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via electronic delivery

December 30, 2016

Lawrence Alden, P.E. Project Manager New York State Dept. of Environmental Conservation Division of Environmental Remediation, BURB 625 Broadway Albany, NY 12233-7016 larry.alden@dec.ny.gov

Subject: Periodic Review Report - 2014 through 2016 Former Ward Products Site, Amsterdam, New York Site # 429004

Dear Larry,

On behalf of New Water Realty Corporation, AECOM is submitting this Periodic Review Report (PRR) for the Former Ward Products Site (Site) located in Amsterdam, NY. This PRR was prepared in accordance with the approved Site Management Plan. Please note that the original signed certification forms will be sent to you under separate cover.

Please note that in this report we a recommending that the groundwater monitoring program be modified to reduce the sampling frequency to annually and to reduce the analysis of groundwater samples for chromium to three wells. We believe that the groundwater data collected over the last several years supports these changes. We are also recommending that the next PRR be due in 5 years (December 2021).

If you have any questions or require addition information, please feel free to contact Laura Warren or Jennifer Atkins at 978.905.2100. We look forward to receiving your response to our recommendations.

Yours sincerely,

Laura Warren Project Manager laura.warren@aecom.com

Jennifer Atkins Compliance Specialist jennifer.atkins@aecom.com

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Periodic Review Report - 2014 through 2016

Former Ward Products Site, Amsterdam, New York Site # 429004

Project Number: 60481900-800

December 2016

Quality information

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Revision History

Revision	Revision date	Details	Authorized	Name	Position

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Engineering Certification

for New York Department of Environmental Conservation (NYSDEC) Division of Environmental Remediation (DER)

I, Michael Gardner, 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, Inc.

Michael Gardner Registered Professional Engineer New York License No. 089344

12/29/2016

Date



Executive Summary

The Former Ward Products Site (Site) is located in Amsterdam, Montgomery County, NY (Figure 1). This Periodic Review Report (PRR) includes historical information, and all groundwater monitoring well data for the period of December 1, 2013 through November 30, 2016.

The Site 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 processes. 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 2a 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 (EE) was recorded; the EE defines and regulates approximately 2.49 acres of the Site as Controlled Property. In March 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 as an appendix to the 2012 PRR (AECOM, 2012).

A total of 13 groundwater wells were sampled in May and August of 2014, 2015, and 2016. Volatile organic compounds (VOCs) were detected consistently in 6 of the 13 wells, and chromium levels that exceeded the Ambient Water Quality Standards (AWQS) were detected in four samples. A summary of all analytical data is provided in Appendix A.

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

Quarterly effluent sampling of the discharge from the GWETS is conducted in accordance with the City of Amsterdam's Publically Owned Treatment Works (POTW) Permit renewed in April 2012 and April 2015. 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 inspections wer performed in August 2014, August 2015, and December 2016 in accordance with the SMP. The specific results of those inspection can be found in Section 2.2.2.3.

The building is currently unoccupied and therefore the SSDS is not being operated.

Recommendations for the Site made in this PRR include reducing groundwater monitoring to annually and reducing the number of wells sampled for chromium, and continuing the annual sediment basin inspections, operating the GWETS and overall Site inspections as required by the SMP. In the event that the building becomes occupied, operation of the SSDS will be conducted if necessary.

1. Site Overview

The periodic review process is used for determining if a remedy is being properly managed, as set forth in site documents, and if the remedy remains protective of human health and the environment. This Periodic Review Report (PRR) includes historical information, and all groundwater monitoring well data for the period of December 1, 2013 through November 30, 2016. Per the letter from the New York State Department of Environmental Conservation (NYSDEC) dated January 23, 2014, this PRR covers three years (2014 through 2016) and is due January 2, 2017.

This PRR has been prepared to evaluate the overall continued effectiveness of the existing remedies and their performance at the Site. AECOM Technical Services, Inc. (AECOM) monitors the Former Ward Products Site (Site) for the New Water Realty Corporation (NWR). The Site is located at 61 Edson Street in the Amsterdam Industrial Park, Amsterdam, NY in Montgomery County. The Site Location is shown on Figure 1. 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 the NYSDEC. A Site Management Plan (SMP) was developed for the Site and approved by the NYSDEC in March 2011, and subsequently revised and reapproved by the NYSDEC in July 2011 (AECOM, 2011). On August 25, 2011 an Environmental Easement (EE) for the Site's Controlled Property was recorded under instrument No. 2011-43591 in the Montgomery County Clerk's Office. A Certificate of Completion was issued by the NYSDEC in March of 2012 classifying the Site as Class 4. Class 4 is defined as being properly closed but requires on-going management.

The engineering controls (ECs) included in the SMP and evaluated in this 2016 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.

The institutional controls (ICs) included in the SMP and evaluated in this PRR are:

• Environmental Easement (EE)

In addition to the ECs listed above, the SMP includes inspection of three off-site sediment retention basins in accordance with the ROD.

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. The building is presently unoccupied. Reportedly, an offer to lease the site beginning in or about March 2017 has been recently received by NWR; however, the probability of a lease being signed cannot be predicted as the offer is not at the listed rent.

Fiber Glass Industries (FGI), a manufacturer of fiberglass insulation, occupied the property adjacent to the Site to the east; however, they ceased operations in 2014 and the building is currently unoccupied. Prozone Lockers, a firm that manufactured lockers for professional sports teams, was located across Edson Street to the south (in the building formerly occupied by UCMI), but they ceased operations in 2015 and the building is now occupied by a new tenant, Solar City. 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.

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 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 west-southwest 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 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 remaining residuals. 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, the 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, the 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 groundwater monitoring wells and additional sediment sample collection from the drainage ditch.

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

In 1999, 15 CY of soil were excavated adjacent to the Ward Products building in the vicinity of the fencedin transformers and properly disposed of offsite. 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 discharged plant effluent to the ditch on the eastern property line, and was subsequently 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 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 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 (SSDS) was installed to create a negative pressure gradient below the slab, thus minimizing infiltration into the building, to be operated when the building is occupied.

Specific details of each of the IRMs are attached to the PRR submitted in 2012 (AECOM, 2012).

The Record of Decision (ROD) was issued in March 2007 (NYSDEC, 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 were and 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 groundwater extractions and treatment system (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 an SMP for long-term management of remaining contamination as required by the EE, 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 remained in the drainage areas above the NYSDEC Lower Effects Level (LEL) and Severe Effects Level (SEL) criteria for protection of benthic organisms. 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 began operation on June 15, 2009. (The GWETS has since been enhanced by installation of a second recovery well in August 2012). The GWETS remains in operation today.
- A limited ISCO program was implemented to reduce TCE concentrations 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 the 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 EE for the Site's Controlled Property was recorded under instrument No. 2011-43591 in the Montgomery County Clerk's Office.
- A Certificate of Completion was issued by the NYSDEC in March of 2012.
- The first PRR for the period December 1, 2011 through November 30, 2012 was submitted in January 2013 and approved by NYSDEC in February 2013.
- The second PRR for the period December 1, 2012 through November 30, 2013 was submitted in January 2014. NYSDEC approved it in January 2014 and set the due date for the next PRR for 3 years out on January 2, 2017.

In accordance with the SMP, the following activities have been performed since submittal of the 2013 PRR and are currently being performed:

- Operation of the GWETS.
- Quarterly sampling of the GWETS effluent in accordance with the City of Amsterdam's POTW Permit.
- Semi-annual groundwater sampling of 13 monitoring wells in May and August of each year.
- Annual inspection the sediment basins in accordance with the SMP.
- Operation and inspection of the SSDs when the building is regularly occupied.

1.1.1 Groundwater Monitoring

Semi-annual groundwater monitoring follows the requirements of the NYSDEC-approved SMP, which requires semi-annual measurement of groundwater levels in 22 monitoring wells plus the two groundwater recovery wells, and collection of groundwater quality samples for analysis of VOCs, total chromium and hexavalent chromium from 13 of the 22 monitoring wells. See Figure 2 for groundwater monitoring well locations. Sampling occurred at the Site in May and August 2014, May and August 2015, and May and August 2016.

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

All groundwater samples, including a blind field duplicate, from the 2014 through 2016 sampling events were sent to Adirondack Environmental Services, Inc., a New York certified laboratory, utilizing standard chain-of-custody and quality assurance/quality control (QA/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). Groundwater analytical data is discussed in Section 2.0.

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 consists of an assessment of the annual accumulation of sediment (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 are collected from the top 4 inches of sediment. The sediment samples are 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 is required. If this changes because of a new tenant then the system will be made operational and the lease will require the tenant to operate the system whenever the building is occupied.

2. Evaluate Remedy Performance, Effectiveness, and Protectiveness

2.1 IC/EC Report

The institutional controls (ICs) reported to and by the NYSDEC and included for evaluation in this 2016 PRR are:

• Environmental Easement (EE).

The engineering controls (ECs) reported to and 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.

In addition to the ECs listed above, the SMP includes inspection of three off-site sediment retention basins, as discussed in Section 2.2.2.3.

The only IC for the Site is the EE, which 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 as an appendix to the 2012 PRR report (AECOM. 2012). During the reporting period, the current use of the Site was consistent with the ICs imposed on the property. During the reporting period of December 1, 2014 through November 30, 2016, the Site property was not sold, subdivided, merged, did not undergo a tax map amendment, and was not issued any new federal, state, and/or local permits and has been regularly unoccupied. Visits to the Site and building occur periodically for lease/sale marketing, inspections, repair and maintenance activities.

Annual inspections of the ECs occurred on September 26, 2014, September 25, 2015, and October 25, 2016. All ECs on the Site have been unchanged since the date the controls were implemented or approved by the NYSDEC. The inside cover system (building slab foundation) and the outside cover system (clean soil cover) remain intact. No new cracks were observed in the building slab and there was no evidence of settling or disturbance. For the clean soil cover, there was no evidence of erosion or disturbance. The building was not occupied during the period of December 1, 2013 through November 30, 2016, and therefore, the SSDS was not operated or inspected. The GWETS was operated continuously during the period of December 1, 2013 through November 30, 2016, except during maintenance events. The performance of the GWETS was monitored by the operator in accordance with the Operations and Maintenance Plan.

A SMP was developed for the Site and approved by the NYSDEC in February 2011, and revised and reapproved in July 2011. It has been followed since.

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 and subsequently revised and reapproved in July 2011, established a sampling and monitoring program that requires the monitoring of the GWETS effluent, groundwater sampling, and sediment basin inspections, at the frequencies provided in Table 1 below.

Table 1 Sampling and Monitoring Program

	Req	Required Frequency (X)				
Activity	Quarterly	Semi- Annually	As Required	Compliance Dates		
GWETS Effluent	Х			2014-2016		
Groundwater Sampling		Х		2014-2016		
Sediment Basin			Х	2014-2016		
Sub-Slab Depressurization System				As Required		

2.2.2 Confirm that Performance Standards are Being Met

2.2.2.1 GWETS Influent and Effluent Monitoring

Quarterly monitoring of the GWETS occurred on the following dates:

2/28/2014	3/6/2015	2/18/2016				
6/5/2014	5/22/2015	4/14/2016				
9/19/2014	9/11/2015	8/11/2016				
12/18/2014*	12/10/2015*	10/24/2016*				
*effluent sample split with City						

The system effluent discharging to the City of Amsterdam's POTW is being monitored in accordance with the POTW permit dated April 1, 2009, which was renewed in April 2012 and April 2015. The current permit expires on March 31, 2018. The limits are set by the permit to ensure that the integrity of the City's waste water treatment plant is not compromised. A list of protocols and sampling frequencies under the current permit are included below:

-							
	Parameter	Frequency	Sample Type	Limit			
	Flow, gpd	Continuous	Meter	Average not to exceed 20,000 gpd			
	рН	Quarterly	Grab	6.0 - 9.0			
	Trichloroethene	Quarterly	Grab	Monitor Only			

24 hr. composite

10 mg/L

Table 2 GWETS Effluent Sampling Frequency

Quarterly

Chromium Notes:

gpd - gallons per day

mg/L – milligrams per liter

Samples were collected on the dates listed above. In addition, the City of Amsterdam POTW collected split samples on December 18, 2014, December 10, 2015, and October 25, 2016. In addition to the effluent samples listed above, influent samples are collected from each of the recovery wells (RW-01 and RW-02) and the combined influent. The results of the quarterly sampling are presented in Table 3. All required monitoring parameters were within the limits of the POTW Permit.

The flow volumes measured during 2014 through 2016 and the calculated average daily flow rates are presented in Table 4. The average daily flow rates have decreased and were approximately an order of magnitude lower in 2016 than they were in 2014. AECOM is evaluating the cause of this decrease in flow from RW-02; however, as discussed in Section 2.2.2.2, the TCE plume is stable or decreasing indicating that the GWETS remains effective and protective.

Using the flow volumes (Table 4) and the influent concentrations of TCE (Table 3), the estimated mass of TCE removed since startup of the startup (June 2009) through November 2016 is approximately 168

pounds, as shown on Table 5. Initially, the mass of TCE removed per quarter fluctuated, and when RW-02 came online it was extracting 4-5 times the volume of RW-01 and removing 1.5-2.9 times the mass of TCE (AECOM, 2013). However, as shown in Tables 4 and 5, the volume of groundwater recovered by RW-02 has decreased over time (as discussed above), resulting in a decrease in mass of TCE removed.

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 sampling 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	

Table 6 Wells Sampled for Long Term Groundwater Monitoring

Field Activities

Groundwater monitoring was conducted twice per year during the period of 2014 through 2016 on the following dates:

- May 20-21 and August 11-13, 2014
- May 26-28 and August 25-26, 2015
- May 10-11 and August 18-19, 2016

During each event, water levels were measured at 22 monitoring wells and groundwater quality samples were collected from the 13 monitoring wells, as specified under the SMP.

Prior to sampling the wells, depth to groundwater was measured at the 22 Site monitoring wells and the recovery wells (RW-01 and RW-02) using a water level indicator. The depth to groundwater and the elevation of groundwater in each of the wells for the 2014 through 2016 sampling events are summarized in Appendix A, Table A-1. Copies of the field sheets for the 2014 through 2016 groundwater monitoring events are provided in Appendix B. Please note the following exceptions that occurred during this reporting period:

- August 2014 MW-20 was observed to be damaged, the depth to water was measured but the water elevation was not calculated. The well was repaired and re-surveyed in November 2014.
- May 2015 RW-01 was inadvertently not gauged for water level.
- August 2016 MW-06 was inadvertently not gauged for water level.

The 13 monitoring 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 were recorded on the field notes in Appendix B.

Samples from the groundwater sampling events were analyzed by a New York State Department of Health Environmental Laboratory Approval Program (NYSDOH ELAP) certified laboratory, Adirondack Environmental Services, Inc., for VOCs by EPA Method 8260B, total chromium by Method E200.7, and hexavalent chromium by method SM3500-CR. The groundwater samples results from 2014 through 2016 for the primary constituents of concern are tabulated and shown in Appendix A, Table A-2.

During each sampling event, a duplicate sample (DUP) was collected from one monitoring well for quality assurance/quality control (QA/QC), as indicated in Appendix A, Table A-2. Trip blanks were also submitted during these sampling events for analysis of VOCs.

Groundwater Flow Direction

Groundwater elevation contours for the bedrock aquifer for each of the May and August sampling events for 2014 through 2016 are shown in Figures 3 through 8. Graphs of groundwater elevation and TCE over time are presented in Appendix C.

The 2014 through 2016 bedrock groundwater elevation contours indicate that groundwater flow in the bedrock south 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. The radius of influence of that recovery well is limited to approximately 40 to 80 feet, and the drawdown at that recovery well is approximately 40 feet. Please note that in May 2015, the groundwater level at RW-01 was inadvertently not measured, therefore, the cone of depression cannot be depicted in detail on Figure 5. The radius of influence and the drawdown at any given time will depend on whether RW-01 was actively pumping at the time of well gauging. (Once the well is drawn down and the pump shuts off, based on a decrease in amp load on the motor, the controls will not let the pump restart for a set period of time to allow the well to recharge so that the pump can operate more efficiently).

On Figures 3 and 4 (May and August 2014, respectively), a larger radius of influence is seen for recovery well RW-02, which was installed in late August 2012. These figures show a cone of depression extending to the west of RW-02 approximately 300 feet.

As reported in the 2013 PRR (AECOM, 2013), the radius of influence of RW-02 on bedrock groundwater extended potentially as far west as well MW-18 and as far south as MW-16. Since that time, the extent of RW-02's influence has decreased. The groundwater elevation figures for May and August 2014 (Figures 3 and 4) show the influence of RW-02 extending to the southeast to include offsite well MW-13. A cone of depression for RW-02 is not seen on the groundwater elevations figures for 2015 (Figures 5 and 6) and 2016 (Figures 7 and 8), although the May 2016 contours show a bending around RW-02.

The trends in the groundwater elevation graphs in Appendix C for a number of wells also show a decrease in the drawdown since RW-02 began operating. For example, MW-18 showed approximately 6 feet of drawdown immediately after RW-02 came online, but that has decreased to approximately 3 feet. At well MW-09 which is within 70 feet of RW-02, the initial drawdown was roughly 20 feet, but over time it has decreased to approximately 5 feet. Similar trends can be seen on the graphs for wells MW-10, MW-12, MW-13, MW-14, MW-16, and MW-17. Less drawdown (roughly 5-10 feet) was initially seen upgradient from RW-02 at wells MW-4R, MW-6, MW-7, and MW-8, and the amount of drawdown at those wells has also decreased over time. Wells MW-15 and MW-20 do not appear to be influenced by pumping at RW-02.

However, as discussed below, despite the reduction in flow from RW-02 and the apparent decrease in its radius of influence, the TCE plume is stable or decreasing. The influence of RW-02 on groundwater flow will continue to be evaluated during future groundwater monitoring events.

Groundwater Analytical Results

A summary of the 2014 though 2016 concentrations of TCE and total and hexavalent chromium (the primary constituents of concern) are provided in Appendix A, Table A-2. The results of laboratory analyses (over time) for select constituents in the 13 wells sampled under the SMP are summarized in Appendix A, Table A-3. The Form 1 laboratory data sheets for the 2014 through 2016 sampling events were submitted to the NYSDEC under separate cover after each sampling event. TCE isoconcentration contours for the bedrock aquifer based on the May and August 2014 through 2016 measurements are shown in Figures 9 through 14, respectively. Appendix C presents graphs of TCE and groundwater elevation trends in the Site monitoring wells.

Volatile Organic Compounds

In the six sampling events in 2014 through 2016, VOCs were detected consistently in 6 of the 13 wells (MW-1R, MR-4, MW-4R, MW-10, MW-13, and MW-17). TCE continues to be the predominant VOC detected in the groundwater both on- and off-site. In addition, cis-1,2-DCE was detected in wells MW-4, MW-13, and MW-17. Tetrachloroethene (PCE) was detected in well MW-4R at elevated concentrations in the May 2014 and August 2015 sampling events.

On-Site Monitoring Wells

Five on-site monitoring wells are sampled: four bedrock wells (MW-1R, MW-4R, MW-10, and upgradient well MW-11) 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; the 2014 through 2016 results for MW-4R ranged from 40,000 μ g/L in May 2014 to 9,200 μ g/L in August 2016. These concentrations are within the range of historically observed concentrations for this well (see Appendix A, Table A-3 and the graphs in Appendix C).

As shown on Figures 9 through 14, TCE concentrations decrease by two to three orders of magnitude to the north at well MW-1R and downgradient to the west-southwest at MW-10. The concentrations in MW-1R are consistent with historical results (see Appendix A, Table A-3 and Appendix C). Well MW-10 was used for injection of permanganate in the May 2010 ISCO event and is located approximately 35 feet northwest of RW-02, and has exhibited a decreasing trend in TCE concentration since then.

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

Overburden well MW-4, which is adjacent to MW-4R and screened 5 feet into bedrock, had TCE concentrations in 2014 through 2016 which were slightly lower than those historically observed in this well (see Appendix A, Table A-3 and Appendix C). Prior to 2014, TCE concentrations in this well were typically in the hundreds of $\mu g/L$, with occasional spikes an order of magnitude higher (e.g., September 2002 at 6,000 $\mu g/L$; September 2005 at 20,000 $\mu g/L$; August 2007 at 6,600 $\mu g/L$; August 2010 at 5,500 $\mu g/L$; and August 2012 at 1,900 $\mu g/L$). These spikes correlated to low groundwater elevations measured in this well, when the water table was at or below the top of bedrock (approximately 461 feet msl) (see the graph in Appendix C). However, in August 2015 although the groundwater elevation in this well was below the top of bedrock, a spike in TCE concentration was not observed.

Off-Site Monitoring Wells

Off-site monitoring wells include 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).

As shown on Figures 9 through 14, the TCE plume extends onto the 1 Sam Stratton Road property to well MW-13 (in all 6 events) and to MW-17 (in two events; May 2014 and May 2015). For MW-13, TCE concentrations over the 2014 though 2016 period were slightly lower than those observed historically, and in August 2014 the TCE concentration in this well (26 μ g/L) was at the lowest observed since sampling began (see Appendix A, Table A-3). As seen in the graph in Appendix C, a sharp decrease in TCE concentration in MW-13 followed the startup of recovery well RW-02, but the concentration has slightly rebounded as the water level in this well has rebounded. For MW-17, TCE concentrations over the 2014 though 2016 period decreased from 400 μ g/L in May 2014 to non-detect in August 2015 through August 2016; however, cis-1,2-DCE concentrations remained consistent with historical results (see Appendix A, Table A-3). The graph in Appendix C does not show the same rebound in TCE concentration in MW-17 with the rebound in water level after the startup of RW-02 as was seen for MW-13.

Cross-gradient well MW-18, which is located on the 5 Edson Street property, historically exhibited occasional low TCE detections above the NYSDEC AWQS of 5 μ g/L (see Appendix A, Table A-3 and Appendix C). However, TCE has not been detected in this well above the NYSDEC AWQS since May 2012. As discussed above, operation of the second recovery well (RW-02) appears to exert some influence on water levels at this well.

As shown in Figures 9 through 14, TCE was not detected in 2014 through 2016 in wells MW-14, MW-15, MW-16, MW-19, and MW-20, which represent the downgradient limits of TCE impacts. Historically, TCE had been sporadically detected in these wells above the NYSDEC AWQS (see Appendix A, Table A-3 and Appendix C). Operation of RW-02 showed some impacts on groundwater elevations at MW-14, MW-16, and MW-19 (Appendix C).

As a result of these decreased downgradient concentrations, the TCE plume appears to be contracting back towards the Ward Products property (Figures 9 through 14). The effects of the operation of RW-02 will continue to be evaluated during future groundwater monitoring events.

Chromium

Groundwater samples were analyzed for hexavalent and total chromium in 2014 through 2016, as shown on Appendix A, Table A-2.

In the period of 2014 through 2016, hexavalent chromium was only detected at well MW-1R. Concentrations ranged from 47 μ g/L in May 2014 (below the NYSDEC AWQS of 50 μ g/L) to 270 μ g/L in August 2016. This is consistent with historical results (Appendix A, Table A-3).

In the period of 2014 through 2016, total chromium was detected in four wells (MW-1R, MW-4R, MW-13, and MW-20) at concentrations above the NYSDEC AWQS of 50 μ g/L. At MW-1R, total chromium was detected at concentrations ranging from 59 μ g/L (May 2016) to 241 μ g/L (August 2015). These results are consistent with historical results, as shown on Appendix A, Table A-3. For MW-4R in 2014 through 2016, total chromium was detected once above the AWQS at 95 μ g/L in May 2014, but total chromium has been detected historically in this well above the AWQS only two other times (Appendix A, Table A-3). At MW-13 and MW-20, total chromium was detected once in each well above the AWQS during 2014 through 2016 (73.2 μ g/L in August 2015 at MW-13, and 116 μ g/L in August 2014 at MW-20). For these two wells, these were the only detections of total chromium above the AWQS since sampling began. Potential trends in total chromium for these wells will continue to be evaluated during future groundwater monitoring events.

Chromium (hexavalent and total) was not detected at concentrations above the NYSDEC AWQS in 2013 in any of the other sampled wells.

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 inspected in August 2014, August 2015, and December 2016.

The inspections 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. Sediment samples are collected from a basin, if the annual accumulation in the basin:

- Exceeds 4 inches; or
- If there is a total accumulation in the basin exceeding 18 inches.

If sampling is required based on these criteria, then sediment samples are collected from the top 4 inches of sediment and analyzed for total cadmium, chromium, nickel and zinc.

The SMP requires that sediments from a basin be removed and disposed off-site if:

- There is 18 inches of accumulated sediment and the sample results are above the Lowest Effect Level (LEL) sediment guidance values in the NYSDEC "Technical Guidance for Screening Contaminated Sediments" (as cited in the ROD); or
- Sample results are above the Severe Effect Level (SEL) from that same guidance.

During the 2014 and 2015 inspections, the sediment accumulation in each of the three sediment basins did not exceed the criteria listed above; therefore, sediment samples were not collected for analysis of metals in those years.

During the 2016 inspection, the sediment accumulation in the Sam Stratton and Chapman Drive Basins did not exceed the criteria discussed above, and sediment samples were not collected for analysis from these two basins. However, in 2016 more than 4 inches of new sediment accumulation was observed in the Route 5 Area Basin, and sediment samples were collected from this basin for analysis of total cadmium, chromium, nickel and zinc. The results are summarized in Table 7 and show that the concentrations of cadmium, chromium and nickel were greater than their LELs, but less than their SELs. The result for zinc was less than both its LEL and SEL. However, on average across the Route 5 Basin, the total sediment accumulation was less than 18 inches; therefore, sediments are not required to be removed from this basin at this time based on the SMP criteria listed above.

NWR will continue to monitor the accumulation 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

During the reporting period for this PRR, 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. Evaluate Costs

Total costs for completing the required activities associated with Site monitoring in 2016 were approximately \$87,000 which includes, the major cost components of routine operation, maintenance and monitoring of the GWETS, semi-annual groundwater monitoring/sampling, and the submittal of the PRR.

4. 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 the remedy continues to be protective of human health and the environment. This PRR is the third PRR for the Site since the NYSDEC issuance of the Certificate of Completion and covers the period of December 1, 2014 through November 30, 2016.

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 sediment 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 installing a second groundwater recovery well in August 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 reinjected into the bedrock.

A single recovery 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 2012 a second groundwater extraction well (RW-02) was installed to attempt to reduce migration of TCE off site and piped into the existing GWETS. The system remains in operation.

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 EE was approved on August 11, 2011 and filed with Montgomery County on August 25, 2011. 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 July 2011 and approved by the NYSDEC in July 2011. Excavation of soils for installation of the 2012 enhancement of the GWETS has occurred, was properly managed and reported to the NYSDEC. No other excavation of soil cover or beneath the building has occurred. The building has been unoccupied so operation of the SSDS is not required. Monitoring has occurred as required. Use restrictions are set forth in the EE 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 the 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 Departmentapproved 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 and expanded in August 2012) is still operating to reduce onsite sources of contaminants in groundwater and to control and reduce future migration of contaminated groundwater from the Site.

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, and revised and re-approved in July 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 occurs 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:

- Continue operation of the enhanced GWETS as outlined in the SMP until further approval of the NYSDEC allows otherwise.
- Modify the groundwater monitoring program as follows:
 - Reduce the groundwater monitoring interval to annually in August. A qualitative review of graphs of TCE concentration by well by season (i.e., May versus August see Appendix F) indicates that only two of the wells monitored under the SMP (MW-1R and MW-4) exhibit systematic differences in TCE concentrations between the spring (May) and summer (August) sampling events, with the higher concentrations typically occurring in the August event for both of these wells. The other currently monitored wells do not exhibit a qualitatively observable difference in TCE concentrations between seasons. Therefore, the reduction of the groundwater monitoring frequency to annually in August will continue to adequately monitor TCE plume behavior.
 - Reduce sampling for hexavalent chromium to the following three wells: MW-1R, MW-4, and MW-4R. As shown in Table A-3 of Appendix A, hexavalent chromium has not been detected in MW-10 since 1999, and has never been detected in wells MW-11 and MW-13 through MW-20.
 - Reduce sampling for total chromium to the following three wells: MW-1R, MW-4, and MW-4R. As shown in Table A-3 of Appendix A, total chromium has never been detected above the NYSDEC AWQS of 50 µg/L in wells MW-11 and MW-14 through MW-19. Well MW-10 had one detection above the AWQS of 94 µg/L in 1998. Well MW-13 had one detection above the AWQS (73 µg/L in August 2015), but that result appears to be anomalous since the maximum detection prior to that was 19.9 µg/L in August 2009. Similarly, well MW-20 had one detection above the

AWQS (116 μ g/L in August 2014), but that result appears to be anomalous since the maximum detection prior to that was 16.6 μ g/L in May 2013.

- Continue to monitor the sediment basins annually and after extraordinary rain events.
- Perform annual site inspections as outlined in the SMP.
- 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 2021 for the five year period of December 1, 2016 through November 30, 2021.

5. References

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

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

AECOM, 2012. Periodic Review Report, Former Ward Products Site, Amsterdam, New York, Site #429004. December 2012.

AECOM, 2013. Periodic Review Report – 2013, Former Ward Products Site, Amsterdam, New York, Site #429004. December 2013.

New York State Department of Environmental Conservation (NYSDEC), 2007. Record of Decision. March 2007.

United States Environmental Protection Agency (USEPA), 2010. Low Stress (Low Flow) Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells. EQASOP-GW-001, Rev. 3, January 19, 2010.

Tables

Tables 1, 2, and 6 are included within the text.

Table 3 Summary of Groundwater Treatment System Monitoring Data 2014 through 2016 61 Edson Street, Amsterdam, NY NYS DEC Site # 4-029-004

	Source		Influent			Effluent	
	Parameter	рΗ	TCE	Chromium	рН	TCE	Chromium
Monitoring	Units	SU	mg/L	mg/L	SU	mg/L	mg/L
Period [a]	Limits	n/a	n/a	n/a	6.0 - 9.0	Monitor	10
4Q2013	RW-01	-	2.5	-	-	-	-
(12/10/2013)	RW-02	-	1.2	-	-	-	-
	combined	7.4	1.6	0.011	8.1	0.0012	0.008
2014							
1Q2014	RW-01	-	2.3	-	-	-	-
(2/28/2014)	RW-02	-	1.3	-	-	-	-
	combined	7.3	1.6	0.007	8.2	<0.001	0.009
2Q2014	RW-01	-	2.2	-	-	-	-
(6/5/2014)	RW-02	-	1.3	-	-	-	-
	combined	7.5	1.5	0.008	8.3	<0.001	0.010
3Q2014	RW-01	-	1.5	-	-	-	-
(9/19/2014)	RW-02	-	1.2	-	-	-	-
	combined	7.4	1.4	0.009	7.8	0.410	0.008
4Q2014	RW-01	-	1.8	-	-	-	-
(12/18/2014)	RW-02	-	1.7	-	-	-	-
	combined	8.3	1.8	0.010	7.5	<0.001	0.013
2015							
1Q2015	RW-01	-	1.9	-	-	-	-
(3/6/2015)	RW-02	-	1.4	-	-	-	-
	combined	7.4	1.6	0.007	8.2	<0.001	0.006
2Q2015	RW-01	-	2.3	-	-	-	-
(5/22/2015)	RW-02	-	1.8	-	-	-	-
	combined	7.1	2.3	0.010	8.0	<0.001	0.009
3Q2015	RW-01	-	1.9	-	-	-	-
(9/11/2015)	RW-02	-	1.3	-	-	-	-
	combined	7.3	1.8	0.008	7.9	0.560	0.007
4Q2015	RW-01	-	1.5	-	-	-	-
(12/10/2015)	RW-02	-	2.0	-	-	-	-
	combined	7.4	1.6	0.008	8.3	<0.001	0.010
2016							
1Q2016	RW-01	-	1.3	-	-	-	-
(2/18/2016)	RW-02	-	1.7	-	-	-	-
	combined	7.3	1.7	0.010	7.8	0.580	0.011
2Q2016	RW-01	-	1.5	-	-	-	-
(4/14/2016)	RW-02	-	1.8	-	-	-	-
	combined	7.5	1.5	0.006	8.2	<0.001	0.013
3Q2016	RW-01	-	1.1	-	-	-	-
(8/11/2016)	RW-02	-	1.6	-	-	-	-
	combined	7.4	1.0	0.007	8.0	<0.001	0.008
4Q2016	RW-01	-	NA	-	-	-	-
(10/25/16)	RW-02	-	NA	-	-	-	-
	combined	NA	NA	NA	8.2	0.190	0.032

Notes:

City of Amsterdam Industrial Wastewater Discharge Permit Effective: 4/1/2012; Expired: 3/31/2015 Reissued Effective: 4/1/2015; Expires: 3/31/2018

n/a - not applicable

NA - not analyzed

[a] The Wastewater Discharge Permit reissued by the City of Amsterdam effective 4/1/2015 changed the reporting frequency to semiannual (SA), with the reporting periods as follows: -1st SA period: December 1 through May 31

-2nd SA period: June 1 through November 30

Table 4Summary of Groundwater Treatment System Flow Data2014 through 201661 Edson Street, Amsterdam, NYNYS DEC Site # 4-029-004

Date of Reading	RW-01 Totalizer Reading (gal)	RW-02 Totalizer Reading (gal)	RW-01 Volume Pumped Since Previous Reading (gal)	RW-01 Average Daily Flow (gpd)	RW-02 Volume Pumped Since Previous Reading (gal)	RW-02 Average Daily Flow (gpd)	Total Volume Pumped Since Previous Reading (gal)	Days Run	Avgerage Daily Flow (gpd)
Permit Limit	(9)	(9)	(9)	(304)	(9)	(304)	(9)	2 4 9 0 1 1 4 1	20,000
1/2/2014	5,951,	526 [a]	-	-	-		-	-	-
3/28/2014	3,296,927	3,142,000	-	-	-		487,401	85	6,060
6/27/2014	3,434,626	3,555,800	137,699	1,513	413,800	4,547	551,499	91	6,060
9/26/2014	3,557,752	3,835,100	123,126	1,353	279,300	3,069	402,426	91	4,422
1/5/2015	3,698,107	3,983,650	140,355	1,390	148,550	1,471	288,905	101	2,860
3/26/2015	3,822,700	4,087,840	124,593	1,557	104,190	1,302	228,783	80	2,860
6/30/2015	3,981,520	4,234,100	158,820	1,654	146,260	1,524	305,080	96	3,178
11/25/2015	4,157,490	4,318,800	175,970	1,189	84,700	572	260,670	148	1,761
5/6/2016	4,305,510	4,439,600	148,020	908	120,800	741	268,820	163	1,649
5/13/2016	4,312,190	4,441,210	6,680	954	1,610	230	8,290	7	1,184
5/20/2016	4,318,700	4,443,000	6,510	930	1,790	256	8,300	7	1,186
5/27/2016	4,324,410	4,444,700	5,710	816	1,700	243	7,410	7	1,059
10/4/2016	4,406,800	4,477,140	82,390	634	32,440	250	114,830	130	883
10/25/2016	4,411,840	4,478,330	5,040	240	1,190	57	6,230	21	297
11/23/2016	4,423,100	4,480,140	11,260	388	1,810	62	13,070	29	451
11/28/2016	4,425,950	4,480,430	2,850	570	290	58	3,140	5	628

Notes:

[a] The 1/2/2014 totalizer reading was the combined readings for RW-01 and RW-02.

gal - gallons

gpd - gallons per day

Table 5 Estimate of Mass of TCE Removed by Treatment System 2014 through 2016 61 Edson Street, Amsterdam, NY NYS DEC Site # 4-029-004

Monitoring Period	Flow Period	Total Volume Pumped in Period (gal)	Sample Date	Influent TCE (combined) (mg/L)	Mass of TCE Removed (Ibs) [a]
4th Q 2013	9/27/13-1/2/14	588,470	12/10/2013	1.7	8.3
	0/2//10 1/2/11	000,110	12/10/2010		
1st Q 2014	1/2-3/28/14	487,401	2/28/2014	1.6	6.5
2nd Q 2014	3/28-6/27/14	551,499	6/5/2014	1.5	6.9
3rd Q 2014	6/27-9/26/14	402,426	9/19/2014	1.4	4.7
4th Q 2014	9/26/14-1/5/15	288,905	12/18/2014	1.8	4.3
				Subtotal:	22.4
1st Q 2015	1/5-3/26/15	228,783	3/6/2015	1.6	3.1
2nd Q 2015	3/26-6/30/15	305,080	5/22/2015	2.3	5.9
2nd SA 2015 [b]	6/30-11/25/15	260,670	9/11/2015	1.8	3.9
				Subtotal:	12.9
1st SA 2016	11/25/15-5/27/16	292,820	12/10/2015 2/18/2016 4/14/2016 Average [c]	1.6 1.7 1.5 1.6	3.9
2nd SA 2016	5/27-11/28/16	137,270	8/11/2016 10/25/2016 Average [c]	1.0 1.0 NA 1.0	1.1
	5.0				
System Startup th	rough September 2	013 [d]			119
			Total since	sytem startup:	168

Notes:

gal - gallons lbs - pounds Q - quarter SA - semiannual TCE - trichloroethene

mg/L - milligrams per liter

NA - not analyzed

[a] Estimated VOCs removed (lbs) = volume water pumped (gal) x (TCE influent concentration (mg/L)) x conversion factor (8.35x10-6 lb*L/gal*mg). The combined influent sample result was used.

[b] Due to a delay in receipt of the reissued Wastewater Discharge Permit, the 2nd Semiannual Monitoring Period for 2015 covered 6/30/2015 through 11/30/2015.

[c] The average of the quarterly TCE concentrations was used to calculate the approximate mass removed beginning with the 1st Semiannual Period 2016.

[d] Mass removed as reported in the 2013 PRR (AECOM, 2013).

Table 7December 2016 Settling Basin Sediment Sampling Results61 Edson Street, Amsterdam, NYNYSDEC Site #4-029-004

			Screening	Sample Results	
		NYSDEC NYSDEC Recreational Soil/		Rt 5 Basin 120816	
Constituent	Units	LEL ⁽²⁾	SEL ⁽²⁾	Sediment ⁽³⁾	12/8/2016
Cadmium	mg/kg	0.6	9	450	1.94
Chromium (total)	mg/kg	26	110	450	66.4
Nickel	mg/kg	16	50	20,000	40.6
Zinc	mg/kg	120	270	100,000	55.1

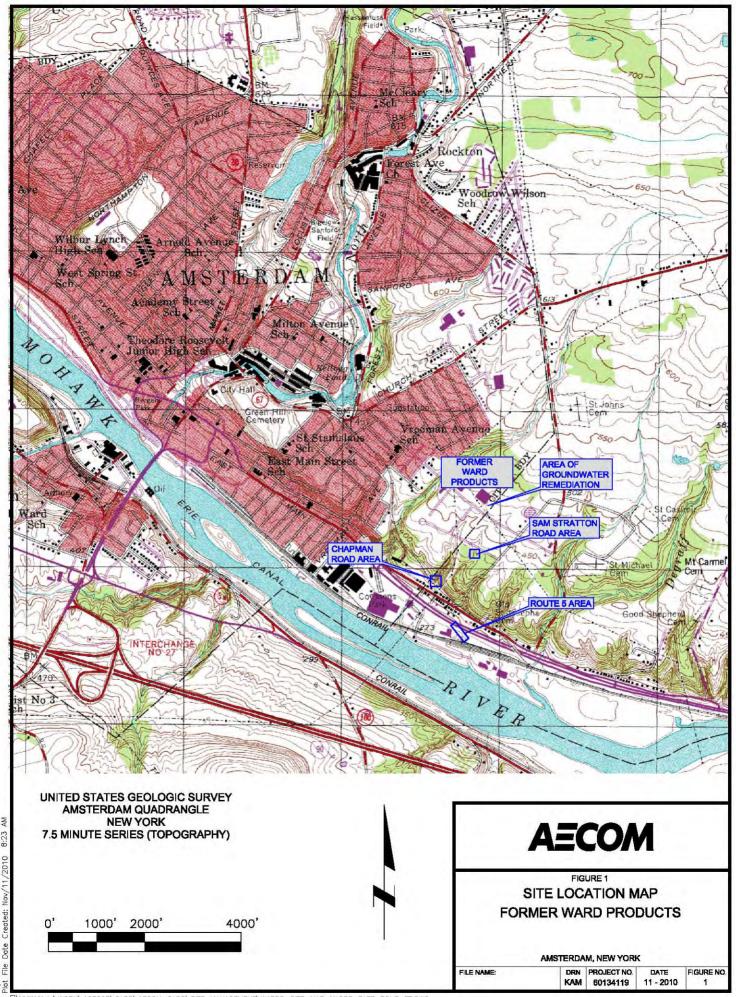
Notes:

(1) From Table 3-1 of the *Feasibility Study Report and Risk Assessment, Ward Products Corporation Site, Amsterdam, New York, Site Code 4-29-004* (RETEC, September 25, 2006).

(2) NYSDEC Sediment Criteria for Protection of Benthic Organisms. LEL = Lowest Effect Level. SEL = Severe Effect Level.

(3) Protection of Human Health, Recreational Soil/Sediment value based on EPA Region IX Preliminary Remediation Goals , dated October 2004 (risk factor = 10^{-6} or Hazard Quotient = 1.0), assuming recreational exposure is less than the industrial exposure scenario.

Figures



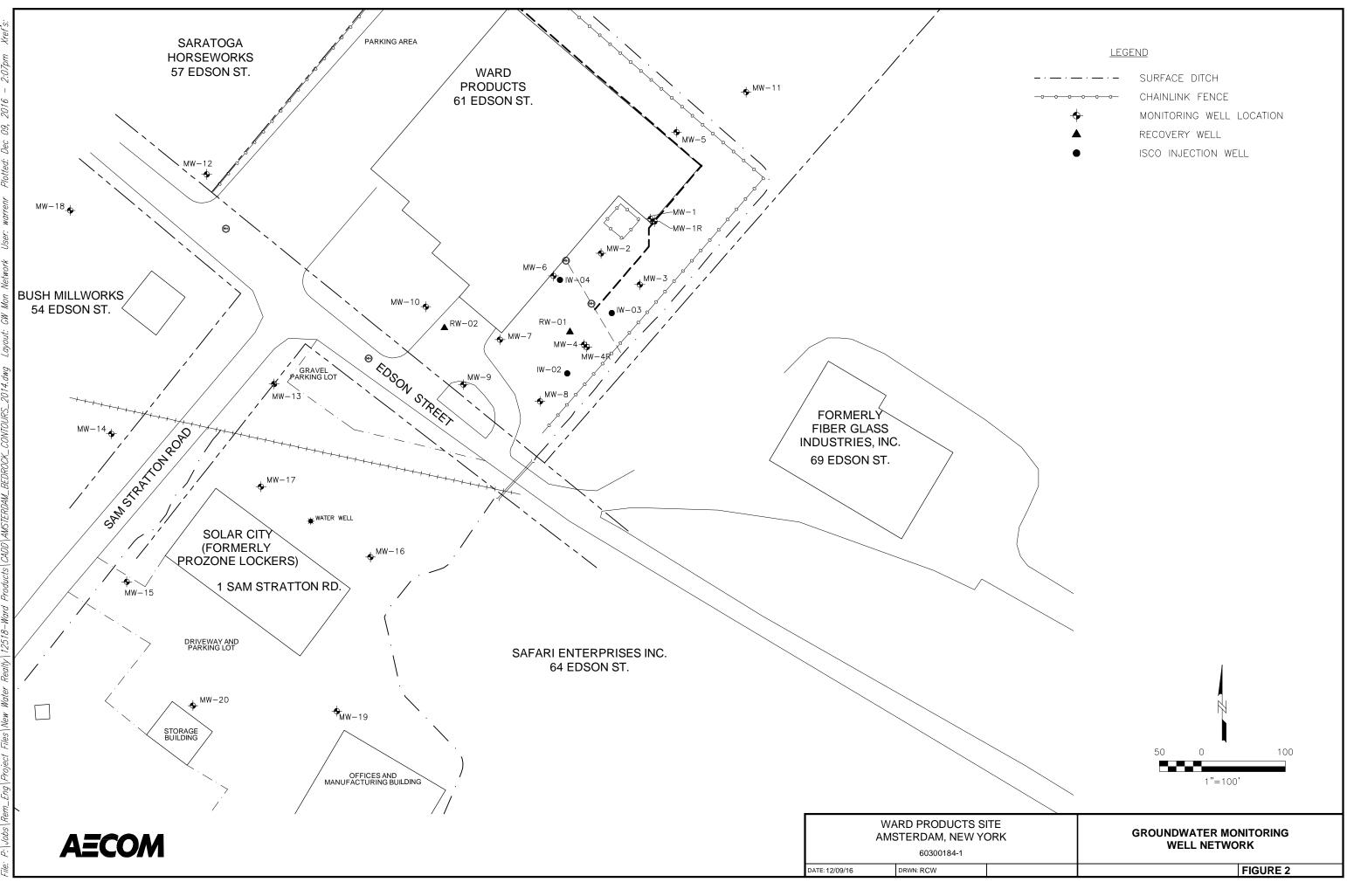
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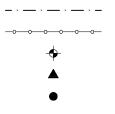
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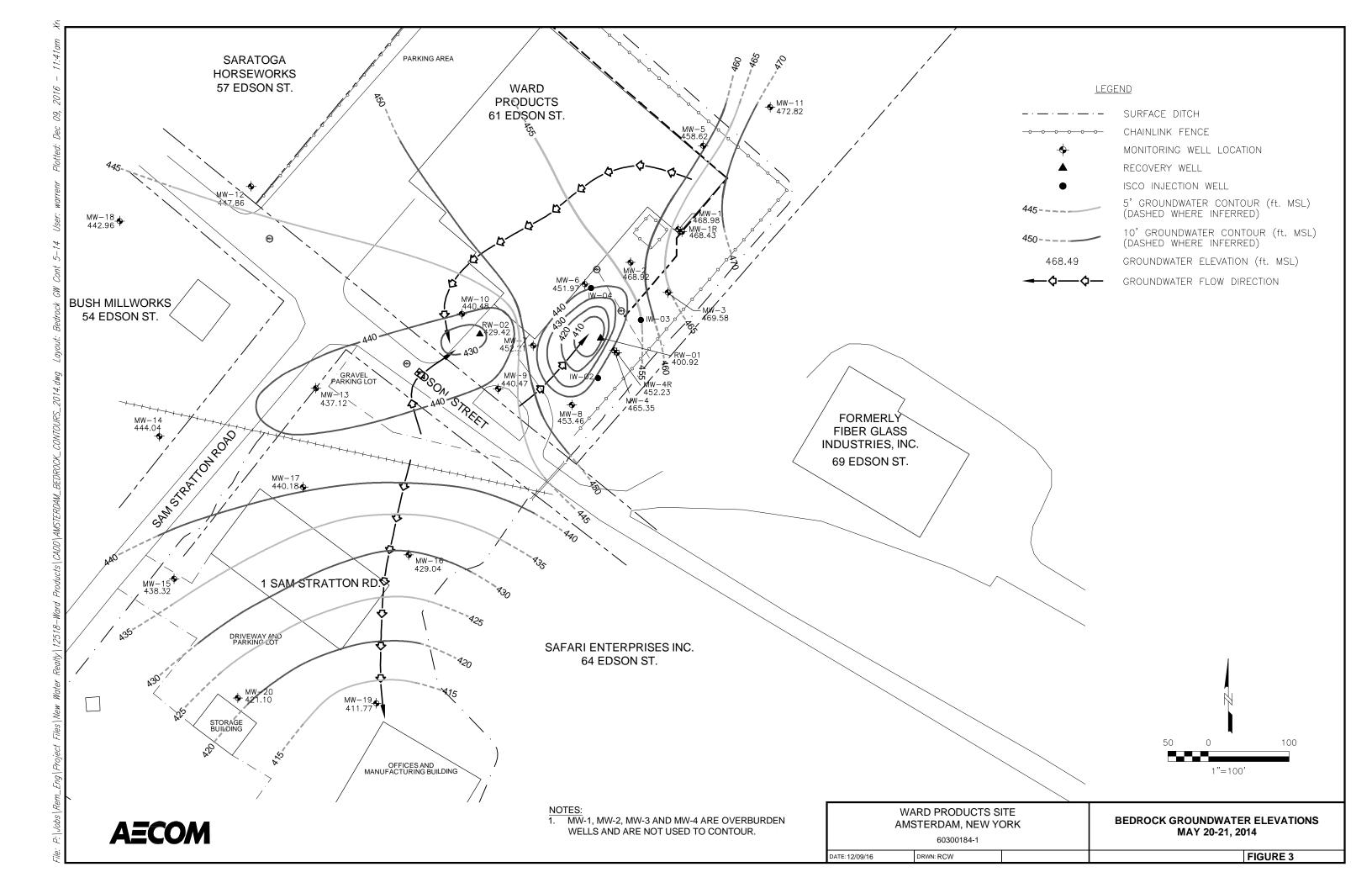
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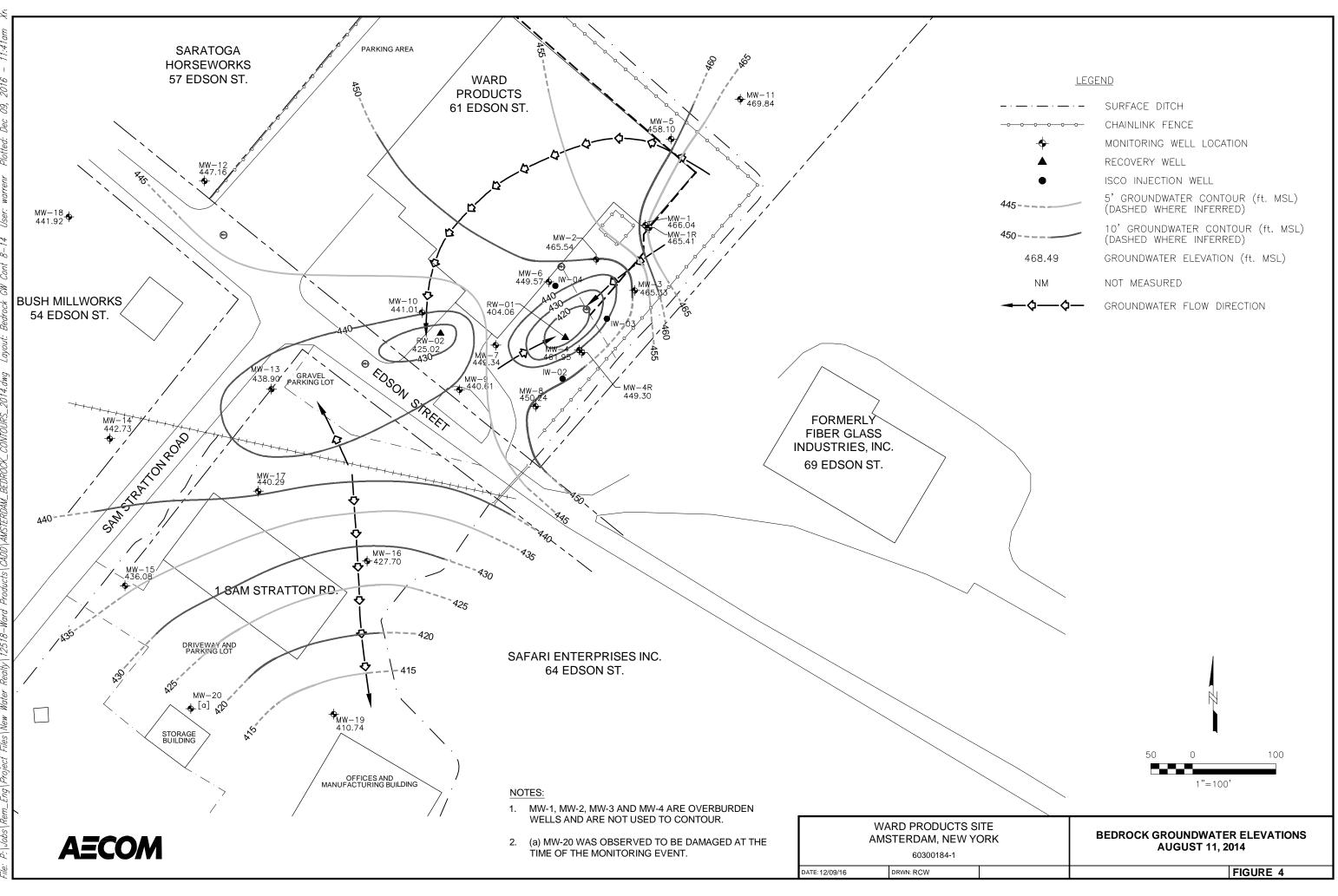
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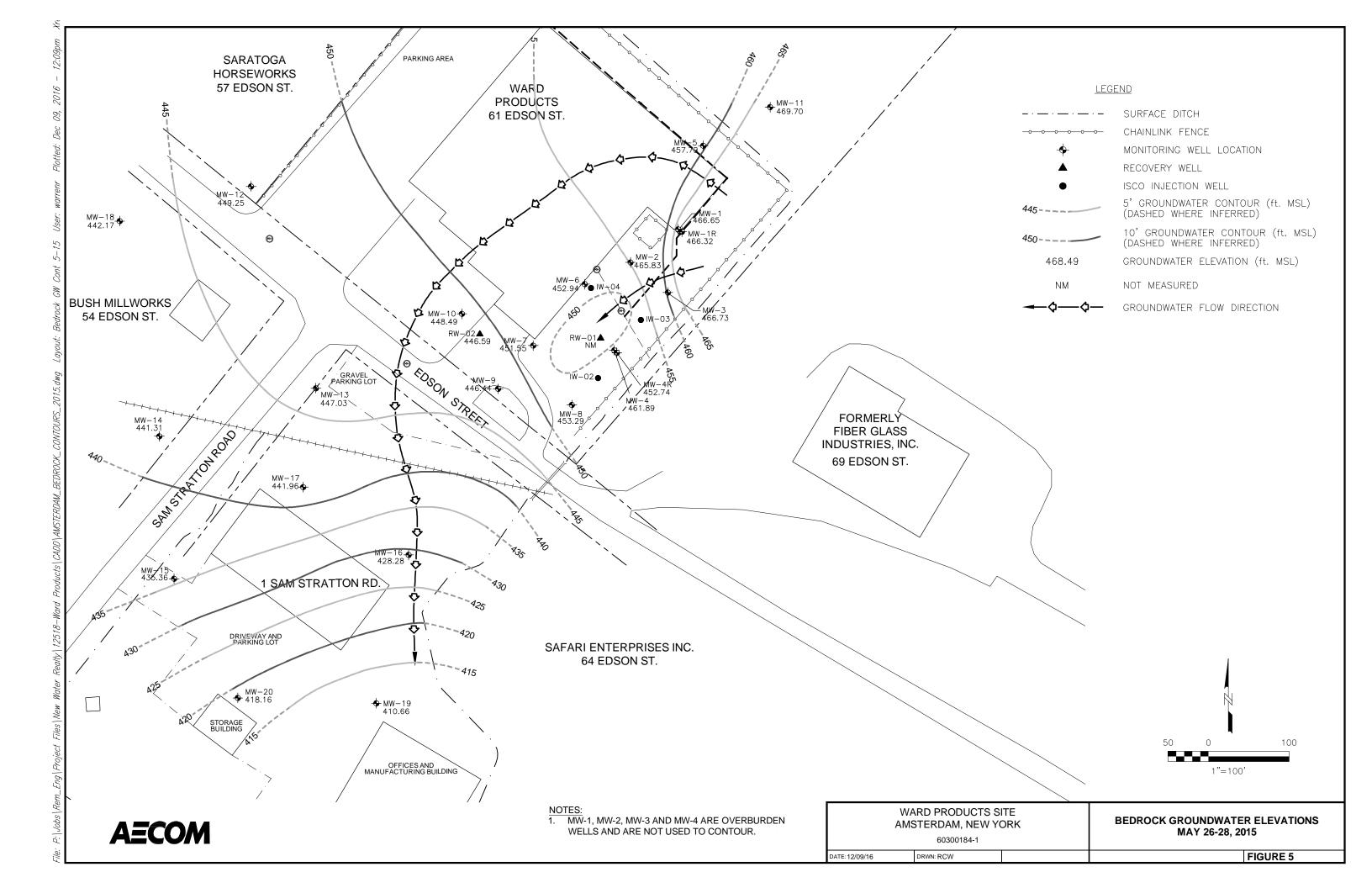
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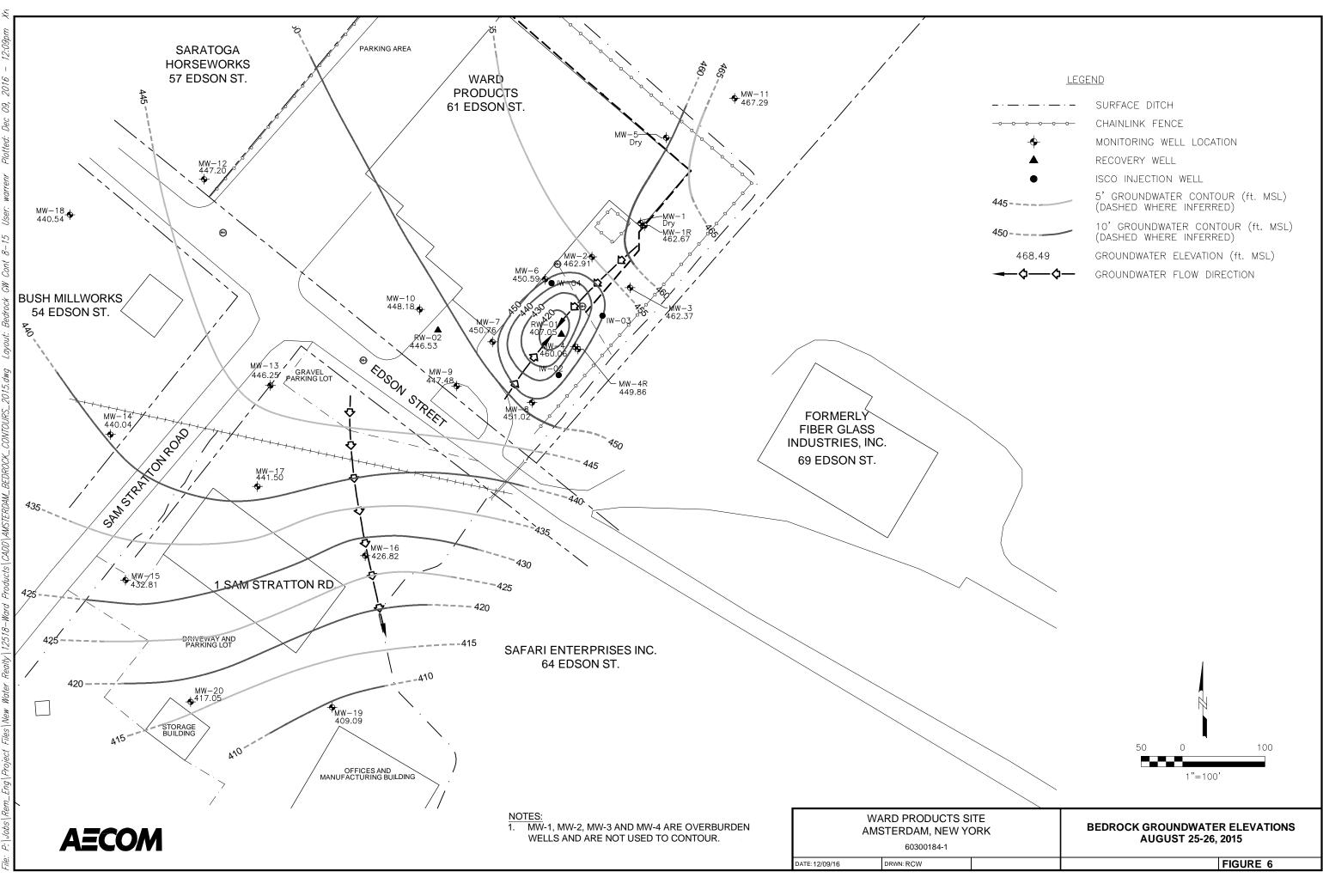




