<12	<25	<12	NA	NA	<12	**400**	<25
11/17/98	**0.06**	**0.068**	<100	<100	<100	<200	<100	NA	NA	<100	**3200**	<200
5/24/99	**0.08**	**0.08**	<25	<25	<25	<50	<25	NA	NA	<25	**800**	<50
8/24/99	**0.08**	**0.064**	<25	<25	<25	<50	<25	NA	NA	<25	**760**	<50
11/15/99	**0.1**	**0.066**	<25	<25	<25	<50	<25	NA	NA	<25	**920**	<50
5/23/00	**0.08**	**0.079**	<25	<25	<25	<50	<25	NA	NA	<25	**460**	<50
8/23/00	**0.07**	**0.068**	<25	<25	<25	<50	<25	NA	NA	<25	**470**	<50
5/22/01	**0.04**	**0.037**	<10	<10	<10	<20	<10	NA	NA	<10	**240**	<20
8/30/01	**0.04**	**0.043**	<125	<25	<25	<20	<25	NA	NA	<25	**300**	<50
6/18/02	**0.05**	**0.052**	<13	<13	<13	<25	<13	NA	NA	<13	**300**	<25
9/17/02	**0.04**	**0.039**	<250	<250	<250	<500	<250	NA	NA	<250	**6000**	<500
9/11/03	**0.05**	<0.005	<12	<12	<12	<25	<12	<12	<12	<12	**430**	<25
5/19/04	**0.06**	**0.045**	<10	<10	<10	NA	<10	<10	<10	<10	**330**	<20
8/18/04	**0.04**	**0.0569**	<20	<20	<20	NA	<20	<20	<20	<20	**390**	<20
5/11/05	**0.05**	**0.0441**	<20	<20	<20	<20	<20	<20	<20	<20	**340**	<20
9/22/05	**0.03**	**0.0288**	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	**20000E**	<1000
5/22/06	**0.03**	**0.029**	<20	<20	<20	<20	<20	<20	<20	<20	**300**	<20
8/23/06	**0.04**	**0.0289**	<50	<50	<50	<50	<50	<50	<50	<50	**690**	<50
5/30/07	<0.020	**0.016**	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	**190**	<10.0
8/6/07	<0.020	**0.022**	<250	<250	<250	<500	<250	<250	<250	<250	**6600**	<500
6/25/08	<0.02	**0.018**	<20	<20	<20	<20	<20	<20	<20	<20	**250**	<20
8/26/08	<0.02	**0.018**	<10	<10	<10	<20	<10	<10	<10	<10	**360**	<20
5/19/09	**0.03**	**0.029**	<10	<10	<10	<20	<10	<10	<10	<10	**260**	<20
8/11/09	**0.03**	**0.0296**	<10	<10	<10	<20	<10	<10	<10	<10	**290**	<20
5/6/10	**0.03**	**0.0403**	<5	<5	<5	<10	<5	<5	<5	<5	**140**	<10
8/31/10	**0.05**	**0.0401**	<250	<250	<250	<500	<250	<250	<250	<250	**5500**	<500
5/25/11	<0.02	**0.0143**	<25	<25	**20 J**	<50	<25	<25	<25	<25	**460**	<50
8/30/11	<0.02	<0.0047	<5	<5	<5	<10	<5	**2.2 J**	<5	<5	**160**	<10
5/22/12	<0.02	**0.0082 B**	<5	<5	<5	<10	<5	<5	<5	<5	**110**	<10
8/22/12	<0.02	**0.0748**	<5	<5	<5	<10	<5	**20**	<5	**31**	**1900 D**	<10

Notes:
NA - not analyzed
NS - not sampled
J - estimated value below the detection limit
E - estimated value ouside of the calibration range
D - Initial result was outside the calibration range; sample re-analyzed at dilution.
B - Contamination in associated method blank
BOLD = detection
BOLD & shaded = value exceeds the NYSDEC Standard

Table 5
Select Groundwater Analytical Results
61 Edson Street, Amsterdam, NY
NYSDEC Site #4-029-004

MW-4R												
	METALS (mg/L)		VOCs (µg/L)									
	Hexavalent Chromium	Total Chromium	Carbon Tetrachloride	Chloro-benzene	Chloroform	Dichloro-difluoromethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloro-ethene	Trichloro-ethene	Vinyl Chloride
NYSDEC STANDARD	**0.05**	**0.05**	**5**	**5**	**7**	**5**	**5**	**5**	**5**	**5**	**5**	**2**
9/4/97	**0.0155**	<0.030	<500	<500	<500	NA	<500	<500	<500	**1000**	**140000**	<500
11/3/97	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1/22/98	**0.0052**	**0.0092J**	<20	<20	<20	NA	<20	**80J**	<40	**210**	**28000**	ND
5/8/98	**0.03**	**0.03**	<500	<500	<500	<1000	<500	NA	NA	<500	**22000**	<1000
8/26/98	**0.03**	**0.005**	<500	<500	<500	<1000	<500	NA	NA	<500	**17000**	<1000
11/16/98	**0.03**	**0.015**	<1200	<1200	<1200	<2500	<1200	NA	NA	<1200	**28000**	<2500
5/24/99	**0.04**	**0.006**	<1200	<1200	<1200	<2500	<1200	NA	NA	<1200	**52000**	<2500
8/24/99	**0.02**	**0.008**	<500	<500	<500	<1000	<500	NA	NA	<500	**14000**	<1000
11/15/99	<0.02	<0.005	<1250	<1250	<1250	<2500	<1250	NA	NA	<1250	**25000**	<2500
5/23/00	<0.02	**0.017**	<500	<500	<500	<1000	<500	NA	NA	<500	**20000**	<2500
8/23/00	<0.02	**0.006**	<500	<500	<500	<1000	<500	NA	NA	<500	**19000**	<2500
5/22/01	<0.02	**0.012**	<2500	<2500	<2500	<2500	<2500	NA	NA	<2500	**45000**	<5000
8/30/01	<0.02	**0.009**	<1250	<1250	<1250	<2500	<1250	NA	NA	<1250	**13000**	<2500
6/18/02	<0.02	**0.008**	<500	<500	<500	<1000	<500	NA	NA	<500	**14000**	<1000
9/17/02	<0.02	**0.005**	<250	<250	<250	<500	<250	NA	NA	<250	**7500**	<500
9/11/03	<0.02	**0.006**	<500	<500	<500	<1000	<250	<500	<500	<500	**19000**	<1000
5/19/04	<0.02	<0.005	<1000	<1000	<1000	NA	<1000	<1000	<1000	<1000	**49000**	<2000
8/18/04	<0.020	**0.0071B**	<2000	<2000	<2000	NA	<2000	<2000	<2000	<2000	**28000**	<2000
5/11/05	<0.020	**0.0076B**	<20000	<20000	<20000	<20000	<20000	<20000	<20000	<20000	**180000**	<20000
9/22/05	<0.020	**0.0047B**	<5000	<5000	<5000	<5000	<5000	<5000	<5000	<5000	**70000**	<5000
5/22/06	<0.020	**0.0071B**	<2000	<2000	<2000	<2000	<2000	<2000	<2000	<2000	**24000**	<2000
8/23/06	<0.020	**0.0138**	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	**21000E**	<1000
5/30/07	<0.020	**0.022**	<5000	<5000	<5000	<5000	<5000	<5000	<5000	<5000	**59000**	<5000
8/6/07	<.02	<.005	<250	<250	<250	<500	<250	<250	<250	<250	**7400**	<500
6/25/08	**0.03**	**0.036**	<2500	<2500	<2500	<2500	<2500	<2500	<2500	<2500	**47000**	<2500
8/25/08	**0.03**	**0.026**	<1200	<1200	<1200	<2500	<1200	<1200	<1200	<1200	**28000**	<2500
5/19/09	**0.05**	**0.0276**	<1200	<1200	<1200	<2500	<1200	<1200	<1200	<1200	**45000**	<2500
8/11/09	**0.02**	**0.0347**	<500	<500	<500	<1000	<500	<500	<500	<500	**10000**	<1000
5/5/10	<0.020	**0.0254**	<500	<500	<500	<1000	<500	<500	<500	**330 J**	**18000**	<1000
8/31/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
10/28/10	NA	NA	<250	<250	<250	<500	<250	<250	<250	<250	**7000**	<500
5/25/11	<0.02	<0.005	<1000	<1000	**970 J**	<2000	<1000	<1000	<1000	<1000	**23000**	<2000
8/30/11	<0.02	<0.0047	<2500	<2500	<2500	<5000	<2500	<2500	<2500	**1200 J**	**47000**	<5000
5/22/12	**0.04**	**0.111**	<1200	<1200	<1200	<2500	<1200	<1200	<1200	**1000 J**	**37000**	<2500
8/22/12	<0.02	<0.0051	<1200	<1200	**350 J**	<2500	<1200	<1200	<1200	**1300**	**41000**	<2500

Notes:
NA - not analyzed
NS - not sampled
J - estimated value below the detection limit
E - estimated value ouside of the calibration range
BOLD = detection
BOLD & shaded = value exceeds the NYSDEC Standard

Table 5
Select Groundwater Analytical Results
61 Edson Street, Amsterdam, NY
NYSDEC Site #4-029-004

MW-10												
	METALS (mg/L)		VOCs (µg/L)									
	Hexavalent Chromium	Total Chromium	Carbon Tetrachloride	Chloro-benzene	Chloroform	Dichloro-difluoromethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloro-ethene	Trichloro-ethene	Vinyl Chloride
NYSDEC STANDARD	**0.05**	**0.05**	**5**	**5**	**7**	**5**	**5**	**5**	**5**	**5**	**5**	**2**
1/22/98	**0.0071**	**0.0146J**	<2	<2	**5J**	NA	**7J**	**39**	**6J**	**8J**	**2900**	<4
5/8/98	**0.09**	**0.094**	<50	<50	<50	<100	<50	NA	NA	<50	**1800**	<100
8/26/98	**0.05**	**0.021**	<125	<125	<125	<250	<125	NA	NA	<125	**5500**	<250
11/17/98	**0.05**	**0.023**	<250	<250	<250	<500	<250	NA	NA	<250	**5000**	<500
5/25/99	**0.02**	<0.005	<120	<120	<120	<250	<120	NA	NA	<120	**6000**	<250
8/24/99	<0.02	**0.016**	<250	<250	<250	<500	<250	NA	NA	<250	**7800**	<500
11/16/99	<0.02	**0.008**	<250	<250	<250	<500	<250	NA	NA	<250	**8000**	<500
5/23/00	<0.02	**0.021**	<250	<250	<250	<500	<250	NA	NA	<250	**12000**	<500
8/23/00	<0.02	**0.012**	<250	<250	<250	<500	<250	NA	NA	<250	**7000**	<500
5/22/01	<0.02	**0.012**	<250	<250	<250	<500	<250	NA	NA	<250	**6000**	<500
8/30/01	<0.02	**0.012**	<250	<250	<250	<500	<250	NA	NA	<250	**5700**	<500
6/18/02	<0.02	**0.008**	<500	<500	<500	<1000	<500	NA	NA	<500	**7200**	<1000
9/18/02	<0.02	**0.012**	<125	<125	<125	<250	<125	NA	NA	<125	**4500**	<250
9/11/03	<0.02	<0.005	<120	<120	<120	<250	<120	<120	<120	<120	**5000**	<250
5/19/04	<0.02	**0.045**	<120	<120	<120	NA	<120	<120	<120	<120	**3800**	<250
8/18/04	<0.020	**0.0229**	<250	<250	<250	NA	<250	<250	<250	<250	**3500**	<250
5/12/05	<0.020	**0.0269**	<500	<500	<500	<500	<500	<500	<500	<500	**3800**	<500
9/22/05	<0.020	**0.0232**	<500	<500	<500	<500	<500	<500	<500	<500	**4100**	<500
5/23/06	<0.020	**0.0213**	<250	<250	<250	<250	<250	<250	<250	<250	**4700**	<250
8/24/06	<0.020	**0.0332**	<500	<500	<500	NA	<500	<500	<500	<500	**5100**	<500
5/29/07	<0.020	**0.0064 J**	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	**6300**	<1000
8/6/07	<.02	**0.01**	<250	<250	<250	<500	<250	<250	<250	<250	**5400**	<500
6/25/08	<0.02	**0.008**	<250	<250	<250	<250	<250	<250	<250	<250	**3700**	<250
8/26/08	<0.02	<0.005	<250	<250	<250	<500	<250	<250	<250	<250	**3900**	<500
5/20/09	<0.02	**0.0095**	<250	<250	<250	<500	<250	<250	<250	<250	**5900**	<500
8/12/09	<0.02	<0.0052	<100	<100	<100	<200	<100	<100	<100	<100	**3400**	<200
5/6/10	<0.020	<0.0047	<50	<50	<50	<100	<50	<50	<50	<50	**1000**	<100
9/1/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
10/28/10	NA	NA	<50	<50	<50	<100	<50	<50	<50	<50	**2000 E**	<100
5/26/11	<0.02	<0.005	<50	<50	<50	<100	<50	<50	<50	<50	**1300**	<100
8/30/11	<0.02	<0.0047	<50	<50	<50	<100	<50	<50	<50	<50	**940**	<100
5/23/12	<0.02	<0.0051	<25	<25	<25	<50	<25	**14 J**	<25	<25	**700**	<50
8/22/12	<0.02	<0.0051	<50	<50	<50	<100	<50	**18 J**	<50	<50	**980**	<100

Notes:
NA - not analyzed
NS - not sampled
J - estimated value below the detection limit
E - estimated value ouside of the calibration range
BOLD = detection
BOLD & shaded = value exceeds the NYSDEC Standard

Table 5
Select Groundwater Analytical Results
61 Edson Street, Amsterdam, NY
NYSDEC Site #4-029-004

MW-11												
	METALS (mg/L)		VOCs (µg/L)									
	Hexavalent Chromium	Total Chromium	Carbon Tetrachloride	Chloro-benzene	Chloroform	Dichloro-difluoromethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloro-ethene	Trichloro-ethene	Vinyl Chloride
NYSDEC STANDARD	**0.05**	**0.05**	**5**	**5**	**7**	**5**	**5**	**5**	**5**	**5**	**5**	**2**
1/22/98	<0.0005	<0.0066	<1	<1	<1	NA	<1	<2	<2	<1	<1	<2
5/8/98	<0.02	<0.005	<5	<5	<5	<10	<5	NA	NA	<5	<5	<10
8/25/98	<0.02	<0.005	<5	<5	<5	<10	<5	NA	NA	<5	<5	<10
11/17/98	<0.02	**0.006**	<5	<5	<5	<10	<5	NA	NA	<5	**180**	<10
5/24/99	<0.02	<0.005	<5	<5	<5	<10	<5	NA	NA	<5	<5	<10
8/23/99	<0.02	**0.006**	<5	<5	<5	<10	<5	NA	NA	<5	<5	<10
11/15/99	<0.02	<0.005	<5	<5	<5	<10	<5	NA	NA	<5	<5	<10
5/23/00	<0.02	**0.008**	<5	<5	<5	<10	<5	NA	NA	<5	<5	<10
8/22/00	<0.02	**0.007**	<5	<5	**6**	<10	<5	NA	NA	<5	<5	<10
5/21/01	<0.02	<0.005	<5	<5	<5	<10	<5	NA	NA	<5	<5	<10
8/29/01	<0.02	**0.007**	<5	<5	<5	<10	<5	NA	NA	<5	<5	<10
6/17/02	<0.02	<0.005	<5	<5	<5	<10	<5	NA	NA	<5	<5	<10
9/16/02	<0.02	<0.005	<5	<5	<5	<10	<5	NA	NA	<5	<5	<10
9/10/03	<0.02	<0.005	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
5/19/04	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
8/18/04	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
5/12/05	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
9/22/05	<0.02	**0.0050B**	<10	<10	<10	<10	<10	<10	<10	<10	**3J**	<10
5/23/06	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
8/24/06	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
5/30/07	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
8/6/07	<0.02	<.005	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
6/25/08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
8/25/08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
5/20/09	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
8/12/09	<0.02	<0.0052	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
5/7/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
9/1/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
5/26/11	<0.02	**0.0267**	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
8/31/11	<0.02	<0.0047	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
5/24/12	<0.02	<0.0051	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
8/24/12	<0.02	<0.0051	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10

Notes:
NA - not analyzed
NS - not sampled
J - estimated value below the detection limit
E - estimated value ouside of the calibration range
BOLD = detection
BOLD & shaded = value exceeds the NYSDEC Standard

Table 5
Select Groundwater Analytical Results
61 Edson Street, Amsterdam, NY
NYSDEC Site #4-029-004

MW-13												
	METALS (mg/L)		VOCs (µg/L)									
	Hexavalent Chromium	Total Chromium	Carbon Tetrachloride	Chloro-benzene	Chloroform	Dichloro-difluoromethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloro-ethene	Trichloro-ethene	Vinyl Chloride
NYSDEC STANDARD	**0.05**	**0.05**	**5**	**5**	**7**	**5**	**5**	**5**	**5**	**5**	**5**	**2**
8/23/99	<0.02	<0.005	<10	<10	<10	<20	<10	NA	NA	<10	**290**	<20
11/16/99	<0.02	<0.005	<50	<50	<50	<100	<50	NA	NA	<50	**750**	<100
5/24/00	<0.02	<0.005	<5	<5	<5	<10	**14**	NA	NA	<5	**530**	<10
8/23/00	<0.02	<0.005	<25	<25	<25	<50	<25	NA	NA	<25	**650**	<50
5/21/01	<0.02	**0.005**	<50	<50	<50	<100	<50	NA	NA	<50	**840**	<100
8/30/01	<0.02	**0.006**	<50	<50	<50	<100	<50	NA	NA	<50	**940**	<100
6/18/02	<0.02	<0.005	<25	<25	<25	<50	<25	NA	NA	<25	**600**	<50
9/18/02	<0.02	<0.005	<50	<50	<50	<100	<50	NA	NA	<50	**700**	<100
9/11/03	<0.02	<0.005	<25	<25	<25	<50	<25	**59**	<25	<25	**800**	<50
5/19/04	<0.02	<0.005	<25	<25	<25	NA	<25	**46**	<25	<25	**740**	<50
8/18/04	<0.020	**0.0027B**	<50	<50	<50	NA	<50	**44J**	<50	<50	**740**	<50
5/12/05	<0.020	**0.0084B**	<100	<100	<100	<100	<100	<100	<100	<100	**950**	<100
9/22/05	<0.020	<0.0023	<50	<50	<50	<50	<50	**26J**	<50	<50	**540**	<50
5/23/06	<0.020	**0.0048B**	<50	<50	<50	<50	<50	**48J**	<50	<50	**600**	<50
8/24/06	<0.020	**0.0138**	<100	<100	<100	<100	<100	**62J**	<100	<100	**1000**	<100
5/30/07	<0.020	**0.010 J**	<100	<100	<100	<100	<100	**48 J**	<100	<100	**1000**	<100
8/7/07	<0.02	**0.006**	<50	<50	<50	<100	<50	**66**	<50	<50	**1600**	<100
6/25/08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
8/25/08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
5/20/09	<0.02	**0.0074**	<50	<50	<50	<100	<50	**81**	<50	<50	**1300**	<100
8/12/09	<0.02	**0.0199**	<50	<50	<50	<100	<50	**66**	<50	<50	**1000**	<100
5/6/10	<0.020	<0.0047	<25	<25	<25	<50	<25	**32**	<25	<25	**510**	<50
9/1/10	<0.020	<0.0047	<10	<10	<10	<20	<10	**17**	<10	<10	**270**	<20
10/28/10	NA	NA	<25	<25	<25	<50	<25	**31**	<25	<25	**410**	<50
5/26/11	<0.02	<0.005	<25	<25	<25	<50	<25	**38**	<25	<25	**1000 E**	<50
8/31/11	<0.02	<0.0047	<25	<25	<25	<50	<25	**18 J**	<25	<25	**440**	<50
5/23/12	<0.02	**0.0076 B**	<25	<25	<25	<50	**15 J**	**69**	**13 J**	<25	**560**	<50
8/23/12	<0.02	<0.0051	<25	<25	<25	<50	**20 J**	**120**	**16 J**	<25	**850**	<50

Notes:
NA - not analyzed
NS - not sampled
J - estimated value below the detection limit
E - estimated value ouside of the calibration range
B - Contamination in associated method blank
BOLD = detection
BOLD & shaded = value exceeds the NYSDEC Standard

Table 5
Select Groundwater Analytical Results
61 Edson Street, Amsterdam, NY
NYSDEC Site #4-029-004

MW-14												
	METALS (mg/L)		VOCs (µg/L)									
	Hexavalent Chromium	Total Chromium	Carbon Tetrachloride	Chloro-benzene	Chloroform	Dichloro-difluoromethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloro-ethene	Trichloro-ethene	Vinyl Chloride
NYSDEC STANDARD	**0.05**	**0.05**	**5**	**5**	**7**	**5**	**5**	**5**	**5**	**5**	**5**	**2**
8/22/00	<0.02	**0.011**	<5	<5	<5	<10	<5	NA	NA	<5	<5	<10
5/21/01	<0.02	<0.005	<5	<5	<5	<10	<5	NA	NA	<5	<5	<10
8/30/01	<0.02	<0.005	<5	<5	<5	<10	<5	NA	NA	<5	<5	<10
6/19/02	<0.02	<0.005	<5	<5	<5	<10	<5	NA	NA	<5	<5	<10
9/17/02	<0.02	<0.005	<5	<5	<5	<10	<5	NA	NA	<5	<5	<10
9/12/03	<0.02	<0.005	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
5/18/04	NA	NA	<5	<5	<5	NA	<5	<5	<5	<5	<5	<10
8/16/04	NA	NA	<10	<10	<10	NA	<10	<10	<10	<10	<10	<10
5/12/05	NA	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
9/23/05	NA	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
5/23/06	NA	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
8/24/06	NA	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
5/30/07	NA	NA	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	**17**	<10.0
8/7/07	NA	NA	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
6/25/08	NA	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
8/25/08	NA	NA	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
5/20/09	NA	NA	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
8/11/09	NA	NA	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
5/7/10	NA	NA	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
8/30/10	NA	NA	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
5/26/11	<0.02	<0.005	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
8/31/11	<0.02	<0.0047	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
5/23/12	<0.02	<0.0051	<5	<5	<5	<10	<5	<5	<5	<5	**10**	<10
8/23/12	<0.02	<0.0051	<5	<5	<5	<10	<5	<5	<5	<5	**3.5 J**	<10

Notes:
NA - not analyzed
NS - not sampled
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E - estimated value ouside of the calibration range
BOLD = detection
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Table 5
Select Groundwater Analytical Results
61 Edson Street, Amsterdam, NY
NYSDEC Site #4-029-004

MW-15												
	METALS (mg/L)		VOCs (µg/L)									
	Hexavalent Chromium	Total Chromium	Carbon Tetrachloride	Chloro-benzene	Chloroform	Dichloro-difluoromethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloro-ethene	Trichloro-ethene	Vinyl Chloride
NYSDEC STANDARD	**0.05**	**0.05**	**5**	**5**	**7**	**5**	**5**	**5**	**5**	**5**	**5**	**2**
8/22/00	<0.02	**0.009**	<5	<5	<5	<10	<5	NA	NA	<5	<5	<10
5/21/01	<0.02	<0.005	<5	<5	<5	<10	<5	NA	NA	<5	<5	<10
8/30/01	<0.02	**0.005**	<5	<5	<5	<10	<5	NA	NA	<5	<5	<10
6/19/02	<0.02	<0.005	<5	<5	<5	<10	<5	NA	NA	<5	<5	<10
9/17/02	<0.02	<0.005	<5	<5	<5	<10	<5	NA	NA	<5	<5	<10
9/12/03	<0.02	<0.005	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
5/18/04	NA	NA	<5	<5	<5	NA	<5	<5	<5	<5	<5	<10
8/16/04	NA	NA	<10	<10	<10	NA	<10	<10	<10	<10	<10	<10
5/12/05	NA	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
9/23/05	NA	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
5/23/05	NA	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
8/25/06	NA	NA	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
5/30/07	NA	NA	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
8/7/07	NA	NA	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
6/25/08	NA	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
8/25/08	NA	NA	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
5/20/09	NA	NA	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
8/11/09	NA	NA	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
5/7/10	NA	NA	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
8/30/10	NA	NA	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
5/26/11	NA	<0.005	<5	<5	<5	<10	<5	<5	<5	<5	**11**	<10
8/31/11	<0.02	<0.0047	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
5/22/12	<0.02	<0.0051	<5	<5	<5	<10	<5	<5	<5	<5	**57**	<10
8/23/12	<0.02	<0.0051	<5	<5	<5	<10	<5	<5	<5	<5	**4.8 J**	<10

Notes:
NA - not analyzed
NS - not sampled
J - estimated value below the detection limit
E - estimated value ouside of the calibration range
BOLD = detection
BOLD & shaded = value exceeds the NYSDEC Standard

Table 5
Select Groundwater Analytical Results
61 Edson Street, Amsterdam, NY
NYSDEC Site #4-029-004

MW-16												
	METALS (mg/L)		VOCs (µg/L)									
	Hexavalent Chromium	Total Chromium	Carbon Tetrachloride	Chloro-benzene	Chloroform	Dichloro-difluoromethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloro-ethene	Trichloro-ethene	Vinyl Chloride
NYSDEC STANDARD	**0.05**	**0.05**	**5**	**5**	**7**	**5**	**5**	**5**	**5**	**5**	**5**	**2**
6/19/02	<0.02	<0.005	<5	<5	<5	<10	<5	NA	NA	<5	<5	<10
9/17/02	<0.02	<0.005	<5	<5	<5	<10	<5	NA	NA	<5	**33**	<10
9/11/03	<0.02	<0.005	<10	<10	<10	<20	<10	**26**	<10	<10	**400**	<20
5/16/04	NA	NA	<5	<5	<5	NA	<5	<5	<5	<5	**33**	<10
8/18/04	NA	NA	<10	<10	<10	NA	<10	<10	<10	<10	**43**	<10
5/12/05	NA	NA	<10	<10	<10	<10	<10	<10	<10	<10	**7J**	<10
9/23/05	NA	NA	<10	<10	<10	<10	<10	<10	<10	<10	**10**	<10
5/23/06	NA	NA	<10	<10	<10	<10	<10	<10	<10	<10	**6J**	<10
8/24/06	NA	NA	<10	<10	<10	<10	<10	<10	<10	<10	**14**	<10
5/30/07	NA	NA	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	**8 J**	<10.0
8/7/07	NA	NA	<5	<5	<5	<10	<5	<5	<5	<5	**12**	<10
6/24/08	NA	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
8/26/08	<0.02	<0.005	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
5/21/09	NA	NA	<5	<5	<5	<10	<5	<5	<5	<5	**3.3 J**	<10
8/12/09	<0.02	<0.0052	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
5/7/10	NA	NA	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
8/31/10	<0.020	<0.0047	<5	<5	<5	<10	<5	<5	<5	<5	**4.3 J**	<10
5/26/11	<0.02	<0.005	<5	<5	**4.4 J**	<10	<5	<5	<5	<5	<5	<10
8/31/11	<0.02	<0.0047	<5	<5	<5	<10	<5	**2.4 J**	<5	<5	<5	<10
5/24/12	<0.02	**0.0071 B**	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
8/23/12	<0.02	<0.0051	<5	<5	<5	<10	<5	<5	<5	<5	**1.8 J**	<10