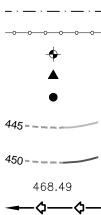


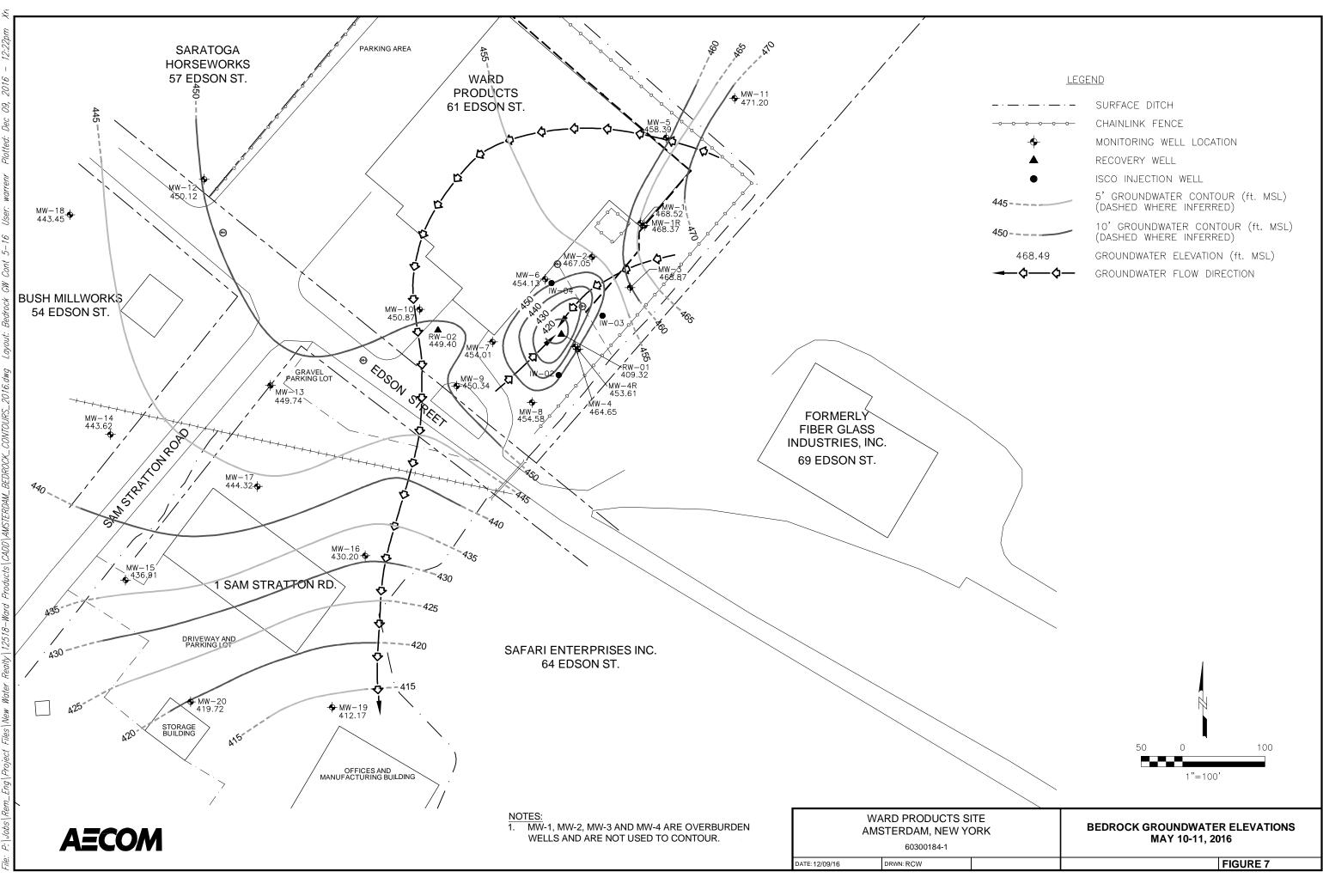




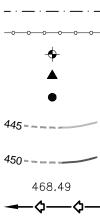


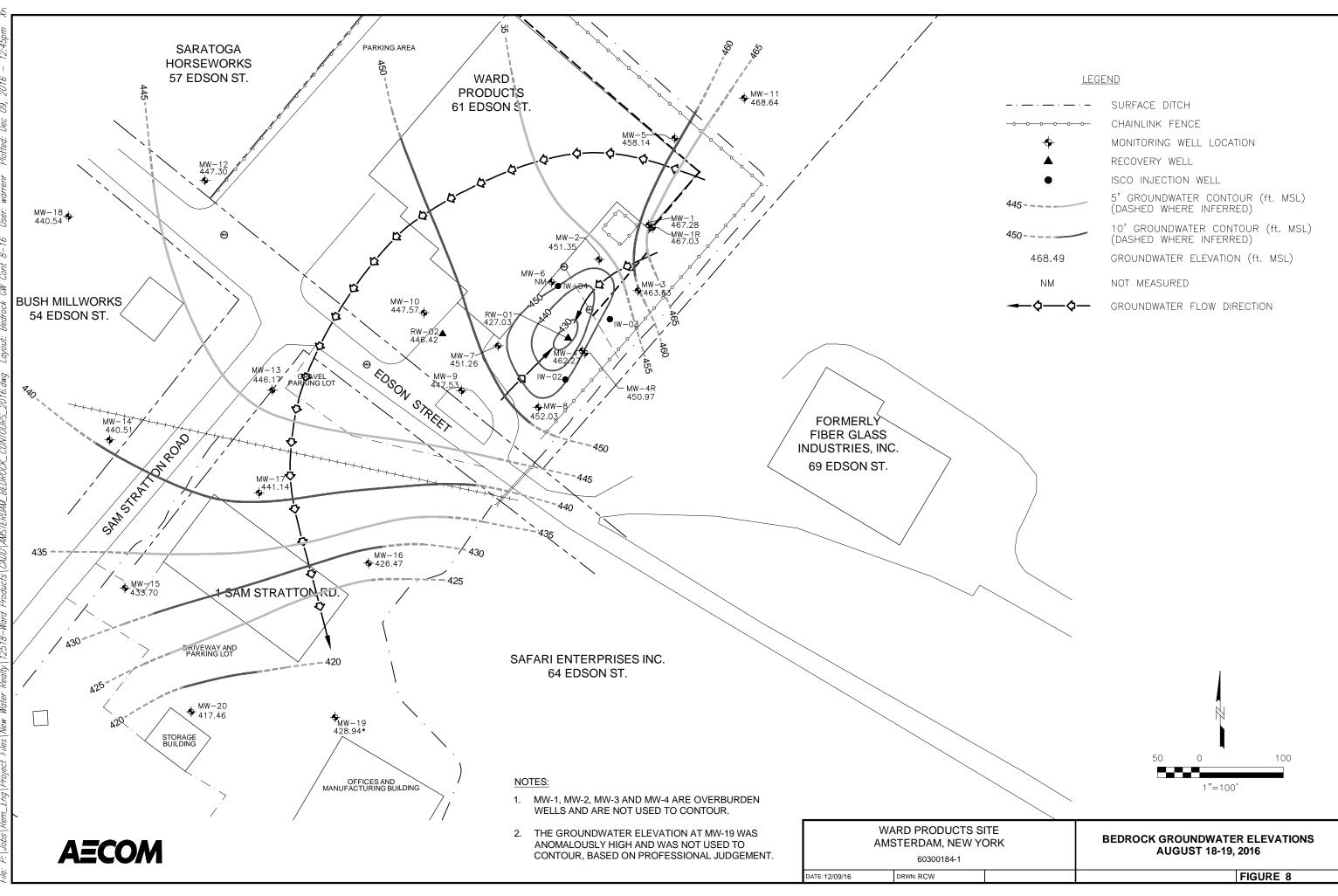


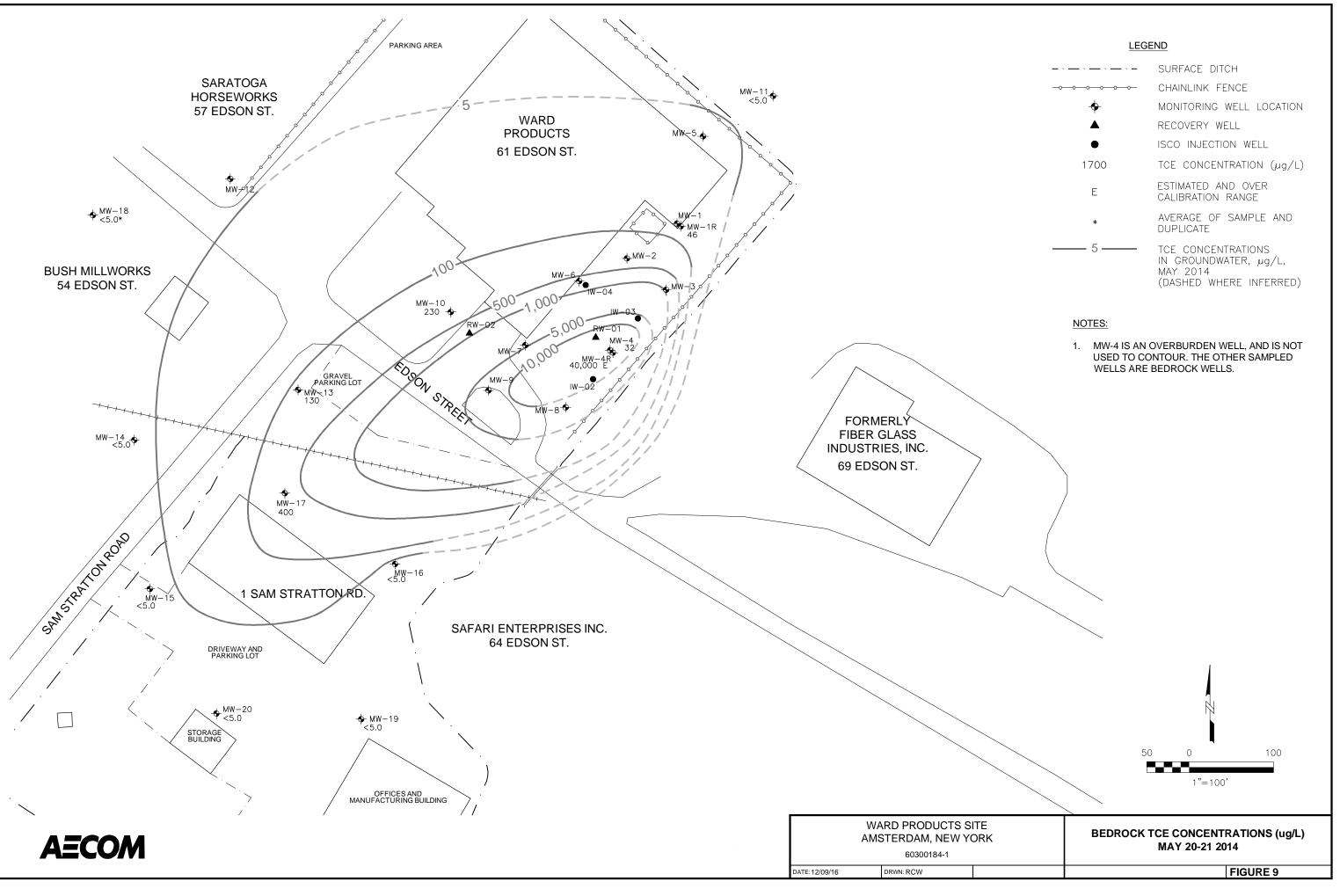


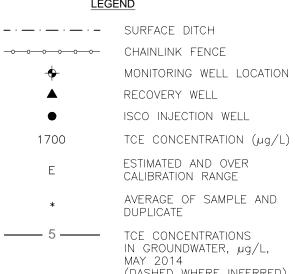


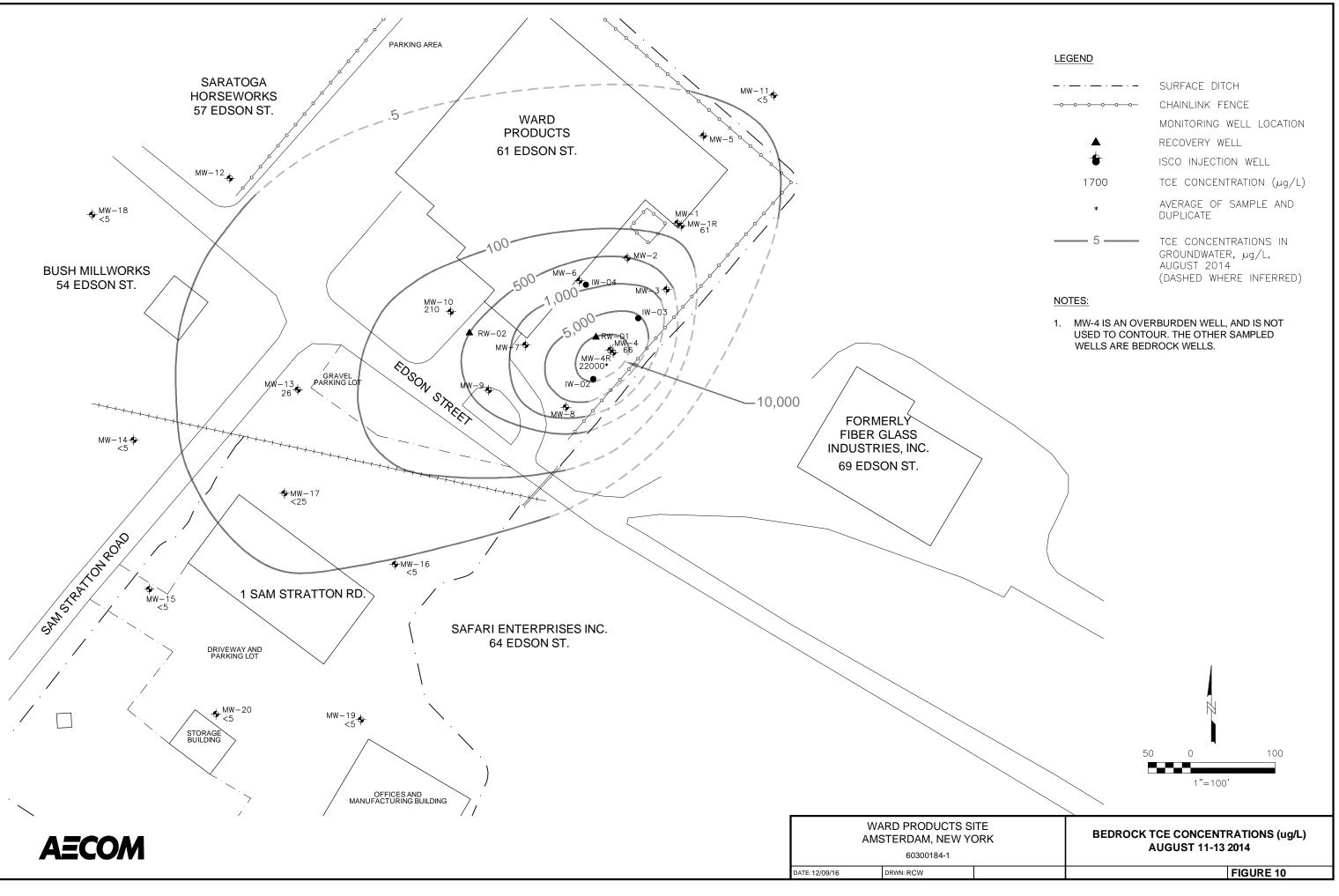


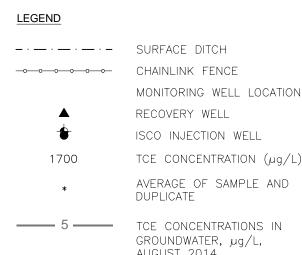


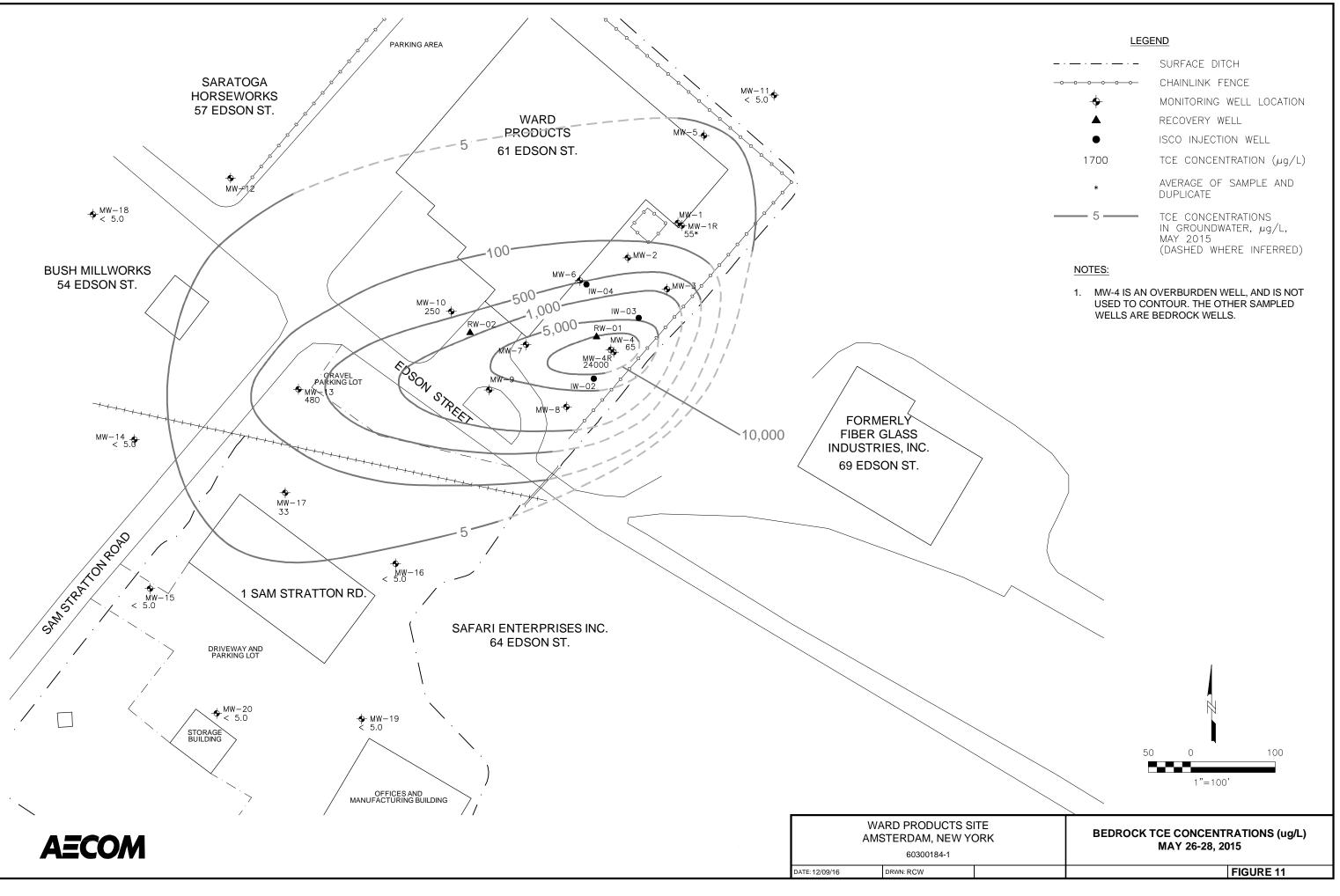


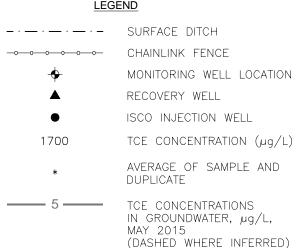


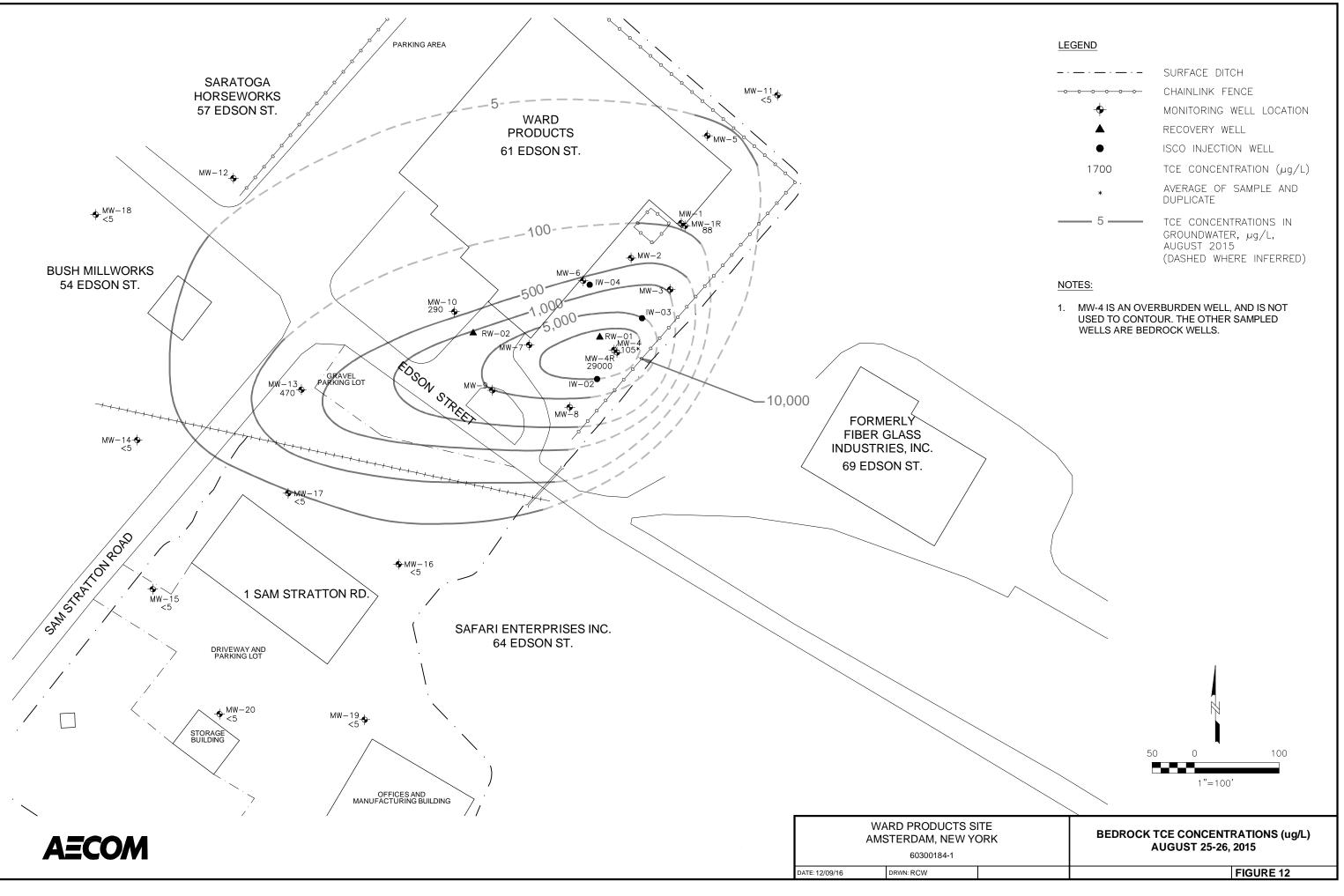


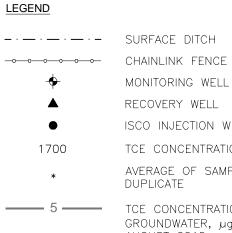


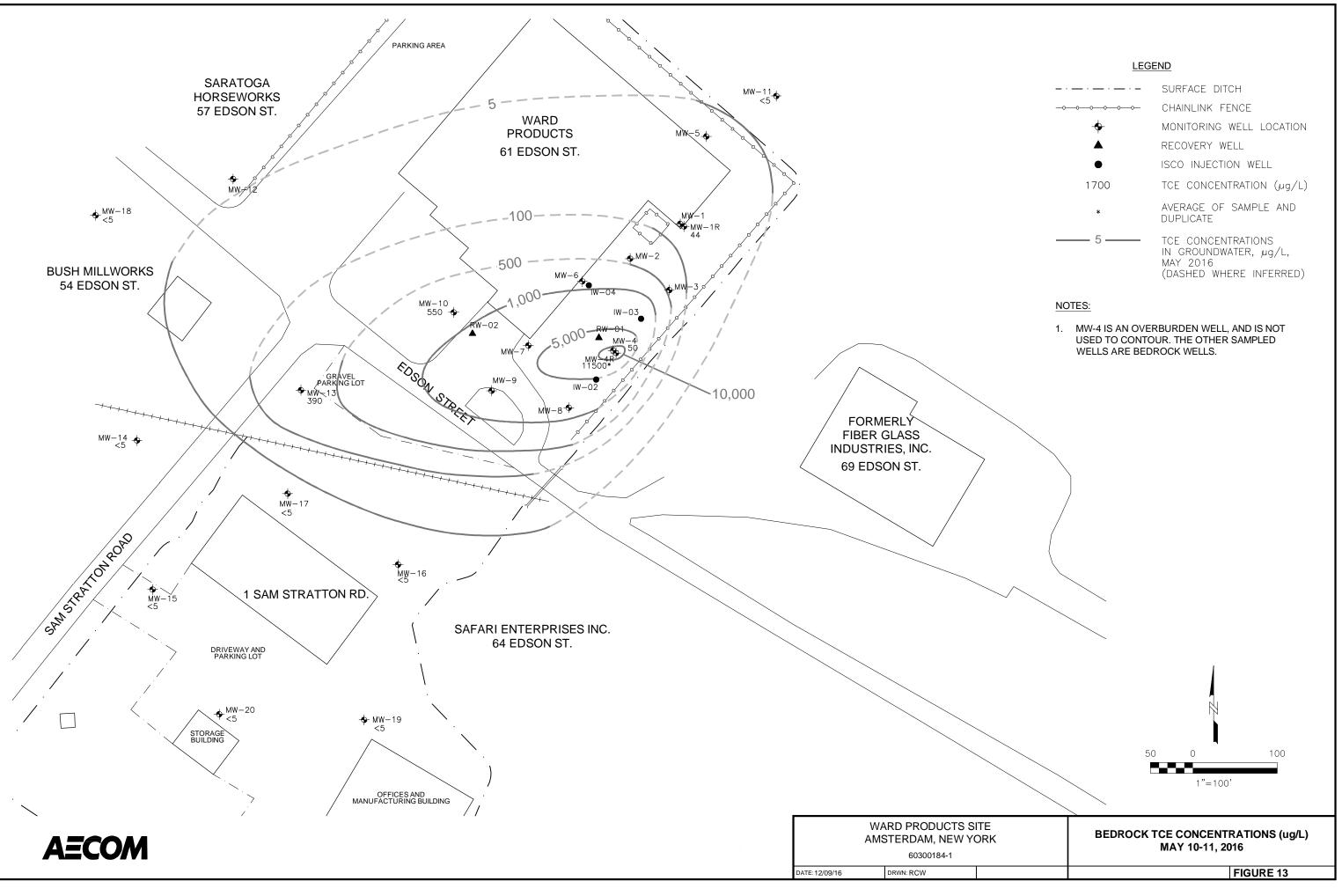


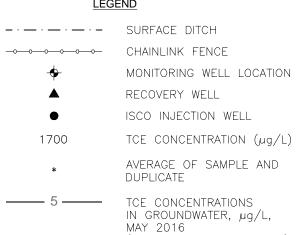


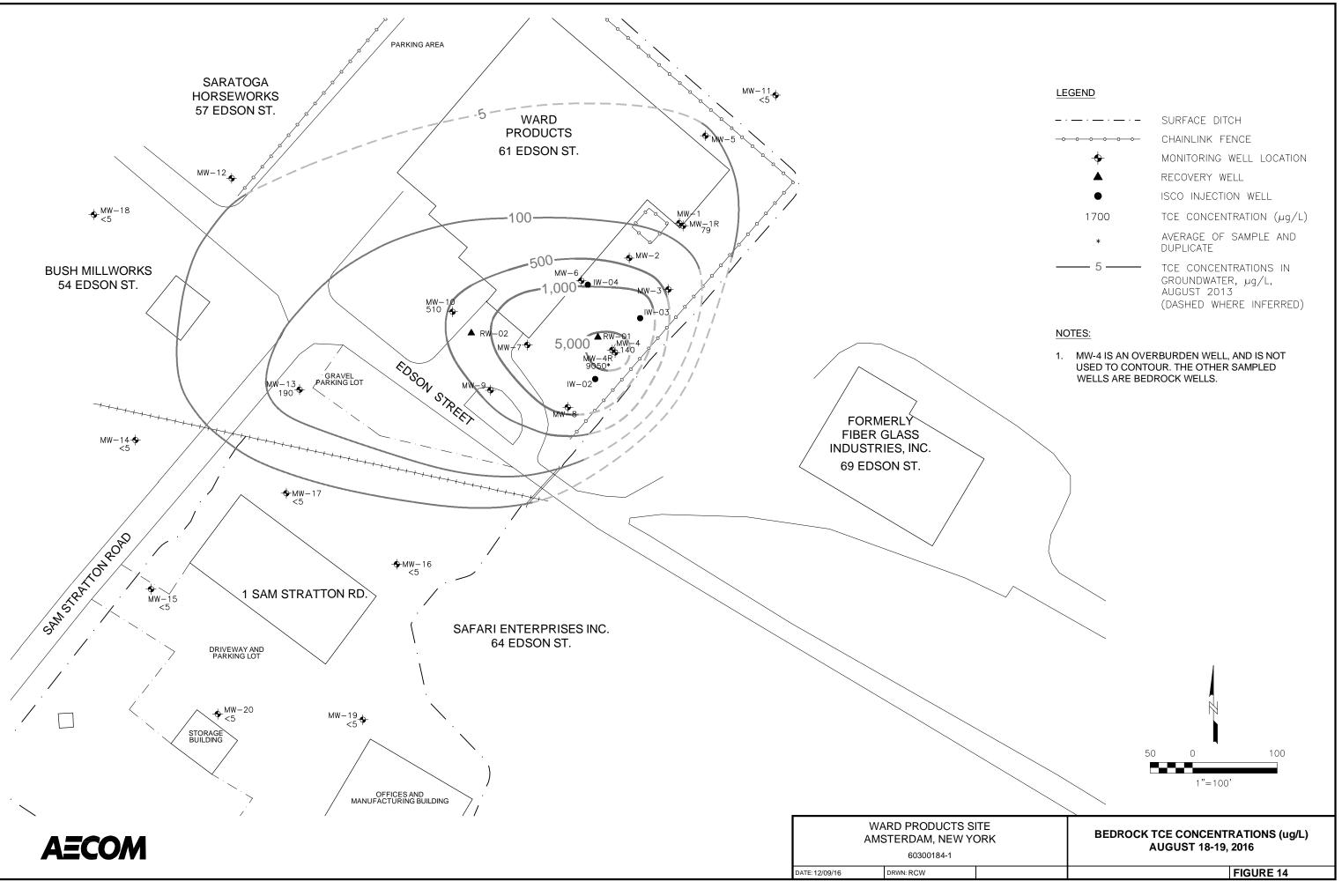


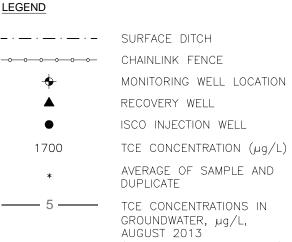












Appendix A 2014 through 2016 Groundwater Data Tables

Table A-1Summary of Groundwater Elevation Measurements - 2014 through 201661 Edson Street, Amsterdam, NYNYSDEC Site #4-029-004

			20	14			20)15			20	16	
		May 20-	21, 2014	August 1	1-13, 2014	May 26-	28, 2015	August 2	5-26, 2015	May 10-	11, 2016	August 1	8-19, 2016
	Top of Casing	Depth to	Water	Depth to	Water	Depth to	Water	Depth to	Water	Depth to	Water	Depth to	Water
Monitoring	Elevation	Water	Elevation	Water	Elevation	Water	Elevation	Water	Elevation	Water	Elevation	Water	Elevation
Well	(Ft)	(Ft)	(Ft)	(Ft)	(Ft)	(Ft)	(Ft)	(Ft)	(Ft)	(Ft)	(Ft)	(Ft)	(Ft)
MW-1	471.55	2.57	468.98	5.51	466.04	4.90	466.65	Dry	Dry	3.03	468.52	4.27	467.28
MW-1R	471.46	3.03	468.43	6.05	465.41	5.14	466.32	8.79	462.67	3.09	468.37	4.43	467.03
MW-2	471.20	2.28	468.92	5.66	465.54	5.37	465.83	8.29	462.91	4.15	467.05	19.85 [d]	451.35 [d]
MW-3	473.03	3.45	469.58	7.70	465.33	6.30	466.73	10.66	462.37	4.16	468.87	9.40	463.63
MW-4	470.17	4.82	465.35	8.22	461.95	8.28	461.89	10.11	460.06	5.52	464.65	7.90	462.27
MW-4R	470.29	18.06	452.23	20.99	449.30	17.55	452.74	20.43	449.86	16.68	453.61	19.32	450.97
MW-5	475.62	17.00	458.62	17.52	458.10	17.83	457.79	Dry	Dry	17.23	458.39	17.48	458.14
MW-6	470.97	19.00	451.97	21.40	449.57	18.03	452.94	20.38	450.59	16.84	454.13	NM [e]	NM [e]
MW-7	469.14	16.93	452.21	19.80	449.34	17.59	451.55	18.38	450.76	15.13	454.01	17.88	451.26
MW-8	467.38	13.92	453.46	17.14	450.24	14.09	453.29	16.36	451.02	12.80	454.58	15.35	452.03
MW-9	465.43	24.96	440.47	24.82	440.61	18.99	446.44	17.95	447.48	15.09	450.34	17.90	447.53
MW-10	466.77	26.29	440.48	25.76	441.01	18.28	448.49	18.59	448.18	15.90	450.87	19.20	447.57
MW-11	485.37	12.55	472.82	15.53	469.84	15.67	469.70	18.08	467.29	14.17	471.20	16.73	468.64
MW-12	468.18	20.32	447.86	21.02	447.16	18.93	449.25	20.98	447.20	18.06	450.12	20.88	447.30
MW-13	462.12	25.00	437.12	23.22	438.90	15.09	447.03	15.87	446.25	12.38	449.74	15.95	446.17
MW-14	453.66	9.62	444.04	10.93	442.73	12.35	441.31	13.62	440.04	10.04	443.62	13.15	440.51
MW-15	445.20	6.88	438.32	9.12	436.08	9.84	435.36	12.39	432.81	8.29	436.91	11.50	433.70
MW-16	449.50	20.46	429.04	21.80	427.70	21.22	428.28	22.68	426.82	19.30	430.20	23.03	426.47
MW-17	450.84	10.66	440.18	10.55	440.29	8.88	441.96	9.34	441.50	6.52	444.32	9.70	441.14
MW-18	463.76	20.80	442.96	21.84	441.92	21.59	442.17	23.22	440.54	20.31	443.45	23.22	440.54
MW-19	441.64	29.87	411.77	30.90	410.74	30.98	410.66	32.55	409.09	29.47	412.17	12.70 [f]	428.94 [f]
MW-20 [b]	442.38	21.28	421.10	23.00 [a]	NM [a]	24.30	418.16	25.41	417.05	22.74	419.72	25.00	417.46
RW-01	472.08	71.16	400.92	68.02	404.06	NM [c]	NM [c]	65.03	407.05	62.76	409.32	45.05	427.03
RW-02*	465.57	36.15	429.42	40.55	425.02	18.98	446.59	19.04	446.53	16.17	449.40	19.15	446.42

Notes:

NM - Not measured

*RW-02 was formerly IW-01. RW-02 TOC elevation is estimated.

[a] August 2014, MW-20 was observed to be damaged; as a result, the depth to water was measured but the water elevation was not calculated.

[b] MW-20 was observed to be damaged in August 2014, and was repaired and re-surveyed in November 2014.

[c] May 2015, RW-01 was inadvertently not gauged for water level.

[f] August 2016, the water level reported for MW-02 is highly suspect, as it was approximately 15 ft lower than previously measured.

[e] August 2016, MW-06 was inadvertently not gauged for water level.

[f] August 2016, the water level reported for MW-19 is highly suspect, as it was approximately 15 ft higher than previously measured.

Table A-2Summary of Primary Constituents of Interest - 2014 through 201661 Edson Street, Amsterdam, NYNYSDEC Site #4-029-004

Well Number	May 20-21, 2014	August 11-13, 2014	May 26-28, 2015	August 25-26, 2015	May 10-11, 2016	August 18-19, 2016
Trichloroethen	e (µg/L)	NYSDEC GQS =	5 µg/L	•		
MW-1R	46	61	55*	88	44	79
MW-4	32	66	65	105*	50	140
MW-4R	40,000 E	22000*	24000	29000	11500*	9050*
MW-10	230	210	250	290	550	510
MW-11	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
MW-13	130	26	480	470	390	190
MW-14	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
MW-15	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
MW-16	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
MW-17	400	<25	33	<5.0	<5.0	<5.0
MW-18	<5.0*	<5.0	<5.0	<5.0	<5.0	<5.0
MW-19	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
MW-20	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Hexavalent Chr	omium (µg/L)	NYSDEC GQS =	50 µg/L			
MW-1R	47	80	80*	240	65	270
MW-4	<20	<20	<20	<20*	<20	<20
MW-4R	<20	<20 [1]	<20	<20	<20*	<20*
MW-10	<20	<20	<20	<20	<20	<20
MW-11	<20	<20	<20	<20	<20	<20
MW-13	<20	<20	<20	<20	<20	<20
MW-14	<20	<20	<20	<20	<20	<20
MW-15	<20	<20	<20	<20	<20	<20
MW-16	<20	<20	<20	<20	<20	<20
MW-17	<20	<20	<20	<20	<20	<20
MW-18	<20*	<20	<20	<20	<20	<20
MW-19	<20	<20	<20	<20	<20	<20
MW-20	<20	<20	<20	<20	<20	<20
Total Chromiur	n (µg/L)	NYSDEC GQS =				
MW-1R	63.4	107	86.4*	241	59	270
MW-4	<2.7	17.1	3.1 B	<9.9*	18.6	14.8
MW-4R	95	42 [1]	12.3	<9.9	<9.9*	8.65*
MW-10	10 B	15.9	8.8 B	<9.9	<9.9	<6.9
MW-11	6.2 B	<2.8	<2.8	<9.9	<9.9	<6.9
MW-13	11.7	<2.8	<2.8	73.2	<9.9	<6.9
MW-14	<2.7	<2.8	<2.8	<9.9	<9.9	<6.9
MW-15	<2.7	<2.8	<2.8	<9.9	<9.9	<6.9
MW-16	24.6	<2.8	4.0 B	<9.9	<9.9	9.6 B
MW-17	5.6 B	<2.8	<2.8	<9.9	<9.9	<6.9
MW-18	<2.7 (*Dup - 5.6 B)	<2.8	<2.8	<9.9	<9.9	<6.9
MW-19	9.6 B	11.8	<2.8	<9.9	<9.9	<6.9
MW-20	10.1	116	11.9	<9.9	<9.9	<6.9

Notes:

B - Contamination in associated method blank

E - Estimated value outside of calibration range of instrument.

Dup - Field duplicate sample.

NYSDEC GQS - New York State Department of Environmental Conservation Groundwater Quality Standard

Semiannual groundwater monitoring conducted according to the "Site Management Plan, Ward Products Site, Site # 4-29-004, Amsterdam, New York" (AECOM, February 2011).

* Average of primary and duplicate sample results (reporting limit used for non-detect results)

[1] In the August 2014 event, a duplicate sample was only collected for VOC analysis.

						MW-1R						
	METALS	6 (mg/L)					VOCs ((µq/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
5/13/13	0.08	0.117	2.1 J	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0	53	< 10
8/28/13	0.2	0.195	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0	86	< 10
5/20/14	0.047	0.0634	<5	<5	<5	<10	<5	<5	<5	<5	46	<10
8/13/14	0.08	0.107	<5	<5	<5	<10	<5	<5	<5	<5	61	<10
5/26/15	0.08	0.097	<5	<5	<5	<10	<5	<5	<5	<5	54	<10
8/25/15	0.24	0.241	<5	<5	<5	<10	<5	<5	<5	<5	88	<10
5/10/16	0.065	0.059	<5	<5	<5	<10	<5	<5	<5	<5	44	<10
8/18/16	0.27	0.27	<5	<5	<5	<10	<5	<5	<5	<5	79	<10

	MW-4													
	METALS	S (ma/L)					VOCs	(ua/L)						
	Hexavalent	Total	Carbon	Chloro-		Dichloro-	1,1-	cis-1,2-	trans-1,2-	Tetrachloro-	Trichloro-	Vinyl		
	Chromium	Chromium	Tetrachloride	benzene	Chloroform	difluoromethane	Dichloroethene	Dichloroethene	Dichloroethene	ethene	ethene	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		
5/13/13	< 0.02	0.0285	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0	130	< 10		
8/26/13	< 0.02	0.0027 B	< 5.0	< 5.0	< 5.0	< 10	< 5.0	47	< 5.0	< 5.0	190	< 10		
5/20/14	< 0.02	< 0.0027	<5	<5	<5	<10	<5	<5	<5	<5	32	<10		
8/11/14	< 0.02	0.0171	<5	<5	<5	<10	<5	17	<5	<5	66	<10		
5/26/15	< 0.02	0.0031 B	<5	<5	<5	<10	<5	6.8	<5	<5	65	<10		
8/25/15*	< 0.020	< 0.0099	<5	<5	<5	<10	<5	34	<5	<5	110	<10		
5/10/16	< 0.020	0.0186	<5	<5	<5	<10	<5	<5	<5	<5	50	<10		
8/18/16	< 0.020	0.0148	<5	<5	<5	<10	<5	44	<5	<5	140	<10		

						MW-4R						
	METALS	S (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
5/13/13	< 0.02	0.122	< 1200	< 1200	< 1200	< 2500	< 1200	< 1200	< 1200	400 J	12000	< 2500
8/26/13	< 0.02	0.0196	< 1000	< 1000	1200	< 2000	< 1000	< 1000	< 1000	940 J	27000	< 2000
5/20/14	<0.02	0.095	<1000	<1000	<1000	<2000	<1000	<1000	<1000	1400	40000 E	<2000
8/11/14	< 0.02	0.042	<2000	<2000	<2000	<4000	<2000	<2000	<2000	<2000	22000	<4000
5/26/15	<0.02	0.0123	<1000	<1000	<1000	<2000	<1000	<1000	<1000	<1000	24000	<2000
8/25/15	<0.020	< 0.0099	<1000	<1000	<1000	<2000	<1000	<1000	<1000	1100	29000	<2000
5/10/16	<0.020	< 0.0099	<1000	<1000	<1000	<2000	<1000	<1000	<1000	<1000	12000	<2000
8/18/16	<0.020	0.0104	<500	<500	<500	<1000	<500	<500	<500	<500	9200	<1000

						MW-10						
	METALS	6 (ma/L)					VOCs (ua/L)				
	Hexavalent Chromium	Total	Carbon Tetrachloride	Chloro- benzene	Chloroform	Dichloro- difluoromethane	1,1-	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 5/29/07	< 0.020	0.0332 0.0064 J	<500	<500 <1000	<500 <1000	NA <1000	<500 <1000	<500 <1000	<500 <1000	<500 <1000	5100 6300	<500 <1000
5/29/07 8/6/07	<0.020 <.02	0.0064 J 0.01	<1000 <250	<1000	<1000	<1000	<1000	<1000	<1000	<1000	5400	<1000
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	0.005	<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	<0.02	<0.0032	<50	<50	<50	<100	<50	<50	<50	<50	1000	<100
9/1/10	<0.020 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
5/14/13	< 0.02	< 0.0027	< 10	< 10	< 10	< 20	< 10	6.1 J	< 10	< 10	240	< 20
8/28/13	< 0.02	0.0035 B	< 10	< 10	< 10	< 20	2.7 J	8.5 J	< 10	< 10	260	< 20
5/20/14	< 0.02	0.010 B	<10	<10	<10	<20	<10	<10	<10	<10	230	<20
8/12/14	< 0.02	0.0159	<10	<10	<10	<20	<10	<10	<10	<10	210	<20
5/26/15	<0.02	0.0088 B	<10	<10	<10	<20	<10	<10	<10	<10	250	<20
8/25/15	<0.020	< 0.0099	<10	<10	<10	<20	<10	<10	<10	<10	290	<20
5/10/16	<0.020	< 0.0099	<25	<25	<25	<50	<25	<25	<25	<25	550	<50
8/18/16	<0.020	< 0.0069	<25	<25	<25	<50	<25	<25	<25	<25	510	<50

12/5/2016

						MW-11						
	METAL	S (ma/L)					VOCs (ua/L)				
	Hexavalent	Total Chromium	Carbon Tetrachloride	Chloro- benzene	Chloroform	Dichloro- difluoromethane	1,1-	cis-1,2-	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
5/13/13	< 0.02	< 0.0027	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10
8/27/13	< 0.02	<0.0027	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10
5/20/14	<0.02	0.0062 B	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
8/11/14	<0.02	<0.0028	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
5/27/15	<0.02	<0.0028	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
8/25/15	<0.020	<0.0099	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
5/10/16	<0.020	<0.0099	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
8/18/16	<0.020	< 0.0069	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10

						MW-13						
	METALS	S (mg/L)					VOCs (µg/L)				
	Hexavalent Chromium	Total	Carbon Tetrachloride	Chloro- benzene	Chloroform	Dichloro- difluoromethane	1,1- Dichloroethene	cis-1,2- Dichloroethene	trans-1,2-	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	<100	14	NA	NA	<5	530	<100
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
5/14/13	< 0.02	0.0053 B	< 10	< 10	< 10	< 20	5.7 J	39	6 J	< 10	390	< 20
8/28/13	< 0.02	<0.0027	< 25	< 25	< 25	< 50	< 25	51	< 25	< 25	320	< 50
5/21/14	<0.02	0.0117	<5	<5	<5	<10	<5	59	<5	<5	130	<10
8/12/14	< 0.02	<0.0028	<5	<5	<5	<10	<5	69	<5	<5	26	<10
5/27/15	<0.02	<0.0028	<50	<50	<50	<100	<50	<50	<50	<50	480	<100
8/26/15	<0.020	0.0732	<50	<50	<50	<100	<50	<50	<50	<50	470	<100
5/10/16	<0.020	<0.0099	<25	<25	<25	<50	<25	40	<25	<25	390	<50
8/18/16	<0.020	< 0.0069	<10	<10	<10	<20	<10	56	<10	<10	190	<20

						MW-14						
	METALS	6 (mg/L)	1				VOCs	s (µg/L)				
	Hexavalent	Total	Carbon	Chloro-		Dichloro-	1,1-	cis-1,2-	trans-1,2-	Tetrachloro-	Trichloro-	Vinyl
	Chromium	Chromium	Tetrachloride	benzene	Chloroform	difluoromethane	Dichloroethene	Dichloroethene	Dichloroethene	ethene	ethene	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
5/14/13	< 0.02	< 0.0027	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10
8/28/13	< 0.02	< 0.0027	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10
5/21/14	<0.02	< 0.0027	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
8/12/14	<0.02	<0.0028	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
5/27/15	<0.02	<0.0028	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
8/25/15	<0.020	< 0.0099	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
5/10/16	<0.020	< 0.0099	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
8/19/16	< 0.020	< 0.0069	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10

						MW-15						
	METALS	6 (mg/L)	1				VOCs (µg/L)				
	Hexavalent Chromium	Total Chromium	Carbon Tetrachloride	Chloro- benzene	Chloroform	Dichloro- difluoromethane	1,1-	cis-1,2-	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
5/15/13	< 0.02	< 0.0027	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10
8/29/13	< 0.02	< 0.0027	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10
5/21/14	< 0.02	< 0.0027	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
8/12/14	< 0.02	<0.0028	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
5/28/15	< 0.02	<0.0028	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
8/26/15	<0.020	< 0.0099	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
5/10/16	<0.020	< 0.0099	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
8/19/16	< 0.020	< 0.0069	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10

						MW-16						
	METALS	S (mg/L)	1				VOCs (µg/L)				
	Hexavalent Chromium	Total Chromium	Carbon Tetrachloride	Chloro- benzene	Chloroform	Dichloro- difluoromethane	1,1-	cis-1,2-	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
5/14/13	< 0.02	0.0125	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0	7.7	< 10
8/27/13	< 0.02	< 0.0027	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10
5/21/14	< 0.02	0.0246	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
8/12/14	< 0.02	<0.0028	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
5/27/15	<0.02	0.004 B	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
8/26/15	<0.020	< 0.0099	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
5/11/16	<0.020	< 0.0099	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
8/19/16	<0.020	0.0096 B	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10

						MW-17						
	METALS	S (mg/L)					VOCs (uq/L)				
	Hexavalent	Total	Carbon	Chloro-		Dichloro-	1,1-	cis-1,2-	trans-1,2-	Tetrachloro-	Trichloro-	Vinyl
	Chromium	Chromium	Tetrachloride	benzene	Chloroform	difluoromethane	Dichloroethene	Dichloroethene	Dichloroethene	ethene	ethene	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
5/14/13	< 0.02	< 0.0027	< 10	< 10	< 10	< 20	12	550 D	7.8 J	< 10	320	< 20
8/27/13	< 0.02	0.0040 B	< 25	< 25	< 25	< 50	< 25	36	< 25	< 25	170	< 50
5/21/14	<0.02	0.0056 B	<25	<25	<25	<50	<25	68	<25	<25	400	<50
8/12/14	<0.02	<0.0028	<25	<25	<25	<50	<25	280	<25	<25	<25	<50
5/26/15	< 0.02	<0.0028	<5	<5	<5	<10	<5	20	<5	<5	33	<10
8/25/15	<0.020	< 0.0099	<5	<5	<5	<10	<5	46	<5	<5	<5	<10
5/11/16	<0.020	< 0.0099	<5	<5	<5	<10	<5	13	<5	<5	<5	<10
8/19/16	< 0.020	< 0.0069	<5	<5	<5	<10	<5	28	<5	<5	<5	<10

						MW-18						
	METALS	6 (mg/L)					VOCs (µq/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
5/14/13	< 0.02	< 0.0027	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0	2.9 J	< 10
8/28/13	< 0.02	0.0052 B	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10
5/20/14	< 0.02	< 0.0027	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
8/11/14	<0.02	<0.0028	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
5/27/15	<0.02	<0.0028	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
8/26/15	<0.020	< 0.0099	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
5/11/16	<0.020	< 0.0099	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
8/18/16	<0.020	< 0.0069	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10

						MW-19						
	METALS	S (ma/L)					VOCs (ua/L)				
	Hexavalent	Total	Carbon	Chloro-		Dichloro-	1,1-	cis-1,2-	trans-1,2-	Tetrachloro-	Trichloro-	Vinyl
	Chromium	Chromium	Tetrachloride	benzene	Chloroform	difluoromethane	Dichloroethene	Dichloroethene	Dichloroethene	ethene	ethene	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
5/15/13	< 0.02	< 0.0027	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0	5.3	< 10
8/27/13	< 0.02	<0.0027	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10
5/21/14	< 0.02	0.0096 B	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
8/12/14	<0.02	0.0118	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
5/27/15	<0.02	<0.0028	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
8/26/15	<0.020	< 0.0099	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
5/11/16	<0.020	< 0.0099	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
8/19/16	<0.020	< 0.0069	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10

						MW-20						
	METALS	6 (mg/L)					VOCs (µq/L)				
	Hexavalent	Total	Carbon	Chloro-		Dichloro-	1,1-	cis-1,2-	trans-1,2-	Tetrachloro-	Trichloro-	Vinyl
	Chromium	Chromium	Tetrachloride	benzene	Chloroform	difluoromethane	Dichloroethene	Dichloroethene	Dichloroethene	ethene	ethene	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
5/15/13	< 0.02	0.0166	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10
8/27/13	< 0.02	< 0.0027	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10
5/21/14	< 0.02	0.0101	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
8/12/14	<0.02	0.116	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
5/27/15	<0.02	0.0119	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
8/26/15	<0.020	< 0.0099	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
5/11/16	<0.020	< 0.0099	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10
8/19/16	<0.020	< 0.0069	<5	<5	<5	<10	<5	<5	<5	<5	<5	<10

AECOM

Table A-3 Relevant Groundwater Analytical Results 61 Edson Street, Amsterdam, NY NYSDEC Site #4-029-004

Notes:

* From duplicate sample

NA - not analyzed

NS - not sampled

BOLD = parameter was detected

BOLD & shaded = value exceeds the NYSDEC Standard

B - Contamination in associated method blank

D - Initial result was outside the calibration range; sample re-analyzed at dilution.

E - estimated value ouside of the calibration range

J - estimated value below the detection limit

Appendix B Field Sheets for May 2014 through August 2016 Groundwater Sampling Events

2014 Field Notes

1305 purged Tw-5 dry 1320 Sampled TW-5 dry 1900 Collected EQUIN 130 Filled 5/20/14 Dute Project# 60322038-600 Project# 60322038-600 Purpose MW Sample 1400 Collected EQUIPMENT Blank TS MD 1930 Filled out paperwork Packer Mobilized from Personell Weather Sunny SO'S Site AM will take Equipment YSI Lamothe grunates bernesator 75 on site DTW Samples and Eduipment Lemoved wettests Unload track 745 Gasge Wills Well TS removed wells and 2.57 3.03 2.28 3.45 4.82 Filled with Bentonite AM OFF Site NWW 1 MWIR ¥ MW 2 1500 TS OFF SITE MW 3 * MWY 06. DC. 8 MW YR × MW 5 MW 6 50 MW 7 93 MW 8 a2 MW 1 24.96 MW 10 6.29 × 2.55 MWI * MW 12 16/14 Rite in the Rain

Date 5/20/14 Well DTW	White BPB	Dute Skoliy 1330 Started PU	re of www.io
MW15 2500 MW14 9.02	BPB X	1330 Sturted PU 1430 Collected M MS	W-10052014 +
MW 15 6 88	× ×		, TNSD
MW16 20.46	× •		
MW 7 688 MW 18 20.80	10.00		
MW 19 29.8-			
MW 20 21.28	mp (Juning		
RW-01 71.16 RU RW-02 36.15 M.			
10	e rigue		
924 Started Purge of			
1015 Sampled MW-11 0 935 Started Purge Str	NW-IR		
1020 Dampled MW-1R	052019		
1205 Started Purge of 1235 Sampled MWHR	052014		
1/10 Sampled Adjated	TO chicken		
1235 Sampled MW-18	8 052014 +		
1)VP-1	052014	1500 Mubize	off site to
1255 Started Purge of 1340 Sampled MW-4	MW-4		coolers
		1- 75 :	5 120/14
			Rite in the Rain

Date 5/21/14				
project word Propults				
Project # 60322038.600				
Personell MD TS				
Personell MD TS				
Weather Sunny (00's		2	_	
Equipment YSE La Mothe Crunthes Generals				
745 ON SITA				
815 Started Purge of MW-14 (
745 01 Site 815 Started Purge of MW-14 845 Collected MW-14 052114 820 Started Purge of MW-13 920 Sampled MW-13 052114 950 Started Purge of MW-17 950 Started Purge of MW-17 950 Started Purge of MW-17 960 Started Purge of MW-17 970 Started Purge of MW-16 970 Started Purge of MW-16 970 Started Purge of MW-20 970 Started Purge of MW-15 971 972 972 Started Purge of MW-15 972 Started Purge of MW-15 972 Started Purge of MW-16 972 Started Purge of MW-17 972 Started Purge of MW-17 972 Started Purge of MW-17 <td></td> <td></td> <td></td> <td></td>				
800 Started (Drge SF MW-13				
920 Sampled MW-13 052114	_			
950 Started purge of MW-17				
1018 Sampled NW-17 052114 948 Started purge of MW-16		_		
1120 Sampled Mul-16 052114	 			_
1205 ch hed Durge of Aun 20		-+-		_
1305 Started Purge of MW-20	+-+	_	+-+	_
1305 Started Purne of NW-15		_		_
1405 Sampled MW-15 052114		_		
1425 Stacted Ruge of MW-19	 +		+ +	
15/2 Sampled MW-111 052114				
1530 Mobilize from Site to			+	
bring Samples to Lab				
~ TS 5/21/14~				
13 5 21/19		A	ite in t	the Rain

Samplers: Sample Number: Purging / Sampling Method: 1. L = Total Well Depth: 2. D = Riser Diameter (I.D.): 3. W = Static Depth to Water (TOC	Mat	J-1R C	R nd Tim Steir			5/20-21/14		
Sample Number: Purging / Sampling Method: 1. L = Total Well Depth: 2. D = Riser Diameter (I.D.): 3. W = Static Depth to Water (TOC	Mat Mu	t Dean an J-\R (nd Tim Steir			5/20-21/14		
	MU	J-1R C		hofer				
Purging / Sampling Method: 1. L = Total Well Depth: 2. D = Riser Diameter (I.D.): 3. W = Static Depth to Water (TOC			52014		-			
 L = Total Well Depth: D = Riser Diameter (I.D.): W = Static Depth to Water (TOC) 	Gru	ndfos or		QA/QC	Collected?	NO		
 D = Riser Diameter (I.D.): W = Static Depth to Water (TOC) 		naros ol	Peristaltic P	ump with De	edicated Tub	ing/Low-Flow	W	
 D = Riser Diameter (I.D.): W = Static Depth to Water (TOC) 					feet	D (inches)	D (feet)	1
 3. W = Static Depth to Water (TOC 4. C = Column of Water in Casing: 			1.1.2	-	feet	1-inch	0.08	1
):		2.63	248	feet	2-inch	0.17>	
The Column of Water in Casille.	,		9.01	- 110	feet	3-inch	0.25	
5. V = Volume of Water in Well = 0	C(3 14159)(0	$5D)^2(7.4)$	8)		gal	4-inch	0.33	
6. $D2 = Pump$ Setting Depth (ft):	0,0,17109)(0.		•)	15 10	feet	6-inch	0.50	
7. $C2 = Column of water in Pump/T$	Tuhing (A).		19	15.90	feet		0.50	1
8. Tubing Volume = $C2(0.00573708)$	U ()		2		gal			
. rusing volume - 02(0.00375700	,		1.00		Dui			
			Conversion	factors to de	termine V of	iven C		
			Sourvioloff					
	D G	nches)	1-inch	2-inch	3-inch	4-inch	6-inch	1
		gal / ft)	0.041		· · · · · · · · · · · · · · · · · · ·			4 - C
			0.041	(0.163/	0.37	0.65	1.5	1
			0.041	(0.163	0.37	0.65	1.5	1
Water Quality Readings Collected U	Jsing		YSI-556 and			0.65	1.5	
)20	0.65	1.5	1
Parameter	Units		YSI-556 and	i LaMotte 20	020 Readings	·	1.5	1
Parameter Time	Units 24 hr 9	35	YSI-556 and	I LaMotte 20	Readings	10 20	1.5	1
Parameter Time Water Level (0.33)	Units 24 hr 9 feet 2	355	YSI-556 and 940 5.42	1 LaMotte 20 9 45 5.92	20 Readings 950 ★ 7-69	1020 14.90	1.5	
Parameter Time Water Level (0.33) Volume Purged	Units 24 hr 9 feet 2 gal	3:5- - 48 - 0	YSI-556 and 940 5.42 25	1 LaMotte 20 945 5.92 2.5	020 Readings 950 * 7-64 -5	10 20	1.5	
Parameter Time Water Level (0.33) Volume Purged Flow Rate	Units 24 hr 9 feet 2 gal JL / min 1	355 - 48 0 00	YSI-556 and 940 5.42 ≤ ,25 ≤ (00	4 45 5.92 2.5 2.00	120 Readings 950 * 7.64 -5 <100	10 20 14.90	1.5	
Parameter Time Water Level (0.33) Volume Purged Flow Rate m Turbidity (+/- 10%)	Units 24 hr 9 feet 2 gal hL / min 1 NTU 2	355 - 48 0 0 8.4	YSI-556 and 940 5.42 < .25 < 100 26.4	1 LaMotte 20 9 45 5.92 2.5 2.00 24.7	120 Readings 950 * 7-64 -5 2103 31.1	10 20 14.90	1.5	
ParameterTimeWater Level (0.33)Volume PurgedFlow RateTurbidity (+/- 10%)Dissolved Oxygen (+/- 10%)	Units 24 hr 9 feet 2 gal hL / min 1 NTU 2	355 - 48 0 0 8.4	YSI-556 and 940 5.42 <.25 <100 26.4 95-0	445 5.92 2.5 2.00 24.7 82.9	120 Readings 950 * 7-64 -5 2108 31.1 62.6	10 20 14.40 30.8 45.6	1.5	
ParameterTimeWater Level (0.33)Volume PurgedFlow RatemTurbidity (+/- 10%)Dissolved Oxygen (+/- 10%)Dissolved Oxygen (+/- 10%)	Units 24 hr 9 feet 2 gal L/min 1 NTU 2 % 1 mg/L 1	355 248 0 8.4 55.6 7.31	YSI-556 and 940 5.42 <.25 <.100 26.9 95.0 10.27	448 5.92 2.5 24.7 82.9 8.39	120 Readings 950 ★ 7.69 5 	10 20 14.90 30.8 45.6 4.44	1.5	
ParameterTimeWater Level (0.33)Volume PurgedFlow RateTurbidity (+/- 10%)Dissolved Oxygen (+/- 10%)Dissolved Oxygen (+/- 10%)Eh / ORP (+/- 10)	Units 24 hr 9 feet 2 gal 9 oL / min 1 NTU 2 % 1 mg/L 1 MeV -(4)	355 48 0 0 8.4 55.4 7.31 7.31	YSI-556 and 940 5.42 < .25 < 100 26.9 95-0 /0.27 - (05.2)	945 5.92 2.5 24.7 82.9 8.39 -71.2	120 Readings 950 * 7-64 -5 2105 31.1 6.2.6 6.78 -72.2	1020 14.40 30.8 45.6 4.44 -80.2	1.5	
ParameterTimeWater Level (0.33)Volume PurgedFlow Ratemurbidity (+/- 10%)Dissolved Oxygen (+/- 10%)Dissolved Oxygen (+/- 10%)Eh / ORP (+/- 10)Specific Conductivityr	Units 24 hr 9 feet 2 gal DL / min 1 NTU 2 % (1 mg/L 1 MeV -(4 nS/cm ^c 0	355 248 0 0 8.4 7.31 8.6 8.6	YSI-556 and 940 5.42 <.25 <100 26.9 95-0 /0.27 -(05.2) 0.639	945 5.92 2.5 24.7 82.9 8.39 -71.2 0.645	$\begin{array}{c} \hline \textbf{Readings} \\ \hline \textbf{Readings} \\ \hline \textbf{950 *} \\ \hline \textbf{7.64} \\ \hline \textbf{.5} \\ \hline \textbf{c.105} \\ \hline \textbf{31.1} \\ \hline \textbf{6.2.6} \\ \hline \textbf{6.18} \\ \hline \textbf{-72.2} \\ \hline \textbf{0.627} \end{array}$	1020 14.40 30.8 45.6 4.44 -80.2 0.616	1.5	
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity r Conductivity (+/- 3%)	Units 24 hr 9 feet 2 gal hL / min 1 NTU 2 % (mg/L 1 MeV -(c nS/cm ^c 0 mS/cm 0.	35- 248 0 0 8.4 7.31 8.6 7.31 8.6 457	YSI-556 and 940 5.42 <.25 <.600 26.9 95.0 /0.27 - (05.2 0.639 0.478	9 45 5.92 2.5 2.00 24.7 82.9 8.39 -71.2 0.645 0.486	Readings 950 * 7-64 -5 2105 31.1 62.6 6.78 -72.2 0.627 0.467	1020 14.40 30.8 45.6 4.44 - 80.2 0.616 0.518	1.5	
ParameterTimeWater Level (0.33)Volume PurgedFlow Ratemurbidity (+/- 10%)Dissolved Oxygen (+/- 10%)Dissolved Oxygen (+/- 10%)Eh / ORP (+/- 10)Specific ConductivityrrConductivity (+/- 3%)pH (+/- 0.1)	Units 24 hr 9 feet 2 gal hL / min 1 NTU 2 % (mg/L 1 MeV -(a mS/cm° () mS/cm () of mb/cm ()	35 2 48 0 0 3.4 55.4 7.51 55.4 7.51 6.56 457 .76	YSI-556 and \$.42 <.25 <.100 26.4 95.0 10.27 65.2 0.639 0.478 6.52	4 LaMotte 20 4 45 5.92 2.5 2.00 24.7 82.9 8.39 -71.2 0.645 0.486 6.58	Readings 950 * 7.64 -5 2.103 31.1 6.2.6 6.78 -72.2 0.627 0.467 6.64	1020 14.40 30.8 45.6 4.44 -80.2 0.616 0.518 7.05	1.5	
ParameterTimeWater Level (0.33)Volume PurgedFlow Ratemurbidity (+/- 10%)Dissolved Oxygen (+/- 10%)Dissolved Oxygen (+/- 10%)Eh / ORP (+/- 10)Specific ConductivityrnConductivity (+/- 3%)pH (+/- 0.1)Temp (+/- 0.5)	Units 24 hr q feet 2 gal hL / min 1 NTU 2 % (mg/L 1 MeV -(a mS/cm° (b) mS/cm° (b) mS/cm (b) DH unit (c) C (c)	35 2 48 0 0 3.4 55.4 7.31 55.4 7.31 6.5 6.4 6.5 6 457 .76 2.28	YSI-556 and 940 5.42 <.25 <.100 26.9 95.0 /0.27 -(05.2) 0.639 0.478 6.52 11.83	445 5.92 24.7 82.9 8.39 -71.2 0.645 0.486 6.58 12.06	$\begin{array}{c} \hline \textbf{Readings} \\ \hline \textbf{450 *} \\ \hline \textbf{7.64} \\ \hline \textbf{-5} \\ \hline \textbf{2.105} \\ \hline \textbf{31.1} \\ \hline \textbf{6.2.6} \\ \hline \textbf{6.78} \\ \hline \textbf{-72.2} \\ \hline \textbf{0.627} \\ \hline \textbf{0.467} \\ \hline \textbf{6.64} \\ \hline \textbf{1.63} \end{array}$	1020 14.40 30.8 45.6 4.44 -80.2 0.616 0.518 7.05 16.67	1.5	
ParameterTimeWater Level (0.33)Wolume PurgedFlow RateFlow RatemTurbidity (+/- 10%)Dissolved Oxygen (+/- 10%)Dissolved Oxygen (+/- 10%)Eh / ORP (+/- 10)Eh / ORP (+/- 10)Specific ConductivitySpecific ConductivityrrConductivity (+/- 3%)rrpH (+/- 0.1)pTemp (+/- 0.5)Color	Units 24 hr 9 feet 2 gal L/min 1 NTU 2 % (4 mg/L 1 MeV -(4 mS/cm° (5) MeV -(4) MeV -(4)	35 2 48 0 0 3.4 55.4 7.51 55.4 7.51 6.56 457 .76	YSI-556 and \$.42 <.25 <.100 26.4 95.0 10.27 65.2 0.639 0.478 6.52	4 LaMotte 20 4 45 5.92 2.5 2.00 24.7 82.9 8.39 -71.2 0.645 0.486 6.58	Readings 950 * 7.64 -5 2.103 31.1 6.2.6 6.78 -72.2 0.627 0.467 6.64	1020 14.40 30.8 45.6 4.44 -80.2 0.616 0.518 7.05	1.5	

Project Name and Number:		Ward Produ	icts					
Monitoring Well Number:		MW-	-1	Date;		5/20-21/14		
Samplers:		Matt Dean a	and Tim Stei	nhofer				
Sample Number:		Mw-4	05201	QA/QC	C Collected?	h	0	
Purging / Sampling Method:		Grundfos or	Peristaltic I	ump with De	edicated Tub	oing/Low-Flo	w	
 L = Total Well Depth: D = Riser Diameter (I.D.): W = Static Depth to Water (T C = Column of Water in Casis V = Volume of Water in Well D2 = Pump Setting Depth (ft C2 = Column of water in Pur 	ing: 1 = C(3.1415): np/Tubing (f		48)	<u>9.17</u> <u>9.8</u> 2	feet gal feet feet	D (inches) 1-inch 2-inch 3-inch 4-inch 6-inch	D (feet) 0.08 0.17 0.25 0.33 0.50	
8. Tubing Volume = $C2(0.0057)$	37088)		Conversion	factors to de	gal	iven C		
			Conversion	lacions to de	actimite v g	Iven 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	J
Water Quality Readings Collect		-	YSI-556 an	d LaMotte 20				
Parameter Time	Units 24 hr	12:55	13:00	13:05	Readings	13:15	13:20	13:25-
Water Level (0.33)	feet	9.98	5.08	5.30	13:10	5.70	500	6.00
Volume Purged	gal	0	4.25	K.25	5.50	2.25	5.80	7,25
Flow Rate	mL/min	100	80	80	80	80	80	00
Furbidity (+/- 10%)	NTU	39.6	39.1	32.9	30.5	30.7	30.0	80
Dissolved Oxygen (+/- 10%)	%	33.4	15.1	9,4	10,6	14.3	16.6	200
Dissolved Oxygen (+/- 10%)	mg/L	3.53	1.58	96	1.07	1.44	1.65	2.02
Eh / ORP (+/- 10)	MeV	158.9	106.4	,96	\$9.2	100.6	111.5	120.0
Specific Conductivity	mS/cm ^c	357	1365	,373	,371	,360	.351	1333
Conductivity (+/- 3%)	mS/cm	1271	382	.296	.302	.290	.288	,270
oH (+/- 0.1)	pH unit	717	7.26	7.27	7.2.7	7.25	7.19	1717
Γemp (+/- 0.5)	C	12,20	13.40	14.70	15.1	ICT	15.7	14.8
Color	Visual	der	clear	Chear	clear	clear	clear	clew
Odor	Olfactory	none	none		none	mod	apre	none
Comments: K Tur	med u d to	ip floi top c	r to of pur	aid w	1 1	abiliza Standa	tion	
Furge	. 1 0	echarg.	e	0				
rurge allon Sa		1 a	12:11	1)			r	

	Mo	nitoring W	ell Purgi	ng/Sampli	ng Form			
Project Name and Number:		Ward Produ	-					_
Monitoring Well Number:		Mw-4	R	_ Date:		5/20-21/14		
Samplers:		Matt Dean a	and Tim Stei	nhofer				
Sample Number:		MW-46	2 05201	- QA/Q	C Collected?		0	
Purging / Sampling Method:		Grundfos or	Peristaltic I	ump with D	edicated Tub	oing/Low-Flo	w	
 L = Total Well Depth: D = Riser Diameter (I.D.): W = Static Depth to Water (7) C = Column of Water in Cas V = Volume of Water in Well D2 = Pump Setting Depth (ft) C2 = Column of water in Punt Tubing Volume = C2(0.0057) 	sing: = C(3.1415 t): mp/Tubing (f		8)	<u> </u>		D (inches) 1-inch 2-inch 3-inch 4-inch 6-inch	D (feet) 0.08 0.175 0.25 0.33 0.50]
		D (inches) V (gal / ft)	Conversion	2-inch	etermine V g	iven C 4-inch 0.65	6-inch	I
Water Quality Readings Collect	ted Using Units		YSI-556 ar	nd LaMotte 2	1.1.1	-		
		12:05			Readings	-	12.30	12:35
Parameter Time	Units	12:05	112:10	12:15	Readings	12:25		12:35
Parameter Time Water Level (0.33)	Units 24 hr feet	12:05	12:10 18.90 4.25	12:15	Readings	19.05	19.05	19.05
Parameter Time Water Level (0.33) Volume Purged	Units 24 hr feet gal	18.70	12:10 18.90 4.25	12:15 19.00 .25	Readings 12:20 19:00 2.25	19.05	19.05	1.75
Parameter Time Water Level (0.33) Volume Purged Flow Rate	Units 24 hr feet gal mL / min	18.70	12:10 18.90 2.25 100	12:15 19.00 .25	Readings 12:20 19:00 7.25	19.05	19.05	1.75
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%)	Units 24 hr feet gal mL / min NTU	18.70	12:10 18:90 2:25 100 11mit	12:15 19.00 .25	Readings 12:20 19:00 2.25 100 3418	19.05	1105	1.75
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%)	Units 24 hr feet gal mL / min NTU %	18.70 0 100 1871 18.6	12:10 18.90 2.25 100 11mit 7.2	12:15 19.00 .25 100 3085 4.8	Readings 12:20 19:00 2.25 100 3448 4.1	19.05	1105 .50 100 1713 4.2	.75 100 1018 4.8
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%)	Units 24 hr feet gal mL / min NTU % mg/L	18.70 0 100 1871 18.6	12:10 18:90 2:25 100 11m/t 7:2 .73	12:15 19.00 .25 100 3085 4.8	Readings 12:20 19:00 2.25 100 3448 4.1	19.05 7.25 100 3024 3.7 .37	1905 .50 100 1713 4.2 .41	.75 100 1018 4.8 .47
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10)	Units 24 hr feet gal mL / min NTU % mg/L MeV	18.70 100 1871 18.6 1973 1943	12:10 18:90 2:25 100 11mit 7:2 .73 103.9	12:15 19.00 .25 100 3085 4.8 .47 42.3	Readings 12:20 19:00 2.25 100 3448 4.1 .41 .41 .41 .41 .41 .41	19.05 7.25 100 3024 3.7 .37 68.9	1905 100 1713 4.2 171 55.6	.75 100 1018 4.8 .47 47.4
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c	18.70 100 1871 18.6 1.9.3 144.9 1.290	12:10 18:40 2:25 100 1m/t 7:2 .73 103.9 1.490	12:15 19.00 .25 100 3085 4.8 .47 42.3 1.550	Readings 12:20 19:00 2.25 100 3448 4.1 .41 .41 .41 .41 .41 .41	19.05 7.25 100 3024 3.7 .37 68.9 1.430	1905 .50 100 1713 4.2 .41 55.6 1.270	.75 100 1018 4.8 .47 47.4 1,110
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm	18.70 100 1871 18.6 193 1443 1429 11290 190	12:10 18.90 2.25 100 1m/t 7.2 .73 103.9 1.490 1.190	12:15 19.00 .25 100 3085 4.8 .47 4.25 1.550 1.250	Readings 12:20 19:00 2.25 100 3448 4.1 .41 .41 .41 .41 .530 1.220	19.05 7.25 100 3024 3.7 .37 68.9 1.430	1905 .50 100 1713 4.2 .41 55.6 1.270	.75 100 1018 4.8 .47 47.4 1.110 D.890
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm pH unit	18.70 0 1871 18.6 193 144.9 144.9 144.9 144.9 144.9 144.9 144.9 144.9 144.9 144.9 144.9 14.2 14.2 14.2 14.2 14.2 14.2 14.2 14.2	12:10 18.90 2.25 100 1m/t 7.2 .73 103.9 1.490 1.190 7.28	12:15 19.00 .25 100 3085 4.8 .47 4.23 1.550 1.250 7.28	Readings 12:20 19:00 3.25 100 3418 4.1 .41 .41 .41 .41 .41 .530 1.220 7.29	19.05 7.25 100 3024 3.7 .37 68.9 1.430 1.160 7.29	1905 100 1713 4.2 191 55.6 1.270 1.030 7.30	.75 100 1018 4.8 .47 47.4 1.110 D.890
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm° mS/cm pH unit C	18.70 0 100 1871 18.6 193 144.9 11290 .990 7.31 12.6	12:10 18.90 2.25 100 1m/t 7.2 .73 103.9 1.490 1.190 7.28 14.4	12:15 19.00 .25 100 3085 4.8 .47 42.3 1.550 1.250 1.250 7.28 14,7	Readings 12:20 19:00 3.25 100 3448 4.1 .41 .41 .41 .41 .41 .41 .41 .530 1.220 7.29 14.6	19.05 7.25 100 3024 3.7 .37 689 1.430 1.160 7.29 15.0	11.05 .50 100 1713 4.2 .41 55.6 1.270 1.030 7.30 15.1	.75 100 1018 4.8 .47 4.7 47.4 1.110 0.890 7.30 15.0
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5) Color	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm° mS/cm pH unit C Visual	18.70 0 100 1871 18.6 1.93 144.9 11290 .990 7.31 12.6 permangula	12:10 18:90 2:25 100 11mit 7:2 .73 103.9 1.490 1.190 7:28 14.4 bunc	12:15 19.00 .25 100 3085 4.8 .47 42.3 1.550 1.250 7.28 14.7 5anc	Readings 12:20 19:00 2.25 100 3448 4.1 .41 .41 .41 .41 .41 .41 .41 .530 1.220 7.29 14.6 Same	19.05 7.25 100 3024 3.7 .37 68.9 1.430 1.160 7.29 15.0 50me	11.05 .50 100 1713 4.2 .41 55.6 1.270 1.030 7.30 15.1 same	.75 100 1018 4.8 .47 4.7 47.4 1.110 0.890 7.30 15.0 5une
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5) Color Odor	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm° mS/cm pH unit C Visual	18.70 0 100 1871 18.6 193 144.9 11290 .990 7.31 12.6	12:10 18.90 2.25 100 1m/t 7.2 .73 103.9 1.490 1.190 7.28 14.4	12:15 19.00 .25 100 3085 4.8 .47 42.3 1.550 1.250 1.250 7.28 14,7	Readings 12:20 19:00 2.25 100 3448 4.1 .41 83.5 1.530 1.220 7.29 14.6 50ml	19.05 7.25 100 3024 3.7 .37 689 1.430 1.160 7.29 15.0	11.05 .50 100 1713 4.2 .41 55.6 1.270 1.030 7.30 15.1	.75 100 1018 4.8 .47 4.7 47.4 1.110 0.890 7.30 15.0
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5) Color Odor Comments:	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm pH unit C Visual Olfactory	18.70 0 100 1871 18.6 1.93 144.9 11290 .990 7.31 12.6 permangula	12:10 18.90 2.25 100 11m/t 7.2 .73 103.9 1.490 1.190 7.28 14.4 5umc none	12:15 19.00 .25 100 3085 4.8 .47 12.3 1.550 1.250 7.28 14.7 5anc 14.7	Readings 12:20 19:00 2.25 100 3448 4.1 .41 .41 .41 .41 .41 .41 .41 .41 .41	19.05 7.25 100 3024 3.7 ,37 68.9 1.430 1.160 7.29 15.0 50me none	11.05 .50 100 1713 4.2 .41 55.6 1.270 1.030 7.30 15.1 same	.75 100 1018 4.8 .47 4.7 47.4 1.110 0.890 7.30 15.0 5une

Project Name and Number:		Ward Produ	cts					
		MW-1	0					
Monitoring Well Number:		10004	~	Date:		5/20-21/14		
Samplers:		Matt Dean a	and Tim Stei				6	
Sample Number:		MW-10	052014	QA/QC	Collected?	MSV	hsd	
Purging / Sampling Method:		Grundfos or	Peristaltic P	ump with De	edicated Tub	ing/Low-Flo	W	
1. L = Total Well Depth:					feet	D (inches)	D (feet)	1
2. D = Riser Diameter (I.D.):				0.17	feet	1-inch	0.08	
3. $W = $ Static Depth to Water (FOC):		26.21	26.72		Z-inch	0.1%	
4. $C = Column of Water in Cas$			CUIT		feet	3-inch	0.25	
5. V = Volume of Water in We	-	9)(0 5D) ² (7 /	18)	-	gal	4-inch	0.33	
6. $D2 = Pump Setting Depth (ff$) (U .5 D) (I .7)		feet	6-inch	0.55	
7. $C2 = Column of water in Put$		e).			feet		0.00	
8. Tubing Volume = $C2(0.0057)$. <u> </u>	gal			
$\mathbf{S}_{\mathbf{r}} = \mathbf{C}_{\mathbf{r}} $	57088)				gai			
			Conversion	factors to de	termine V g	iven C		
			Conversion		termine v B	iven e		
		D (inches)	1-inch	2-inch)	3-inch	4-inch	6-inch	1
		V (gal / ft)	0.041	0.163	0.37	0.65	1.5	
Water Quality Readings Collec	ted Using		YSI-556 an	d LaMotte 20	020			
Parameter	Units		4	¥.	Readings	-	1	LUSS
Parameter Time	Units 24 hr	1330	11335	1395	Readings	1355	1400	
Parameter Time Water Level (0.33)	Units 24 hr feet	1330	1335	1395 10.84	Readings [350 26.66	26.64	26.64	26.4
Parameter Time Water Level (0.33) Volume Purged	Units 24 hr feet gal	0	1335	1395 10.84 2.75	Readings [,350 26.66 [.00	26.64	26.64	26.4
Parameter Time Water Level (0.33) Volume Purged Flow Rate	Units 24 hr feet gal mL / min	100	1335 26.70 -5 100	1345 10.84 2.75 100	Readings [350 26.66 [.00 [06	26.64 1.25 100	26.64	26.4
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%)	Units 24 hr feet gal mL / min NTU	100	1335 26.70 -5 100 46.4	1345 10.84 2.75 100 45.7	Readings [350 26.66 1.00 106 105	26.64 1:25 100 570	26.64	26.4
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%)	Units 24 hr feet gal mL / min NTU %	0 100 103 103 103 103 103 103 103 103 10	1335 26.70 -5 100 46.4 (5.0	1345 10.84 2.75 100 45.7 19.5	Readings [350 26.66 1.00 1.00 1.05 45.1 1.0.2	24.64 1.25 100 570 5.7	26.64 1.5 100 64.6 4.9	26.4 1.75 (00 57.6 4.8
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%)	Units 24 hr feet gal mL / min NTU % mg/L	100	1335 26.70 -5 100 46.9 (5.0 1.53	1345 10.84 2.75 100 45.7 19.5 1.92	Readings [350 26.66 1.00 1.00 1.05 45.1 1.0.2 1.00	26.64 1.25 100 510 5.7 0.36	26.64 1.5 100 64.6 4.9 0.49	26 4 1.75 (00 57.6 4.8 0 40
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10)	Units 24 hr feet gal mL / min NTU % mg/L MeV	0 100 138 43.3 4.33 -122.4	1335 26.70 -5 100 46.9 (5.0 1.53 -130.5	1345 10.84 2.75 100 45.7 19.5 1.92 - 111.2	Readings 26.66 1.00 105 45.1 10.2 1.00 -123.9	26.64 1.25 100 570 5.7 0.56 -134.3	26.64 1.5 100 64.6 4.9 0.44 2.142.5	26 4 1.75 (00 57.6 9.8 0.49 -141
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c	0 100 103 103 103 103 10 10 10 10 10 10 10 10 10 10 10 10 10	1335 26.70 .5 100 46.9 (5.0 1.53 -130.5 0.799	1395 10.84 2.75 100 45.7 19.5 1.92 - 111.2 6.770	Readings [350 26.66 1.00 106 45.1 10.2 1.00 -173.9 0,182	26.64 1.25 100 570 5.7 0.56 -134.3 0.189	26.64 1.5 100 64.6 4.9 0.44 -142.5 0.790	26 4 1.75 (00 57.6 4.8 0.49 -141 0.181
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm	0 100 103 13.3 13.3 122.4 0.786 0.019	1335 26.70 -5 100 46.9 (5.0 1.53 -130.5 0.799 0.632	1395 10.84 2.75 100 45.7 19.5 1.92 - 111.2 6:770 0.633	Readings [350 26.66 1.00 106 45.1 10.2 1.00 -173.9 0,782 ().646	26.64 1.25 100 570 5.7 0.36 -134.3 0.189 0.645	26.64 1.5 100 64.6 4.4 0.44 -142.5 0.740 0.633	26 4 1.75 (00 57.6 4.8 0.49 -141 0.181
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm pH unit	0 100 133 43.3 4.33 -122.4 0.786 0.019 0.019	133.5 26.70 -5 100 46.9 (5.0 1.5.3 -130.5 0.799 0.632 6.79	1395 10.84 2.75 100 45.7 19.5 1.92 - 111.2 6:770 0.633 6.49	Readings [.350 26.66 1.00 100 45.1 100 -173.9 0,782 0.696 6.90	26.64 1.25 100 570 5.7 0.56 -134.3 0.189 0.645 6.90	26.64 1.5 100 64.6 4.4 0.44 -142.5 0.740 0.633 6.88	26 4 1.75 100 57.6 9.8 0.49 - 141 0.181 0.62 6 31
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm° mS/cm pH unit C	0 100 133 13.3 122.4 0.786 0.019 0.019 0.019 0.019 0.019 0.019 0.019	1335 26.70 -5 100 46.9 (5.0 1.53 -130.5 0.799 0.632 (6.79 [4.1]	1345 10.84 2.75 100 45.7 19.5 1.92 - 111.2 6.710 0.633 6.99 15.70	Readings [350 26.66 1.00 105 45.1 10.2 1.00 -173.9 0.132 0.696 6.90 15.36	26.64 1.25 100 570 5.7 0.56 -134.3 0.189 0.645 6.90 15.47	26.64 1.5 100 64.6 4.4 0.44 -142.5 0.740 0.633	26.4 1.75 (00 57.6 4.8 0.49 - 141 0.181 0.62 6.31 14.3
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5) Color	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm pH unit C Visual	0 100 133 43.3 4.33 -122.4 0.786 0.019 0.019 0.019 0.019 0.019 0.019 0.019 0.019 0.019 0.019 0.019 0.019 0.019 0.019 0.019 0.019 0.019 0.020 0.33 0.02000 0.0200000000	1335 26.70 -5 100 46.9 (5.0 1.53 -130.5 0.799 0.632 6.79 (4.11 -11	1345 10.84 2.75 100 45.7 19.5 1.92 - 111.2 6.770 0.633 6.99 15.70	Readings [350 26.66 1.00 105 45.1 10.2 1.00 -173.9 0,132 0.696 6.90 15.36 "	26.64 1.25 100 570 5.7 0.56 -134.3 0.189 0.645 6.90 15.47	26.64 1.5 100 64.6 4.4 0.44 -142.5 0.740 0.633 6.88 [4,56 1]	26 4 1.75 100 57.6 9.8 0.49 - 141 0.181 0.62 6.31 14.3
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5) Color Odor	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm pH unit C Visual Olfactory	0 100 103 13.3 4.33 -122.4 0.786 0.019 0.019 0.019 0.019 0.019 0.019 0.019 0.019 0.019 0.019 0.019 0.019 0.019 0.019 0.019 0.019 0.020 0.03 0.03 0.03 0.03 0.03 0.03 0.0	1335 26.70 .5 100 46.9 (5.0 1.53 -130.5 0.79 0.632 6.79 [4.11 11	1395 10.84 2.75 100 45.7 19.5 1.92 - 111.2 6.710 0.633 6.49 15.70 1	Readings [350 26.66 1.00 106 45.1 (0.2 1.00 -173.9 0.782 (0.696 (6.90 15.86 "	26.64 1.25 100 570 5.7 0.36 -134.3 0.189 0.645 6.90 15.47 11 11	26.64 1.5 100 64.6 4.4 0.44 -142.5 0.740 0.633 6.88 [4,56 11 1	26.5 1.75 100 57.6 4.8 0.44 - 141 0.181 0.62 6.81 14.3
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5) Color	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm pH unit C Visual Olfactory	0 100 103 13.3 4.33 -122.4 0.786 0.019 0.019 0.019 0.019 0.019 0.019 0.019 0.019 0.019 0.019 0.019 0.019 0.019 0.019 0.019 0.019 0.020 0.03 0.03 0.03 0.03 0.03 0.03 0.0	1335 26.70 .5 100 46.9 (5.0 1.53 -130.5 0.79 0.632 6.79 [4.11 11	1395 10.84 2.75 100 45.7 19.5 1.92 - 111.2 6.710 0.633 6.49 15.70 1	Readings [350 26.66 1.00 106 45.1 (0.2 1.00 -173.9 0.782 (0.696 (6.90 15.86 "	26.64 1.25 100 570 5.7 0.56 -134.3 0.189 0.645 6.90 15.47	26.64 1.5 100 64.6 4.4 0.44 -142.5 0.740 0.633 6.88 [4,56 11 1	57.6 9.8 0.49 - 141 0.181 0.62 6 31 14.3
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5) Color Odor	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm pH unit C Visual Olfactory	0 100 103 13.3 4.33 -122.4 0.786 0.019 0.019 0.019 0.019 0.019 0.019 0.019 0.019 0.019 0.019 0.019 0.019 0.019 0.019 0.019 0.019 0.020 0.03 0.03 0.03 0.03 0.03 0.03 0.0	1335 26.70 .5 100 46.9 (5.0 1.53 -130.5 0.79 0.632 6.79 [4.11 11	1395 10.84 2.75 100 45.7 19.5 1.92 - 111.2 6.710 0.633 6.49 15.70 1	Readings [350 26.66 1.00 106 45.1 (0.2 1.00 -173.9 0.782 (0.696 (6.90 15.86 "	26.64 1.25 100 570 5.7 0.36 -134.3 0.189 0.645 6.90 15.47 11 11	26.64 1.5 100 64.6 4.4 0.44 -142.5 0.740 0.633 6.88 [4,56 11 1	26 4 1.75 100 57.6 9.8 0.49 - 141 0.181 0.62 6.31 14.3

		Ward Produ						
		MW-10						
Sample Number:)	_ Date:		5/20-21/14		
		Matt Dean a	and Tim Stei	nhofer				
Purging / Sampling Method:	4	MW-10	052014	QA/QC	C Collected?	MSMS	Q	
		Grundfos or	Peristaltic P	ump with De	edicated Tubi	ing/Low-Flov	N	
 L = Total Well Depth: D = Riser Diameter (I.D.): W = Static Depth to Water (T C = Column of Water in Cas V = Volume of Water in Well D2 = Pump Setting Depth (ft C2 = Column of water in Pur Tubing Volume = C2(0.0057 	ing: 11 = C(3.1415 :): mp/Tubing (f		48)	0.17 26.29	feet feet feet gal feet feet gal	D (inches) 1-inch <2-inch 3-inch 4-inch 6-inch	D (feet) 0.08 0.17 0.25 0.33 0.50]
			Conversion	factors to de	etermine V gi	ven C		
		D (inches) V (gal / ft)	1-inch 0.041	2-inch 0.163	3-inch 0.37	4-inch 0.65	6-inch 1.5	
Water Quality Readings Collect	ted Using		0.041	U	0.37			-
	ted Using Units		0.041 YSI-556 an	d LaMotte 20	0.37 020 Readings	0.65]
Parameter Time	Units 24 hr	V (gal / ft)	0.041 YSI-556 an	0.163 d LaMotte 20	0.37 020 Readings	0.65]
Parameter Time Water Level (0.33)	Units 24 hr feet	V (gal / ft)	0.041 YSI-556 an	0.163 d LaMotte 20	0.37 020 Readings	0.65]
Parameter Time Water Level (0.33) Volume Purged	Units 24 hr feet gal	V (gal / ft)	0.041 YSI-556 an 1915 26.14 2.25	0.163 d LaMotte 20 14728 7.4.06 2.5	0.37 020 Readings 1925 25.98 2.5.98 2.2.75	0.65 1930 25.92 2.75]
Parameter Time Water Level (0.33) Volume Purged Flow Rate	Units 24 hr feet gal mL / min	V (gal / ft)	0.041 YSI-556 an 1915 26.14 2.25 100	0.163 d LaMotte 20 7 4 .06 2 .5 160	0.37 020 Readings 1925 25.98 2.2.75 100	0.65 1935 25.92 2.73 100]
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%)	Units 24 hr feet gal mL / min NTU	V (gal / ft)	0.041 YSI-556 an 1915 24.14 2.25 100 57.2	0.163 d LaMotte 20 1928 2 4 .06 2 .5 160 50.5	0.37 020 Readings 1925 25.98 2.2.75 100 50.1	0.65 1435 25.92 2.75 100 50.6		
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%)	Units 24 hr feet gal mL / min NTU %	V (gal / ft) 20.24 2.00 100 60.4 4.9	0.041 YSI-556 an 1915 26.14 2.25 100 57.2 5.0	0.163 d LaMotte 20 1428 74.06 2.5 160 50.5 4.7	0.37 020 Readings 1925 25.48 22.75 100 50.1 4.8	0.65 25.92 2.75 700 50.6 4.9		
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%)	Units 24 hr feet gal mL / min NTU % mg/L	V (gal / ft) 1410 20.24 2.00 100 60.4 4.9 0.50	0.041 YSI-556 an 1915 26.14 2.25 100 57.2 5.0 0.5	0.163 d LaMotte 20 1428 24.06 2.5 160 50.5 4.7 0.46	0.37 Readings 1925 25.48 2.2.75 100 50.1 4.8 0.47	0.65 25.92 2.75 700 50.6 4.9 0.48		
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10)	Units 24 hr feet gal mL / min NTU % mg/L MeV	V (gal / ft) 14(0 26.24 2.00 100 60.4 4.9 0.50 -(40.2	0.041 YSI-556 an 1915 26.14 2.25 100 57.2 5.0 0.5 - [33.0	0.163 d LaMotte 20 2.5 160 50.5 4.7 0.46 5.40	0.37 020 Readings 1925 25.98 $2.2.75$ 10° 50.1 9.97 -125.9	0.65 25.92 2.75 100 50.6 4.9 0.48 - 129.2		
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c	V (gal / ft) 1910 20.24 2.00 100 60.4 9.9 0.50 -(40.2 0.777	0.041 YSI-556 an 1915 26.14 2.25 100 57.2 5.0 0.5 -[.33.0 0.710	0.163 d LaMotte 21 7 4 .06 2 .5 160 50.5 4 .7 0.46 -119.9	0.37 020 Readings 1425 25.48 $2.2.75$ 100 50.1 4.8 0.47 -125.4 0.368	0.65 25.92 2.75 100 50.6 4.9 0.48 -129.2 0.769		
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm	V (gal / ft) 1910 20.24 2.00 100 60.4 4.9 0.50 -(40.2 0.717 0.619	0.041 YSI-556 an 1915 26.14 2.25 100 57.2 5.0 0.5 -[.33.0 0.710	0.163 d LaMotte 21 7 4 .06 2 .5 160 50.5 4 .7 0.46 -119.9	0.37 020 Readings 1425 25.48 $2.2.75$ 100 50.1 4.8 0.47 -125.4 0.368	0.65 25.92 2.75 700 50.6 4.9 0.48 -129.2 0.769 0.641		
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm pH unit	V (gal / ft) 1910 20.24 2.00 100 60.4 4.9 0.50 -(40.2 0.777 0.619 6.9	0.041 YSI-556 an 1915 24.14 2.25 100 57.2 5.0 0.5 -[33.0 0.710 0.621 6.80	0.163 d LaMotte 20 2 4 .06 2 .5 760 50.5 4.7 0.46 -,119.9 0.767 0.767 0.636 (0.84	$\begin{array}{c} 0.37 \\ \hline 0.000 \\ \hline $	0.65 25.92 2.75 700 50.6 4.9 0.48 - 129.2 0.769 0.641 6.46		
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm pH unit C	V (gal / ft) 20.24 2.00 100 60.4 4.9 0.50 -(40.2 0.717 0.619 6.35	0.041 YSI-556 an 1915 26.14 2.25 100 57.2 5.0 0.5 -[33.0 0.5 -[33.0 0.5 -[33.0 0.621 6.80 [4.45	0.163 d LaMotte 20 1428 76.06 2.5 160 50.5 4.7 0.46 0.167 0.46 0.636 6.84 16.04	0.37 020 Readings 1925 25.98 22.75 100 50.1 4.8 0.47 -125.9 0.768 0.641 6.46 16.39	0.65 1430 25.92 2.75 100 50.6 4.9 0.48 -129.2 0.769 0.641 6.46 16.20		
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm pH unit	V (gal / ft) 1910 20.24 2.00 100 60.4 4.9 0.50 -(40.2 0.777 0.619 6.9	0.041 YSI-556 an 1915 24.14 2.25 100 57.2 5.0 0.5 -[33.0 0.710 0.621 6.80	0.163 d LaMotte 20 2 4 .06 2 .5 760 50.5 4.7 0.46 -,119.9 0.767 0.767 0.636 (0.84	$\begin{array}{c} 0.37 \\ \hline 0.000 \\ \hline $	0.65 25.92 2.75 700 50.6 4.9 0.48 - 129.2 0.769 0.641 6.46		

Project Name and Number:		Ward Produ	icts					
Monitoring Well Number:		Mw.	11	Date:	-	5/20-21/14		
Samplers:		Matt Dean a	and Tim Stei	nhofer	1			
Sample Number:		MW-11	052014	l QA/QC	C Collected?	ne	0	
Purging / Sampling Method:		Grundfos or	· Peristaltic I	ump with De	edicated Tub	oing/Low-Flo	w	
 L = Total Well Depth: D = Riser Diameter (I.D.): W = Static Depth to Water (' 4. C = Column of Water in Cass V = Volume of Water in We D2 = Pump Setting Depth (ff C2 = Column of water in Pun Tubing Volume = C2(0.0057) 	bing: ll = C(3.1415 t): mp/Tubing (f			0.17 12.95 72.00	feet feet feet gal feet feet gal	D (inches) 1-inch 2-inch 3-inch 4-inch 6-inch	D (feet) 0.08 0.17 0.25 0.33 0.50	
		D (inches) V (gal / ft)	1-inch 0.041	(24inch) (0.163)	3-inch 0.37	4-inch 0.65	6-inch	1
		v (gal / It)	0.041	10.100	0.57	0.00		
Water Quality Readings Collec	ted Using	v (gal / It)		d LaMotte 2		-		
Water Quality Readings Collec Parameter	Units	v (gal / it)	YSI-556 an	d LaMotte 20	020 Readings			
Parameter Time	Units 24 hr	9:24	YSI-556 an	d LaMotte 20	020 Readings	- 9:14*	9-19	9:54
Parameter Time Water Level (0.33)	Units 24 hr feet	9:24 4:00	YSI-556 an 9: 29 14.45	d LaMotte 20	020 Readings (15.00	- 9:14* 15:51	9-19	19.20
Parameter Time Water Level (0.33) Volume Purged	Units 24 hr feet gal	9:24	YSI-556 an 9:29 14.45 <.25	d LaMotte 20	020 Readings A 7 3 M 15.00 15.00 125	- - - - - - - - - - - - - - - - - - -	9-19 19.10 .50	19.20
Parameter Time Water Level (0.33) Volume Purged Flow Rate	Units 24 hr feet gal mL / min	9:24 14:00 180	YSI-556 an 9: 29 14.45 <.25 90	$\begin{array}{c c} & 1 \\ \hline \hline & 1 \\ \hline & 1 \\ \hline & 1 \\ \hline & 1 \\ \hline \hline \hline & 1 \\ \hline \hline \hline & 1 \\ \hline \hline \hline \hline \hline & 1 \\ \hline \hline$	020 Readings 0739 15.00 15.00 25 9 0	9:14× 15:51 7.25 80	9-19 19.10 .50 80	19.20
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%)	Units 24 hr feet gal mL / min NTU	9:24	YSI-556 an 9: 29 14.45 <.25 90 77.3	$ \begin{array}{c c} & 1 \\$	020 Readings 15.00 15.00 125 G 64-6431	9:14* 15:51 7.25 80 39.8	9-19 19.10 50 80 24.8	19.20
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%)	Units 24 hr feet gal mL / min NTU %	9:24 14:00 100 53.6 72.7	$\begin{array}{c} YSI-556 \text{ an} \\ 9: \lambda 9 \\ 14.46 \\ < \lambda 5 \\ 90 \\ 77.3 \\ 69.9 \end{array}$	$\begin{array}{c c} & 1 \\ \hline \hline & 1 \\ \hline & 1 \\ \hline & 1 \\ \hline & 1 \\ \hline \hline \hline & 1 \\ \hline \hline \hline & 1 \\ \hline \hline \hline \hline \hline & 1 \\ \hline \hline$	020 Readings 15.00 15.00 15.00 4.25 60 61 -6-13,1 64.6	9:14* 15:51 2.25 80 39.8 65.0	9-19 19.10 .50 80 24.8 58.3	19.20
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%)	Units 24 hr feet gal mL / min NTU % mg/L	9:24 14:00 100 53.6 72.7 8.15	$\begin{array}{c} YSI-556 \text{ an} \\ 9: \lambda 9 \\ 14.46 \\ < .25 \\ 90 \\ 77.3 \\ 69.9 \\ 7.50 \end{array}$	d LaMotte 21 14.34 14.79 2.25 80 56.4 67.2 7.17	020 Readings 01:3 9 15.00 15.00 15.00 15.00 00 00 00 00 00 00 00 00 00	9: 14 + 15:51 2: 25 80 39.8 65:0 6:96	9-19 19.10 .50 80 24.8 58.3 6.19	19.20 .60 90 75,8 54.7 6.24
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10)	Units 24 hr feet gal mL / min NTU % mg/L MeV	9:24 4:00 100 53.6 72.7 8.15 152.1	YSI-556 an 9: 29 14.45 2.25 90 77.3 69.9 7,50 140.4	d LaMotte 2 4:34 14.79 4.25 80 56.4 67.2 7.17 152.2	$\begin{array}{c} \textbf{Readings} \\ \textbf{A}; 3 \\ \textbf{A}; 3 \\ \textbf{A}; 15 \\ \textbf{B}; 00 \\ \textbf{B}; 25 \\ \textbf{B}; 00 \\ B$	9: 14+ 15:51 7.25 80 39.8 65.0 6.96 169.9	9-19 19.10 .50 80 27.8 58.3 6.19 158.1	19.20 .60 90 75.8 54.7 6.24 150.2
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c	9:24 4:00 53.6 72.7 8.15 152.1 .559	YSI-556 an 9: 29 14.45 40 77.3 69.9 7,50 140.4 ,50	d LaMotte 2 4:34 14.79 4.25 80 56.4 67.2 7.17 152.2	$\begin{array}{c} \textbf{Readings} \\ \hline \textbf{Readings} \\ \hline \textbf{A}; \textbf{J} \in \textbf{A} \\ \textbf{I} 5 . 00 \\ \textbf{a} 25 \\ \textbf{go} \\ \hline \textbf{G} \textbf{4} . \textbf{6} \\ \textbf{G} \textbf{4} . \textbf{6} \\ \hline \textbf{7} . \textbf{3} \textbf{4} \\ \textbf{I} \textbf{C} \textbf{I} . \textbf{7} \\ \textbf{5} \textbf{6} \textbf{4} \\ \end{array}$	9: 14× 15:51 2.25 80 39.8 65.0 6.96 169.9 169.9	9-19 19.10 .50 80 27.8 58.3 6.19 158.1 .557	19.20 .60 75,8 54.7 6.24 150.2 .557
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm° mS/cm	9:24 4:00 53.6 72.7 8.15 152.1 .559 .703	YSI-556 an 9: 29 14.45 40 77.3 69.9 77.3 69.9 140.4 .50 140.4 .50 140.4 .50 140.4 .50 .117	d LaMotte 2 4:34 14.79 4.25 80 56.4 67.2 7.17 152.2 1561 .428	$\begin{array}{c} 020 \\ \hline Readings \\ \hline a ;] a \\ 15 . 00 \\ * 25 \\ \hline g0 \\ \hline 64.6 \\ \hline 7.34 \\ \hline 161.7 \\ \hline 161.7 \\ .564 \\ .428 \end{array}$	9:14* 15:51 2,25 80 39.8 65.0 6.96 169.9 169.9 169.9 1560 ,723	9-19 19.10 .50 80 27.8 58.3 6.19 158.1	19.20 .60 75,8 54.7 6.24 150.2 .557 .432
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm pH unit	9:24 4:00 53.6 72.7 8.15 152.1 .559 .703 7.38	YSI-556 an 9: 29 14.45 40 77.3 69.9 7.50 140.4 ,560 .417 7.37	$ \begin{array}{c} $	$\begin{array}{c} 020 \\ \hline Readings \\ \hline a ;] a \\ 15 . 00 \\ * 25 \\ \hline g0 \\ \hline 64.6 \\ \hline 7.34 \\ \hline 161.7 \\ \hline 161.7 \\ .564 \\ .428 \end{array}$	9:14* 15:51 2,25 80 39.8 65.0 6.96 169.9 169.9 169.9 1560 ,723 7.37	9:19 19:10 50 80 24.8 58.3 6.19 138:1 ,557 .427 7.37	19.20 .60 75,8 54.7 6.24 150.2 .557 .432 7.39
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm pH unit C	9:24 4:00 100 53.6 72.7 8.15 152.1 ,559 ,403 7.38 10,40	YSI-556 an 9: 29 14.45 2. 25 90 77.3 69.9 7.50 140.4 ,500 140.4 ,500 140.4 ,500 140.4 ,500 140.4 17 7.37 11,60	$\begin{array}{c} 4:34\\ 14.79\\ 2.25\\ 80\\ 56.4\\ 67.2\\ 7.17\\ 152.2\\ 1561\\ .428\\ 7.561\\ .428\\ 7.57\\ 12.50\end{array}$	$\begin{array}{c} 020 \\ \hline Readings \\ \hline a : 3 & q \\ 15 & 00 \\ & 25 \\ \hline g0 \\ \hline 64 & 6 \\ \hline 7.3 & 4 \\ 1 & 6 \\ \hline 7.3 & 4 \\ 1 & 6 \\ \hline 7.3 & 4 \\ 1 & 6 \\ \hline 7.3 & 4 \\ 1 & 6 \\ \hline 7.3 & 4 \\ \hline 1 & 5 & 6 \\ \hline 7.3 & 8 \\ \hline 1 & 2 & 7 \\ \hline 7.3 & 8 \\ \hline 1 & 2 & 7 \\ \hline 1 & 2 & 7 \\ \hline \end{array}$	9: 14 × 15:51 2,25 80 39.8 65.0 6.96 169.9 169.9 ,560 ,423 7.37 12.20	9-19 19.10 50 80 24.8 58.3 6.19 138.1 557 .427 7.37 12.80	19.20 .60 75,8 54.7 6.24 150.2 .557 .432 7.39 13,30
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5) Color	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm pH unit C Visual	9:24 4:00 100 53.6 72.7 8.15 152.1 ,559 ,403 7.38 10,40 clear	YSI-556 an 9: 29 14.45 2.25 90 77.3 69.9 7.50 140.4 ,500 140.4 ,500 .417 7.37 11.60 Clear	d LaMotte 21 14:34 14.79 2.25 80 56.4 67.2 7.17 152.2 1561 .428 7.57 12.50 Clear	$\begin{array}{c} 020 \\ \hline \textbf{Readings} \\ \hline \textbf{a}; 3 \\ \hline \textbf{a}; 5 \\ \hline \textbf{a}; 0 \\ \hline \textbf{a}; 3 \\ \hline \textbf{a}; 5 \\ \hline \textbf{a}; 0 \\ \hline \textbf{a}; 3 \\ \hline \textbf{a}; 0 \\ \hline \textbf{a}; 3 \\ \hline \textbf{a}; 5 \\ \hline$	9: 14+ 15:51 2.25 80 39.8 65.0 6.96 169.9 169.9 .560 .423 7.37 12.20 Gear	9-19 19.10 50 80 24.8 58.3 6.19 138.1 557 .427 7.37 12.80 Clear	19.20 .60 75.8 54.7 6.24 150.2 .557 .432 7.39 13.30 clen
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5) Color Odor	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm pH unit C Visual Olfactory	9:24 4:00 100 53.6 72.7 8.15 152.1 ,559 ,403 7.38 10,40	YSI-556 an 9:29 14.45 40 77.3 69.9 77.3 69.9 140.4 ,50 110 110 100 110 100 110 100 110 100 110 100 110 100 110 100	d LaMotte 21 14:34 14.79 2.25 80 56.4 67.2 7.17 152.2 1561 .428 7.57 12.50 Clear None	$\begin{array}{c} 020 \\ \hline Readings \\ \hline a : 3 & q \\ 15 & 00 \\ & 25 \\ \hline g0 \\ \hline 64 & 6 \\ \hline 7.3 & 4 \\ 1 & 6 \\ \hline 7.3 & 4 \\ 1 & 6 \\ \hline 7.3 & 4 \\ 1 & 6 \\ \hline 7.3 & 4 \\ 1 & 6 \\ \hline 7.3 & 4 \\ \hline 1 & 5 & 6 \\ \hline 7.3 & 8 \\ \hline 1 & 2 & 7 \\ \hline 7.3 & 8 \\ \hline 1 & 2 & 7 \\ \hline 1 & 2 & 7 \\ \hline \end{array}$	9: 14+ 15:51 2.25 80 39.8 65.0 6.96 169.9 169.9 .560 .423 7.37 12.20 Clear None	9-19 19.10 50 80 24.8 58.3 6.19 138.1 557 .427 7.37 12.80	19.20 .60 75,8 54.7 6.24 150.2 .557 .432 7.39 13,30

N A-9 AT 1 AT 1								
Project Name and Number:		Ward Produ						-
Monitoring Well Number:		MW-	11	Date	:	5/20-21/14		
Samplers:	i.	Matt Dean a	nd Tim Stei	nhofer				
Sample Number:		MW-11 (252014	QA/Q	C Collected?			
Purging / Sampling Method:		Grundfos or	Peristaltic P	ump with D	Dedicated Tub	oing/Low-Flo	w	
1. L = Total Well Depth:					feet	D (inches)	D (feet)	1
2. D = Riser Diameter (I.D.):				0.17	feet	1-inch	0.08	
3. $W = Static Depth to Water (7)$	FOC):			1255	feet	Q-inch	0.17	\rightarrow
4. C = Column of Water in Cas	ing:				feet	3-inch	0.25	
5. $V = Volume of Water in Wei$	ll = C(3.1415)	9)(0.5D) ² (7.4	8)		gal	4-inch	0.33	
6. D2 = Pump Setting Depth (ft			1.1.1	12.00	feet	6-inch	0.50	1
7. $C2 = Column$ of water in Put	mp/Tubing (f	t):			feet			
8. Tubing Volume = C2(0.0057					gal			
· · · ·								
			Conversion	factors to d	letermine V g	iven C		
				0				
		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 Collect	ted Using		YSI-556 an	d LaMotte 2	2020			
Parameter	Units			d LaMotte 2	2020 Readings	P		
Parameter Time	Units 24 hr	9:59	10:04	d LaMotte 2		-		-
Parameter Time Water Level (0.33)	Units 24 hr feet	19.70	10:04	d LaMotte 2				
Parameter Time Water Level (0.33) Volume Purged	Units 24 hr feet gal	19.70	10:04 21,30 1.0	d LaMotte 2		-		
Parameter Time Water Level (0.33) Volume Purged Flow Rate	Units 24 hr feet gal mL / min	19.70	10:04 21:30 1.0 200	d LaMotte 2		-		
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%)	Units 24 hr feet gal mL / min NTU	19.70 .75 100 22.4	10:04 21,30 1.0 200 16.8	d LaMotte 2				
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%)	Units 24 hr feet gal mL / min NTU %	19.70 .75 100 22.4 60.2	10:04 21:30 1.0 200 16.8 54.2	d LaMotte 2				
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%)	Units 24 hr feet gal mL / min NTU % mg/L	19.70 .75 100 22.4 60.2 6.60	10:04 21:30 1:0 200 16:8 54.2 54.2 5.86	d LaMotte 2				
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10)	Units 24 hr feet gal mL / min NTU % mg/L MeV	19.70 .75 100 22.4 60.2 6.60 145.2	10:04 21:30 1.0 200 16:8 54.2 5:86 110.0	d LaMotte 2				
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c	19.70 .75 100 22.4 60.2 6.60 145.2 .566	10:04 21:30 1.0 200 16:8 54.2 5:86 110.0 1558	d LaMotte 2				
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm	19.70 .75 100 22.4 60.2 6.60 145.2	10:04 21:30 1.0 200 16:8 54.2 5:86 110.0	d LaMotte 2				
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm pH unit	19.70 .75 100 22.4 60.2 6.60 145.2 .566	10:04 21:30 1.0 200 16:8 54.2 5:86 110.0 1558	d LaMotte 2				
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm pH unit C	19.70 .75 100 22.4 60.2 6.60 145.2 .566 .414 7.39 10.8	10:04 21:30 1.0 200 16:8 54.2 5.86 110.0 1558 1415 7:37 11.6	d LaMotte 2				
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5) Color	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm° mS/cm pH unit C Visual	19.70 .75 100 22.4 60.2 6.60 145.2 .566 .414 7.39 10.8 Clear	10:04 21:30 1.0 200 16:8 54.2 5.86 110.0 1558 1415 7:37 11.6 clear					
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5) Color Odor	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm pH unit C Visual Olfactory	19.70 .75 100 22.4 60.2 6.60 145.2 .566 .714 7.301 10.8 Clear None	10:04 21:30 1.0 200 16:8 54.2 5:86 110.0 1558 1415 7:37 11.6 clear none		Readings			
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5) Color Odor	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm pH unit C Visual Olfactory	19.70 .75 100 22.4 60.2 6.60 145.2 .566 .714 7.301 10.8 Clear None	10:04 21:30 1.0 200 16:8 54.2 5:86 110.0 1558 1415 7:37 11.6 clear none		Readings	pump	i let	rechar
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5) Color Odor	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm pH unit C Visual Olfactory	19.70 .75 100 22.4 60.2 6.60 145.2 .566 .714 7.301 10.8 Clear None	10:04 21:30 1.0 200 16:8 54.2 5:86 110.0 1558 1415 7:37 11.6 clear none			pump	i let	recharg
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5) Color Odor	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm° mS/cm° mS/cm° pH unit C Visual Olfactory Un S For amp le	19.70 .75 100 22.4 60.7 6.60 145.2 .566 .714 7.301 10.8 Clear None	10:04 21:30 1.0 200 16:8 54.2 5.86 110.0 1558 1415 7:37 11.6 clear Purger	d to 15	Readings	pump	i let	recharg 2oF2

	IVIO	nitoring W	ell Purgi	ng/Sampli	ng Form			
Project Name and Number:		Ward Produ	cts					
Monitoring Well Number:		MW-13	3	Date:		5/20-21/14		
Samplers:		Matt Dean a	and Tim Stei	nhofer				
Sample Number:	l	MW-13	05211	4 QA/QO	C Collected?	No		
Purging / Sampling Method:		Grundfos or	Peristaltic F	ump with D	edicated Tub	oing/Low-Flo	W	
 L = Total Well Depth; D = Riser Diameter (I.D.): W = Static Depth to Water (' 4. C = Column of Water in Cass V = Volume of Water in We D2 = Pump Setting Depth (ff 7. C2 = Column of water in Put 8. Tubing Volume = C2(0.0057) 	ing: 11 = C(3.1415 t): mp/Tubing (fi		-8)	25.00	feet feet feet gal feet feet gal	D (inches) 1-inch 2-inch 3-inch 4-inch 6-inch	D (feet) 0.08 0.12 0.25 0.33 0.50	
			Conversion	factors to de	etermine V g	iven C		
		D (inches)	1-inch	1/2-inch	3-inch	4-inch	6-inch	1
		V (gal / ft)	0.041	0.163	0.37	0.65	1.5	
Water Quality Readings Collec	ted Using		YSI-556 an	d LaMotte 2	020			
Parameter	Units	0.5		d LaMotte 2	Readings	-	1011	90.
Parameter Time	Units 24 hr	820	825	nd LaMotte 2	Readings 835	840	845	850
Parameter Time Water Level (0.33)	Units 24 hr feet	26.02	825	ad LaMotte 2	Readings 835 26.14	26-19	26.16	26.18
Parameter Time Water Level (0.33) Volume Purged	Units 24 hr feet gal	26.02	825 24.00 20.25	d LaMotte 2 26.10 0.25	Readings 835 26.14 2050	26 11	26.16	26.18
Parameter Time Water Level (0.33) Volume Purged Flow Rate	Units 24 hr feet gal mL / min	26.02	825 24.00 20.25	d LaMotte 2 26.10 0.25 2.00	Readings 835 26.14 2050 6100	26 14 0.50	26.16	26.18
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%)	Units 24 hr feet gal mL / min NTU	26.02	825 24.00 20.25	Ad LaMotte 2 26.10 0.25 2100 21.0	Readings 26.14 2050 2100 7521.1	26 14 0.50 2100 23.0	26.16 21.00 2100 2100 89.7	26.18
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%)	Units 24 hr feet gal mL / min NTU %	26.02 0.0 100 39.4 40.2	825 24.00 20.25 19.1 32.2	Ad LaMotte 2 26.10 0.25 21.0 21.0 13.4	Readings 26.14 2050 2100 7.7	26 14 0.50 2100 23.0 6.2	26.16 21.00 2100 2100 21.7 5.0	26.18 1.00 2100 18.3 4.1
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%)	Units 24 hr feet gal mL / min NTU % mg/L	26.02 0.0 100 39.4 40.2 4.45	825 26.00 20.25 19.2 32.2 3.57	A LaMotte 2 26.10 0.25 21.0 13.4 1.50	Readings 26.14 2050 2100 7.7 0.85	26 19 2.50 2.100 23.0 6.2 0.10	26.16 21.00 2100 200 2	26.18 1.00 2100 18.3 4.1 0.44
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10)	Units 24 hr feet gal mL / min NTU % mg/L MeV	26.02 0.0 100 39.4 40.2 4.45 - 93.6	825 24.00 20.25 100 19.1 32.2 3.57 -97.0	Ad LaMotte 2 26.10 26.10 0.25 21.0 13.4 1.50 -113.2	Readings 835 26.14 2050 C100 7.7 0.85 -114.3	26 19 0.50 2100 23.0 6.2 0.10 -(14.6	26.16 2100 2100 9.7 5.0 0.56 -1159	26.18 1.00 2100 18.3 4.1 0.44 -117.9
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c	26.02 0.0 100 39.4 40.2 4.45 - 93.6 0.322	825 24.00 20.25 19.1 32.2 3.57 -97.0 0.430	d LaMotte 2 26.10 0.25 21.0 13.4 1.50 -113.2 0.620	Readings 835 26.14 2050 C100 7.7 0.85 -114.3 0.662	26 14 0.50 2100 23.0 6.2 0.10 - (14.6 0.672	26.16 2100 2100 9.7 5.0 0.56 -1159 0.680	26.18 1.00 2100 18.3 4.1 0.44 -117.9
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm	26.02 0.0 100 39.4 40.2 4.45 - 93.6 0.3 22 6.234	825 24.00 20.25 700 19.1 32.2 3.57 -97.0 0.430 0.430 0.313	d LaMotte 2 26.10 0.25 21.0 21.0 13.4 1.50 -113.2 0.620 0.442	Readings 835 26.14 2050 C100 P 21.1 7.7 0.85 -114.3 0.662 0.472	26 19 2.00 23.0 6.2 0.10 - (14.6 0.672 0.480	26.16 2100 2100 9.7 5.0 0.56 -1159 0.680 0 487	26.18 1.00 2100 18.3 4.1 0.44 -117.9
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm° mS/cm pH unit	26.02 0.0 100 39.4 40.2 4.45 - 93.6 0.3 22 0.234 7.03	825 26.00 20.25 200 19.2 32.2 3.57 -97.0 0.430 0.313 6.36	d LaMotte 2 26.10 26.10 0.25 21.0 13.4 1.50 -113.2 0.620 0.442 6.37	Readings 26.14 2050 2100 7.7 0.85 -114.3 0.662 0.412 6.42	26 19 2.00 23.0 6.2 0.10 - (14.6 0.672 0.480 6.46	26.16 2100 2100 9.7 5.0 0.56 -1159 0.680 0 487	26.18 1.00 2100 18.3 4.1 0.44 0.44 0.624 0.624 0.440 6.58
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm° mS/cm pH unit C	26.02 0.0 100 39.4 40.2 4.45 - 93.6 0.322 0.322 0.234 7.03 (0.67	825 26.00 20.25 19.1 32.2 3.57 -97.0 0.430 0.313 6.36 10.48	A LaMotte 2 26.10 26.10 0.25 21.0 13.4 1.50 -113.2 0.620 0.442 6.37 4.46	Readings 26.14 2050 2100 7.7 0.85 -114.3 0.662 0.412 6.42 (0.00	26 19 23.0 6.2 0.10 - 114.6 0.672 0.480 6.46 10.08	26.16 2100 2100 2100 0.7 5.0 0.56 -115.9 0.680 0.487 6.57 (0.13	26.18 1.00 2100 18.3 4.1 0.44 0.44 0.44 0.44 0.44 0.44 0.44
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5) Color	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm pH unit C Visual	26.02 0.0 100 39.4 40.2 4.45 - 93.6 0.322 0.322 0.234 7.03 (0.67 (0.67	825 24.00 20.25 19.1 32.2 3.57 -97.0 0.430 0.430 0.313 6.36 10.48	d LaMotte 2 26.10 26.10 0.25 21.0 13.4 1.50 -113.2 0.620 0.422 6.37 9.96 (1ew)	Readings 26.14 2050 2100 4521.1 7.7 0.85 -114.3 0.662 0.472 6.42 (0.00	26 19 23.0 6.2 0.70 - 114.6 0.672 0.480 6.46 10.08 10.08	26.16 2100 2100 2100 0.7 5.0 0.56 -115.9 0.680 0.487 6.57 (0.13	26.18 1.00 2100 18.3 4.1 0.44 -117.9 0.634 0.490 6.58 10.16
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm° mS/cm pH unit C	26.02 0.0 100 39.4 40.2 4.45 - 93.6 0.322 0.322 0.234 7.03 (0.67	825 26.00 20.25 19.1 32.2 3.57 -97.0 0.430 0.313 6.36 10.48	A LaMotte 2 26.10 26.10 0.25 21.0 13.4 1.50 -113.2 0.620 0.442 6.37 4.46	Readings 26.14 2050 2100 7.7 0.85 -114.3 0.662 0.412 6.42 (0.00	26 19 23.0 6.2 0.10 - 114.6 0.672 0.480 6.46 10.08	26.16 2100 2100 9.7 5.0 0.56 -1159 0.680 0 487	26.18 1.00 2100 18.3 4.1 0.44 0.44 0.49 0.49 0.49 0.49 0.49 0.49
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5) Color	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm pH unit C Visual	26.02 0.0 100 39.4 40.2 4.45 - 93.6 0.322 0.322 0.234 7.03 (0.67 (0.67	825 24.00 20.25 19.1 32.2 3.57 -97.0 0.430 0.430 0.313 6.36 10.48	d LaMotte 2 26.10 26.10 0.25 21.0 13.4 1.50 -113.2 0.620 0.422 6.37 9.96 (1ew)	Readings 26.14 2050 2100 4521.1 7.7 0.85 -114.3 0.662 0.472 6.42 (0.00	26 19 23.0 6.2 0.70 - 114.6 0.672 0.480 6.46 10.08 10.08	26.16 2100 2100 2100 0.7 5.0 0.56 -115.9 0.680 0.487 6.57 (0.13	26.18 1.00 2100 18.3 4.1 0.44 -117.9 0.634 0.490 6.58 10.16

Project Name and Number: Ward Products Monitoring Well Number: Multiple - 13 Date: $5/20-21/14$ Samplers: Matt Dean and Tim Steinhofer Samplers: Matt Dean and Tim Steinhofer Sample Number: Multiple - 13 $0522/14$ QA/QC Collected? Purging / Sampling Method: Grundfos or Peristaltic Pump with Dedicated Tubing/Low-Flow 1. L = Total Well Depth: Grundfos or Peristaltic Pump with Dedicated Tubing/Low-Flow 1. L = Total Well Depth: D (inches) D (feet) 2. D = Riser Diameter (1.D.): O: 17 feet 3. W = Static Depth to Water (TOC): Get Column of Water in Casing: feet D (inches) D (feet) 5. V = Volume of Water in Well = C(3.14159)(0.5D) ² (7.48) gal feet 1.inch 0.33 6. D2 = Pump Setting Depth (ft): feet gal gal Conversion factors to determine V given C
Samplers:Matt Dean and Tim SteinhoferSample Number: $\underline{M \ ullow - 13}$ $\underline{O52(114)}$ $\underline{OA/QC \ Collected?}$ Purging / Sampling Method:Grundfos or Peristaltic Pump with Dedicated Tubing/Low-Flow1. L = Total Well Depth:feet2. D = Riser Diameter (I.D.): $\underline{O \cdot 17}$ 3. W = Static Depth to Water (TOC): $\underline{O \cdot 17}$ 4. C = Column of Water in Casing:feet5. V = Volume of Water in Well = C(3.14159)(0.5D)^2(7.48)gal6. D2 = Pump Setting Depth (ft):feet7. C2 = Column of water in Pump/Tubing (ft):feet8. Tubing Volume = C2(0.005737088)gal
Sample Number: $M \sqrt{J-13}$ $O572(14)$ $QA/QC Collected?$ Purging / Sampling Method:Grundfos or Peristaltic Pump with Dedicated Tubing/Low-Flow1. L = Total Well Depth:feet2. D = Riser Diameter (I.D.):feet3. W = Static Depth to Water (TOC):feet4. C = Column of Water in Casing:feet5. V = Volume of Water in Well = C(3.14159)(0.5D) ² (7.48)gal6. D2 = Pump Setting Depth (ft):feet7. C2 = Column of water in Pump/Tubing (ft):feet8. Tubing Volume = C2(0.005737088)gal
Purging / Sampling Method:Grundfos or Peristaltic Pump with Dedicated Tubing/Low-Flow1. L = Total Well Depth: 2. D = Riser Diameter (I.D.): 3. W = Static Depth to Water (TOC): 4. C = Column of Water in Casing: 5. V = Volume of Water in Well = $C(3.14159)(0.5D)^2(7.48)$ 6. D2 = Pump Setting Depth (ft): 7. C2 = Column of water in Pump/Tubing (ft): 8. Tubing Volume = $C2(0.005737088)$ $\boxed{Grundfos or Peristaltic Pump with Dedicated Tubing/Low-Flow}$
I. L = Total Well Depth:feet2. D = Riser Diameter (I.D.): $\bigcirc .17$ feet3. W = Static Depth to Water (TOC): $\bigcirc .17$ feet4. C = Column of Water in Casing:feet5. V = Volume of Water in Well = $C(3.14159)(0.5D)^2(7.48)$ gal6. D2 = Pump Setting Depth (ft):feet7. C2 = Column of water in Pump/Tubing (ft):feet8. Tubing Volume = C2(0.005737088)gal
2. D = Riser Diameter (I.D.): 0.17 feet3. W = Static Depth to Water (TOC): $2.5 \circ 16$ feet4. C = Column of Water in Casing:feet5. V = Volume of Water in Well = $C(3.14159)(0.5D)^2(7.48)$ gal6. D2 = Pump Setting Depth (ft):feet7. C2 = Column of water in Pump/Tubing (ft):feet8. Tubing Volume = C2(0.005737088)gal
6. $D2 = Pump$ Setting Depth (ft):feet6-inch0.507. $C2 = Column of water in Pump/Tubing (ft):feetgal8. Tubing Volume = C2(0.005737088)gal$
D (inches)1-inch2-inch3-inch4-inch6-inchV (gal / ft)0.0410.1630.370.651.5
Water Quality Readings Collected Using <u>YSI-556 and LaMotte 2020</u> Parameter Units Readings
Time 24 hr 855 900 905 9(0 915 920
Water Level (0.33) feet 26.26 26.50 26.52 26.52 26.52
Volume Purged gal 1.25 (1.50 < 1.75 1.75 < 2.00
Volume Purgedgal 1.25 $2(.50)$ 1.75 1.75 2.00 Flow RatemL/min 2.00 2.00 2.00 2.00
Volume Purgedgal 1.25 $2(.50)$ 1.75 1.75 22.0 2.60 Flow RatemL/min 2.60 2.60 2.60 2.60 2.60 Turbidity (+/- 10%)NTU 22.4 12.0 9.4 9.74 19.1 8.56
Volume Purgedgal 1.25 C $(.5\circ)$ 21.75 1.75 22.0 2.60 Flow RatemL / min 2.60 2.60 2.60 2.60 2.60 2.60 Turbidity (+/- 10%)NTU 22.0 12.0 19.4 9.74 19.1 8.56 Dissolved Oxygen (+/- 10%)% 4.0 3.9 3.3 3.3 3.4 3.3
Volume Purgedgal 1.25 $2 (.50)$ 2.75 1.75 22.0 2.60 Flow RatemL / min 2.60 2.60 2.60 2.60 2.60 2.60 Turbidity (+/- 10%)NTU 22.4 12.0 19.4 9.74 19.1 8.56 Dissolved Oxygen (+/- 10%)% 4.0 3.9 3.3 3.3 3.4 3.3 Dissolved Oxygen (+/- 10%)mg/L 0.45 0.94 0.37 0.37 0.37
Volume Purgedgal 1.25 $2 (.50)$ 21.75 1.75 22.0 2.60 Flow RatemL / min $2 (00)$ $2 (00)$ $2 (00)$ $2 (00)$ $2 (00)$ $2 (00)$ Turbidity (+/- 10%)NTU 22.1 12.0 19.4 9.74 19.1 8.56 Dissolved Oxygen (+/- 10%)% 4.0 3.9 3.3 3.3 3.4 3.3 Dissolved Oxygen (+/- 10%)mg/L 0.45 0.94 0.37 0.37 0.37 0.37 Eh / ORP (+/- 10)MeV -118.1 -119.3 -119.7 -118.2 -119.5 -121.5
Volume Purgedgal 1.25 $2 (.50)$ 21.75 1.75 22.0 2.60 Flow RatemL / min $2 (00)$ $2 (00)$ $2 (00)$ $2 (00)$ $2 (00)$ $2 (00)$ Turbidity (+/- 10%)NTU 22.1 12.0 19.4 9.74 19.1 8.56 Dissolved Oxygen (+/- 10%)% 4.0 3.9 3.3 3.3 3.4 3.3 Dissolved Oxygen (+/- 10%)mg/L 0.45 0.94 0.37 0.37 0.37 0.37 Eh / ORP (+/- 10)MeV -118.1 -119.3 -119.7 -118.2 -119.5 -121.5
Volume Purgedgal 1.25 $2 (.50)$ 21.75 1.75 22.0 2.60 Flow RatemL / min $2 (00)$ $2 (00)$ $2 (00)$ $2 (00)$ $2 (00)$ $2 (00)$ $2 (00)$ Turbidity (+/- 10%)NTU 22.0 12.0 19.4 9.74 19.1 8.56 Dissolved Oxygen (+/- 10%)% 9.0 3.9 3.3 3.3 3.4 3.3 Dissolved Oxygen (+/- 10%)mg/L 0.45 0.44 0.37 0.37 0.37 0.37 Eh / ORP (+/- 10)MeV -118.1 -119.8 -119.7 -118.2 -119.5 -121.5 Specific ConductivitymS/cm° 0.684 0.684 0.684 0.684 0.684 0.684
Volume Purgedgal 1.25 C $(.5\circ)$ 21.75 1.75 22.0 2.60 Flow RatemL / min 2.60 2.60 2.60 2.60 2.60 2.60 Turbidity (+/- 10%)NTU 22.1 12.0 19.4 9.74 19.1 8.56 Dissolved Oxygen (+/- 10%)% 4.5 3.9 3.3 3.4 3.3 Dissolved Oxygen (+/- 10%)mg/L 0.45 0.944 0.37 0.37 0.37 Dissolved Oxygen (+/- 10%)mg/L 0.45 0.944 0.37 0.37 0.37 0.37 Eh / ORP (+/- 10)MeV -118.1 -119.5 -119.7 -118.2 -119.5 -121.5 Specific ConductivitymS/cm° 0.684 0.684 0.684 0.684 0.684 Conductivity (+/- 3%)mS/cm 0.992 0.488 0.9490 0.943 0.9494 pH (+/- 0.1)pH unit 0.641 6.63 6.671 6.69 6.711 6.72
Volume Purgedgal 1.25 \mathcal{L} (.5° \mathcal{L} .75 1.75 \mathcal{L} 2.6°Flow RatemL / min \mathcal{L} (0°
Volume Purgedgal 1.25 C $(.5\circ)$ 21.75 1.75 22.0 2.60 Flow RatemL / min 2.60 2.60 2.60 2.60 2.60 2.60 Turbidity (+/- 10%)NTU 22.1 12.0 19.4 9.74 19.1 8.56 Dissolved Oxygen (+/- 10%)% 4.5 3.9 3.3 3.4 3.3 Dissolved Oxygen (+/- 10%)mg/L 0.45 0.944 0.37 0.37 0.37 Dissolved Oxygen (+/- 10%)mg/L 0.45 0.944 0.37 0.37 0.37 0.37 Eh / ORP (+/- 10)MeV -118.1 -119.5 -119.7 -118.2 -119.5 -121.5 Specific ConductivitymS/cm° 0.684 0.684 0.684 0.684 0.684 Conductivity (+/- 3%)mS/cm 0.992 0.488 0.9490 0.943 0.9494 pH (+/- 0.1)pH unit 0.641 6.63 6.671 6.69 6.711 6.72