Notes:
NA - not analyzed
NS - not sampled
J - estimated value below the detection limit
B - Contamination in associated method blank
E - estimated value ouside of the calibration range
BOLD = detection
BOLD & shaded = value exceeds the NYSDEC Standard

Table 5
Select Groundwater Analytical Results
61 Edson Street, Amsterdam, NY
NYSDEC Site #4-029-004

MW-17												
	METALS (mg/L)		VOCs (µg/L)									
	Hexavalent Chromium	Total Chromium	Carbon Tetrachloride	Chloro-benzene	Chloroform	Dichloro-difluoromethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloro-ethene	Trichloro-ethene	Vinyl Chloride
NYSDEC STANDARD	**0.05**	**0.05**	**5**	**5**	**7**	**5**	**5**	**5**	**5**	**5**	**5**	**2**
6/19/02	<0.02	<0.005	<5	<5	<5	<10	<5	NA	NA	<5	**67**	<10
9/17/02	<0.02	<0.005	<50	<50	<50	<100	<50	NA	NA	<50	**700**	<100
9/11/03	<0.02	<0.005	<5	<5	<5	<10	**9.9**	**35**	<5	<5	**1100**	<10
5/18/04	NA	NA	<5	<5	<5	NA	<5	**20**	<5	<5	**550**	<10
8/17/04	NA	NA	<50	<50	<50	NA	<50	**13J**	<50	<50	**590**	<50
5/12/05	NA	NA	<50	<50	<50	<50	<50	<50	<50	<50	**610**	<50
9/23/05	NA	NA	<50	<50	<50	<50	<50	**14J**	<50	<50	**610**	<50
5/23/06	NA	NA	<50	<50	<50	<50	<50	**26J**	<50	<50	**530**	<50
8/25/06	NA	NA	<50	<50	<50	<50	<50	<50	<50	<50	**920**	<50
5/29/07	NA	NA	<200	<200	<200	<200	<200	<200	<200	<200	**1400**	<200
8/7/07	<0.02	<.005	<100	<100	<100	<200	<100	<100	<100	<100	**2300**	<200
6/24/08	NA	NA	<50	<50	<50	<50	<50	<50	<50	<50	**530**	<50
8/26/08	<0.02	<0.005	<10	<10	<10	<20	<10	**11**	<10	<10	**320**	<20
5/21/09	NA	NA	<10	<10	<10	<20	<10	<10	<10	<10	**320**	<20
8/12/09	<0.02	<0.0052	<25	<25	<25	<50	<25	**48**	<25	<25	**600**	<50
5/7/10	NA	NA	<50	<50	<50	<100	**20 J**	**76**	<50	<50	**1900**	<100
8/31/10	<0.020	<0.0047	<50	<50	<50	<100	<50	**85**	<50	<50	**2100 E**	<100
5/26/11	<0.02	<0.005	<100	<100	<100	<200	<100	**49 J**	<100	<100	**2600**	<200
8/31/11	<0.02	<0.0047	<10	<10	<10	<20	<10	**8.5 J**	<10	<10	**280**	<20
5/24/12	<0.02	**0.0055 B**	<5	<5	<5	<10	<5	**6.2**	<5	<5	**99**	<10
8/23/12	<0.02	<0.0051	<50	<50	<50	<100	**25 J**	**65**	<50	<50	**1600**	<100

Notes:
NA - not analyzed
NS - not sampled
J - estimated value below the detection limit
E - estimated value ouside of the calibration range
B - Contamination in associated method blank
BOLD = detection
BOLD & shaded = value exceeds the NYSDEC Standard

Table 5
Select Groundwater Analytical Results
61 Edson Street, Amsterdam, NY
NYSDEC Site #4-029-004

MW-18												
	METALS (mg/L)		VOCs (µg/L)									
	Hexavalent Chromium	Total Chromium	Carbon Tetrachloride	Chloro-benzene	Chloroform	Dichloro-difluoromethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloro-ethene	Trichloro-ethene	Vinyl Chloride
NYSDEC STANDARD	**0.05**	**0.05**	**5**	**5**	**7**	**5**	**5**	**5**	**5**	**5**	**5**	**2**
6/19/02	<0.02	<0.005	<5	<5	<5	<10	<5	NA	NA	<5	<5	<10
9/17/02	<0.02	<0.005	<5	<5	<5	<10	<5	NA	NA	<5	<5	<10
9/12/03	<0.02	<0.005	<5	<5	<5	<10	<5	<5	<5	<5	**6.7**	<10
5/18/04	NA	NA	<5	<5	<5	NA	<5	<5	<5	<5	**6.7**	<10
8/17/04	NA	NA	<10	<10	<10	NA	<10	<10	<10	<10	**4J**	<10
5/12/05	NA	NA	<10	<10	<10	<10	<10	<10	<10	<10	**7J**	<10
9/23/05	NA	NA	<5	<5	<5	<10	<5	<5	<5	<5	**13**	<10
5/23/06	NA	NA	<10	<10	<10	<10	<10	<10	<10	<10	**7J**	<10
8/25/06	NA	NA	<10	<10	<10	<10	<10	<10	<10	<10	**13**	<10
5/30/07	NA	NA	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	**9 J**	<10.0
8/7/07	NA	NA	<5	<5	<5	<10	<5	<5	<5	<5	**11**	<10
6/25/08	NA	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
8/25/08	NA	NA	<5	<5	<5	<10	<5	<5	<5	<5	**11**	<10
5/20/09	NA	NA	<5	<5	<5	<10	<5	<5	<5	<5	**9.4**	<10
8/12/09	NA	NA	<5	<5	<5	<10	<5	<5	<5	<5	**8**	<10
5/7/10	NA	NA	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
9/1/10	NA	NA	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
5/26/11	<0.02	<0.005	<5	<5	<5	<10	<5	<5	<5	<5	**9.1**	<10
8/31/11	<0.02	<0.0047	<5	<5	<5	<10	<5	<5	<5	<5	**2.6 J**	<10
5/23/12	<0.02	<0.0051	<5	<5	<5	<10	<5	<5	<5	<5	**12**	<10
8/24/12	<0.02	<0.0051	<5	<5	<5	<10	<5	<5	<5	<5	**2.5 J**	<10

Notes:
NA - not analyzed
NS - not sampled
J - estimated value below the detection limit
E - estimated value ouside of the calibration range
BOLD = detection
BOLD & shaded = value exceeds the NYSDEC Standard

Table 5
Select Groundwater Analytical Results
61 Edson Street, Amsterdam, NY
NYSDEC Site #4-029-004

MW-19												
	METALS (mg/L)		VOCs (µg/L)									
	Hexavalent Chromium	Total Chromium	Carbon Tetrachloride	Chloro-benzene	Chloroform	Dichloro-difluoromethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloro-ethene	Trichloro-ethene	Vinyl Chloride
NYSDEC STANDARD	**0.05**	**0.05**	**5**	**5**	**7**	**5**	**5**	**5**	**5**	**5**	**5**	**2**
9/11/03	<0.02	<0.005	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
1/7/04	NA	NA	<5	<5	<5	NA	<5	<5	<5	<5	<5	<10
5/18/04	NA	NA	<5	<5	<5	NA	<5	<5	<5	<5	<5	<10
8/17/04	NA	NA	<10	<10	<10	NA	<10	<10	<10	<10	<10	<10
5/12/05	NA	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
9/23/05	NA	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
5/23/06	NA	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
5/23/06	NA	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
5/30/07	NA	NA	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
8/7/07	NA	NA	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
6/24/08	NA	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
8/25/08	NA	NA	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
5/20/09	NA	NA	<5	<5	<5	<10	<5	<5	<5	<5	**14**	<10
8/11/09	NA	NA	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
5/7/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
9/1/10	NA	NA	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
5/26/11	<0.02	<0.005	<5	<5	<5	<10	<5	<5	<5	<5	**12**	<10
8/31/11	<0.02	<0.0047	<5	<5	**5 J**	<10	<5	<5	<5	<5	<5	<10
5/23/12	<0.02	<0.0051	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
8/24/12	<0.02	<0.0051	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10

Notes:
NA - not analyzed
NS - not sampled
J - estimated value below the detection limit
E - estimated value ouside of the calibration range
BOLD = detection
BOLD & shaded = value exceeds the NYSDEC Standard

Table 5
Select Groundwater Analytical Results
61 Edson Street, Amsterdam, NY
NYSDEC Site #4-029-004

MW-20												
	METALS (mg/L)		VOCs (µg/L)									
	Hexavalent Chromium	Total Chromium	Carbon Tetrachloride	Chloro-benzene	Chloroform	Dichloro-difluoromethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloro-ethene	Trichloro-ethene	Vinyl Chloride
NYSDEC STANDARD	**0.05**	**0.05**	**5**	**5**	**7**	**5**	**5**	**5**	**5**	**5**	**5**	**2**
9/11/03	<0.02	<0.005	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
1/7/04	NA	NA	<5	<5	<5	NA	<5	<5	<5	<5	<5	<10
5/18/04	NA	NA	<5	<5	<5	NA	<5	<5	<5	<5	<5	<10
8/16/04	NA	NA	<10	<10	<10	NA	<10	<10	<10	<10	<10	<10
5/12/05	NA	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
9/23/05	NA	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
5/23/06	NA	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
8/25/06	NA	NA	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
5/30/07	NA	NA	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
8/7/07	NA	NA	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
6/24/08	NA	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
8/26/08	NA	NA	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
5/20/09	NA	NA	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
8/11/09	NA	NA	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
5/7/10	NA	NA	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
8/31/10	NA	NA	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
5/26/11	<0.02	<0.005	<5	<5	<5	<10	<5	<5	<5	<5	**21**	<10
8/31/11	<0.02	<0.0047	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
5/22/12	<0.02	<0.0051	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
8/24/12	<0.02	<0.0051	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10

Notes:
NA - not analyzed
NS - not sampled
J - estimated value below the detection limit
E - estimated value ouside of the calibration range
BOLD = detection
BOLD & shaded = value exceeds the NYSDEC Standard

Figures

SARATOGA HORSEWORKS
57 EDSON ST.

PARKING AREA

WARD PRODUCTS
61 EDSON ST.

BUSH MILLWORKS
54 EDSON ST.

FIBER GLASS INDUSTRIES, INC.
69 EDSON ST.

PROZONE LOCKERS
FORMERLY UCMI
1 SAM STRATTON RD.

SAFARI ENTERPRISES INC.
64 EDSON ST.

DRIVEWAY AND PARKING LOT

STORAGE BUILDING

OFFICES AND MANUFACTURING BUILDING

GRAVEL PARKING LOT

EDSON STREET

SAM STRATTON ROAD

MW-1
MW-1R
MW-2
MW-3
MW-4
MW-4R
MW-5
MW-6
MW-7
MW-8
MW-9
MW-10
MW-11
MW-12
MW-13
MW-14
MW-15
MW-16
MW-17
MW-18
MW-19
MW-20
IW-02
IW-03
IW-04
RW-01
RW-02

LEGEND

- SURFACE DITCH
- CHAINLINK FENCE
- MONITORING WELL LOCATION
- RECOVERY WELL
- ISCO INJECTION WELL

N

50 0 100

1"=100'

AECOM

WARD PRODUCTS SITE AMSTERDAM, NEW YORK 60268763-1			**SITE PLAN**
DATE: 12/11/12	DRWN: BcV/C-MA		**FIGURE 1**

SARATOGA HORSEWORKS
57 EDSON ST.

PARKING AREA

WARD PRODUCTS
61 EDSON ST.

BUSH MILLWORKS
54 EDSON ST.

FIBER GLASS INDUSTRIES, INC.
69 EDSON ST.

SAFARI ENTERPRISES INC.
64 EDSON ST.

PROZONE LOCKERS FORMERLY UCM
1 SAM STRATTON RD.

EDSON STREET

SAM STRATTON ROAD

GRAVEL PARKING LOT

DRIVEWAY AND PARKING LOT

STORAGE BUILDING

OFFICES AND MANUFACTURING BUILDING

MW-1
MW-1R
468.17
MW-2
MW-3
MW-4
MW-4R
454.87
MW-5
458.90
MW-6
455.47
MW-7
455.39
MW-8
456.19
MW-9
453.52
MW-10
453.67
MW-11
469.05
MW-12
451.81
MW-13
452.40
MW-14
446.86
MW-15
440.38
MW-16
433.50
MW-17
447.82
MW-18
446.09
MW-19
414.59
MW-20
422.49
IW-02
IW-03
IW-04
RW-01
415.95
RW-02

LEGEND

- SURFACE DITCH
- CHAINLINK FENCE
- MONITORING WELL LOCATION
- RECOVERY WELL
- ISCO INJECTION WELL
- 448 — 2' GROUNDWATER CONTOUR (ft. MSL) (DASHED WHERE INFERRED)
- 450 — 10' GROUNDWATER CONTOUR (ft. MSL) (DASHED WHERE INFERRED)
- 468.49 — GROUNDWATER ELEVATION (ft. MSL)
- GROUNDWATER FLOW DIRECTION

N

50 0 100

1"=100'

NOTES:
1. MW-1, MW-2, MW-3 AND MW-4 ARE OVERBURDEN WELLS AND ARE NOT USED TO CONTOUR.

AECOM

WARD PRODUCTS SITE AMSTERDAM, NEW YORK 60268763-1			**BEDROCK GROUNDWATER ELEVATIONS MAY 22, 2012**
DATE: 12/11/12	DRWN: BcV/C-MA		**FIGURE 2**

SARATOGA HORSEWORKS
57 EDSON ST.

PARKING AREA

WARD PRODUCTS
61 EDSON ST.

BUSH MILLWORKS
54 EDSON ST.

FIBER GLASS INDUSTRIES, INC.
69 EDSON ST.

SAFARI ENTERPRISES INC.
64 EDSON ST.

PROZONE LOCKERS
FORMERLY UCMI
1 SAM STRATTON RD.

EDSON STREET

SAM STRATTON ROAD

GRAVEL PARKING LOT

DRIVEWAY AND PARKING LOT

STORAGE BUILDING

OFFICES AND MANUFACTURING BUILDING

MW-1
MW-1R 464.30
MW-2
MW-3
MW-4
MW-4R 451.29
MW-5 457.98
MW-6 451.29
MW-7 451.73
MW-8 451.97
MW-9 449.01
MW-10 449.23
MW-11 466.19
MW-12 447.45
MW-13 447.88
MW-14 442.17
MW-15 434.05
MW-16 427.94
MW-17 442.55
MW-18 441.05
MW-19 409.80
MW-20 417.53
IW-01
IW-02
IW-03
IW-04
RW-01 454.62

LEGEND

- SURFACE DITCH
- CHAINLINK FENCE
- MONITORING WELL LOCATION
- RECOVERY WELL
- ISCO INJECTION WELL
- 448 — 2' GROUNDWATER CONTOUR (ft. MSL) (DASHED WHERE INFERRED)
- 448 — 10' GROUNDWATER CONTOUR (ft. MSL) (DASHED WHERE INFERRED)
- 468.49 — GROUNDWATER ELEVATION (ft. MSL)
- GROUNDWATER FLOW DIRECTION

N

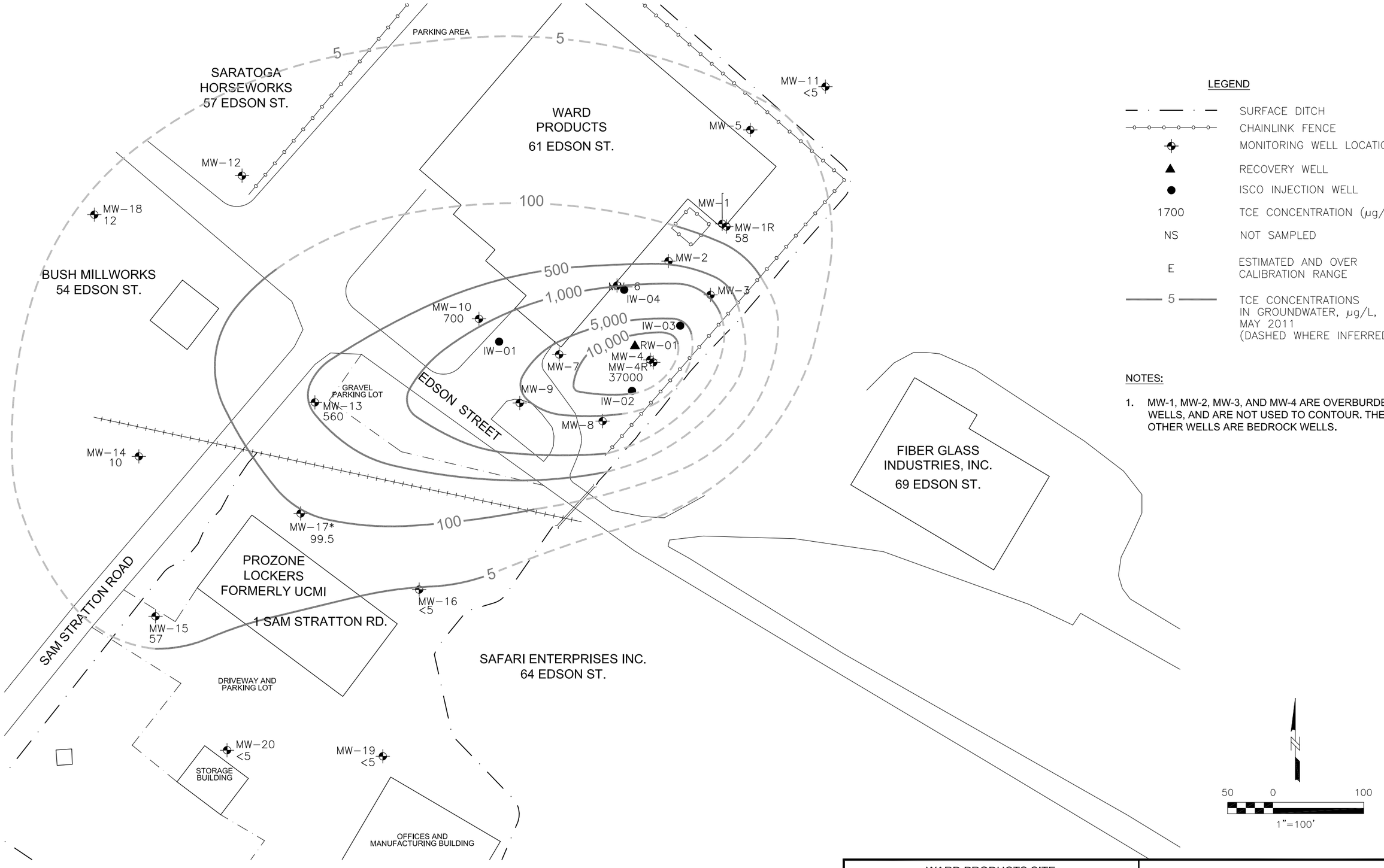
50 0 100

1"=100'

NOTES:
1. MW-1, MW-2, MW-3 AND MW-4 ARE OVERBURDEN WELLS AND ARE NOT USED TO CONTOUR.

AECOM

WARD PRODUCTS SITE AMSTERDAM, NEW YORK 60268763-1			**BEDROCK GROUNDWATER ELEVATIONS AUGUST 22, 2012**
DATE: 12/11/12	DRWN: BcV/C-MA		**FIGURE 3**



LEGEND

- SURFACE DITCH
- CHAINLINK FENCE
- MONITORING WELL LOCATION
- RECOVERY WELL
- ISCO INJECTION WELL
- 1700 — TCE CONCENTRATION (µg/L)
- NS — NOT SAMPLED
- E — ESTIMATED AND OVER CALIBRATION RANGE
- 5 — TCE CONCENTRATIONS IN GROUNDWATER, µg/L, MAY 2011 (DASHED WHERE INFERRED)

NOTES:

1. MW-1, MW-2, MW-3, AND MW-4 ARE OVERBURDEN WELLS, AND ARE NOT USED TO CONTOUR. THE OTHER WELLS ARE BEDROCK WELLS.

AECOM

WARD PRODUCTS SITE AMSTERDAM, NEW YORK 60268763-1			**BEDROCK TCE CONCENTRATIONS (ug/L) MAY 22-24, 2012**
DATE: 12/11/12	DRWN: BcV/C-MA		**FIGURE 4**

File: J:\Rem_Eng\Project Files\New Water Realty\12518-Ward Products\CADD\AMSTERDAM_TCE_CONTOURS_2012.dwg Layout: TCE Cont 5-12 User: vershonb Plotted: Dec 11, 2012 - 9:32am Xref's:

PARKING AREA

SARATOGA HORSEWORKS
57 EDSON ST.

WARD PRODUCTS
61 EDSON ST.

BUSH MILLWORKS
54 EDSON ST.

FIBER GLASS INDUSTRIES, INC.
69 EDSON ST.

PROZONE LOCKERS
FORMERLY UCMI
1 SAM STRATTON RD.

SAFARI ENTERPRISES INC.
64 EDSON ST.

SAM STRATTON ROAD

EDSON STREET

GRAVEL PARKING LOT

DRIVEWAY AND PARKING LOT

STORAGE BUILDING

OFFICES AND MANUFACTURING BUILDING

MW-1 130
MW-1R 130
MW-2
MW-3
MW-4 41000
MW-4R 41000
MW-5
MW-6
MW-7
MW-8
MW-9
MW-10 980
MW-11 <5
MW-12
MW-13 850
MW-14 3.5 J
MW-15* 3.8 J
MW-16 1.8 J
MW-17 1600
MW-18 2.5 J
MW-19 <5
MW-20 <5
IW-01
IW-02
IW-03
IW-04
RW-01

5
100
500
1,000
5,000
10,000

LEGEND

- SURFACE DITCH
- CHAINLINK FENCE
- MONITORING WELL LOCATION
- RECOVERY WELL
- ISCO INJECTION WELL
- 1700 — TCE CONCENTRATION (µg/L)
- NS — NOT SAMPLED
- J — ESTIMATED CONCENTRATION
- 5 — TCE CONCENTRATIONS IN GROUNDWATER, µg/L, AUGUST 2011 (DASHED WHERE INFERRED)

NOTES:

1. MW-1, MW-2, MW-3, AND MW-4 ARE OVERBURDEN WELLS, AND ARE NOT USED TO CONTOUR. THE OTHER WELLS ARE BEDROCK WELLS.

N

50 0 100

1"=100'

AECOM

WARD PRODUCTS SITE AMSTERDAM, NEW YORK 60268763-1			**BEDROCK TCE CONCENTRATIONS (ug/L) AUGUST 22-24, 2012**
DATE: 12/11/12	DRWN: BcV/C-MA		**FIGURE 5**

Appendix A

May 2012 Field Notes

Steinhofer, Timothy

To: Steinhofer, Timothy

From: Atkins, Jennifer
Sent: Monday, May 21, 2012 9:00 AM
To: Howard, Mark
Subject: RE: FEI Order Delivery Confirmation

Sorry about that. Here's the scope and a map:

We should have a charge number by the end of the week.

Health and safety –Please review the HASP and AECOM policies on biological hazards since we're into tic season and make sure you have the appropriate health and safety gear, plenty of water, and take frequent breaks.

Groundwater Sampling

Wells to sample and gauge:

Well	Water Levels	Sampling (VOCs, Total Chromium, Hexavalent Chromium)
MW-1	X 2.39	
MW-1R	X 3.29	~~X~~
MW-2	X 3.14	
MW-3	X 4.29	
MW-4	X 5.05	~~X~~
MW-4R	X 15.42	~~X~~
MW-5	X 16.72	
MW-6	X 15.50	
MW-7	X 13.75	
MW-8	X 14.19	
MW-9	X 11.91	
MW-10	X 13.10	~~X~~
MW-11	X 16.32	X
MW-12	X 10.37	
MW-13	X 9.72	X
MW-14	X 16.80	~~X~~
MW-15	X 4.82	~~X~~
MW-16	X 16.00	X
MW-17	X 3.02	X
MW-18	X 17.67	X
MW-19	X 27.05	~~X~~
MW-20	X 19.89	~~X~~
RW-01	X 56.13	
Total	23	13

Parameters for all wells:

- VOCs (8260)
- total chromium (6010)
- hex chromium (SM 3500 CR D)

QC samples:

- 1 dup
- 1 ms/msd
- 1 TB for each cooler containing VOC samples

Adirondack Environmental Services Inc.
Experience is the solution

314 North Pearl Street
Albany, New York 12207
518-434-4546/434-0891 FAX

CHAIN OF CUSTODY RECORD

AES Work Order #

A full service analytical research laboratory offering solutions to environmental concerns

Client Name: AECOM	Address: 250 Apollo Drive Chelmsford MA 01824		
Send Report To: Jennifer Atkins	Project Name (Location): Former Ward Products	Samplers: (Names) Mark Howard + Tim Steinhofer	
Client Phone No: 978 905 2100	Client Email: jennifer.atkins@aecom.com	PO Number:	Samplers: (Signature) Mark Howard

AES Sample Number	Client Sample Identification & Location	Date Sampled	Time A=a.m. P=p.m.	A/P	Sample Type Matrix	Comp	Grab	Number of Cont's	VOCs 8260	Total Chromium 6010	Hex Chromium SM 3500 CRD
				A/P							
				A/P							
				A/P							
				A/P							
	MW-4 052212	5/22/12	1045	A	GW		X	4	X	X	X
	MW-4R 052212	5/22/12	1155	A	GW		X	4	X	X	X
	MW-15 052212	5/22/12	1430	P	GW		X	4	X	X	X
	MW-20 052212	5/22/12	1500	P	GW		X	4	X	X	X
	Trip Blank 052212	—	—		TB	—	—	2	X		
				A/P							
				A/P							
				A/P							
				A/P							
				A/P							

Shipment Arrived Via: FedEx UPS (Client) AES Other:_____

CC Report To / Special Instructions/Remarks: Category B Delivery

Turnaround Time Request:
☐ 1 Day ☐ 3 Day ☒ Normal
☐ 2 Day ☐ 5 Day

Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Mark Howard		5/22/12
Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Relinquished by: (Signature)	Received for Laboratory by: [signature]	Date/Time 5-22-12 1:37PM

TEMPERATURE	AES Bottles	PROPERLY PRESERVED	RECEIVED WITHIN HOLDING TIMES
Ambient or Chilled ✓	Y ☐ N ☐	✓Y N	✓Y N
Notes:		Notes:	Notes:

WHITE - Lab Copy YELLOW - Sampler Copy PINK - Generator Copy

Adirondack Environmental Services, Inc.