 Project Name and Number: Monitoring Well Number: Samplers: Sample Number: Purging / Sampling Method: 1. L = Total Well Depth: 2. D = Riser Diameter (I.D.): 3. W = Static Depth to Water (TOC): 4. C = Column of Water in Casing: 5. V = Volume of Water in Well = C(3.14 6. D2 = Pump Setting Depth (ft): 7. C2 = Column of water in Pump/Tubing 8. Tubing Volume = C2(0.005737088) 	g (ft):	nd Tim Steir 052115 Peristaltic P	hhofer] QA/QC ump with De	feet feet feet gal feet feet gal	D (inches) 1-inch (2-inch 3-inch 4-inch 6-inch		
 Samplers: Sample Number: Purging / Sampling Method: 1. L = Total Well Depth: 2. D = Riser Diameter (I.D.): 3. W = Static Depth to Water (TOC): 4. C = Column of Water in Casing: 5. V = Volume of Water in Well = C(3.14) 6. D2 = Pump Setting Depth (ft): 7. C2 = Column of water in Pump/Tubing 8. Tubing Volume = C2(0.005737088) 	Matt Dean ar M = M = M = M Grundfos or 1 4159)(0.5D) ² (7.48 g (ft): D (inches)	nd Tim Steir $O \overline{211}$ Peristaltic P 8) Conversion 1-inch	Ahofer QA/QC ump with De 9. 62 factors to de	Collected? edicated Tub feet feet feet gal feet gal termine V gi 3-inch	D (inches) 1-inch (2-inch 3-inch 4-inch 6-inch iven C 4-inch	D (feet) 0.08 017 0.25 0.33 0.50	
 Sample Number: Purging / Sampling Method: 1. L = Total Well Depth: 2. D = Riser Diameter (I.D.): 3. W = Static Depth to Water (TOC): 4. C = Column of Water in Casing: 5. V = Volume of Water in Well = C(3.14 6. D2 = Pump Setting Depth (ft): 7. C2 = Column of water in Pump/Tubing 8. Tubing Volume = C2(0.005737088) 	$\underline{M} \underbrace{M} \underbrace{M} \underbrace{M} \underbrace{M} \underbrace{M} \underbrace{M} \underbrace{M} \underbrace$	$O5211^{1}$ Peristaltic P 8) Conversion 1-inch	QA/QC ump with De 9. 62 factors to de	feet feet feet gal feet gal termine V gi 3-inch	ing/Low-Flo D (inches) 1-inch 2-inch 3-inch 4-inch 6-inch	D (feet) 0.08 017 0.25 0.33 0.50	
 Purging / Sampling Method: 1. L = Total Well Depth: 2. D = Riser Diameter (I.D.): 3. W = Static Depth to Water (TOC): 4. C = Column of Water in Casing: 5. V = Volume of Water in Well = C(3.14 6. D2 = Pump Setting Depth (ft): 7. C2 = Column of water in Pump/Tubing 8. Tubing Volume = C2(0.005737088) 	<u>Grundfos or 1</u> 4159)(0.5D) ² (7.48 g (ft): D (inches)	Peristaltic P 8) Conversion 1-inch	factors to de	feet feet feet gal feet gal termine V gi 3-inch	ing/Low-Flo D (inches) 1-inch 2-inch 3-inch 4-inch 6-inch	D (feet) 0.08 017 0.25 0.33 0.50	
 L = Total Well Depth: D = Riser Diameter (I.D.): W = Static Depth to Water (TOC): C = Column of Water in Casing: V = Volume of Water in Well = C(3.14) D2 = Pump Setting Depth (ft): C2 = Column of water in Pump/Tubing Tubing Volume = C2(0.005737088) 	4159)(0.5D) ² (7.48 g (ft): D (inches)	8) Conversion 1-inch	<u>G</u> . 17 <u>9</u> . 62 factors to de	feet feet feet gal feet gal termine V gi 3-inch	D (inches) 1-inch 2-inch 3-inch 4-inch 6-inch iven C 4-inch	D (feet) 0.08 017 0.25 0.33 0.50	
 D = Riser Diameter (I.D.): W = Static Depth to Water (TOC): C = Column of Water in Casing: V = Volume of Water in Well = C(3.14) D2 = Pump Setting Depth (ft): C2 = Column of water in Pump/Tubing Tubing Volume = C2(0.005737088) 	g (ft): D (inches)	Conversion 1-inch	9.62 factors to de	feet feet gal feet gal termine V gi 3-inch	1-inch 2-inch 3-inch 4-inch 6-inch iven C 4-inch	0.08 0/17 0.25 0.33 0.50	
Water Quality Readings Collected Using							i.
Water Quality Readings Collected Using			0	0.57	0.05		3
The Quarty Readings Concored Cong	3	YSI-556 and	d LaMotte 20	5.4.7	÷		
Parameter Units				Readings		1 12	-
Time 24 hr	mental and the second	8:20	8:25	8:30	8:35	8:40	8:45
Water Level (0.33) feet	10.61	10.82	11.05	11.22	11.38	11.50	
Volume Purged gal	0	4.25	4.25	.25	> 25	2.25	-50
Flow Rate mL/m		100	80	80_	80	80	80
Turbidity (+/- 10%) NTU		616	85.9	61.5	33.7	26.7	21.8
Dissolved Oxygen (+/- 10%) %	12.2	4.0	3.8	4.2	4.2	4.5	4.9
Dissolved Oxygen (+/- 10%) mg/L	12.35	.42	.39	.44	.43	147	.52
Eh / ORP (+/- 10) MeV		-81.9	-81.8	- 80.2	-76.2	-69.6	-67.8
	n° 1.310	1.350	1.370			1.400	1.410
Conductivity (+/- 3%) mS/cm	n 0,950	1.030	11.070		1.100	1.110	1.110
	it 7,28	7.20	7.22	7.19	7.18	718	7.17
	10.90	12.60	the second s	13.50	13.90		14.20
	and the second s	Cloudy	Cloudy	cloudy	Clear	CICON	CHEN
Odor Olfacto	ry pone	none	nonel	none	none	none	none
Specific ConductivityInts/cmConductivity (+/- 3%)mS/cmpH (+/- 0.1)pH uniTemp (+/- 0.5)CColorVisual	n 0,950 it 7,28 10.90 1 Cloudy	1.350 1.030 7.20 12.60 Clordy None	7.22 1340 Cloudy		7.18 13.90 Clear	1.400 1.110 7.18 14.10 (1000 1000	1.11 C 7.17 14.20 Chan

Project Name and Number: Monitoring Well Number: Samplers: Sample Number: Purging / Sampling Method:	1	Ward Produce MW-15	cts					
Samplers: Sample Number:	1							
Sample Number:	٥			Date:	_	5/20-21/14	_	_
	۵	Matt Dean a	nd Tim Steir	hofer	_			_
Purging / Sampling Method:	1	AW-15	052114	QA/QC	Collected?	ND		
		Grundfos or	Peristaltic P	ump with De	edicated Tub	ing/Low-Flo	w	
 L = Total Well Depth: D = Riser Diameter (I.D.): W = Static Depth to Water (T C = Column of Water in Casin V = Volume of Water in Well D2 = Pump Setting Depth (ft) C2 = Column of water in Pum Tubing Volume = C2(0.00573) 	ing: l = C(3.1415): np/Tubing (ft		8)	<u>(). 17</u> . (0-88	feet feet feet gal feet feet gal	D (inches) 1-inch 2-inch 3-inch 4-inch 6-inch	D (feet) 0.08 0.17 0.25 0.33 0.50	
			Conversion	factors to de	termine V g	iven C		
		D (inches) V (gal / ft)	1-inch 0.041	2-inch 0.163	3-inch 0.37	4-inch 0.65	6-inch 1.5	
Water Quality Readings Collect	ted Using		0.041	the second s	0.37	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
Water Quality Readings Collect Parameter	ted Using Units		0.041	0.163	0.37 020 Readings	0.65	1.5	
		V (gal / ft)	0.041 YSI-556 and	0.163 d LaMotte 20	0.37 020 Readings	0.65	1.5	33
Parameter	Units		0.041 YSI-556 and 1310 7.74	0.163 d LaMotte 20	0.37 020 Readings 1320 8-36	0.65	1.5	
Parameter Time	Units 24 hr	V (gal / ft)	0.041 YSI-556 and 310 7.74 0.25	0.163	0.37 020 Readings	0.65	1.5 1330 8.66 0.75	1.00
Parameter Time Water Level (0.33) Volume Purged	Units 24 hr feet	V (gal / ft)	0.041 YSI-556 and 310 7.74 0.25 <100	(0.163) d LaMotte 20	0.37 020 Readings 1320 8-36	0.65	1.5 1330 8-66 0.75 6 100	1.00
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%)	Units 24 hr feet gal mL/min NTU	V (gal / ft)	0.041 YSI-556 and 1.310 7.74 0.25 <100 9.61	(0.163) d LaMotte 20 7.96 20.50 21	0.37 Readings 1320 8-36 0.50 2.00 54.9	0.65 0.65 0.65 0.66 0.75 0.75 0.00 0.65	1.5 1330 8.66 0.75 2.000 72.5	1.00
Parameter Time Water Level (0.33)	Units 24 hr feet gal mL / min	V (gal / ft)	0.041 YSI-556 and 1310 7.74 0.25 -2.00 9.64 (p 8.9	(0.163) d LaMotte 20 7.96 2.0.50 2.100 2.1 2.6.4	0.37 Readings 1320 8-36 0.50 2.00 54.9	0.65 0.65 0.65 0.66 0.75 0.75 0.00 0.65	1.5 1.330 8.66 0.75 2.100 22.5 6.5	1.00
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%)	Units 24 hr feet gal mL/min NTU	V (gal / ft) 1.305 1.7.60 0 5.60 0.90	0.041 YSI-556 and 310 7.74 0.25 <100	$\begin{array}{c} (0.163) \\ \hline \\ $	0.37 Readings 1320 8.36 0.50 2.000 54.9 9.5 0.49	0.65 1.525 2.06 2.75 2.100 36.9 7.9 0.81	1.5 1330 8.66 0.75 22.5 6.5 0.66	1.00
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%)	Units 24 hr feet gal mL / min NTU %	V (gal / ft) 1305 17.60 0 5.00 9.90 9.90 9.5.7 10.11 10.11	0.041 $YSI-556 and$ 1.310 7.74 0.25 -1.00 9.61 $0.3.4$ 0.2	$\begin{array}{c} (0.163) \\ \hline 0.163 \\$	0.37 Readings 1320 8-56 0.50 2000 54.9 9.5 0.99 -171.0	0.65 0.65 0.65 0.66 0.75 0.80 0.81 -153.9	1.5 1330 8.66 0.75 22.5 6.5 0.66 -144.0	1.00 100 160 5.
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10)	Units 24 hr feet gal mL / min NTU % mg/L MeV	V (gal / ft) 1305 17.60 0 5.00 9.90 9.90 9.5.7 10.11 10.11	0.041 YSI-556 and 1310 7.74 0.25 -2.00 9.64 (p 8.9	$\begin{array}{c} (0.163) \\ \hline 0.163 \\$	0.37 Readings 1320 8-56 0.50 2000 54.9 9.5 0.99 -171.0	0.65 1525 8-06 2.75 2.00 36.9 79 0.81 -153.9 1.213	1.5 1330 8.66 0.75 22.5 6.5 0.66	1.00 100 160 5.
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c	V (gal / ft) 1.305 1.7.60 0 5.1 10 11	0.041 YSI-556 and 1.310 7.74 0.25 2.00 9.61 (0.3.9 7.02 752.3 0.135	(0.163) d LaMotte 20 7.96 20.50 21 26.4 7.64 -168.0 1.188	$\begin{array}{c} 0.37 \\ \hline 0.20 \\ \hline Readings \\ \hline 1320 \\ 8.56 \\ 0.50 \\ \hline 2.000 \\ 57.9 \\ 9.5 \\ 0.94 \\ -1710 \\ 1.226 \\ \hline \end{array}$	0.65 1525 8-06 2.75 2.00 36.9 79 0.81 -153.9 1.213	1.5 1330 8.66 0.75 22.5 6.5 0.66 -144.0 1.199	1.00 100 160 5.5 -16 1.19
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm	V (gal / ft) 1305 1.7.60 0.90 9.90 9.90 9.90 10.11 -150.6 0.144 0.144 0.144	0.041 YSI-556 and 7.74 0.25 2.00 9.61 (0.3.9 7.02 752.3 0.135 (2.318)	(0.163) d LaMotte 2(7.96 2 0.50 2 1 2 6.4 7.69 -168.0 1 188 0.900	0.37 Readings 1320 8.36 0.50 2.000 54.9 9.5 0.49 9.5 0.49 -1710 1.226 0.451	0.65 1.525 8.66 2.75 2.100 36.9 7.9 0.81 -153.9 1.213 0.963	1.5 1330 8.66 0.75 22.5 6.5 0.66 -144.0 1.199 6.664	1.00 100 160 5.5 -16 1.19 0.9
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c	V (gal / ft) 1305 17.60 0 40.00 45.7 10.11 150.6 0.144 0.147 1.16	0.041 YSI-556 and 1.310 7.74 0.25 2.00 9.61 (0.3.9 7.02 752.3 0.135	(0.163) d LaMotte 2(7.96 2 0.50 2 1 2 6.4 7.69 -168.0 1 188 0.640	0.37 Readings 1320 8.36 0.50 2.000 54.9 9.5 0.49 -171.0 1.226 0.457 6.34	0.65 1525 8-06 2.75 2.00 36.9 79 0.81 -153.9 1.213	1.5 1330 8.66 0.75 22.5 0.66 -144.0 1.199 0.64	133 8-6 1.00 160 160 5-16 1.19 0.9 7.0 15
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm pH unit	V (gal / ft) 1305 1.7.60 0.90 9.90 9.90 9.90 10.11 -150.6 0.144 0.144 0.144	$\begin{array}{c} 0.041 \\ \hline 0.041 \\ \hline YSI-556 and \\ \hline 0.25 \\ \hline 0.25 \\ \hline 0.025 \\ \hline 0.01 \\ \hline 0.25 \\ \hline 0.01 \\ \hline 0.25 \\ \hline 0.02 \\ \hline 0.25 \\ \hline 0.02 \\ \hline 0.01 \\ \hline 0.01$	(0.163) d LaMotte 20 1315 7.96 20.50 21 26.4 26.4 168.0 188 0.900 6.12	0.37 Readings 1320 8.36 0.50 2.000 54.9 9.5 0.49 9.5 0.49 -1710 1.226 0.451	0.65 1525 8-66 2.75 2100 36.9 79 0.81 -153.9 1.213 0.963 6.91	1.5 1330 8.66 0.75 22.5 6.3 0.66 -144.0 1.199 6.99 6.99	1.00 100 16.0 5.00 -16 1.19 0.9 7.0

	Мо	nitoring W	ell Purgin	g/Samplin	ıg Form		
Project Name and Number:		Ward Produ	cts				
Monitoring Well Number:		MW-15		Date:		5/20-21/14	
Samplers:		Matt Dean a	and Tim Stein	hofer			
Sample Number:		MW-15	052114	QA/QC	Collected?	N	8
Purging / Sampling Method:		Grundfos or	Peristaltic P	ump with De	edicated Tub	ing/Low-Flo	w
 L = Total Well Depth: D = Riser Diameter (I.D.): W = Static Depth to Water (C = Column of Water in Cas V = Volume of Water in We D2 = Pump Setting Depth (find) C2 = Column of water in Pume Tubing Volume = C2(0.0057) 	ing: ll = C(3.1415 t): mp/Tubing (f		48)	<u>().17</u> <u>().88</u>	feet feet feet gal feet feet gal	D (inches) 1-inch 2-inch 3-inch 4-inch 6-inch	D (feet) 0.08 0.17 0.25 0.33 0.50
			Conversion	factors to de	termine V g	iven C	
		D (inches) V (gal / ft)	1-inch 0.041	2-inch 9.163	3-inch 0.37	4-inch 0.65	6-inch 1.5
Water Quality Readings Collec	ted Using		YSI-556 and	d LaMotte 20	020		
Parameter	Units	12000	tinne	10	Readings		ture 1
Time	24 hr	1340	1345	1350	1355	1400	1405
Water Level (0.33)	feet	8.6.6	8.60	8.72		8.72	8.72
Volume Purged	gal	1.00	1.25	71.25	1.50	71.50	1.75
Flow Rate	mL/min	100	100	100	100	100	
Turbidity (+/- 10%)	NTU	11:5	11.6	7.02	8.45	1.76	6.03
Dissolved Oxygen (+/- 10%)	%	0.43	3.4	D'	3.5	3.0	3.3
Dissolved Oxygen (+/- 10%)	mg/L MoV		- 179.0	0.38		0.31	0.31
Eh / ORP (+/- 10)	MeV	-176.1			-163.5	1120	
Specific Conductivity	mS/cm ^c	1.184	1.180	1.162	1.140	1.133	1.134
Conductivity (+/- 3%)	mS/cm	0.963	0.930	0.899	0.904		0.917
pH (+/- 0.1)	pH unit	7.05	7.09	7.02	6.98	7.04	7.06
Temp (+/- 0.5)	C	15.23	13.90	13.14	74.07	14.88	14.99
Color	Visual	CLEAR		11			
Odor	Olfactory	NONE					<u> </u>
Comments:			1				
Sampled	MIN	IT DE	2114 /1	/ IYM	5		

	Mo	nitoring W	ell Purgin	g/Samplin	ng Form			
Project Name and Number:		Ward Produ	icts					
Monitoring Well Number:		MW-1	6	Date:		5/20-21/14		
Samplers:		Matt Dean a	and Tim Steir	hofer				
Sample Number:		MW-16	052114	QA/QC	C Collected?	no)	
Purging / Sampling Method:		Grundfos or	Peristaltic P	ump with De	edicated Tub	ing/Low-Flow	N	_
 L = Total Well Depth: D = Riser Diameter (I.D.): W = Static Depth to Water (T C = Column of Water in Casi V = Volume of Water in Wel D2 = Pump Setting Depth (ft) C2 = Column of water in Pum Tubing Volume = C2(0.0057) 	ng: l = C(3.1415): np/Tubing (ft		48)	0.17 20.46	feet feet feet gal feet feet gal	D (inches) 1-inch 2-inch 3-inch 4-inch 6-inch	D (feet) 0.08 0.17 0.25 0.33 0.50	
		D (inches) V (gal / ft)	Conversion 1-inch 0.041	factors to de	3-inch 0.37	iven C 4-inch 0.65	6-inch 1.5	I
Water Quality Readings Collect			YSI-556 an	d LaMotte 20		•	YK	
Parameter	Units	10.00	10 65	T	Readings	1.10.00		LUL O
Time	24 hr	9.48	19:03	9:58	10:03	10:08	10,19	11:20
Water Level (0.33)	feet	21.10		22.30	22.80	23.35		
Volume Purged	gal	0	4.25	6,25	.25	225		
Flow Rate	mL/min	100	100	80	80			Handt
Turbidity (+/- 10%)	NTU	28.8	17.5	69	7.4	669	-	TIMP
Dissolved Oxygen (+/- 10%)	%		15.9					36.79
Dissolved Oxygen (+/- 10%)	mg/L	3.78	1	1.31	181-108.8	0.36	-	3.0
Eh / ORP (+/- 10)	MeV	119.7	94.6	-63.2		100		-49.0
Specific Conductivity	mS/cm ^c	, 390	1329	.461	1649	.608		,351
Conductivity (+/- 3%)	mS/cm	,287	1.240	.334	,465	1440		:20
pH (+/- 0.1)	pH unit	7.60	7.36	7.24	10.40	10,60		1.1.1
Temp (+/- 0.5)	C	11.60	10.90	10.50	1	1 1		12.90
Color	Visual	clear	Chear	cheor	Choudy			Cloudy
Odor	Olfactory	pone	none	none	none	none		nore
Comments: * WL	in sta	stabili nbiliza	tion.	ran at	400	ml per . - stande	min to	aid
Hok Pure	£ 1	o top	of p	-mp v	la epo	- stande	ards	
Samp	oled e	P	:20				1	¢ 2.
* Three consecutive readings w	ithin range in	ndicates stabi	lization of th	at parameter			(014

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Project Name and Number:		nitoring W	ell Purgin	g/Samplin	g Form		
		Ward Produc	cts				
Monitoring Well Number:		MW-17		Date:		5/20-21/14	
Samplers:		Matt Dean an	nd Tim Steir	hofer			
Sample Number:		MW-17	05211	y QA/QC	Collected?	NO	
Purging / Sampling Method:		Grundfos or	Peristaltic P	ump with De	dicated Tubi	ng/Low-Flo	w
 3. W = Static Depth to Water (' 4. C = Column of Water in Cas 5. V = Volume of Water in We 6. D2 = Pump Setting Depth (f 7. C2 = Column of water in Pu 8. Tubing Volume = C2(0.0057) 	sing: ell = $C(3.1415)$ t): ump/Tubing (fi	t):		41.50	feet gal feet gal	2-inch 3-inch 4-inch 6-inch	0.17 0.25 0.33 0.50
		D (inches)	1-inch	Z-inch	3-inch	4-inch	6-inch
Water Quality Readings Collec	cted Using Units	V (gal / ft)	0.041 YSI-556 and	(0.163 d LaMotte 20	Readings	0.65	1.5
Time	24 hr	950	4350	1000 *	1018		
	feet	11.40	11.88	12.80	-		
Water Level (0.33)	gal	0	6.25	0.50	1		
Volume Purged		100	L100	2100	7 40		
Volume Purged Flow Rate	mL/min						· - · · · · · · · · · · · · · · · · · ·
Volume Purged Flow Rate Turbidity (+/- 10%)	NTU	11.9	9.75	12.6	2.92		
Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%)	NTU %	11.9 39.8	12.8	1.2	14.0		
Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%)	NTU % mg/L	11.9 39.8	12.8	7.2	14.0		
Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%)	NTU % mg/L MeV	11.9 59.8 6.41 -113.2	12.8	7.2 0.73	14.0		
Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity	NTU % mg/L MeV mS/cm ^c	11.9 59.8 6.41 -113.2 0.228	12.8 1.36 -105.5 0.219	7.2 0.73 111.2 0.203	14.0 1.44 -140.5 1.181		
Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%)	NTU % mg/L MeV	11.9 59.8 6.41 -113.2 0.228 0.165	12.8 1.36 -105.5 0.219 0.618	7.2 0.73 111.2 0.203 0.151	14.0 1.44 -140.5 1.181 0.939		
Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1)	NTU % mg/L MeV mS/cm ^c mS/cm pH unit	11.9 59.8 6.41 - 113.2 0.228 0.165 6.89	(2.8 1.36 -105.5 0.219 0.618 6.40	7.2 0.73 111.2 0.203 0.151 6.37	14.0 1.44 -140.5 1.181 0.939 6.88		
Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1)	NTU % mg/L MeV mS/cm ^c mS/cm	11.9 59.8 6.41 - 113.2 0.228 0.165 6.89 11.42	(2.8 1.36 -105.5 0.219 0.618 6.40 1221	7.2 0.73 111.2 0.203 0.151 6.37	(4.0 1.44 - 140.5 1.181 0.439 6.38 14.34		
Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5)	NTU % mg/L MeV mS/cm ^c mS/cm pH unit	11.9 59.8 6.41 - 113.2 0.228 0.165 6.89 11.42 Clear	(2.8 1.36 -105.5 0.219 0.618 6.40	7.2 0.73 111.2 0.203 0.151 6.37 10.87	(4.0 [.44 - [40.5 [.181 0.939 (6.38 [4.34 		
Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5) Color	NTU % mg/L MeV mS/cm ^c mS/cm pH unit C Visual	11.9 59.8 6.41 - 113.2 0.228 0.165 6.89 11.42 Clear	(2.8 1.36 -105.5 0.219 0.618 6.40 12.27 	7.2 0.73 111.2 0.203 0.151 6.37 10.87	(4.0 1.44 - 140.5 1.181 0.439 6.38 14.34		
Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5) Color	NTU % mg/L MeV mS/cm ^c mS/cm pH unit C Visual Olfactory	11.9 59.8 6.41 -113.2 0.228 0.165 6.89 11.42 Clear Nop	(2,8 1.36 ~105.5 0.219 0.618 6.40 1227	7.2 0.73 111.2 0.203 0.151 6.37 10.87	14.0 1.44 - 140.5 1.181 0.439 0.88 14.34 	OQ e c Mar	pomp ge to
Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5) Color Odor	NTU % mg/L MeV mS/cm ^c mS/cm pH unit C Visual Olfactory	11.9 59.8 6.41 -113.2 0.228 0.165 6.89 11.42 Clear Nop	(2,8 1.36 ~105.5 0.219 0.618 6.40 1227	7.2 0.73 111.2 0.203 0.151 6.37 10.87	14.0 1.44 - 140.5 1.181 0.439 0.88 14.34 		

Project Name and Number: Monitoring Well Number: Samplers: Sample Number: Purging / Sampling Method:		Matt Dean a	18					
Samplers: Sample Number: Purging / Sampling Method:		-				5/00 01/14		
Sample Number: Purging / Sampling Method:		Matt Dean a		Date:		5/20-21/14	_	
Purging / Sampling Method:			nd Tim Steir	hofer				_
		MW-18	052014	QA/QC	Collected?	DUP	-1 05	2014
		Grundfos or	Peristaltic P	ump with De	edicated Tub	ing/Low-Flo	w	
1. L = Total Well Depth:					feet	D (inches)	D (feet)	
2. D = Riser Diameter (I.D.):				0.17	feet	1-inch	0.08	
3. W = Static Depth to Water (T			Zas	0 21.46	feet	2-inch	0.17	
4. $C = Column of Water in Casi$	-	2			feet	3-inch	0.25	
5. V = Volume of Water in Well		9)(0.5D) ² (7.4	8)		gal	4-inch	0.33	
6. $D2 = Pump$ Setting Depth (ft)					feet	6-inch	0.50	
7. $C2 = Column of water in Pun$		t):			feet			
8. Tubing Volume = $C2(0.00573)$	37088)				gal			
			Conversion	factors to de	termine V gi	ven C		
		D (inches)	1-inch	Z-inch	3-inch	4-inch	6-inch	
		V (gal / ft)	0.041	0.163	0.37	0.65	1.5	
Water Quality Readings Collected	ed Using		YSI-556 and	d LaMotte 20	020	÷.,		
	Units				Readings			6
Parameter Time	Units 24 hr	1210	1215	1220	Readings	1230	1235	
Parameter Time Water Level (0.33)	Units 24 hr feet	21.46	1215 21.44	1220	Readings 225 21.61	21.64	21.62	
Parameter Time Water Level (0.33) Volume Purged	Units 24 hr feet gal	21.46	1215 21.44 <.25	(220 21.56 2.5	Readings 225 21.61 .5	21.64	21.62	
Parameter Time Water Level (0.33) Volume Purged Flow Rate	Units 24 hr feet gal mL / min	21.46	12/5 21.44 <.25 100	(220 21.56 < .5 5100	Readings 225 21.61 .5 <100	21.64 2.75 2.100	21.62 21.00 2100	
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%)	Units 24 hr feet gal mL / min NTU	21.46 0 1000 28.2	12/5 21.44 <.25 100	1220 21.56 2.5 5 5 18.2	Readings 225 2 .6 .5 $<10^{\circ}$ 7.73	21.64 2.75 2.100 17.2	21.62 21.00 2100 100 16.5	
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%)	Units 24 hr feet gal mL / min NTU %	21.46 0 1000 28.2 51.1	1215 21.44 <.25 100 23.1 39.0	1220 21.56 2.5 5 5 18.2		21.64 2.75 2.100 17.2	21.62 2100 2100 10.5 34.3	
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%)	Units 24 hr feet gal mL / min NTU % mg/L	21.46 0 100 28.2 51.1 5.54	1215 21.44 <.25 100 23.1 34.0 4.28	1220 21.56 <.5 <100 18.2 34.9 34.9 3.82	Readings 1225 21.61 .5 2100 17.13 3.4.7 3.82	21.64 2.75 2100 17.2 35.9 3.95	21.62 21.00 21.00 10.5 34.3 37.4	
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10)	Units 24 hr feet gal mL / min NTU % mg/L MeV	21.46 0 100 31.1 5.54 - 87.7	1215 21.44 <.25 100 23.1 39.0 4.28 -79.9	1220 21.56 <.5 <100 18,2 34,9 3.82 -74.9	Readings 1225 21.61 .5 2100 17.13 3.4.7 3.87 -81.9	21.64 2.75 2100 17.2 35.9 3.95 -83.8	21.62 2100 2100 16.5 34.3 37.4 ~84.8	
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c	21.46 0 100 28.2 51.1 5.54 - 87.7 0.360	1215 21.44 <.25 100 23.1 39.0 4.28 -79.9 0.357	1220 21.56 2.5 2100 18.2 34.9 3.82 -74.9 0.351	$\begin{array}{c} \text{Readings} \\ 1225 \\ 21.61 \\ .5 \\ <100 \\ 17.73 \\ .87 \\ -81.9 \\ 0.350 \end{array}$	21.64 2.75 2.100 17.2 35.9 3.95 -83.8 0.349	21.62 21.00 21.00 10.5 34.3 3.74 -84.8 0.349	
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm	21.46 0 100 51.1 5.54 - 87.7 0.360 0.266	1215 21.44 2.25 100 23.1 34.0 4.28 -71.9 0.357 0.261	(220 21.56 2.5 2100 18.2 39.9 3.82 - 79.9 0.351 0.259	Readings 1225 21.61 .5 2100 17.15 34.7 3.87 -81.9 0.350 0.258	21.64 2.75 2100 17.2 35.9 3.95 -83.8 0.349 0.258	21.62 21.00 21.00 10.5 34.3 37.4 -84.8 0.349 0.258	
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm pH unit	21.46 0 100 31.1 5.54 - 87.7 0.360 0.260 6.85	1215 21.44 <.25 100 23.1 39.0 4.28 -79.9 0.357 0.261 6.67	(220 21.56 2.5 2100 18.2 34.9 3.82 -79.9 0.351 0.259 6.66	Readings 1225 21.61 .5 2100 17.5 34.7 3.87 -81.9 0.350 0.258 6.69	21.64 2.75 2100 17.2 35.9 3.95 -83.8 0.349 0.258	21.62 21.00 21.00 10.5 34.3 37.4 -84.8 0.349 0.258 6.70	
Water Level (0.33)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm	21.46 0 100 51.1 5.54 - 87.7 0.360 0.266	1215 21.44 2.25 100 23.1 34.0 4.28 -71.9 0.357 0.261	(220 21.56 2.5 2100 18.2 39.9 3.82 - 79.9 0.351 0.259	Readings 1225 21.61 .5 2100 17.15 34.7 3.87 -81.9 0.350 0.258	21.64 2.75 2.100 17.2 35.9 3.95 -83.8 0.349	21.62 21.00 21.00 10.5 34.3 37.4 -84.8 0.349 0.258	

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		nitoring V	8	9	0			
Project Name and Number:		Ward Produ						
Monitoring Well Number:		MW-19		- Date:		5/20-21/14		
Samplers:		Matt Dean a	and Tim Stei	nhofer				
Sample Number:	1	MW-19	052114	QA/Q	C Collected?	NU		_
Purging / Sampling Method:		Grundfos or	Peristaltic F	ump with D	edicated Tub	ing/Low-Flow	w	
 L = Total Well Depth: D = Riser Diameter (I.D.): W = Static Depth to Water (' 4. C = Column of Water in Cass V = Volume of Water in We D2 = Pump Setting Depth (ff C2 = Column of water in Put Tubing Volume = C2(0.0057) 	ting: ll = C(3.1415 t): mp/Tubing (f		48)	29.87	feet feet gal feet gal feet gal	D (inches) 1-inch 2-inch 3-inch 4-inch 6-inch	D (feet) 0.08 0.17 0.25 0.33 0.50]
		D (inches) V (gal / ft)	Conversion 1-inch 0.041	factors to de	etermine V g 3-inch 0.37	iven C 4-inch 0.65	6-inch 1.5]
Water Quality Readings Collec	ted Using	0 <u></u>	YSI-556 an	d LaMotte 2	020	-		
Parameter	ted Using Units		forman r		Readings	-		8
Parameter Time	Units 24 hr	1425	1430	11435	Readings	1995		15:12
Parameter Time Water Level (0.33)	Units 24 hr feet	1425	1430	1435	Readings 1940 32.89	1945		15:12
Parameter Time Water Level (0.33) Volume Purged	Units 24 hr feet gal	31.47	1430 31.87 20.35	1435 32.42 0.50	Readings 1940 32.89 0.75	1445 33.35 > 0.75		15:12
Parameter Time Water Level (0.33) Volume Purged Flow Rate	Units 24 hr feet gal mL / min	31.47	1430 31.87 20:35 100	1435 32.42 0.50	Readings 1940 32.89 0.75 100	1995 33.35 > 0.75 < 100		15:12
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%)	Units 24 hr feet gal mL / min NTU	31.47	1430 31.87 20.25 100 30.9	1435 32.42 0.30 100 135	Readings 1940 32.89 0.75 100 107.8	1445 33.35 > 0.75 < 100 105.8		61.8
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%)	Units 24 hr feet gal mL / min NTU %	31.47 100 53.9 52.0	1430 31.87 20:25 100 80.9 14.1	1735 32.42 0.50 100 135 6.0	Readings 1940 32.89 0.75 100 107.8 5.0	1445 33.35 > 0.75 < 100 105.8		61.8
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%)	Units 24 hr feet gal mL / min NTU % mg/L	31.47 00 53.9 52.0	1430 31.87 20:25 100 80.9 14.9 1.47	1735 32.42 0.50 135 (e.0 (0.62	Readings 1940 32.89 0.75 100 107.8 5.0 0.51	1445 33.35 > 0.75 < 100 105.8 1.8 0.47		61.8
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%)	Units 24 hr feet gal mL / min NTU %	31.47 00 53.9 52.0 5.50 - 118.9	1430 31.87 20:25 100 80.9 14.9 1.47 - 1275	1735 32.42 0.50 135 (e.0 (0.62	Readings 1440 32.84 0.75 100 107.8 S.0 0.51 -148.2	1445 33.35 > 0.75 < 100 105.8 1.8 0.47 -150.8		
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10)	Units 24 hr feet gal mL / min NTU % mg/L MeV	31.47 00 53.9 52.0 5.50 - 118.9	1430 31.87 20:25 100 80.9 14.9 1.47 - 1275	1 435 32.42 0.50 1 35 6.0 0.62 -136.2	Readings 1940 32.89 0.75 100 107.8 5.0 0.51	1445 33.35 > 0.75 < 100 105.8 1.8 0.47 -150.8		61.8
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity	Units 24 hr feet gal mL / min NTU % mg/L	31.47 00 53.9 52.0 5.50 - 118.9 1.169	1430 31.87 20.35 100 80.9 14.9 1.97 - 1275 1.332	1 435 32.42 0.50 135 6.0 0.62 -136.2 1.359	Readings 1440 32.84 0.75 100 107.8 5.0 0.51 -148.2 1.362	1445 33.35 > 0.75 2 100 105.8 1.8 0.47 -150.8 1.357		
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c	31.47 0 100 53.9 52.0 5.50 - 118.9 1.169 0.890	1430 31.87 20.35 100 80.9 14.9 1.97 - 1275 1.332 1.091	1 735 32.42 0.50 135 6.0 0.62 -1362 1.359 1.071	Readings 1940 32.89 0.75 100 107.8 5.0 0.51 -148.2 1.362 1.100	1445 33.35 > 0.75 < 100 105.8 1.8 0.47 -150.8 1.357 1.047		
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm	31.47 00 53.9 52.0 5.50 - 118.9 1.169 0.890 7.04	1430 31.87 20.25 100 80.9 14.9 1.47 - 1275 1.332 1.041 6.74	1 735 32.42 0 50 1 35 6.0 0.62 - 136.2 1.359 1.071 6.69	Readings 1940 32.89 0.75 100 107.8 5.0 0.51 -148.2 1.362 1.100 6.86	1445 33.35 > 0.75 < 100 105.8 1.8 0.47 -150.8 1.357 1.047 6.86		
Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm pH unit	31.47 0 100 53.9 52.0 5.50 - 118.9 1.169 0.890 7.00 12.40 (1022)	1430 31.87 20.35 100 80.9 14.9 1.97 - 1275 1.332 1.091	1 435 32.42 0.50 135 6.0 0.62 -1362 1.359 1.071	Readings 1940 32.89 0.75 100 107.8 5.0 0.51 -148.2 1.362 1.100	1445 33.35 > 0.75 < 100 105.8 1.8 0.47 -130.8 1.357 1.097 6.36 15.09 11		
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5) Color	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm pH unit C Visual	31.47 0 100 53.9 52.0 5.50 - 118.9 1.169 0.890 7.30 12.40 (1022)	1430 31.87 20.25 100 14.9 1.47 - 1275 1.332 1.041 6.76 13.57	1 435 32.42 0.50 1 35 6.0 0.62 -136.2 1.359 1.071 6.69 13.99 13.99	Readings 1440 32.84 0.75 100 107.8 S.0 0.51 -148.2 1.362 1.100 6.86 14.81 (1	1445 33.35 > 0.75 < 100 105.8 1.8 0.47 -150.8 1.357 1.047 6.36 15.09 11		
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5) Color	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm pH unit C Visual	31.47 0 100 53.9 52.0 5.50 - 118.9 1.169 0.890 7.30 12.40 (1022)	1430 31.87 20.25 100 14.9 1.47 - 1275 1.332 1.041 6.76 13.57	1 435 32.42 0.50 1 35 6.0 0.62 -136.2 1.359 1.071 6.69 13.99 13.99	Readings 1440 32.84 0.75 100 107.8 S.0 0.51 -148.2 1.362 1.100 6.86 14.81 (1	1445 33.35 > 0.75 < 100 105.8 1.8 0.47 -150.8 1.357 1.047 6.36 15.09 11		
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5) Color Odor Comments: WL Not May CCMUP	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm pH unit C Visual Olfactory Slobilit	31.47 00 53.9 52.0 5.50 - 118.9 1.169 0.890 7.00 12.40 (1032) 12.40 (1032) None	1430 31.87 20.25 100 80.9 14.9 1.47 - 1275 1.332 1.041 6.76 13.57 1 1.041 6.76 13.57 1 1.041 9.57 1 1.041 6.76	1735 32.42 0.50 135 (6.0 0.62 -136.2 1.359 1.071 (.699 13.99 (1) 13.99 (1) 13.99	Readings 1940 32.89 0.75 100 107.8 5.0 0.51 -148.2 1.362 1.100 6.86 19.81 (1 (1) 0 P 5.0	1445 33.35 > 0.75 < 100 105.8 1.8 0.47 -150.8 1.357 1.047 6.36 15.09 11		
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5) Color Odor Comments: WK Not May CCMUP	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm pH unit C Visual	31.47 00 53.9 52.0 5.50 - 118.9 1.169 0.890 7.00 12.40 (1032) 12.40 (1032) None	1430 31.87 20.25 100 80.9 14.9 1.47 - 1275 1.332 1.041 6.76 13.57 1 1.041 6.76 13.57 1 1.041 9.57 1 1.041 6.76	1735 32.42 0.50 135 (6.0 0.62 -136.2 1.359 1.071 (.699 13.99 (1) 13.99 (1) 13.99	Readings 1940 32.89 0.75 100 107.8 5.0 0.51 -148.2 1.362 1.100 6.86 19.81 (1 (1) 0 P 5.0	1445 33.35 > 0.75 < 100 105.8 1.8 0.47 -150.8 1.357 1.047 6.36 15.09 11		

Project Name and Number: Monitoring Well Number: Samplers: Sample Number: Purging / Sampling Method: 1. L = Total Well Depth: 2. D = Riser Diameter (I.D.): 3. W = Static Depth to Water (TOC): 4. C = Column of Water in Casing: 5. V = Volume of Water in Well = C(3.14) 5. D2 = Pump Setting Depth (ft): 7. C2 = Column of water in Pump/Tubing	MW-2 Grundfos or	20 and Tim Stei	- nhofer		h ()		
Samplers: Sample Number: Purging / Sampling Method: 1. L = Total Well Depth: 2. D = Riser Diameter (I.D.): 3. W = Static Depth to Water (TOC): 4. C = Column of Water in Casing: 5. V = Volume of Water in Well = C(3.14) 5. D2 = Pump Setting Depth (ft): 7. C2 = Column of water in Pump/Tubing	Matt Dean M M -2 Grundfos or	and Tim Stei	- nhofer	C Collected?	h ()		
Sample Number: Purging / Sampling Method: 1. L = Total Well Depth: 2. D = Riser Diameter (I.D.): 3. W = Static Depth to Water (TOC): 4. C = Column of Water in Casing: 5. V = Volume of Water in Well = C(3.14) 5. D2 = Pump Setting Depth (ft): 7. C2 = Column of water in Pump/Tubing	MW-2 Grundfos or	0 052	12 QA/QO	edicated Tub	ing/Low-Flo		
 Purging / Sampling Method: L = Total Well Depth: D = Riser Diameter (I.D.): W = Static Depth to Water (TOC): C = Column of Water in Casing: V = Volume of Water in Well = C(3.1- D) D = Pump Setting Depth (ft): C = Column of water in Pump/Tubing 	Grundfos or			edicated Tub	ing/Low-Flo		
 L = Total Well Depth: D = Riser Diameter (I.D.): W = Static Depth to Water (TOC): C = Column of Water in Casing: V = Volume of Water in Well = C(3.1- D 2 = Pump Setting Depth (ft): C2 = Column of water in Pump/Tubing 		r Peristaltic F	Cump with D		-	w	
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3. Tubing Volume = $C2(0.005737088)$	g (ft):	48)	21.28	feet feet gal feet feet gal gal	D (inches) 1-inch 2-inch 3-inch 4-inch 6-inch	D (feet) 0.08 0.17 0.25 0.33 0.50	
	D (inches) V (gal / ft)	Conversion 1-inch 0.041	factors to de	etermine V g 3-inch 0.37	iven C 4-inch 0.65	6-inch 1.5	
Water Quality Readings Collected Using	-	YSI-556 an	d LaMotte 2	.020	e		
Parameter Unit		110.		Readings			
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		13:10	13:15	13:20		13:30	13:50
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Water Level (0.33)feetVolume Purgedgal	21.60	22,05	22.58	13:20 23.00	23.35	23.70 7.25	13:50
Water Level (0.33)feetVolume PurgedgalFlow RatemL / m	21.60	22.05 4.25 80	22.58	13:20 23.00 135 80	23.35 2.25 80	23.70 7.25 80	5 1 1
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Water Level (0.33)feetVolume PurgedgalFlow RatemL / mFurbidity (+/- 10%)NTUDissolved Oxygen (+/- 10%)%	$ \begin{array}{c} 21.60\\ 0\\ 100\\ 78.8\\ 78.6 \end{array} $	22,05 <,25 80 70.0 55.9	23.58 2.25 80 1,303 50,2	13:20 23.20 125 80 2199	23.35 2.25 80 1560 43.7	23.70 7.25 80 1693 42.0	- - 608 39.9
Water Level (0.33)feetVolume PurgedgalFlow RatemL / mFurbidity (+/- 10%)NTUDissolved Oxygen (+/- 10%)%Dissolved Oxygen (+/- 10%)mg/I	$\begin{array}{c} 21.60\\ 0\\ 100\\ 78.8\\ 78.8\\ 78.6\\ 9.04 \end{array}$	22,05 2,25 80 70.0	23.58 2.25 80 1,303 50,2 5.13	13:20 23:20 3:35 80 2:19 49.05	23.35 2.25 80 1560 43.7 4.55	23.70 7.25 80 1693 42.0 4.41	
Water Level (0.33)feetVolume PurgedgalFlow RatemL / mFurbidity (+/- 10%)NTUDissolved Oxygen (+/- 10%)%Dissolved Oxygen (+/- 10%)mg/IEh / ORP (+/- 10)MeV	$\begin{array}{c} 21.60\\ 0\\ 100\\ 78.8\\ 78.6\\ 78.6\\ 51.5\\ 51.5\end{array}$	22,05 <.25 80 70.0 55.9 5,70 48.2	23.58 2.25 80 1303 50.2 5.13 23.3	13:20 23:30 35 80 2199 49.0 5:05 23:9	23.35 80 1560 43.7 4.55 5.7	23.70 7.25 80 1693 42.0 4.41 -25.0	
Water Level (0.33)feetVolume PurgedgalFlow RatemL / mFurbidity (+/- 10%)NTUDissolved Oxygen (+/- 10%)%Dissolved Oxygen (+/- 10%)mg/I	$\begin{array}{c} 21.60\\ 0\\ 100\\ 78.8\\ 78.6\\ 78.6\\ 51.5\\ 51.5\end{array}$	22,05 <,25 80 70.0 55.9	23.58 2.25 80 1,303 50,2 5.13	13:20 23.20 25 80 2199 49.0 5.05 23.9 ,561	23.35 2.25 80 1560 43.7 4.55 5.7 ,564	23.70 7.25 80 1693 42.0 4.41 -250 .559	
Water Level (0.33)feetVolume PurgedgalFlow RatemL / mFurbidity (+/- 10%)NTUDissolved Oxygen (+/- 10%)%Dissolved Oxygen (+/- 10%)mg/IEh / ORP (+/- 10)MeV	21.60 0 10 0 78.8 78.6 78.6 51.5 n° .559	22,05 <.25 80 70.0 55.9 5,70 48.2	23.58 2.25 80 1303 50.2 5.13 23.3	13:20 23:20 35 80 2199 49.0 5:05 23:9	23.35 2.25 80 1560 43.7 4.55 5.7 ,564 ,437	23.70 7.25 80 1693 42.0 4.41 -250 .559 .431	
Water Level (0.33)feetVolume PurgedgalFlow RatemL / mFurbidity (+/- 10%)NTUDissolved Oxygen (+/- 10%)%Dissolved Oxygen (+/- 10%)mg/IEh / ORP (+/- 10)MeVSpecific ConductivitymS/cr	21.60 0 100 78.8 78.6 78.6 51.5 n° .559 n .438	22,05 2,25 80 70.0 55.9 5,70 48.2 ,559 ,447 7.64	23.58 2.25 80 1303 50.2 5.13 23.3 .563	13:20 23:20 25 80 2199 49.0 5:05 23:9 .561 .439 7.58	23.35 2.25 80 1560 43.7 4.55 5.7 ,564 ,437 7.60	23.70 7.25 80 1693 42.0 4.41 -250 .559 .431 7.62	
Water Level (0.33)feetVolume PurgedgalFlow RatemL / mFurbidity (+/- 10%)NTUDissolved Oxygen (+/- 10%)%Dissolved Oxygen (+/- 10%)mg/IEh / ORP (+/- 10)MeVSpecific ConductivitymS/cmConductivity (+/- 3%)mS/cm	21.60 0 100 78.8 78.6 78.6 51.5 n° .559 n .438	22,05 2,25 80 70.0 55.9 5,70 48.2 ,559 ,447	23.58 2.25 80 1303 50,2 5.13 23.3 .563 .440	13:20 23:20 20 2199 49.00 23:9 505 23:9 ,561 -439	23.35 2.25 80 1560 43.7 4.55 5.7 .564 .437 7.60 13.20	23.70 7.25 80 1693 42.0 4.41 -250 .559 .431 7.62 13.00	
Water Level (0.33)feetVolume PurgedgalFlow RatemL / mFurbidity (+/- 10%)NTUDissolved Oxygen (+/- 10%)%Dissolved Oxygen (+/- 10%)mg/IEh / ORP (+/- 10)MeVSpecific ConductivitymS/cmConductivity (+/- 3%)mS/cmbH (+/- 0.1)pH um	$\begin{array}{c} 21.60 \\ 0 \\ 100 \\ 78.8 \\ 78.8 \\ 78.6 \\ 78.6 \\ 78.6 \\ 78.6 \\ 78.6 \\ 78.6 \\ 78.6 \\ 78.6 \\ 78.6 \\ 78.6 \\ 78.6 \\ 78.6 \\ 78.6 \\ 1.5 \\ 7.78 \\ 1.3.70 \end{array}$	22,05 2,25 80 70.0 55.9 5,70 48.2 ,559 ,447 7.64	23.58 2.25 80 1303 50,2 5.13 23.3 .563 .440 7.59	13:20 23:20 25 80 2199 49.0 5:05 23:9 .561 .439 7.58	23.35 2.25 80 1560 43.7 4.55 5.7 .564 .437 7.60 13.20	23.70 7.25 80 1693 42.0 4.41 -250 .559 .431 7.62	

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CHAIN OF CUSTODY RECORD AES Work Order

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A full service analytical research laboratory offering solutions to environmental concerns

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AES Work Order #

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PALMS Environmental, LLC

274 Main Street, Suite 101

Reading, MA 01867

877-785-7256

CALIBRATION CERTIFICATE

Instrument/Serial#<u>VST</u> 1250 AH Date: 5115114 Technician:

Date: <u>2115119</u> Technician: <u>Conductivity Calibration</u>

Result 1.413

Conductivity Standard 1.413 mS/cm

Lot#: 2402591 EXP 7115

pH Calibration Results (mV)

RESULT - No.4

 pH 4.0 Buffer Solution

 Lot#:2310 F41
 EXP: 10 15

RESULT UA.

pH 10.0 Buffer Solution

Lot#: 2311520 EXP: 415

RESULT: 1420

ORP Calibration Results

Temp C: Ag/AgC1(mV) ·loc

ZOBELL Solution

Lot#: <u>358601</u> EXP: 218

BAROMETRIC PRESSURE

mm Hg____ სა ის

Dissolved O2 100%____

Dissolved O2 ZERO____

Sodium Sulfite, Reagent Lot#:<u>C251081</u>EXP:<u>9117</u>

6820/6920 ONLY

Turbidity (NTU) Calibration Results:

Point
1 N a Lot#: 1309805 Exp: 8 14
Point 2 Lot#: <u>C362395</u> Exp: 3 15
CHECKLIST INSPECTION:
FLOW CELL/EXTENSIONS
PROBE GUARD
MANUAL
DO REPAIR KIT:
OTHER

PALMS Environmental, LLC

274 Main Street, Suite 101

Reading, MA 01867

877-785-7256

CALIBRATION CERTIFICATE

RO#0879

Instrument/Serial#_____

Dates 5 19 19 Technician: 8M

Conductivity Calibration

Result

1.413

Conductivity Standard 1.413 mS/cm

Lot#: 2402591 EXP_715

pH Calibration Results (mV)

pH 7.0 Buffer Solution Lot#:<u>______</u>EXP:<u>____</u>EXP:<u>____</u>EXP:____

RESULT - 65

 pH 4.0 Buffer Solution

 Lot#:2310 F41

EXP: 10 15

RESULT 1713

pH 10.0 Buffer Solution

Lot#: 2311520 EXP: 4 15

RESULT: 179 3

ORP Calibration Results

Temp ©:

Ag/AgC1(mV)_____35.68

ZOBELL Solution

Lot#: <u>358601</u> EXP: 218

BAROMETRIC PRESSURE

7602 mm Hg

Dissolved O2 100%

Dissolved O2 ZERO

Sodium Sulfite, Reagent Lot#:<u>C 251081</u> EXP:<u>9117</u>

6820/6920 ONLY

Turbidity (NTU) Calibration Results:

Point 1_____Lot#:<u>1309805</u>Exp:<u>8</u>14 Point 2_____Lot#:<u>C362395</u>Exp:<u>3</u>15

CHECKLIST INSPECTION:

INSTRUMENT: ______ FLOW CELL/EXTENSIONS _____ PROBE GUARD _____ MANUAL _____ SPARE BATTERIES _____ DO REPAIR KIT: _____ OTHER _____ /

Well Gauging Form 61 Edson Street, Amsterdam, NY NYSDEC Site #4-029-004

Monitoring Well	Top of Casing Elevation (ft msl)	Depth to Water (ft bgs)	Condition of Well*
MW-1	471.55	5.51	No J-Plug. No Bolts OG
MW-1R	471.46	6.05	No J-Phy No boths, UG
MW-2	471.20	5.66	NoBolts No J-Plug OG
MW-3	473.03	7.70	No botts No 8- Phy, OG
MW-4	470.17	8.22	No bolts, NO J-Plug, OG
MW-4R	470.29	20.99	No bolts, OG
MW-5	475.62	17.52	No Look, No J-Muy, Cement Cusing cracked
MW-6	470.97	21,40	No bolts OG
MW-7	469.14	19.80	Nobolts, No J-Plug, OG
MW-8	467.38	17.14	No J.Phy, OG
MW-9	465.43	24.82	No bolts No J-Plug, otherwise good
MW-10	466.77	25.76	No J-Plug, OG No bolt 5 No J-Plug, Otherwise good Missing Bolts otherwise good
MW-11	485.37	15.53	No J-Plug, OG
MW-12	468.18	21.02	No Bolts, OG
MW-13	462.12	23.22	
MW-14	453.66	10.93	J-phy loose: Biologicals in tubing & vell, OG No Lock No J-Plug OG
MW-15	445.20	9.12	No bolts, No J-Plug, OG
MW-16	449.50	21.80	No bolts OG
MW-17	450.84	10.55	No bults -06 cement carsing cracked
MW-18	463.76	21.84	Good
MW-19	441.64	30.90	Good
MW-20	442.38	23.00	No J-Ping, No protective casing, PVC broken off@ Grand State
RW-01	472.08	68.02	Good
RW-02	465.57	40.55	Good

Sampling Dates: 8/11/14 - 8/13/14

<u>.</u>

*Describe the condition of each monitoring well and if there are any issues to address (condition of the pad, cover, casing, lock) $\frac{1}{4} = V_{eyy} \quad f_{uv} \quad condition$ 7/30/2014
Page

AECOM

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7/30/2014

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Project Name and Number:		Ward Produ	cts	6032203	8			
Monitoring Well Number:		MW-1R		_ Date:	August	3,2014		
Samplers:		Chris Frencl	h & Ross Mo	cCredy				
Sample Number:		MW-1R08	1314	QA/Q	C Collected?			
Purging / Sampling Method:		Grundfos or	Peristaltic F	ump with de	edicated tubi	ng/Low Flov	V	
I. L = Total Well Depth:					feet	D (inches) D (feet)	1
2. D = Riser Diameter (I.D.):				A 15	feet	1-inch	0.08	-
3. W = Static Depth to Water (1				6.05	feet	2-inch	0.03	
C = Column of Water in Casi				0.03	feet	3-inch	0.25	
5. V = Volume of Water in Wel	-	$(0.50)^2 (7.4)$	9)		-	4-inch		
		y(U.SD) (7.4	0)		_gal feet	4-inch 6-inch	0.33	
5. D2 = Pump Setting Depth (ft		۱.			feet	L 0-then	1 0.50	-
7. $C2 = Column of water in Pur$		j;			_			
3. Tubing Volume = $C2(0.0057)$	57000)				_gal			
			Conversion	factors to d	etermine V g	given C		
		D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch	
Water Quality Readings Collec	ted Using	V (gal / ft) YSI 556 &	0.041	0.163		*	1.5 lineter	1
Parameter	Units	V (gal / ft) YSI 556 &	0.041	0.163	Meter. 2.0 Readings	of Turbin	lineter	
Parameter Time	Units 24 hr	V (gal / ft) YSI 556 & 8:50	0.041	0.163 0 Turbidity	Meter. 2.00 Readings	09 Junbis	lineter 9:15	9:20 8 04
Parameter Time Water Level (0.33)	Units 24 hr feet	V (gal / ft) YSI 556 & 8:50 6.91	0.041 Lamotte 202 B : 55 7.23	0.163 00 Turbidity 9:00 7.57	Meter. 2]0 Readings 9:05 7.83	9:10 8.81	9:15 8:89	8.94
Parameter Time Water Level (0.33) Volume Purged	Units 24 hr feet gal	V (gal / ft) YSI 556 & B:50 6.91	0.041 Lemotte 202 8 : 55 7.23 5.05	0.163 00 Turbidity 9:05 7.57 0.10	Meter. 2]0 Readings 9:05 7.83 0.15	9:10 # 8.81 0.15	9:15 8:89 0.17	8.94 0.20
Parameter Time Water Level (0.33) Volume Purged Flow Rate	Units 24 hr feet gal mL / min	V (gal / ft) YSI 556 & B:50 6.91 0 <100	0.041 Lamotte 202 Ø:55 7.23 0.05 <100	0.163 0 Turbidity 9:05 7.57 0.10 < 105	Meter. 210 Readings 9:05 7.83 0.13 4 100	9:10 8.81 0.15 <100	9:15 8:89 0.17 <100	8.94 0.20 <100
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%)	Units 24 hr feet gal mL/min NTU	V (gal / ft) YSI 556 & 6.91 0 <100 294	0.041	0.163 0 Turbidity 9:06 7.57 0.10 < 100 271	Meter. 210 Readings 9:05 7.83 0.13 4.100 257	9:10 # 8.81 0.15 <100 793	9:15 8:89 0.17 <100 5(3	8.94 0.20 < 100 323
Parameter Fime Water Level (0.33) Volume Purged Flow Rate Furbidity (+/- 10%) Dissolved Oxygen (+/- 10%)	Units 24 hr feet gal mL/min NTU %	V (gal / ft) YSI 556 & B:50 6.91 0 <100 294 23.8	0.041 Lamotte 202 0:55 7.23 0:05 <100 26B 19.5	0.163 0 Turbidity 9:00 7.57 0.10 < 100 271 17.3	Meter. 210 Readings 9:05 7.83 0.13 <100 257 18.2	9:10 8.81 0.15 <100 793 19.2	9:15 8.89 0.17 <100 513 24.1	8.94 0.20 <100 323 18.8
Parameter Fime Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%)	Units 24 hr feet gal mL / min NTU % mg/L	V (gal / ft) YSI 556 & 8:50 6.91 0 <100 294 23.8 2.39	0.041 Lamotte 202 0:55 7.23 0:05 <100 268 19.5 1.93	0.163 0.163 0.103 0.	Meter. 210 Readings 7:05 7:83 0.15 4 100 257 18.2 1.75	9:10 # 9:10 8.81 0.15 <100 793 19.2 1.89	9:15 8.89 0.17 <100 513 24.1 2.30	8.94 0.20 <100 323 /8.8 1.79
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10)	Units 24 hr feet gal mL / min NTU % mg/L MeV	V (gal / ft) YSI 556 & 8:50 6.91 0 <100 294 23.8 2.39 73.1	0.041 Lamotte 202 0.05 7.23 0.05 <100 268 19.5 1.93 78.5	0.163 0 Turbidity 9:00 7.57 0.10 < 100 < 100 271 1.64 92.2	Meter. 210 Readings 9:05 7.83 0.15 (100 257 18.2 1.75 92.9	9:10 8.81 0.15 <100 793 19.2 1.89 85.6	9:15 8:89 0.17 <100 513 24.1 2.30 74.7	8.94 0.20 <100 323 18.8
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c	V (gal / ft) YSI 556 & 8:50 6.91 0 <100 294 23.8 2.39 73.1 0.636	0.041 Lamotte 202 0:55 7.23 0:05 <100 263 1.93 78.5 0.638	0.163 0 Turbidity 9:00 7.57 0.10 < 100 < 100 27(17.3 1.64 92.2 0.643	Meter. 210 Readings 9:05 7.83 0.15 <100 257 18.2 1.75 92.9 0.654	9:10 8.81 0.15 <100 793 19.2 1.89 85.6 0.617	9:15 8:89 0.17 <100 513 24.1 2.30 74.7 0.653	8.44 0.20 <100 323 18.8 1.79 68.7 0.652
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm° mS/cm	V (gal / ft) YSI 556 & 8:50 6.91 0 <100 294 23.8 2.39 73.1 0.636 O.523	0.041 Lamotte 202 B:55 7.23 0.05 <100 268 1.93 78.5 0.638 0.527	0.163 0 Turbidity 9:06 7.57 0.10 < 100 271 1.64 92.2 0.643 0.545	Meter. 210 Readings 9:05 7.83 0.15 <100 257 18.2 1.75 92.9 0.654 0.556	9:10 8.81 0.15 <100 793 19.2 1.89 85.6 0.617 0.508	9:15 8:89 0.17 <100 5(3 24.1 2.30 74.7 0.653 0.563	8.44 0.20 <100 323 18.8 1.79 (68.7 0.652 0.563
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm° mS/cm pH unit	V (gal / ft) YSI 556 & 8:50 6.91 0 <100 294 23.8 2.39 73.1 0.636 0.523 7.36	0.041 Lamotte 202 0.55 7.23 0.05 <100 268 19.5 1.93 78.5 0.638 0.527 7.32	0.163 0 Turbidity 7.57 0.10 < 100 271 17.3 1.64 92.2 0.643 0.545 7.32	Meter. 210 Readings 9:05 7.83 0.15 <100 257 18.2 1.75 92.9 0.654 0.556 7.34	9:10 8.81 0.15 <100 793 19.2 1.89 85.6 0.617 0.508 7.35	9:15 8:89 0.17 <100 5(3 24.1 2.30 74.7 0.653 0.563 7.50	8.44 0.20 <100 323 18.8 1.79 68.7 0.652 0.563 7.30
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm pH unit C	V (gal / ft) YSI 556 & 8:50 6.91 0 <100 294 23.8 2.39 73.1 0.636 0.523 7.36 15.68	0.041 Lamotte 202 0.55 7.23 0.05 <100 268 19.5 1.93 78.5 0.638 0.527 7.32 15.87	0.163 0 Turbidity 7.57 0.10 < 100 271 1.64 92.2 0.643 0.545 7.32 1.64	Meter. 2.0 Readings 9:05 7.83 0.15 4.100 2.57 18.2 1.75 92.9 0.654 0.556 7.34 17.21	9:16 8.81 0.15 <100 793 19.2 1.89 85.6 0.617 0.508 7.35 17.27	9:15 8:89 0.17 <100 5(3 24.1 2.30 74.7 0.653 0.563	8.44 0.20 <100 323 18.8 1.79 68.7 0.652 0.563 7.30 17.86
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5) Color	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm° mS/cm pH unit	V (gal / ft) YSI 556 & 8:50 6.91 0 <100 294 23.8 2.39 73.1 0.636 0.523 7.36 15.68 Clear	0.041 Lamotte 202 0.05 7.23 0.05 <100 268 19.5 1.93 78.5 0.638 0.527 7.32 15.87 Clear	0.163 0 Turbidity 9:00 7.57 0.10 < 100 271 1.64 92.2 0.643 0.545 7.32 16.64 clecr	Meter. 210 Readings 9:05 7.83 0.15 <100 257 18.2 1.75 92.9 0.654 0.556 7.34 17.21 clear	9:10 8.81 0.15 <100 793 19.2 1.89 85.6 0.617 0.508 7.35	9:15 8:89 0.17 <100 513 24.1 2.30 74.7 0.653 0.563 7.50 17.74	8.44 0.20 <100 323 18.8 1.79 68.7 0.652 0.563 7.30
Water Quality Readings Collect Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5) Color Odor Comments:	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm pH unit C Visual Olfactory	V (gal / ft) YSI 556 & 8:50 6.91 0 <100 294 23.8 2.39 73.1 0.636 0.523 7.36 15.68 c.lear No	0.041 Lamotte 202 0.05 7.23 0.05 <100 268 19.5 1.93 78.5 0.638 0.527 7.32 15.87 Clear No	0.163 0.163 0 Turbidity 9:00 7.57 0.10 <100 271 1.64 92.2 0.643 0.545 7.32 16.64 Clecr No	Meter. 210 Readings 9:05 7.83 0.15 <100 257 18.2 1.75 92.9 0.654 0.556 7.34 17.21 clear 32	9:16 8.81 0.15 <100 793 19.2 1.89 85.6 0.617 0.508 7.35 17.87 <1.27 <1.27	9:15 8:89 0.17 <100 513 24.1 2.30 74.7 0.653 0.563 7.50 17.74 c. 17.74	8.44 0.20 <100 323 18.8 1.79 68.7 0.652 0.563 7.30 17.86 <10.652
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5) Color Odor	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm pH unit C Visual Olfactory	V (gal / ft) YSI 556 & 8:50 6.91 0 <100 294 23.8 2.39 73.1 0.636 0.523 7.36 15.68 c.lear No	0.041 Lamotte 202 0.05 7.23 0.05 <100 268 19.5 1.93 78.5 0.638 0.527 7.32 15.87 Clear	0.163 0.163 0 Turbidity 9:00 7.57 0.10 <100 271 1.64 92.2 0.643 0.545 7.32 16.64 Clecr No	Meter. 210 Readings 9:05 7.83 0.15 <100 257 18.2 1.75 92.9 0.654 0.556 7.34 17.21 clear	9:16 8.81 0.15 <100 793 19.2 1.89 85.6 0.617 0.508 7.35 17.87 <1.27 <1.27	9:15 8:89 0.17 <100 513 24.1 2.30 74.7 0.653 0.563 7.50 17.74 c. 17.74	8.44 0.20 <100 323 18.8 1.79 68.7 0.652 0.563 7.30 17.86 <10.652

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Project Name and Number:		morne .	ven i urgin	g/Sampin	ng Form		
		-	ard Pro				
Monitoring Well Number:		MW-	IR	Date:	08/13	14	
Samplers:		Ro	ss MEC	-cd.7/	I chris	Tone	in
Sample Number:		MW-I	2081314	QA/Q0	C Collected?		
Purging / Sampling Method:		G	hrundfos	i de	dicated	Tubin	9
1. L = Total Well Depth:					feet	D (inches)	D (feet)
2. D = Riser Diameter (I.D.):				0.17	feet	1-inch	0.08
3. $W = $ Static Depth to Water (1				6.05	feet	2-inch	0.03
4. $C = Column of Water in Casi$				0,05	feet	3-inch	0.25
5. V = Volume of Water in Wel	÷	$(0.50)^2 (7.7)^2$	18)		-	4-inch	
		*)(0.5D) (7.4	+0)	-	-gal foot		0.33 0.50
6. $D2 = Pump$ Setting Depth (ft) .		-	feet	6-inch	0.30
7. $C2 = Column of water in Pure7. C2 = Column of water in Pure$):			feet		
8. Tubing Volume = $C2(0.0057)$	57088)				_gal		
				C		G	
			Conversion		termine V ai	vení	
			Conversion	factors to de	etermine V gi	ven C	
		D (inches)	-			0	6-inch
		$\frac{D \text{ (inches)}}{V \text{ (gal / ft)}}$ $\frac{1}{\sqrt{51}} 5$	Conversion 1-inch 0.041 56 & 210	2-inch 0.163	3-inch 0.37 rbidinete	4-inch 0.65	6-inch 1.5
Water Quality Readings Collect Parameter	Units	V (gal / ft) YSI 5.	1-inch 0.041 56 & 210	2-inch 0.163	3-inch 0.37	4-inch 0.65	
Parameter Time	Units 24 hr	V (gal / ft) YST 5. 9:25	1-inch 0.041 56 & 210 9:30	2-inch 0.163	3-inch 0.37 rbidinete	4-inch 0.65	
Parameter Time Water Level (0.33)	Units 24 hr feet	V (gal / ft) YSI 5. 9:25 1.05	1-inch 0.041 56 & 210 9:35 9.20	2-inch 0.163	3-inch 0.37 rbidinete	4-inch 0.65	
Parameter Time Water Level (0.33) Volume Purged	Units 24 hr feet gal	V (gal / ft) V 51 5. 1:25 1.05 0.50	1-inch 0.041 56 & 210 9:30 9.20 0.60	2-inch 0.163	3-inch 0.37 rbidinete	4-inch 0.65	
Parameter Time Water Level (0.33) Volume Purged Flow Rate	Units 24 hr feet gal mL / min	V (gal / ft) V 51 5. 9:25 9:25 9:55 0.50 <100	1-inch 0.041 56 & 210 9:30 9:20 0.60 <100	2-inch 0.163	3-inch 0.37 rbidinete	4-inch 0.65	
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%)	Units 24 hr feet gal mL/min NTU	V (gal / ft) V 51 5. 9:25 9:25 9:25 9:55 0.50 <100 310	1-inch 0.041 56 & 210 9:30 9:20 0.60 2.10 2.67	2-inch 0.163	3-inch 0.37 rbidinete	4-inch 0.65	
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%)	Units 24 hr feet gal mL / min NTU %	V (gal / ft) V 52 5. 9:25 9	1-inch 0.041 56 & 210 9:30 9:20 0.60 2.10 2.67 17.0	2-inch 0.163	3-inch 0.37 rbidinete	4-inch 0.65	
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%)	Units 24 hr feet gal mL / min NTU % mg/L	V (gal / ft) V (gal / ft) VSI 5. 9:28 9.05 0.50 <100 310 18.0 1.70	1-inch 0.041 56 & 210 9:35 9:20 0.60 2.10 2.67 1.7.0 1.65	2-inch 0.163	3-inch 0.37 rbidinete	4-inch 0.65	
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10)	Units 24 hr feet gal mL / min NTU % mg/L MeV	V (gal / ft) V (gal / ft) VSL 5. 9:25 9:05 0.50 <100 310 18.0 1.70 67.3	1-inch 0.041 56 & 210 9:35 9.20 0.60 2.67 17.0 1.65 67.3	2-inch 0.163	3-inch 0.37 rbidinete	4-inch 0.65	
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c	V (gal / ft) V (gal / ft) VSI 5. 9.05 0.50 <100 310 18.0 1.70 67.3 0.650	1-inch 0.041 56 & 210 9:30 9:30 9:20 0.60 2.10 2.67 1.65 67.3 0.647	2-inch 0.163	3-inch 0.37 rbidinete	4-inch 0.65	
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm	V (gal / ft) V (gal / ft) VSI 5. 9.55 0.50 <100 1.70 67.3 0.650 0.563	1-inch 0.041 56 & 210 9:35 9.20 0.60 2.105 2.67 1.65 6.7.3 0.647 0.563	2-inch 0.163	3-inch 0.37 rbidinete	4-inch 0.65	
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm pH unit	V (gal / ft) V (gal / ft) V51 5. 9.55 0.50 <100 310 18.0 1.70 67.3 0.650 0.563 7.29	1-inch 0.041 56 & 210 9:30 9.20 0.60 2.10 2.67 1.65 67.3 0.647 0.563 7.31	2-inch 0.163	3-inch 0.37 rbidinete	4-inch 0.65	
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm pH unit C	V (gal / ft) V (gal / ft) VSI 5. 9:25	1-inch 0.041 56 & 210 9:35 9.20 0.60 2.100 2.67 1.7.0 1.65 67.3 0.647 0.563 7.31 1.8.10	2-inch 0.163	3-inch 0.37 rbidinete	4-inch 0.65	
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm pH unit	V (gal / ft) V (gal / ft) VSI 5. 9:25	1-inch 0.041 56 & 210 9:30 9.20 0.60 2.10 2.67 1.65 67.3 0.647 0.563 7.31	2-inch 0.163	3-inch 0.37 rbidinete	4-inch 0.65	

Monitoring Well Number: Samplers: Sample Number: Purging / Sampling Method: 1. L = Total Well Depth: 2. D = Riser Diameter (I.D.):		MW-4 Chris Frencl			8			
Sample Number: Purging / Sampling Method: 1. L = Total Well Depth: 2. D = Riser Diameter (I.D.):		Chris French		Date:	August	, 2014		
Purging / Sampling Method: 1. L = Total Well Depth: 2. D = Riser Diameter (I.D.):			h & Ross Mo	Credy				
 L = Total Well Depth: D = Riser Diameter (I.D.): 		MW-4081	114	QA/Q	C Collected?	-		
2. D = Riser Diameter (I.D.):		Grundfos or	Peristaltic P	ump with de	edicated tubin	g/Low Flow		
 W = Static Depth to Water (Tell C = Column of Water in Casin V = Volume of Water in Well D2 = Pump Setting Depth (ft) C2 = Column of water in Pum Tubing Volume = C2(0.00573) 	ng: l = C(3.14159 : p/Tubing (ft			0,17 <u>8</u> .22	feet feet feet gal feet feet gal	D (inches) 1-inch 2-inch 3-inch 4-inch 6-inch	D (feet) 0.08 0.17 0.25 0.33 0.50]
		D (inches) V (gal / ft)	1-inch 0.041	2-inch 0.163	etermine V gi 3-inch 0.37	4-inch 0.65	6-inch 1.5	1
Water Quality Readings Collecte	ed Using	YSI 556 &-	Lamotte 202	0 Turbidity	Meter 210	OP This	bidimete	r
		YSI 556 &-	Lamotte 202	0 Turbidity	Mctor 2/0	op Twin	bidimete	r
Parameter	ed Using Units 24 hr				Meter 2/0 Readings	14:09		
Parameter Time	Units	12:49	13:54	13:59	Metor 2/0 Readings 14:₀4	14:09	14:14	r 19:10 10.3
Parameter Time Water Level (0.33)	Units 24 hr	12:49 B.81	13:54 9.11	13:59 9.37	Meter 2/0 Readings	14:09 9.92	14:14	19:19
Parameter Time Water Level (0.33) Volume Purged	Units 24 hr feet	12:49 9:81 N/A	13:54 9.11 0.2	13:59 9.37 0.25	Meter 2/0 Readings 14:64 9.70 ←10 6.3	14:09 9.92	14:14 10.18 0.5	19:19
Water Quality Readings Collecte Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%)	Units 24 hr feet gal	12:49 9.81 N/A <00 286	13:54 9.11	13:59 9.37	Meter 2/0 Readings 14:64 9.70 ←+0 0.3 <100	14:09 9.92 0.36.	14:14 10.18 0.5 2100 91.5	19:1° 10.3 0.6
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%)	Units 24 hr feet gal mL / min	12:49 9:81 N/A	13:54 9.11 0.2 2100 169 3.0	13:59 9.37 0.25 2100 175	Meter 2/0 Readings 14:64 9.70 ←10 6.3	19:09 9.92 0.36. 2100 115	14:14 10.18 0.5 2100 91.5 3.9	19:19 10.3 0.6 <10
Parameter Time Water Level (0.33) Volume Purged Flow Rate	Units 24 hr feet gal mL / min NTU	13:49 9.81 N/A <100 286 6.4	13:54 9.11 0.2 2100 169	13:59 9.37 0.25 2100	Metor 2/0 Readings 14:64 9.70 ←+0 0.3 <100 1.30 3.8	14:09 9.92 0.36. 2100 115 3.9	14:14 10.18 0.5 2100 91.5 3.9	19:19 10.3 0.6 <10 56.
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%)	Units 24 hr feet gal mL / min NTU %	13:49 9.81 N/A <100 286 6.4 0.64 -96	13:54 9.11 0.2 2100 169 3.0	13:59 9.37 0.25 2100 175 3.4	Meter 2/0 Readings 14:64 9.70 ←+0 0.3 <100	19:09 9.92 0.36. 2100 115	14:14 10.18 0.5 2100 91.5 3.9	19:19 10.3 0.6 <10 56. 4.1
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10)	Units 24 hr feet gal mL / min NTU % mg/L MeV	13:49 9.81 N/A <100 286 6.4 0.64	13:54 9.11 0.2 100 169 3.0 0.27 -97.2	13:59 9.37 0.25 2100 175 3.4 0.32 -79.5	Meter 2/0 Readings 14: 64 9.70 ←to c.3 <100 1.30 3.8 6.36 -71.7	14:09 9.92 0.36. <100 115 3.9 0.36 -73	14:14 10.18 0.5 2100 91.5 3.9 6.36 -67.9	19:10 10.3 0.6 <10 56. 4.1 0.37 -62
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c	12:49 9.81 N/A 00<br 286 6.4 0.64 -96 0.544	13:54 9.11 0.2 2100 169 3.0 0.27 -97.2 0.537	13:59 9.37 0.25 2100 175 3.4 0.32 -77,5 0,529	Meter 2/0 Readings 14: 64 9.70 ←to 0.3 <100 1.30 3.8 0.36 ~71.7 0.524	14:09 9.92 0.36. <100 115 3.9 0.36 -73 0.522	14:14 10.18 0.5 2100 91.5 3.9 0.36 -67.9 0.521	19:19 10.3 0.6 210 56: 4.1 0.37 - 62 0.51
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm	12:49 9.81 N/A 00<br 286 6.4 0.64 -96 0.544 0.544	13:54 9.11 0.2 2100 169 3.0 0.27 -97.7 0.537 0.444	13:59 9.37 0.25 2100 175 3.4 0.32 -77.5 0.529 0.450	Meter 2/0 Readings 14:64 9.70 ←to 0.3 <100 130 3.8 0.36 ~71.7 0.524 0.955	14:09 9.92 0.36. <100 115 3.9 0.36 -73 0.522 0.43	14:14 10.18 0.5 2100 91.5 3.7 0.36 -67.7 0.521 0.466	19:19 10.3 0.6 210 56: 4.1 0.37 - 62 0.51 0.41
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm° mS/cm pH unit	12:49 9.81 N/A <000 286 6.4 0.64 -96 0.544 0.544 0.494 7.27	13:54 9.11 0.2 2100 169 3.0 0.27 -97.2 0.537 0.444 7.21	13:59 9.37 0.25 2100 175 3.4 0.32 -77,5 0,529 0.450 7.23	Meter 2/0 Readings 14:64 9.70 ←to 0.3 <100 1.30 3.8 0.36 ~71.7 0.524 0.955 7.26	19:09 9.92 0.36. <100 115 3.9 0.36 -73 0.522 0.463 7.26	14:14 10.18 0.5 2100 91.5 3.7 0.36 -67.7 0.521 0.466 7.28	19:19 10.3 0.6 <10 56: 4.1 0.37 -62 0.51 0.41 7.27
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm	12:49 9.81 N/A 00<br 286 6.4 0.64 -96 0.544 0.544	13:54 9.11 0.2 2100 169 3.0 0.27 -97.7 0.537 0.444	13:59 9.37 0.25 2100 175 3.4 0.32 -77.5 0.529 0.450	Meter 2/0 Readings 14:64 9.70 ←to 0.3 <100 130 3.8 0.36 ~71.7 0.524 0.955	14:09 9.92 0.36. <100 115 3.9 0.36 -73 0.522 0.43	14:14 10.18 0.5 2100 91.5 3.7 0.36 -67.7 0.521 0.466	19:19 10.3 0.6 210 56: 4.1 0.37 - 62 0.51 0.41

		Ward Produ	icts	60322038	3			
Monitoring Well Number:		MW-4R		_ Date:	August	, 2014		
Samplers:		Chris Frenc	h & Ross M	cCredy	1			
Sample Number:		MW-4R 08	31114	QA/Q	C Collected?	_ Du	P-1	
Purging / Sampling Method:		Grundfos or	r Peristaltic	Pump with de	edicated tubi	ng/Low Flow	/	
L = Total Well Depth:					feet	D (inches)	D (feet)	1
D = Riser Diameter (I.D.):				6.17	feet	1-inch	0.08	
W = Static Depth to Water (TOC)			20.99	-	2-tnch	0.08	
C = Column of Water in Ca					feet	3-inch	0.25	
V = Volume of Water in Water	-	<i>م جن²נ</i> ת 5 ۵)	18)		T	4-inch	0.33	
0. V = Volume of Water in Wo $0. D2 = Pump Setting Depth (1)$	``	אן (ע ניט) (1.4	10)	-	-gal feet	4-inch 6-inch	0.33	
$C_2 = Column of water in Put$		·)•		-	feet		0.50	1
Tubing Volume = $C2(0.005)$.).			gal			
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				- 84			
			Conversion	n factors to de	etermine V g	iven C		
						,		
		D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch	1
		D (inches) V (gal / ft)	1-inch 0.041	2-inch (0.163)	3-inch 0.37	4-inch 0.65	6-inch	1
		D (inches) V (gal / ft)	1-inch 0.041	2-inch (0.163)	0.37	0.65	1.5]
Water Quality Readings Colle	cted Using	V (gal / ft)	0.041		0.37	0.65	and the second se]
Water Quality Readings Colle	cted Using	V (gal / ft)	0.041	(0.163)	0.37	0.65	1.5]
Water Quality Readings Colle Parameter	cted Using	V (gal / ft)	0.041	(0.163) 20 Turbidity	0.37	0.65	1.5 relineter	
Parameter	Units 24 hr	V (gal / ft)	0.041	(0.163) 20 Turbidity (3:45	0.37 Meter 2/4	0.65	1.5	14:05
Parameter Fime Water Level (0.33)	Units 24 hr feet	V (gal / ft) YSI 556 &	0.041	(0.163) 20 Turbidity	0.37 Meter 2/4 Readings	0.65 00P Turl	1.5 relineter	
Parameter Fime Water Level (0.33) Volume Purged	Units 24 hr feet gal	V (gal / ft) YSI 556 & /3:35 20.99 6	0.041 Lamotto 20: 13:40 22:47 .10	(0.163) 20 Turbidity (3:45	0.37 Motor 2/4 Readings	0.65 00P 7~1 13:55 22.46 ,35	1.5 1.5 14:00 22.46 .40	14:05
Parameter Fime Water Level (0.33) Volume Purged Flow Rate	Units 24 hr feet gal mL / min	V (gal / ft) YSI 556 & /3:35 20.99	0.041 Lamotte 20: 13:40 22.47	(0.163) 20 Turbidity 22 42 22 42 20 20 20	0.37 Motor 2/4 Readings 13:50 22.46 .30 ~100	0.65 00P Turk 13:55 22.46	1.5 relineter 14:00 22.46	14:05 22.48
Parameter Fime Water Level (0.33) Volume Purged Flow Rate Furbidity (+/- 10%)	Units 24 hr feet gal mL / min NTU	V (gal / ft) YSI 556 & 13:35 20.99 0 <100 Limit	0.041 Lamotto 20: 13:40 22.47 .10 < 100 < 100 Limit	(0.163) 20 Turbidity 13:45 22.42 .20	0.37 Motor 2/4 Readings 13:50 22.46 .30	0.65 00 P Turk 13:55 22.46 ,35 <100	1.5 1.5 1.4:00 22.46 .40 21.00 12.41	14:05 22.48 242
Parameter Fime Water Level (0.33) Volume Purged Flow Rate Furbidity (+/- 10%) Dissolved Oxygen (+/- 10%)	Units 24 hr feet gal mL / min	V (gal / ft) <u>YSI 556 &</u> <u>13:35</u> <u>20.99</u> <u>0</u> <u><100</u> <u>Limit</u> <u>14.5</u>	0.041 Lamotte 20 13:40 22.47 .10 <100 L5-00t 2.4	(0.163) 20 Turbidity 22 42 22 42 20 20 20	0.37 Motor 2/4 Readings 13:50 22.46 .30 ~100	0.65 00P 7~1 13:55 22.46 ,35	1.5 1.5 1.5 1.5 1.5 1.5 2.2.46 .40 2.2.46 .40 2.100 1.2.1 2.7	14:05 22.48 .42 <100
Parameter Fime Water Level (0.33) Volume Purged Flow Rate Furbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%)	Units 24 hr feet gal mL / min NTU	V (gal / ft) <u>YSI 556 &</u> <u>13:35</u> 20.99 0 <loo Limit 14.5 1.57</loo 	0.041 Lamotte 20 13:40 22.47 .10 <100 <100 Limit 2.4 0.25	(0.163) 20 Turbidity 22 Hz 22 Hz 20 20 8 Ho	0.37 Motor 2/4 Readings 13:50 22.46 .30 2100 777	0.65 00 P Turk 13:55 22.46 ,35 <100 174 2.2 0.22	1.5 1.5 1.5 1.5 1.5 1.5 2.2.46 .40 2.2.46 .40 2.100 1.2.1 2.7 0.26	14:05 22:48 ,42 <100 77.0 3.0 0.32
Parameter Fime Water Level (0.33) Volume Purged Flow Rate Furbidity (+/- 10%) Dissolved Oxygen (+/- 10%)	Units 24 hr feet gal mL / min NTU %	V (gal / ft) <u>YSI 556 &</u> <u>13:35</u> <u>20.99</u> <u>0</u> <u><100</u> <u>Limit</u> <u>14.5</u>	0.041 Lamotte 20 13:40 22.47 .10 <100 L5-00t 2.4	(0.163) 20 Turbidity 22 Hz 22 Hz 22 Hz 20 8 Ho 15	0.37 Motor 2/4 Readings 13:50 22.46 .30 2100 777 1.7	0.65 00 P Turk 13:55 22.46 ,35 <100 174 2.2 0.22	1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5	14:05 22:48 ,42 <100 77.0 3.0
Parameter Fime Water Level (0.33) Volume Purged Flow Rate Furbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%)	Units 24 hr feet gal mL / min NTU % mg/L MeV	V (gal / ft) <u>YSI 556 &</u> <u>13:35</u> 20.99 0 <loo Limit 14.5 1.57</loo 	0.041 Lamotto 20 13:40 22.47 .10 <100 Limit 2.4 0.25 -37.5	(0.163) 20 Turbidity 22 Turbidity 22 4:2 .20 2 100 8:40 1 5 0.15 -20.4	0.37 Motor 2/4 Readings 13:50 22.46 .30 2100 777 1.7 0.7	0.65 00 P Turl 13:55 22.46 ,35 <100 174 2.2	1.5 1.5 1.5 1.5 1.5 1.5 2.2.46 .40 2.2.46 .40 2.100 1.2.1 2.7 0.26	14:05 22:48 ,42 <100 77.0 3.0 0.32 25.2
Parameter Fime Water Level (0.33) Volume Purged Flow Rate Furbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10)	Units 24 hr feet gal mL / min NTU % mg/L	V (gal / ft) YSI 556 & 13:35 20.99 0 cloo Limit 14.5 1.57 Bloi 1.452	0.041 Lamotte 20 13:40 22.47 .10 <100 <100 Limit 2.4 0.25	(0.163) 20 Turbidity 22 Turbidity 22.42 .22 2.100 B-40 1.5 0.15 -20.4 1.690	0.37 Motor 2/4 Readings 13:50 22.46 .30 21.00 777 1.7 0.(7) -15.3	0.65 00 P Tur 13:55 22.46 ,35 5 174 2.2 0.22 + 28.6	1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5	14:05 22:48 ,42 <100 77.0 3.0 0.32
Parameter Fime Water Level (0.33) Volume Purged Flow Rate Furbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm	V (gal / ft) YSI 556 & 13:35 20.99 0 13:35 20.99 0 13:35 20.99 0 14.5 1.57 B(0.1) 1.452 1.445	0.041 Lamotto 20: 13:40 22:47 .10 <100 <100 L5-05 L5-05 L5-05 1.669 1.314	(0.163) 20 Turbidity 22 Turbidity 22.42 120 840 1.5 0.15 -20.4 1.690 1.341	0.37 Motor 2/4 Readings 13:50 22.46 .30 21.00 777 1.7 0.(7) -15.3 1.675 1.332	0.65 00 P Tur 13:55 22.46 ,35 <100 174 2.2 0.22 + 28.6 1.509 1.247	1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5	14:05 22:48 ,42 <100 77.0 3.0 0.32 25.2 1.465 1.220
Parameter Fime Water Level (0.33) Volume Purged Flow Rate Furbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c	V (gal / ft) YSI 556 & 13:35 20.99 0 20.99 0 2.100 Limit 14.5 1.57 Bloi 1.452 1.445 7.22	0.041 Lamotto 20: 13:40 22:47 .10 <100 <100 Limit 2.4 0.25 -37.5 1.669 1.319 6.44	(0.163) 20 Turbidity 22 Turbidity 22 42 .20 242 .20 8 40 1 5 0.15 -20.4 1.690 1.341 6.49	0.37 Motor 2/4 Readings 13:50 22.46 .30 2100 777 1.7 0.(7 -15.3 1.675 1.332 6.57	0.65 00 P Turk 13:55 22.46 ,35 <100 174 2.2 0.22 + 28.6 1.509 1.247 6.87	1.5 1.5 1.4:00 22.46 .40 21.00 12.1 2.7 0.26 25.4 1.465 1.218 6.92	14:05 22.48 ,42 <100 77.0 3.0 0.32 25.2 1.465 1.220 6.97
Parameter Fime Water Level (0.33) Volume Purged Flow Rate Furbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) DH (+/- 0.1)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm° mS/cm pH unit C	V (gal / ft) YSI 556 & 13:35 20.99 0 20.99 0 2.100 Limit 14.5 1.57 86.1 1.452 1.445 7.22 13.35	0.041 Lamotto 20: 13:40 22.47 .10 <100 <100 Limit 2.4 0.25 -37.5 1.669 1.314 6.44 14.13	(0.163) 20 Turbidity 22 Turbidity 22 42 .20 8 40 1 5 0.15 -20.4 1.690 1.341 6.49 1.4.24	0.37 Motor 2/4 Readings 13:50 22.46 .30 21.00 777 1.7 0.(7 -15.3 1.675 1.332 6.57 14.29	0.65 0P 7~1 13:55 22.46 ,35 <100 174 2.2 0.22 +28.6 1.509 1.247 6.87 15.87	1.5 1.5 1.4:00 22.46 .40 21.00 12.4 2.7 0.26 25.4 1.465 1.218 6.92 16.15	14:05 22:48 ,42 <100 77.0 3.0 0.52 25.2 1.465 1.220 (.97 16.56
Parameter Fime Water Level (0.33) Volume Purged Flow Rate Furbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) H (+/- 0.1) Femp (+/- 0.5)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm pH unit	V (gal / ft) YSI 556 & 13:35 20.99 0 20.99 0 2.100 Limit 14.5 1.57 Bloi 1.452 1.445 7.22	0.041 Lamotto 20: 13:40 22:47 .10 <100 <100 Limit 2.4 0.25 -37.5 1.669 1.319 6.44	(0.163) 20 Turbidity 22 Turbidity 22 42 .20 242 .20 8 40 1 5 0.15 -20.4 1.690 1.341 6.49	0.37 Motor 2/4 Readings 13:50 22.46 .30 2100 777 1.7 0.(7 -15.3 1.675 1.332 6.57	0.65 00 P Turk 13:55 22.46 ,35 <100 174 2.2 0.22 + 28.6 1.509 1.247 6.87	1.5 1.5 1.4:00 22.46 .40 21.00 12.1 2.7 0.26 25.4 1.465 1.218 6.92	14:05 22.48 ,42 <100 77.0 3.0 0.32 25.2 1.465 1.220 6.97

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

			cts	60322038				
Samplers: Sample Number:		<u>MW-10</u>		_ Date:	August	2,2014		
Sample Number:		Chris Frenc	h & Ross Mo	cCredy				_
		MW-10 08	1214	QA/QO	C Collected?			
Purging / Sampling Method:		Grundfos or	Peristaltic P	ump with de	dicated tubir	ng/Low Flow		
1. L = Total Well Depth:					feet	D (inches)	D (feet)	1
2. D = Riser Diameter (I.D.):				0.17	feet	1-inch	0.08	1
3. $W = $ Static Depth to Water (TOC):			25.76	10000	2-inch	0.17	
4. $C = Column of Water in Cas$					feet	3-inch	0.25	1
5. V = Volume of Water in We	•	$(0.5D)^{2}(7.4)$	8)		- gal	4-inch	0.33	1
6. $D2 = Pump$ Setting Depth (f			-/		feet	6-inch	0.50	
7. $C2 = Column of water in Put$	·	t):		1	feet			
8. Tubing Volume = $C2(0.0057)$				-	gal			
			Conversion	factors to de	etermine V g	iven C		
		D (inchee)	1-inch	2-inch	3_inch	4-inch	6-inch	1
		D (inches) V (gal / ft) YSI 556 &	1-inch 0.041 Lamotte 202	2-inch 0.163	a shale	4-inch 0.65 OP Turb	6-inch 1.5 chimeter]
Parameter	Units	V (gal / ft) YSI 556 &	0.041 Lamotte 202	0.163	0.37 Moter 210 Readings	0.65 0P Turbi	1.5 dimeter	14:20
Parameter Time	Units 24 hr	V (gal / ft) YSI 556 &	0.041	0.163	0.37 Moter 210 Readings	0.65 0P Turbi 14:10	1.5 dimeter] 14:20 21.43
Parameter Time Water Level (0.33)	Units 24 hr feet	V (gal / ft) YSI 556 & 13:56 26.12	0.041 Lamotte 202	0.163	0.37 Moter 210 Readings 14:05 26.25	0.65 0 P Turbi 14:10 26.35	1.5 dimeter 14:15 26.40	26.43
Parameter Time Water Level (0.33) Volume Purged	Units 24 hr feet gal	V (gal / ft) YSI 556 &	0.041 Lamotte 202 13:55 26.00 0.13	0.163	0.37 Moter 210 Readings	0.65 0P Turbi 14:10	1.5 dimeter 14:15 26.40 0.50	26.43
Parameter Time Water Level (0.33) Volume Purged Flow Rate	Units 24 hr feet	V (gal / ft) YSI 556 & 13:56 26.12 0	0.041 Lamotte 202	0.163	0.37 Moter 210 Readings 14:05 26.25 0.20	0.65 0P Turbi 26.35 0.25 <100	1.5 dimeter 14:15 26.40	26.43
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%)	Units 24 hr feet gal mL / min	V (gal / ft) YSI 556 & 13:56 26.12 o < 100	0.041 Lamotte 202 13:55 26.00 0.13 < 105	0.163	0.37 Moter 210 Readings 14:05 26.25 0.20 <600	0.65 0P Turbi 14:10 26.35 0.25	1.5 dimeter 14:15 26.40 0.50 Esc	24.43 0.32 2100 74.4
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%)	Units 24 hr feet gal mL / min NTU	V (gal / ft) YSI 556 & 26.12 o < 100 203	0.041 Lamotte 202 13:55 26.00 0.13 < 106 175	0.163 0 Turbidity I 14100 2.6.08 0.15 C/00 133 L.5 0.25	0.37 Noter 210 Readings 14:05 26.25 0.20 <136 2-3 0.22	0.65 0 P Turbe 26.35 0.25 <100 91.0	1.5 dimeter 14:15 26.40 0.50 E30 84.8 2.6 0.26	26.43 0.32 2100
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%)	Units 24 hr feet gal mL/min NTU %	V (gal / ft) YSI 556 & 13:56 26.12 0 < 100 203 H.3	0.041 Lamotte 202 13:55 26.00 0.13 <105 1.7 1.7	0.163 0 Turbidity I 14100 1600 0.15 6.00 133 2.5	0.37 Acter 210 Readings 14:05 26.25 0.20 <10 136 2.3	0.65 0 P Turbi 26.37 0.25 <100 91.0 2.6	1.5 dimeter 14:15 26.40 0.30 Cion 84.9 2.6	26.43 0.32 2100 74.4 2.8
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10)	Units 24 hr feet gal mL/min NTU % mg/L	V (gal / ft) YSI 556 & 26.12 0 < 100 203 4.3 0.45 97.8	0.041 Lamotte 202 13:55 26.00 0.13 <105 1.7 1.7 0.18	0.163 0.163 0.163 0.163 0.16 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.25 90.5	0.37 Noter 210 Readings 14:05 26.25 0.20 5	0.65 0 P Turbi 26.37 0.25 <100 91.0 2.6 0.20	1.5 dimeter 14:15 26.40 0.50 (10 84.8 2.6 0.26 92.7	26.43 0.32 2100 74.4 2.8 0.28 90.2
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm	V (gal / ft) YSI 556 & 26.12 0 < 100 203 H.3 0.45 97.8 0.705 6.554	0.041 Lamotte 202 13:55 26.00 0.13 <105 1.7 0.18 103.6 0.704 0.564	0.163 0.163 0.163 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.5 0.25 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.	0.37 Readings 14ios 26.25 0.20 <10 136 2.3 0.12 99.5 0.705 0.581	0.65 0 P Turbi 26.37 0.25 <100 91.0 2.6 0.20 91.6 0.20 91.6 0.20 91.6 0.20 91.0 0.569	1.5 dimeter 14:15 26.40 0.50 2.0 84.8 2.6 0.26 92.7 0.700 0.570	24.43 0.32 2400 74.4 2.8 90.2 90.2 0.698 0.576
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm pH unit	V (gal / ft) YSI 556 & 26.12 0 < 100 203 H.3 0.45 97.8 0.705 6.554 6.47	0.041 Lamotte 202 13:55 26.00 0.13 <105 1.7 0.18 103.6 0.704 0.564 6.55	0.163 0 Turbidity J 1.6.08 0.15 0.15 0.15 0.15 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.	0.37 Readings 14ios 26.25 0.20 56 23 0.20 56 2.3 0.20 57 0.20 53 0.25 0.25 0.25 0.25 0.25 0.20 53 0.20 0.25 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.	0.65 0 P Turbi 26.31 0.25 <100 91.0 2.6 0.20 91.6 0.20 91.0 2.6 0.20 91.0 2.6 0.701 0.569 6.79	1.5 dimeter 14:15 26.40 0.50 210 84.8 2.6 0.26 92.7 0.700 0.570 6.75	26.43 0.32 2400 74.4 2.8 0.28 90.2 0.698 0.576 6.83
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm pH unit C	V (gal / ft) YSI 556 & 26.12 0 < 100 203 H.3 0.45 97.8 0.705 0.554 6.47 13.75	0.041 Lamotte 202 13:55 26.00 0.13 <105 1.7 0.18 103.6 0.704 0.564 6.55 14.59	0.163 0.163 0.15 0.15 0.15 0.15 0.15 0.5 0.70 0.5 76 0.70 15.46	0.37 Readings 14:05 26.25 0.20 56 2.3 0.22 94.5 0.22 94.5 0.531 6.85 15.86	0.65 0 P Turbi 26.35 0.25 <100 91.0 2.6 0.26 0.26 0.26 0.26 0.26 0.26 0.26 0.701 0.569 6.79 15.12	1.5 dimeter 14:15 26.40 0.50 210 84.8 2.6 0.26 92.7 0.700 0.570 6.75 15.33	26.43 0.32 2400 74.4 2.8 0.28 90.2 0.576 6.83 15.83
Water Quality Readings Collec Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5) Color Odor	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm pH unit	V (gal / ft) YSI 556 & 26.12 0 < 100 203 H.3 0.45 97.8 0.705 6.554 6.47	0.041 Lamotte 202 13:55 26.00 0.13 <105 1.7 0.18 103.6 0.704 0.564 6.55	0.163 0 Turbidity J 1.6.08 0.15 0.15 0.15 0.15 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.	0.37 Readings 14ios 26.25 0.20 56 136 2.3 0.12 99.5 0.581 6.85	0.65 0 P Turbi 26.31 0.25 <100 91.0 2.6 0.20 91.6 0.20 91.0 2.6 0.20 91.0 2.6 0.701 0.569 6.79	1.5 dimeter 14:15 26.40 0.50 210 84.8 2.6 0.26 92.7 0.700 0.570 6.75	26.43 0.32 2400 74.4 2.8 0.28 90.2 0.698 0.576 6.83

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Project Name and Number: Monitoring Well Number: Samplers: Sample Number:		Ward Produ MW-11	icts	6032203	5			
Samplers: Sample Number:								
Sample Number:				- Date:	August	, 2014		
		Chris Frenc	h & Ross Mo	Credy				
		MW-1108	որմ	QA/Q	C Collected?			
Purging / Sampling Method:		Grundfos or	Peristaltic P	ump with de	edicated tubi	ng/Low Flov	V	
I. L = Total Well Depth:					feet	D (inches) D (feet)	1
 2. D = Riser Diameter (I.D.): 3. W = Static Depth to Water (To 				0.17	feet feet	1-inch 2-inch	0.08 0.17	
4. $C = Column of Water in Casin$	-	$(0.6D)^{2}(7.4)$	0)		_ feet	3-inch	0.25	
5. $V = Volume of Water in Well$ 5. $D2 = Pump Setting Depth (ft)$		y(U.SD) (7.4	·ð)		-gal feet	4-inch 6-inch	0.33 0.50	
7. $C2 = Column of water in Pum$		·			feet	0-men	0.50	1
8. Tubing Volume = $C2(0.00573)$					gal			
	57000)				- ^B "			
			Conversion	factors to d	etermine V g	iven C		
		D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch	
Vater Quality Readings Collecte	ed Using	D (inches) V (gal / ft) YSI 556 &	1-inch 0.041 Lamotte 202	2-inch 0.163	3-inch 0.37 Moter 2/0	4-inch 0.65 0P Turb	6-inch 1.5 idimeter]
Parameter	Units	V (gal / ft) YSI 556 &	0.041	0.163 O Tarbidity	0.37 Meter 2/0 Readings	0.65 0P Turb	1.5 idimeter	
Parameter	Units 24 hr	V (gal / ft) YSI 556 & ¶:10	0.041	0.163 0 Tarbidhy 9:20	0.37 Motor 2/0 Readings 9:25	0.65 0P Turb	1.5 idimeter 1:25	9:40
Parameter Fime Water Level (0.33)	Units 24 hr feet	V (gal / ft) YSI 556 & 9:10 17.12	0.041 Lamotte 202 9:15 18.30	0.163 0 Tarbidity 9:20 19.30	0.37 Moter 2/0 Readings 9:25 19.93	0.65 0P Turb 9:30 20.3	1.5 idimeter 2:25 2 0.45	20.98
Parameter Fime Water Level (0.33) Volume Purged	Units 24 hr feet gal	V (gal / ft) YSI 556 & 9:10 17.12 O	0.041 Lamotte 202 9:15 18.30 .10	0.163 0 Tarbidity 9:20 19.30 . 25	0.37 Motor 2/0 Readings 9:25 19.95 0.625	0.65 0P Turb 20.3 0.7	1.5 idimeter 2:25 2:0.95 0.85	20.98
Parameter Fime Water Level (0.33) Volume Purged Flow Rate	Units 24 hr feet gal mL / min	V (gal / ft) YSI 556 & 9:10 17.12 O < 100	0.041 Lamotte 202 9:15 18.30 .10 <100	0.163 0 Tarbidity 9:20 19.30 .25 < 10.	0.37 Moter 2/0 Readings 9:25 19.93 0.625 <100	0.65 0P Turb 20.3 0.7 <100	1.5 idimeter 2:25 2:0.45 0.85 2 100	20.98 0.95 <100
Water Quality Readings Collecto Parameter Time Water Level (0.33) Volume Purged Flow Rate Furbidity (+/- 10%)	Units 24 hr feet gal mL/min NTU	V (gal / ft) YSI 556 & 9:10 17.12 O < 100 16.9	0.041 Lamotte 202 9:15 18.30 .10 <100 18.7	0.163 0 Tarbidity 9:20 19.30 .25 <10. 21.1	0.37 Motor 2/0 Readings 9:25 19.99 0.625 <100 22.4	0.65 0P Turb 20.3 0.7 <100 25.7	1.5 idimeter 2:25 2:0.45 0.85 2:100 32.6	20.98 0.95 2100 26.2
Parameter Fime Water Level (0.33) Volume Purged Flow Rate Furbidity (+/- 10%) Dissolved Oxygen (+/- 10%)	Units 24 hr feet gal mL/min NTU %	V (gal / ft) YSI 556 & 9:10 17.12 0 < 100 16.9 Bo.1	0.041 Lamotte 202 9:15 18.30 .10 <100 18.7 27.9	0.163 0 Tarbidhy 9:20 19.30 .25 <100 21.1 22.1	0.37 Motor 2/0 Readings 9:25 19.93 0.625 <100 22.4 19.7	0.65 0P Turb 20.3 0.7 <100 25.7 15.5	1.5 idimeter 2.0.95 0.85 <100 32.6 14,7	20.98 0.95 2100 26.2 13.4
Parameter Fime Water Level (0.33) Volume Purged Flow Rate Furbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%)	Units 24 hr feet gal mL / min NTU % mg/L	V (gal / ft) YSI 556 & 17.12 O < 100 16.9 Bo.1 B.09	0.041 Lamotte 202 9:15 18.30 .10 <100 18.7 27.9 2.92	0.163 0 Tarbidhy 9:20 19.30 .25 <100 21.1 2.2.1 2.30	0.37 Motor 2/0 Readings 9:25 19.93 0.625 <100 22.4 19.7 2.°)	0.65 0P Turb 20.3 0.7 <100 25.7 15.5 1.57	1.5 idimeter 2:35 2:0.95 0.85 2:100 32.6 14.7 1.47	20,98 0,95 2100 26.2 13.4 1.32
Parameter Fime Water Level (0.33) Volume Purged Flow Rate Furbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10)	Units 24 hr feet gal mL / min NTU % mg/L MeV	V (gal / ft) YSI 556 & 17.12 O < 100 16.9 Bo.1 B.09 292.1	0.041 Lamotte 202 9:15 18.30 .10 <100 18.7 27.9 2.92 2.41.4	0.163 0 Tarbidhy 9:20 19.30 .25 <10° 21.1 2.3° 20°.6	0.37 Motor 2/0 Readings 7:25 /9.93 0.625 <100 22.4 /9.7 2.0 180,7	0.65 0P Turb 20.3 0.7 <100 25.7 15.5 1.57 147.0	1.5 idimeter 7:25 2 0.45 0.85 2 100 32.6 14,7 1.47 1.47 137.3	20.98 0.95 2100 26.2 13.4 1.32 205.2
Parameter Fime Water Level (0.33) Volume Purged Flow Rate Furbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c	V (gal / ft) YSI 556 & 17.12 O < 100 16.9 Bo.1 B.09 292.1 O.\$78	0.041 <u>Lamotte 202</u> 9:15 18.30 .10 <100 18.7 27.9 2.92 264.4 0.575	0.163 0 Tarbidhy 9:20 19.30 .25 <10° 21.1 2.3° 20°.6 .575	0.37 Motor 2/0 Readings 7:25 7:25 7:25 7:25 0.625 <(00 22.4 19.7 2.0 180,7 0.572	0.65 0P Turb 20.3 0.7 <100 25.7 15.5 1.57 147.0 0.571	1.5 idimeter 2.35 2.0.45 0.85 2.100 37.6 14,7 1.47 137.3 0.571	20.98 0.95 2100 26.2 13.4 1.32 205.2 0.571
Parameter Time Vater Level (0.33) /olume Purged Tow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm° mS/cm	V (gal / ft) YSI 556 & 17.12 O 100 16.9 Bo.1 B.09 292.1 O.\$78 O.\$78 O.\$442	0.041 <u>Lamotte 202</u> 9:15 18.30 .10 <100 18.7 27.9 2.92 264.4 0.575 .445	0.163 0 Tarbidity 9:20 19.30 .25 <10° 21.1 2.3° 2∞.6 .575 .448	0.37 Motor 2/0 Readings 9:25 19.93 0.625 <100 22.4 19.7 2.9 180,7 0.572 0.455	0.65 0P Turb 20.3 0.7 <100 25.7 15.5 1.57 147.0 0.571 0.460	1.5 idimeter 2.35 2.0.45 0.85 2.100 32.6 14,7 1.47 1.37.3 0.571 0.964	20.98 0.95 2100 26.2 13.4 1.37 205.2 0.571 0.473
Parameter Fime Water Level (0.33) Volume Purged Flow Rate Furbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) DH (+/- 0.1)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm° mS/cm pH unit	V (gal / ft) YSI 556 & 7.12 O < too 16.9 8.09 292.1 O.\$78 O.\$78 O.\$442 7.11	0.041 Esemotte 202 9:15 18.30 .10 <100 18.7 27.9 2.92 264.4 0.575 .445 6.35	0.163 0 Tarbidity 9:20 19.30 .25 <10° 21.1 2.3° 200.6 .575 .44B 6.50	0.37 Motor 2/0 Readings 9:25 19.99 0.625 <100 22.4 19.7 2.0 180,7 0.572 0.455 6.65	0.65 0P Turb 20.3 0.7 <100 25.7 15.5 1.57 147.0 0.571 0.460 6.79	1.5 idimeter 2 0.45 2 0.45 2 0.45 2 0.45 2 100 32.6 14,7 1.47 1.37.3 0.571 0.464 6.86	20.98 0.95 2100 26.2 13.4 1.37 205.2 0.571 0.473 6.98
Parameter Fime Water Level (0.33) Volume Purged Flow Rate Furbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) OH (+/- 0.1) Femp (+/- 0.5)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm° mS/cm pH unit C	V (gal / ft) YSI 556 & 7.12 O < too 16.9 8.09 292.1 0.\$78 0.\$78 0.442 7.11 12.71	0.041 Example 202 9:15 18.30 .10 <100 18.7 27.9 2.92 264.4 0.575 .445 6.35 13.15	0.163 0 Tarbidity 9:20 19.30 .25 <100 21.1 2.30 200.6 .575 .448 6.50 13.48	0.37 Motor 2/0 Readings 9:25 19.99 0.625 <100 22.4 19.7 2.0) 180,7 0.572 0.455 6.65 14.27	0.65 0P Turb 20.3 0.7 <100 25.7 15.5 1.57 147.0 0.571 0.460 6.79 14.67	1.5 idimeter 2 0.45 2 0.45 2 0.45 2 0.45 2 0.45 2 0.45 14,7 1,47 1,47 1,47 1,37,3 0,571 0,464 6,86 15.06	20.98 0.95 2100 26.2 13.4 1.32 205.2 0.571 0.473 6.98 15.75
Parameter Time Water Level (0.33) Volume Purged Flow Rate	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm° mS/cm pH unit	V (gal / ft) YSI 556 & 7.12 O < too 16.9 8.09 292.1 O.\$78 O.\$78 O.\$442 7.11	0.041 Esemotte 202 9:15 18.30 .10 <100 18.7 27.9 2.92 264.4 0.575 .445 6.35	0.163 0 Tarbidity 9:20 19.30 .25 <10° 21.1 2.3° 200.6 .575 .44B 6.50	0.37 Motor 2/0 Readings 9:25 19.99 0.625 <100 22.4 19.7 2.0 180,7 0.572 0.455 6.65	0.65 0P Turb 20.3 0.7 <100 25.7 15.5 1.57 147.0 0.571 0.460 6.79	1.5 idimeter 2 0.45 2 0.45 2 0.45 2 0.45 2 100 32.6 14,7 1.47 1.37.3 0.571 0.464 6.86	20.98 0.95 2100 26.2 13.4 1.37 205.2 0.571 0.473 6.98

Project Name and Number: Monitoring Well Number: Samplers: Sample Number: Purging / Sampling Method:		Word					
Samplers: Sample Number:			Products		32203	8	
Sample Number:		M.	n	Date:	\$/11/	14	
1		Russ	Mc Cred	7 & C QA/QC	that Fre	inch	
Purging / Sampling Method:		MU-110	81114	QA/QC	C Collected?		
				dedicate			_
 L = Total Well Depth: D = Riser Diameter (I.D.): W = Static Depth to Water (T C = Column of Water in Casis V = Volume of Water in Well D2 = Pump Setting Depth (ft C2 = Column of water in Pur Tubing Volume = C2(0.0057 	ing: ll = C(3.14159 t): mp/Tubing (ft			0.17 15.53 factors to de	feet feet feet gal feet gal feet gal	D (inches) 1-inch 2-inch 3-inch 4-inch 6-inch	D (feet) 0.08 0.17 0.25 0.33 0.50
Water Quality Readings Collect	ted Using	D (inches) V (gal / ft) $\frac{1}{51}$	1-inch 0.041	2-inch 0.163 008 Tunbi	3-inch 0.37	4-inch 0.65	6-inch 1.5
Parameter	Units	V (gal / ft) YSI 55	0.041	0.163 008 Tunki	0.37		
Parameter Time	Units 24 hr	V (gal / ft) YSI 55 9:45	0.041 6 & 21 9:50	0.163 008 Tunki 2:55	0.37		
Parameter Time Water Level (0.33)	Units 24 hr feet	V (gal / ft) YSI 53 9:45 21.62	0.041 56 & 21 9:50 21.8	0.163 00P Tunki 2:55 21.9	0.37		
Parameter Time Water Level (0.33) Volume Purged	Units 24 hr feet gal	V (gal / ft) YSI 55 9:45 21.62 1.05	0.041 6 & 21 9:50 21.8 1.125	0.163 00P Tunki 2:55 21.9 1.25	0.37		
Parameter Time Water Level (0.33) Volume Purged Flow Rate	Units 24 hr feet gal mL / min	V (gal / ft) YSI 55 9:45 21.62 1.05 2.100	0.041 56 & 21 9:50 21.8 1.125 <100	0.163 00P Tunki 2:55 21.9 1.25 2100	0.37		
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%)	Units 24 hr feet gal mL/min NTU	V (gal / ft) YSI 5 9:45 21.62 1.05 2.100 24.3	0.041 56 & 21 9:50 21.8 1.125 <100 24.6	0.163 008 Turki 2:55 21.9 1.25 2100 24.8	0.37		
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%)	Units 24 hr feet gal mL / min NTU %	V (gal / ft) YSI 5 21.62 1.05 2.100 24.3 1.3.2	0.041 56 & 21 9:50 21.8 1.125 \$100 24.6 11.7	0.163 00P Turki 2:55 21.9 1.25 2100 24.8 11.1	0.37		
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%)	Units 24 hr feet gal mL/min NTU	V (gal / ft) V	9:50 21.8 1.125 <100 24.6 11.7 1.16	0.163 00P Turki 9:55 21.9 1.25 2100 24.8 11.1 1.07	0.37		
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10)	Units 24 hr feet gal mL / min NTU % mg/L MeV	V (gal / ft) V	9:50 21.8 1.125 <100 24.6 11.7 1.16 145.9	0.163 008 Tunki 9:55 71.9 1.25 2100 24.8 11.1 1.07 173.6	0.37		
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c	V (gal / ft) V	0.041 56 & 21 21.8 1.125 \$100 24.6 11.7 1.16 145.9 0.567	0.163 008 Tunki 2:55 21.9 1.25 2100 24.8 11.1 1.07 173.6 0.567	0.37		
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm	V (gal / ft) YSI 55 21.62 1.05 2.100 24.3 1.31 1.76.7 0.575 0.473	0.041 0.041 0.041 0.041 0.125 0.	0.163 00P Tunki 2:55 21.9 1.25 2100 24.8 11.1 1.07 173.6 0.567 0.473	0.37		
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c	V (gal / ft) V	0.041 56 & 21 21.8 1.125 2.1.8 1.125 2.1.0 2.4.6 11.7 1.16 1.45.9 0.567 0.470 6.95	0.163 0.163 008 Tunki 1.25 21.9 1.25 2100 24.8 11.1 1.07 173.6 0.567 0.473 7.00	0.37		
Water Quality Readings Collect Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5) Color	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm pH unit	V (gal/ft) V (gal/	0.041 0.041 0.041 0.041 0.125 0.	0.163 00P Tunki 2:55 21.9 1.25 2100 24.8 11.1 1.07 173.6 0.567 0.473	0.37		

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Project Name and Number:				(0100010				
		Ward Produ	cts	60322038				
Monitoring Well Number:		MW-13		Date:	August	2,2014		
Samplers:		Chris French	h & Ross Mo	Credy				
Sample Number:		MW-1308	1214	QA/QC	Collected?			_
Purging / Sampling Method:		Grundfos or	Peristaltic P	ump with dec	dicated tubin	ng/Low Flow		
1. L = Total Well Depth:					feet	D (inches)	D (feet)	1
2. $D = Riser Diameter (I.D.)$:				0.17	feet	1-inch	0.08	
W = Static Depth to Water (TOC):			27.22		2-inch	0.17	
4. $C = Column of Water in Cas$				<u> </u>	feet	3-inch	0.25	
	e	$(0.5D)^2/7.4$	0)			4-inch	0.33	
5. $V = Volume of Water in We$		9)(0.5D) (7.4	8)		gal			
6. $D2 = Pump$ Setting Depth (f		、			feet	6-inch	0.50	
7. C2 = Column of water in Pu	mp/Tubing (ft):			feet			
	777000				1			
8. Tubing Volume = $C2(0.0057)$	737088)				gal			
	737088)		Conversion	factors to de		iven C		
	737088)		Conversion	factors to de		iven C		
	737088)	D (inches)			termine V g		6-inch	1
	737088)	D (inches) V (gal / ft)	Conversion 1-inch 0.041	factors to der 2-inch 0.163		iven C 4-inch 0.65	6-inch 1.5	1
	737088)	V (gal / ft)	1-inch 0.041	2-inch 0.163	termine V g 3-inch 0.37	4-inch 0.65	1.5	l
8. Tubing Volume = C2(0.005'		V (gal / ft)	1-inch 0.041	2-inch 0.163	termine V g 3-inch 0.37	4-inch 0.65	1.5	l
		V (gal / ft)	1-inch 0.041	2-inch 0.163	termine V g 3-inch 0.37 Aeter 2100	4-inch	1.5	l
8. Tubing Volume = C2(0.005' Water Quality Readings Collec Parameter	ted Using	V (gal / ft) YSI 556 &	1-inch 0.041 Lamotte 202	2-inch 0.163 0 Turbidity M	termine V g 3-inch 0.37 Meter 2100 Readings	4-inch 0.65 of Turbid	1.5 ineten]
8. Tubing Volume = C2(0.005' Water Quality Readings Collec <u>Parameter</u> Time	tted Using Units 24 hr	V (gal / ft) YSI 556 & 14:05	1-inch 0.041 Lamotte 202	2-inch 0.163 0 Turbidity A 14:15	termine V g 3-inch 0.37 Aeter 2/00 Readings /4:2 0	4-inch 0.65 29 Turbid	1.5 ineten 1#:30	
8. Tubing Volume = C2(0.005' Water Quality Readings Collec Parameter Time Water Level (0.33)	eted Using Units 24 hr feet	V (gal / ft) YSI 556 & 14:05 25.22	1-inch 0.041 Lamotte 202	2-inch 0.163 0 Turbidity A 14:15 25:\$3	termine V g <u>3-inch</u> 0.37 <u>Aeter</u> 2 00 <u>Readings</u> 14:2 0 25.9§	4-inch 0.65 29 Turbid 14:25 26,16	1.5 ineten 1#:30 26.29	26.25
8. Tubing Volume = C2(0.005' Water Quality Readings Collec Parameter Time Water Level (0.33) Volume Purged	ted Using Units 24 hr feet gal	V (gal / ft) YSI 556 & 14:05 25.22 N/A	1-inch 0.041 Lamotte 202 14.10 25.57 0.2	2-inch 0.163 0 Turbidity A 14:15 25:\$3 0.25	termine V g 3-inch 0.37 Actor 2100 Readings 14:20 25.98 0.375	4-inch 0.65 of Turbid 14:25 26.16 0.42	1.5 ineten 1#:30 26.29 0.48	14:35 26:25 0.6
8. Tubing Volume = C2(0.005' Water Quality Readings Collec Parameter Time Water Level (0.33) Volume Purged Flow Rate	Units Units 24 hr feet gal mL / min	V (gal / ft) YSI 556 & 14:05 25.22 N/A 2100	1-inch 0.041 Lamotte 202 14.10 25.57 0.2 <100	2-inch 0.163 0 Turbidity A 14:15 25:\$3 0.25 2100	termine V g 3-inch 0.37 <u>Acter 2100</u> Readings 14:20 25.98 0.375 <100	4-inch 0.65 of Turbid 14:25 26.16 0.92 2160	1.5 inden 1#:30 26.29 0.48 2100	26.25 0.6 4106
8. Tubing Volume = C2(0.005' Water Quality Readings Collec Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%)	ted Using Units 24 hr feet gal mL / min NTU	V (gal / ft) YSI 556 & 14:05 25.22 N/A 2100 150	1-inch 0.041 Lamotte 202 14.10 25.57 0.2 <100 121	2-inch 0.163 0 Turbidity A 14:15 25.23 0,25 2100 114	termine V g 3-inch 0.37 4eter 2/00 Readings 14:20 25.98 0.375 <100 244	4-inch 0.65 of Turbid 14:25 26.16 0.92 2.160 203	1.5 Winden 14:30 26.29 0.48 2100 210	26.25 0.6 4106 205
8. Tubing Volume = C2(0.005' Water Quality Readings Collec Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%)	ted Using Units 24 hr feet gal mL / min NTU %	V (gal / ft) YSI 556 & 14:05 25.22 N/A 2100 150 16.8	1-inch 0.041 Lamotto 202 14.10 25.57 0.2 <100 121 5.8	2-inch 0.163 0 Turbidity A 14:15 25.23 0.25 2100 114 3.2	termine V g 3-inch 0.37 Acter $2 00$ Readings 14:20 25.98 0.375 <100 244 2.3	4-inch 0.65 of Turbid 14:25 26.16 0.42 2160 203 1.7	1.5 Winden 14:30 26.29 0.48 2/00 2/0 1.6	26.25 0.6 4106 205 1.5
8. Tubing Volume = C2(0.005' Water Quality Readings Collect Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%)	ted Using Units 24 hr feet gal mL / min NTU % mg/L	V (gal / ft) YSI 556 & 14:05 25.22 N/A 2100 150 16.8 1.76	1-inch 0.041 Lamotte 202 14.10 25.57 0.2 <100 121 5.8 0.59	2-inch 0.163 0 Turbidity A 14:15 25.23 0.25 2100 114 3.2 0.32	termine V g 3-inch 0.37 Acter $2/00$ Readings 14:20 25.98 0.375 <100 264 2.3 0.73	4-inch 0.65 of Turbid 14:25 26.16 0.92 203 1.7 0.17	1.5 ineten 14:30 26.29 0.48 2100 210 1.6 0.16	26.25 0.6 2106 205 1.5 0.15
8. Tubing Volume = C2(0.005' Water Quality Readings Collec Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%)	ted Using Units 24 hr feet gal mL / min NTU %	V (gal / ft) YSI 556 & 14:05 25.22 N/A 2100 150 16.8 1.76	1-inch 0.041 Lamotto 202 14.10 25.57 0.2 <100 121 5.8	2-inch 0.163 0 Turbidity M 14:15 25.\$3 0.25 2100 114 3.\$ 0.38 13.2	termine V g 3-inch 0.37 Actor 2100 Readings 14:20 25.98 0.375 <100 25.98 0.375 <100 25.4 2.53 <100 2.54 2.53 <100 2.54 2.53 <100 2.54 2.53 <100 2.54 2.53 <100 2.54 2.53 <100 2.54 2.53 <100 2.54 2.53 <100 2.54 2.53 <100 2.54 2.53 <100 2.54 2.53 <100 2.54 2.53 <100 2.54 2.53 <100 2.53 <100 2.53 <100 2.53 <100 2.53 <100 2.53 <100 2.53 <100 2.53 <100 2.53 -63.6	4-inch 0.65 of Turbid 14:25 26.16 0.42 2160 203 1.7 0.17 -1039	1.5 Winden 14:30 26.29 0.48 2/00 2/0 1.6	26.25 0.6 2106 205 1.5 0.15
8. Tubing Volume = C2(0.005' Water Quality Readings Collect Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%)	ted Using Units 24 hr feet gal mL / min NTU % mg/L	V (gal / ft) YSI 556 & 14:05 25.22 N/A 2100 150 16.8 1.76 43.4	$ \begin{array}{c c} 1-inch \\ 0.041 \\ \hline 10.041 \\ \hline 25.57 \\ 0.2 \\ <100 \\ 121 \\ 5.8 \\ 0.59 \\ 49.1 \\ \hline \end{array} $	2-inch 0.163 0 Turbidity A 14:15 25.23 0.25 2100 114 3.2 0.32	termine V g 3-inch 0.37 Actor 2100 Readings 14:20 25.98 0.375 <100 25.98 0.375 <100 25.4 2.53 <100 2.54 2.53 <100 2.54 2.53 <100 2.54 2.53 <100 2.54 2.53 <100 2.54 2.53 <100 2.54 2.53 <100 2.54 2.53 <100 2.54 2.53 <100 2.54 2.53 <100 2.54 2.53 <100 2.54 2.53 <100 2.54 2.53 <100 2.53 <100 2.53 <100 2.53 <100 2.53 <100 2.53 <100 2.53 <100 2.53 <100 2.53 -63.6	4-inch 0.65 of Turbid 14:25 26.16 0.92 203 1.7 0.17	1.5 ineten 26.29 0.48 2/00 2/0 1.6 0.16 -108.8	26.25 0.6 205 1.5 0.15 -108.
8. Tubing Volume = C2(0.005' Water Quality Readings Collect Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity	ted Using Units 24 hr feet gal mL / min NTU % mg/L MeV	V (gal / ft) YSI 556 & 14:05 25.22 N/A 2100 150 16.8 1.76 43.4 0.263	$ \begin{array}{c c} 1-inch \\ 0.041 \\ \hline 14^{a} 1^{a} \\ 25.57 \\ 0.7 \\ <100 \\ 121 \\ 5.8 \\ 0.59 \\ 49.1 \\ 0.312 \\ \end{array} $	2-inch 0.163 0 Turbidity A 14:15 25.\$3 0.25 2100 114 3.\$ 0.3\$ 13.7 0.\$\$ 0.3\$	termine V g 3-inch 0.37 Actor $2 00$ Readings 14:20 25.98 0.375 <100 264 2.3 0.23 -63.6 0.627 0.529	4-inch 0.65 0.65 14:25 26.16 0.92 2.160 203 1.7 0.17 -103 g 0.692	1.5 ineten 26.29 0.48 2/00 2/0 1.6 0.16 -108.8 6.703	26.25 0.6 205 1.5 0.15 -108. 0.7/1
8. Tubing Volume = C2(0.005' Water Quality Readings Collect Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%)	eted Using Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm	V (gal / ft) YSI 556 & 14:05 25.22 N/A 2100 150 16.8 1.76 43:4 0.267 (0.2) 3	1-inch 0.041 Lamotte 202 14.10 25.57 0.2 <100 121 5.8 0.59 49.1 0.312 0.250	2-inch 0.163 0 Turbidity A 14:15 25:\$3 0,25 2100 114 3.8 0.38 13,7 0.85 0.38 13,7	termine V g 3-inch 0.37 Actor $2 00$ Readings 14:20 25.98 0.375 <100 264 2.3 0.23 -63.6 0.627 0.529	4-inch 0.65 of Turbid 14:25 26.16 0.42 2160 203 1.7 0.17 -1039	1.5 ineten 26.29 0.48 2/00 2/0 1.6 0.16 -108.8 6.703 0.586	26.25 0.6 205 1.5 0.15 -108. 0.7/1 0.593
8. Tubing Volume = C2(0.005' Water Quality Readings Collect Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1)	ted Using Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c	V (gal / ft) YSI 556 & 14:05 25.22 N/A 2100 150 16.8 1.76 43.4 0.263 0.213 7.12	1-inch 0.041 Lamotte 202 14.10 25.57 0.2 <100 121 5.8 0.59 49.1 0.312 0.250 7.01	2-inch 0.163 0 Turbidity A 0 Turbidity A 14:15 25:23 0.25 2/00 114 3.8 0.38 13.7 0.84 0.398 7.10	termine V g 3-inch 0.37 Actor 2100 Readings 14:20 25.98 0.375 <100 264 2.3 0.23 -63.6 0.637 0.529 7.19	4-inch 0.65 26 Turbid 14:25 26.16 0.42 2.160 203 1.7 0.17 -103 g 0.692 0.577 7.23	1.5 ineten 26.29 0.48 2/00 2/0 1.6 0.16 -108.8 6.703 0.586 7.25	26.25 0.6 205 1.5 0.15 -108. 0.7/1 0.593 7.22
8. Tubing Volume = C2(0.005' Water Quality Readings Collect Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5)	tted Using Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm° mS/cm pH unit C	V (gal / ft) YSI 556 & 14:05 25.22 N/A 2100 100 100 16.8 1.76 43.4 0.267 0.213 7.12 14.06	1-inch 0.041 Lamotto 202 14.10 25.57 0.2 $<1001215.80.5949.10.3120.2507.0114.67$	2-inch 0.163 0 Turbidity A 14:15 25.23 0.25 2100 114 3.8 0.25 2100 114 3.8 0.38 13,7 0984 0.398 7.10 15.62	termine V g 3-inch 0.37 Acter $2 00$ Readings 14:20 25.98 0.375 <100 244 2.3 0.23 -63.6 0.627 0.529 7.19 16.27	4-inch 0.65 of Turbid 26.16 0.42 2160 203 1.7 0.17 -1038 0.692 0.577 7.23 16.34	1.5 ineten 26.29 0.48 2/00 2/0 1.6 0.16 -108.8 6.703 0.586 7.25 16.36	26.25 0.6 205 1.5 0.15 -108 0.7/1 0.593 7.25 16.33
8. Tubing Volume = C2(0.005' Water Quality Readings Collect Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1)	tted Using Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm pH unit	V (gal / ft) YSI 556 & 14:05 25.22 N/A 2100 150 16.8 1.76 43.4 0.263 0.213 7.12	1-inch 0.041 Lamotte 202 14.10 25.57 0.2 <100 121 5.8 0.59 49.1 0.312 0.250 7.01	2-inch 0.163 0 Turbidity A 0 Turbidity A 14:15 25:23 0.25 2/00 114 3.8 0.38 13.7 0.84 0.398 7.10	termine V g 3-inch 0.37 Actor 2100 Readings 14:20 25.98 0.375 <100 264 2.3 0.23 -63.6 0.637 0.529 7.19	4-inch 0.65 26 Turbid 14:25 26.16 0.42 2.160 203 1.7 0.17 -103 g 0.692 0.577 7.23	1.5 ineten 26.29 0.48 2/00 2/0 1.6 0.16 -108.8 6.703 0.586 7.25	26.25 0.6 205 1.5 0.15 -108. 0.7/1 0.593 7.22