Adirondack Environmental Services Inc.
314 North Pearl Street
Albany, New York 12207
518-434-4546/434-0891 FAX

CHAIN OF CUSTODY RECORD

AES Work Order #

Experience is the solution

A full service analytical research laboratory offering solutions to environmental concerns

Client Name:	Address:		
AECOM	250 Apollo Drive, Chelmsford, MA 01824		
Send Report To:	**Project Name (Location)**	**Samplers: (Names)**	
Jennifer Atkins	Former Wood Products	Mark Howard & Dave Gray	
Client Phone No:	**Client Email:**	**PO Number:**	**Samplers: (Signature)**
(978) 905 2100	jennifer.atkins@aecom.com		Mark Howard

AES Sample Number	Client Sample Identification & Location	Date Sampled	Time A=a.m. P=p.m.	Sample Type: Matrix	Comp	Grab	Number of Cont's	Analysis Required: VOCs 8260	Total Chromium 6010	Hex Chromium 3500 CrD
			A / P							
			A / P							
			A / P							
			A / P							
	MW-10 052312	5/23/12	945 A / P	GW		X	4	X	X	X
	MW-1R 052312	5/23/12	1005 A / P	GW		X	4	X	X	X
	MW-14 052312	5/23/12	1205 A / P	GW		X	4	X	X	X
	MW-19 052312	5/23/12	1245 A / P	GW		X	4	X	X	X
	MW-13 052312	5/23/12	1455 A / P	GW		X	4	X	X	X
	MW-17 052312	5/23/12	1550 A / P	GW		X	4	X	X	X
	Trip Blank 052312	—	— A / P	TB		-	2	X		
			A / P							
			A / P							
			A / P							

Shipment Arrived Via:
FedEx UPS (Client) AES Other: _____

Turnaround Time Request:
☐ 1 Day ☐ 3 Day ☒ Normal
☐ 2 Day ☐ 5 Day

CC Report To / Special Instructions/Remarks:
Category B Deliverables

Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Mark Howard		5/23/12
Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Relinquished by: (Signature)	Received for Laboratory by:	Date/Time

Temperature	AES Bottles	Properly Preserved	Received Within Holding Times
Ambient or Chilled	Y ☐ N ☐	Y N	Y N
Notes:		Notes:	Notes:

WHITE - Lab Copy YELLOW - Sampler Copy PINK - Generator Copy

Adirondack Environmental Services Inc.®
Experience is the solution

314 North Pearl Street
Albany, New York 12207
518-434-4546/434-0891 FAX

CHAIN OF CUSTODY RECORD

AES Work Order #

A full service analytical research laboratory offering solutions to environmental concerns

Client Name:	Address:		
AECOM	250 Apollo Drive, Chelmsford MA 01824		
Send Report To:	Project Name (Location)	Samplers: (Names)	
Jennifer Atkins	Former Wood Products	Mark Howard	
Client Phone No:	Client Fax No: Email	PO Number:	Samplers: (Signature)
(978) 905 2100	jennifer.atkins@aecom.com		Mark Howard

AES Sample Number	Client Sample Identification & Location	Date Sampled	Time A=a.m. P=p.m.	Sample Type: Matrix	Comp	Grab	Number of Cont's	Analysis Required: VOCs 8260	Hex Chrom	Total Chrom
	MW-17 052412	5/24/12	1100 A	GW		X	4	X	X	X
	MW-16 052412	5/24/12	1230 P	GW		X	10	X	X	X
	MW-11 052412	5/24/12	PM P	GW		X	4	X	X	X
	Trip Blank 052412	—	A P	TB				X		
	Dup 052412	5/24/12	— A P	GW		X	4	X	X	X
			A P							
			A P							
			A P							
			A P							
			A P					Included Extra		
			A P					Volume of MW-16		
			A P					For MS/MSD		
			A P							
			A P							
			A P							

Shipment Arrived Via:
FedEx UPS Client AES Other:_____

Turnaround Time Request:
☐ 1 Day ☐ 3 Day ☒ Normal
☐ 2 Day ☐ 5 Day

CC Report To / Special Instructions/Remarks:
Category B Deliverables
EDD formats PDF + Excel

Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Mark Howard		5/24/12
Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Relinquished by: (Signature)	Received for Laboratory by:	Date/Time

Temperature	Properly Preserved	Received Within Holding Times
Ambient or Chilled	Y N	Y N
Notes:	Notes:	Notes:

WHITE - Lab Copy YELLOW - Sampler Copy PINK - Generator Copy

Monitoring Well Purging/Sampling Form

Project Name and Number: Former Ward Products

Monitoring Well Number: 1R Date: 5-23

Samplers: Mark Howard and ~~Tim Steinhofer~~ Steve Gray

Sample Number: _____ QA/QC Collected? _____

Purging / Sampling Method: Tempest Pump with Dedicated Tubing/Low-Flow

1. L = Total Well Depth:	_____	feet
2. D = Riser Diameter (I.D.):	_____	feet
3. W = Static Depth to Water (TOC):	03.29	feet
4. C = Column of Water in Casing:	_____	feet
5. V = Volume of Water in Well = C(3.14159)(0.5D)^2(7.48)	_____	gal
6. D2 = Pump Setting Depth (ft):	_____	feet
7. C2 = Column of water in Pump/Tubing (ft):	_____	feet
8. Tubing Volume = C2(0.005737088)	_____	gal

D (inches)	D (feet)
1-inch	0.08
2-inch	0.17
3-inch	0.25
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

Water Quality Readings Collected Using YSI-556 and Hanna

Parameter	Units	Readings						
Time	24 hr	9:15	9:20	9:25	9:30	9:35	9:40	9:45
Water Level (0.33)**	feet	4.84	5.33	5.39	5.45	5.50	5.50	5.50
Volume Purged	gal	1/4,25	.40	.50	.65	.75	.85	.95
Flow Rate	mL / min	150	100	100	100	100	100	100
Turbidity (+/- 10%)*	NTU	570	63.1	57.0	46.6	40.6	43.3	39.5
Dissolved Oxygen (+/- 10%)*	%	39.0	39.2	39.0	37.8	37.9	38.0	34.1
Dissolved Oxygen (+/- 10%)*	mg/L	4.05	4.03	4.00	3.84	3.84	3.84	3.48
Eh / ORP (+/- 10)*	MeV	-34.4	-34.2	-34.8	-33.6	-33.0	32.4	-31.8
Specific Conductivity (+/- 3%)*	mS/cm°	.518	.520	.520	.517	.518	.517	.517
Conductivity (+/- 3%)*	mS/cm	.405	.411	.412	.414	.416	.420	.421
pH (+/- 0.1)*	pH unit	7.91	7.86	7.86	7.87	7.86	7.86	7.84
Temp (+/- 0.5)*	C	13.59	14.07	14.22	14.65	14.70	15.14	15.27
Color	Visual	Cloudy	—	Clearing	Clear	Clear	Clear	Clear
Odor	Olfactory	No smell	—	No smell	No Smell	No smell	No smell	No smell

Comments: started purge @ 9:15

* Three consecutive readings within range indicates stabilization of that parameter.
**All readings within range indicates stabilization.

Monitoring Well Purging/Sampling Form

Project Name and Number: Former Ward Products

Monitoring Well Number: _____ Date: 5-23

Samplers: Mark Howard and Tim Steinhofer

Sample Number: 1R QA/QC Collected? _____

Purging / Sampling Method: Tempest Pump with Dedicated Tubing/Low-Flow

1. L = Total Well Depth:	_____	feet
2. D = Riser Diameter (I.D.):	_____	feet
3. W = Static Depth to Water (TOC):	_____	feet
4. C = Column of Water in Casing:	_____	feet
5. V = Volume of Water in Well = $C(3.14159)(0.5D)^2(7.48)$	_____	gal
6. D2 = Pump Setting Depth (ft):	_____	feet
7. C2 = Column of water in Pump/Tubing (ft):	_____	feet
8. Tubing Volume = C2(0.005737088)	_____	gal

D (inches)	D (feet)
1-inch	0.08
2-inch	0.17
3-inch	0.25
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

Water Quality Readings Collected Using YSI-556 and Hanna

Parameter	Units	Readings						
Time	24 hr	9:50	9:55	10:00	10:05			
Water Level (0.33)**	feet	5.50	5.52	5.52	5.52			
Volume Purged	gal	1.0	1.15	1.25	1.35			
Flow Rate	mL / min	100	100	100	100			
Turbidity (+/- 10%)*	NTU	35.9	32.2	31.0	31.5			
Dissolved Oxygen (+/- 10%)*	%	35.5	33.1	33.0	32.9			
Dissolved Oxygen (+/- 10%)*	mg/L	3.55	3.32	3.32	3.31			
Eh / ORP (+/- 10)*	MeV	-31.6	-31.6	-31.2	-31.1			
Specific Conductivity (+/- 3%)*	mS/cm[c]	.520	.520	.520	.519			
Conductivity (+/- 3%)*	mS/cm	.421	.422	.422	.422			
pH (+/- 0.1)*	pH unit	7.89	7.88	7.88	7.87			
Temp (+/- 0.5)*	C	14.94	15.15	15.16	15.17			
Color	Visual	Clear	Clear	Clear	Clear			
Odor	Olfactory	No smell	No smell		No smell			

Comments: Sampled @ 10:05

* Three consecutive readings within range indicates stabilization of that parameter.
**All readings within range indicates stabilization.

Monitoring Well Purging/Sampling Form

Project Name and Number: Former Ward Products

Monitoring Well Number: MW-4 Date: 5/22/12

Samplers: Mark Howard and Tim Steinhofer

Sample Number: MW-4 052212 QA/QC Collected? No

Purging / Sampling Method: Tempest Pump with Dedicated Tubing/Low-Flow

1. L = Total Well Depth:		feet
2. D = Riser Diameter (I.D.):	0.17	feet
3. W = Static Depth to Water (TOC):		feet
4. C = Column of Water in Casing:		feet
5. V = Volume of Water in Well = C(3.14159)(0.5D)^2(7.48)		gal
6. D2 = Pump Setting Depth (ft):		feet
7. C2 = Column of water in Pump/Tubing (ft):		feet
8. Tubing Volume = C2(0.005737088)		gal

D (inches)	D (feet)
1-inch	0.08
2-inch	0.17
3-inch	0.25
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

Water Quality Readings Collected Using YSI-556 and Hanna

Parameter	Units	Readings						
Time	24 hr	1055	1100	1105	1110	1115	1120	1125
Water Level (0.33)**	feet	5.94	6.54	7.19	7.34	7.63	7.92	8.00
Volume Purged	gal	0	0.25	0.50	0.75	1.00	1.25	1.50
Flow Rate	mL / min	100	100	100	100	100	100	100
Turbidity (+/- 10%)*	NTU	257	71.0	44.4	28.7	33.2	25.0	19.6
Dissolved Oxygen (+/- 10%)*	%	106.2	77.3	72.8	65.3	64.8	63.5	62.7
Dissolved Oxygen (+/- 10%)*	mg/L	12.38	9.09	8.45	7.43	7.41	7.27	7.10
Eh / ORP (+/- 10)*	MeV	74.4	121.8	108.4	77.3	86.2	86.9	82.9
Specific Conductivity (+/- 3%)*	mS/cm	0.449	0.432	0.426	0.413	0.410	0.411	0.412
Conductivity (+/- 3%)*	mS/cm	0.307	0.299	0.293	0.293	0.288	0.289	0.293
pH (+/- 0.1)*	pH unit	5.44	5.30	5.65	6.55	6.57	6.67	6.83
Temp (+/- 0.5)*	C	8.44	8.85	8.76	9.68	9.38	9.49	9.84
Color	Visual	Cloudy	Cloudy	~~Cloudy~~	Clear	Clear	Clear	Clear
Odor	Olfactory	None	None	None	None	None	None	None

Comments:

* Three consecutive readings within range indicates stabilization of that parameter.
**All readings within range indicates stabilization.

Monitoring Well Purging/Sampling Form

Project Name and Number: Former Ward Products

Monitoring Well Number: MW-4 Date: 5/22/12

Samplers: Mark Howard and Tim Steinhofer

Sample Number: MW-4 052212 QA/QC Collected? No

Purging / Sampling Method: Tempest Pump with Dedicated Tubing/Low-Flow

1. L = Total Well Depth:		feet
2. D = Riser Diameter (I.D.):	0.17	feet
3. W = Static Depth to Water (TOC):		feet
4. C = Column of Water in Casing:		feet
5. V = Volume of Water in Well = C(3.14159)(0.5D)^2(7.48)		gal
6. D2 = Pump Setting Depth (ft):		feet
7. C2 = Column of water in Pump/Tubing (ft):		feet
8. Tubing Volume = C2(0.005737088)		gal

D (inches)	D (feet)
1-inch	0.08
2-inch	0.17
3-inch	0.25
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

Water Quality Readings Collected Using YSI-556 and Hanna

Parameter	Units	Readings						
Time	24 hr	1130	1135	1140	1145			
Water Level (0.33)**	feet	8.25	8.33	8.33	8.32			
Volume Purged	gal	1.75	1.75	1.75	1.75			
Flow Rate	mL / min	100	100	100	100			
Turbidity (+/- 10%)*	NTU	15.5	10.9	9.44	9.14			
Dissolved Oxygen (+/- 10%)*	%	63.6	62.2	60.8	61.4			
Dissolved Oxygen (+/- 10%)*	mg/L	7.25	7.08	6.86	6.91			
Eh / ORP (+/- 10)*	MeV	85.3	88.0	84.4	81.2			
Specific Conductivity (+/- 3%)*	mS/cm	0.418	0.417	0.418	0.419			
Conductivity (+/- 3%)*	mS/cm	0.294	0.295	0.298	0.303			
pH (+/- 0.1)*	pH unit	6.89	6.88	6.96	7.01			
Temp (+/- 0.5)*	C	9.46	9.72	10.01	10.48			
Color	Visual	Clear	Clear	Clear	Clear			
Odor	Olfactory	None	None	None	None			

Comments: Sampled @ 1145

* Three consecutive readings within range indicates stabilization of that parameter.
**All readings within range indicates stabilization.

Monitoring Well Purging/Sampling Form

Project Name and Number: Former Ward Products

Monitoring Well Number: MW 4R Date: 5/22/10

Samplers: Mark Howard and Tim Steinhofer

Sample Number: MW-4R 052210 QA/QC Collected? NO

Purging / Sampling Method: Tempest Pump with Dedicated Tubing/Low-Flow

1. L = Total Well Depth:	_____	feet
2. D = Riser Diameter (I.D.):	_____	feet
3. W = Static Depth to Water (TOC):	_____	feet
4. C = Column of Water in Casing:	_____	feet
5. V = Volume of Water in Well = C(3.14159)(0.5D)^2(7.48)	_____	gal
6. D2 = Pump Setting Depth (ft):	_____	feet
7. C2 = Column of water in Pump/Tubing (ft):	_____	feet
8. Tubing Volume = C2(0.005737088)	_____	gal

D (inches)	D (feet)
1-inch	0.08
2-inch	0.17
3-inch	0.25
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

Water Quality Readings Collected Using YSI-556 and Hanna

Parameter	Units	1105			Readings			
Time	24 hr	~~1100~~	1105	1110	1115	1120	1125	1130
Water Level (0.33)**	feet	~~15.80~~	15.80	16.30	16.01	16.4	16.50	16.46
Volume Purged	gal	0	0	<2.25	<2.25	<2.5	>2.5	~2.5
Flow Rate	mL / min	150	150	100	<100	100	>100	>100
Turbidity (+/- 10%)*	NTU	20.3	20.3	28.2	20.8	22.1	13.6	16.0
Dissolved Oxygen (+/- 10%)*	%	~~198.6~~	20.3	12.9	9.1	5.7	4.9	11.2
Dissolved Oxygen (+/- 10%)*	mg/L	~~6.46~~	2.20	1.39	.94	.63	.54	1.21
Eh / ORP (+/- 10)*	MeV	~~35.8~~	-36.0	-35.7	-34.3	-33.0	-32.2	-31.3
Specific Conductivity (+/- 3%)*	mS/cm[c]	~~2.13~~	.924	.986	1.041	1.149	1.210	1.250
Conductivity (+/- 3%)*	mS/cm	~~0.836~~	.690	.737	.776	.851	.896	.933
pH (+/- 0.1)*	pH unit	~~7.86~~	7.71	7.67	7.67	8.9	7.64	7.663
Temp (+/- 0.5)*	C		11.60	11.87	11.58	11.43	11.40	11.72
Color	Visual		Clear	"	"	"	"	"
Odor	Olfactory		None	"	"	"	"	"

Comments:

* Three consecutive readings within range indicates stabilization of that parameter.
**All readings within range indicates stabilization.

Monitoring Well Purging/Sampling Form

Project Name and Number: Former Ward Products

Monitoring Well Number: MW-4R Date: _____

Samplers: Mark Howard and Tim Steinhofer

Sample Number: _____ QA/QC Collected? _____

Purging / Sampling Method: Tempest Pump with Dedicated Tubing/Low-Flow

1. L = Total Well Depth:	_____	feet
2. D = Riser Diameter (I.D.):	_____	feet
3. W = Static Depth to Water (TOC):	_____	feet
4. C = Column of Water in Casing:	_____	feet
5. V = Volume of Water in Well = $C(3.14159)(0.5D)^2(7.48)$	_____	gal
6. D2 = Pump Setting Depth (ft):	_____	feet
7. C2 = Column of water in Pump/Tubing (ft):	_____	feet
8. Tubing Volume = C2(0.005737088)	_____	gal

D (inches)	D (feet)
1-inch	0.08
2-inch	0.17
3-inch	0.25
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

Water Quality Readings Collected Using YSI-556 and Hanna

Parameter	Units	Readings						
Time	24 hr	1135	1140	1145	1150	1155		
Water Level (0.33)**	feet	16.46	16.15	16.09	16.14	16.25		
Volume Purged	gal	<1	1	71	71.25	71.25		
Flow Rate	mL / min	>100	100	100	<100	100		
Turbidity (+/- 10%)*	NTU	14.3	14.0	14.0	7.53	5.74		
Dissolved Oxygen (+/- 10%)*	%	12.5	6.2	6.0	5.7	5.5		
Dissolved Oxygen (+/- 10%)*	mg/L	1.27	0.67	.63	.61	.60		
Eh / ORP (+/- 10)*	MeV	-31.2	-30.7	-30.6	-30.2	-29.9		
Specific Conductivity (+/- 3%)*	mS/cm[c]	1.267	1.306	1.342	1.389	1.430		
Conductivity (+/- 3%)*	mS/cm	0.938	0.971	.999	1.024	1.057		
pH (+/- 0.1)*	pH unit	7.68	7.66	7.66	7.68	~~7.69~~ 7.67		
Temp (+/- 0.5)*	C	11.57	11.52	11.59	11.45	11.34		
Color	Visual	clear	"	"	"			
Odor	Olfactory	None	"	"	"			

Comments: Sampled at 1155

* Three consecutive readings within range indicates stabilization of that parameter.
**All readings within range indicates stabilization.

Monitoring Well Purging/Sampling Form

Project Name and Number: Former Ward Products

Monitoring Well Number: MW-10 Date: 5/23/12

Samplers: Mark Howard and Tim Steinhofer

Sample Number: MW-10 052312 QA/QC Collected? No

Purging / Sampling Method: Tempest Pump with Dedicated Tubing/Low-Flow

1. L = Total Well Depth:		feet
2. D = Riser Diameter (I.D.):	0.17	feet
3. W = Static Depth to Water (TOC):		feet
4. C = Column of Water in Casing:		feet
5. V = Volume of Water in Well = C(3.14159)(0.5D)^2(7.48)		gal
6. D2 = Pump Setting Depth (ft):		feet
7. C2 = Column of water in Pump/Tubing (ft):		feet
8. Tubing Volume = C2(0.005737088)		gal

D (inches)	D (feet)
1-inch	0.08
2-inch	0.17
3-inch	0.25
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

Water Quality Readings Collected Using YSI-556 and Hanna

Parameter	Units	Readings					935	940
Time	24 hr	910	915	920	925	930	~~940~~	~~945~~
Water Level (0.33)**	feet	13.44	13.28	13.33	13.33	13.33	13.38	13.38
Volume Purged	gal	0	20.25	0.25	0.25	0.50	0.75	1.00
Flow Rate	mL / min	100	100	100	100	100	100	100
Turbidity (+/- 10%)*	NTU	Error6						
Dissolved Oxygen (+/- 10%)*	%	—	—	115.7	71.3	53.6	43.4	37.6
Dissolved Oxygen (+/- 10%)*	mg/L	—	—	12.35	7.76	5.82	4.74	4.09
Eh / ORP (+/- 10)*	MeV	117.9	154.4	128.7	134.7	114.5	111.4	106.6
Specific Conductivity (+/- 3%)*	mS/cm^c	0.552	0.580	0.666	0.759	0.771	0.766	0.768
Conductivity (+/- 3%)*	mS/cm	0.408	0.434	0.507	0.560	0.572	0.580	0.588
pH (+/- 0.1)*	pH unit	7.06	6.64	6.57	6.35	6.61	6.63	6.70
Temp (+/- 0.5)*	C	11.35	11.80	12.14	11.25	11.47	11.23	11.34
Color	Visual	Brcloudy	Slcl	Clear	Clear	Clear	Clear	Clear
Odor	Olfactory	None	None	None	None	None	None	None

Comments:

* Three consecutive readings within range indicates stabilization of that parameter.
**All readings within range indicates stabilization.

Monitoring Well Purging/Sampling Form

Project Name and Number: Former Ward Products

Monitoring Well Number: MW-10 Date: 5/23/12

Samplers: Mark Howard and Tim Steinhofer

Sample Number: MW-10 052312 QA/QC Collected? No

Purging / Sampling Method: Tempest Pump with Dedicated Tubing/Low-Flow

1. L = Total Well Depth:		feet
2. D = Riser Diameter (I.D.):	0.17	feet
3. W = Static Depth to Water (TOC):		feet
4. C = Column of Water in Casing:		feet
5. V = Volume of Water in Well = C(3.14159)(0.5D)^2(7.48)		gal
6. D2 = Pump Setting Depth (ft):		feet
7. C2 = Column of water in Pump/Tubing (ft):		feet
8. Tubing Volume = C2(0.005737088)		gal

D (inches)	D (feet)
1-inch	0.08
2-inch	0.17
3-inch	0.25
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

Water Quality Readings Collected Using YSI-556 and Hanna

Parameter	Units	Readings						
Time	24 hr	945	950	955				
Water Level (0.33)**	feet	13.38	13.38	13.38				
Volume Purged	gal	1.25	1.50	1.50				
Flow Rate	mL / min	100	100	100				
Turbidity (+/- 10%)*	NTU	Error						
Dissolved Oxygen (+/- 10%)*	%	31.5	28.5	25.0				
Dissolved Oxygen (+/- 10%)*	mg/L	3.45	3.10	2.77				
Eh / ORP (+/- 10)*	MeV	105.2	102.3	100.2				
Specific Conductivity (+/- 3%)*	mS/cm[c]	0.796	0.795	0.797				
Conductivity (+/- 3%)*	mS/cm	0.586	0.589	0.593				
pH (+/- 0.1)*	pH unit	6.76	6.83	6.87				
Temp (+/- 0.5)*	C	11.18	11.41	11.58				
Color	Visual	Clear	Clear	Clear				
Odor	Olfactory	None	None	None				

Comments: Sampled @ 955

* Three consecutive readings within range indicates stabilization of that parameter.
**All readings within range indicates stabilization.

Monitoring Well Purging/Sampling Form

Project Name and Number: Midtown 60241403.02

Monitoring Well Number: MW-11 Date: 5/24/12

Samplers: Mark Howard

Sample Number: MW-11 052412 ~~MW-3 050212~~ QA/QC Collected? No

Purging / Sampling Method: Peristaltic Pump with Dedicated Tubing/Low-Flow

1. L = Total Well Depth:		feet
2. D = Riser Diameter (I.D.):	0.17	feet
3. W = Static Depth to Water (TOC):		feet
4. C = Column of Water in Casing:		feet
5. V = Volume of Water in Well = C(3.14159)(0.5D)^2(7.48)		gal
6. D2 = Pump Setting Depth (ft):		feet
7. C2 = Column of water in Pump/Tubing (ft):		feet
8. Tubing Volume = C2(0.005737088)		gal

D (inches)	D (feet)
~~1-inch~~	~~0.08~~
2-inch	0.17
~~3-inch~~	~~0.25~~
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

Water Quality Readings Collected Using YSI-556 and LaMotte 2020

Parameter	Units	Readings						
Time	24 hr	1310	1315	1320	1325	1330	1335	1340
Water Level (0.33)**	feet	18.75	19.49	20.93	21.06	21.35		
Volume Purged	gal	0	40.25	0.50	20.50	20.50		
Flow Rate	mL / min	100	100	100	100	100		
Turbidity (+/- 10%)*	NTU	37.2	41.6	39.3	37.0	39.4		
Dissolved Oxygen (+/- 10%)*	%	11.2	9.9	5.5	5.4	5.4		
Dissolved Oxygen (+/- 10%)*	mg/L	1.16	1.04	0.58	0.54	0.55		
Eh / ORP (+/- 10)*	MeV	-48.1	-49.8	-49.6	-48.8	-47.2		
Specific Conductivity (+/- 3%)*	mS/cm^c	0.496	0.496	0.502	0.500	0.499		
Conductivity (+/- 3%)*	mS/cm	0.326	0.378	0.396	0.395	0.397		
pH (+/- 0.1)*	pH unit	8.50	8.20	7.89	7.83	7.90		
Temp (+/- 0.5)*	C	13.40	12.34	13.31	14.03	14.32		
Color	Visual	Clear	Clear	Clear	Clear	Clear		
Odor	Olfactory	None	None	None	None	None		

Comments:

1334 increased Rate due to drawdown
@ purged well dry, will let recharge
1410 sampled + Sample

* Three consecutive readings within range indicates stabilization of that parameter.
**All readings within range indicates stabilization.