Monitoring Well Number: Samplers: Sample Number:		MW-14						
	plers: Chris French & Ross					2,2014		
Sample Number:		Chris Frenc	h & Ross M	cCredy		_		
		MW-14		QA/QC	C Collected?	MS/M	SD	
Purging / Sampling Method:		Grundfos or	Peristaltic I	Pump with de	dicated tubi	ng/Low Flow	/	
1. L = Total Well Depth:					feet	D (inches)	D (feet)	1
2. $D = Riser Diameter (I.D.)$:				0.17	feet	1-inch	0.08	1
3. $W = Static Depth to Water (T$	[OC):			10.93	feet	2-inch	0.17	
4. C = Column of Water in Casi					feet	3-inch	0.25	
5. V = Volume of Water in Wel	-	$(0.5D)^{2}(7.4)$	8)		- gal	4-inch	0.33	
6. $D2 = Pump$ Setting Depth (ft			- /	(-	feet	6-inch	0.50	
7. $C2 = Column of water in Pun$):			feet			
8. Tubing Volume = $C2(0.0057)$		1		-	gal			
C (The second s	/			-		F.		
			Conversion	n factors to de	termine V g	given C		
								-
			1	1 6 5	1 1 1			
		D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch	-
		V (gal / ft)	0.041	2-inch 0.163	0.37	0.65 0P Turbi	1.5	1
Parameter	Units	V (gal / ft) YSI 556 &	0.041	20 Turbidity 1	0.37	0.65 0P Turbi	1.5 Jineter	
Parameter Time	Units 24 hr	۷ (gal / ft) YSI 556 &	0.041	0.163	0.37 Weter 2/0 Readings 10:00	0.65	1.5 Jineter 10:10	10:15
Parameter Time Water Level (0.33)	Units 24 hr feet	V (gal / ft) YSI 556 & 09:45 /4.08	0.041 Lamotte 202	0.163	0.37 Weter 2.10 Readings 10:00 14.32	0.65 00 Turbi 10:05 14.34	1.5 Jimeter 10:10 14.40	14.45
Parameter Time Water Level (0.33) Volume Purged	Units 24 hr feet gal	V (gal / ft) YSI 556 & 09:45 /4.08	0.041 Lamotte 202 09:50 14.19 0.10	0.163 20 Turbidity 1 20 Turbidity 1 09:55 14.26 0.15	0.37 Victor 2/0 Readings 10:00 14.32 0.20	0.65 00 Turbi 10:05 14.34 0.25	1.5 Jimeter 10:10 14.40 0.30	14.45
Parameter Time Water Level (0.33) Volume Purged Flow Rate	Units 24 hr feet gal mL / min	V (gal / ft) YSI 556 & 09:45 /4.08 0 <100	0.041 Lamotte 202 09:56 14.19 0.10 <100	0.163 20 Turbidity ! 20 Turbidity !	0.37 Victor 2/0 Readings 10:00 14.32 0.20 < 100	0.65 00 Turbi 10:05 14.34 0.25 < 100	1.5 Jimeter 10:10 14.40 0.30 <100	14.45 0.35 <100
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%)	Units 24 hr feet gal mL/min NTU	V (gal / ft) YSI 556 & 09:45 /4.08 0 <100 J91	0.041 Lamotte 202 09:55 14.19 0.10 <100 <100 85.2	0.163 09:55 14.26 0.15 <100 76.1	0.37 Victor 210 Readings 10:00 14.32 0.20 < 100 (66.2	0.65 0 P Turbi 10:05 14.34 0.25 < 100 53.3	1.5 Jimeter 10:10 14.40 0.30 <100 46.6	14.45 0.35 <100 38.2
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%)	Units 24 hr feet gal mL / min NTU %	V (gal / ft) YSI 556 & 09:45 /4.08 0 <100 191 5.9	0.041 Lamotte 202 09:55 14.19 0.10 <100 85.1 2.5	0.163 20 Turbidity 1 20 Turb	0.37 Meter 2/C Readings 10:00 /4.32 0.20 < 100 (66.2 2.9	0.65 0 P Turbi 10:05 14.34 0.25 < 100 53.3 3.3	1.5 Jimeter 10:10 14.40 0.30 <100 46.6 3.2	14.45 0.35 <100 38.2 2.8
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%)	Units 24 hr feet gal mL / min NTU % mg/L	V (gal / ft) YSI 556 & 09:45 /4.08 0 <100 191 5.9 0.64	0.041 Lamotte 202 09:55 14.19 0.10 <100 85.1 2.5 0.25	0.163 20 Turbidity 1 20 Turbidity 2 20 Turb	0.37 Meter 2/C Readings 10:00 14.32 0.20 < 100 (66.2 2.9 0.28	0.65 0 P Turbi 10:05 14.24 0.25 < 100 53.3 3.3 0.32	1.5 Jimeter 10:10 14.40 0.30 <100 46.6 3.2 0.31	14.45 0.35 < <u>2100</u> 38.2 2.8 0.28
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10)	Units 24 hr feet gal mL / min NTU % mg/L MeV	V (gal / ft) YSI 556 & V(gal / ft) YSI 556 & V(gal / ft) S: 9 0.64 1.7	0.041 Lamotte 202 09:50 14.19 0.10 <100 <100 85.2 2.5 0.25 ~ 8.1	0.163 20 Turbidity ! 20 Turb	0.37 Readings 10:00 14.32 0.20 <100 (6.2 2.9 0.28 -30.5	0.65 0 P Turbi 10:05 14.24 0.25 < 100 53.3 3.3 0.32 - 38.7	1.5 Jimeter 10:10 14.40 0.30 <100 46.6 3.2 0.31 -45.9	14.45 0.35 <100 38.2 2.8 0.28 -47.3
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c	V (gal / ft) YSI 556 & VSI 556 & VSI 556 & VYSI 556 & O V V V S V S S S S S S S S S S S S S	0.041 Lamotte 202 09:50 14.19 0.10 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <100 <1	0.163 20 Turbidity ? 20 Turb	0.37 Readings 10:00 14.32 0.20 < 100 (6.2 2.9 0.28 - 30.5 1.286	0.65 10:05 14.34 0.25 < 100 53.3 3.3 0.32 - 38.7 1.258	1.5 Jimeter 10:10 14.40 0.30 <100 46.6 3.2 0.51 -45.9 1.240	/4.45 0.35 2100 38.2 2.8 0.28 -47.3 1.203
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm	V (gal / ft) YSI 556 & VSI 556 & 0 VSI 556 & 0 V (gal / ft) V (gal / f	0.041 Lamotte 202 09:50 14.19 0.10 <100 <100 <100 85.1 2.5 0.25 ~ 8.1 1.329 1.058	0.163 20 Turbidity ? 20 Turb	0.37 Readings 10:00 14.32 0.20 < 100 (66.2 2.9 0.28 - 30.5 1.286 1.085	0.65 10:05 14.34 0.25 < 100 53.3 3.3 0.32 -38.7 1.258 1.072	1.5 Jimeter 10:10 14.40 0.30 <100 46.6 3.2 0.31 -45.9 1.240 1.060	/4.45 0.35 2100 38.2 2.8 0.28 -47.3 1.203 1.067
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm pH unit	V (gal / ft) YSI 556 & VSI 556 & VSI 556 & 0 V (gal / ft) YSI 556 & 0 V (gal / ft) V (gal / ft)	0.041 Lamotte 202 09:50 14.19 0.10 <100 <100 85.1 2.5 0.25 ~ 8.1 1.329 1.058 6.40	0.163 20 Turbidity ? 20 Turb	0.37 Readings 10:00 14.32 0.20 < 100 (6.2 2.9 0.28 -30.5 1.286 1.085 (6.87	0.65 0 P Turbi 10:05 14.34 0.25 < 100 53.3 3.3 0.32 - 38.7 1.258 1.072 6.90	1.5 Jimeter 10:10 14.40 0.30 <100 46.6 3.2 0.51 -45.9 1.240 1.060 6.93	14.45 0.35 2.100 3.8.2 2.8 0.28 -47.3 1.203 1.203 1.067 6.90
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm pH unit C	V (gal / ft) YSI 556 & VSI 556 & 0 2 14.08 0 2 100 191 5.9 0.64 1.7 1.345 1.028 6.44 12.62	0.041 Lamotte 202 09:50 14.19 0.10 <100 85.2 2.5 0.25 ~ 8.1 1.329 1.058 6.40 14.25	0.163 20 Turbidity 1 20 Turb	0.37 Readings 10:00 14.32 0.20 < 100 (6.2 2.9 0.28 -30.5 1.286 1.085 6.87 16.80	0.65 0 P Turbi 10:05 14.34 0.25 < 100 53.3 0.32 - 38.7 1.258 1.072 6.90 17.25	1.5 Jo: 10 14.40 0.30 <100 46.6 3.2 0.51 -45.9 1.240 1.060 (6.93 17.21	/4.45 0.35 2.100 3.8.2 2.8 0.28 -47.3 1.203 1.203 1.067 6.90 16.70
Water Quality Readings Collect Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5) Color Odor	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm pH unit	V (gal / ft) YSI 556 & VSI 556 & 09:45 /4.08 0 <100 191 5.9 0.64 1.7 1.345 1.028 6.44 12.62 clear	0.041 Lamotte 202 09:50 14.19 0.10 <100 <100 85.1 2.5 0.25 ~ 8.1 1.329 1.058 6.40	0.163 20 Turbidity ? 20 Turb	0.37 Readings 10:00 14.32 0.20 < 100 (6.2 2.9 0.28 -30.5 1.286 1.085 (6.87	0.65 0 P Turbi 10:05 14.34 0.25 < 100 53.3 3.3 0.32 - 38.7 1.258 1.072 6.90	1.5 Jimeter 10:10 14.40 0.30 <100 46.6 3.2 0.51 -45.9 1.240 1.060 6.93	14.45 0.35 2.100 3.8.2 2.8 0.28 -47.3 1.203 1.203 1.067 6.90

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Monitoring Well Number: Samplers: Sample Number: Purging / Sampling Method: 1. L = Total Well Depth: 2. D = Riser Diameter (I.D.):		MW-15 Chris French MW-15 C9 Grundfos or			August	2,2014		
Sample Number: Purging / Sampling Method: 1. L = Total Well Depth:		MW-1509		Credy				
Purging / Sampling Method: 1. L = Total Well Depth:			1714					
1. L = Total Well Depth:		Grundfos or	1.4.1.1	QA/QC	Collected?			
		Granatos or	Peristaltic P	ump with dec	dicated tubin	g/Low Flow		
2. $D = \text{Kiser Draffect (I.D.).}$ 3. $W = \text{Static Depth to Water (TC 4. C = \text{Column of Water in Casin}5. V = \text{Volume of Water in Well}6. D2 = \text{Pump Setting Depth (ft):}7. C2 = \text{Column of water in Pump}8. Tubing Volume = C2(0.00573)$	ng: = C(3.14159 : p/Tubing (ft)			0.17 7.12 factors to de	feet feet feet gal feet feet gal termine V gi	D (inches) 1-inch 2-inch 3-inch 4-inch 6-inch	D (feet) 0.08 0.17 0.25 0.33 0.50	
		D (inches) V (gal / ft)	1-inch 0.041	2-inch 0.163	3-inch 0.37	4-inch 0.65	6-inch 1.5]
	1.7.7	VOL CEL P	1	0 T	Antes Olices	Pt del	inder	
		YSI 556 &-	Lamotte 202	0 Turbidity A		P Turbid	inder	
Parameter	Units				Readings			10.52
Parameter Time	Units 24 hr	9:53	2:58	10:03	Readings	10:13	10:18	10:23
Parameter Time Water Level (0.33)	Units 24 hr feet	9:53 9.58	9:51 7.97	10:03	Readings	10:13 10.51	10:13	10.82
Parameter Time Water Level (0.33) Volume Purged	Units 24 hr feet gal	9:53 9.58 N/A	9:52 7.97 0.1	10:03 10.2 7 0.22	Readings 10:08 10.40 0.27	10:13 10.51 0.33	10:18 10.72 0,375	10.82
Parameter Time Water Level (0.33) Volume Purged Flow Rate	Units 24 hr feet gal mL / min	9:53 9.58 N/A <100	9:52 7.97 0.1	10:03 10.27 0.22 2100	Readings 10:08 10.40 0.27 2100	10:13 10.51 0.33 4100	10:18 10.72 6,375 6100	10.82 0.45 2100
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%)	Units 24 hr feet gal mL / min NTU	9:53 9.58 N/A <100 371	9:58 7.97 0.1 <100 35.9	10:03 10.27 0.22 2100 67.2	Readings 10:08 10.40 0.27 2100 809	10:13 10.51 0.33 4100 46.5	10:18 10.72 6,375 6100 30.1	10.82 0.45 2100 14.8
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%)	Units 24 hr feet gal mL / min NTU %	9:53 9.58 N/A <100 371 239	9:58 7.97 0.1 <100 35.9 6.2	10:03 10.27 0.22 2100 62.2 3.0	Readings 10:08 10.40 0.27 2100 8.09 6.2.8	10:13 10.51 0.33 <100 46.5 2.1	10:18 10.72 6,375 2100 30.1 1.7	10.82 0.45 2100 14.8 1.3
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%)	Units 24 hr feet gal mL / min NTU % mg/L	9:53 9.58 N/A <100 371 239 2.48	9:58 7.97 0.1 <100 35.9 6.2 0.67	10:03 10.27 0.27 2100 67.2 3.0 0.29	Readings 10:08 10.40 0.27 2100 8C9 62.8 0.28	10:13 10.51 0.33 4100 46.5 2.1 0.20	10:18 10.72 6,375 2100 30.1 1.7 0.16	10.82 0.45 2100 14.8 1.3 0.12
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10)	Units 24 hr feet gal mL / min NTU % mg/L MeV	9:53 9.58 N/A <100 371 239 2.48 -46.2	9:58 9.97 0.1 <100 35.9 6.2 0.62 -94.1	10:03 10.27 0.27 2100 67.2 3.0 0.29 -107.8	Readings 10:08 10:46 0.27 <100 809 0.28 0.28 -111.1	10:13 10.51 0.33 4100 46.5 2.1 0.20 -113.9	10:18 10.72 0,375 2100 30.1 1.7 0.16 -115.3	10.82 0.45 2100 14.8 1.3 0.12 -111.5
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c	9:53 9.58 N/A <100 371 239 2.48 -46.2 0.265	9:58 7.97 0.1 <100 35.9 6.2 0.62 -94.1 0.764	10:03 10.27 0.22 2100 67.2 3.0 0.29 -107.8 0.983	Readings 10:08 10:46 0.27 2100 8.09 6 2.8 0.28 -111.1 1.024	10:13 10.51 0.33 4100 46.5 2.1 0.20 -113.9 1.055	10:18 10.72 6,375 2100 30.1 1.7 0.16 -115.3 1079	10.82 0.45 2100 14.8 1.3 0.12 -[1].5 1.07]
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm	9:53 9.58 N/A <100 371 239 2.48 -46.2 0.265 6.215	9:58 7.97 0.1 <100 35.9 6.2 0.62 -94.1 0.764 0.623	10:03 10.27 0.22 2100 62.2 3.0 0.29 -107.8 0.983 0.824	Readings 10:08 10:46 0.27 2100 8.09 6.2.8 0.28 -111.1 1.024 0.876	10:13 10.51 0.33 <100 46.5 2.1 0.20 -113.9 1.055 0.903	10:18 10.72 6,375 2100 30.1 1.7 0.16 -115.3 1079 0.913	10.82 0.45 2100 14.8 1.3 0.12 -111.5 1.071 0.903
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm pH unit	9:53 9.58 N/A <100 371 239 2.48 -46.2 0.265 6.215 7.39	9:58 7.97 0.1 <100 35.9 6.2 0.62 -94.1 0.764 0.623 7.13	10:03 10.27 0.22 2100 62.2 3.0 0.29 -107.8 0.983 0.824 7.15	Readings 10:08 10:46 0.27 2100 8C9 62.8 0.28 -111.1 1.024 0.870 7.16	10:13 10.51 0.33 <100 46.5 2.1 0.20 -113.9 1.055 0.903 7.16	10:19 10.72 6,375 2100 30.1 1.7 0.16 -115.3 1079 0.913 7.19	10.82 0.45 2100 14.8 1.3 0.12 -111.5 1.071 0.903 7.15
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm pH unit C	9:53 9.58 N/A <100 371 239 2.48 -46,2 0.265 6.215 7.39 14.98	9:58 7.97 0.1 <100 35.9 6.2 0.67 -94.1 0.764 0.623 7.13 15.87	10:03 10.27 0.27 2100 67.2 3.0 0.27 -107.9 0.983 0.824 7.15 11.54	Readings 10:08 10:46 0.27 2100 8.09 6.2.8 0.28 -111.1 1.024 0.876 7.16 17.19	10:13 10.51 0.33 <100 46.5 2.1 0.20 -113.9 1.055 0.903 7.16 17.46	10:18 10.72 6,375 2100 30.1 1.7 0.16 -115.3 1079 0.913 7.18 17.04	10.82 0.45 2100 14.8 1.3 0.12 -111.5 1.071 0.903 7.15 16.88
Water Quality Readings Collecter Parameter Time Water Level (0.33) Volume Purged	Units 24 hr feet gal	9:53 9.58 N/A	9:52 7.97 0.1	10:03 10.2 7 0.22	Readings 10:08 10.40 0.27	10:13 10.51 0.33	10:18 10.72 0,375	10.82
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10)	Units 24 hr feet gal mL / min NTU % mg/L MeV	9:53 9.58 N/A <100 371 239 2.48 -46.2	9:58 9.97 0.1 <100 35.9 6.2 0.62 -94.1	10:03 10.27 0.27 2100 67.2 3.0 0.29 -107.8	Readings 10:08 10:46 0.27 <100 809 62.8 0.28 -111.1	10:13 10.51 0.33 4100 46.5 2.1 0.20 -113.9	10:18 10.72 0,375 2100 30.1 1.7 0.16 -115.3	10.82 0.45 2100 14.8 1.3 0.12 -111.5
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c	9:53 9.58 N/A <100 371 239 2.48 -46.2 0.265	9:58 7.97 0.1 <100 35.9 6.2 0.62 -94.1 0.764	10:03 10.27 0.22 2100 67.2 3.0 0.29 -107.8 0.983	Readings 10:08 10:46 0.27 2100 8.09 6.2.8 0.28 -111.1 1.0 24	10:13 10.51 0.33 4100 46.5 2.1 0.20 -113.9 1.055	10:18 10.72 6,375 2100 30.1 1.7 0.16 -115.3 1079	10.82 0.45 2100 14.8 1.3 0.12 -[1].5 1.07]
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm	9:53 9.58 N/A <100 371 239 2.48 -46.2 0.265 6.215	9:58 7.97 0.1 <100 35.9 6.2 0.62 -94.1 0.764 0.623	10:03 10.27 0.22 2100 62.2 3.0 0.29 -107.8 0.983 0.824	Readings 10:08 10:46 0.27 2100 8.09 6.2.8 0.28 -111.1 1.024 0.876	10:13 10.51 0.33 <100 46.5 2.1 0.20 -113.9 1.055 0.903	10:18 10.72 6,375 2100 30.1 1.7 0.16 -115.3 1079 0.913	10.82 0.45 2100 14.8 1.3 0.12 -111.5 1.071 0.903
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm pH unit	9:53 9.58 N/A <100 371 239 2.48 -46.2 0.265 6.215 7.39	9:58 7.97 0.1 <100 35.9 6.2 0.62 -94.1 0.764 0.623 7.13	10:03 10.27 0.22 2100 62.2 3.0 0.29 -107.8 0.983 0.824 7.15	Readings 10:08 10:46 0.27 2100 8C9 62.8 0.28 -111.1 1.024 0.870 7.16	10:13 10.51 0.33 <100 46.5 2.1 0.20 -113.9 1.055 0.903 7.16	10:19 10.72 6,375 2100 30.1 1.7 0.16 -115.3 1079 0.913 7.19	10.82 0.45 2100 14.8 1.3 0.12 -111.5 1.071 0.903 7.15
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm pH unit	9:53 9.58 N/A <100 371 239 2.48 -46,2 0.265 6.215 7.39 14.98	9:58 7.97 0.1 <100 35.9 6.2 0.67 -94.1 0.764 0.623 7.13 15.87	10:03 10.27 0.22 2100 62.2 3.0 0.29 -107.8 0.983 0.824 7.15	Readings 10:08 10:46 0.27 2100 8.09 6.2.8 0.28 -111.1 1.024 0.870 7.16 17.19	10:13 10.51 0.33 <100 46.5 2.1 0.20 -113.9 1.055 0.903 7.16 17.46	10:19 10.72 6,375 2100 30.1 1.7 0.16 -115.3 1079 0.913 7.19 17.04	10.82 0.45 2100 14.8 1.3 0.12 -111.5 1.071 0.903 7.15
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm pH unit	9:53 9.58 N/A <100 371 239 2.48 -46.2 0.265 6.215 7.39	9:58 7.97 0.1 <100 35.9 6.2 0.62 -94.1 0.764 0.623 7.13	10:03 10.27 0.22 2100 62.2 3.0 0.29 -107.8 0.983 0.824 7.15	Readings 10:08 10:46 0.27 2100 8C9 62.8 0.28 -111.1 1.024 0.870 7.16	10:13 10.51 0.33 <100 46.5 2.1 0.20 -113.9 1.055 0.903 7.16	10:19 10.72 6,375 2100 30.1 1.7 0.16 -115.3 1079 0.913 7.19	10.82 0.45 2100 14.8 1.3 0.12 -111.5 1.071 0.903 7.15 16.88 clear

-> VeW Sheet

Project Name and Number:		_		-	ng Form		
			l Produ			322039	3
Monitoring Well Number:		MW-	15			1.	
Samplers:		Chris	French	/Ro	ss Mc	credy	
Sample Number:			191214		C Collected?		
Purging / Sampling Method:		6	rundfos	pump	V/a	dedicate	d tubin
 L = Total Well Depth; D = Riser Diameter (I.D.); W = Static Depth to Water (T C = Column of Water in Casi V = Volume of Water in Well D2 = Pump Setting Depth (ft) C2 = Column of water in Pun 	ng: l = C(3.14159): np/Tubing (ft		8)	0.17 9.12	feet feet feet gal feet feet	D (inches) 1-inch 2-inch 3-inch 4-inch 6-inch	D (feet) 0.08 0.17 0.25 0.33 0.50
8. Tubing Volume = $C2(0.0057)$	37088)		- Conversion f	etors to de	_gal	van C	
		D (inches) V (gal / ft) V C7	Conversion fa	2-inch 0.163	termine V gi 3-inch 0.37	4-inch 0.65	6-inch 1.5
8. Tubing Volume = C2(0.0057 Water Quality Readings Collect Parameter	ed Using Units	V (gal / ft) YSI	1-inch 0.041 556 &	2-inch 0.163	termine V gi 3-inch	4-inch 0.65	
Water Quality Readings Collect Parameter Time	ed Using Units 24 hr	V (gal / ft) <u>YSI</u> 10:28	1-inch 0.041 556 &	2-inch 0.163	A-inch 3-inch 0.37 P Tunkie	4-inch 0.65	
Water Quality Readings Collect Parameter Time Water Level (0.33)	ed Using Units 24 hr feet	V (gal / ft) YSI 10:28 10.27	1-inch 0.041 556 &	2-inch 0.163	A-inch 3-inch 0.37 P Tunkie	4-inch 0.65	
Water Quality Readings Collect Parameter Time Water Level (0.33) Volume Purged	ed Using Units 24 hr feet gal	V (gal / ft) YSI 10:28 10.27 0.58	1-inch 0.041 556 &	2-inch 0.163	A-inch 3-inch 0.37 P Tunkie	4-inch 0.65	
Water Quality Readings Collect Parameter Time Water Level (0.33) Volume Purged Flow Rate	ed Using Units 24 hr feet gal mL / min	V (gal / ft) YSI 10:28 10:28 10:28 2,00	1-inch 0.041 556 &	2-inch 0.163	A-inch 3-inch 0.37 P Tunkie	4-inch 0.65	
Water Quality Readings Collect Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%)	ed Using Units 24 hr feet gal mL / min NTU	V (gal / ft) <u>YSI</u> 10:28 10:28 10:87 0.58 2100 13:4	1-inch 0.041 556 &	2-inch 0.163	A-inch 3-inch 0.37 P Tunkie	4-inch 0.65	
Water Quality Readings Collect Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%)	ed Using Units 24 hr feet gal mL / min NTU %	V (gal / ft) <u>YSI</u> 10:28 10:27 0.58 2100 13.4 1.2	1-inch 0.041 556 &	2-inch 0.163	A-inch 3-inch 0.37 P Tunkie	4-inch 0.65	
Water Quality Readings Collect Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%)	ed Using Units 24 hr feet gal mL / min NTU % mg/L	V (gal / ft) <u>YSI</u> 10:28 10:87 0.58 2100 1.58 2100 1.14 1.2 0.12	1-inch 0.041 556 &	2-inch 0.163	A-inch 3-inch 0.37 P Tunkie	4-inch 0.65	
Water Quality Readings Collect Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10)	ed Using Units 24 hr feet gal mL / min NTU % mg/L MeV	$\frac{V(gal / ft)}{VSI}$ $\frac{VSI}{U.87}$ $\frac{U.58}{2100}$ $\frac{U.58}{1.2}$ $\frac{U.00}{1.3.4}$ $\frac{1.2}{0.12}$ -109.6	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	2-inch 0.163	A-inch 3-inch 0.37 P Tunkie	4-inch 0.65	
Water Quality Readings Collect Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%)	ed Using Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c	V (gal / ft) <u>YSI</u> U:28 10.27 U.58 2100 10.87 U.58 2100 1.2 0.12 -109.6 1.078	1-inch 0.041 556 &	2-inch 0.163	A-inch 3-inch 0.37 P Tunkie	4-inch 0.65	
Water Quality Readings Collect Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%)	ed Using Units 24 hr feet gal mL / min NTU % mg/L MeV	V (gal / ft) <u>YSI</u> U:28 10.27 U.58 2100 10.27 U.58 2100 1.2 0.12 -109.6 1.078 0.908	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	2-inch 0.163	A-inch 3-inch 0.37 P Tunkie	4-inch 0.65	
Water Quality Readings Collect Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1)	ed Using Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm pH unit	V (gal / ft) V (gal / ft) VSI U.SS LIUO JJ.4 I.2 U.12 -109.6 1.078 U.908 7.16	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	2-inch 0.163	A-inch 3-inch 0.37 P Tunkie	4-inch 0.65	
Water Quality Readings Collect Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5)	ed Using Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm pH unit C	V (gal / ft) V (gal / ft) VSI VSI V.58 2100 10.87 0.58 2100 1.2 0.12 -109.6 1.078 0.908 7.16 17.06	1-inch 0.041 556 &	2-inch 0.163	A-inch 3-inch 0.37 P Tunkie	4-inch 0.65	
Water Quality Readings Collect Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1)	ed Using Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm pH unit	V (gal / ft) V (gal / ft) VSI U.SS LIUO JJ.4 I.2 U.12 -109.6 1.078 U.908 7.16	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	2-inch 0.163	A-inch 3-inch 0.37 P Tunkie	4-inch 0.65	

Monitoring Well Purging/Sampling Form Project Name and Number: Ward Products 60322038 Date: August 12 , 2014 Monitoring Well Number: **MW-16** Samplers: Chris French & Ross McCredy Sample Number: MW-16081214 QA/QC Collected? Purging / Sampling Method: Grundfos or Peristaltic Pump with dedicated tubing/Low Flow 1. L = Total Well Depth:D (inches) D (feet) feet 2. D = Riser Diameter (I.D.): 0.17 feet 1-inch 0.08 3. W = Static Depth to Water (TOC): feet 2-inch 0.17 21.80 4. C = Column of Water in Casing: feet 3-inch 0.25 5. V = Volume of Water in Well = $C(3.14159)(0.5D)^2(7.48)$ 0.33 gal 4-inch 6. D2 = Pump Setting Depth (ft): feet 6-inch 0.50 7. C2 = Column of water in Pump/Tubing (ft): feet gal 8. Tubing Volume = C2(0.005737088)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 YSI 556 & Lamotto 2020 Turbidity Motor 2100 Turbidi noter Water Quality Readings Collected Using Parameter Units Readings Time 24 hr 11:36 11:26 11:41 11:31 11:51 11:21 11:46 Water Level (0.33) feet 24.90 24.34 23.35 23.96 25.49 22.63 26.03 Volume Purged N/A 0.20 0.25 0.35 gal 0.125 0.40 Flow Rate <100 mL / min <100 <100 4100 <100 4100 Turbidity (+/- 10%) NTU 207 60.0 237 210 219 169 3.2 174 Dissolved Oxygen (+/- 10%) % 2.9 16.9 10.6 2.3 1.7 2.1 0.23 Dissolved Oxygen (+/- 10%) mg/L 0.34 1.85 0.17 1.12 0.30 0.22 Eh / ORP (+/- 10) -41.9 MeV -51.5 57.1 18.2 -23.5 -58 -58.3 Specific Conductivity 0.774 mS/cm^c 0.305 0.350 0.682 0.725 0.794 0.793 Conductivity (+/- 3%) mS/cm 0.267 0.611 0.624 0.270 0.537 0.575 0.624 pH (+/- 0.1) pH unit 7.34 7.27 7.30 7.29 7.27 7.63 7.28 Temp (+/- 0.5) С 14.17 14.00 13.81 Milky 12.79 13.98 13.81 12.14 Color Visual Clamp No Milky Suffert Clear Clean Ailly Odor Olfactory No wife ND **Comments:** Sampled @ 12:25

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

1 of 2

	Mor	nitoring W	ell Purgin	g/Samplin	g Form			
Project Name and Number:		Word	Produc	85	603	12203\$		
Monitoring Well Number:		MW-	16	Date:	8/	12/14		
amplers:		chris	Frene	h &	2055 1	Micred	ly	_
Sample Number:		MV-16	08/214	QA/QC	Collected?		/	_
Purging / Sampling Method:		61	ndtu (mmp &	dedic	wheel to	burg	_
 L = Total Well Depth: D = Riser Diameter (I.D.): W = Static Depth to Water (T C = Column of Water in Casi V = Volume of Water in Well D2 = Pump Setting Depth (ft) C2 = Column of water in Pum Tubing Volume = C2(0.0057) 	ng: l = C(3.14159): np/Tubing (ft)			0.17 21.86	feet feet feet gal feet gal gal	D (inches) 1-inch 2-inch 3-inch 4-inch 6-inch	D (feet) 0.08 0.17 0.25 0.33 0.50	
		D (inches)	1-inch	factors to det	3-inch	4-inch	6-inch	
Water Quality Readings Collect	ed Using	V (gal / ft) YSI S.	0.041 56 & 2	0.163 100PT	0.37	0.65 ler	1.5	
Parameter	Units	YSI 5.	56 & 2	100 P T.	Readings	ter		
Parameter Time	Units 24 hr	YSI 5. 11:56	56 & 2	12:06	Readings	ter 12:16	12:21	
Parameter Time Vater Level (0.33)	Units 24 hr feet	YSI 5. 11:56 26.56	2:01 27.08	12:06 27.60	Readings 12:11 28.26	ter 12:16 28.79	12:21 29.48	
Parameter Time Vater Level (0.33) Volume Purged	Units 24 hr feet gal	YSI 5. 11:56 26.56 0.5	27.08 0.55	12:06 27.60 0.625	Readings 12:11 28.26 0.75	ler 12:16 28.79 0.875	12:21 29.48 1.0	
Parameter Time Vater Level (0.33) Volume Purged Tow Rate	Units 24 hr feet gal mL / min	YSI 5. 11:56 26.56 0.5 <100	27.08 0.55 (100	12:06 27.60 0.625 <100	Readings 12:11 28.26 0.75 4100	ler 12:16 28.79 0.875 2100	12:21 29.48 1.0 <100	
Parameter Fime Vater Level (0.33) Volume Purged Flow Rate Furbidity (+/- 10%)	Units 24 hr feet gal mL/min NTU	YSI 5. 11:56 26.56 0.5 <100 226	256 & 2 27.08 0.55 <100 126	12:06 27.60 0.625 <100 125	Readings 12:11 28.26 0.75 <100 134	ler 12:16 28.79 0.875 2100 96.7	12:21 29.48 1.0 <100 64.3	
Parameter Fime Water Level (0.33) Volume Purged Flow Rate Furbidity (+/- 10%) Dissolved Oxygen (+/- 10%)	Units 24 hr feet gal mL / min NTU %	YSI 5. 11:56 26.56 0.5 <100 226 1.6	56 & 2 7:01 77.08 0.55 <100 126 1.3	12:06 27.60 0.625 <100 125 1.1	Readings 12:11 28.26 0.75 <100 134 1.1	ler 12:16 28.79 0.875 2100 96.7 1.0	12:21 29.48 1.0 <100 64.3 1.0	
Parameter Fime Water Level (0.33) Volume Purged Flow Rate Furbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%)	Units 24 hr feet gal mL / min NTU % mg/L	YSI 5. 11:56 26.56 0.5 <100 226 1.6 0.16	56 & 2 7:01 7.08 0.55 <100 126 1.5 0.13	12:06 27.60 0.625 <100 125 1.1 0.12	Readings 12:11 28.26 0.75 <100 134 1.1 0.11	ler 12:16 28.79 0.875 <100 96.7 1.0 0.10	12:21 29.48 1.0 <100 64.3 1.0 0.10	
Parameter Fime Water Level (0.33) Volume Purged Flow Rate Furbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10)	Units 24 hr feet gal mL / min NTU % mg/L MeV	YSI 5. 11:56 26.56 0.5 2100 226 1.6 0.16 -55.6	56 & 2 12:01 27.08 0.55 <100 126 1.3 0.13 -46.7	12:06 27.60 0.625 <100 125 1.1 0.12 -40.6	Readings 12:11 28.26 0.75 <100 134 1.1 0.11 -34.9	ler 12:16 28.79 0.875 2100 96.7 1.0 0.10 -30.3	12:21 29.48 1.0 <100 64.3 1.0 0.10 -22.3	
Parameter Fime Water Level (0.33) Volume Purged Flow Rate Furbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c	YSI 5. 11:56 26.56 0.5 <100 226 1.6 0.16 -55.6 0.789	56 & 2 7:01 27.08 0.55 <100 126 1.3 0-13 -46.7 0.787	12:06 27.60 27.60 0.625 <100 125 1.1 0.12 -40.6 0.780	Readings 12:11 28.26 0.75 <100 1.34 1.1 0.11 -34.9 0.741	12:16 28.79 0.875 2100 96.7 1.0 0.10 -30.3 0.699	2:21 29.48 1.0 <100 64.3 1.0 0.10 -22.3 0.645	
Parameter Fime Water Level (0.33) Volume Purged Flow Rate Furbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm° mS/cm	YSI 5. 11:56 26.56 0.5 2100 226 1.6 0.16 -55.6 0.789 0.622	56 & 2 7:01 27.08 0.55 <100 126 1.2 0.13 -46.7 0.787 0.621	12:06 27.60 27.60 0.625 <100 125 1.1 0.12 -40.6 0.780 0.617	Readings 12:11 28.26 0.75 <100 134 1.1 0.11 -349 0.741 0.580	ler 12:16 28.79 0.875 2100 96.7 1.0 0.10 -30.3 0.698 0.541	12:21 29.48 1.0 <100 64.3 1.0 0.10 -22.3 0.645 0.503	
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) DH (+/- 0.1)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm° mS/cm pH unit	YSI 5. 11:56 26.56 0.5 <100 226 1.6 0.16 -55.6 0.789 0.622 7.28	56 & 2 7:01 27.08 0.55 <100 126 1.3 0.13 -46.7 0.787 0.621 7.29	12:06 27.60 27.60 0.625 <100 125 1.1 0.12 -40.6 0.780 0.617 7.29	Readings 12:11 28.26 0.75 4100 134 1.1 0.11 -34.9 0.741 0.580 7.28	ler 12:16 28.79 0.875 <100 96.7 1.0 0.10 -30.3 0.698 0.541 7.26	12:21 29.48 1.0 <100 64.3 1.0 0.10 -22.3 0.645 0.503 7.28	
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) DH (+/- 0.1) Temp (+/- 0.5)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm° mS/cm pH unit C	YSI 5. 11:56 26.56 0.5 2100 226 1.6 0.16 -55.6 0.789 0.622 7.28 13.91	56 & 2 7:01 27.08 0.55 <100 126 1.3 0.13 -46.7 0.787 0.621 7.29 14.01	12:06 27.60 27.60 0.625 <100 125 1.1 0.12 -40.6 0.780 0.617 7.29 14.03	Readings 12:11 28.26 0.75 4100 134 1.1 0.11 -34.9 0.741 0.580 7.28 13.59	ler 12:16 28.79 0.875 <100 96.7 1.0 0.10 -30.3 0.699 0.541 7.26 13.81	12:21 29.48 1.0 <100 64.3 1.0 0.10 -22.3 0.645 0.503 7.28 12.38	
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) oH (+/- 0.1) Temp (+/- 0.5) Color	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm pH unit C Visual	YSI 5. 11:56 26.56 0.5 2100 226 1.6 0.16 -55.6 0.789 0.622 7.28 13.91	56 & 2 7:01 27.08 0.55 <100 126 1.3 0.13 -46.7 0.621 7.29 14.01 M.R.2	12:06 27.60 27.60 0.625 <100 125 1.1 0.12 -90.6 0.617 7.29 14.03 Mollay	Readings 12:11 28.26 0.75 4100 134 1.1 0.11 -34.9 0.741 0.580 7.28 13.59	ler 12:16 28.79 0.875 <100 96.7 1.0 0.10 -30.3 0.699 0.541 7.26 13.81 Clew	12:21 29.48 1.0 <100 64.3 1.0 0.10 -22.3 0.645 0.503 7.28 12.38 Clear	
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5) Color Odor	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm° mS/cm pH unit C Visual Olfactory	YSI S. 11:56 26.56 0.5 2100 226 1.6 0.16 -55.6 0.789 0.622 7.28 13.91 Alihy Sultor	56 & 2 7:01 27.08 0.55 <100 126 1.3 0.13 -46.7 0.621 7.29 14.01 MRy Sulton	12:06 27.60 27.60 0.625 <100 125 1.1 0.12 -90.6 0.617 7.29 19.03 1.8/12 5.1/12	Readings 12:11 28.26 0.75 2100 134 1.1 0.11 -34.9 0.741 0.580 7.28 13.59 nilky No	ler 12:16 28.79 0.875 <100 96.7 1.0 0.10 -30.3 0.699 0.541 7.26 13.81	2:21 29.48 1.0 <100 64.3 1.0 0.10 -22.3 0.645 0.503 7.28 12.38 Clear No	
Water Quality Readings Collect Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5) Color Odor Comments: Comments:	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm° mS/cm pH unit C Visual Olfactory	YSI 5. 11:56 26.56 0.5 <100 226 1.6 0.16 -55.6 0.789 0.622 7.28 13.91 Ailhy Sullar	56 & 2 7:01 27.08 0.55 <100 126 1.3 0.13 -46.7 0.787 0.621 7.29 14.01 MR2 Subor Staboliz	12:06 27.60 27.60 0.625 <100 125 1.1 0.12 -40.6 0.780 0.617 7.29 14.03 Nolly Sulfs	Readings 12:11 28.26 0.75 2100 134 1.1 0.11 -34.9 0.741 0.580 7.28 13.59 nilky No	ler 12:16 28.79 0.875 <100 96.7 1.0 0.10 -30.3 0.699 0.541 7.26 13.81 Clew	12:21 29.48 1.0 <100 64.3 1.0 0.10 -22.3 0.645 0.503 7.28 12.38 Clear	

Samplers: Sample Number:		Ward Prod MW-17	ucts	6032203	8			
Monitoring Well Number: Samplers: Sample Number: Purging / Sampling Method:		MW-17						
Sample Number:				Date	August /	2,2014		
		Chris Fren	ch & Ross Mo	Credy	1.4			
Purging / Sampling Method:		MW-17 🥏	81214	QA/Q	C Collected?			
		Grundfos o	r Peristaltic P	ump with de	edicated tubin	ng/Low Flow	/	
1. L = Total Well Depth:					feet	D (inches)	D (feet)	
2. $D = Riser Diameter (I.D.):$						The second se		
3. W = Static Depth to Water ($^{\circ}$	TOCY			0.17	feet	1-inch	0.08	
4. $C = Column of Water in Cas$				10.55	_ feet	2-inch	0.17	
	•	0.40 == 2/-	10)		-	3-inch	0.25	
5. $V = Volume of Water in We$		9)(0.5D)*(7.4	48)		_gal	4-inch	0.33	
6. $D2 = Pump$ Setting Depth (fi					feet	6-inch	0.50	
7. $C2 = Column of water in Put$		t):			feet			
8. Tubing Volume = $C2(0.0057)$	(37088)				gal			
			с ·	C		. ~		
			Conversion	tactors to de	etermine V g	iven C		
		D (inches)	1_inch	2.inch	3 inch	1 1 inch	6 inch	
Water Quality Readings Collec	ted Using	D (inches) V (gal / ft) YSI 556 &	1-inch 0.041	2-inch 0.163 0 Turbidity	3-inch 0.37 Meter 210	4-inch 0.65 0 P Tunb	6-inch 1.5 idimeter	
Parameter	Units	V (gal / ft) YSI 556 &	0.041	0.163 0 Turbidity -	0.37	0.65 0 P Tumb	1.5 ridimeter	
Parameter Time	Units 24 hr	V (gal / ft) YSI 556 &	0.041	0.163 0 Turbidity-	0.37	0.65 0 P Tumb	1.5 idimeter 11:20	
Parameter Time Water Level (0.33)	Units 24 hr feet	V (gal / ft) YSI 556 & [[:05 12.65	0.041	0.163 0 Turbidity-	0.37 Motor 2/0 Readings 11:2- (3.20	0.65 0 P Tunb	1.5 idimeter 11:20 13.50	
Parameter Time Water Level (0.33) Volume Purged	Units 24 hr feet gal	V (gal / ft) YSI 556 & [[:05 12.65 0	0.041 Lamotte 202	0.163 0 Turbidity- 11:15 12.08 .17	0.37 Motor 210 Readings 11:2- 13.20 .20	0.65 0 P Tumb 11:25 13.45 .22	1.5 idineter 11:20 13.50 .25	
Parameter Time Water Level (0.33) Volume Purged Flow Rate	Units 24 hr feet gal mL / min	V (gal / ft) YSI 556 & [[1:05 12.65 0 4 100	0.041 Lamotte 202 11:10 12.83 .10 < 100	0.163 0 Turbidity- 11:15 12.08 .17 2100	0.37 Motor 210 Readings 11:20 (3.20 .20 <100	0.65 0 P Tumb 11:25 13.45 .22 < roo	1.5 idineter 11:20 13.50 .25 eto	
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%)	Units 24 hr feet gal mL / min NTU	V (gal / ft) YSI 556 & 12.65 0 2.100 20.8	0.041 Eamotic 202 11:10 12.83 .10 < 100 100 100 100 100 100 100 100	0.163 0 Turbidity 12.08 .17 2.100 [0.4]	0.37 Motor 210 Readings 11:20 13:20 .20 .20 .100 15:0	0.65 0 P Tumb 11:25 13.95 .22 <100 4.78	1.5 idineter 11:20 13.50 .25 eto 4.61	
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%)	Units 24 hr feet gal mL / min NTU %	V (gal / ft) YSI 556 & 12.65 0 2.00 20.8 2.7	0.041 Eamotic 202 11:10 12.83 .10 < 100 100 100 100 100 100 100 100	0.163 0 Turbidity- 12.08 .17 2100 [0.4] 1.7	0.37 Motor 2/0 Readings 11:25 (3.20 .20 <100 15.0 2.1	0.65 0 P Tunb 11:25 13.45 .22 <100 4.78 2.0	1.5 idimeter 11:20 13.50 .25 eta U.61 2.0	
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%)	Units 24 hr feet gal mL / min NTU % mg/L	V (gal / ft) YSI 556 & 12.65 0 2.00 20.8 2.7 0.29	0.041 Camotic 202 11:10 12.83 .10 < 100 100 100 100 100 100 100 100	0.163 0 Turbidity- 12.08 .17 2100 10.4 1.7 0.18	0.37 Motor 2/0 Readings 11:25 (3.20 .20 <100 15.0 2.1 •.21	0.65 0 P Tunb 11:25 13.45 .22 <100 4.78 2.0 0:20	1.5 idimeter 11:20 13.50 .25 eta U.61 2.0 0:20	
Water Quality Readings Collec Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10)	Units 24 hr feet gal mL / min NTU % mg/L MeV	V (gal / ft) YSI 556 & 12.65 0 2.00 20.8 2.7	0.041 Camotic 202 11:10 12.83 .10 < 100 < 100 10 < 100 10 < 100 10 < 100 - 10 - 10	0.163 0 Turbidity- 12.08 .17 2100 [0.4] 1.7	0.37 Motor 2/0 Readings 11:25 (3.20 .20 <100 15.0 2.1	0.65 0 P Tunb 11:25 13.45 .22 <100 4.78 2.0	1.5 idimeter 11:20 13.50 .25 eta U.61 2.0	
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%)	Units 24 hr feet gal mL / min NTU % mg/L	V (gal / ft) YSI 556 & 12.65 0 2.00 20.8 2.7 0.29	0.041 Camotic 202 11:10 12.83 .10 < 100 100 100 100 100 100 100 100	0.163 0 Turbidity- 12.08 .17 2100 10.4 1.7 0.18	0.37 Motor 2/0 Readings 11:25 (3.20 .20 <100 15.0 2.1 •.21	0.65 0 P Tunb 11:25 13.45 .22 <100 4.78 2.0 0:20	1.5 idimeter 11:20 13.50 .25 eta U.61 2.0 0:20	
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity	Units 24 hr feet gal mL / min NTU % mg/L MeV	V (gal / ft) YSI 556 & 12.65 0 2.0.8 2.7 0.29 -67.0	0.041 Camotic 202 11:10 12.83 .10 < 100 < 100 10 < 100 10 < 100 10 < 100 - 10 - 10	0.163 0 Turbidity 12.08 .17 .100 10.4 1.7 0.18 - 67.0	0.37 Motor 210 Readings 11:2-5 (3.20 .20 .20 .20 .20 .20 .20 .20	0.65 0 P Tunb 11:25 13.45 .22 <100 4.78 2.0 0.20 - 79.4 LOGZ 0.850	1.5 idineter 11:20 13.50 .25 eto 4.61 2.0 0.20 -720	
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c	V (gal / ft) YSI 556 & 12.65 0 2.0.8 2.7 0.29 -67.0 1.049	0.041 Camotic 202 11:10 12.83 .10 < 100 < 100 12.83 .10 < 2.83 .10 < 300 http://www.com/ .23 .68.5 1.052	0.163 0 Turbidity- 0 Turbidity- 12.08 .17 2.100 10.4 1.7 0.18 - 67.0 1.056	0.37 Motor 210 Readings 11:2-5 (3.20 .20 .20 .20 .20 .20 .20 .20	0.65 0 P Tunb 11:25 13.45 .22 <100 4.78 2.0 0.20 - 79.4 Lobz	1.5 idineter 11:20 13.50 .25 eto 4.61 2.0 0.20 -72.0 1.069	
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm	V (gal / ft) YSI 556 & 12.65 0 2.0.8 2.7 0.26 -67.0 1.049 .707	0.041 11:10 12.83 .10 <100 12.83 .10 <100 12.83 .10 <100 12.83 .10 <100 12.83 .10 <100 12.83 .10 <100 12.83 .10 <100 12.83 .10 <100 12.83 .10 <100 12.83 .10 <100 12.83 .10 <100 12.83 .10 <100 12.83 .10 <100 .00 .00 .00 .00 .00 .00 .00	0.163 0 Turbidity- 0 Turbidity- 13.08 .17 2100 10.4 1.7 0.18 - 67.0 1.056 0.815	0.37 Motor 210 Readings 11:20 13:20 .20 .20 .20 .20 .20 .20 .20	0.65 0 P Tunb 11:25 13.45 .22 <100 4.78 2.0 0.20 - 79.4 LOGZ 0.850	1.5 idineter 11:20 13.50 .25 eto 4.61 2.0 0.20 -720 1.069 0.851	
Parameter Time Water Level (0.33) Volume Purged Flow Rate Furbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) DH (+/- 0.1)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm pH unit	V (gal / ft) YSI 556 & 12.65 0 2.0.8 2.7 0.29 -67.0 1.049 .787 8.42	0.041 11:10 12.83 10 4:00 10 4:00 10 10 10 10 10 10 10 10 10	0.163 0 Turbidity- 0 Turbidity- 12.08 .17 2100 10.4 1.7 0.18 - 67.0 1.056 0.815 6.41	0.37 Motor 210 Readings 11:20 13:20 .20 .20 .20 .20 .20 .20 .20	0.65 0 P Tumb 11:25 13.45 .22 <100 4.78 2.0 0.20 - 79.4 Lob 3 0.850 6.79	1.5 idineter 11:20 13.50 .25 eto 4.61 2.0 0.20 -72.0 1.069 0.851 6.80	

Project Name and Number:		Ward Produ	cts	60322038	3				-
Monitoring Well Number:		<u>MW-18</u>		Date:	August	, 2014		1	
Samplers:		Chris French	h & Ross M	Credy				_	
Sample Number:		MW-1808	ин	QA/Qe	C Collected?				
Purging / Sampling Method:		Grundfos or	Peristaltic I	ump with de	dicated tubin	g/Low Flow			
1. L = Total Well Depth:					feet	D (inches)	D (feet)	1	
2. D = Riser Diameter (I.D.):				0.17	feet	1-inch	0.08		
3. W = Static Depth to Water (ГОС):			21.84	feet	2-inch	0.17		
4. C = Column of Water in Cas				1	feet	3-inch	0.25		
5. $V = Volume of Water in Web$	ll = C(3.1415)	$(0.5D)^{2}(7.4)$	8)		gal	4-inch	0.33		
6. D2 = Pump Setting Depth (ft			·		feet	6-inch	0.50		
7. $C2 = Column$ of water in Pur	mp/Tubing (ft	.):			feet				
8. Tubing Volume = $C2(0.0057)$					gal				
				-					
			Conversion	factors to de	etermine V gi	iven C	44		
		D(1)	1 in ab	1 in als	3-inch	4-inch	6-inch	1	
		D (inches)	1-inch	2-inch	J-men	1 men	U Intern		
Water Quality Readings Collec	ted Using	V (gal / ft) YSI 556 &	0.041	0.163	0.37	0.65	1.5	1	
	ted Using Units	V (gal / ft) YSI 556 &	0.041	0.163 0 Turbidity I	0.37	0.65 2P Turbid	1.5		
Parameter	Units 24 hr	V (gal / ft) YSI 556 &: Iv: 5 3	0.041 Lamotte 202	0.163 0 Turbidity 11: 03	0.37 Meter 2/00 Readings 11:09	0.65 28 Turbid	1.5 ineter 11:18	:23	//:2
Parameter Time Water Level (0.33)	Units 24 hr feet	V (gal / ft) YSI 556 & Io: 5 3 2 2 . 32	0.041 Lamotte 202 /0:58 2 2.43	0.163 0 Turbidity 11: 03 2 2.52	0.37 Meter 2100 Readings 11:09 22,6	0.65 28 Turbid 11:13 22.65	1.5 ineter 11:18 22.65	22.68	22.
Parameter Time Water Level (0.33) Volume Purged	Units 24 hr feet gal	V (gal / ft) YSI 556 & Iv: 53 22.32 O	0.041 Lamotte 202 /0:58 2 2.43 0.25	0.163 0 Turbidity 11: 03 2 2,52 0.4	0.37 Meter 2100 Readings 11:09 22.6 0.5	0.65 29 Turbid 11:13 22.65 0.55	1.5 ineter 11:18 22.65 0.7	22.68	22.
Parameter Time Water Level (0.33) Volume Purged Flow Rate	Units 24 hr feet gal mL / min	V (gal / ft) YSI 556 & 10:53 22.32 O 2/00	0.041 Lamotte 202 /0:58 22.43 0.25 00</td <td>0.163 0 Turbidity 11: 03 2 2,52 0.4 <!--05</td--><td>0.37 Meter 2100 Readings 11:09 22.6 0.5 <100</td><td>0.65 29 Turbid 11:13 22.65 0.55 <100</td><td>1.5 ineter 11:18 22.65 0.7 <100</td><td>22.68 0.75 4100</td><td>22. 0.8 <10</td></td>	0.163 0 Turbidity 11: 03 2 2,52 0.4 05</td <td>0.37 Meter 2100 Readings 11:09 22.6 0.5 <100</td> <td>0.65 29 Turbid 11:13 22.65 0.55 <100</td> <td>1.5 ineter 11:18 22.65 0.7 <100</td> <td>22.68 0.75 4100</td> <td>22. 0.8 <10</td>	0.37 Meter 2100 Readings 11:09 22.6 0.5 <100	0.65 29 Turbid 11:13 22.65 0.55 <100	1.5 ineter 11:18 22.65 0.7 <100	22.68 0.75 4100	22. 0.8 <10
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%)	Units 24 hr feet gal mL / min NTU	V (gal / ft) YSI 556 & 10:53 22.32 O <100 63.4	0.041 Lamotte 202 10:58 22.43 0.25 <100 46.6	0.163 0 Turbidity 11: 03 2 2,52 0.4 2/06 3 3,4	0.37 Meter 2/00 Readings 11:09 22.6 0.5 <100 33.1	0.65 28 Turbid 11:13 22.65 0.55 2100 65.2	1.5 ineter 11:18 22.65 0.7 <100 53.5	22.68 0.75 <100 40.3	22. 0.8 <10 32.
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%)	Units 24 hr feet gal mL / min NTU %	V (gal / ft) YSI 556 & 22.32 O 2100 63.4 41	0.041 Lamotte 202 10:58 22.43 0.25 <100 46.6 30.5	0.163 0 Turbidity 11: 03 22,52 0.4 2/06 23,4 28,4	0.37 Meter 2/00 Readings 11:09 22.6 0.5 <100 33.1 33.1	0.65 29 Turbid 11:13 22.65 0.55 2100 65.2 29.2	1.5 ineter 11:18 22.65 0.7 <100 53.5 23.7	22.68 0.75 <100 40.3 22.3	22. 0.8 <10 33. 22.
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%)	Units 24 hr feet gal mL / min NTU % mg/L	V (gal / ft) $YSI 556 &$ $lv: 5.3$ $2.7.32$ O $4/00$ 63.4 41 4.41	0.041 Lamotte 202 10:58 22.43 0.25 <100 46.6 30.5 3.26	0.163 0 Turbidity: 2 2.52 0.4 00<br 3.3.4 2 8.4 3.04	0.37 Meter 2100 Readings 11:09 22.6 0.5 <100 32.1 32.1 32.1 3.53	0.65 29 Turbid 11:13 22.65 0.55 <100 65.2 29.2 3.11	1.5 ineter 11:18 22.65 0.7 <100 53.5 23.7 2.54	22.68 0.75 <100 40.3 22.3 2.36	22. 0.8 <10 37. 22. 2.4
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10)	Units 24 hr feet gal mL / min NTU % mg/L MeV	V (gal / ft) YSI 556 & 10:53 22.32 O 2100 63.4 41 41 4,41 172.5	0.041 Lamotte 202 10:58 27.43 0.25 2100 46.6 30.5 3.26 189.5	0.163 0 Turbidity 2 2.52 0.4 2/06 3.3.4 28.4 3.04 173.0	0.37 Meter 2100 Readings 11:08 22.6 0.5 <100 32.1 32.1 3.1 3.2.1 3.53 167.5	0.65 0.65 0.65 11:13 22.65 0.55 2100 65.2 29.2 3.11 158.3	1.5 ineter 11:18 22.65 0.7 <100 53.5 23.7 2.54 148.7	22.68 0.75 <100 40.3 22.3 2.36 142.3	22. 0.8 <10 37. 22. 2.4 140
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c	V (gal / ft) YSI 556 & 10:53 22.32 O 2100 63.4 41 41 41 172.8 0.295	0.041 Lamotte 202 10:58 22.43 0.25 <100 46.6 30.5 3.26 189.5 0.290	0.163 0.163 0.163 0.163 0.205 0.4 2.52 0.4 2.55 0.55 0	0.37 Meter 2100 Readings 11:09 22.6 0.5 <100 33.1 3.1 3.53 167.5 0.283	0.65 P Turbid 11:13 22.65 0.55 2100 65.2 29.2 3.11 158.3 0.340	1.5 ineter 11:18 22.65 0.7 <100 53.5 23.7 2.54 148.7 6.347	22.68 0.75 <100 40.3 22.3 2.36 142.3 0.351	22. 0.8 <10 37. 22. 2.4 140 0.3
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm	V (gal / ft) YSI 556 & 22.32 O 2100 63.4 41 4.41 172.5 0.295 0.224	0.041 Lamotte 202 10:58 22.43 0.25 21.43 0.25 2.100 46.6 30.5 3.26 189.5 0.290 0.221	0.163 0 Turbidity: 2 2.52 0.4 2 /06 3.4 2 8.4 3.04 173.0 0.285 0.219	0.37 Meter 2100 Readings 11:09 22.6 0.5 <100 32.1 3.1 3.53 167.5 0.283 0.216	0.65 P Turbid 11:13 22.65 0.55 2100 65.2 29.2 3.11 158.3 0.340 0.25	1.5 ineter 11:18 22.65 0.7 <100 53.5 23.7 2.54 148.7 6.347 0.265	22.68 0.75 <100 40.3 22.3 2.36 142.3 0.351 0.267	22. 0.8 <10 37. 22. 2.9 140 0.3 0.27
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm pH unit	V (gal / ft) YSI 556 & 22.32 O 2100 63.4 41 4.41 172.5 0.295 0.224 6.76	0.041 Lamotte 202 10:58 22.43 0.25 2100 46.6 305 3.26 189.5 0.290 0.221 6.05	0.163 0 Turbidity 2 2.52 0.4 2/06 3.3.4 28.4 3.04 173.0 0.285 0.217 6.07	0.37 Meter 2100 Readings 11:09 22.6 0.5 <100 32.1 3.2.1 3.53 167.5 0.283 0.216 6.36	0.65 P Turbid 11:13 22.65 0.55 2100 65.2 29.2 3.11 158.3 0.390 0.25 6.42	1.5 ineter 11:18 22.65 0.7 <100 53.5 23.7 2.54 148.7 6.347 0.265 6.46	22.68 0.75 <100 40.3 22.3 2.36 142.3 0.351 0.267 6.53	22. 0.8 <10 33. 22. 2.9 190 0.3 0.27 6.55
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm pH unit C	V (gal / ft) YSI 556 & 22.32 O 2100 63.4 41 4.41 172.5 0.295 0.224 6.76 17.46	0.041 Lamotte 202 10:58 22.43 0.25 4(.6 305 3.26 189.5 0.290 0.221 6.05 12.43	0.163 0.163 0.163 0.163 0.252 0.4 2.55 0.4 2.55 0.2 5.55 0.555 0.2 5.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0	0.37 Meter 2100 Readings 11:09 22.6 0.5 <100 32.1 32.1 3.53 167.5 0.283 0.216 6.36 12.62	0.65 P Turbid 11:13 22.65 0.55 2100 65.2 29.2 3.11 158.3 0.390 0.25 6.42 12.58	1.5 ineter 11:18 22.65 0.7 <100 53.5 23.7 2.54 148.7 6.347 6.347 6.265 6.46 12.46	22.68 0.75 <100 40.3 22.3 2.36 142.3 0.351 0.267 6.53 12.58	22. 0.8 <10 33. 22. 2.9 140 0.3 0.27 6.55 12.0
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5) Color	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm pH unit C Visual	V (gal / ft) YSI 556 & 2 2.32 O 2 100 6 3.4 41 41 172.8 0.295 0.224 6.76 12.46 Yellow	0.041 Lamotto 202 10:58 22.43 0.25 4(.6 305 3.26 189.5 0.290 0.221 6.05 12.43 yellou	0.163 0.163 0.163 0.163 0.203 0.163 2.2,52 0.4 2.0,4 2.0,4 2.0,4 2.0,4 2.0,4 2.0,4 2.0,4 2.0,4 2.0,4 2.0,4 2.0,4 2.0,4 2.0,4 2.0,4 2.0,4 2.0,4 2.0,5 0.2,5 0,5 0.2,5	0.37 Meter 2100 Readings 11:09 22.6 0.5 <100 32.1 32.1 32.1 3.53 167.5 0.283 0.216 6.36 12.62 Yellou	0.65 P Turbid 11:13 22.65 0.55 2100 65.2 29.2 3.11 158.3 0.390 0.25 6.42 12.58 Yellow	1.5 incler 11:18 22.65 0.7 <100 53.5 23.7 2.54 148.7 0.347 0.265 6.46 12.46 yelloj	22.68 0.75 <100 40.3 22.3 2.36 142.3 0.351 0.267 6.53 12.58 Yellou	22. 0.8 37. 22. 2.9 140 0.3 0.27 6.5 12.0 Yellon
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5)	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm pH unit C	V (gal / ft) YSI 556 & 22.32 O 2100 63.4 41 4.41 172.5 0.295 0.224 6.76 17.46	0.041 Lamotte 202 10:58 22.43 0.25 4(.6 305 3.26 189.5 0.290 0.221 6.05 12.43	0.163 0.163 0.163 0.163 0.252 0.4 2.55 0.4 2.55 0.2 5.55 0.555 0.2 5.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0	0.37 Meter 2100 Readings 11:09 22.6 0.5 <100 32.1 32.1 3.53 167.5 0.283 0.216 6.36 12.62	0.65 P Turbid 11:13 22.65 0.55 2100 65.2 29.2 3.11 158.3 0.390 0.25 6.42 12.58	1.5 ineter 11:18 22.65 0.7 <100 53.5 23.7 2.54 148.7 6.347 6.347 6.265 6.46 12.46	22.68 0.75 <100 40.3 22.3 2.36 142.3 0.351 0.267 6.53 12.58	22. 0.8 <10 33. 22. 2.9 140 0.3 0.27 6.55 12.0
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5) Color Odor	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm pH unit C Visual	V (gal / ft) YSI 556 & 22.32 O 2100 63.4 41 4.41 172.8 0.295 0.224 6.76 12.46 Yellow NO	0.041 Lamotte 202 10:58 27.43 0.25 21.43 0.25 2.100 46.6 30.5 3.76 189.5 0.29 ⁰ 0.221 6.05 12.43 yellou No	0.163 0.163 0.163 0.163 0.203 0.163 2.2,52 0.4 2.0,4 2.0,4 2.0,4 2.0,4 2.0,4 2.0,4 2.0,4 2.0,4 2.0,4 2.0,4 2.0,4 2.0,4 2.0,4 2.0,4 2.0,4 2.0,4 2.0,5 0.2,5 0,5 0.2,5	0.37 Meter 2100 Readings 11:09 22.6 0.5 <100 32.1 32.1 32.1 3.53 167.5 0.283 0.216 6.36 12.62 Yellou	0.65 P Turbid 11:13 22.65 0.55 2100 65.2 29.2 3.11 158.3 0.390 0.25 6.42 12.58 Yellow	1.5 incler 11:18 22.65 0.7 <100 53.5 23.7 2.54 148.7 0.347 0.265 6.46 12.46 yelloj	22.68 0.75 <100 40.3 22.3 2.36 142.3 0.351 0.267 6.53 12.58 Yellou	22. 0.8 37. 22. 2.9 140 0.3 0.27 6.5 12.0 Yellon
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5) Color Odor	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm pH unit C Visual Olfactory	V (gal / ft) YSI 556 & 22.32 O 2100 63.4 41 4.41 172.8 0.295 0.224 6.76 12.46 Yellow NO	0.041 Lamotte 202 10:58 27.43 0.25 21.43 0.25 2.100 46.6 30.5 3.76 189.5 0.29 ⁰ 0.221 6.05 12.43 yellou No	0.163 0.163 0.163 0.163 0.203 0.163 2.2,52 0.4 2.0,4 2.0,4 2.0,4 2.0,4 2.0,4 2.0,4 2.0,4 2.0,4 2.0,4 2.0,4 2.0,4 2.0,4 2.0,4 2.0,4 2.0,4 2.0,4 2.0,5 0.2,5 0,5 0.2,5	0.37 Meter 2100 Readings 11:09 22.6 0.5 <100 32.1 32.1 32.1 3.53 167.5 0.283 0.216 6.36 12.62 Yellou	0.65 P Turbid 11:13 22.65 0.55 2100 65.2 29.2 3.11 158.3 0.390 0.25 6.42 12.58 Yellow	1.5 incler 11:18 22.65 0.7 <100 53.5 23.7 2.54 148.7 0.347 0.265 6.46 12.46 yelloj	22.68 0.75 <100 40.3 22.3 2.36 142.3 0.351 0.267 6.53 12.58 Yellou	22. 0.8 37. 22. 2.9 140 0.3 0.27 6.5 12.0 Yellon
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5) Color Odor	Units 24 hr feet gal mL / min NTU % mg/L MeV mS/cm ^c mS/cm pH unit C Visual Olfactory	V (gal / ft) YSI 556 & 22.32 O 2100 63.4 41 4.41 172.8 0.295 0.224 6.76 12.46 Yellow NO	0.041 Lamotte 202 10:58 27.43 0.25 21.43 0.25 2.100 46.6 30.5 3.76 189.5 0.29 ⁰ 0.221 6.05 12.43 yellou No	0.163 0.163 0.163 0.163 0.203 0.163 2.2,52 0.4 2.0,4 2.0,4 2.0,4 2.0,4 2.0,4 2.0,4 2.0,4 2.0,4 2.0,4 2.0,4 2.0,4 2.0,4 2.0,4 2.0,4 2.0,4 2.0,4 2.0,5 0.2,5 0,5 0.2,5	0.37 Meter 2100 Readings 11:09 22.6 0.5 <100 32.1 32.1 32.1 3.53 167.5 0.283 0.216 6.36 12.62 Yellou	0.65 P Turbid 11:13 22.65 0.55 2100 65.2 29.2 3.11 158.3 0.390 0.25 6.42 12.58 Yellow	1.5 incler 11:18 22.65 0.7 <100 53.5 23.7 2.54 148.7 0.347 0.265 6.46 12.46 yelloj	22.68 0.75 <100 40.3 22.3 2.36 142.3 0.351 0.267 6.53 12.58 Yellou	22. 0.8 <10 33. 22. 2.9 140 0.3 0.27 6.5 12.0 Yellot

Project Name and Number: Monitoring Well Number: Samplers: Sample Number: Purging / Sampling Method: 1. L = Total Well Depth:		Ward Produ MW-19 Chris Frencl MW-19 o 2	cts h & Ross Mc		August /	2 ,2014	_	
Samplers: Sample Number: Purging / Sampling Method: 1. L = Total Well Depth:		Chris Frencl	h & Ross Mc		August 1	2 ,2014		
Sample Number: Purging / Sampling Method: 1. L = Total Well Depth:			h & Ross Mc	C 1				
Purging / Sampling Method: 1. L = Total Well Depth:		MW-1909		Credy				
1. L = Total Well Depth:			1214	QA/Q0	C Collected?			
-		Grundfos or	Peristaltic P	ump with de	dicated tubin	g/Low Flow		
 D = Riser Diameter (I.D.): W = Static Depth to Water (T C = Column of Water in Casis V = Volume of Water in Well D2 = Pump Setting Depth (ft) C2 = Column of water in Pum Tubing Volume = C2(0.00573) 	ing: = C(3.14159 :): np/Tubing (ft)	, , , , , , , , , , , , , , , , , , , ,	8)	0.17 _30.90	feet gal feet feet	D (inches) 1-inch 2-inch 3-inch 4-inch 6-inch	D (feet) 0.08 0.17 0.25 0.33 0.50	
5. Tubing Volume C2(0.0057.	51000)		Conversion	factors to de	_gal etermine V gi	iven C		
		D (1 1 1						
		D (inches) V (gal / ft)	1-inch 0.041	2-inch 0.163	3-inch 0.37	4-inch 0.65	6-inch 1.5	l
Water Quality Readings Collect Parameter	ted Using	V (gal / ft)	0.041	0.163	0.37 Meter 210	0.65 OP Turb	1.5]
Water Quality Readings Collect Parameter Time		V (gal / ft) YSI 556 &	0.041 Lamotto 202	0.163 0 Turbidity	0.37 Meter 210 Readings	0.65 0P Turk 4:33.66	1.5	
Parameter	ted Using Units	V (gal / ft) YSI 556 & &:37	0.041	0.163 0 Turbidity 8 : 42	0.37 Meter 210 Readings	0.65 OP Turb	1.5 Indimeter	9:0
Parameter Time	ted Using Units 24 hr	V (gal / ft) YSI 556 & \$:37 32.28	0.041 Lamotte 202 \$:37 \$2.36	0.163 0 Turbidity 9 : 42 .23.18	0.37 Meter 210 Readings &:47 \$2,66	0.65 0P Turk 4:33.66 8:52 33.94	1.5 vidimeler	9:0 34.1
Parameter Time Water Level (0.33)	ted Using Units 24 hr feet	V (gal / ft) YSI 556 & \$:37 32.28 N/A	0.041	0.163 0 Turbidity 8 : 42	0.37 Meter 210 Readings	0.65 0P Turk 4:33.66 8:52 33.94 0.42 2100	1.5 nidimeder \$:57 34.21	9:0 34. 0.6
Parameter Time Water Level (0.33) Volume Purged	ted Using Units 24 hr feet gal	V (gal / ft) YSI 556 & \$:37 32.28	0.041 Lamotte 202 \$:37 32.36 0.125 <100	0.163 0 Turbidity 8 : 42 .2.3.1 8 6.3 0 2/00	0.37 Meter 210 Readings 8:47 23.66 6.375	0.65 0P Turk 4:33.66 8:52 3.3.94 0.42	1.5 sidimeder \$:57 34.21 0.5 2100	9:0 34. 0.6 <10
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%)	ted Using Units 24 hr feet gal mL / min	V (gal / ft) YSI 556 & \$:37 32.28 N/A <166	0.041 Lamotte 202 \$:37 32.36 0.125 <100 245 13.0	0.163 0 Turbidity 0 : 42 13.18 0.3 ° 2/00 687	0.37 Meter 210 Readings 8:47 23.66 6.375 <100	0.65 0P Turk 4:33.66 8:52 33.94 0.42 2100	1.5 1.5 1.5 24.21 0.5 2100 412	9:0 34. 0.6 <10 38
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%)	ted Using Units 24 hr feet gal mL / min NTU	V (gal / ft) YSI 556 & \$:37 32.28 N/A <165 195 28.(0.041 Lamotte 202 \$:37 32.36 0.125 <100 245 13.0	0.163 0 Turbidity 8 : 42 .2.3.1 8 6.3 0 2/00	$\begin{array}{c c} 0.37 \\ \hline \\ \\ \hline \\ \\ \\ \hline \\$	0.65 0P Turk 4:33.66 8:52 3.3.94 0.42 2100 450	1.5 sidimeder \$:57 34.21 0.5 2100	9:0 34.2 0.6 <10 28 2,9
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%)	ted Using Units 24 hr feet gal mL / min NTU %	V (gal / ft) YSI 556 & \$:37 32.28 N/A <166 185	0.041 Lamotte 202 \$:37 32.36 0.125 <100 245	0.163 0 Turbidity 8 : 42 .23.18 0.30 C/U0 682 9.9	$\begin{array}{c c} 0.37 \\ \hline \\ \\ \hline \\$	0.65 0 P Turk 4:33.66 8:52 23.94 0.42 2100 450 3.0	1.5 1.5 1.5 1.5 2.5 2.100 412 2.8	9:0 34.2 0.6 <10 28 2,9
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%)	ted Using Units 24 hr feet gal mL / min NTU % mg/L MeV	V (gal / ft) YSI 556 &	0.041 Lamotto 202 \$:37 32.36 0.125 2.100 245 19.0 1.73 3.3.3	0.163 0 Turbidity 0 : 42 2 3.1 8 0.3 0 2/00 6 8 2 9.9 1.00 29.3	0.37 Meter 210 (Readings &:47 23.66 0.375 <100 601 3.8 0.39 71.4	0.65 0 P Turk 4:33.66 8:52 33.94 0.42 2100 450 3.0 0.30 19.3	1.5 idimeler \$:57 34.21 0.5 2100 412 2.8 6.78 20.0	9:0 34: 0.6 <10 28 2.9 0.7 0.7
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	Мо	nitoring W	ell Purgir	ıg/Sampli	ng Form]
Project Name and Number:		Ward Produ	cts	60322038					-
Monitoring Well Number:		MW-20		Date:	August	12,2014			-
Samplers:		Chris Frenc	h & Ross Mo	Credy					
Sample Number:		MW-20 08	1214	QA/QO	C Collected	?			-
Purging / Sampling Method:		Grundfos or	Peristaltic P	ump with de	dicated tub	ing/Low Flow			
 L = Total Well Depth: D = Riser Diameter (I.D.): W = Static Depth to Water (T C = Column of Water in Casi V = Volume of Water in Well D2 = Pump Setting Depth (ft) C2 = Column of water in Pum Tubing Volume = C2(0.00572) 	ng: l = C(3.1415): np/Tubing (ft			factors to de	feet feet feet gal feet gal	D (inches) 1-inch 2-incb 3-inch 4-inch 6-inch	D (feet) 0.08 0.17 0.25 0.33 0.50	a.	
Water Quality Readings Collect	ed Using	D (inches) V (gal / ft) ; YSI 556 &	1-inch 0.041	2-inch 0.163	3-inch 0.37	4-inch 0.65	6-inch 1.5 imeder	Ļ	
Parameter	Units	<u>.</u>		-	Reading	s			
Time	24 hr	08:20	8:25	8:30	8:25	8:40	8:45	8:50	8:56
Water Level (0.33)	feet	24.25	24.55	24.85	24.85	25.20	25.36	25.60	25.70
Volume Purged	gal	0	0.10	0.15	0.20	0.25	0.29	0.54	0.38
Flow Rate	mL/min	<100	<100	<100	e 100	<100	2100	4100	< 100
Turbidity (+/- 10%)	NTU	689	Limit	Limit	Limit	binit	Limit	Limit	Limit
Dissolved Oxygen (+/- 10%)	%	41.7	21.6	13.2	9.6	7.7	6.1	5.7	4.0
Dissolved Oxygen (+/- 10%)	mg/L	4.48	2.22	1.32	0.94	0.77	0.60	0.55	0.40
Eh / ORP (+/- 10)	MeV	- 32.8	-55.1	. 81.8	-100.6	-128.7	-149.3	-160.0	-160.8
Specific Conductivity	mS/cm ^c	0.807	0.819	0.830	0.840	0.891	0,849	0.855	0.851
Conductivity (+/- 3%)	mS/cm	0.622	0.652	0.674	0.697	0.701	0.703	6.703	0.700
pH (+/- 0.1)	pH unit	6.93	6.35	6.57	6.89	6.91	6.90	6.93	6.90
Temp (+/- 0.5)	C	13.05	14.33	15.18	16.09	15.83	15.99	15.70	15.50
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Odor	Olfactory	Cloudy No	NO	NO	NO	NO	NO	NO	NO
Comments: # No J- did not Sample * Three consecutive readings wi	stability	e 8:5	5	Coveri	ng W	ell open	ing, Tu	ur bid ity	



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

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	Adirondack Environmental Services, Inc.											