Monitoring Well Purging/Sampling Form

Project Name and Number: Midtown 60241403.02

Monitoring Well Number: MW-13 Date: 5-23-12

Samplers: Mark Howard

Sample Number: MW-3 050212 QA/QC Collected? _____

Purging / Sampling Method: Peristaltic Pump with Dedicated Tubing/Low-Flow

1. L = Total Well Depth:	_____	feet
2. D = Riser Diameter (I.D.):	_____	feet
3. W = Static Depth to Water (TOC):	_____	feet
4. C = Column of Water in Casing:	_____	feet
5. V = Volume of Water in Well = $C(3.14159)(0.5D)^2(7.48)$	_____	gal
6. D2 = Pump Setting Depth (ft):	_____	feet
7. C2 = Column of water in Pump/Tubing (ft):	_____	feet
8. Tubing Volume = C2(0.005737088)	_____	gal

D (inches)	D (feet)
1-inch	0.08
2-inch	0.17
3-inch	0.25
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

Water Quality Readings Collected Using YSI-556 and LaMotte 2020

Parameter	Units	Readings						
Time	24 hr	14:20	14:25	14:30	14:35	14:40	14:45	14:50
Water Level (0.33)**	feet	13.15	12.65	12.25	11.95	11.95	11.94	11.93
Volume Purged	gal	.25			.50			
Flow Rate	mL / min	100	100	100	100	100	100	100
Turbidity (+/- 10%)*	NTU	36.6	36.2	40.7	42.1	49.1	44.4	47.8
Dissolved Oxygen (+/- 10%)*	%	16.2	14.1	7.3	5.0	7.0	7.5	7.8
Dissolved Oxygen (+/- 10%)*	mg/L	1.58	1.30	.67	.46	.64	.70	.71
Eh / ORP (+/- 10)*	MeV	-64.6	-58.4	-58.5	-54.2	-53.1	-52.6	-52.4
Specific Conductivity (+/- 3%)*	mS/cm[c]	.512	.533	.563	.610	.605	.613	.614
Conductivity (+/- 3%)*	mS/cm	.426	.469	.503	.556	.534	.545	.549
pH (+/- 0.1)*	pH unit	8.22	7.87	7.87	7.94	8.24	8.27	8.27
Temp (+/- 0.5)*	C	15.16	18.70	19.35	20.37	18.71	18.82	18.97
Color	Visual	Clear	Clear/yellow	Clear/yellow			clear/yellow	
Odor	Olfactory			No Smell			No smell	

Comments: started purge 14:20

* Three consecutive readings within range indicates stabilization of that parameter.
**All readings within range indicates stabilization.

Monitoring Well Purging/Sampling Form

Project Name and Number: Midtown 60241403.02

Monitoring Well Number: MW-13 Date: 5-23-12

Samplers: Mark Howard Steve Gray

Sample Number: ~~MW-3 050212~~ MW 13 052312 QA/QC Collected? _____

Purging / Sampling Method: Peristaltic Pump with Dedicated Tubing/Low-Flow

1. L = Total Well Depth:	_____	feet
2. D = Riser Diameter (I.D.):	_____	feet
3. W = Static Depth to Water (TOC):	_____	feet
4. C = Column of Water in Casing:	_____	feet
5. V = Volume of Water in Well = $C(3.14159)(0.5D)^2(7.48)$	_____	gal
6. D2 = Pump Setting Depth (ft):	_____	feet
7. C2 = Column of water in Pump/Tubing (ft):	_____	feet
8. Tubing Volume = C2(0.005737088)	_____	gal

D (inches)	D (feet)
1-inch	0.08
2-inch	0.17
3-inch	0.25
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

Water Quality Readings Collected Using YSI-556 and LaMotte 2020

Parameter	Units	Readings						
Time	24 hr	14:55						
Water Level (0.33)**	feet	11.92						
Volume Purged	gal	.75						
Flow Rate	mL / min	100						
Turbidity (+/- 10%)*	NTU	44.2						
Dissolved Oxygen (+/- 10%)*	%	7.2						
Dissolved Oxygen (+/- 10%)*	mg/L	.69						
Eh / ORP (+/- 10)*	MeV	51.9						
Specific Conductivity (+/- 3%)*	mS/cm[c]	.614						
Conductivity (+/- 3%)*	mS/cm	.551						
pH (+/- 0.1)*	pH unit	8.22						
Temp (+/- 0.5)*	C	19.23						
Color	Visual	Clear/yell						
Odor	Olfactory							

Comments: Sampled @ 14:55

* Three consecutive readings within range indicates stabilization of that parameter.
**All readings within range indicates stabilization.

Monitoring Well Purging/Sampling Form

Project Name and Number: Former Ward Products

Monitoring Well Number: MW-14 Date: 5/23/12

Samplers: Mark Howard and Tim Steinhofer

Sample Number: MW-14 052312 QA/QC Collected? N/O

Purging / Sampling Method: Tempest Pump with Dedicated Tubing/Low-Flow

1. L = Total Well Depth:		feet
2. D = Riser Diameter (I.D.):		feet
3. W = Static Depth to Water (TOC):		feet
4. C = Column of Water in Casing:		feet
5. V = Volume of Water in Well = C(3.14159)(0.5D)^2(7.48)		gal
6. D2 = Pump Setting Depth (ft):		feet
7. C2 = Column of water in Pump/Tubing (ft):		feet
8. Tubing Volume = C2(0.005737088)		gal

D (inches)	D (feet)
1-inch	0.08
2-inch	0.17
3-inch	0.25
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

Water Quality Readings Collected Using YSI-556 and Hanna

Parameter	Units	Readings						
Time	24 hr	1120	1125	1130	1135	1140	1145	1150
Water Level (0.33)**	feet	8.39	8.38	8.86	9.06	9.04	8.95	8.98
Volume Purged	gal	0	0.25	0.50	0.50	0.75	0.75	1.00
Flow Rate	mL / min	100	100	100	100	100	100	100
Turbidity (+/- 10%)*	NTU	15.4	28.1	19.0	12.5	11.6	8.83	8.00
Dissolved Oxygen (+/- 10%)*	%	43.4	28.1	24.5	22.2	20.9	19.2	19.2
Dissolved Oxygen (+/- 10%)*	mg/L	4.63	2.95	2.68	2.42	2.22	1.99	2.00
Eh / ORP (+/- 10)*	MeV	~~6.49~~	-26.1	-35.1	-27.7	-28.1	-21.4	-34.2
Specific Conductivity (+/- 3%)*	mS/cm[c]	0.854	0.866	0.893	0.892	0.891	0.888	0.898
Conductivity (+/- 3%)*	mS/cm	0.643	0.683	0.651	0.660	0.681	0.694	0.699
pH (+/- 0.1)*	pH unit	6.98	7.07	6.96	6.93	7.06	7.09	7.10
Temp (+/- 0.5)*	C	12.04	12.80	10.86	11.45	12.66	13.60	13.32
Color	Visual	Clear	Clear	Clear	Clear	Clear	Clear	Clear
Odor	Olfactory	None	None	None	None	None	None	None

Comments:

* Three consecutive readings within range indicates stabilization of that parameter.
**All readings within range indicates stabilization.

Monitoring Well Purging/Sampling Form

Project Name and Number: Midtown 60241403.02

Monitoring Well Number: MW-14 Date: 5/23/12

Samplers: Mark Howard

Sample Number: ~~MW-3 050212~~ MW-14 052312 QA/QC Collected? No

Purging / Sampling Method: Peristaltic Pump with Dedicated Tubing/Low-Flow

1. L = Total Well Depth:		feet
2. D = Riser Diameter (I.D.):	0.17	feet
3. W = Static Depth to Water (TOC):		feet
4. C = Column of Water in Casing:		feet
5. V = Volume of Water in Well = C(3.14159)(0.5D)^2(7.48)		gal
6. D2 = Pump Setting Depth (ft):		feet
7. C2 = Column of water in Pump/Tubing (ft):		feet
8. Tubing Volume = C2(0.005737088)		gal

D (inches)	D (feet)
~~1-inch~~	~~0.08~~
2-inch	0.17
3-inch	0.25
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

Water Quality Readings Collected Using YSI-556 and LaMotte 2020

Parameter	Units	Readings						
Time	24 hr	1155	1200	1205				
Water Level (0.33)**	feet	8.99	8.98	8.98				
Volume Purged	gal	<1.25	1.25	>1.25				
Flow Rate	mL / min	100	100	100				
Turbidity (+/- 10%)*	NTU	6.43	5.91	3.76				
Dissolved Oxygen (+/- 10%)*	%	17.9	17.4	17.6				
Dissolved Oxygen (+/- 10%)*	mg/L	1.87	1.81	1.89				
Eh / ORP (+/- 10)*	MeV	-45.6	-42.7	-48.7				
Specific Conductivity (+/- 3%)*	mS/cm[c]	0.892	0.894	0.906				
Conductivity (+/- 3%)*	mS/cm	0.687	0.643	0.683				
pH (+/- 0.1)*	pH unit	7.09	7.08	7.08				
Temp (+/- 0.5)*	C	13.00	13.13	12.15				
Color	Visual	Clear	Clear	Clear				
Odor	Olfactory	None	None	None				

Comments: Sampled @ 12.05

* Three consecutive readings within range indicates stabilization of that parameter.
**All readings within range indicates stabilization.

Monitoring Well Purging/Sampling Form

Project Name and Number: Former Ward Products

Monitoring Well Number: MW-15 Date: 5/22/12

Samplers: Mark Howard and Tim Steinhofer

Sample Number: MW-15 052212 QA/QC Collected? No

Purging / Sampling Method: Tempest Pump with Dedicated Tubing/Low-Flow

1. L = Total Well Depth:		feet
2. D = Riser Diameter (I.D.):	0.17	feet
3. W = Static Depth to Water (TOC):	3.96	feet
4. C = Column of Water in Casing:		feet
5. V = Volume of Water in Well = C(3.14159)(0.5D)^2(7.48)		gal
6. D2 = Pump Setting Depth (ft):		feet
7. C2 = Column of water in Pump/Tubing (ft):		feet
8. Tubing Volume = C2(0.005737088)		gal

D (inches)	D (feet)
1-inch	~~0.08~~
2-inch	0.17
3-inch	0.25
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

Water Quality Readings Collected Using YSI-556 and Hanna

Parameter	Units	Readings						
Time	24 hr	1348	1353	1358	1403	1408	1413	1418
Water Level (0.33)**	feet	5.54	5.81	6.03	6.39	6.77	Pump Shut Off	11.39
Volume Purged	gal	0	0.25	0.25	0.25	0.50		1.75
Flow Rate	mL / min	100	100	100	100	100		100
Turbidity (+/- 10%)*	NTU	13.7	Error	13.5	8.63	63.5		20.9
Dissolved Oxygen (+/- 10%)*	%	69.0	55.0	45.9	39.4	30.2		34.6
Dissolved Oxygen (+/- 10%)*	mg/L	7.45	5.81	4.74	4.12	3.22		3.82
Eh / ORP (+/- 10)*	MeV	124.1	104.6	45.6	9.1	-9.9		5.1
Specific Conductivity (+/- 3%)*	mS/cm^c	0.258	0.546	0.675	0.847	0.905		0.902
Conductivity (+/- 3%)*	mS/cm	0.194	0.421	0.532	0.651	0.687		0.658
pH (+/- 0.1)*	pH unit	7.07	6.51	6.84	6.84	6.81		6.65
Temp (+/- 0.5)*	C	11.83	12.72	13.65	12.79	12.37		10.89
Color	Visual	Clear	Clear	Clear	Clear	Clear		Clear
Odor	Olfactory	None	None	None	None	None		None

Comments: Increased Flow, then ~~shut~~ Lowered to ~ 100 ml/min

* Three consecutive readings within range indicates stabilization of that parameter.
**All readings within range indicates stabilization.

Monitoring Well Purging/Sampling Form

Project Name and Number: Former Ward Products

Monitoring Well Number: MW-15 Date: 5/22/12

Samplers: Mark Howard and Tim Steinhofer

Sample Number: MW-15 052212 QA/QC Collected? No

Purging / Sampling Method: Tempest Pump with Dedicated Tubing/Low-Flow

1. L = Total Well Depth:		feet
2. D = Riser Diameter (I.D.):	0.17	feet
3. W = Static Depth to Water (TOC):	3.96	feet
4. C = Column of Water in Casing:		feet
5. V = Volume of Water in Well = $C(3.14159)(0.5D)^2(7.48)$		gal
6. D2 = Pump Setting Depth (ft):		feet
7. C2 = Column of water in Pump/Tubing (ft):		feet
8. Tubing Volume = C2(0.005737088)		gal

D (inches)	D (feet)
1-inch	0.08
2-inch	0.17
3-inch	0.25
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

Water Quality Readings Collected Using YSI-556 and Hanna

Parameter	Units	Readings						
Time	24 hr	1423	1428	1433	1438	1443	1448	1453
Water Level (0.33)**	feet	11.11	11.01	11.09				
Volume Purged	gal	2.0	2.25	2.5				
Flow Rate	mL / min	100	>100	>100				
Turbidity (+/- 10%)*	NTU	51.1	48.4	47.3				
Dissolved Oxygen (+/- 10%)*	%	35.1	35.3	34.1				
Dissolved Oxygen (+/- 10%)*	mg/L	3.84	3.87	3.75				
Eh / ORP (+/- 10)*	MeV	14.8	19.8	17.6				
Specific Conductivity (+/- 3%)*	mS/cm[c]	0.890	0.865	0.827				
Conductivity (+/- 3%)*	mS/cm	0.656	0.634	0.605				
pH (+/- 0.1)*	pH unit	6.81	6.85	6.85				
Temp (+/- 0.5)*	C	11.23	11.10	10.91				
Color	Visual	Clear	Clear	Clear				
Odor	Olfactory	None	None	None				

Comments: Sampled @ 1433

* Three consecutive readings within range indicates stabilization of that parameter.
**All readings within range indicates stabilization.

Monitoring Well Purging/Sampling Form

Project Name and Number: Midtown 60241403.02

Monitoring Well Number: MW-16 Date: 5/24/12

Samplers: Mark Howard

Sample Number: MW-16 052412 ~~MW-3 050212~~ QA/QC Collected? ~~No~~ MS/MSD

Purging / Sampling Method: Peristaltic Pump with Dedicated Tubing/Low-Flow

1. L = Total Well Depth:		feet
2. D = Riser Diameter (I.D.):	0.17	feet
3. W = Static Depth to Water (TOC):		feet
4. C = Column of Water in Casing:		feet
5. V = Volume of Water in Well = C(3.14159)(0.5D)^2(7.48)		gal
6. D2 = Pump Setting Depth (ft):		feet
7. C2 = Column of water in Pump/Tubing (ft):		feet
8. Tubing Volume = C2(0.005737088)		gal

D (inches)	D (feet)
~~1-inch~~	0.08
2-inch	0.17
~~3-inch~~	0.25
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	~~2-inch~~	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

Water Quality Readings Collected Using YSI-556 and LaMotte 2020

Parameter	Units	Readings						
Time	24 hr	923	928	933	938	943	948	953
Water Level (0.33)**	feet	17.24	18.18	18.69	27.70	28.11	35.30	
Volume Purged	gal	0	0.65	0.25	1.50	1.50	2.75	
Flow Rate	mL / min	100	100	100	100	100	100	
Turbidity (+/- 10%)*	NTU	75.1	144	172	89.1	83.7	87.1	
Dissolved Oxygen (+/- 10%)*	%	24.3	20.6	19.7	16.4	17.7	17.5	
Dissolved Oxygen (+/- 10%)*	mg/L	2.60	2.17	2.05	1.80	1.87	1.91	
Eh / ORP (+/- 10)*	MeV	-40.6	-39.6	-36.7	-40.0	-40.3	-40.7	
Specific Conductivity (+/- 3%)*	mS/cm^c	0.251	0.248	0.247	0.249	0.249	0.249	
Conductivity (+/- 3%)*	mS/cm	0.189	0.191	0.192	0.185	0.189	0.186	
pH (+/- 0.1)*	pH unit	8.49	7.80	7.76	7.79	7.75	7.73	
Temp (+/- 0.5)*	C	12.16	12.91	13.37	11.57	12.66	11.71	
Color	Visual	Cloudy	Cloudy	Cloudy	Cloudy	Cloudy	Cloudy	
Odor	Olfactory	None	None	None	None	None	None	

Comments: 1000 purged dry, well has no recharge cannot be low flowed

sampled @ 1230

* Three consecutive readings within range indicates stabilization of that parameter.

**All readings within range indicates stabilization.

Monitoring Well Purging/Sampling Form

Project Name and Number: ~~Midtown~~ Ward ~~60241403.02~~

Monitoring Well Number: MW-17 Date: 5/24/12

Samplers: Mark Howard

Sample Number: MW-17 052412 ~~MW-3 0502T2~~ QA/QC Collected? Dup -1

Purging / Sampling Method: Peristaltic Pump with Dedicated Tubing/Low-Flow

1. L = Total Well Depth:		feet
2. D = Riser Diameter (I.D.):	0.17	feet
3. W = Static Depth to Water (TOC):		feet
4. C = Column of Water in Casing:		feet
5. V = Volume of Water in Well = $C(3.14159)(0.5D)^2(7.48)$		gal
6. D2 = Pump Setting Depth (ft):		feet
7. C2 = Column of water in Pump/Tubing (ft):		feet
8. Tubing Volume = C2(0.005737088)		gal

D (inches)	D (feet)
~~1-inch~~	~~0.08~~
2-inch	0.17
~~3-inch~~	~~0.25~~
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

Water Quality Readings Collected Using YSI-556 and LaMotte 2020

Parameter	Units	Readings			1035	1040	1045	1050
Time	24 hr	1020	1025	1030	~~1045~~	~~1050~~	~~1055~~	~~1100~~
Water Level (0.33)**	feet	3.84	4.40	4.75	4.96	12.42	12.30	12.19
Volume Purged	gal	0	0.25	0.25	70.25	1.50	71.50	1.75
Flow Rate	mL / min	100	100	100	100	100	100	100
Turbidity (+/- 10%)*	NTU	8.28	4.81	3.88	3.41	8.08	6.60	5.97
Dissolved Oxygen (+/- 10%)*	%	46.9	45.1	45.6	41.2	32.3	35.0	34.8
Dissolved Oxygen (+/- 10%)*	mg/L	5.06	4.71	4.69	4.25	3.46	3.71	3.67
Eh / ORP (+/- 10)*	MeV	-40.9	-39.3	-39.1	-39.3	-39.7	-41.4	-40.1
Specific Conductivity (+/- 3%)*	mS/cm[c]	0.504	0.506	0.506	0.507	0.505	0.510	0.508
Conductivity (+/- 3%)*	mS/cm	0.376	0.392	0.399	0.401	0.381	0.393	0.387
pH (+/- 0.1)*	pH unit	7.91	7.65	7.64	7.68	7.71	7.62	7.77
Temp (+/- 0.5)*	C	11.92	13.22	13.93	13.90	12.14	12.88	12.53
Color	Visual	Clear	Clear	Clear	Clear	Clear	Clear	Clear
Odor	Olfactory	None	None	None	None	None	None	None

Comments:

* Three consecutive readings within range indicates stabilization of that parameter.
**All readings within range indicates stabilization.

Monitoring Well Purging/Sampling Form

Project Name and Number: ~~Midtown~~ Ward ~~60241403.02~~

Monitoring Well Number: ~~MW-17~~ Date: 5/24/12

Samplers: Mark Howard

Sample Number: ~~MW-3 050212~~ MW-17 052412 QA/QC Collected? Dup-1

Purging / Sampling Method: Peristaltic Pump with Dedicated Tubing/Low-Flow

1. L = Total Well Depth:		feet
2. D = Riser Diameter (I.D.):	0.17	feet
3. W = Static Depth to Water (TOC):		feet
4. C = Column of Water in Casing:		feet
5. V = Volume of Water in Well = C(3.14159)(0.5D)^2(7.48)		gal
6. D2 = Pump Setting Depth (ft):		feet
7. C2 = Column of water in Pump/Tubing (ft):		feet
8. Tubing Volume = C2(0.005737088)		gal

D (inches)	D (feet)
~~1-inch~~	~~0.08~~
2-inch	0.17
~~3-inch~~	~~0.25~~
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

Water Quality Readings Collected Using YSI-556 and LaMotte 2020

Parameter	Units	Readings						
Time	24 hr	1055	1100					
Water Level (0.33)**	feet	12.21	12.19					
Volume Purged	gal	2.00	2.00					
Flow Rate	mL / min	100	100					
Turbidity (+/- 10%)*	NTU	5.02	4.97					
Dissolved Oxygen (+/- 10%)*	%	34.2	34.5					
Dissolved Oxygen (+/- 10%)*	mg/L	3.64	3.65					
Eh / ORP (+/- 10)*	MeV	-29.0	-38.9					
Specific Conductivity (+/- 3%)*	mS/cm^c	0.506	0.506					
Conductivity (+/- 3%)*	mS/cm	0.385	0.388					
pH (+/- 0.1)*	pH unit	7.74	7.72					
Temp (+/- 0.5)*	C	12.53	12.77					
Color	Visual	clear	Clear					
Odor	Olfactory	None	None					

Comments: Sampled @ 1100

* Three consecutive readings within range indicates stabilization of that parameter.

**All readings within range indicates stabilization.

Monitoring Well Purging/Sampling Form

Project Name and Number: Midtown 60241403.02

Monitoring Well Number: MW-18 Date: 5/23/12

Samplers: Mark Howard

Sample Number: ~~MW-3 050212~~ MW-18 052312 QA/QC Collected? No

Purging / Sampling Method: Peristaltic Pump with Dedicated Tubing/Low-Flow

1. L = Total Well Depth:		feet
2. D = Riser Diameter (I.D.):	0.17	feet
3. W = Static Depth to Water (TOC):		feet
4. C = Column of Water in Casing:		feet
5. V = Volume of Water in Well = C(3.14159)(0.5D)^2(7.48)		gal
6. D2 = Pump Setting Depth (ft):		feet
7. C2 = Column of water in Pump/Tubing (ft):		feet
8. Tubing Volume = C2(0.005737088)		gal

D (inches)	D (feet)
1-inch	0.08
2-inch	0.17
~~3-inch~~	~~0.25~~
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

Water Quality Readings Collected Using YSI-556 and LaMotte 2020

Parameter	Units	Readings						
Time	24 hr	1420	1425	1430	1435	1440	1445	1450
Water Level (0.33)**	feet	18.39	18.45	18.49	18.43	18.46	18.60	18.65
Volume Purged	gal	0	0.25	0.25	0.50	0.50	0.75	1.00
Flow Rate	mL / min	100	100	100	100	100	100	100
Turbidity (+/- 10%)*	NTU	Cap Error						
Dissolved Oxygen (+/- 10%)*	%	142.4	94.3	77.3	72.2	67.0	68.9	66.9
Dissolved Oxygen (+/- 10%)*	mg/L	15.82	10.57	8.66	8.05	7.38	7.69	7.47
Eh / ORP (+/- 10)*	MeV	142.1	176.7	161.0	144.5	128.4	121.7	117.7
Specific Conductivity (+/- 3%)*	mS/cm[c]	0.260	0.249	0.243	0.243	0.242	0.244	0.243
Conductivity (+/- 3%)*	mS/cm	0.180	0.179	0.174	0.176	0.177	0.176	0.175
pH (+/- 0.1)*	pH unit	6.64	5.72	5.98	6.26	6.59	6.70	6.77
Temp (+/- 0.5)*	C	10.52	10.18	10.21	10.59	10.93	10.40	10.31
Color	Visual	Clear	Clear	Clear	Clear	Clear	Clear	Clear
Odor	Olfactory	None	None	None	None	None	None	None

Comments:

* Three consecutive readings within range indicates stabilization of that parameter.
**All readings within range indicates stabilization.

Monitoring Well Purging/Sampling Form

Project Name and Number: Midtown 60241403.02

Monitoring Well Number: MW-18 Date: 5/23/12

Samplers: Mark Howard

Sample Number: ~~MW-3 050212~~ MW-18 052312 QA/QC Collected? No

Purging / Sampling Method: Peristaltic Pump with Dedicated Tubing/Low-Flow

1. L = Total Well Depth:		feet
2. D = Riser Diameter (I.D.):	0.17	feet
3. W = Static Depth to Water (TOC):		feet
4. C = Column of Water in Casing:		feet
5. V = Volume of Water in Well = C(3.14159)(0.5D)^2(7.48)		gal
6. D2 = Pump Setting Depth (ft):		feet
7. C2 = Column of water in Pump/Tubing (ft):		feet
8. Tubing Volume = C2(0.005737088)		gal

D (inches)	D (feet)
1-inch	0.08
2-inch	0.17
3-inch	0.25
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

Water Quality Readings Collected Using YSI-556 and LaMotte 2020

Parameter	Units	Readings						
Time	24 hr	1455	1500	1505				
Water Level (0.33)**	feet	18.67	18.63	16.67				
Volume Purged	gal	71.00	<1.25	1.25				
Flow Rate	mL / min	100	100	100				
Turbidity (+/- 10%)*	NTU	Lap Error						
Dissolved Oxygen (+/- 10%)*	%	63.3	60.8	57.4				
Dissolved Oxygen (+/- 10%)*	mg/L	7.13	6.75	6.43				
Eh / ORP (+/- 10)*	MeV	117.6	117.5	115.6				
Specific Conductivity (+/- 3%)*	mS/cm^c	0.241	0.243	0.273				
Conductivity (+/- 3%)*	mS/cm	0.172	0.176	0.196				
pH (+/- 0.1)*	pH unit	6.79	6.82	6.85				
Temp (+/- 0.5)*	C	10.05	10.69	10.17				
Color	Visual	Clear	Clear	Clear				
Odor	Olfactory	None	None	None				

Comments: Sampled @ 1505

* Three consecutive readings within range indicates stabilization of that parameter.
**All readings within range indicates stabilization.