MW-20, damage, August 2014



2015 Field Notes

1130 Purising at 1050. 1130 Sample MW-1R, DUP. 5/26/15 (1230 time). 1140 Sample MS. 5/26/15.	1030 Move on to MW-1/MW-1R. Begin low Flow			Pumping wells are an AEGOM shut's wells down temporarily to allow for passing MW purge water through system. 0830 Stave Gray off site. AEGOM sets up on MW-11. AEGOM is using the following equipment:	0755 AECOM (M. Kuzie-Carnel 6. Junlavey) on site. Conditions: 85°, cloudy. Meet with Steve Gray to conduct site walk, locate monitoring wells. New temant is occupying property encross Ecloson St.	98 Location <u>Amskerdam, N°1</u> Date <u>Stacf2015</u> Project / Client <u>Semi - Annual GW Sampling / MW Counsing</u> Ward Treducts
MW-9 18.99 47.12 MW-02 18.98 41.32 MW-12 18.93 45.42		MW-5 17.83 MW-2 5.37 MW-6* 21.18*	1515 Sample MW-17, 0 Moll 10 DTW T MW-11 15.67 3 MW-12 5.14 1	1305 Sample 1335 AEGM 1335 Mith su 1505 Sample	1200 Mere to MW-4/MW-42 Begin law - Flow 1200 Sample MW- 4.	March Project / Client Gw Sampling / HW Cauging Ward Project / Client Ward Product Chauging 99

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MEC 1545 1555 100 Project / Client Location Amsterlam NY AECOM Scrubilizes all sampling equipment. All purge water passed through treatment system. System tunned best on. Will D L1-MM MW10 AECON off site (to lab w/ samples) C GW Sampling / MW Gauging Ward Products DIN DIB Notes 18.28 50.48 8.88 6679 Date 5/20/2015 MILL Project / Client SIOI 0955 0825 Location Amsteretum NT 下い 0905 0730 1500 1300 1125 1400 FIS 1545 Sample MW-18. See Following page For ganging and primp due to a Move on to MW-S WI AECOM (M. Kuzie Carnel 6. Dunlawy) on site Conditions: overcust, 75°T Will continue Contact MKL samples MW-19. Take a brack for lunch. 67 60 samples MW-14 MW-16. 60 samples MW-11 W/ MW Causing + Sampling MIKC + GD Split up to sample wells. MKL will sample MW-19 MW-13, MW-19, GD will sample NW-11, MW-14 Sample MW-ZD. Mere to MW-18. AFLOM is able to use peristallic pump MAC MKC samples MW-13 Maderate rain on site. MOVE seturn w samples MW-16 AEGOM back on site Unable to locate unable to sample MW-18 with submissible en to MW-19 GW Sampling/MW Gauging Ward Products metal detector to locate. MKC+ GD destrution in well (2 = 20' clemm) 2 PM of support. Advised to MW-20. Date 5/27/2015 51 101

A A A	1600 All equipment dumbilized & site restored. AEdony MEC to tab w/ samples.	MW-17 172.55 54.85 MW-18 21.59 66.18 obstraction in well MW-16 21.22 66.86 MW-19 30.98 69.91 MW-20 24.30 53.52	17.59 17.59	102 Location Amskidan NY Date 5/27/2015 Project / Client GW Sam ling/MW Gauging Ward Packutz
TIM TIR Netes 9.84 SH.37 teck pid	1400 Begin low-Flew page on MW-15. 1450 Sample MW-15. 1515 AEGOM to lab w/ somples All equipment de-undited on when much meet the to	TTEFT SISFE	1305 AECOM (M. Kuzia Carmel) on site. Conditions: clear, 90°F. Will attempt to locate MW-15 using metal detector. 1315 MW-15 located. See sketch for relative location; <u>Sketch</u>	Location Amskrohm, NY Date <u>S/28/2015</u> 103 Project / Client <u>GW Sampling</u> Ward Pizchetz

1444

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Field Personnel:	Date: Job No.: Location:	WELL NO: Page 1 of 5/14./2.015	<u>Min-IR</u>
Total Well Depth (from top of casing):	1743 5.//	feet	
Depth to Water Surface Before Purging (from top of casing):	- 5.14	feet	
Height of Water Column:	a =	feet	
Screen Length	b	feet	
Well Diameter (d): Gals per ft:	Lesser of a and b $(d^2 \times 0.0408) = \underline{x}$	-	
One Wetted Screen Volume of Water Before Purging:	=	_gallons or	liters
Volume of Water Equal to three wetted screen volumes volumes: (Wetted Screen Volume multiplied by 5.0) (1 gallon = 3.785 liters)	-	_gallons or	liters

Meter #

Turbidity

(NTU)

Time	Volume Purged (Gallons / Liters)	Depth to Water (feet)	SC (mmhos/cm or µmhos)	Temp. (°F or °C)	pH (SU)	Dissolved Oxygen (mg/L)	Redox Potential (mV)
Stabilizati	on Criteria*	Drawdown < 0.3 feet	+/- 10%	+/-0.1 °C	+/- 0.1 SU	+/- 10%	+/- 10 mV
1049	,25	6.81	6,492	22.63	7.39	3:28	141
1054	×125	7.92	0,490	21.88	7.02	3.14	151
1059	.25	9.12	0,489	21,31	6.83	3,17	156
LIGH	25	10. 27	0.42A	2/01	1-11	222	158

Bladder Pump/Waterra Pump/Peristaltic Pump

Purging Method:

1 7 7 1

0.77.7

-

+/- 10% 10 mV 0,3 0.0 6 6.0 0.0 58 14 6,370 25 1109 20,71 3,64 156 11.31 6,70 6.0 125 114 12,44 0,412 20,99 6.69 32 156 6,0 3. 25 0,430 0.2 13.46 21.25 6.71 19 3.27 154 20 1124 14,68 0.450 21.57 6.77 152 5,0 3.28 1129

Sampling Data	a:		- Sampling Method: Bailer or Pump - Depth of Pump intake or bailer:	feet
Notes:	Sample	time:	- Color: Odor:	Sheen/Appearance:

Field Personnel: M. Kuzia- Carmel G. Dunlavey	Date: Job No.: Location:	WELL NO: _ Page 1 of _1_ 5/26/2015	
Total Well Depth (from top of casing):	34.14	feet	
Depth to Water Surface Before Purging (from top of casing):	- 17.55	feet	
Height of Water Column:	a=	feet	
Screen Length	b	feet	
Well Diameter (d): 2 inches Gals per ft:	Lesser of a and b $(d^2 \ge 0.0408) = x$	+	
One Wetted Screen Volume of Water Before Purging:	=	_gallons or	liters
Volume of Water Equal to three wetted screen volumes volumes: (Wetted Screen Volume multiplied by 5.0) (1 gallon = 3.785 liters)		_gallons or	liters

Purging Method: Bladder Pump/Waterra Pump/Peristaltic Pump Meter # / pH Volume Purged SC Dissolved Depth to Water Temp. Redox Turbidity Time (Gallons / (mmhos/cm Oxygen[♥] (°F or °C) (feet) 🗸 Potential (mV) (SU) (NTU) Liters) or umhos) (mg/L)Stabilization Criteria* +/- 10% +/-0.1 °C +/- 0.1 SU +/- 10% +/- 10 mV +/- 10% Drawdown < 0.3 feet 346 1230 0.55L/min 20.88 1.29 15.40 6.78 2.29 102 0.5L/ma 21.44 6.81 1.74 104 141 1235 1.03 17.46 28.6 11.33 1240 23.17 1.07 6.73 2.29 O.SL/Min 164 1245 0.42 Juin 0.962 15.17 675 2.30 25.1 22.34 107 0.44/min 1250 22.19 0.973 16.51 6.83 2.15 110 21.3 0.4L/ m.n 6.87 19.6 22.32 1255 1.11 18.10 1.74 19 0.352/min 22.07 1.12 1300 17.11 6.94 1.81 m 16.0 Ls.n 1.17 1305 0.42 16.95 4.92 1.84 114 22.30 12.4

Total Volume of Water Purged: Sampling Data: Sample at 1305 - Sa

- Sampling Method: Bailer or Pump - Depth of Pump intake or bailer:

Odor: NONE

- Color:

feet

gallons/liters

Sheen/Appearance: Mc.

Notes: where dark brown turbid nitial

Field Pers	onnel:		÷			Date: Job No.: Location:	WELL NO: Page 1 of 1 5/26/2015 Ward Pro	-
al Well Der	oth (from top of ca	sina).				50,48	feet	
pth to Water	Surface Before P	urging (from top	of casing):			- 18.28	feet	
ight of Wate	er Column:				a	=	feet	
een Length					b		feet	
÷					Lesser of a and b	-		
ll Diameter	(d): 2	inches		Gals per ft:	$(d^2 \times 0.0408) =$			
				I	(
e Wetted Sc	reen Volume of W	ater Before Purg	jing:				gallons or	liters
	ter Equal to three					<u></u>	gallons or	liters
(Wetted S	creen Volume mu	ltiplied by 5.0) (1	gallon = 3.78	5 liters)				
rging Meth	od:	Bladder Pump/W	/aterra Pump/F	eristaltic Pun	np	Meter #		
Time	Volume Purged (Gallons / Liters)	Depth to Water (feet) ✓	SC (mmhos/cm or µmhos)	★ Temp. (°F or °C)	pH (SU)	Dissolved Oxygen (mg/L)	Redox 🗸 Potential (mV)	Turbidity (NTU)
Stabilizati	on Criteria*	Drawdown < 0.3 feet	+/- 10%	+/-0.1 °C	+/- 0.1 SU	+/- 10%	+/- 10 mV	+/- 10%
1415		18.89	0.546	29.88	7.65	2.76	157	281
1420	0.55L/min	19.17	0.635	21.67	7.00	2.14	168	240
1425	O.SOL/min	19.18	0.600	23.58	6.98	1.78	164	164
1430	0.55L/min	19.20	0.594	23.72	6.86	1.74	167	156
1435	0.65L/min	19.53	0.605	22.43	6.81	1.50	168	125
1440	0.65Llmin	19.24	0.598	22.88	6.80	1.51	172	104
1445	C. 4L/min	18.97	0.595	23,14	6.88	1.57	169	74.3
1450	0.55L/min	19.15	6 59%	23.02	6.84	1.56	171	+9.9
1455	0.55 Limin	19.17	0.600	22.84	6.81	1.58	172	50.Z
1500	0.SSL/min	19.19	0.601	22.76	6.81	1.56	171	45.7
14								
	· · · · · · · · · · · · · · · · · · ·			A				
al Volume	of Water Purged:							gallons/liter
	a: Sample.	1 1505	- Sampling M - Depth of Pu					feet
			- Color: Grewer	Odor:			Sheen/Appearan	ce:
tes:							1 [
1 Initial	y very to	irbid			-	Monsoon		

Field Personnel:	Date: Job No.: Location:	WELL NO: Page 1 of 	Mw-11 5
Total Well Depth (from top of casing):	30.28	feet	
Depth to Water Surface Before Purging (from top of casing):	- 15.67	feet	
Height of Water Column:	a =	feet	
Screen Length	b	feet	
Well Diameter (d): Gals per ft	Lesser of a and b : $(d^2 x 0.0408) = x$	-	
One Wetted Screen Volume of Water Before Purging:		_gallons or	liters
Volume of Water Equal to three wetted screen volumes volumes: (Wetted Screen Volume multiplied by 5.0) (1 gallon = 3.785 liters)		_gallons or	liters

arging Method:		Bladder Pump/W	/aterra Pump/F	eristaltic Pun	Meter #			
Time	Volume Purged (Gallons / Liters)	Depth to Water (feet)	SC (mmhos/cm or µmhos)	Temp. (°F or °C)	pH (SU)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
Stabilizatio	on Criteria*	Drawdown < 0.3 feet	+/- 10%	+/-0.1 °C	+/- 0.1 SU	+/- 10%	+/- 10 mV	+/- 10%
10:03	.35	18.51	0,437	24.22	8.01	1.81	44	0.0
10:08	,30	19.44	0.421	23.09	7.41	1.70	56	0.0
16:13	,35	20,65	0,278	23,49	6-88	1.78	89	6.0
-	-							
								1
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-								
-							1	

Total Volume of Water Purged:

Sampling Data:

gallons/liters

- Sampling Metho	od:	Bailer	or Pump
- Depth of Pump	inta	ake or b	ailer:

Odor:

- Color:

_____feet

Sheen/Appearance:

Notes:

Field Personnel:	Date: Job No.: Location:	Page 1 of	<u> 7 </u>
Total Well Depth (from top of casing):	30,6	Zfeet	
Depth to Water Surface Before Purging (from top of casing):	- 17.1	/ feet	
Height of Water Column:	a =	feet	
Screen Length	b	feet	
Well Diameter (d): 2 inches Gals per fi	Lesser of a and b t: $(d^2 \times 0.0408) = x$	31	
One Wetted Screen Volume of Water Before Purging:		gallons or	liters
Volume of Water Equal to three wetted screen volumes volumes: (Wetted Screen Volume multiplied by 5.0) (1 gallon = 3.785 liters)		gallons or	liters

Purging Method:	Bladder Pump/Waterra Pump/Peristaltic Pump
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Time	Volume Purged (Gallons / Liters)	Depth to Water (feet)	SC (mmhos/cm or µmhos)	Temp. (°F or °C)	pH (SU)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
	on Criteria*	Drawdown < 0.3 feet	+/- 10%	+/-0.1 °C	+/- 0.1 SU	+/- 10%	+/- 10 mV	+/- 10%
07.58	,25	19.08	0.263	25.45	7.74	2.4)	16	0.0
0803		20,73	0.271	24.72	7.86	1.65	91 98	0.0
0808		21,35	0,264	24:03	7.87	1.42		0.0
0813	,25	22.33	6,268	23,43 22.83	7.86	1.39	105	0.0
6823	,25	24.36	0,269 6,275	22.71	7.83	1.21	101	0.0
						h		
1			C					

Total Volume of Water Purged:

Sampling Data:

- Sampling Method: Bailer or Pump 72.

feet

gallons/liters

- Color: Odor:

Meter #

Sheen/Appearance:

Notes: Sample time: 0825

Field Personnel: M. Kuzle: Carmel	Date: Job No.: Location:	WELL NO: <u>1</u> Page 1 of <u>1</u> (726) 2015	1W-13
Total Well Depth (from top of casing):	68,78	feet	
Depth to Water Surface Before Purging (from top of casing):	- 15.09	feet	
Height of Water Column:	a=	feet	
Screen Length	b	feet	
Well Diameter (d): 2 Gals per ft:	Lesser of a and b $(d^2 \ge 0.0408) = x$		
One Wetted Screen Volume of Water Before Purging:	=	gallons or	liters
Volume of Water Equal to three wetted screen volumes volumes: (Wetted Screen Volume multiplied by 5.0) (1 gallon = 3.785 liters)		_gallons or	liters

Purging Method: Bladder Pump/Waterra Pump/Peristaltic Pump Meter # Volume Purged SC 🗸 Temp. Dissolved Depth to Water pH 🗸 Redox 🗸 Turbidity Time (Gallons / (mmhos/cm Oxygen (feet) (°F or °C) (SU) Potential (mV) (NTU) Liters) or µmhos) (mg/L)Stabilization Criteria* Drawdown < 0.3 feet +/- 10% +/-0.1 °C +/- 0.1 SU +/- 10% +/- 10 mV +/- 10% 7.52 0815 -18.19 0.247 24.43 3.03 234 5.1 0820 0.52/min 14.17 21.07 0.664 2.08 7.03 -117 245 0825 0. SSLImin 0.666 14.97 6.90 1.87 .174 311 0830 30.74 O.G.L.Imin 6686 12.59 6.81 1.89 -103 138 0.652/min 0835 6.80 32.52 0.652 12.40 1.92 - 88 24,6 0840 0.65L/min 33.16 0.570 ME 6.686.85 14.62 .76 1.81 11.6 0845 D. 4L/m 33.17 0.646 13.22 6.87 1.84 - 69 3.1 0.4L/min 6.96 0850 32.68 0.590 15,90 1.88 -68 3,4 .452/mil 33 37 2.11 0.627 13.14 0855 6.40 2.9 -61 15.14 0900 O. SLIMin 33.21 0.568 1.94 6.89 .57 2.9 0905 0.5L/min 32.81 0.572 17.17 6.90 1.94 - 54 3.2

Total Volume of Water Purged:		gallons/liters
Sampling Data:	- Sampling Method: Bailer or cump - Depth of Pump intake or bailer:	feet
Notes:	- Color: black/Odor: mild sulfuriz brown (initial)	Sheen/Appearance:
Equipount: Monseen SS Pur Sample at 6910	np (submersible), Horiba U-52 multimeter,	Hach 2100 Turbidineter

		Page 1 of	10-15
Field Personnel:	Date:	5/2	5
	Job No.: Location	:	
Total Well Depth (from top of casing):	59.2	83 _{feet}	
Depth to Water Surface Before Purging (from top of casing):	- 12.3	35 feet	
Height of Water Column:	a =	feet	
Screen Length	b	feet	
2	$d^2 \ge 0.0408 = x$	_	
One Wetted Screen Volume of Water Before Purging:	=	gallons or	liters
Volume of Water Equal to three wetted screen volumes volumes: (Wetted Screen Volume multiplied by 5.0) (1 gallon = 3.785 liters)		gallons or	liters
Purging Method: Bladder Pump/Waterra Pump/Peristaltic Pump	Meter #		

sing meene	<i>u</i> .	Bluddel I ump	acorra a ampre				1	
Time	Volume Purged (Gallons / Liters)	Depth to Water (feet)	SC (mmhos/cm or µmhos)	Temp. (°F or °C)	pH (SU)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
Stabilizatio	on Criteria*	Drawdown < 0.3 feet	+/- 10%	+/-0.1 °C	+/- 0.1 SU	+/- 10%	+/- 10 mV	+/- 10%
0934	.2	13.93	0.394	23.45	7.20	3.73	142	0.0
0939	125	14.95	0,383	23.39	7.76	3.12	150	0.0
0944	,25	16.03	0,375	23.34	7.26	3.04	157	6.0
				10000				
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			1					
-								
1		1					1	
	1							

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Field Personnel: M. Kuzia- Curmel	Date: Job No.: Location;	WELL NO: _ Page 1 of 5/28/2013	<u>MW-15</u>
Total Well Depth (from top of casing):	_54.37	feet	
Depth to Water Surface Before Purging (from top of casing):	- 9.84	feet	
Height of Water Column:	a =	feet	
Screen Length	b	feet	
Well Diameter (d): 2 inches Gals per ft:	Lesser of a and b $(d^2 \times 0.0408) = x$		
One Wetted Screen Volume of Water Before Purging:	=	_gallons or	liters
Volume of Water Equal to three wetted screen volumes volumes: (Wetted Screen Volume multiplied by 5.0) (1 gallon = 3.785 liters)	·	gallons or	liters

Purging Method:

Bladder Pump/Waterra Pump/Peristaltic Pump

Time	Volume Purged (Gallons / Liters)	Depth to Water (feet)	SC ✓ (mmhos/cm or µmhos)	Temp. (°F or °C)	pH 🗸 (SU)	Dissolved Oxygen (mg/L)	Redox 🗸 Potential (mV)	Turbidity (NTU)
Stabilizatio	on Criteria*	Drawdown < 0.3 feet	+/- 10%	+/-0.1 °C	+/- 0.1 SU	+/- 10%	+/- 10 mV	+/- 10%
1400	-	11.74	0.7%6	13 27	8.37	4.32	-47	15.6
1405	0.351/min	13.09	0.623	17.34	7.69	2.85	- 77	10.7
1410	0.5L/min	1407	0.741	16.92	6.96	2.71.	- 85	11.7
H15	0.35 Jain	14,94	0.646	19.15	6.73	1.87	- 74	15:5
1+20	O.42 Junio	15.08	0.670	19.22	6:70	1.80	-75	15.7
1+25	O.SL/min	16.28	0.709	19.29	i.67	1.75	-79	17.0
1430	0.452/min	16.43	0:719	19:27	6.69	1.71		18.4
1435	0.4L/min	16.84	0.765	19.30	6.69	1.74	- 84	19.4
1440	0.35L/min	17.08	0.768	19.28	6.70	1.72	- 36	20,2
1445	0.351/min	17.12	0.772	14.29	Ge.67 .	1.69	- 36	19.7

Meter #

Total Volume of Water Purged:

Sampling Data:

- Sampling Method: Bailer or Furner Monsoon 5.5 - Depth of Pump intake or bailer: = 50 Ft - Color: none - Color: none

feet

gallons/liters

Notes:

Sheen/Appearance:

* - Based on three consecutive readings collected at five minute intervals. Minimum of 30 minutes of purging, maximum of five wetted screen volum/ Low Flow GW sampling sheets.xls

ł: ,	Field Pers	onnel:		(14	12.		Date: Job No.: Location:	WELL NO: Page 1 of 5/2	MW-1 7
	Total Well Dep	oth (from top of ca	asing):				66.86	-	
	Depth to Wate	r Surface Before I	Purging (from top	of casing):			- 21.20	feet	
	Height of Wate	er Column:				a	=	feet	
0	Screen Length			1		b		feet	
1.3	Well Diameter	(d): V	Lesser of a and b $(d^2 \times 0.0408) =$						
1	One Wetted Sc	reen Volume of V		-	gallons or	liters			
		ter Equal to three creen Volume mu						gallons or	liters
	Purging Meth	od:	Bladder Pump/V	Vaterra Pump/F	eristaltic Pun	np	Meter #		
	Time	Volume Purged (Gallons / Liters)	Depth to Water (feet)	SC (mmhos/cm or µmhos)	Temp. (°F or °C)	pH (SU)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
		on Criteria*	Drawdown < 0.3 feet		+/-0.1 °C	+/- 0.1 SU	+/- 10%	+/- 10 mV	+/- 10%
	1107	14	24.02	0,208	28.13 27.50	7.71 7.40	2.34	80	0,0
	1117	U.U.	26.78	0,203	26.91	7,33	1.51	114	0.0
	1122	12	27.63	0.201	26.84	7.29	1.53	117	0.0
							1		-
	1	1		1			1		

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Total Volume	of Water Purged:		gallons/liters
Sampling Da	ta:	- Sampling Method: Bailer or Pump - Depth of Pump intake or bailer:	feet
Notes:	Sample	- Color: Odor: Tinc: 1125	Sheen/Appearance:
=			

Nr

gallons/liters

			WELL NO: M	W-19
Field Personnel: Mr Kwzka - Carmel 6 Puntary	3	Date: Job No.: Location:	Page 1 of <u>1</u> 5/27/2015	
Total Well Depth (from top of casing):		66.18	feet	
Depth to Water Surface Before Purging (from top of casing):		- 21.59	feet	
Height of Water Column:		a =	feet	
Screen Length		b	feet	
Well Diameter (d): 2 inches	Lesser of a and Gals per ft: $(d^2 \times 0.0408)$		_	
One Wetted Screen Volume of Water Before Purging:		=	_gallons or	liters
Volume of Water Equal to three wetted screen volumes volume (Wetted Screen Volume multiplied by 5.0) (1 gallon = 3.75		3=	_gallons or	liters
Purging Method: Bladder Pump/Waterra Pump/	Peristaltic Pump	Meter #		

Time	Volume Purged (Gallons / Liters)	Depth to Water (feet) ✓	SC 🗸 (mmhos/cm or µmhos)	Temp.★ (°F or °C)	pH (SU)	Dissolved Oxygen (mg/L)	Redox ✓ Potential (mV)	Turbidity (NTU) 🗙
Stabilizatio	on Criteria*	Drawdown < 0.3 feet	+/- 10%	+/-0.1 °C	+/- 0.1 SU	+/- 10%	+/- 10 mV	+/- 10%
1505	0.251/min	22.40	0.185	27.17	7.31	6.18	147	0.0
1510	0.4L/min	22.61	0.188	26.93	6.80	368	140	0.8
1515	0.351/min	23.11	0.191	24.03	6.72	2.87	130	0.0
1520	0.351/min	23.39	0.189	25.53	i.ble	2.69	123	0.0
1525	0.25L/min	23.61	0.190	24.94	6.27	2.68	117	0.0
1530	0.31/min	23.64	0.116	24.71	6.04	2.67	118	0.0
1535	0.254/min	23.68	0.192	24.51	6.06	2.65	123	0.0
1540		23.70	0,191	24.38	6.10	2.57	127	0.0

Total Vo	olume	of Wa	ter Pu	irged:
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Sampling Data: sample at 1545	- Sampling Method: Bailer or two - Depth of Pump intake or bailer: 🗢 35 🏹	feet
Notes: Could not sample abo	- Color: char Odor: none	Sheen/Appearance:
re-attunpt sampling with	beopump (beristalitic)	

-	M. Kur G. Du	zia Carmel					Date:	Page 1 of	
							Job No.: Location:		
	Well Dep	th (from top of ca	using):				69.91	feet	
Depth	to Water	Surface Before P	urging (from top	of casing):			- 30.98	feet	
Height	t of Wate	Column:					a=	feet	
Screen	n Length						Ъ	feet	
Well D	Diameter	(d): 2	inches		l Gals per ft:		b = <u>x</u>		
One W	Vetted Scr	een Volume of W	Vater Before Purg	ing:			-	gallons or	liters
			wetted screen vol ltiplied by 5.0) (1					gallons or	liters
Purgin	ng Metho	od:	Bladder Pump/W	aterra Pump/P	eristaltic Pum	р	Meter #		
	Time	Volume Purged (Gallons / Liters)	Depth to Water (feet) ✓	SC ✓ (mmhos/cm or µmhos)	Temp. (°F or °C)	pH ✓ (SU)	Dissolved Oxygen (mg/L)	Redox 🗸 Potential (mV)	Turbidity (NTU)
_		on Criteria*	Drawdown < 0.3 feet	+/- 10%	+/-0.1 °C	+/- 0.1 SU	+/- 10%	+/- 10 mV	+/- 10%
	1135	0.5L/min	40.88	1.08	18.63	6.79	1.52	19	274
	1140	0.452/min	47.37	0.992	191.35	6.66	1.47	3	187
	1145	0.352/min	45.57	0.960	17.28	6.65	1.57	4	82.0
1.1		0.351/min	46,28	0.853		6.78	<u>N46</u>		56,4
	155	0.32/min	47.80	0.797	18.70	6.84	1.62	*	40.3
	200	0.354min	49,40	0.070	19.90	4.80	1.54	4	39.0
	210	0.42/min 0.42/min	49.78 49.84	0.745 0.754	20.58	6.78	1.54	3	23.6
Fotal V	Volume o	f Water Purged:				~			gallons/liters
	ling Data	at 1215		- Sampling Me - Depth of Pur	ethod: Baile np intake or	r or Eump M.	nsoon 5.5.	i	feet
Notes:	purge	water clo	1	- Color: ^{It.} Jwy	Odor: none			Sheen/Appearance	ce:
4	Sample	at 1215	1	_					
17				_					

Field Per	rsonnel:					Date: Job No.: Location:	WELL NO: Page 1 of 5/27	Mh-
Fotal Well D	epth (from top of ca	sing):				<u>53,52</u> - 24,30	feet	
Depth to Wat	er Surface Before P	urging (from top	of casing):			- 24,30	feet	
Height of Wa	ter Column:				а	=	feet	
Screen Lengt	h				b]feet	
Well Diamete	er (d): 2	inches		Gals per ft:	Lesser of a and b $(d^2 \ge 0.0408) =$		-	
One Wetted S	Screen Volume of W	Vater Before Purg	ging:			=	gallons or	liters
	Vater Equal to three Screen Volume mu						gallons or	liters
Purging Met	thod:	Bladder Pump/W	Vaterra Pump/P	eristaltic Pun	np	Meter #		
Time	Volume Purged (Gallons / Liters)	Depth to Water (feet)	SC (mmhos/cm or µmhos)	Temp. (°F or °C)	pH (SU)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
Stabilize	tion Critoria*	Descularum < 0.2 fast	+/ 10%	$+/01^{\circ}C$	+/ 0.1 SU	+/- 10%	$\pm 10 \text{ mV}$	+/- 10%

Stabilization Criteria*	Drawdown < 0.3 feet	+/- 10%	+/-0.1 °C	+/- 0.1 SU	+/- 10%	+/- 10 mV	+/- 10%
1340 .5	27,22	0,981	19.15	7.19	3.04	-70	330
1345 ,5	29,46	0.831	21,79	7.22	2,68	13	243
1350 .3	30.76	6.730	22,32	7.24	2,53	41	195
1355 ,35	31.61	0.881	21.49	7.31	2.59	42	135
1400 .15	33.52	0.807	22.2	1.32	234	0	131
14,05 .4	34,01	0,758	22,38	7.22	2.44	36	102
1410 3	34.42	0.772	21.19	7.30	2.25	-16	106
1415 13	34.72	0,768	21.38	7.28	2.38	-37	84.7
1420 3	34.81	0,75%	21.26	7.26	2,0	-28	93,2
		1				1	
					1		

Total Volume of Water Purged:

Sampling Data:

- Sampling Method: Bailer or Pump Marson - Depth of Pump intake or bailer:

feet

gallons/liters

- Color: Sheen/Appearance: Odor: Notes: Sample Time: 1425



CHAIN OF CUSTODY RECORD

n

AES Work Order #

Name: (ECOM Report To: 	Project Name	(Location)	lo Drive,	Chelm	storel,	M	1	01824
Report To: MRF, atkins @ arcom.com t Phone No: Client I	Project Name	(Location)			Comp			
iniFir. atkins@arcom.com It Phone No: Client I	Ward	3 1 1		1	Samp	lers: (N	lames)	1
t Phone No: Client I		Fieldel	5- Austric	dar, N	MM	Ku;	zia-Ca	amel, G. Dunlary
8) 905 Z112 Jam	maile	PO N	umher		Samn	lers: (S	Signature	2111
	iter, atkins@acco	instant C	0321812			ut	12	5.07/
AES	Client		Date	Time A=a.m.	Sample	E fe	Number of Cont's	
ple Number Sample Ider	tification & Location		Sampled	P=p.m.	1.5	3 5	Cont's	Analysis Required
MW-	R * Parent*		5/20/15	1130 P		7	4	Total Chromines (MKL
MS-	5/26/15			1140 P		7	41	see notes
MSD-	5/26/15		1	1145 P	10-1	×		
DUP.	5/20/15			1230 A		×		
MW-	the second se			1250 A		×		
MW-	lo			1505 C		×		
MW-	17		1	1515 A		×	. //	
MW-	4R		V (ny	1305 A	V		< V	
	an state internety			A				
1KC)	~	1	1.0	A				
	- 1 - 1	1-2		A	-			
A	IN	- pr		P				
VIL	421			P	-			
				A	-		-	
				P	-		-	(MKC
				P				
ipment Arrived Via:		CC Repor	t To / Special Ins	structions/F	Remarks:			~
dEx UPS Client AES Other			Autoria	verter	1. 2	10Ls	(820	50) imm (6010) minum (SM 3500 CRD 2 Date/fime
uex or a chemic Act other		2	(Thrat ADE)	mone	T	Stal	Chrom	inum (6010)
naround Time Request:					H		Chior	mine (SM 3500 CRD
] 1 Day 🗌 3 Day 🛄 Nu] 2 Day 🗌 5 Day	ormai	47	1.	. Lucas		1	ZL-V	A
lote: Samples received after 3:30 pm are consi	dered next business day	~ 1	rease ar	na 1y20	10	19 1	Jank	Date/Time
linquished by: (Signature)	ap	Received	by: (Signature)					Date/Time
linguished by: (Signature)	1	Received	l by: (Signature)					Date/Time
linguished by: (Signature)		Received	for Laboratory	by:				Date/Time
inquiniou by: (orginatio)		2	nu	h				5126/15 4:5
TEMPERATURE	AES Bottles	PR	OPERLY PRESERVE	D			RECEIV	VED WITHIN HOLDING TIMES
Ambient or Chilled	Y N	(Y N					(Y) N
Anthon of ontheu		-				Ma	toe	
Notes:	Note	es:				NU		



CHAIN OF CUSTODY RECORD

AES Work Order #

A full service analytical research laboratory offering solutions to environmental concerns

Name: COM Report To: Atk. Phone No: 18) 105- AES le Number	Client Email: 2112 Client Email: Client Sample Identification	V-Jard	Products	r - Amster	dam.	2	Sample	ers:	(Nar 2.00 (Sig	nes) . C nature)	mel	. 6. Dunlarry	
Report To: Atking Phone Na: 18) 105- AFS	2112 Client Email:	V-Jard	Products	. Amster	dam.	2	M.I Sample	Kur; ers:	Z.co (Sig	. Car nature)	mel	, 6. Dunlary	
Phone No: (8) <u>905-</u> AFS	2112 Client Email:	uns Baccom	.com C	umber: 0337812-			Sample	ers:	(Sig	nature)		4/	
18) 905- AFS	Client		tom G	0337812-	111		1 1	1	1	11	11	-1.01 11	18
AFS	Client				500		M	Lug	K		-	afform	-
AES le Number	Sample Identification			Dato		ı. †	Sample Matrix	duo	irab	of Cont's		Analysis Required	- 1
		& Location		Sampled	P=p.m				X	4	Voi	(5 (8260) al (hiomium (6010) (hiomium (5M 350	
	MW-11			5/27/15	0825			-			Her	(1) ionium (SM 350	00 4
				5/27/15	0910	P	6~		×	4			
	MW-13		_	5/27/15		Ø	GW		X	4			
	MW-14							-	×	4	-		
	MW-16			5/27/15			GW				-		
				5/27/15	1215	P	GW		X	4			,
	MW-19			5/27/15			GW		×	4	1	VVV	
	MW-20			A second second					×	4		\vee	
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	Trip Blan	V				A							
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	1 Kart	P	de la compañía de la	-		-	P	-	+	-	+	(Hie	-9
	Chill.	7				T	A P			-	L		
			CC Re	port To / Special	Instruct	ions	/Remarks	s:					
Shipment Arrived													
FedEx UPS	client AES Other:	-											
urnaround Time F													
L, ,,	🗆 3 Day 🥬 Norma 🗖 5 Day												
Relinquished by:		1 1	/ Recei	ived by: (Signati	ure)							Date/Time	
Helinquisneu by		UP				_		-	_		-	Date/Time	
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	(0)		Rece	lived for Laborat	tory by:	1						Date/Time	· L/C
Relinquished by:	(Signature)		2	· de	1						-	DIA/ID T	
	TEMPERATURE	AES	0	PROPERLY PRES	ERVED					Re	CEIVE	ED WITHIN HOLDING TIMES	
An	bient or Chilled	Bottles Y N		Y	N					Notes: _	5	Y N	
	27. 1	table in the second		100 M						40195'			
Notes:	5 Current		Notes:	LLOW - Sample		-		1			K. C	ienerator Copy	



CHAIN OF CUSTODY RECORD

AES Work Order #

Experience is the solution

A full service analytical research laboratory offering solutions to environmental concerns

	ine solution		Address							
AFLOM			Auuress. 25	in A.	allo Dri	se C	helm	For	R. M.	A 01824
nd Report To:			Project Na	me (Location)			Sam	plers: (Names)	1 1
Ten	Atking		Ward	Roduct	5- Anaster	claws M	17 1	M.d	100	Kuzia Cainel
ent Phone No		Client Email:	1 de	PO N	lumber:		Sam	plers:	Signature	DAL- I A
18) 904	5-2112	enaiter at	k gal	iom ion lat	0337812-	500	1	M.	orh	14th - W
AES nple Number	San	Client ple Identification	& Location		Date Sampied	Time A=a.m. P=p.m.	Samp Matrix	le Type	Number of Cont's	A 01824 Kuzia-Carmel MAK-Chp Analysis Required
	. N	1W-15		1	5/28/2015	1450 P	6W		44	Analysis Required VOLS (8260), Total Chrommin (6010), Hex. Undomum (SM 3500
	To	Blar	k			A				Mex. Unasmum (SM 3500
2		87 V.				A				
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higment Arrit edEx UPS rnaround Tin 1 Day 2 Day	Client AES	Other:		CC Repor	t To / Special Int	structions/	Remarks			
linguished b	y: (Signature)		1	Received	l by: (Signature)					Date/Time
linguished b	by: (Signature)		1	Received	l by: (Signature)					Date/Time
ilinguished t	oy: (Signature)			Received	for Laboratory	by:				SIZE/Time 3
Notes:	TEMPERATURE Ambient or C	hiled Y	×	Pad lotes:	PRESERVE Y N	D	_	N	RECEN	YED WITHIN HOLDING TIMES
	WHITE - La	b Copy		YELLO	w - Sampler Cop	у			PINK -	Generator Copy
		F	dirond	lack Env	vironmente	al Serv	ices,	Inc		



Pine Environmental Services, LLC.

405 Cambridge Ave Syracuse, NY 13208 Toll-free: (877) 903-PINE (7463)

Pine Environmental Services, Inc.

Descrij	t ID21521ptionMIniRae 3000rated5/20/20154:39	:12PM					
Model Nu	turer Rae Systems mber MiniRAE 3000 / Lot 592-908657			State Certified Status Temp °C	a Pass		
÷ • •	mber ation New York ment			Humidity %	, 43		
		Calibrat	ion Specification	<u>s</u>			
Grou	Group # 1 p Name Isobutylene ted Accy Pct of Readi	ng	F	Range Acc % Reading Acc % Plus/Minus	3.000		
<u>Nom In Val / In Val</u> 100.00 / 100.00		<u>Out Val</u> 100.00	<u>Out Type</u> PPM	<u>Fnd As</u> 100.00	<u>Lft As</u> 100.0		<u>Pass/Fail</u> Pass
Test Instruments U	used During the Calib	ration		Quint Name		As Of Cal Entr	y Date) xt Cal Date /
Test Standard ID	Description	<u>Manufacturer</u>	<u>Model Number</u>	<u>Serial Numb</u> Lot Number	1	Last Cal Date/ Ex Opened Date	
	NYS ISO 100 PPM - 34L	American Gas Group	GP11012	0310FM14		3/	10/2018

Notes about this calibration

Calibration Result Calibration Successful Who Calibrated Joe Filippi

All instruments are calibrated by Pine Environmental Services, LLC. according to the manufacturer's specifications, but it is the customer's responsibility to calibrate and maintain this unit in accordance with the manufacturer's specifications and/or the customer's own specific needs.

Notify Pine Environmental Services, LLC. of any defect within 24 hours of receipt of equipment Please call 866-960-7463 for Technical Assistance

INSTRUMENT _____NATION REPORT



Pine Environmental Services, LLC.

405 Cambridge Ave Syracuse, NY 13208 Toll-free: (877) 903-PINE (7463)

Pine Environmental Services, Inc.

Instrument ID Descriptior Calibrated	21061 Horiba U-52 5/20/2015 10:5	57:59AM					
Manufacture Model Number Serial Number/ Lo	r U-52 t YDTV67YB			State Certified Status Temp °C	Pass		
Numbe Locatio Departmen	n New York			Humidity %	, 50		
		Calibr	ation Specifica	tions			
Group N	up# 1 ame PH Accy Pct of Read	ting		Range Acc % Reading Acc % Plus/Minus	3.0000		
Nom In Val / In Val	In Type	Out <u>Val</u>	<u>Out Type</u>	Fnd As	<u>Lft As</u>	Dev%	<u>Pass/Fail</u>
7.01 / 7.01	PH PH	7.01 4.01	PH PH	7.00 4.00	7.00 4.00	-0.14% -0.25%	Pass Pass
4.01 / 4.01 PH 4.01 PH Group # 2 Group Name Turbidity Stated Accy Pct of Reading			Range Acc % Reading Acc % Plus/Minus	3.0000			
Nom In Val / In Val	In Type	Out Val	Out Type	<u>Fnd As</u>	Lft As	<u>Dev%</u>	<u>Pass/Fail</u>
0.00 / 0.00 800.00 / 800.00	NTU NTU	0.00 800.00	NTU NTU	0.00 800.00	0.00 800.00	0.00% 0.00%	Pass Pass
Gre Group I	oup # 3 Name Conductiv Accy Pct of Res	vity ading		Range Acc % Reading Acc % Plus/Minus	3.0000		
Nom In Val / In <u>Val</u>	In Type	Out <u>Val</u>	Out Type	<u>Fnd As</u>	Lft As	Dev%	Pass/Fai
0.718 / 0.718	ms/cm	0.718	ms/cm	0.718	0.718	0.00% 0.00%	Pass Pass
5.000 / 5.000 80.000 / 80.000	ms/cm ms/cm	5.000 80.000	ms/cm ms/cm	5.000 80.000	5.000 80.000	0.00%	Pass
Gr Group	roup # 4 Name Redox (C I Accy Pct of Re			Range Acc % Reading Acc % Plus/Minus	3.0000		
	In Type	<u>Out Val</u>	Out Type	Fnd As	Lft As	Dev%	<u>Pass/Fai</u>
<u>Nom In Val / In Val</u> 240.00 / 240.00	mv	240.00	mv	240.00	240.00	0,00%	Pass
G Group	roup # 5 Name Disolved d Accy Pct of R	l Oxygen Zero		Range Acc % Reading Acc % Plus/Minu	6 3.0000		

Pine Environmental Services, LLC., Windsor Industrial Park, 92 North Main Street, Bldg 20, Windsor, NJ 08561, 800-301-9663 www.pine-environmental.com



Pine Environmental Services, LLC.

405 Cambridge Ave Syracuse, NY 13208 Toll-free: (877) 903-PINE (7463)

Pine Environmental Services, Inc.

Descri	ent ID 21061 iption Horiba U-52 prated 5/20/2015 10:57:	59AM			0.0000		
Grou	Group # 5 up Name Disolved Oxyg ted Accy Pct of Reading			Range Acc % Reading Acc % Plus/Minus	3.0000 0.00	D 0/	Dece/Eetil
Nom In Val / In Va		<u> Out Val</u>	<u>Out Type</u>	<u>Fnd As</u>	Lft As	<u>Dev%</u> 0.00%	<u>Pass/Fail</u> Pass
0.00 / 0.00	mg/L	0.00	mg/L	0.00	0.00	0.0076	1 455
	Group # 6 up Name Temperature I ated Accy Plus / Minus	DO Span		Range Acc % Reading Acc % Plus/Minus	0.0000 0.00		n. //F11
Nom In Val / In Va	ll In Type	<u>Out Val</u>	Out Type	Fnd As	Lft As	<u>Dev%</u> 0,00%	<u>Pass/Fail</u> Pass
20.00 / 20.00	degrees C	8.84	mg/L	8.84	8.84	0.00%	T 455
<u>Test Instruments</u> Test Standard ID	Used During the Calibr Description	<u>Manufacturer</u>	<u>Model Numbe</u>	<u>Serial Num</u> er Lot Numbe	<u>iber /</u> er Las	t Cal Date/ E ened Date	ext Cal Date xpiration D
NYS COND 5K - 4AD416 NYS COND 718	NYS COND 5K - 4AD416 NYS COND 718 -	AquaPhoenix Scientific GFS	SL20500-5G SL20718-HA				/30/2015 /30/2015
- 4AD412 NYS COND	4AD412 NYS COND 80K -	AquaPhoenix Scientific	SL20032-5G	4AD416		4	/30/2015
80K - 4AD416 NYS DO ZERO NYS ORP 240 -	4AD416 NYS DO ZERO NYS ORP 240 - 6448	EMD Hanna	WQA90122 240 MV	20102382 6448	21	7	7/30/2018
6448 NYS PH 4 -	NYS PH 4 - 4AB415	VWR	SL1007-5G	4AB415			2/28/2016
4AB415 NYS PH 7 -	NYS PH 7 - 4AC064	VWR	SL1007-5G	4AC064			3/31/2016
4AC064 NYS TURB 0	NYS TURB 0 NTU - C475073	GFS	SL30005-50				10/31/2015
NTU - C475073 NYS TURB 800 NTU - A3073	-	Horiba J	SL40047-11	L A3073			2/28/2016

Notes about this calibration

Calibration Result Calibration Successful Who Calibrated Joseph P. Burkhart

Pine Environmental Services, LLC., Windsor Industrial Park, 92 North Main Street, Bldg 20, Windsor, NJ 08561, 800-301-9663 www.pine-environmental.com



Pine Environmental Services, LLC.

405 Cambridge Ave Syracuse, NY 13208 Toll-free: (877) 903-PINE (7463)

Pine Environmental Services, Inc.

Instrument ID21061DescriptionHoriba U-52Calibrated5/20/2015 10:57:59AM

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Pine Environmental Services, LLC.

405 Cambridge Ave Syracuse, NY 13208 Toll-free: (877) 903-PINE (7463)

Pine Environmental Services, Inc.

Instrument II	21389						
Description	h Horiba U-52						
Calibrate	1 5/20/2015 10::	59:09AM					
Manufacture	r Horiba			State Certified			
Model Numbe				Status			
Serial Number/ Lo	t 2HCHBA2V			Temp °C	22		
Numbe				Humidity %	50		
	n New York			, , , , , , , , , , , , , , , , , , ,			
Departmer	it	-					
		Calibr	ation Specifica				
Gro	up #1			Range Acc %			
Group N				Reading Acc %			
	Accy Pct of Rea	ding		Plus/Minus			mmm
Nom In Val / In Val	In Type	<u>Out Val</u>	Out Type		Lft As	<u>Dev%</u>	Pass/Fail
7.00 / 7.00	PH	7.00	PH	,,,,,,,	7.00	0.00%	Pass
4.00 / 4.00	PH	4.00	PH	4.00	4.00	0.00%	Pass
	oup # 2			Range Acc %			
	ame Turbidity			Reading Acc %			
	Accy Pct of Rea	ding		Plus/Minus	0.00		
Nom In Val / In Val	In Type	Out <u>Val</u>	Out Type	Fnd As	<u>Lft As</u>	Dev%	<u>Pass/Fail</u>
0.00 / 0.00	NTU	0.00	NTU	0.00	0.00	0.00%	Pass
800.00 / 800.00	NTU	800.00	NTU	800.00	800.00	0.00%	Pass
	oup # 3			Range Acc %	0.0000		
	Name Conductiv	vitv		Reading Acc %			
	Accy Pct of Re			Plus/Minus	0.000		
	In Type	<u>Out Val</u>	Out Type	Fnd As	<u>Lft As</u>	<u>Dev%</u>	<u>Pass/Fail</u>
<u>Nom In Val / In Val</u> 0.718 / 0.718	ms/cm	0.718	ms/cm	0.718	0.718	0.00%	Pass
5.000 / 5.000	ms/cm	5.000	ms/cm	5.000	5.000	0.00%	Pass
80.000 / 80.000	ms/cm	80.000	ms/cm	80.000	80.000	0.00%	Pass
	oup#4			Range Acc %	0.0000		
	Name Redox (C)RP)		Reading Acc %			
	Accy Pct of Re			Plus/Minus	0.00		
Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	<u>Pass/Fai</u>
240.00 / 240.00	mv	240.00	mv	240.00	240.00	0.00%	Pass
				Range Acc %	0.0000		
Guard	roup # 5 Name Disolved	Oxygen Zero		Reading Acc %			
	Accy Pct of Re			Plus/Minus			

Pine Environmental Services, LLC., Windsor Industrial Park, 92 North Main Street, Bldg 20, Windsor, NJ 08561, 800-301-9663 www.pine-environmental.com



2/28/2016

Pine Environmental Services, LLC.

405 Cambridge Ave Syracuse, NY 13208 Toll-free: (877) 903-PINE (7463)

Pine Environmental Services, Inc.

Desci	ent ID 21389 ription Horiba U-52 brated 5/20/2015 10:59	9:09AM					
	Group # 5 up Name Disolved Oxy ated Accy Pct of Readir			Range Acc % eading Acc % Plus/Minus	3.0000		
<u>Nom In Val / In Va</u>	al <u>In Type</u>	<u>Out Val</u>	Out Type	<u>Fnd As</u>	<u>Lft As</u>	Dev%	<u>Pass/Fail</u>
0.00 / 0.00	mg/L	0.00	mg/L	0.00	0.00	0.00%	Pass
	Group # 6 oup Name Temperature ated Accy Plus / Minus			Range Acc % eading Acc % Plus/Minus	0.0000 0.00		
<u>Nom In Val / In V</u>	al <u>In Type</u>	<u>Out Val</u>	Out Type	<u>Fnd As</u>	Lft As	Dev%	<u>Pass/Fail</u>
20.00 / 20.00	degrees C	8.84	mg/L	8.84	8.84	0.00%	Pass
<u>Test Instruments</u> <u>Test Standard ID</u>	Used During the Calib Description	Manufacturer	<u>Model Number</u>	Serial Num Lot Number	<u>ber /</u> r Last	: <u>Cal Date/ Ex</u> ned Date	<u>ext Cal Date</u> xpiration_Da
NYS COND 5K - 4AD416 NYS COND 718	NYS COND 5K - 4AD416 NYS COND 718 -	AquaPhoenix Scientific GFS	SL20500-5G SL20718-HA5C	4AD416 5 4AD412			/30/2015 /30/2015
- 4AD412 NYS COND	4AD412 NYS COND 80K -	AquaPhoenix Scientific	SL20032-5G	4AD416		4	/30/2015
80K - 4AD416 NYS DO ZERO NYS ORP 240 -	4AD416 NYS DO ZERO NYS ORP 240 - 6448	EMD Hanna	WQA90122 240 MV	20102382 6448	l	7	/30/2018
6448 NYS PH 4 - 4AB415	NYS PH 4 - 4AB415	VWR	SL1007-5G	4AB415			/28/2016
4AB415 NYS PH 7 - 4AC064	NYS PH 7 - 4AC064	VWR	SL1007-5G	4AC064		_	/31/2016 0/31/2015
NYS TURB 0	NYS TURB 0 NTU -	GFS	SL30005-5G	C475073		1	0/31/2013

Notes about this calibration

NTU - C475073 C475073

NTU - A3073

NYS TURB 800 NYS TURBIDITY

- A3073

Calibration Result Calibration Successful Who Calibrated Joseph P. Burkhart

STANDARD 800 NTU

Pine Environmental Services, LLC., Windsor Industrial Park, 92 North Main Street, Bldg 20, Windsor, NJ 08561, 800-301-9663 www.pine-environmental.com

SL40047-1L

Horiba

A3073



Pine Environmental Services, LLC.

405 Cambridge Ave Syracuse, NY 13208 Toll-free: (877) 903-PINE (7463)

Pine Environmental Services, Inc.

 Instrument ID
 21389

 Description
 Horiba U-52

 Calibrated
 5/20/2015 10:59:09AM

All instruments are calibrated by Pine Environmental Services, LLC. according to the manufacturer's specifications, but it is the customer's responsibility to calibrate and maintain this unit in accordance with the manufacturer's specifications and/or the customer's own specific needs.

Notify Pine Environmental Services, LLC. of any defect within 24 hours of receipt of equipment Please call 866-960-7463 for Technical Assistance



Pine Environmental Services, LLC.

405 Cambridge Ave Syracuse, NY 13208 Toll-free: (877) 903-PINE (7463)

Pine Environmental Services, Inc.

Descri Calib	nt ID 19319 iption HACH 2100Q Tu rated 5/20/2015 11:39:4			State Certifie	d				
Model Nu Serial Numbe	cturer HACH umber 2100Q r/Lot 11090C012488			-	s Pass				
	umber cation New York tment		Humidity % 50						
		Calibra	tion Specification	S					
Gro	Group # 1 up Name Turbidity ited Accy Pct of Reading	g		Range Acc % eading Acc % Plus/Minus	3.0000				
Nom In Val / In Va	v	<u>Out Val</u>	Out Type	Fnd As	<u>Lft As</u>	Dev%	<u>Pass/Fail</u>		
10.00 / 10.00	NTU	10.00	NTU	10.00	10.00	0.00%	Pass		
20.00 / 20.00	NTU	20.00	NTU	20.00	20.00	0.00%	Pass		
100.00 / 100.00	NTU	100.00	NTU	100.00	100.00	0.00% 0.00%	Pass Pass		
800.00 / 800.00	NTU	800.00	NTU	800.00	800.00	0.00%	1 455		
Test Instruments	Used During the Calibr	ation		Serial Num	her /	Of Cal Entr	ext Cal Date		
Test Standard ID	Description	Manufacturer	<u>Model Number</u>	Lot Numbe	r Las	<u>t Cal Date/ Ex</u> ened Date	piration D		
NYS TURB 10	NYS 10 NTU	HACH	1451	C364881			30/2015		
NTU - C364881 NYS TURB 100 NTU - A3115	TURBIDITY STANDARD NYS TURB 100 NTU TURBIDITY	НАСН	26602-42	A3115		4/	/30/2015		
NYS TURB 20 NTU - A3175	STANDARD FOR HACH NY TURB 20 NTU TURBIDITY	НАСН	WQA9062	A3175		6.	/30/2015		
NYS TURB 800 NTU - A3073	STANDARD FOR HACH NYS TURBIDITY STANDARD 800 NTU - A3073	Horiba	SL40047-1L	A3073		2	/28/2016		

Notes about this calibration



Pine Environmental Services, LLC.

405 Cambridge Ave Syracuse, NY 13208 Toll-free: (877) 903-PINE (7463)

Pine Environmental Services, Inc.

Instrument ID19319DescriptionHACH 2100Q TurbidimeterCalibrated5/20/2015 11:39:42AM

Calibration Result Calibration Successful Who Calibrated Joseph P. Burkhart

All instruments are calibrated by Pine Environmental Services, LLC. according to the manufacturer's specifications, but it is the customer's responsibility to calibrate and maintain this unit in accordance with the manufacturer's specifications and/or the customer's own specific needs.

Notify Pine Environmental Services, LLC. of any defect within 24 hours of receipt of equipment Please call 866-960-7463 for Technical Assistance



Pine Environmental Services, LLC.

405 Cambridge Ave Syracuse, NY 13208 Toll-free: (877) 903-PINE (7463)

Pine Environmental Services, Inc.

Descr	ent ID 25715 iption HACH 2100Q Tu prated 5/20/2015 11:38:						
Model N	cturer HACH umber 2100Q er/Lot 14030C031239			State Certified Statu Temp °C	s Pass		
Nu Lo	umber cation New York			Humidity %	6 50		
		Calibrat	tion Specification	15			
	Group # 1 up Name Turbidity ited Accy Pct of Reading	g]	Range Acc % Reading Acc % Plus/Minus	3.0000		
Nom In Val / In Va	-	Out Val	Out Type	<u>Fnd As</u>	Lft As	Dev%	<u>Pass/Fail</u>
10.00 / 10.00	NTU	10.00	NTU	10.00	10.00	0.00%	Pass
20.00 / 20.00	NTU	20.00	NTU	20.00	20.00	0.00%	Pass
100.00 / 100.00	NTU	100.00	NTU	100.00	100.00	0.00%	Pass
800.00 / 800.00	NTU	800.00	NTU	800.00	800.00	0.00%	Pass
	Used During the Calibr	<u>ation</u> <u>Manufacturer</u>	<u>Model Number</u>	Serial Numl Lot Number	<u>ber /</u> r Last	Of Cal Entr <u>Ne</u> Cal Date/ Ex ned Date	ext Cal Date
NYS TURB 10 NTU - C364881	NYS 10 NTU TURBIDITY STANDARD	HACH	1451	C364881	<u>opt</u>		30/2015
NYS TURB 100 NTU - A3115		НАСН	26602-42	A3115		4/	30/2015
NYS TURB 20 NTU - A3175	NY TURB 20 NTU TURBIDITY STANDARD FOR HACH	НАСН	WQA9062	A3175		6/	30/2015
NYS TURB 800 NTU - A3073	NYS TURBIDITY STANDARD 800 NTU - A3073	Horiba	SL40047-1L	A3073		2/	/28/2016

Notes about this calibration



Pine Environmental Services, LLC.

405 Cambridge Ave Syracuse, NY 13208 Toll-free: (877) 903-PINE (7463)

Pine Environmental Services, Inc.

Instrument ID25715DescriptionHACH 2100Q TurbidimeterCalibrated5/20/2015 11:38:57AM

Calibration Result Calibration Successful Who Calibrated Joseph P. Burkhart

All instruments are calibrated by Pine Environmental Services, LLC. according to the manufacturer's specifications, but it is the customer's responsibility to calibrate and maintain this unit in accordance with the manufacturer's specifications and/or the customer's own specific needs.

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Pine Environmental Services, LLC.