Monitoring Well Purging/Sampling Form

Project Name and Number: Former Ward Products

Monitoring Well Number: MW-19 Date: 5-23-12

Samplers: Mark Howard and ~~Tim Steinhofer~~ Steve Gray

Sample Number: MW-19052312 QA/QC Collected? _____

Purging / Sampling Method: Tempest Pump with Dedicated Tubing/Low-Flow

1. L = Total Well Depth:	_____	feet
2. D = Riser Diameter (I.D.):	_____	feet
3. W = Static Depth to Water (TOC):	_____	feet
4. C = Column of Water in Casing:	_____	feet
5. V = Volume of Water in Well = $C(3.14159)(0.5D)^2(7.48)$	_____	gal
6. D2 = Pump Setting Depth (ft):	_____	feet
7. C2 = Column of water in Pump/Tubing (ft):	_____	feet
8. Tubing Volume = C2(0.005737088)	_____	gal

D (inches)	D (feet)
1-inch	0.08
2-inch	0.17
3-inch	0.25
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

Water Quality Readings Collected Using YSI-556 and Hanna

Parameter	Units	Readings						
Time	24 hr	11:30	11:35	11:40	11:45	11:50	11:55	12:00
Water Level (0.33)**	feet	33.99	33.75	34.00	34.02	34.05	34.05	34.05
Volume Purged	gal	.50	1.0	1.15	1.25	1.35	1.45	1.50
Flow Rate	mL / min	100	100	100	100	100	100	100
Turbidity (+/- 10%)*	NTU	50.6	48.8	40.6	17.6	17.5	17.3	15.3
Dissolved Oxygen (+/- 10%)*	%	6.0	6.0	6.3	5.8	5.9	6.0	6.1
Dissolved Oxygen (+/- 10%)*	mg/L	.56	.57	.58	.53	.52	.54	.55
Eh / ORP (+/- 10)*	MeV	-46.0	-46.3	-45.3	-44.0	-44.1	-43.8	-43.7
Specific Conductivity (+/- 3%)*	mS/cm[c]	1.008	1.011	1.011	1.015	1.014	1.016	1.014
Conductivity (+/- 3%)*	mS/cm	.862	.894	.889	.928	.935	.937	.938
pH (+/- 0.1)*	pH unit	7.60	7.50	7.50	7.58	7.56	7.58	7.62
Temp (+/- 0.5)*	C	17.45	18.00	18.76	20.53	20.92	20.96	21.08
Color	Visual	Clear	Clear	Clear	Clear	Clear	Clear	Clear
Odor	Olfactory	No Smell	No Smell	No Smell	No Smell			

Comments: Started purge @ 11:30

put new tubing in well old was too short.

* Three consecutive readings within range indicates stabilization of that parameter.
**All readings within range indicates stabilization.

Monitoring Well Purging/Sampling Form

Project Name and Number: Former Ward Products

Monitoring Well Number: MW-19 Date: 5-23-12

Samplers: Mark Howard and Tim Steinhofer

Sample Number: _____ QA/QC Collected? _____

Purging / Sampling Method: Tempest Pump with Dedicated Tubing/Low-Flow

1. L = Total Well Depth:	_____	feet
2. D = Riser Diameter (I.D.):	_____	feet
3. W = Static Depth to Water (TOC):	_____	feet
4. C = Column of Water in Casing:	_____	feet
5. V = Volume of Water in Well = $C(3.14159)(0.5D)^2(7.48)$	_____	gal
6. D2 = Pump Setting Depth (ft):	_____	feet
7. C2 = Column of water in Pump/Tubing (ft):	_____	feet
8. Tubing Volume = C2(0.005737088)	_____	gal

D (inches)	D (feet)
1-inch	0.08
2-inch	0.17
3-inch	0.25
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

Water Quality Readings Collected Using YSI-556 and Hanna

Parameter	Units	Readings						
Time	24 hr	12:05	12:10	12:15	12:20 (5:20 → 34.35)	12:25	12:30	12:35
Water Level (0.33)**	feet	34.05	34.02	34.05	~~35.00~~	35.19	36.20	38.09
Volume Purged	gal	1.65	1.75	1.85	2.0	2.15	2.25	2.~~50~~
Flow Rate	mL / min	100	100	100	150	150	150	100
Turbidity (+/- 10%)*	NTU	15.1	16.6	16.4	14.2	12.9	11.5	7.82
Dissolved Oxygen (+/- 10%)*	%	6.2	6.4	6.2	7.6	6.3	5.6	5.4
Dissolved Oxygen (+/- 10%)*	mg/L	.54	.56	.56	.69	.58	.52	.53
Eh / ORP (+/- 10)*	MeV	-42.1	-41.9	-42.0	-40.8	-40.1	-38.3	-43.2
Specific Conductivity (+/- 3%)*	mS/cm[c]	1.013	1.011	1.013	1.015	1.016	1.018	1.081
Conductivity (+/- 3%)*	mS/cm	.938	.947	.938	.927	.900	.902	.861
pH (+/- 0.1)*	pH unit	7.61	7.57	7.59	7.75	7.73	7.67	7.80
Temp (+/- 0.5)*	C	21.10	21.22	21.25	18.81	18.91	18.90	16.42
Color	Visual	Clear	Clear	Clear				
Odor	Olfactory							

Comments: pump stoped @ 12:16 restarted — pumped down 1/4 galoon

* Three consecutive readings within range indicates stabilization of that parameter.
**All readings within range indicates stabilization.

Monitoring Well Purging/Sampling Form

Project Name and Number: Midtown 60241403.02

Monitoring Well Number: MW-19 Date: 5-23-17

Samplers: Mark Howard Steve Gray

Sample Number: ~~MW-3 050212~~ MW-19052312 QA/QC Collected? _____

Purging / Sampling Method: Peristaltic Pump with Dedicated Tubing/Low-Flow

1. L = Total Well Depth:	_____	feet
2. D = Riser Diameter (I.D.):	_____	feet
3. W = Static Depth to Water (TOC):	_____	feet
4. C = Column of Water in Casing:	_____	feet
5. V = Volume of Water in Well = $C(3.14159)(0.5D)^2(7.48)$	_____	gal
6. D2 = Pump Setting Depth (ft):	_____	feet
7. C2 = Column of water in Pump/Tubing (ft):	_____	feet
8. Tubing Volume = C2(0.005737088)	_____	gal

D (inches)	D (feet)
1-inch	0.08
2-inch	0.17
3-inch	0.25
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

Water Quality Readings Collected Using YSI-556 and LaMotte 2020

Parameter	Units	Readings						
Time	24 hr	12:40	12:45					
Water Level (0.33)**	feet	37.89	37.01					
Volume Purged	gal		2.75					
Flow Rate	mL / min	100	100					
Turbidity (+/- 10%)*	NTU	7.82	16.6					
Dissolved Oxygen (+/- 10%)*	%	6.3	6.1					
Dissolved Oxygen (+/- 10%)*	mg/L	.61	.56					
Eh / ORP (+/- 10)*	MeV	-42.6	-43.6					
Specific Conductivity (+/- 3%)*	mS/cm[c]	1.032	1.032					
Conductivity (+/- 3%)*	mS/cm	.875	.907					
pH (+/- 0.1)*	pH unit	7.67	7.51					
Temp (+/- 0.5)*	C	16.92	18.75					
Color	Visual	Clear	Clear					
Odor	Olfactory	No Odor	No Odor					

Comments: Sampled @ 12:45

* Three consecutive readings within range indicates stabilization of that parameter.
**All readings within range indicates stabilization.

Monitoring Well Purging/Sampling Form

Project Name and Number: Former Ward Products

Monitoring Well Number: MW-20 Date: 5-22-12

Samplers: Mark Howard and Tim Steinhofer

Sample Number: MW-20 052212 QA/QC Collected? NO

Purging / Sampling Method: Tempest Pump with Dedicated Tubing/Low-Flow

1. L = Total Well Depth:	_____	feet
2. D = Riser Diameter (I.D.):	_____	feet
3. W = Static Depth to Water (TOC):	_____	feet
4. C = Column of Water in Casing:	_____	feet
5. V = Volume of Water in Well = C(3.14159)(0.5D)^2(7.48)	_____	gal
6. D2 = Pump Setting Depth (ft):	_____	feet
7. C2 = Column of water in Pump/Tubing (ft):	_____	feet
8. Tubing Volume = C2(0.005737088)	_____	gal

D (inches)	D (feet)
1-inch	0.08
2-inch	0.17
3-inch	0.25
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

Water Quality Readings Collected Using YSI-556 and Hanna

Parameter	Units	Readings						
			1400					
Time	24 hr	1355	~~1340~~	1405	1410	145	1420	1425
Water Level (0.33)**	feet	21.75	22.01	22.26	22.32	22.6	22.78	22.86
Volume Purged	gal	0	<.5	.5	<.75	.75	<1	1
Flow Rate	mL / min	>100	>100	<100	<100	<100	100	100
Turbidity (+/- 10%)*	NTU	289	581	541	592	571	557	423
Dissolved Oxygen (+/- 10%)*	%	73.1	66.0	66.2	65.0	64.5	61.7	62.6
Dissolved Oxygen (+/- 10%)*	mg/L	7.84	7.04	7.09	6.98	6.80	6.58	6.69
Eh / ORP (+/- 10)*	MeV	-37.8	-35.6	-33.7	-32.7	-31.9	-31.3	-31.9
Specific Conductivity (+/- 3%)*	mS/cm	1.103	1104	1.107	1.107	1.106	1.107	1.108
Conductivity (+/- 3%)*	mS/cm	.820	.847	.842	.845	.842	.833	.837
pH (+/- 0.1)*	pH unit	8.31	8.08	8.01	7.94	7.97	7.99	8.01
Temp (+/- 0.5)*	C	11.96	12.49	12.57	12.61	12.48	12.24	12.23
Color	Visual	Cloudy	"	"	"	"	"	"
Odor	Olfactory	None	"	"	"	"	"	"

Comments:

* Three consecutive readings within range indicates stabilization of that parameter.
**All readings within range indicates stabilization.

Monitoring Well Purging/Sampling Form

Project Name and Number: Former Ward Products

Monitoring Well Number: MW 20 Date: _____

Samplers: Mark Howard and Tim Steinhofer

Sample Number: _____ QA/QC Collected? _____

Purging / Sampling Method: Tempest Pump with Dedicated Tubing/Low-Flow

1. L = Total Well Depth:	_____	feet
2. D = Riser Diameter (I.D.):	_____	feet
3. W = Static Depth to Water (TOC):	_____	feet
4. C = Column of Water in Casing:	_____	feet
5. V = Volume of Water in Well = C(3.14159)(0.5D)^2(7.48)	_____	gal
6. D2 = Pump Setting Depth (ft):	_____	feet
7. C2 = Column of water in Pump/Tubing (ft):	_____	feet
8. Tubing Volume = C2(0.005737088)	_____	gal

D (inches)	D (feet)
1-inch	0.08
2-inch	0.17
3-inch	0.25
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

Water Quality Readings Collected Using YSI-556 and Hanna

Parameter	Units	Readings						
Time	24 hr	1430	1445	1450	1455	1500		
Water Level (0.33)**	feet	22.99	24.38	25.38	25.66	25.92		
Volume Purged	gal	<1.25	1.75	<2	<2.25	2.25		
Flow Rate	mL / min	<100	>100	100	100	100		
Turbidity (+/- 10%)*	NTU	415	872	1000	1000	1000		
Dissolved Oxygen (+/- 10%)*	%	58.6	58.6	54.0	55.3	48.3		
Dissolved Oxygen (+/- 10%)*	mg/L	6.22	6.29	5.73	5.93	5.12		
Eh / ORP (+/- 10)*	MeV	-32.6	-32.8	-32.0	-33.8	-32.0		
Specific Conductivity (+/- 3%)*	mS/cm	1.101	1.088	1.084	1.083	1.081		
Conductivity (+/- 3%)*	mS/cm	.831	.819	.822	.819	.818		
pH (+/- 0.1)*	pH unit	8.00	8.02	7.97	7.95	7.95		
Temp (+/- 0.5)*	C	12.26	12.06	12.26	12.23	12.26		
Color	Visual	cloudy	cloudy	"	"	"		
Odor	Olfactory	None	None	"	"	"		

Comments:

Pump Failure @ 1432 dead Battery

Sampled @ 1500

* Three consecutive readings within range indicates stabilization of that parameter.

**All readings within range indicates stabilization.

Appendix B

August 2012 Field Notes

WELL ID	Groundwater Measurement (fbmp)
MW-1	6.37
MW-1R	7.16
MW-2	7.31
MW-3	11.24
MW-4	8.71
MW-4R	19.00
MW-5	17.64
MW-6	19.68
MW-7	17.41
MW-8	15.41
MW-9	16.42
MW-10	17.54
MW-11	19.18
MW-12	20.73
MW-13	14.24
MW-14	11.49
MW-15	11.15
MW-16	21.56
MW-17	8.29
MW-18	22.71
MW-19	31.84
MW-20	24.85
IW-1	NM
IW-2	NM
IW-3	NM
IW-4	NM
RW-1	17.46

Note:
All water levels taken on 8/22/12 .
fbmp - feet below measuring point

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Albany, New York 12207
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A full service analytical research laboratory offering solutions to environmental concerns

CHAIN OF CUSTODY RECORD

AES Work Order #

Client Name: AECOM	Address: 250 Apollo Drive Chelmsford, MA 01824	
Send Report To: Jennifer Atkins	Project Name (Location): 60268763.2 Formal Products	Samplers: (Names) Mark Howard + Matt Dean
Client Phone No: 978 905 2100	Client Email: jennifer.atkins@aecom.com	PO Number:	Samplers: (Signature) Mark Howard

AES Sample Number	Client Sample Identification & Location	Date Sampled	Time A=a.m. P=p.m.	Matrix	Comp	Grab	Number of Cont's	VOCs 8260	Hex Chrome SM3500	Total Chrome 6010
	~~MW-4R 082212~~ (MJH)									
	~~MW-4 082212~~ (MJH)									
	MW-4R 082212	8/22/12	1055	GW		X	4	X	X	X
	MW-4 082212	8/22/12	1107	GW		X	4	X	X	X
	MW-16 082212	8/22/12	1120	GW		X	4	X	X	X
	MW-1R 082212	8/22/12	1210	GW		X	4	X	X	X
	Trip Blank 082212	—	—	TB	—	—	1	X		

Shipment Arrived Via: FedEx UPS Client AES Other: ____

CC Report To / Special Instructions/Remarks: Category B Deliverables

Turnaround Time Request: ☐ 1 Day ☐ 3 Day ☒ Normal ☐ 2 Day ☐ 5 Day

Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Mark Howard		8/22/12 1645
Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Relinquished by: (Signature)	Received for Laboratory by: [signature]	Date/Time 8/22/12 4:47 PM

TEMPERATURE	AES Bottles	PROPERLY PRESERVED	RECEIVED WITHIN HOLDING TIMES
Ambient or Chilled	Y ☐ N ☐	Y N	Y N
Notes:		Notes:	Notes:

WHITE - Lab Copy YELLOW - Sampler Copy PINK - Generator Copy

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CHAIN OF CUSTODY RECORD

AES Work Order #

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Client Name: AECOM	Address: 40 British American Blvd Latham NY 12110	
Send Report To: Jennifer Atkins	Project Name (Location): Ward Products Amsterdam	Samplers: (Names) GLW + MJD
Client Phone No: 518-698-6803 / Client Email: mark.howard@aecom.com	PO Number: 60139490.10	Samplers: (Signature)

AES Sample Number	Client Sample Identification & Location	Date Sampled	Time A=a.m. P=p.m.	Sample Type Matrix	Comp	Grab	Number of Cont's	Analysis Required
	MW-14 082312	8/23/12	850 A	GW		✓	2	hex chrome & ICP Metals for all
	MW-13 082312	↓	0949 A	↓		↓	↓	
	MW-16 082312	↓	1015 A	↓		↓	↓	
	MW-17 082312	↓	1140 A	↓		↓	↓	
	MW-15 082312	↓	1522 P	↓		↓	↓	
	MW-Dup 082312	↓	–	↓		↓	↓	
			A P					
			A P					
			A P					
			A P					
			A P					
			A P					
			A P					

Shipment Arrived Via: FedEx UPS (Client) AES Other: ____

CC Report To / Special Instructions/Remarks: Refer to contract

Turnaround Time Request:
- ☐ 1 Day ☐ 3 Day ☑ Normal
- ☐ 2 Day ☐ 5 Day

Relinquished by: (Signature)	Received by: (Signature)	Date/Time
[signature]		
Relinquished by: (Signature)	Received for Laboratory by: [signature]	8/23/12 4:45

TEMPERATURE	AES Bottles	PROPERLY PRESERVED	RECEIVED WITHIN HOLDING TIMES
Ambient or (Chilled) Notes: 13	Y ☑ N ☐	(Y) N Notes:	(Y) N Notes:

WHITE - Lab Copy   YELLOW - Sampler Copy   PINK - Generator Copy

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CHAIN OF CUSTODY RECORD

AES Work Order #

A full service analytical research laboratory offering solutions to environmental concerns

Client Name: AECOM	**Address:** 250 Apollo Drive, Chelmsford, MA 01824		
Send Report To: Jennifer Atkins	**Project Name (Location):** Former Wood Products 60268763.2		**Samplers: (Names)** Mark Howard + Matt Dean
Client Phone No: 978 905 2100	**Client Email:** jennifer.atkins@aecom.com	**PO Number:**	**Samplers: (Signature)** [signature]

AES Sample Number	Client Sample Identification & Location	Date Sampled	Time (A=a.m. P=p.m.)	Matrix	Comp	Grab	Number of Cont's	VOCs 8260	Total Chromium	Hex Chromium	Total Chrom, Cadmium, Nickel, Zinc	Analysis Required
	MW-20 082412	8/24/12	823 A	GW		X	4	X	X	X		
	MW-19 082412	8/24/12	835 A	GW		X	4	X	X	X		
	MW-18 082412	8/24/12	850 A	GW		X	4	X	X	X		Extra Volume for MS/MSD
	MW-1 082412	8/24/12	1045 A	GW		X	4	X	X	X		
	SS SB-1 082412	8/24/12	1005 A	Sed	X		1				X	
	RS SB-1 082412	8/24/12	1030 A	Sed	X		1				X	
	MW-13 082312	8/23/12		GW		X	2	X				
	MW-14 082312	8/23/12		GW		X	2	X				
	MW-16 082312	8/23/12		GW		X	2	X				
	MW-17 082312	8/23/12		GW		X	2	X				
	MW-15 082312	8/23/12		GW		X	2	X				
	MW-Dup 082312	8/23/12		GW		X	2	X				
	Trip Blank 2	—	—	TB	–	–	1	X				

Shipment Arrived Via: FedEx UPS (Client) AES Other:

Turnaround Time Request:
- ☐ 1 Day ☐ 3 Day ☒ Normal
- ☐ 2 Day ☐ 5 Day

CC Report To / Special Instructions/Remarks:
Category B Deliverables
Extra Volume included for MW-18 082412 for MS/MSD

Relinquished by: (Signature)	Received by: (Signature)	Date/Time
[signature]		8/24/12 1350
Relinquished by: (Signature)	Received for Laboratory by: [signature]	8 24 12 1504L

Temperature	AES Bottles	Properly Preserved	Received Within Holding Times
Ambient or Chilled	Y ☐ N ☐	Y N	Y N
Notes:		Notes:	Notes:

WHITE - Lab Copy YELLOW - Sampler Copy PINK - Generator Copy

Monitoring Well Purging / Sampling Form

Project Name and Number: Ward Products 60139490.10

Monitoring Well Number: MW-4 Date: 8/22/12

Samplers: Mark Howard and Matthew Dean

Sample Number: MW-4 08/22/12 QA/QC Collected? no

Purging / Sampling Method: Submersable (Typhoon) / low flow

1. L = Well Depth:	—	feet
2. D = Riser Diameter (I.D.):	2	feet
3. W = Depth to Water:	8.40	feet
4. C = Column of Water in Well:	—	feet
5. V = Volume of Water in Well = C(3.14159)(0.5D)^2(7.48)	—	gal
6. 3(V) = Target Purge Volume	—	gal

D (inches)	D (feet)
1-inch	0.08
(2-inch)	0.17
3-inch	0.25
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	(2-inch)	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

Water Quality Readings Collected Using YSI 556/NA

Parameter	Units	Readings						
Time	24 hr	9:47	9:52	9:57	10:02	10:07	10:12	
Water Level (0.33)	feet	9.37	10.45	11.12				
Volume Purged	gal	0	.33	.5				
Flow Rate	mL/min	100	100	100				
Turbidity (+/- 10%)	NTU	(0) NA	NA	NA				
Dissolved Oxygen (+/- 10%)	%	56.0	62.5	63.1				
Dissolved Oxygen (+/- 10%)	mg/L	5.61	6.27	6.30				
Eh / ORP (+/- 10)	MeV	35.3	35.7	41.4				
Specific Conductivity (+/- 3%)	mS/cm^c	.496	.493	.493				
Conductivity (+/- 3%)	mS/cm	.402	.401	.404				
pH (+/- 0.1)	pH unit	7.03	6.94	6.94				
Temp (+/- 0.5)	C°	15.10	15.21	15.51				
Color	Visual	Clear	Clear	Clear				
Odor	Olfactory	none	none	none				

Comments:

Sampled MW-4 082212 @ 11:07

Purge dry 1.25 gal

Monitoring Well Purging / Sampling Form

Project Name and Number: Ward Products 60139490.10

Monitoring Well Number: MW-4R Date: 8/22/12

Samplers: Mark Howard and Matthew Dean

Sample Number: MW-4R QA/QC Collected? No

Purging / Sampling Method: Submersible / Low Flow

1. L = Well Depth:		feet
2. D = Riser Diameter (I.D.):	0.17	feet
3. W = Depth to Water:	18.83	feet
4. C = Column of Water in Well:		feet
5. V = Volume of Water in Well = C(3.14159)(0.5D)^2(7.48)		gal
6. 3(V) = Target Purge Volume		gal

D (inches)	D (feet)
1-inch	0.08
2-inch	0.17
3-inch	0.25
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

Water Quality Readings Collected Using _____

Parameter	Units	Readings						
Time	24 hr	958	1003	1006	1013	1018	1023	1028
Water Level (0.33)	feet	20.41	19.91	19.91	20.35	20.20	20.24	20.08
Volume Purged	gal	0	0.25	0.25	0.50	0.50	0.75	1.00
Flow Rate	mL/min	100	100	100	100	100	100	100
Turbidity (+/- 10%)	NTU	NA	NA	NA	NA	NA	NA	NA
Dissolved Oxygen (+/- 10%)	%	10.3	7.4	7.5	8.9	4.5	4.7	4.6
Dissolved Oxygen (+/- 10%)	mg/L	1.86	0.74	0.73	0.91	0.45	0.47	0.46
Eh / ORP (+/- 10)	MeV	68.9	46.3	45.9	38.1	35.7	29.7	25.5
Specific Conductivity (+/- 3%)	mS/cm^c	0.537	0.532	0.533	0.536	0.536	0.721	0.767
Conductivity (+/- 3%)	mS/cm	0.425	0.434	0.437	0.426	0.434	0.587	0.794
pH (+/- 0.1)	pH unit	6.77	7.07	7.10	7.17	7.19	7.15	7.17
Temp (+/- 0.5)	C°	14.12	15.36	15.60	14.22	15.01	14.45	15.64
Color	Visual	Clear	Clear	Clear	Clear	Clear	Clear	Clear
Odor	Olfactory	None	None	None	None	None	None	None

Comments:

Monitoring Well Purging / Sampling Form

Project Name and Number: Ward Products 60139490.10

Monitoring Well Number: MW-4R Date: 8/22/12

Samplers: Mark Howard and Matthew Dean

Sample Number: MW-4R QA/QC Collected? No

Purging / Sampling Method: Sub / Low Flow

1. L = Well Depth:		feet
2. D = Riser Diameter (I.D.):	0.17	feet
3. W = Depth to Water:	18.83	feet
4. C = Column of Water in Well:		feet
5. V = Volume of Water in Well = $C(3.14159)(0.5D)^2(7.48)$		gal
6. 3(V) = Target Purge Volume		gal

D (inches)	D (feet)
1-inch	0.08
2-inch	0.17
3-inch	0.25
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

Water Quality Readings Collected Using _____

Parameter	Units	Readings						
Time	24 hr	1033	1038	1043	1048	1053		
Water Level (0.33)	feet	19.91	19.96	20.05	20.00	19.94		
Volume Purged	gal	1.00	1.25	1.25	1.25	1.50		
Flow Rate	mL/min	100	100	100	100	100		
Turbidity (+/- 10%)	NTU	NA	NA	NA	NA	NA		
Dissolved Oxygen (+/- 10%)	%	4.5	5.3	4.5	4.5	4.4		
Dissolved Oxygen (+/- 10%)	mg/L	0.44	0.52	0.45	0.44	0.42		
Eh / ORP (+/- 10)	MeV	~~23~~ 23.6	22.8	20.0	18.0	17.5		
Specific Conductivity (+/- 3%)	mS/cm[c]	1.014	1.170	1.247	1.261	1.285		
Conductivity (+/- 3%)	mS/cm	0.857	0.970	1.018	1.043	1.082		
pH (+/- 0.1)	pH unit	7.19	7.20	7.20	7.21	7.22		
Temp (+/- 0.5)	C°	16.85	15.91	15.39	15.95	16.75		
Color	Visual	Clear	Clear	Clear	Clear	Clear		
Odor	Olfactory	None	None	None	None	None		

Comments: Sampled @ 1053

Monitoring Well Purging / Sampling Form

Project Name and Number: Ward Products 60139490.10

Monitoring Well Number: MW-10 Date: 8/22/12

Samplers: Mark Howard and Matthew Dean

Sample Number: MW-10 082212 QA/QC Collected? no

Purging / Sampling Method: Submersible / YSI

1. L = Well Depth:	~	feet
2. D = Riser Diameter (I.D.):	.17	feet
3. W = Depth to Water:	17.42	feet
4. C = Column of Water in Well:	~	feet
5. V = Volume of Water in Well = $C(3.14159)(0.5D)^2(7.48)$	~	gal
6. 3(V) = Target Purge Volume	~	gal

D (inches)	D (feet)
1-inch	0.08
2-inch	0.17
3-inch	0.25
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

Water Quality Readings Collected Using YSI / NA

Parameter	Units	Readings						
Time	24 hr	13:35	13:40	13:45	13:50	13:55	14:00	14:05
Water Level (0.33)	feet	18.05	17.95	18.00	18.00	17.96	18.00	18.00
Volume Purged	gal	0	.125	.45	.65	1	1.33	1.66
Flow Rate	mL/min	100	100	100	100	100	100	100
Turbidity (+/- 10%)	NTU	NA	NA	NA	NA	NA	NA	NA
Dissolved Oxygen (+/- 10%)	%	125.0	85.8	6.8	4.5	6.0	10.0	6.8
Dissolved Oxygen (+/- 10%)	mg/L	12.23	8.61	.68	.45	.6	1.00	.68
Eh / ORP (+/- 10)	MeV	85.0	58.5	47.4	37.1	32.6	28.5	29.6
Specific Conductivity (+/- 3%)	mS/cm[c]	.535	.699	.791	.800	.803	.806	.804
Conductivity (+/- 3%)	mS/cm	.438	.571	.634	.644	.650	.646	.646
pH (+/- 0.1)	pH unit	7.67	7.41	7.32	7.30	7.29	7.33	7.29
Temp (+/- 0.5)	C°	15.20	14.99	14.59	14.71	14.95	14.71	14.76
Color	Visual	Clear	Clear	Clear	Clear	Clear	Clear	Clear
Odor	Olfactory	None	none	none	none	none	none	none

Comments: Sampled MW-10 @ 14:07
MW-10 082212

Monitoring Well Purging / Sampling Form

Project Name and Number: Ward Products 60139490.10

Monitoring Well Number: MW-1R Date: 8/22/12

Samplers: Mark Howard and Matthew Dean

Sample Number: MW-1R 082715 QA/QC Collected? No

Purging / Sampling Method: Sub / Low Flow

1. L = Well Depth:		feet
2. D = Riser Diameter (I.D.):	0.17	feet
3. W = Depth to Water:		feet
4. C = Column of Water in Well:		feet
5. V = Volume of Water in Well = C(3.14159)(0.5D)^2(7.48)		gal
6. 3(V) = Target Purge Volume		gal

D (inches)	D (feet)
~~1-inch~~	~~0.08~~
2-inch	0.17
~~3-inch~~	0.25
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

Water Quality Readings Collected Using YSI 556

Parameter	Units	Readings						
Time	24 hr	1348	1353	1358	1403	1408	1413	1418
Water Level (0.33)	feet	7.81	~~8.19~~	8.53	9.80	9.90	10.44	10.69
Volume Purged	gal	0	<0.25	0.25	0.50	>0.50	<0.75	<0.25
Flow Rate	mL/min	100	100	100	100	100	100	100
Turbidity (+/- 10%)	NTU	NA	NA	NA	NA	NA	NA	NA
Dissolved Oxygen (+/- 10%)	%	53.2	26.5	25.0	25.6	23.6	24.5	21.6
Dissolved Oxygen (+/- 10%)	mg/L	5.01	2.44	2.29	2.36	2.18	2.23	1.95
Eh / ORP (+/- 10)	MeV	61.7	~~116.1~~ 118.1	111.8	141.5	139.0	141.8	134.8
Specific Conductivity (+/- 3%)	mS/cm[c]	0.682	0.709	0.710	0.713	0.713	0.709	0.702
Conductivity (+/- 3%)	mS/cm	0.582	0.629	0.634	0.630	0.634	0.636	0.632
pH (+/- 0.1)	pH unit	7.05	6.21	6.43	6.33	6.37	6.40	6.55
Temp (+/- 0.5)	C°	17.46	19.20	19.44	18.95	19.21	19.65	19.62
Color	Visual	Brn Cl	Same	Same	Same	Same	Same	Same
Odor	Olfactory	None	None	None	None	None	None	None

Comments:

Monitoring Well Purging / Sampling Form

Project Name and Number: Ward Products 60139490.10

Monitoring Well Number: MW-1R Date: 8/22/12

Samplers: Mark Howard and Matthew Dean

Sample Number: MW-1R 082212 QA/QC Collected? No

Purging / Sampling Method:

1. L = Well Depth:		feet
2. D = Riser Diameter (I.D.):	0.17	feet
3. W = Depth to Water:		feet
4. C = Column of Water in Well:		feet
5. V = Volume of Water in Well = C(3.14159)(0.5D)^2(7.48)		gal
6. 3(V) = Target Purge Volume		gal

D (inches)	D (feet)
~~1-inch~~	~~0.08~~
2-inch	0.17
~~3-inch~~	~~0.25~~
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

Water Quality Readings Collected Using

Parameter	Units	Readings						
Time	24 hr	1423	1428	1433	1438	1443	1448	1453
Water Level (0.33)	feet	10.86	15.00	15.03				
Volume Purged	gal	4.00	2.00	2.00				
Flow Rate	mL/min	100	100	100				
Turbidity (+/- 10%)	NTU	NA	NA	NA				
Dissolved Oxygen (+/- 10%)	%	20.2	24.7	25.0				
Dissolved Oxygen (+/- 10%)	mg/L	1.83	2.36	2.37				
Eh / ORP (+/- 10)	MeV	129.9	171.8	181.5				
Specific Conductivity (+/- 3%)	mS/cm^c	0.693	0.636	0.641				
Conductivity (+/- 3%)	mS/cm	0.631	0.548	0.560				
pH (+/- 0.1)	pH unit	6.66	6.25	6.17				
Temp (+/- 0.5)	C°	20.31	17.71	18.44				
Color	Visual	SAME	Clear	Clear				
Odor	Olfactory	None	None	None				

Comments: 1435 - Purged dry, Purged ~ 2.25 gallons

Sampled 1500

Monitoring Well Purging / Sampling Form

Project Name and Number: Ward Products 60139490.10

Monitoring Well Number: MW-13 Date: 8/23/12

Samplers: GLW ~~Mark Howard~~ and Matthew Dean

Sample Number: MW-13 082312 QA/QC Collected? No

Purging / Sampling Method: submersible pump/low flow

1. L = Well Depth:		feet
2. D = Riser Diameter (I.D.):		feet
3. W = Depth to Water:	14.24	feet
4. C = Column of Water in Well:		feet
5. V = Volume of Water in Well = C(3.14159)(0.5D)^2(7.48)		gal
6. 3(V) = Target Purge Volume		gal

D (inches)	D (feet)
1-inch	0.08
2-inch	0.17
3-inch	0.25
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

Water Quality Readings Collected Using YSI 556

Parameter	Units	Readings						
Time	24 hr	0817	0822	0827	0832	0837	0842	0847
Water Level (0.33)	feet	16.29	18.98	19.33	19.14	18.99	18.89	19.08
Volume Purged	gal	—	0.75	1.15	1.35	1.55	1.80	2.15
Flow Rate	mL/min	—	—	—				
Turbidity (+/- 10%)	NTU	—	—	—	—	—	50.7	45.5
Dissolved Oxygen (+/- 10%)	%	29.1	5.6	4.4	2.9	2.3	2.0	2.2
Dissolved Oxygen (+/- 10%)	mg/L	2.95	0.60	0.47	0.30	0.24	0.21	0.23
Eh / ORP (+/- 10)	MeV	26.8	-144.6	-125.1	-128.8	-125.0	-118.8	-116.4
Specific Conductivity (+/- 3%)	mS/cm^c	0.359	0.671	0.695	0.716	0.725	0.723	0.720
Conductivity (+/- 3%)	mS/cm	0.279	0.500	0.530	0.550	0.558	0.557	0.551
pH (+/- 0.1)	pH unit	7.49	7.18	7.16	7.17	7.18	7.19	7.21
Temp (+/- 0.5)	C°	12.20	12.11	12.54	12.84	12.97	13.00	12.95
Color	Visual	clear	clear	clear	clear	clear	clear	clear
Odor	Olfactory	Sulfur	Sulfur	Sulfur	Sulfur	Sulfur	Sulfur	Sulfur

Comments:

turbidity meter arrived on-site @ 0843

Collect Sample at 0849

Monitoring Well Purging / Sampling Form

Project Name and Number: Ward Products 60139490.10

Monitoring Well Number: MW-14 Date: 08/23/12

Samplers: Mark Howard and Matthew Dean

Sample Number: MW-14 082312 QA/QC Collected? no

Purging / Sampling Method: Submersible pump / low flow

1. L = Well Depth:	—	feet
2. D = Riser Diameter (I.D.):	.17	feet
3. W = Depth to Water:	13.82	feet
4. C = Column of Water in Well:	—	feet
5. V = Volume of Water in Well = C(3.14159)(0.5D)^2(7.48)	—	gal
6. 3(V) = Target Purge Volume	—	gal

D (inches)	D (feet)
1-inch	0.08
2-inch	0.17
3-inch	0.25
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

Water Quality Readings Collected Using YSI 556 / NA

Parameter	Units	Readings						
Time	24 hr	8:18	8:23	8:28	8:33	8:38	8:43	8:48
Water Level (0.33)	feet	14.32	14.51	14.65	14.74	14.78	15.90	16.31
Volume Purged	gal	0	.40	.50	.60	.75	1	1.25
Flow Rate	mL/min	100	100	100	100	100	100	100
Turbidity (+/- 10%)	NTU	NA	NA	NA	NA	NA	NA	NA
Dissolved Oxygen (+/- 10%)	%	8.8	8.0	7.7	8.3	7.1	6.6	6.4
Dissolved Oxygen (+/- 10%)	mg/L	.94	.83	.79	.83	.72	.69	.66
Eh / ORP (+/- 10)	MeV	-42.4	-24.7	-44.8	-50.4	-53.8	-53.0	-54.4
Specific Conductivity (+/- 3%)	mS/cm^c	.733	.731	.731	.733	.732	.736	.739
Conductivity (+/- 3%)	mS/cm	.552	.572	.582	.586	.591	.574	.580
pH (+/- 0.1)	pH unit	7.29	6.67	6.98	7.08	7.13	7.12	7.14
Temp (+/- 0.5)	C°	12.13	13.63	14.34	14.56	14.92	13.49	13.74
Color	Visual	Cloudy	Cloudy	Cloudy	Cloudy	Cloudy	Cloudy	Cloudy
Odor	Olfactory	None	none	none	none	none	none	none

Comments: Sampled @ 8:50

MW-14 082312

Monitoring Well Purging / Sampling Form

Project Name and Number: Ward Products 60139490.10

Monitoring Well Number: MW-16 Date: 08/23/12

Samplers: Mark Howard and Matthew Dean

Sample Number: MW-16 082312 QA/QC Collected? NO

Purging / Sampling Method: Submersible pump/ low flow

1. L = Well Depth:	–	feet
2. D = Riser Diameter (I.D.):	.17	feet
3. W = Depth to Water:	22.24	feet
4. C = Column of Water in Well:	–	feet
5. V = Volume of Water in Well = $C(3.14159)(0.5D)^2(7.48)$	–	gal
6. 3(V) = Target Purge Volume	–	gal

D (inches)	D (feet)
1-inch	0.08
2-inch	0.17
3-inch	0.25
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

Water Quality Readings Collected Using YSI 556/ Turbidmeter 2020

Parameter	Units	Readings						
Time	24 hr	9:48	9:53	9:58	10:03	10:08	10:13	10:18
Water Level (0.33)	feet	24.85	27.57	28.40	29.60	30.80	31.96	
Volume Purged	gal	0	.75	1	1.25	1.40	1.60	
Flow Rate	mL/min	100	100	100	100	100	100	
Turbidity (+/- 10%)	NTU	20.2	30.2	33.8	40.7	45.7	41.0	
Dissolved Oxygen (+/- 10%)	%	3.7	2.1	2.3	2.6	2.6	2.6	
Dissolved Oxygen (+/- 10%)	mg/L	.41	.22	.25	.28	.27	.27	
Eh / ORP (+/- 10)	MeV	-121.2	-74.6	-87.6	-91.5	-88.6	-84.7	
Specific Conductivity (+/- 3%)	mS/cm[c]	.513	.454	.428	.408	.390	.373	
Conductivity (+/- 3%)	mS/cm	.377	.342	.327	.310	.297	.287	
pH (+/- 0.1)	pH unit	7.03	6.32	6.65	6.76	6.81	6.85	
Temp (+/- 0.5)	C°	11.19	12.17	12.61	12.48	12.59	12.89	
Color	Visual	Cloudy	Cloudy	Cloudy	Cloudy	Cloudy	Cloudy	
Odor	Olfactory	none	none	none	none	none	none	

Comments: Sampled @ 10:15

MW-16 082312

Monitoring Well Purging / Sampling Form

Project Name and Number: Ward Products 60139490.10

Monitoring Well Number: MW-17 Date: 8/23/12

Samplers: ~~Mark Howard~~ GLW and Matthew Dean

Sample Number: MW-17 082312 QA/QC Collected? NO

Purging / Sampling Method: Submersible pump/low flow

1. L = Well Depth:		feet
2. D = Riser Diameter (I.D.):		feet
3. W = Depth to Water:	8.29	feet
4. C = Column of Water in Well:		feet
5. V = Volume of Water in Well = C(3.14159)(0.5D)^2(7.48)		gal
6. 3(V) = Target Purge Volume		gal

D (inches)	D (feet)
1-inch	0.08
2-inch	~~0.17~~
3-inch	0.25
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

Water Quality Readings Collected Using ~~YSI~~ YSI 556 & LaMotte 2020

Parameter	Units	Readings						
		★1049						
Time	24 hr	0959	~~1004~~	1054	1059	1104	1109	1114
Water Level (0.33)	feet	8.84	11.16	18.29	22.52	24.15	24.44	24.32
Volume Purged	gal	—	—	0.80	1.65	2.10	2.5	2.80
Flow Rate	mL/min	50	500	Varied Flow Rate		400	275	200
Turbidity (+/- 10%)	NTU	8.30	14.4	11.37	10.68	7.39	8.50	4.55
Dissolved Oxygen (+/- 10%)	%	~~5~~92	71.7	21.9	3.8	5.3	4.0	2.8
Dissolved Oxygen (+/- 10%)	mg/L	5.30	6.95	2.23	0.41	0.55	0.42	0.29
Eh / ORP (+/- 10)	MeV	83.0	23.8	-2.6	-8.2	-7.8	-16.9	-22.1
Specific Conductivity (+/- 3%)	mS/cm^c	0.589	0.604	0.636	0.585	0.623	0.683	0.736
Conductivity (+/- 3%)	mS/cm	0.463	0.478	0.476	0.432	0.492	0.521	0.565
pH (+/- 0.1)	pH unit	7.51	7.50	7.26	7.22	7.23	7.22	7.23
Temp (+/- 0.5) in Sun	C°	13.69	15.63	12.30	11.24	11.99	12.53	12.98
Color	Visual	Clear	Clear	Clear	Clear	Clear	Clear	Clear
Odor	Olfactory	None	None	None	None	None	None	None

Comments: ★Pump too slow to get any water to purge - stopped pump & switched to different pump & Battery

Collect Sample at 1140

Monitoring Well Purging / Sampling Form

Project Name and Number: Ward Products 60139490.10

Monitoring Well Number: MW-17 GLW Date: 8/23/12

Samplers: ~~Mark Howard~~ and Matthew Dean

Sample Number: MW-17 082312 QA/QC Collected? NO

Purging / Sampling Method: Submersible pump | Low flow

1. L = Well Depth:		feet
2. D = Riser Diameter (I.D.):		feet
3. W = Depth to Water:	8.29	feet
4. C = Column of Water in Well:		feet
5. V = Volume of Water in Well = $C(3.14159)(0.5D)^2(7.48)$		gal
6. 3(V) = Target Purge Volume		gal

D (inches)	D (feet)
1-inch	0.08
2-inch	0.17
3-inch	0.25
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

Water Quality Readings Collected Using YSI 556 LaMotte 2020

Parameter	Units	Readings						
Time	24 hr	1119	1124	1129	1134	1139		
Water Level (0.33)	feet	26.13	28.06	28.48	28.46	28.47		
Volume Purged	gal	3.45	4.0	4.5	5.0	5.55		
Flow Rate	mL/min	variable	Variable					
Turbidity (+/- 10%)	NTU	4.18	3.92	7.44	11.35	8.7		
Dissolved Oxygen (+/- 10%)	%	2.4	2.3	2.1	2.1	2.0		
Dissolved Oxygen (+/- 10%)	mg/L	0.26	0.24	0.22	0.23	0.20		
Eh / ORP (+/- 10)	MeV	-27.6	-24.5	-24.8	-24.9	-25.4		
Specific Conductivity (+/- 3%)	mS/cm[c]	0.785	0.687	0.731	0.754	0.778		
Conductivity (+/- 3%)	mS/cm	0.588	0.519	0.559	0.574	0.589		
pH (+/- 0.1)	pH unit	7.24	7.23	7.22	7.22	7.23		
Temp (+/- 0.5)	C°	11.93	12.21	12.59	12.46	12.59		
Color	Visual	Clear	Clear	Clear	Clear	Clear		
Odor	Olfactory	None	None	None	None	None		

Comments: flow rate kept slowing down & pump would be turned up to keep purging

Collect Sample at 1140

Monitoring Well Purging / Sampling Form

Project Name and Number: Ward Products 60139490.10

Monitoring Well Number: MW-15 Date: 8/23/12

Samplers: ~~Mark Howard~~ GLW and Matthew Dean

Sample Number: MW-15 082312 QA/QC Collected? Yes

Purging / Sampling Method: Submersible pump / Low flow

1. L = Well Depth:	54.54	feet
2. D = Riser Diameter (I.D.):		feet
3. W = Depth to Water:	11.18	feet
4. C = Column of Water in Well:		feet
5. V = Volume of Water in Well = C(3.14159)(0.5D)^2(7.48)	6.93	gal
6. 3(V) = Target Purge Volume		gal

D (inches)	D (feet)
1-inch	0.08
2-inch	0.17
3-inch	0.25
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

Water Quality Readings Collected Using YSI 556 & LaMotte 2020

Parameter	Units	Readings						
Time	24 hr	1436	1441	1446	1451	1456	1501	1506
Water Level (0.33)	feet	14.49	17.08	17.74	17.88	18.02	18.09	17.98
Volume Purged	gal	→	1 gal	1.5	1.85	2.5	2.70	3
Flow Rate	mL/min	825	~~450~~ 350	350	350	325	325	300
Turbidity (+/- 10%)	NTU	28.6	31.0	33.5	33.5	23.0	17.5	12.8
Dissolved Oxygen (+/- 10%)	%	61.6	2.1	2.6	2.3	2.0	1.9	1.7
Dissolved Oxygen (+/- 10%)	mg/L	5.51	0.21	0.26	0.24	0.20	0.19	0.17
Eh / ORP (+/- 10)	MeV	-76.7	-16.6	-48.8	-57.2	-57.6	-59.2	-62.3
Specific Conductivity (+/- 3%)	mS/cm^c	1.015	0.951	0.822	0.732	0.679	0.725	0.784
Conductivity (+/- 3%)	mS/cm	0.833	0.745	0.644	0.591	0.547	0.585	0.636
pH (+/- 0.1)	pH unit	7.18	5.81	6.42	6.63	6.71	6.76	6.81
Temp (+/- 0.5) in Sun	C°	16.03	13.76	14.98	14.97	14.81	14.82	15.10
Color	Visual	clear	clear	clear	clear	clear	clear	clear
Odor	Olfactory	None	Sl. Sulf.	None	Sl. Sulf.	Sl. Sulf.	Sl. Sulf.	Sl. Sulf.

.02 Fe 132

Comments:

Collect Sample @ 1522 & Duplicate MW-Dup 082312

Monitoring Well Purging / Sampling Form

Project Name and Number: Ward Products 60139490.10

Monitoring Well Number: MW-15 Date: 8/23/12

Samplers: GLW Mark Howard and Matthew Dean

Sample Number: MW-15 082315 QA/QC Collected? Yes

Purging / Sampling Method: Submersible pump/low flow

1. L = Well Depth:	_____	feet
2. D = Riser Diameter (I.D.):	_____	feet
3. W = Depth to Water:	_____	feet
4. C = Column of Water in Well:	_____	feet
5. V = Volume of Water in Well = C(3.14159)(0.5D)^2(7.48)	_____	gal
6. 3(V) = Target Purge Volume	_____	gal

D (inches)	D (feet)
1-inch	0.08
2-inch	0.17
3-inch	0.25
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

Water Quality Readings Collected Using YSI 556 & LaMotte 2020

Parameter	Units	Readings						
Time	24 hr	1511	1516	1521				
Water Level (0.33)	feet	17.96	17.98	18.00				
Volume Purged	gal	3.40	3.70	4.05				
Flow Rate	mL/min	300	300	300				
Turbidity (+/- 10%)	NTU	10.02	8.75	8.95				
Dissolved Oxygen (+/- 10%)	%	1.6	1.6	1.5				
Dissolved Oxygen (+/- 10%)	mg/L	0.16	0.16	0.16				
Eh / ORP (+/- 10) -65.6	MeV	0.850	~~0.818~~ 0.761	0.691				
Specific Conductivity (+/- 3%)	mS/cm^c	0.689	0.899	0.923				
Conductivity (+/- 3%)	mS/cm		0.728	0.746				
pH (+/- 0.1)	pH unit	6.84	6.87	6.88				
Temp (+/- 0.5)	C°	15.06	15.05	14.94				
Color	Visual	clear	clear	clear				
Odor	Olfactory	None	None	None				

Comments:

Collect sample @ 1522 & Duplicate MW-Dup 082312

Monitoring Well Purging / Sampling Form

Project Name and Number: Ward Products 60139490.10

Monitoring Well Number: MW-18 Date: 8/24/12

Samplers: Mark Howard and Matthew Dean

Sample Number: MW-18 082412 QA/QC Collected? MS/MSD

Purging / Sampling Method: Sub / Low Flow

1. L = Well Depth:		feet
2. D = Riser Diameter (I.D.):	0.17	feet
3. W = Depth to Water:	22.53	feet
4. C = Column of Water in Well:		feet
5. V = Volume of Water in Well = C(3.14159)(0.5D)^2(7.48)		gal
6. 3(V) = Target Purge Volume		gal

D (inches)	D (feet)
1-inch	0.08
2-inch	0.17
3-inch	0.25
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

Water Quality Readings Collected Using _____

Parameter	Units	Readings						
Time	24 hr	810	815	820	825	830	835	840
Water Level (0.33)	feet	23.30	23.26	23.27	23.33	23.38	23.42	23.44
Volume Purged	gal	0	<0.25	0.25	<0.5	<0.50	0.50	>0.50
Flow Rate	mL/min	100	100	100	100	100	100	100
Turbidity (+/- 10%)	NTU	25.1	26.7	23.7	23.0	25.3	29.4	28.7
Dissolved Oxygen (+/- 10%)	%	65.5	64.7	61.6	59.4	57.6	53.6	52.0
Dissolved Oxygen (+/- 10%)	mg/L	6.99	6.88	6.57	6.33	6.09	5.66	5.47
Eh / ORP (+/- 10)	MeV	83.7	145.6	129.6	111.6	106.8	106.5	105.3
Specific Conductivity (+/- 3%)	mS/cm^c	0.275	0.275	0.275	0.274	0.275	0.276	0.277
Conductivity (+/- 3%)	mS/cm	0.209	0.210	0.209	0.208	0.211	0.212	0.213
pH (+/- 0.1)	pH unit	6.38	5.70	6.18	6.58	6.73	6.79	6.81
Temp (+/- 0.5)	C°	12.40	12.51	12.45	12.45	12.85	12.82	12.89
Color	Visual	Clear	Clear	Clear	Clear	Clear	Clear	Clear
Odor	Olfactory	None	None	None	None	None	None	None

Comments:

Monitoring Well Purging / Sampling Form

Project Name and Number: Ward Products 60139490.10

Monitoring Well Number: MW-18 Date: 8/24/12

Samplers: Mark Howard and Matthew Dean

Sample Number: MW-18 082412 QA/QC Collected? MS/MSD

Purging / Sampling Method: Sub / Low Flow

1. L = Well Depth:		feet
2. D = Riser Diameter (I.D.):	0.17	feet
3. W = Depth to Water:	22.53	feet
4. C = Column of Water in Well:		feet
5. V = Volume of Water in Well = C(3.14159)(0.5D)^2(7.48)		gal
6. 3(V) = Target Purge Volume		gal

D (inches)	D (feet)
1-inch	0.08
2-inch	0.17
3-inch	0.25
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

Water Quality Readings Collected Using _____

Parameter	Units	Readings						
Time	24 hr	845	850					
Water Level (0.33)	feet	23.43	23.43					
Volume Purged	gal	>0.50	<0.5					
Flow Rate	mL/min	100	100					
Turbidity (+/- 10%)	NTU	30.3	36.3					
Dissolved Oxygen (+/- 10%)	%	48.6	48.8					
Dissolved Oxygen (+/- 10%)	mg/L	5.10	5.08					
Eh / ORP (+/- 10)	MeV	104.0	104.2					
Specific Conductivity (+/- 3%)	mS/cm^c	0.279	0.285					
Conductivity (+/- 3%)	mS/cm	0.216	0.220					
pH (+/- 0.1)	pH unit	6.83	6.84					
Temp (+/- 0.5)	C°	13.25	13.10					
Color	Visual	Clear	Clear					
Odor	Olfactory	None	None					

Comments: Sampled @ 850

Monitoring Well Purging / Sampling Form

Project Name and Number: Ward Products 60139490.10

Monitoring Well Number: MW-20 Date: 8/24/12

Samplers: Mark Howard and Matthew Dean

Sample Number: MW-20 082412 QA/QC Collected? _____

Purging / Sampling Method: Dedicated Bailer

1. L = Well Depth:	54.64	feet
2. D = Riser Diameter (I.D.):		feet
3. W = Depth to Water:	24.84 ~~54.64~~	feet
4. C = Column of Water in Well:		feet
5. V = Volume of Water in Well = C(3.14159)(0.5D)^2(7.48)	4.8	gal
6. 3(V) = Target Purge Volume	~~19.56~~	gal

D (inches)	D (feet)
1-inch	0.08
2-inch	0.17
3-inch	0.25
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

Water Quality Readings Collected Using _____

Parameter	Units	Readings						
Time	24 hr	8:16						
Water Level (0.33)	feet	20.36						
Volume Purged	gal							
Flow Rate	mL/min							
Turbidity (+/- 10%)	NTU	40						
Dissolved Oxygen (+/- 10%)	%	31.6						
Dissolved Oxygen (+/- 10%)	mg/L	3.30						
Eh / ORP (+/- 10)	MeV	62.1						
Specific Conductivity (+/- 3%)	mS/cm^c	.964						
Conductivity (+/- 3%)	mS/cm	.745						
pH (+/- 0.1)	pH unit	7.35						
Temp (+/- 0.5)	C°	13.17						
Color	Visual	Cloudy						
Odor	Olfactory	none						

Comments: Purged dry at 15:18
10.5 gal

Sampled @ 8:23

Monitoring Well Purging / Sampling Form

Project Name and Number: Ward Products 60139490.10

Monitoring Well Number: MW-11 Date: 8/24/12

Samplers: Mark Howard and Matthew Dean

Sample Number: MW-11 082412 QA/QC Collected? no

Purging / Sampling Method:

1. L = Well Depth:		feet
2. D = Riser Diameter (I.D.):	2	feet
3. W = Depth to Water:	15.65	feet
4. C = Column of Water in Well:		feet
5. V = Volume of Water in Well = C(3.14159)(0.5D)^2(7.48)		gal
6. 3(V) = Target Purge Volume		gal

D (inches)	D (feet)
1-inch	0.08
~~2-inch~~	0.17
3-inch	0.25
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

Water Quality Readings Collected Using

Parameter	Units	Readings						
Time	24 hr	9:32	10:43					
Water Level (0.33)	feet	~~28.46~~	15.65					
Volume Purged	gal	0	—					
Flow Rate	mL/min	~~0~~	—					
Turbidity (+/- 10%)	NTU	22.7	27.3					
Dissolved Oxygen (+/- 10%)	%	12.6	21.4					
Dissolved Oxygen (+/- 10%)	mg/L	1.30	2.17					
Eh / ORP (+/- 10)	MeV	-103.7	-56.4					
Specific Conductivity (+/- 3%)	mS/cm^c	.562	.532					
Conductivity (+/- 3%)	mS/cm	.429	.425					
pH (+/- 0.1)	pH unit	7.49	7.53					
Temp (+/- 0.5)	C°	12.73	14.58					
Color	Visual	Cloudy	Cloudy					
Odor	Olfactory	~~None~~ Sulfur	Sulfur					

Comments: Purged dry @ 9:34 w/ 1.75 gal

Sampled @ 10:45

MW-11 082412

SSSB-1 ~20" 1005 SSSB-1 082412

B-3 ~12" 10:30 RSSB-1 082412

Monitoring Well Purging / Sampling Form

Project Name and Number: Ward Products 60139490.10

Monitoring Well Number: MW-19 Date: 8/23/12 - 8/24/12

Samplers: ~~Mark Howard~~ GLW and Matthew Dean

Sample Number: MW-19 082312 QA/QC Collected? _____

Purging / Sampling Method: Submersible pump/low flow

1. L = Well Depth:	_____	feet
2. D = Riser Diameter (I.D.):	_____	feet
3. W = Depth to Water:	31.84	feet
4. C = Column of Water in Well:	_____	feet
5. V = Volume of Water in Well = C(3.14159)(0.5D)^2(7.48)	_____	gal
6. 3(V) = Target Purge Volume	_____	gal

D (inches)	D (feet)
1-inch	0.08
2-inch	0.17
3-inch	0.25
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

Water Quality Readings Collected Using YSI 556 & LaMotte 2020

Parameter	Units	Readings						
Time	24 hr	1252	1257	1302	1307	1312	1317	1322
Water Level (0.33)	feet	35.98	37.91	41.23	41.60	42.30	42.38	43.06
Volume Purged	gal	—	0.50	1.15	1.30	1.50	1.55	1.80
Flow Rate	mL/min	225	375	250	200	100	100	100
Turbidity (+/- 10%)	NTU	8.43	7.82	7.62	9.62	8.36	6.79	8.83
Dissolved Oxygen (+/- 10%)	%	42.1	20.5	16.1	53.3	36.6	35.6	50.0
Dissolved Oxygen (+/- 10%)	mg/L	3.94	1.97	1.56	4.80	3.28	3.10	4.32
Eh / ORP (+/- 10)	MeV	60.0	26.9	18.4	28.6	22.7	21.5	39.2
Specific Conductivity (+/- 3%)	mS/cm^c	1.047	1.068	1.044	1.051	1.054	1.059	1.056
Conductivity (+/- 3%)	mS/cm	0.894	0.903	0.878	0.956	0.969	1.004	0.983
pH (+/- 0.1)	pH unit	6.98	7.04	7.03	7.13	7.09	7.06	7.19
Temp (+/- 0.5)	C°	17.88	16.71	16.58	20.22	20.65	22.33	21.36
Color	Visual	Clear	Clear	Clear	Clear	Clear	Clear	Clear
Odor	Olfactory	None	None	None	None	None	None	None

Comments:

Switch to bailing 3 well vol's in order to collect sample

had to stop purge & readjust pump/ Battery connection

Pump would no longer purge out

70.61 DTB

1V = 4.40
3V = 13.22 } Based on last DTW (43.06)

Monitoring Well Purging / Sampling Form

Project Name and Number: Ward Products 60139490.10

Monitoring Well Number: MW-19 Date: ~~8/23/12~~ 8/24/12

Samplers: GLW Mark Howard and Matthew Dean

Sample Number: MW-19 082312 QA/QC Collected? _____

Purging / Sampling Method: Bailer

1. L = Well Depth:	70.61	feet
2. D = Riser Diameter (I.D.):		feet
3. W = Depth to Water:	43.06	feet
4. C = Column of Water in Well:		feet
5. V = Volume of Water in Well = C(3.14159)(0.5D)^2(7.48)	4.40	gal
6. 3(V) = Target Purge Volume	13.22	gal

D (inches)	D (feet)
1-inch	0.08
2-inch	0.17
3-inch	0.25
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

Water Quality Readings Collected Using YSI 556 & LaMotte 2020

Parameter	Units	Readings						
Time	24 hr	1334	1346			8:32		
Water Level (0.33)	feet	—	—			35.78		
Volume Purged	gal	initial	1V	2V	3V			
Flow Rate	mL/min	—	—	—	—			
Turbidity (+/- 10%)	NTU	12.6	830			105.1		
Dissolved Oxygen (+/- 10%)	%	52.7	39.6			39		
Dissolved Oxygen (+/- 10%)	mg/L	5.26	3.90			4.10		
Eh / ORP (+/- 10)	MeV	25.7	23.0			48		
Specific Conductivity (+/- 3%)	mS/cm^c	1.056	1.136			1.051		
Conductivity (+/- 3%)	mS/cm	0.850	0.861			.830		
pH (+/- 0.1)	pH unit	7.10	7.16			7.22		
Temp (+/- 0.5)	C°	14.69	12.63			12.86		
Color	Visual	clear	cloudy			Cloudy		
Odor	Olfactory	None	None			none		

Comments: 1404 - Purged dry after 7.75 ga - will wait for recharge & collect sample then

Sampled @ 8:35 MW-19 082412

Appendix C

Environmental Easement

SCHENCK PRICE SMITH & KING, LLP
ATTORNEYS AT LAW
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September 16, 2011

By Regular Mail and Electronic Mail

Yvonne M. Ward, Esq.
Senior Attorney
NYS Department of Environmental Conservation
Office of the General Counsel
625 Broadway
Albany, New York 12233-5500

Lawrence Alden, Project Manager
Division of Environmental Remediation
NYS Department of Environmental Conservation
625 Broadway, 12th Floor
Albany, New York 12233-7013

Re: New Water Realty Corporation f/k/a Ward Products ("NWR")
Ward Products Site (Amsterdam, NY); Site #429004

Dear Ms. Ward and Mr. Alden:

Enclosed please find a copy of the recorded Easement. The required notice to Harris and Diligenz will go next week. Call if there are any questions or concerns.

Very truly yours,

Richard J. Conway, Jr.

Enc.

ENVIRONMENTAL EASEMENT GRANTED PURSUANT TO ARTICLE 71, TITLE 36 OF THE NEW YORK STATE ENVIRONMENTAL CONSERVATION LAW

THIS INDENTURE made this 10 day of August, 2011, between Owner(s) New Water Realty Corporation (f/k/a Ward Products Corporation, Ward Products, Inc. and similar terms, successor by merger to Water Realty Company), a New York Corporation, having an office at c/o Barbara Littleton, CEO, 2900 Orchard Place, Orchard Lake, MI 48324, County of Oakland, State of Michigan (the "Grantor"), and The People of the State of New York (the "Grantee."), acting through their Commissioner of the Department of Environmental Conservation (the "Commissioner", or "NYSDEC" or "Department" as the context requires) with its headquarters located at 625 Broadway, Albany, New York 12233.

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to encourage the remediation of abandoned and likely contaminated properties ("sites") that threaten the health and vitality of the communities they burden while at the same time ensuring the protection of public health and the environment; and

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to establish within the Department a statutory environmental remediation program that includes the use of Environmental Easements as an enforceable means of ensuring the performance of operation, maintenance, and/or monitoring requirements and the restriction of future uses of the land, when an environmental remediation project leaves residual contamination at levels that have been determined to be safe for a specific use, but not all uses, or which includes engineered structures that must be maintained or protected against damage to perform properly and be effective, or which requires groundwater use or soil management restrictions; and

WHEREAS, the Legislature of the State of New York has declared that Environmental Easement shall mean an interest in real property, created under and subject to the provisions of Article 71, Title 36 of the New York State Environmental Conservation Law ("ECL") which contains a use restriction and/or a prohibition on the use of land in a manner inconsistent with engineering controls which are intended to ensure the long term effectiveness of a site remedial program or eliminate potential exposure pathways to hazardous waste or petroleum; and

WHEREAS, Grantor, is the owner of real property located at the address of 61 Edson Street in the City of Amsterdam, County of Montgomery and State of New York, known and designated on the tax map of the County Clerk of Montgomery as tax map parcel numbers: Section 56.10 Block 2 Lot 34, being the same as that property conveyed to Grantor by deed dated April 27, 1972 and recorded in the Montgomery County Clerk's Office in Liber 391 at Page 345. The property subject to this Environmental Easement (the "Controlled Property") comprises approximately 2.49 +/- acres which is part of a larger parcel of 8.9 +/- acres, and is hereinafter more fully described in the Land Title Survey dated May 11, 2011, last revised July 1, 2011 prepared by Ferguson and Foss Professional Land Surveyors, PC, which will be attached to the Site Management Plan. The Controlled Property description is set forth in and attached hereto as Schedule A; and

WHEREAS, the Department accepts this Environmental Easement in order to ensure the protection of public health and the environment and to achieve the requirements for remediation established for the Controlled Property until such time as this Environmental Easement is

extinguished pursuant to ECL Article 71, Title 36; and

NOW THEREFORE, in consideration of the mutual covenants contained herein and the terms and conditions of Order on Consent Index Number: A4-0588-0507, Grantor conveys to Grantee a permanent Environmental Easement pursuant to ECL Article 71, Title 36 in, on, over, under, and upon the Controlled Property as more fully described herein ("Environmental Easement")

1. Purposes. Grantor and Grantee acknowledge that the Purposes of this Environmental Easement are: to convey to Grantee real property rights and interests that will run with the land in perpetuity in order to provide an effective and enforceable means of encouraging the reuse and redevelopment of this Controlled Property at a level that has been determined to be safe for a specific use while ensuring the performance of operation, maintenance, and/or monitoring requirements; and to ensure the restriction of future uses of the land that are inconsistent with the above-stated purpose.

2. Institutional and Engineering Controls. The controls and requirements listed in the Department approved Site Management Plan ("SMP") including any and all Department approved amendments to the SMP are incorporated into and made part of this Environmental Easement. These controls and requirements apply to the use of the Controlled Property, run with the land, are binding on the Grantor and the Grantor's successors and assigns, and are enforceable in law or equity against any owner of the Controlled Property, any lessees and any person using the Controlled Property.

A. (1) The Controlled Property may be used for:

Commercial as described in 6 NYCRR Part 375-1.8(g)(2)(iii) and Industrial as described in 6 NYCRR Part 375-1.8(g)(2)(iv)

(2) All Engineering Controls must be operated and maintained as specified in the Site Management Plan (SMP);

(3) All Engineering Controls must be inspected at a frequency and in a manner defined in the SMP.

(4) Groundwater and other environmental or public health monitoring must be performed as defined in the SMP;

(5) Data and information pertinent to Site Management of the Controlled Property must be reported at the frequency and in a manner defined in the SMP;

(6) All future activities on the property that will disturb remaining contaminated material must be conducted in accordance with the SMP;

(7) Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in the SMP.

(8) Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical components of the remedy shall be performed as defined in the SMP.

(9) Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by this Environmental Easement.

B. The Controlled Property shall not be used for Residential or Restricted Residential purposes as defined in 6NYCRR 375-1.8(g)(2)(i) and (ii), and the above-stated engineering controls may not be discontinued without an amendment or extinguishment of this Environmental Easement.

C. The SMP describes obligations that the Grantor assumes on behalf of Grantor, its successors and assigns. The Grantor's assumption of the obligations contained in the SMP which may include sampling, monitoring, and/or operating a treatment system, and providing certified reports to the NYSDEC, is and remains a fundamental element of the Department's determination that the Controlled Property is safe for a specific use, but not all uses. The SMP may be modified in accordance with the Department's statutory and regulatory authority. The Grantor and all successors and assigns, assume the burden of complying with the SMP and obtaining an up-to-date version of the SMP from:

Site Control Section
Division of Environmental Remediation
NYSDEC
625 Broadway
Albany, New York 12233
Phone: (518) 402-9553

D. Grantor must provide all persons who acquire any interest in the Controlled Property a true and complete copy of the SMP that the Department approves for the Controlled Property and all Department-approved amendments to that SMP.

E. Grantor covenants and agrees that until such time as the Environmental Easement is extinguished in accordance with the requirements of ECL Article 71, Title 36 of the ECL, the property deed and all subsequent instruments of conveyance relating to the Controlled Property shall state in at least fifteen-point bold-faced type:

This property is subject to an Environmental Easement held by the New York State Department of Environmental Conservation pursuant to Title 36 of Article 71 of the Environmental Conservation Law.

F. Grantor covenants and agrees that this Environmental Easement shall be incorporated in full or by reference in any leases, licenses, or other instruments granting a right to use the Controlled Property.

G. Grantor covenants and agrees that it shall annually, or such time as NYSDEC may

allow, submit to NYSDEC a written statement by an expert the NYSDEC may find acceptable certifying under penalty of perjury, in such form and manner as the Department may require, that:

(1) the inspection of the site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under the direction of the individual set forth at 6 NYCRR Part 375-1.8(h)(3).

(2) the institutional controls and/or engineering controls employed at such site:

(i) are in-place;

(ii) are unchanged from the previous certification, or that any identified changes to the controls employed were approved b the NYSDEC and that all controls are in the Department-approved format; and

(iii) that nothing has occurred that would impair the ability of such control to protect the public health and environment;

(3) the owner will continue to allow access to such real property to evaluate the continued maintenance of such controls;

(4) nothing has occurred that would constitute a violation or failure to comply with any site management plan for such controls;

(5 the report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

(6) to the best of his/her knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and

(7) the information presented is accurate and complete.

3. Right to Enter and Inspect. Grantee, its agents, employees, or other representatives of the State may enter and inspect the Controlled Property in a reasonable manner and at reasonable times to assure compliance with the above-stated restrictions.

4. Reserved Grantor's Rights. Grantor reserves for itself, its assigns, representatives, and successors in interest with respect to the Property, all rights as fee owner of the Property, including:

A. Use of the Controlled Property for all purposes not inconsistent with, or limited by the terms of this Environmental Easement;

B. The right to give, sell, assign, or otherwise transfer part or all of the underlying fee interest to the Controlled Property, subject and subordinate to this Environmental Easement;

5. Enforcement

A. This Environmental Easement is enforceable in law or equity in perpetuity by Grantor, Grantee, or any affected local government, as defined in ECL Section 71-3603, against the owner of the Property, any lessees, and any person using the land. Enforcement shall not be defeated because of any subsequent adverse possession, laches, estoppel, or waiver. It is not a defense in any action to enforce this Environmental Easement that: it is not appurtenant to an interest in real property; it is not of a character that has been recognized traditionally at common law; it imposes a negative burden; it imposes affirmative obligations upon the owner of any interest in the burdened property; the benefit does not touch or concern real property; there is no privity of estate or of contract; or it imposes an unreasonable restraint on alienation.

[6/11]

B. If any person violates this Environmental Easement, the Grantee may revoke the Certificate of Completion with respect to the Controlled Property.

C. Grantee shall notify Grantor of a breach or suspected breach of any of the terms of this Environmental Easement. Such notice shall set forth how Grantor can cure such breach or suspected breach and give Grantor a reasonable amount of time from the date of receipt of notice in which to cure. At the expiration of such period of time to cure, or any extensions granted by Grantee, the Grantee shall notify Grantor of any failure to adequately cure the breach or suspected breach, and Grantee may take any other appropriate action reasonably necessary to remedy any breach of this Environmental Easement, including the commencement of any proceedings in accordance with applicable law.

D. The failure of Grantee to enforce any of the terms contained herein shall not be deemed a waiver of any such term nor bar any enforcement rights.

6. Notice. Whenever notice to the Grantee (other than the annual certification) or approval from the Grantee is required, the Party providing such notice or seeking such approval shall identify the Controlled Property by referencing the following information:

County, NYSDEC Site Number, NYSDEC Brownfield Cleanup Agreement, State Assistance Contract or Order Number, and the County tax map number or the Liber and Page or computerized system identification number.

Parties shall address correspondence to:

Site Number: 4-29-004
Office of General Counsel
NYSDEC
625 Broadway
Albany New York 12233-5500

With a copy to:

Site Control Section
Division of Environmental Remediation
NYSDEC
625 Broadway
Albany, NY 12233

All notices and correspondence shall be delivered by hand, by registered mail or by Certified mail and return receipt requested. The Parties may provide for other means of receiving and communicating notices and responses to requests for approval.

7. Recordation. Grantor shall record this instrument, within thirty (30) days of execution of this instrument by the Commissioner or her/his authorized representative in the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

8. Amendment. Any amendment to this Environmental Easement may only be executed by the Commissioner of the New York State Department of Environmental Conservation or the Commissioner's Designee, and filed with the office of the recording officer for the county or

counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

9. Extinguishment. This Environmental Easement may be extinguished only by a release by the Commissioner of the New York State Department of Environmental Conservation, or the Commissioner's Designee, and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

10. Joint Obligation. If there are two or more parties identified as Grantor herein, the obligations imposed by this instrument upon them shall be joint and several.

IN WITNESS WHEREOF, Grantor has caused this instrument to be signed in its name.

Grantor: New Water Realty Corporation

By: Barbara C. Littleton

Print Name: Barbara C. Littleton

Title: President, Secretary & Treasurer Date: _____

Grantor's Acknowledgment

STATE OF ~~NEW YORK~~ MICHIGAN)
) ss:
COUNTY OF Oakland)

On the 27 day of July, in the year 2011, before me, the undersigned, personally appeared Barbara C Littleton, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

Notary Public - State of ~~New York~~ MICHIGAN

ROGER J NICKELS
Notary Public - Michigan
Oakland County
My Commission Expires Jul 11, 2012
Acting in the County of Oakland

THIS ENVIRONMENTAL EASEMENT IS HEREBY ACCEPTED BY THE PEOPLE OF THE STATE OF NEW YORK, Acting By and Through the Department of Environmental Conservation as Designee of the Commissioner.

By: _____
Dale A. Desnoyers, Director
Division of Environmental Remediation

Grantee's Acknowledgment

STATE OF NEW YORK)
) ss:
COUNTY OF ALBANY)

On the 10 day of August, in the year 2011, before me, the undersigned, personally appeared Dale Desnoyers, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/ executed the same in his/her/ capacity as Designee of the Commissioner of the State of New York Department of Environmental Conservation, and that by his/her/ signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

_____
Notary Public - State of New York

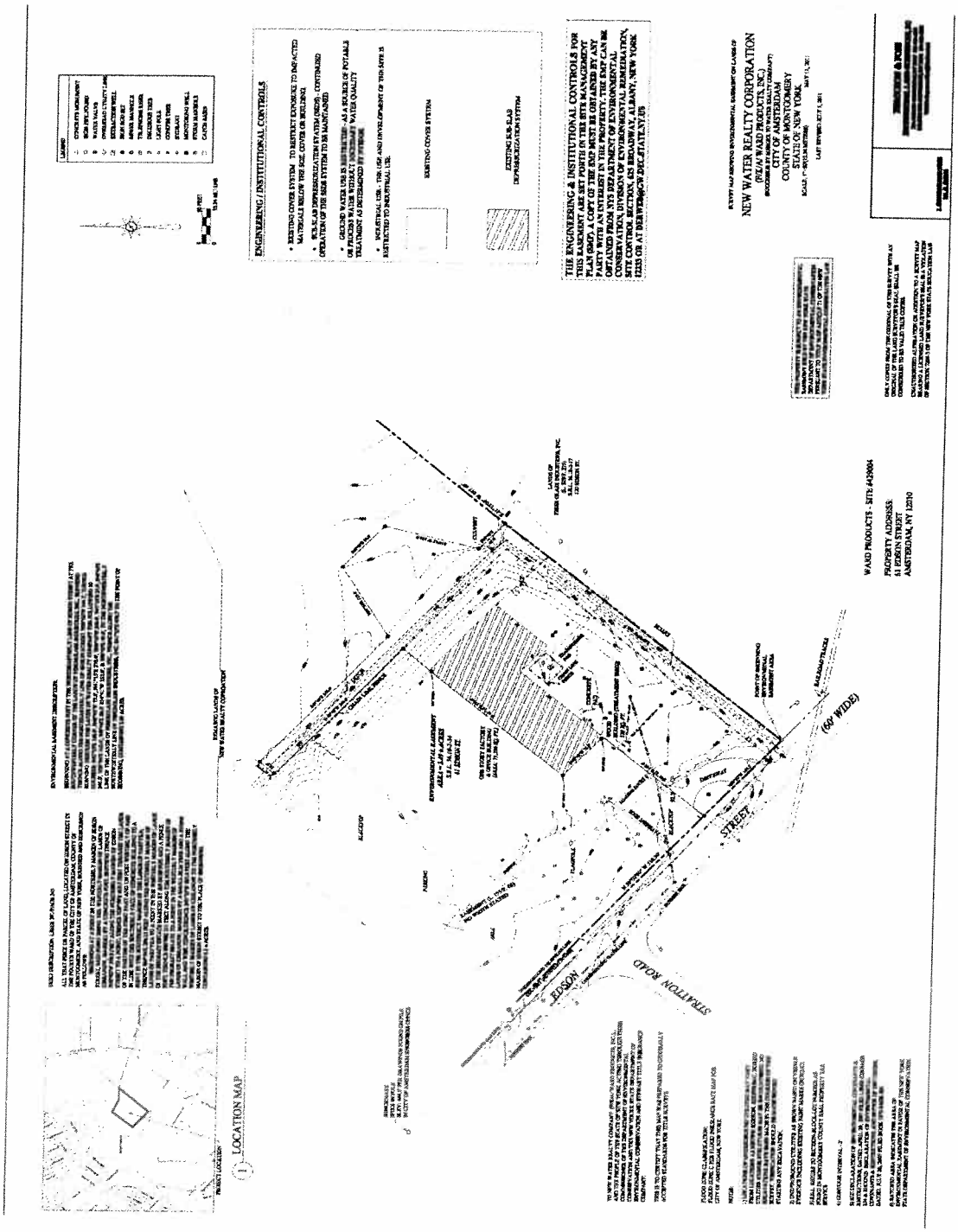
David J. Chiusano
Notary Public, State of New York
No. 01CH5032146
Qualified in Schenectady County
Commission Expires August 22, 2014

SCHEDULE "A" PROPERTY DESCRIPTION

Address: New Water Realty Corp., 61 Edson Street, Town of Amsterdam, Montgomery County, NY
Tax Map: 56.10-2-34

BEGINNING AT A CONCRETE POST IN THE NORTHWESTERLY LINE OF EDSON STREET AT THE SOUTHWESTERLY CORNER OF THE LANDS OF FIBERGLASS INDUSTRIES, INC., RUNNING THENCE ALONG THE NORTHWESTERLY LINE OF EDSON STREET N 50° 02' W 144.1', THENCE RUNNING THROUGH THE LANDS OF WATER REALTY COMPANY THE FOLLOWING 10 COURSES; N 41°15'E 168.0', N 48°45'W 75.0', N 41°15' E 270.0', N48°45'W 240.0 ', N 41° 15' E 25.0', S 48° 45' E 240.0', N58°54'E 115.4', S48°45'E 80.0' S 14°41'W 123.0', S 48°45'E 49.0', TO THE NORTHWESTERLY LINE OF THE LANDS OF FIBERGLASS INDUSTRIES, INC., THENCE ALONG THE NORTHWESTERLY LINE OF FIBERGLASS INDUSTRIES, INC. S41°15'E 459.7' TO THE POINT OF BEGINNING, CONTAINING 2.49 ACRES.

SURVEY


NEW WATER REALTY CORPORATION
(FORMER WARD PRODUCTS, INC.)
CITY OF AMSTERDAM
COUNTY OF MONTGOMERY
STATE OF NEW YORK
ENGINEERING / INSTITUTIONAL CONTROLS
WARD PRODUCTS - SITE #429004
PROPERTY ADDRESS:
61 EDSON STREET
AMSTERDAM, NY 12010
LOCATION MAP
EDSON
STRATTON ROAD
STREET
(60' WIDE)

Appendix D

Sediment Basin Photographs

Chapman Drive sediment basin

Route 5 sediment basin

Sam Stratton sediment basin

Appendix E

Site Management Periodic Review Report and IC/EC Certification Submittal

Enclosure 2

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Site Management Periodic Review Report Notice
Institutional and Engineering Controls Certification Form

Site Details **Box 1**

Site No. 429004

Site Name Ward Products

Site Address: Edson Street Zip Code: 12010
City/Town: Amsterdam
County: Montgomery
Site Acreage: 2.5

Reporting Period: January 31, 2012 to December 01, 2012

	YES	NO
1. Is the information above correct?	☒	☐
If NO, include handwritten above or on a separate sheet.		
2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?	☐	☒
3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?	☐	☒
4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?	☐	☒
If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.		
5. Is the site currently undergoing development?	☐	☒

Box 2

	YES	NO
6. Is the current site use consistent with the use(s) listed below? Commercial and Industrial	☒	☐
7. Are all ICs/ECs in place and functioning as designed?	☒	☐

IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

Signature of Owner, Remedial Party or Designated Representative

Date

SITE NO. 429004 **Box 3**

Description of Institutional Controls

Parcel	Owner	Institutional Control
56.10-2-34	New Water Realty Corp. c/o B. Littleton	Building Use Restriction
		Ground Water Use Restriction
		IC/EC Plan
		Landuse Restriction
		Monitoring Plan
		O&M Plan
		Site Management Plan
		Soil Management Plan

Box 4

Description of Engineering Controls

Parcel	Engineering Control
56.10-2-34	Cover System
	Groundwater Containment
	Groundwater Treatment System
	Vapor Mitigation

Engineering Control Details for Site No. 429004

Parcel: 56.10-2-34
From ROD:

6.Imposition of an institutional control in the form of an environmental easement that will (a) limit the use and development of the property to industrial use; (b) require compliance with the approved site management plan; (c) restrict the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by NYSDOH; and (d) require the property owner to complete and submit to the Department a periodic certification of institutional and engineering controls.

7.Development of a site management plan which will include the following institutional and engineering controls:(a) management of the final cover system to restrict excavation below the soil cover or buildings. Excavated soil would be tested, properly handled to protect the health and safety of workers and the nearby community, and would be properly managed in a manner acceptable to the Department. Entities responsible for maintenance of sediment basins downstream from the site will be notified that sediment collecting in those basins may be contaminated; (b) if contaminated soil beneath the building slab ever becomes accessible, it will be removed and properly managed; (c) continued operation of the sub-slab depressurization system at the Ward Products building whenever it is occupied, unless future data warrants otherwise; (d) soil vapor intrusion evaluations at any buildings located above the contaminated groundwater plume if there is a change in the current use of that building; (e) monitoring of groundwater, sediment, and indoor air; (f) identification of any use restrictions on the site; and (g) provisions for the continued proper operation and maintenance of the components of the remedy.

8.The property owner will provide a periodic certification of institutional and engineering controls, prepared and submitted by a professional engineer or such other expert acceptable to the Department, until the Department notifies the property owner in writing that this certification is no longer needed. This submittal will: (a) contain certification that the institutional controls and engineering controls put in place are still in place and are either unchanged from the previous certification or are compliant with Department-approved modifications; (b) allow the Department access to the site; and (c) state that nothing has occurred that will impair the ability of the control to protect public health or the environment, or constitute a violation or failure to comply with the site management plan.

Box 5

Periodic Review Report (PRR) Certification Statements

1. I certify by checking "YES" below that:

   a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

   b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and the information presented is accurate and compete.

YES	NO
☒	☐

2. If this site has an IC/EC Plan (or equivalent as required in the Decision Document), for each Institutional or Engineering control listed in Boxes 3 and/or 4, I certify by checking "YES" below that all of the following statements are true:

   (a) the Institutional Control and/or Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

   (b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

   (c) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control;

   (d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and

   (e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

YES	NO
☒	☐

IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

_____ _____

Signature of Owner, Remedial Party or Designated Representative — Date

IC CERTIFICATIONS
SITE NO. 429004

Box 6

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

I certify that all information and statements in Boxes 1,2, and 3 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Barbara Littleton (print name) at 2900 Orchard Place, Orchard Lake, MI 48324 (print business address)

New Water Realty Corporation

am certifying as President of Owner and Remedial Party (Owner or Remedial Party)

for the Site named in the Site Details Section of this form.

New Water Realty Corporation
by Barbara Littleton
Barbara Littleton, President

Signature of Owner, Remedial Party, or Designated Representative Rendering Certification

December 13, 2012
Date

IC/EC CERTIFICATIONS

Box 7

Professional Engineer Signature

I certify that all information in Boxes 4 and 5 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Scott A. Underhill at 40 British American Blvd, Latham, NY 12110
print name print business address

am certifying as a Professional Engineer for the Owner
(Owner or Remedial Party)

Scott A. Underhill
Signature of Professional Engineer, for the Owner or Remedial Party, Rendering Certification

Stamp 075332 (Required for PE)

12-18-12
Date

Appendix F

Construction Completion Report (RW-02)

AECOM
250 Apollo Drive
Chelmsford, MA 01824

978.905.2100 tel
978.905.2101 fax

November 20, 2012

Mr. Lawrence J. Alden, P.E.
New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway, 12th Floor
Albany, New York 12233-7013

Via email: ljalden@gw.dec.state.ny.us

Subject: Installation of Recovery Well and Modifications to the Remedial System - Construction Completion Report, Former Ward Products Sites NYSDEC Site #429004

Dear Mr. Alden,

AECOM Environment (AECOM), on behalf of New Water Reality (NWR), has prepared this Construction Completion Report to provide you with a synopsis of the activities that were completed associated with the installation of the recovery well and modifications to the remedial system. The basis for this work was provided in our letter to you, "Former Ward Products Site, Future Recommendations", dated March 21, 2012. In that letter we noted that trichloroethene (TCE) concentrations in groundwater were present along the former Ward Products property line (along Edson Street) and in two of the wells located on the UCMI property. These TCE concentrations persist despite two full rounds of InSitu-Chemical-Oxidation (ISCO), injections and the groundwater treatment system running continuously since June of 2009. AECOM reviewed multiple remedial approaches and determined that the addition of a second extraction well would improve TCE capture by expanding the zone of groundwater capture.

As part of the design process for this additional well, AECOM recommended that an aquifer pumping test be conducted in the area of the former injection well IW-01. This location was selected based on historical concentrations of TCE in the groundwater collected as part of the semi-annual groundwater sampling program, historic groundwater flow patterns, and the presence of nearby existing monitoring wells for water level monitoring points during the pumping test.

AECOM conducted the aquifer pumping test on July 11 and 12, 2012. The results of the pumping test indicated that IW-01 would be a good location to install the second recovery well. The results of that pumping test and our recommendations were provided to you in our letter titled, "Pump Test Results for IW-01 Former Ward Products Site, NYSDEC Site ID #429004", dated August 15, 2012.

The following text outlines the activities that were completed associated with this work.

Preparatory Work

As required by the Site Management Plan (SMP) and recorded Environmental Easement, any work that disturbs the soil cap, which is an Engineering Control, requires compliance with its terms. In order to assure compliance with these requirements, AECOM consulted with NYSDEC about how best to proceed, including whether disturbed soils could simply be reused. NYSDEC suggested that soil sampling of the area to be disturbed be conducted to determine that reuse was appropriate. AECOM collected the requisite soil samples in July 11, 2012. The soil samples were analyzed for:

- Cadmium
- Chromium
- Lead
- Nickel
- Zinc

The analytical results confirmed that the metals concentrations in the soil to be excavated were below Unrestricted Soil Cleanup Objectives, and as previously approved by the NYSDEC; all excavated soil was re-used as backfill. The specific results of the soil sample analytical data was provided NYSDEC in our letter titled "Analytical Results from Soil Sampling of Proposed Additional Conveyance Trench", dated July 26, 2012.

Construction Activities

Construction activities began on August 27, 2012. Prior to beginning any work, the site history was reviewed and the health and safety procedures and protocol to be followed by all contractors were outlined and discussed with the contractors. Precision Environmental Services (PES) was AECOM's prime sub-contractor for this work. PES utilized ADT for the over drilling of IW-01; NYLD located the underground utilities in the construction zone (conveyance pipe trench); and MAC Electric, a NY licensed electrician, performed the electrical work.

Over Drilling of IW-01

Drilling activities were conducted and completed on August 27, 2012. The 2-inch diameter existing well was removed from the IW-01 borehole. The bore hole was then over drilled to allow the placement of a 4-inch diameter PVC well sleeve and 4-inch well screen inside. The well sleeve and screen extend from the bottom of the 6-steel casing at approximately 30 feet below ground surface (bgs) to the bottom of the borehole at approximately 50 feet bgs. The surface casing was not removed because it is a steel casing grouted into bedrock to a depth of 30 bgs. This construction did not allow for the placement of a sand/gravel pack around the well screen which is set in bedrock. The well screen was included in the well construction to allow the borehole to remain open if collapsing bedrock conditions occur as previously experienced at this well location.

After the drilling was completed, the well was purged to remove the suspend solids (PVC pipe cuttings and soil). All drill cuttings were placed in four, 55 gallon drums and are scheduled to be picked up by United Industrial Services for proper disposal on November 1, 2012, as is consistent with NWR's past disposal protocol.

Installation of the Groundwater Conveyance Line and Electrical Conduit

The conveyance pipe line, constructed of 1 inch diameter, 160 psi, High Density Poly Ethylene (HDPE) and the electrical conduit, constructed of 1 inch diameter, Schedule 40 PVC were installed in a common trench on August 28 and 29, 2012. In addition to the dedicated conveyance piping

and electrical conduit, a spare electrical conduit and water conveyance line were also installed in the trench. This trench runs from the existing groundwater treatment shed to the former injection well, IW-01, now designated as a recovery well, RW-02, as depicted in the attached Figure 1. The conveyance trench is approximately 130 feet long and four feet deep. Prior to laying the conveyance piping and electrical conduit in the trench, a six inch layer of sand was used to bed the piping and an additional six inch layer of sand was placed on top of the piping.

The groundwater extraction pump in RW-02, a Grundfos Model 5E-05, is installed with the intake at a depth of 45 feet below surface grade. The pump is attached to the conveyance piping via a pitless adapter located in the well vault. The well vault is 2 feet by 2 feet by 2 feet and utilizes an H-20 rated manhole cover at the surface, suitable for truck traffic. The terminal end of the conveyance piping was tied into the existing groundwater treatment system piping. The new piping has a dedicated sampling port and flow meter which has remote readout capabilities as required by the City of Amsterdam POTW.

Backfill, reused from the original excavated materials, was placed back in the trench in one foot lifts and compacted with a gasoline powered plate compacter. A yellow caution tape was buried the entire length of the trench approximately one foot below surface grade.

Site Restoration

At the completion of the excavation work, all areas of the cap disturbed by this work were re-seeded and the grass seed was then covered with straw. The final one foot of backfill in the black top area directly in front of the truck bays was backfilled with NYSDOT Type 2 crushed stone which was also compacted via the gasoline powered plate compacter.

System Start-Up and Monitoring

RW-02 was brought on line August 31, 2012. Initially, and based upon the results of the pumping test, it was anticipated that this well would produce approximately 0.75 gpm. However, upon bringing this well online, it was determined that it can continually produce approximately 4.5 gpm. This difference is likely due to the over drilling of the well which resulted in a more efficient well than IW-01. IW-01 (now RW-02) was originally used as an ISCO injection well; it is possible that the injection process caused some occlusion of the fractures in this well and that the over drilling to convert it into a recovery well removed any loose particles that may have been in those fractures from the injection process, improving productivity.

The RW-02 extraction well pump was set to extract 4.5 gpm and has operated continually and as designed since it went online. AECOM collected a round of groundwater elevations on October 2, 2012 to assess the effects of RW-02. A groundwater contour figure was completed based upon the readings which show that extraction of groundwater from RW-02 has met or exceeded the expectations developed as part of the pumping test (see Figure 2). The figure shows that the radius of influence generated from the extracting of water from RW-02 extends along and across Edson Street on to the former UCMI property and, therefore, has the potential to capture impacted groundwater that had previously migrated to this adjacent property, as well as limiting further migration.

Amending the Operation and Maintenance Manual

All equipment manuals and drawings associated with this work have been placed in the Operation and Maintenance Manual which is located in the groundwater treatment plant shed. Those documents include:

- Manufacturer cut sheets for all new equipment that was installed.
- An as-built drawing which provides the following:
    - The location of the new well.
    - The location of underground piping and electrical lines.
    - All mechanical connections with fittings.
    - All electrical connections.

Please refer to Figure 3 for the as-built drawing.

Project Summary

Based on the initial results of this project, the objective of expanding the zone of capture has been met. The groundwater capture zone will continue to be monitored through periodic rounds of groundwater elevation readings and monitoring of the concentration of TCE in the well as part of the quarterly POTW monitoring requirements.

If you have any questions or require additional information, please feel free to contact me at 603.224.3917 or via email at paul.kilchenstein@aecom.com.

Yours sincerely,

Paul S. Kilchenstein
Sr. Project Manager

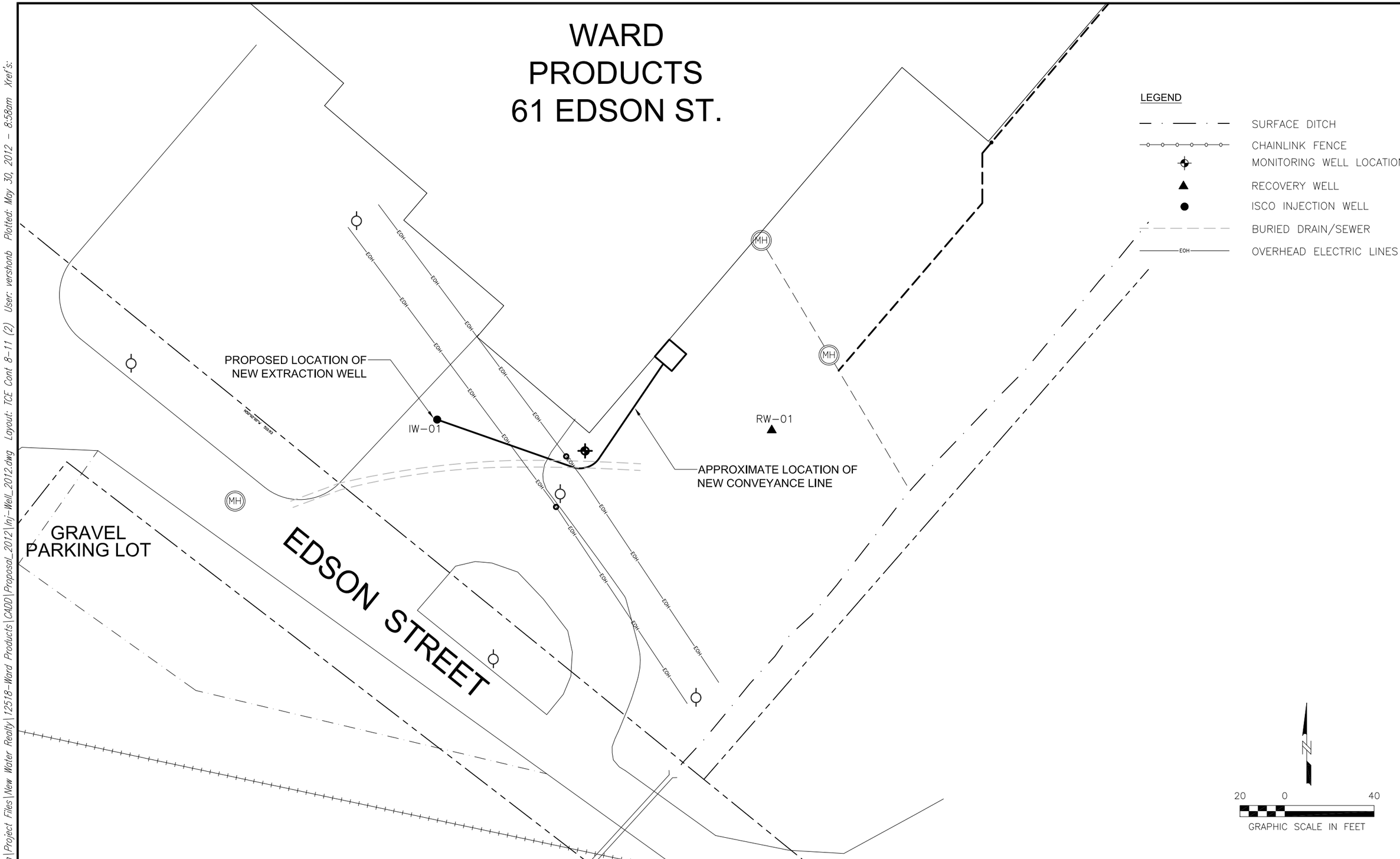
Douglas E. Simmons
Sr. Geologist

Attachments: Figure 1 – Proposed Piping Route
Figure 2 – Groundwater Contour Map
Figure 3 – As Built

cc: J. Atkins - AECOM
R. Conway - Schenck, Price, Smith & King, LLP
File

Figures

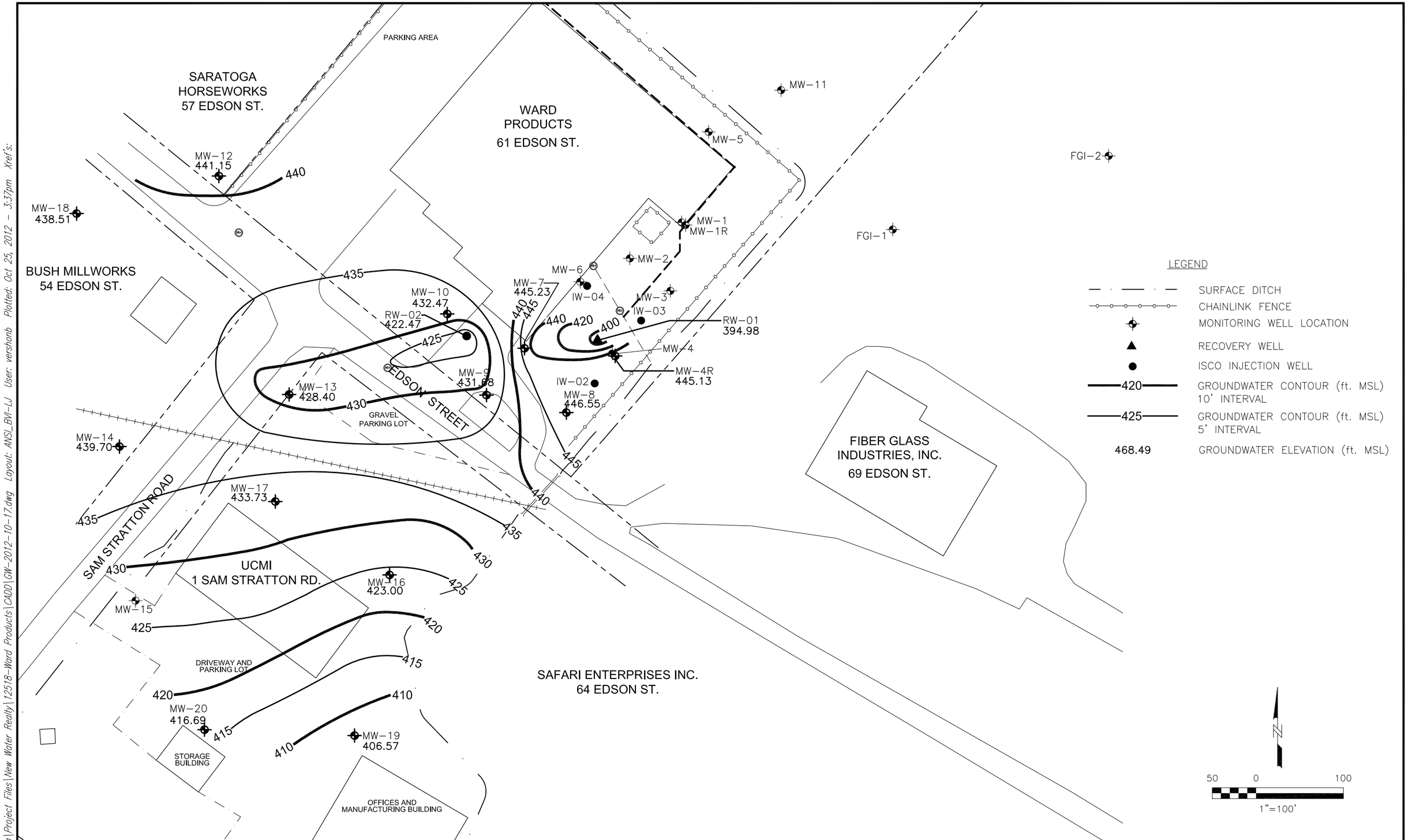
WARD PRODUCTS 61 EDSON ST.



AECOM

WARD PRODUCTS SITE AMSTERDAM, NEW YORK 6021092-1			**INJECTION WELL TRENCHING PLAN**
DATE: 05/30/2012	DRWN: BcV/C-MA		**FIGURE 1**

File: J:\Rem_Eng\Project Files\New Water Realty\12518-Ward Products\CADD\Proposal_2012\Inj-Well_2012.dwg Layout: TCE Cont 8-11 (2) User: vershonb Plotted: May 30, 2012 - 8:58am Xref's:



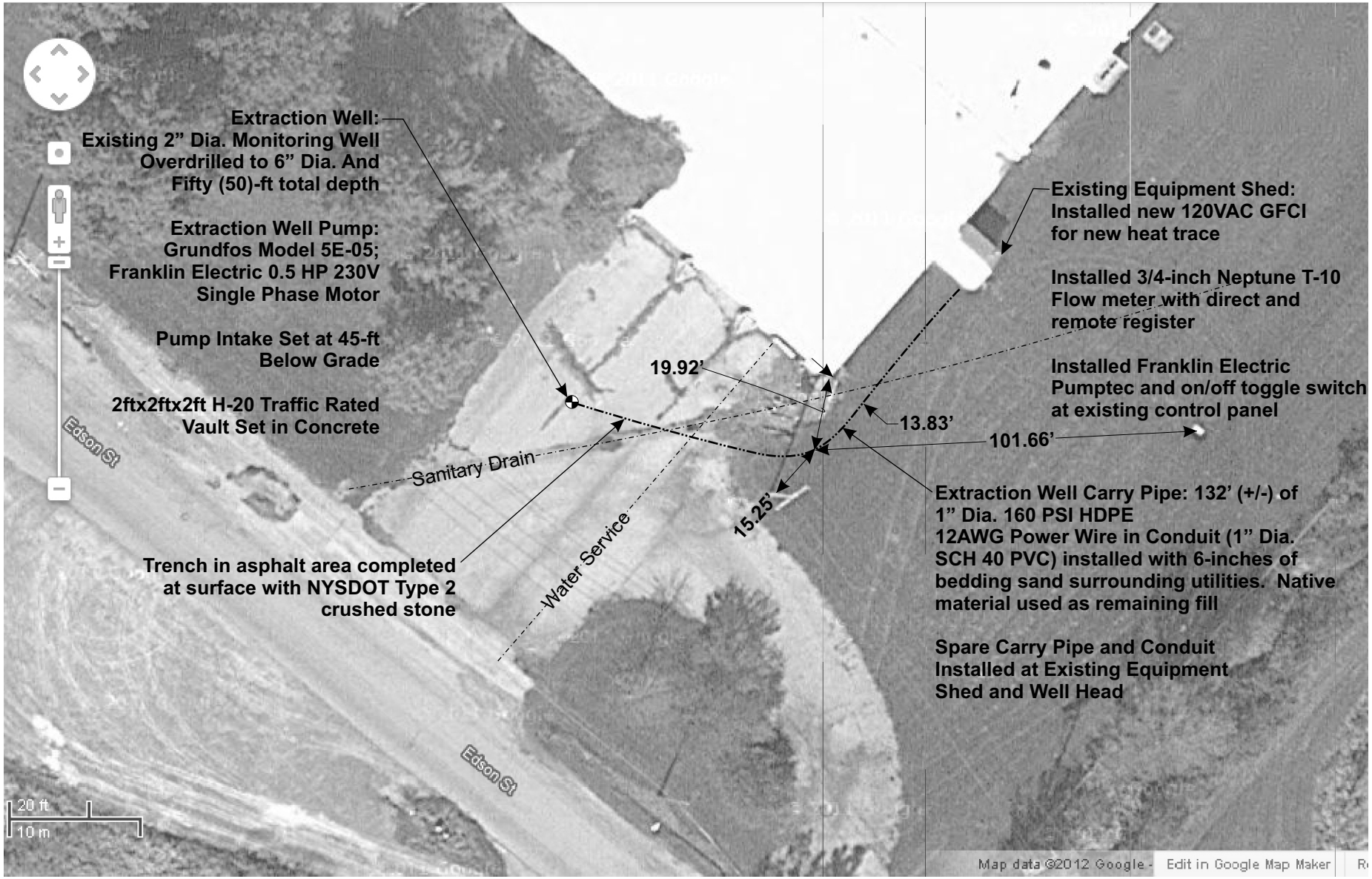
NOTES:
1. MW-1, MW-2, MW-3 AND MW-4 ARE OVERBURDEN WELLS AND ARE NOT USED TO CONTOUR.
2. FGI-1 AND FGI-2 ARE DEEP BEDROCK WELLS AND ARE NOT USED TO CONTOUR.

AECOM

WARD PRODUCTS SITE AMSTERDAM, NEW YORK 60270447.800			**BEDROCK GROUNDWATER ELEVATIONS OCTOBER 2, 2012 WITH RW-02 OPERATING**
DATE: 10/25/12	DRWN: BcV/C-MA		**FIGURE 2**

File: J:\Rem_Eng\Project Files\New Water Realty\12518-Ward Products\CADD\GW-2012-10-17.dwg Layout: ANSL_BW-LJ User: vershonb Plotted: Oct 25, 2012 - 3:37pm Xref's:

Former Ward Products Site
61 Edson St., Amsterdam, NY
Remedial System Expansion Project
August 2012



PRECISION
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FORMER WARD PRODUCTS SITE
AS BUILT

Drawn by: SMP	
Project No.:	**Scale:** AS SHOWN
Date: 11/16/12	**Figure:** 3