405 Cambridge Ave Syracuse, NY 13208 Toll-free: (877) 903-PINE (7463)

Pine Environmental Services, Inc.

	ent ID 17303								
Descr	iption HACH 2100Q Tr	urbidimeter							
Calib	orated 5/19/2015 9:18:	07AM							
Manufa	cturer HACH			State Certifie					
Model Nu	mber 2100Q			Statu	s Pass				
Serial Numbe	r/Lot 11060C009984		Temp °C 25						
	ımber								
	cation New York			Humidity %	60 GU				
Depar	tment					_			
		Calibrat	tion Specification	S					
	Group # 1			Range Acc %	0.0000				
Gro	up Name Turbidity		F	Reading Acc %	3.0000				
	ted Accy Pct of Readin	g		Plus/Minus	0.00				
Nom In Val / In Va	•	<u>Out Val</u>	Out Type	Fnd As	Lft As	Dev%	<u>Pass/Fail</u>		
10.00 / 10.00	NTU	10.00	NTU	10.00	10.00	0.00%	Pass		
20.00 / 20.00	NTU	20.00	NTU	20.00	20.00	0.00%	Pass		
100.00 / 100.00	NTU	100.00	NTU	100.00	100.00	0.00%	Pass		
800.00 / 800.00	NTU	800.00	NTU	800.00	800.00	0.00%	Pass		
Test Instruments	Used During the Calibr	<u>ation</u>			<u>(As (</u>	<u> Of Cal Entr</u>	<u>y Date)</u>		
				Serial Num			ext Cal Date		
<u>Test Standard ID</u>	Description	Manufacturer	Model Number	Lot Number		Cal Date/ Ex ed Date	piration D		
NYS TURB 10	NYS 10 NTU	НАСН	1451	C364881	Open		30/2015		
		11/10/11	1151						
NIU - C304881	TURBIDITY								
	TURBIDITY STANDARD	НАСН	26602-42	A3115		4/	30/2015		
	TURBIDITY STANDARD	НАСН	26602-42	A3115		4/	30/2015		
NYS TURB 100	TURBIDITY STANDARD NYS TURB 100 NTU TURBIDITY STANDARD FOR	НАСН	26602-42	A3115		4/	30/2015		
NYS TURB 100 NTU - A3115	TURBIDITY STANDARD NYS TURB 100 NTU TURBIDITY STANDARD FOR HACH								
NYS TURB 100 NTU - A3115 NYS TURB 20	TURBIDITY STANDARD NYS TURB 100 NTU TURBIDITY STANDARD FOR HACH NY TURB 20 NTU	НАСН НАСН	26602-42 WQA9062	A3115 A3175			30/2015 30/2015		
NYS TURB 100	TURBIDITY STANDARD NYS TURB 100 NTU TURBIDITY STANDARD FOR HACH NY TURB 20 NTU TURBIDITY								
NYS TURB 100 NTU - A3115 NYS TURB 20	TURBIDITY STANDARD NYS TURB 100 NTU TURBIDITY STANDARD FOR HACH NY TURB 20 NTU TURBIDITY STANDARD FOR								
NYS TURB 100 NTU - A3115 NYS TURB 20 NTU - A3175	TURBIDITY STANDARD NYS TURB 100 NTU TURBIDITY STANDARD FOR HACH NY TURB 20 NTU TURBIDITY STANDARD FOR HACH					6/			
NYS TURB 100 NTU - A3115 NYS TURB 20 NTU - A3175	TURBIDITY STANDARD NYS TURB 100 NTU TURBIDITY STANDARD FOR HACH NY TURB 20 NTU TURBIDITY STANDARD FOR	НАСН	WQA9062	A3175		6/	30/2015		

Notes about this calibration



Pine Environmental Services, LLC.

405 Cambridge Ave Syracuse, NY 13208 Toll-free: (877) 903-PINE (7463)

Pine Environmental Services, Inc.

Instrument ID 17303 Description HACH 2100Q Turbidimeter Calibrated 5/19/2015 9:18:07AM

Calibration Result Calibration Successful Who Calibrated Joseph P. Burkhart

All instruments are calibrated by Pine Environmental Services, LLC. according to the manufacturer's specifications, but it is the customer's responsibility to calibrate and maintain this unit in accordance with the manufacturer's specifications and/or the customer's own specific needs.

Notify Pine Environmental Services, LLC. of any defect within 24 hours of receipt of equipment Please call 866-960-7463 for Technical Assistance



Pine Environmental Services, LLC.

405 Cambridge Ave Syracuse, NY 13208 Toll-free: (877) 903-PINE (7463)

Pine Environmental Services, Inc.

Instrument ID	20020						
Description	MIniRae 3000						
Calibrated	5/20/2015 4:39	9:55PM					
Manufacture	• Rae Systems			State Certifie	d		
Model Number	• MiniRAE 3000	i		Statu	s Pass		
Serial Number/ Lot				Temp °	C 20.4		
Number							
	New York			Humidity %	6 43		
Department	t						
		Calibrat	tion Specification	<u>s</u>			
Grou	p # 1			Range Acc %	0.0000		
	me Isobutylene		R	Reading Acc %			
Stated A	ccy Pct of Readi	ng		Plus/Minus	0.00		
<u>Nom In Val / In Val</u>	<u>In Type</u>	<u>Out Val</u>	Out Type	Fnd As	<u>Lft As</u>	Dev%	<u>Pass/Fail</u>
100.00 / 100.00	PPM	100.00	PPM	100.00	100.00	0.00%	Pass
Test Instruments Used I	During the Calib	ration			<u>(As</u>	s Of Cal Entr	<u>y Date)</u>
Test Standard ID Descri	ption	<u>Manufacturer</u>	<u>Model Number</u>	<u>Serial Numb</u> Lot Number	Las	<u>Ne</u> st Cal Date/ Ex ened Date	ext Cal Date / piration Date
NYS ISO 100 - NYS I 0310FM14 34L	SO 100 PPM -	American Gas Group	GP11012	0310FM14	<u></u>		10/2018

Notes about this calibration

Calibration Result Calibration Successful Who Calibrated Joe Filippi

All instruments are calibrated by Pine Environmental Services, LLC. according to the manufacturer's specifications, but it is the customer's responsibility to calibrate and maintain this unit in accordance with the manufacturer's specifications and/or the customer's own specific needs.

Notify Pine Environmental Services, LLC. of any defect within 24 hours of receipt of equipment Please call 866-960-7463 for Technical Assistance

Well Gauging Form 61 Edson Street, Amsterdam, NY NYSDEC Site #4-029-004

Monitoring Well	Top of Casing Elevation (ft msl)	Depth to Water (ft bgs)	Condition of Well*
MW-1	471.55	N/A-DRY	Fair- No well cap (2" well)
MW-1R	471.46	8.79	
MW-2	471.20	8.29	
MW-3	473.03	10.66	
MW-4	470.17	10.11	V V
MW-4R	470.29	20.43	Good. up in place (2" well)
MW-5	475.62	N/K. DRY	Fair - No well was (2" well)
MW-6	470.97	20.38	
MW-7	469.14	18.38	
MW-8	467.38	16.36	
MW-9	465.43	17,95	V V
MW-10	466.77	18.59	Good- cap in place (2" well)
MW-11	485.37	18.08	
MW-12	468.18	20.98	Good - up in place (2" well)
MW-13	462.12	13.62 15	
MW-14	453.66	13.62	
MW-15	445.20	12.39	
MW-16	449.50	22.68	
MW-17	450.84	9,34	
MW-18	463.76	23.22	
MW-19	441.64	32.55	
MW-20	442.38	25,41	V V
RW-01	472.08	65.03	Fair - Well cap damaged (cracked) 6"
RW-02	465.57	19.04	Fair- Well cap damaged - G"well

*Describe the condition of each monitoring well and if there are any issues to address (condition of the pad, cover, casing, lock)

Field Per	sonnel: '≁MK					Date: Job No.:	WELL NO: Page 1 of	MU- 25/1
						Location:	War	d
otal Well De	pth (from top of ca	asing):				100, 17.	Freet	
epth to Wate	er Surface Before F	Purging (from top	of casing):			- 8.79	feet	
eight of Wat	er Column:				a	-	feet	
creen Length	l				b	-	feet	
ell Diameter	r (d); Z	inches		Gals per ft:	Lesser of a and b (d ² x 0.0408) =			
ne Wetted S	creen Volume of V	Vater Before Purg	ing:			÷	gallons or	liters
	ater Equal to three Screen Volume mu						gallons or	liters
			Ta bina					
	nod:	Bladder Pump/W	/aterra Pump/P		ıp	Meter #		
			Ta bina		pH (SU)	Meter # Dissolved Oxygen (mg/L)	Redox Potential (mV)	L Turbidity (NTU)
Time	Volume Purged (Gallons / Liters)	Bladder Pump/W Depth to Water (feet) Drawdown < 0.3 feet	/aterra Pump/P SC V (mmhos/cm or µmhos) +/- 10%	Peristaltic Pum Temp. (°F or °C) +/-0.1 °C	pH (SU) +/- 0.1 SU	Dissolved Oxygen (mg/L) +/- 10%	Redox Potential (mV) +/- 10 mV	(NTU) +/- 10%
Time Stabilizat	Volume Purged (Gallons / Liters)	Bladder Pump/W Depth to Water (feet) Drawdown < 0.3 feet 9.54	/aterra Pump/P SC V (mmhos/cm or μmhos) +/- 10% 0, C F I	Peristaltic Pum Temp. (°F or °C) +/-0.1 °C Zo, 23	pH (SU) +/- 0.1 SU 7- 28	Dissolved Oxygen (mg/L) +/- 10% 7./4	Redox Potential (mV) +/- 10 mV /86	(NTU) +/- 10% 6.6
Time Stabilizat	volume Purged (Gallons / Liters) ion Criteria* 2 3 3	Bladder Pump/W Depth to Water (feet) Drawdown < 0.3 feet	/aterra Pump/P SC V (mmhos/cm or μmhos) +/- 10% 0,697	Peristaltic Pum Temp. (°F or °C) +/-0.1 °C Z0, 23 Z0, 25	pH (SU) +/- 0.1 SU 7-28 6, 48	Dissolved Oxygen (mg/L) +/- 10% 7./44 3. 84	Redox Potential (mV) +/- 10 mV /86 235	(NTU) +/- 10% 6.6 6.6
Time Stabilizat	Volume Purged (Gallons / Liters) ion Criteria* 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	Bladder Pump/W Depth to Water (feet) Drawdown < 0.3 feet 9.54 10:55 11.6	/aterra Pump/P SC V (mmhos/cm or μmhos) +/- 10% 0,697 0,697 0,700	Peristaltic Pum Temp. (°F or °C) +/-0.1 °C Z0, 23 Z0, 25 Z0, 76	pH (SU) +/- 0.1 SU 7-28 6. F8 6. 94	Dissolved Oxygen (mg/L) +/- 10% 7./4 3.84 3.67	Redox Potential (mV) +/- 10 mV /86	(NTU) +/- 10% 6.6 6.6 6.6
Time Stabilizat	volume Purged (Gallons / Liters) ion Criteria* , 3 , 2,5 , 2,5 , 2,5	Bladder Pump/W Depth to Water (feet) Drawdown < 0.3 feet 9.54 10.55 11.61 12:56	/aterra Pump/P SC V (mmhos/cm or μ mhos) +/- 10% $O_{,CF}$ $O_{,CF}$ $O_{,CF}$ $O_{,CF}$ $O_{,CF}$ $O_{,CF}$ $O_{,CF}$	Peristaltic Pum Temp. (°F or °C) +/-0.1 °C Zo, 23 Zo, 25 Zo, 36 Zo, 6	pH (SU) +/- 0.1 SU 7-28 6. F8 6. 94 6. 95	Dissolved Oxygen (mg/L) +/-10% 7.14 3.84 3.67 Z.89	Redox Potential (mV) +/- 10 mV 186 238 265 27/	(NTU) +/- 10% 6.6 0.6 0.6 0.0 0.0
Time Stabilizat 7057 //62 //07 //12 //17	volume Purged (Gallons / Liters) ion Criteria* , 3 , 2 , 2 , 2 , 2 , 2 , 2 , 2 , 2 , 2 , 2	Bladder Pump/W Depth to Water (feet) Drawdown < 0.3 feet 9-54 10:55 11.61 12:56 13:49	/aterra Pump/P SC V (mmhos/cm or μmhos) +/- 10% 0,697 0,697 0,699 0,699	Peristaltic Pum Temp. (°F or °C) +/-0.1 °C Z0, 23 Z0, 25 Z0, 76 Z6, 68 Z1, 16	pH (SU) +/- 0.1 SU 7-28 6.75 6.95 6.95	Dissolved Oxygen (mg/L) +/- 10% 7.14 3.84 3.67 2.89 Z.56	Redox Potential (mV) +/- 10 mV /86 235 235 265 27/ 27/ 276	(NTU) +/- 10% 6.6 0.6 0.6 0.0 0.0 0.0 0.0
Time Stabilizat <i>1057</i> <i>1107</i> <i>1112</i> <i>117</i> <i>117</i>	nod:Volume Purged (Gallons / Liters)ion Criteria* 7 3	Bladder Pump/W Depth to Water (feet) Drawdown < 0.3 feet 9.54 10.55 11.61 12:56 13.49 14.61	/aterra Pump/P SC V (mmhos/cm or μmhos) +/- 10% 0,697 0,697 0,697 0,699 0,691 0,686	Peristaltic Pum Temp. (°F or °C) +/-0.1 °C Z0, 23 Z0, 25 Z0, 25 Z0, 6 Z0, 6 Z0, 6 Z1, 16 Z1, 6	pH (SU) +/- 0.1 SU 7-28 6.48 6.48 6.95 6.95 6.95 6.95	Dissolved Oxygen (mg/L) +/- 10% 7./4 3.84 3.67 2.89 Z.89 Z.56 Z.92	Redox Potential (mV) +/- 10 mV /86 235 265 27/ 276 276 278	(NTU) +/- 10% 6.6 0.6 0.6 0.0 0.0 0.0 0.0 0.0 0.0 0.0
Time Stabilizat 7057 1/62 1/07 1/12 1/17	nod:Volume Purged (Gallons / Liters)ion Criteria*	Bladder Pump/W Depth to Water (feet) Drawdown < 0.3 feet 9-54 10:55 11.61 12:56 13:49	/aterra Pump/P SC V (mmhos/cm or μmhos) +/- 10% 0,697 0,697 0,699 0,699	Peristaltic Pum Temp. (°F or °C) +/-0.1 °C Z0, 23 Z0, 25 Z0, 25 Z0, 6 Z0, 6 Z0, 6 Z1, 16 Z1, 6	pH (SU) +/- 0.1 SU 7-28 6.75 6.95 6.95	Dissolved Oxygen (mg/L) +/- 10% 7.14 3.84 3.67 2.89 Z.56	Redox Potential (mV) +/- 10 mV /86 235 235 265 27/ 27/ 276	(NTU) +/- 10% 6.6 0.6 0.6 0.6 0.6 6.6
Time Stabilizat <i>1057</i> <i>1167</i> <i>117</i> <i>117</i> <i>177</i> <i>177</i>	nod:Volume Purged (Gallons / Liters)ion Criteria*	Bladder Pump/W Depth to Water (feet) Drawdown < 0.3 feet 9-54 10:55 11:61 12:56 13:49 14:61 15:38	/aterra Pump/P SC V (mmhos/cm or μmhos) +/- 10% 0,697 0,697 0,697 0,699 0,691 0,686	Peristaltic Pum Temp. (°F or °C) +/-0.1 °C Z0, 23 Z0, 25 Z0, 25 Z0, 6 Z0, 6 Z0, 6 Z1, 16 Z1, 6	pH (SU) +/- 0.1 SU 7-28 6.48 6.48 6.95 6.95 6.95 6.95	Dissolved Oxygen (mg/L) +/-10% 7.14 3.84 3.67 2.89 2.89 2.56 2,42 2,63	Redox Potential (mV) +/- 10 mV 186 235 235 265 27/ 276 276 278 278 276	(NTU) +/- 10% 6.6 0.6 0.6 0.0 0.0 6.6 6.6 6.6

Sampling Data:

- Sampling Method: Bailer or Pump - Depth of Pump intake or bailer:

feet

- Color: Odor: Sheen/Appearance: Notes: Sample 1135 time!

	Field Perso	onnel: + M/S					Date: Job No.: Location:	WELL NO: Page 1 of 8/2	
Tota	al Well Dep	th (from top of c	asing):				14.4	feet	
Dep	oth to Water	Surface Before I	Purging (from top	of casing);			- 14.4	feet	
Heig	ght of Wate	r Column:				2	=	-]feet	
	een Length					h		feet	
One	ume of Wat	reen Volume of W er Equal to three	inches Vater Before Purg wetted screen vol	umes volumes	Gals per ft:	Lesser of a and b (d ² x 0.0408) =		gallons or	liters
			ltiplied by 5.0) (1						
Pur	ging Metho Time	Volume Purged (Gallons / Liters)	Bladder Pump/W Depth to Water (feet)	SC (mmhos/cm or μmhos)	Temp. (°F or °C)	p pH (SU)	Meter # Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
		on Criteria*	Drawdown < 0.3 feet	+/- 10%	+/-0.1 °C	+/- 0.1 SU	+/- 10%	+/- 10 mV	+/- 10%
	1145	,2	10.64	0,486	24.72	7.15	470	-57	0.0
	1155	,3	11,46	0,451	24.71	7.04	2,38	58	6,0
	1200	.2	12.36	6,459	24.86	7.03	2.52	65	0.0
					-				
	1				1				
	1								
Tota	l Volume o	f Water Purged:						~ 5	gallonsliters
am	pling Data	:		- Sampling Mo					
				- Depth of Pur	np intake or l	bailer:		t	feet
Jote				- Color:	Odor:			Sheen/Appearance	e:
Note		Sample	, time	: 120	4 .	Pup	als	io ce	llecte
		@ 10	208)				
	e								

	Field Per	Luzia- Cara	يرا				Date: Job No.:	WELL NO: Page 1 of 1 	_MW-47
Tot		pth (from top of c	asing).				Location:	Amsterda	m, MY Lu
								_ feet	
Dep	pth to wate	r Surface Before	Purging (from top	o of casing):			- 20.43	_ feet	
Hei	ight of Wate	er Column:					a =	feet	
Scr	een Length					1	10	feet	
We	ll Diameter	(d): 7	inches		Gals per ft:	Lesser of a and $(d^2 \times 0.0408) =$			
One	e Wetted Sc	reen Volume of V	Vater Before Purg	ging:			-	_gallons or	liters
Val	umo of Wa	ton E an al ta than	<i>u</i> 1				-		inters
VOI	(Wetted S	ter Equal to three creen Volume mu	ltiplied by 5.0) (1	lumes volumes l gallon = 3.78	s: 5 liters)			_gallons or	liters
Pur	ging Meth		Bladder Pump/W			ոթ	Meter #		
	Time	Volume Purged (Gallons / Liters)	Depth to Water (feet)	SC (mmhos/cm or µmhos)	Temp X (°F or °C)	pH (SU)	Dissolved Oxygen (mg/L)	Redox 🗸 Potential (mV)	Turbidity (NTU)
	Stabilizatio	on Criteria*	Drawdown < 0.3 feet	+/- 10%	+/-0.1 °C	+/- 0.1 SU	+/- 10%	+/- 10 mV	+/- 10%
	1330	0.4L/min	22.03	1.25	21.17	727	4.03	267	465
1.0	1335	0.351/min	22.62	1.16	22.94	7.14	2.39	262	281
	1340	0.4L/min	23.14	1.09	24.11	7.10	1.88	255	71.6
1.2	1345	0.452/min	23.72	1.19	20.52	7.11	2.08	254	46.0
	1350	0.4L/min	24.14	1.19	23.26	7.11	1.83	248	29.4
-	1355	0.42/min	23.87	1.20	23.40	7.13	2.10	248	27.3
-/	1400	0.451/min	24.08	1.19	13.40	7.09	2.04	247	3.4
	1405	0.451/mm	23.96	1.23	19.04	7.13	2.05	248	23
		1							
Total	l Volume o	f Water Purged:						14	gallons/liters
	pling Data		3	 Sampling Me Depth of Pun 	thod: Bailer	or the 33	sub.		faat
J. (J Notes		+ 1410 > Metals, He	$A \sim \Delta$		Odor: NA	25		Sheen/Appearance	feet
-	initially	, highly t	urbid (dk	brown)					20
									· .
-									

								WELL NO:	MW-10
	Field Per M.	rsonnel: Kazia-Can Dunlavey	me I				Date: Job No.: Location:	WELL NO: Page 1 of	25/15
Tot		epth (from top of a	casing):				50.20	feet	
De	pth to Wate	er Surface Before	Purging (from top	o of casing):			- 18.59	-	
Hei	ight of Wa	ter Column:	-	0,				_	
	een Length						-	feet	
201	COII L'ONGU	L.				ł	PL15	feet	
We	11 Diameter	r (<u>d): 2</u>	inches		Gals per ft:	Lesser of a and b $(d^2 \times 0.0408) =$			
One	e Wetted So	creen Volume of	Water Before Purg	ging:			=	gallons or	liters
Vol	ume of Wa	ter Equal to three	wetted screen vo	lumes volumes	5:			gallons or	liters
			ultiplied by 5.0) (1			Mensoo ~			
Pur	ging Meth		Bladder Pump/V	Vaterra Pump/I	Peristaltic Pun	ip sub pump	Meter #		
	Time	Volume Purged (Gallons / Liters)	Depth to Water (feet)	SC (mmhos/cm or µmhos)	Temp. √ (°F or °C)	^{pH} (SU) ✓	Dissolved Oxygen (mg/L)	Redox 🗸 Potential (mV)	Turbidity (NTU)
	-	on Criteria*	Drawdown < 0.3 feet	+/- 10%	+/-0.1 °C	+/- 0.1 SU	+/- 10%	+/- 10 mV	+/- 10%
	1440	O.SL/min	19.48	0.969	15.13	7.72	5.88	159	105
	1445	0.5c/min	19.55	0.803	21.75	7.26	2.46	199	70,1
	1450	0.5L/min	19.69	0.845	18.57	7.14	2.49	210	43.3
	1500	O.SL/min D.4L/min	19.58	0.871	17.73	7.11	2.39	215	10.8
1.0	1505	0.55 Jain	19.24	0.832	20.01	7.08	2.19	218	i1. I
	1510	the second se		0.819	20.82	7.05	2.00	221	9.8
-7		0.45L/min	19.47	0. 80%	20.87	7.03	2.10	222	10.D
	1515	0.451 /min	19.56	0.804	20,70	7.0)	1.98	224	61
		f Water Purged:						g	allons liters
		: Sample at		 Sampling Me Depth of Pun 	thod: Bailer p intake or t	or Fump pailer: 44		fe	cet
VE Note:		Metals, Hex turbid (- Color: 11 61 00,	Qdor: NA			Sheen/Appearance	
-	7		with the second s			- 35			
-						1 A 1			

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Field Personnel: 6P+MK					Date: Job No.:	WELL NO: Page 1 of <u>B</u> ZS	,
	_				Location:	Ward	Produc
tal Well Depth (from top of	f casing):				30,20		
pth to Water Surface Befor	e Purging (from top	of casing):			- 18,98	feet	
ight of Water Column:					a=	feet	
reen Length					b	feet	
ell Diameter (d): 2	inches		Gals per ft:	Lesser of a and $(d^2 \times 0.0408)$	b = x		
e Wetted Screen Volume o	f Water Before Purg	ging:			-	gallons or	liters
lume of Water Equal to thr (Wetted Screen Volume						gallons or	liters
rging Method:	Bladder Pump/V	Vaterra Pump/I	Peristaltic Pur	np	Meter #		
Time Volume Purg Column Column Colum	ed Depth to Water (feet)	SC (mmhos/cm or µmhos)	Temp. (°F or °C)	pH (SU)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
Stabilization Criteria*	Drawdown < 0.3 feet	+/- 10%	+/-0.1 °C	+/- 0.1 SU	+/- 10%	+/- 10 mV	+/- 10%
1007. 5	19,13	0,188	20,93	8,16	6.81	12I	8.0
1007 .25	20,70	0,093	20,68	8.19	3,56	146	6,0
1012 .2	21,21	6.000	20.25	7.67	2.85	168	0,0
1017 :25	22,18	0,428	19.81	7.59	2.52	181	0.0
1022,25	23.42	6.046	19.46	7.48	2.31	174	0,0
1027 ,25	24,36	0.042	19:27	7.25	2,36	177	0.0
1037 . 24	74.81	0,053	19:25	7.3	2,29	177	0,0
LI tal Volume of Water Purgeo	1:	14				9	gallonsliters
mpling Data:	n	- Sampling M - Depth of Pur					feet
		- Color:	Odor:			Sheen/Appearan	ce:

Field Pers	sonnel: Luzia - Carme	<u>l</u>				Date: Job No.: Location:	WELL NO: Page 1 of <u>1</u> <u>8/2/2</u> (2033781 Amsterda	2
otal Well Dep	oth (from top of c	asing):				68.78	feet	
Depth to Wate	r Surface Before I	Purging (from top	of casing):			- 15.87	feet	
leight of Wate	er Column:				а	=	feet	
creen Length					b	15	feet	
Vell Diameter	(d): Z	inches		Gals per ft;	Lesser of a and b $(d^2 \ge 0.0408) =$			
one Wetted Sc	reen Volume of V	Vater Before Purg	;ing:			=	gallons or	liters
(Wetted Se	ter Equal to three creen Volume mu	ltiplied by 5.0) (1	gallon = 3.78	5 liters)			gallons or	liters
urging Metho	od:	Bladder Pump/W	/aterra Pump/F	Peristaltic Pun	np	Meter #		
Time	Volume Purged (Gallons / Liters)	Depth to Water (feet)	SC X (mmhos/cm or µmhos)	Temp. X (°F or °C)	pH (SU)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
Stabilizatio	on Criteria*	Drawdown < 0.3 feet	+/- 10%	+/-0.1 °C	+/- 0.1 SU	+/- 10%	+/- 10 mV	+/- 10%
1545	0.45 Junia	17.74	0.514	20.24	7,42	6.30	- 14	627
1550	0.452/min	20.13	0.9.59	12.95	7.01	3.22	-71	400
1555	O. 45L/min	23.90	0.772	14.00	6.80	2.43	-68	24.3
1600	O. HLmin	23.92	0.449	17.17	7.01	205	-71	50.7
	0.44/ nin	24.07	0.656	18.00	4.96	1.88	- 44	64.8
1605	1. 1.		0141	18.68	7.03	1.81	- 10%	44.8
1610	0.452/min	24.29	0.642					
1610	0.452 Juia	24 24	60.659	20.38	7.14	1.85	- 49	18.0
1610 1615 1620	0.452/min	24 24 24.35	60.659	20.38	7.14	1.85	- 49	18.0
1610	0.452 Juia	24 24	60.659	20.38	7.14	1.85	- 49	18.0
1610 1615 1620	0.452/min	24 24 24.35	60.659	20.38	7.14	1.85	- 49	18.0

Total Volume of Water Purged:

218 gallons/liter

Sampling Data: Sample tstal Lr. VOls, Hux. Lr. out 1630 - Sampling Method: Bailer or Pump - Depth of Pump intake or bailer: 07.5 feet - Color: dk brodor: Foul- not sewage though Sheen/Appearance: Notes: turbidity initia 1

								WELL NO: Page 1 of	MW-
		onnel: D≁MK					Date: Job No.: Location:	Fage 1 01	25/1
ota	ıl Well Dep	th (from top of c	asing):				60.91	feet	
ер	th to Water	Surface Before I	Purging (from top	of casing):			-13.60	Zfeet	
eig	ght of Water	r Column:				1	=	feet	
	en Length					ł	, <u> </u>	feet	
	en zengin					T 0 11	′L		
/el	l Diameter ((d): 2	inches		Gals per ft:	Lesser of a and b $(d^2 \times 0.0408) =$			
			Vater Before Purg	ving:	1	``´	-	gallons or	liters
			wetted screen vol ltiplied by 5.0) (1					_gallons or	liters
	ging Metho		Bladder Pump/W				Meter #	,	
1	ing Metho	Volume Purged		SC V	enstance run	1p	Dissolved	10	11
l	Time	(Gallons / Liters)	Depth to Water (feet)	(mmhos/cm or µmhos)	Temp. (°F or °C)	pH (SU)	Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
	Stabilizatio		Drawdown < 0.3 feet	+/- 10%	+/-0.1 °C	+/- 0.1 SU	+/- 10%	+/- 10 mV	+/- 10%
1	1257	,25	14.71	0,790	29.51	7.85	5.77	110	0.0
	1257	:25	15.86	6,761	28.29	7.83	3,54	124	0.0
	1302	125	17.01	0.761	26.69	7.81	3.24	133	0.0
	1307	16	17.96	0,766	25.86	7.79	3,32	136	0,0
	1312	12	18.39	6.772	25,64	7.74	3.76	139	0.6
	1317	11	18,71	0,781	25,74	7,78	3,19	341	0,0
Ì								1	
tal	Volume of	Water Purged:						6.5	gallons/litery
m	pling Data:			- Sampling Me - Depth of Pur					feet
	5:	<u> </u>		- Color:	Odor:			Sheen/Appearan	ce:

11 1330 / 12
-

	Field Perso	nnel: MC					Date: Job No.: Location:	WELL NO: Page 1 of 8/2	
Tota	l Well Dept	th (from top of ca	asing):				54.22	Zfeet	
	-						- 12,39		
Jep	th to Water	Surface Before F	urging (from top	of casing):			-14,31	_teet	
Ieig	t of Water	r Column:					a =	feet	
cre	en Length						b	feet	
Vell	l Diameter ((d): Z	inches		Gals per ft:	Lesser of a and $(d^2 \times 0.0408)$	-		
ne	Wetted Scr	een Volume of V	- Vater Before Purg	ing:			=	gallons or	liters
		*	wetted screen vol ltiplied by 5.0) (1					gallons or	liters
	ging Metho		Bladder Pump/W	3 a a 1 a		ıp /	Meter #	1	
	Time	Volume Purged (Gallons / Liters)	Depth to Water (feet)	SC (mmhos/cm or µmhos)	Temp. (°F or °C)	pH V (SU)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
	Stabilizatio	on Criteria*	Drawdown < 0.3 feet	+/- 10%	+/-0.1 °C	+/- 0.1 SU	+/- 10%	+/- 10 mV	+/- 10%
	1158	,3	13.68	0,710	19.49	6.87	7.92	-65	0,0
	1203	,25	14.60	0,769	19.25	6.91	2,5	-98	0.0
	1208	.2	15.16	0.792	19.20	6.92	1.97	-109	0,0
	1213	,2	15.61	6.814	19.32	6.93	1.72	-109	0,0
	1218	12	15,99	0,844	19.54	6.95	1.53	-113	0,0
	1223	,2	16.21	6,859	19,61	6.96	1.45	-115	6.0
L otal	Volume of	f Water Purged:						6.25	gallons
m	pling Data:	8		- Sampling Me - Depth of Pur					feet
				- Color:	Odor:			Sheen/Appearan	ice:

Notes: Sample time: 1225

	Field Perso	onnel: + M K	2				Date: Job No.: Location:	Page 1 of S/2 Wand	
'ota	l Well Dep	th (from top of ca	asing):				67.47	feet	
)ep	th to Water	Surface Before P	Purging (from top	of casing):			- 22.68	feet	
leig	t of Water	r Column:				a	=	feet	
cre	en Length					b]feet	
Vel	l Diameter ((d): 2	inches		Gals per ft:	Lesser of a and b $(d^2 \times 0.0408) =$			
ne	Wetted Scr	een Volume of V	Vater Before Purg	ing:			=	gallons or	liter
	(Wetted Sc	creen Volume mu	wetted screen vol ltiplied by 5.0) (1	gallon = 3.78	5 liters)			gallons or	liter
ur	ging Metho Time	Volume Purged (Gallons / Liters)	Bladder Pump/W Depth to Water (feet)	Jaterra Pump/I SC (mmhos/cm or μmhos)	Temp. (°F or °C)	pH (SU)	Meter # Dissolved Oxygen (mg/L)	Redox Potential (mV)	(NTU)
		on Criteria*	Drawdown < 0.3 feet	+/- 10%	+/-0.1 °C	+/- 0.1 SU	+/- 10%	+/- 10 mV	+/- 10%
4	1030	,2	23,53	0,257	20.57	7,20	9.22	124	0.0
1	1635	, 2	24.48	0.256	19.43	7.12	5.35	161	6.8
	1040	,2	25,31 26,02	0.253	18,77 16.54	7.10	4.82	186	0.0
	1045	.2	26,61	0,266	16.32	7.01	4,73	196	0.0
1	1050	12	27.04	0.274	15.95	7.01	4.84	200	0.0
	1100	12	27,39	0,270	16,07	7.01	4.81	199	0.0
) ota	l Volume o	f Water Purged:						C	gallons lite
m	pling Data	:		- Sampling M - Depth of Pu					feet
				- Color:	Odor			Sheen/Appearan	.ce:

Field Pers	sonnel: DFMR					Date: Job No.:	Page 1 of	MD-, 25/15
	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~					Location:	War	nd Pro
al Well De	pth (from top of ca	asing):				66,2	feet	
oth to Wate	r Surface Before I	Purging (from top	of casing):			- 9.34		
			01 000018)					
ght of Wate	er Column:				2	a	feet	
een Length					ł		feet	
	·				Lesser of a and b	0		
ll Diameter	( <u>d)</u> :	inches		Gals per ft:	$(d^2 \ge 0.0408) =$	= x		
e Wetted So	reen Volume of V	Vater Before Purg	ring:			=	gallons or	liters
		_	-			-		
	ter Equal to three creen Volume mu					-	gallons or	liters
				and the second				
ging Meth	od:	Bladder Pump/W	Vaterra Pump/I	Peristaltic Pun	1p	Meter #	1/	1
			SC V	_	1/	Dissolved		1
Time	Volume Purged (Gallons / Liters)	Depth to Water (feet)	(mmhos/cm or µmhos)	Temp. (°F or °C)	pH (SU)	Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
	(Gallons /	Depth to Water	(mmhos/cm or µmhos)	(°F or °C)	(SU)	Oxygen		(NTU)
Stabilizati	(Gallons / Liters)	Depth to Water (feet) Drawdown < 0.3 feet	(mmhos/cm or μmhos) +/- 10%	(°F or °C) +/-0.1 °C 28,7/	(SU) +/- 0.1 SU 7.51	Oxygen (mg/L) +/- 10% 4/. 6/8	Potential (mV) +/- 10 mV 123	
	(Gallons / Liters)	Depth to Water (feet) Drawdown < 0.3 feet	(mmhos/cm or μmhos) +/- 10% O 168 O. 158	(°F or °C) +/-0.1 °C 2.8,7/ Z8.6/	(SU) +/- 0.1 SU 7.51 6.70	Oxygen (mg/L) +/- 10% 4,68 1,69	Potential (mV) +/- 10 mV - / 2 3 - // 2	(NTU) +/- 10% 0,0
Stabilizati	(Gallons / Liters)	Depth to Water (feet) Drawdown < 0.3 feet 10,46 11,91 13.68	(mmhos/cm or μmhos) +/- 10% O 168 O,158 O,159	(°F or °C) +/-0.1 °C 28,7/ Z8.6/ Z7.43	(SU) +/- 0.1 SU 7.51	Oxygen (mg/L) +/- 10% 4, 0 8 1, 6 9 1, 4 3	Potential (mV) +/- 10 mV / 2 & / 1 2 / 1 0	(NTU) +/- 10% 6,0 0,0 0,0
Stabilizati	(Gallons / Liters)	Depth to Water (feet) Drawdown < 0.3 feet /0, 46 /1, 91 /3.68 /4.29	(mmhos/cm or μmhos) +/- 10% O 168 O.158 O.154 O.154 O.159	(°F or °C) +/-0.1 °C 28,7/ 28.6/ 27.43 27.67	(SU) +/- 0.1 SU 7.51 6.70 6.63 6.61	Oxygen (mg/L) +/- 10% 4.68 1.69 1.43 1.26	Potential (mV) +/- 10 mV - / 2 3 - / 1 2 - / 1 2 - / 10 - / 6 8	(NTU) +/- 10% 0,0 0,0 0,0 0,0
Stabilizati	(Gallons / Liters) ion Criteria* 25 35 25 725 725 725 725 725	Depth to Water (feet) Drawdown < 0.3 feet /0,46 /1,91 /3.68 /4,28 /4,28 /5.19-	(mmhos/cm or μmhos) +/- 10% O 168 O,158 O,159 O,159 O,163	(°F or °C) +/-0.1 °C 28,7/ 28.6/ 27.43 27.67 26.84	(SU) +/- 0.1 SU 7.51 6.70 6.63 6.63 6.61 6.59	Oxygen (mg/L) +/- 10% 4, 6 % 1, 6 % 1, 6 % 1, 7 % 1, 7 %	Potential (mV) +/- 10 mV / 2 3 / 1 2 / 1 2 / 6 8 / 6 7	(NTU) +/- 10% 6,0 0,0 0,0 6,0
Stabilizati / 444 / 949 / 984 / 9	(Gallons / Liters) ion Criteria* , 25 , 25	Depth to Water (feet) Drawdown < 0.3 feet 10,40 11,91 13.68 14.28 15.19= 16,01	(mmhos/cm or μmhos) +/- 10% O 168 O,159 O,159 O,163 O,163	(°F or °C) +/-0.1 °C 28,7/ 28.61 27.43 27.67 26.84 27.02	(SU) +/- 0.1 SU 7.51 6.70 6.63 6.63 6.61 6.59 6.59 6.58	Oxygen (mg/L) +/- 10% 4.68 1.69 1.43 1.26 1.18 1.18 1.10	Potential (mV) +/- 10 mV - / 2 & - / 1 2 - / 1 2 - / 10 - / 6 & - / 6 &	(NTU) +/- 10% 0.0 0.0 0.0 0.0 0.0
Stabilizati / 444 / 949 / 984 / 9	(Gallons / Liters) ion Criteria* , 25 , 25	Depth to Water (feet) Drawdown < 0.3 feet /0, 4C 11, 91 /3.68 /4.29 /5.14 /6.01 /6.69	(mmhos/cm or μmhos) +/- 10% O 168 O.159 O.159 O.163 O.163 O.163 O.163	(°F or °C) +/-0.1 °C 28,7/ 28.61 27.43 27.67 26.84 27.02 26.92	(SU) +/- 0.1 SU 7.51 6.70 6.63 6.63 6.59 6.59 6.58	Oxygen (mg/L) +/- 10% 4.68 1.69 1.43 1.26 1.18 1.18 1.10 1.06	Potential (mV) +/- 10 mV -123 -112 -110 -105 -106	(NTU) +/- 10% 6,0 0,0 6,0 0,0
Stabilizati	(Gallons / Liters) ion Criteria* , 25 , 25	Depth to Water (feet) Drawdown < 0.3 feet 10,40 11,91 13.68 14.28 15.19= 16,01	(mmhos/cm or μmhos) +/- 10% O 168 O,159 O,159 O,163 O,163	(°F or °C) +/-0.1 °C 28,7/ 28.61 27.43 27.67 26.84 27.02	(SU) +/- 0.1 SU 7.51 6.70 6.63 6.63 6.61 6.59 6.59 6.58	Oxygen (mg/L) +/- 10% 4.68 1.69 1.43 1.26 1.18 1.18 1.10	Potential (mV) +/- 10 mV - / 2 & - / 1 2 - / 1 2 - / 10 - / 6 & - / 6 &	(NTU) +/- 10% 0.0 0.0 0.0 0.0 0.0
Stabilizati / 444 / 949 / 984 / 9	(Gallons / Liters) ion Criteria* , 25 , 25	Depth to Water (feet) Drawdown < 0.3 feet /0, 4C 11, 91 /3.68 /4.29 /5.14 /6.01 /6.69	(mmhos/cm or μmhos) +/- 10% O 168 O.159 O.159 O.163 O.163 O.163 O.163	(°F or °C) +/-0.1 °C 28,7/ 28.61 27.43 27.67 26.84 27.02 26.92	(SU) +/- 0.1 SU 7.51 6.70 6.63 6.63 6.59 6.59 6.58	Oxygen (mg/L) +/- 10% 4.68 1.69 1.43 1.26 1.18 1.18 1.10 1.06	Potential (mV) +/- 10 mV -123 -112 -110 -105 -106	(NTU) +/- 10% 6,0 0,0 6,0 0,0
Stabilizati / 444 / 949 / 984 / 9	(Gallons / Liters) ion Criteria* , 25 , 25	Depth to Water (feet) Drawdown < 0.3 feet /0, 4C 11, 91 /3.68 /4.29 /5.14 /6.01 /6.69	(mmhos/cm or μmhos) +/- 10% O 168 O.159 O.159 O.163 O.163 O.163 O.163	(°F or °C) +/-0.1 °C 28,7/ 28.61 27.43 27.67 26.84 27.02 26.92	(SU) +/- 0.1 SU 7.51 6.70 6.63 6.63 6.59 6.59 6.58	Oxygen (mg/L) +/- 10% 4.68 1.69 1.43 1.26 1.18 1.18 1.10 1.06	Potential (mV) +/- 10 mV -123 -112 -110 -105 -106	(NTU) +/- 10% 6,0 0,0 6,0 0,0
Stabilizati / 444 / 949 / 984 / 9	(Gallons / Liters) ion Criteria* , 25 , 25	Depth to Water (feet) Drawdown < 0.3 feet /0, 4C 11, 91 /3.68 /4.29 /5.14 /6.01 /6.69	(mmhos/cm or μmhos) +/- 10% O 168 O.159 O.159 O.163 O.163 O.163 O.163	(°F or °C) +/-0.1 °C 28,7/ 28.61 27.43 27.67 26.84 27.02 26.92	(SU) +/- 0.1 SU 7.51 6.70 6.63 6.63 6.59 6.59 6.58	Oxygen (mg/L) +/- 10% 4.68 1.69 1.43 1.26 1.18 1.18 1.10 1.06	Potential (mV) +/- 10 mV -123 -112 -110 -105 -106	(NTU) +/- 10% 6,0 0,0 6,0 0,0
Stabilizati /*44 /949 /949 /949 /9504 /439 /444 /444 /444 /444	(Gallons / Liters) ion Criteria* , 25 , 25	Depth to Water (feet) Drawdown < 0.3 feet /0, 4C 11, 91 /3.68 /4.29 /5.14 /6.01 /6.69	(mmhos/cm or μmhos) +/- 10% O 168 O.159 O.159 O.163 O.163 O.163 O.163	(°F or °C) +/-0.1 °C 28,7/ 28.61 27.43 27.67 26.84 27.02 26.92	(SU) +/- 0.1 SU 7.51 6.70 6.63 6.63 6.59 6.59 6.58	Oxygen (mg/L) +/- 10% 4.68 1.69 1.43 1.26 1.18 1.18 1.10 1.06	Potential (mV) +/- 10 mV -123 -112 -100 -105 -106 -106 -105	(NTU) +/- 10% 6,0 0,0 6,0 0,0

Color Otor	<u>01</u> /4
- Color: Odor:	Sheen/Appearance:
Sample fine: 1452	
rample since. 145L	

Field Perso	mnel: ≠ MK			ė		Date: Job No.: Location:	WELL NO: Page 1 of 	26/15 26/15
al Well Dep	th (from top of ca	asing):			- C.	66.26	feet	
th to Water	Surface Before P	Purging (from top	of casing):			- 23.2	Zfeet	
ght of Wate	r Column:				a	-	feet	
en Length					ь		feet	
l Diameter (	(d): Z	inches		L Gals per ft:	desser of a and b $(d^2 \times 0.0408) =$		-	
Wetted Sci	een Volume of V	Vater Before Purg	ing:			=	gallons or	liters
ume of Wat	er Equal to three	wetted screen vol	umes volumes	. 8			gallons or	liters
(Wetted So	creen Volume mu	ltiplied by 5.0) (1	gallon $= 3.785$	5 liters)				
	creen Volume mu		gallon $= 3.785$	5 liters)	p	Meter #	/	
(Wetted So	creen Volume mu	Itiplied by 5.0) (1 Bladder Pump/W	gallon $= 3.785$	5 liters)	p pH (SU)	Meter # Dissolved Oxygen (mg/L)	Redox Potential (mV)	L
(Wetted So ging Metho Time	od: Volume Purged (Gallons / Liters)	ltiplied by 5.0) (1 Bladder Pump/W Depth to Water (feet)	gallon = 3.785 Vaterra Pump/P SC V (mmhos/cm	5 liters) Peristaltic Pum Temp. (°F or °C)	_{pH} /	Dissolved Oxygen	Redox	L Turbidity (NTU)
(Wetted So ging Metho Time	od: Volume Purged (Gallons / Liters)	ltiplied by 5.0) (1 Bladder Pump/W Depth to Water	gallon = 3.785 Vaterra Pump/P SC V (mmhos/cm or µmhos)	5 liters) Peristaltic Pum Temp.	pH (SU)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	L Turbidity (NTU)
(Wetted So ging Metho Time Stabilizatio	od: Volume Purged (Gallons / Liters)	ltiplied by 5.0) (1 Bladder Pump/W Depth to Water (feet) Drawdown < 0.3 feet	gallon = 3.785 Vaterra Pump/P SC // (mmhos/cm or µmhos) +/- 10%	5 liters) Peristaltic Pum Temp. (°F or °C) +/-0.1 °C	pH (SU) +/- 0.1 SU	Dissolved Oxygen (mg/L) +/- 10% 5,4-3 4,05	Redox Potential (mV) +/- 10 mV	L Turbidity (NTU) +/- 10%
(Wetted So ging Metho Time Stabilizatio	od: Volume Purged (Gallons / Liters)	Itiplied by 5.0) (1 Bladder Pump/W Depth to Water (feet) Drawdown < 0.3 feet	gallon = $3.785$ Vaterra Pump/P SC V (mmhos/cm or $\mu$ mhos) +/- 10% $\overline{O}$ , $I$ , $g$ , $g$	5 liters) Peristaltic Pum Temp. (°F or °C) +/-0.1 °C 24.6 c Z3.86 23,27	pH (SU) +/- 0.1 SU 7,36 7,39 7,32	Dissolved Oxygen (mg/L) +/-10% 5,42 4,05 3,87	Redox Potential (mV) +/- 10 mV 14/ 10 Z 11 Z	L Turbidity (NTU) +/- 10% O, O O, O
(Wetted So ging Metho Time Stabilizatio &/539	volume Purged (Gallons / Liters) on Criteria*	Itiplied by 5.0) (1         Bladder Pump/W         Depth to Water (feet)         Drawdown < 0.3 feet	gallon = $3.785$ Vaterra Pump/P SC $V$ (mmhos/cm or $\mu$ mhos) +/- 10% O, $I$ 9 8 O, $I$ 78	5 liters) Peristaltic Pum Temp. (°F or °C) +/-0.1 °C Z.4.6 c Z3.86	pH (SU) +/- 0.1 SU 7,3E 7,39 7,32 7,32 7,33	Dissolved Oxygen (mg/L) +/- 10% 5, 4-3 4, 05 3, 87 3, 63	Redox Potential (mV) +/- 10 mV 14 10 Z 11 Z 12 9	L Turbidity (NTU) +/- 10% O, G O, G
(Wetted So ging Metho Time Stabilizatio \$1534 1539 1544 1544 1549 1544	volume Purged (Gallons / Liters) on Criteria* , 2.5 , 2.5 , 2.5 , 2.5 , 2.5	Itiplied by 5.0) (1 Bladder Pump/W Depth to Water (feet) Drawdown < 0.3 feet 23, 83 23, 9/ 24, 10 24, 25 74, 39	gallon = $3.783$ Vaterra Pump/P SC // (mmhos/cm or µmhos) +/- 10% $O_{,1/9}$ $O_{,1/9}$ $O_{,1/78}$ $O_{,1/78}$ $O_{,1/76}$	5 liters) Peristaltic Pum Temp. (°F or °C) +/-0.1 °C 24.6 c 73.86 23,27 23,27 27,86 23,27	pH (SU) +/-0.1 SU 7,36 7,37 7,37 7,32 7,33 7,35	Dissolved Oxygen (mg/L) +/- 10% 5, 4-3 4, 05 3, 8-2 3, 6-3 3, 60	Redox Potential (mV) +/- 10 mV 14 10 Z 11 Z 12 9 13 J	L Turbidity (NTU) +/- 10% O, O O, O O, O O, O O, O
(Wetted So ging Metho Time Stabilizatio 2539 1534 1544 1549 1544 1549	volume Purged (Gallons / Liters) on Criteria* , 7.5 , 7.5 , 7.5 , 7.5 , 7.5 , 7.5 , 7.5 , 7.5 , 7.5 , 7.5	Itiplied by 5.0) (1 Bladder Pump/W Depth to Water (feet) Drawdown < 0.3 feet ZZ, SZ ZZ, 9/ ZZ, 9/ ZZ, 25 ZZ, 25 ZZ, 25 ZZ, 25 ZZ, 25 ZZ, 25 ZZ, 25	gallon = $3.78$ Vaterra Pump/P SC // (mmhos/cm or $\mu$ mhos) +/- 10% O, 198 O, 178 O, 178 O, 178 O, 178 O, 178 O, 199	5 liters) Peristaltic Pum Temp. (°F or °C) +/-0.1 °C 24.6 c 23.86 23.27 23.86 23.27 27.36	pH (SU) +/- 0.1 SU 7,3E 7,37 7,32 7,32 7,35 7,38	Dissolved Oxygen (mg/L) +/-10% 5,4-3 4,05 3,8-2 3,6-3 3,60 3,70	Redox Potential (mV) +/- 10 mV 14/ 10 Z 11 Z 12 9 1 Z 9	L Turbidity (NTU) +/- 10% O, O O, O O, O O, O O, O O, O O, O
(Wetted So ging Metho Time Stabilizatio \$1534 1539 1544 1544 1549 1544	volume Purged (Gallons / Liters) on Criteria* , 2.5 , 2.5 , 2.5 , 2.5 , 2.5	Itiplied by 5.0) (1 Bladder Pump/W Depth to Water (feet) Drawdown < 0.3 feet 23, 83 23, 9/ 24, 10 24, 25 74, 39	gallon = $3.78$ Vaterra Pump/P SC // (mmhos/cm or $\mu$ mhos) +/- 10% O, 198 O, 178 O, 176 O, 284 O, 178	5 liters) Peristaltic Pum Temp. (°F or °C) +/-0.1 °C 24.6 c 73.86 23,27 23,27 27,86 23,27	pH (SU) +/-0.1 SU 7,36 7,37 7,37 7,32 7,33 7,35	Dissolved Oxygen (mg/L) +/- 10% 5, 4-3 4, 05 3, 8-2 3, 6-3 3, 60	Redox Potential (mV) +/- 10 mV 14 10 Z 11 Z 12 9 13 J	L Turbidity (NTU) +/- 10% O, O O, O O, O O, O O, O
(Wetted So ging Metho Time Stabilizatio 2539 1534 1544 1549 1544 1549	volume Purged (Gallons / Liters) on Criteria* , 7.5 , 7.5 , 7.5 , 7.5 , 7.5 , 7.5 , 7.5 , 7.5 , 7.5 , 7.5	Itiplied by 5.0) (1 Bladder Pump/W Depth to Water (feet) Drawdown < 0.3 feet ZZ, SZ ZZ, 9/ ZZ, 9/ ZZ, 25 ZZ, 25 ZZ, 25 ZZ, 25 ZZ, 25 ZZ, 25 ZZ, 25	gallon = $3.78$ Vaterra Pump/P SC // (mmhos/cm or $\mu$ mhos) +/- 10% O, 198 O, 178 O, 178 O, 178 O, 178 O, 178 O, 199	5 liters) Peristaltic Pum Temp. (°F or °C) +/-0.1 °C 24.6 c 23.86 23.27 23.86 23.27 27.36	pH (SU) +/- 0.1 SU 7,3E 7,37 7,32 7,32 7,35 7,38	Dissolved Oxygen (mg/L) +/-10% 5,4-3 4,05 3,8-2 3,6-3 3,60 3,70	Redox Potential (mV) +/- 10 mV 14/ 10 Z 11 Z 12 9 1 Z 9	L Turbidity (NTU) +/- 10% 0, 0 0, 0 0, 0 0, 0 0, 0 0, 0

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5

Sampling Data:

- Sampling Metho	od: Bailer or Pump
- Depth of Pump	intake or bailer:

feet

Odor: - Color: Sheen/Appearance: Notes: Sample time: 1606

								WELL NO:	MW-19
	Field Per <u>M.</u> <u>6</u> ,	sonnel: Kuzia-lann Dunlavey	<u>"</u> l				Date: Job No.: Location:	Page 1 of 	015
Tot	al Well De	pth (from top of c	asing):				70.55		
Der	oth to Wate	r Surface Before	Purging (from top	of casing):			- 32.55	-	
				or easing).			- 32.35	-	
Hei	ght of Wat	er Column:					a =	feet	
Scre	een Length	l.				1	610	feet	
Wel	ll Diameter	(d): Z	inches		Gals per ft:	Lesser of a and $l$ $(d^2 \times 0.0408) =$		-	
One	e Wetted So	creen Volume of V	Water Before Purg	;ing:				gallons or	liters
Vol	ume of Wa (Wetted S	ater Equal to three Screen Volume mu	wetted screen vol altiplied by 5.0) (1	umes volumes gallon = 3.78	s: 5 liters)			gallons or	liters
Pur	ging Meth	iod:	Bladder Pump/W	/aterra Pump/I	Peristaltic Pun	np	Meter #		
	Time	Volume Purged (Gallons / Liters)	Depth to Water (feet)	SC (mmhos/cm or µmhos)	Temp. (°F or °C)	pH (SU)	Dissolved Oxygen (mg/L)	Redox 🗸 Potential (mV)	Turbidity (NTU)
		on Criteria*	Drawdown < 0.3 feet	+/- 10%	+/-0.1 °C	+/- 0.1 SU	+/- 10%	+/- 10 mV	+/- 10%
	1035	0.51/min	36.26	1.02	14.02	7.109	8.04	90	204
	1040	0.456/min	37.51	1.24	16.36	7.15	3.24	11	247
	1045 1050	0.45L/min	44.79	1.3)	14.91	6.95	2.50	14	76-114
1	1055	0.451/min 0.352/min	47.58 49.63	1.24	16.52	6:91	2:20	-17	120
	1100	0.35L/min	50.92	1,09	17.89	6.90	2.04	- 12	547
1	1105	0,4L/min	52.84	1.05	19.24	6.92	2.24	.13	37.3
	1110	0.46/min	505174	1.08	18.67	7.00	2.21	-11	30.7

Total Volume of Water Purged:

Sampling Data: Sample at 1115 VOLS, ILP Metals, Hex. Cr.

- Sampling Method: Bailer or Fum - Depth of Pump intake or bailer: 69.5 Ft

- Color: none Odor: none

~ 14 gallons/liter

feet

Sheen/Appearance:

Notes:

							WELL NO:	1-10-
Field Per	mannal					-	Page 1 of 1	
						Date:	- 8/26/2	015
	rias lavarel	-				Job No.:	_603378	12
_(2 /1)	nlavery	-				Location:	Austerday	n (Ware
al Well De	pth (from top of c	casing):				57.05	feet	
th to Wate	r Surface Before	Purging (from top	of casing):			75 11		
		000				- 25.41	feet	
ght of Wat	er Column:				2	a 🖛	feet	
en Length					ł	lin	feet	
					·			
					Lesser of a and b			
l Diameter	(d): 2	inches		Gals per ft:	$(d^2 \ge 0.0408) =$	X		
Wetted Sc	reen Volume of V	Water Before Purg	ino [.]					
						-	gallons or	liter
		wettad career val	lumes volumes				gallons or	liter
ime of Wa	ter Equal to three	welled screen vor	unies volumes	•				
ime of War (Wetted S	ter Equal to three creen Volume mu	ltiplied by 5.0) (1	gallon = 3.78	5 liters)				me
(Wetted S	creen Volume mu	ltiplied by 5.0) (1	gallon = 3.78	5 liters)	in.	Meter #		IIICI
ime of Wa (Wetted S ging Metho	creen Volume mu od:	Bladder Pump/W	gallon = 3.78 Vaterra Pump/H	5 liters)	p	Meter #		
(Wetted So	creen Volume mu od: Volume Purged	Bladder Pump/W Depth to Water	gallon = 3.78 Vaterra Pump/F	5 liters) Peristaltic Pum Temp.X	ррН √	Dissolved		
(Wetted S	creen Volume mu od:	Itiplied by 5.0) (1 Bladder Pump/W	gallon = 3.78 Vaterra Pump/H SC (mmhos/cm	5 liters) Peristaltic Pum		Dissolved Oxygen V	Redox /	Turbidi
(Wetted So ging Metho Time	creen Volume mu od: Volume Purged (Gallons / Liters)	Bladder Pump/W Depth to Water (feet)	gallon = 3.78 Vaterra Pump/F SC ✓ (mmhos/cm or μmhos)	5 liters) Peristaltic Pum Temp.X (°F or °C)	pH ✓ (SU)	Dissolved Oxygen ( (mg/L)	Redox /	Turbidi
(Wetted S <b>ging Metho</b> Time Stabilizatio	od: Volume Purged (Gallons / Liters)	Bladder Pump/W Depth to Water (feet) Drawdown < 0.3 feet	gallon = 3.78 Vaterra Pump/I SC / (mmhos/cm or µmhos) +/- 10%	5 liters) Peristaltic Pum Temp.X (°F or °C) +/-0.1 °C	pH ✓ (SU) +/- 0.1 SU	Dissolved Oxygen (mg/L) +/- 10%	Redox /	Turbidi (NTU)
(Wetted S <b>fing Metho</b> Time Stabilization <b>1200</b>	od: Volume Purged (Gallons / Liters) on Criteria*	Bladder Pump/W Depth to Water (feet) Drawdown < 0.3 feet	gallon = 3.78 Vaterra Pump/F SC ✓ (mmhos/cm or μmhos) +/- 10% O.42%	5 liters) Peristaltic Pum Temp.X (°F or °C) +/-0.1 °C 18.57	pH √ (SU) +/- 0.1 SU <b>7.50</b>	Dissolved Oxygen (mg/L) +/- 10% (1.10	Redox 🗸 Potential (mV)	Turbidif (NTU)
(Wetted S <b>fing Metho</b> Time Stabilization <u>1200</u>	od: Volume Purged (Gallons / Liters) on Criteria* 6.452/m/o 0.422/m/o	Bladder Pump/W         Depth to Water (feet)         Drawdown < 0.3 feet	gallon = $3.78$ Vaterra Pump/H SC $\checkmark$ (mmhos/cm or $\mu$ mhos) +/- 10% 0.42% 0.42%	5 liters) Peristaltic Pum Temp.X (°F or °C) +/-0.1 °C 18.57 22.61	pH √ (SU) +/- 0.1 SU 7.50 7.33	Dissolved Oxygen V (mg/L) +/- 10% 11.10 8.15	Redox Potential (mV) +/- 10 mV 101 2.7	Turbidi (NTU) +/- 10%
(Wetted S <b>fing Metho</b> Time Stabilizatio 1205 1210	od: Volume Purged (Gallons / Liters) on Criteria* 6,452/min 0,42/min	Bladder Pump/W         Depth to Water (feet)         Drawdown < 0.3 feet	gallon = $3.78$ Vaterra Pump/I SC $\checkmark$ (mmhos/cm or $\mu$ mhos) +/- 10% 0.42% 0.42% 0.437	5 liters) Peristaltic Pum Temp.X (°F or °C) +/-0.1 °C 18.57 22.61 22.71	pH (SU) +/- 0.1 SU 7.50 7.33 7.37	Dissolved Oxygen V (mg/L) +/- 10% 11.10 8.15 7.49	Redox / Potential (mV) +/- 10 mV 101 2:7 -2_0	Turbidif (NTU) +/- 10% 464
(Wetted S <b>ing Metho</b> Time Stabilizatio <u>1205</u> <u>1215</u>	od: Volume Purged (Gallons / Liters) on Criteria* 0.451/min 0.451/min 0.451/min	Bladder Pump/W         Depth to Water (feet)         Drawdown < 0.3 feet	gallon = $3.78$ Vaterra Pump/I SC $\checkmark$ (mmhos/cm or $\mu$ mhos) +/- 10% 0.42% 0.42% 0.437 0.46% 0.934	5 liters) Peristaltic Pum Temp.X (°F or °C) +/-0.1 °C 18.57 22.61 22.71 23.02	pH √ (SU) +/- 0.1 SU 7.50 7.33 7.37 7.34	Dissolved Oxygen v (mg/L) +/- 10% (11.10 8.15 7.49 7.28	Redox / Potential (mV) +/- 10 mV ioi 2:7 2:0 i)	Turbidi (NTU) +/- 10% 464 32.3 29 29 277
(Wetted S <b>ring Metho</b> Time Stabilizatio 12.05 12.15 12.20	creen Volume mu od: Volume Purged (Gallons / Liters) on Criteria* 0.451/min 0.42/min 0.451/min 0.451/min	Bladder Pump/W         Bladder Pump/W         Depth to Water         (feet)         Drawdown < 0.3 feet	gallon = $3.78$ Vaterra Pump/I SC $\checkmark$ (mmhos/cm or $\mu$ mhos) +/- 10% 0.425 0.425 0.427 0.425 0.437 0.434 0.934 0.934	5 liters) Peristaltic Pum Temp.X (°F or °C) +/-0.1 °C 18.57 22.61 22.61 22.74 23.02 23.14	pH √ (SU) +/- 0.1 SU 7.33 7.37 7.37 7.34 7.34 7.34	Dissolved Oxygen ( (mg/L) +/- 10% 11.10 8.15 7.49 7.28 6.68	Redox / Potential (mV) +/- 10 mV 101 2:7 -2_0	Turbidi (NTU) +/- 10% 464 32.3 29 29 277
(Wetted S ing Metho Time Stabilizatio 1205 1215 1225	creen Volume mu od: Volume Purged (Gallons / Liters) on Criteria* 6,452/min 0,451/min 0,451/min 0,451/min 0,454/min	Bladder Pump/W         Bladder Pump/W         Depth to Water         (feet)         Drawdown < 0.3 feet	gallon = $3.78$ Vaterra Pump/I SC $\checkmark$ (mmhos/cm or $\mu$ mhos) +/- 10% 0.423 0.423 0.423 0.423 0.423 0.423 0.423 0.423 0.423 0.423 0.423 0.423 0.423 0.423 0.423 0.423 0.423 0.423 0.423 0.423 0.423 0.423 0.423 0.423 0.423 0.423 0.423 0.423 0.423 0.423 0.423 0.423 0.423 0.423 0.423 0.423 0.423 0.423 0.423 0.423 0.423 0.423 0.423 0.423 0.423 0.423 0.423 0.423 0.423 0.434 0.434 0.434 0.434 0.434 0.434 0.434 0.434 0.434 0.434 0.434 0.434 0.434 0.434 0.434 0.434 0.434 0.434 0.434 0.434 0.434 0.434 0.434 0.434 0.434 0.434 0.434 0.434 0.434	5 liters) Peristaltic Pum Temp.X (°F or °C) +/-0.1 °C 18.57 22.61 22.74 23.02 23.19 15.91	pH √ (SU) +/- 0.1 SU 7.33 7.37 7.37 7.34 7.3(, 7.26	Dissolved Oxygen V (mg/L) +/- 10% 11.10 8.15 7.49 7.28 6.1.8 4.84	Redox / Potential (mV) +/- 10 mV ioi 2:7 2:0 i)	Turbidi (NTU) +/- 10% 464 32.3 29 29 217
(Wetted S ing Metho Time Stabilizatio 1205 1215 1225 1225 1230	creen Volume mu od: Volume Purged (Gallons / Liters) on Criteria* 0.451/min 0.451/min 0.451/min 0.451/min 0.451/min 0.451/min	Bladder Pump/W         Depth to Water         (feet)         Drawdown < 0.3 feet	gallon = $3.78$ Vaterra Pump/I SC $\checkmark$ (mmhos/cm or $\mu$ mhos) +/- 10% 0.42% 0.42% 0.42% 0.42% 0.42% 0.437 0.42% 0.437 0.43% 0.434 0.434 0.434 0.434 0.434 0.434	5 liters) Peristaltic Pum Temp:X (°F or °C) +/-0.1 °C 18.57 22.61 22.74 23.02 23.19 15.91 14.26	pH $\sqrt{(SU)}$ +/- 0.1 SU 7.50 7.33 7.37 7.37 7.34 7.34 7.36 7.26 7.12	Dissolved Oxygen v (mg/L) +/- 10% 11.10 8.15 7.49 7.28 6.1.8 9.84 9.16	Redox / Potential (mV) +/- 10 mV 101 2-7 -2_0 11 2.5	Turbidif (NTU) +/- 10% 464 32.3 29.3 29.3 29.3 2.77 92.7
(Wetted S ring Metho Time Stabilizatio 1205 1205 1205 1215 1225 1230 1235	creen Volume mu od: Volume Purged (Gallons / Liters) on Criteria* 0.451/min 0.451/min 0.451/min 0.451/min 0.451/min 0.451/min 0.451/min 0.451/min	Bladder Pump/W         Bladder Pump/W         Depth to Water         (feet)         Drawdown < 0.3 feet	gallon = $3.78$ Vaterra Pump/I SC $\checkmark$ (mmhos/cm or $\mu$ mhos) +/- 10% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.42% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45% 0.45	5 liters) Peristaltic Pum Temp. $\chi$ (°F or °C) +/-0.1 °C 18.57 22.61 22.71 23.02 23.14 15.91 14.26 18.14	pH √ (SU) +/- 0.1 SU 7.50 7.33 7.37 7.37 7.37 7.37 7.37 7.37 7.3	Dissolved Oxygen V (mg/L) +/- 10% 11.10 8.15 7.49 7.28 6.1.8 9.34 9.110 7.19	Redox / Potential (mV) +/- 10 mV 101 2.7 ·2.0 11 2.5 43	Turbidi (NTU) +/- 10% 464 32¥ 24¥ 24¥ 24¥ 277 92.7 836 755
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Sampling Data: Sample at 1250 VOCS, ICPonetals, Her Cr.

- Sampling Method: Bailer or Runn - Depth of Pump intake or bailer: 56 '

feet

gallons/lite

Odor:

- Color:

Sheen/Appearance:

20

Notes: wolor . brown ara



CHAIN OF CUSTODY RECORD

Pm

AES Work Order #

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# CHAIN OF CUSTODY RECORD

AES Work Order #

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CHAIN OF CUSTODY RECORD

AES Work Order #

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**CHAIN OF CUSTODY RECORD** 

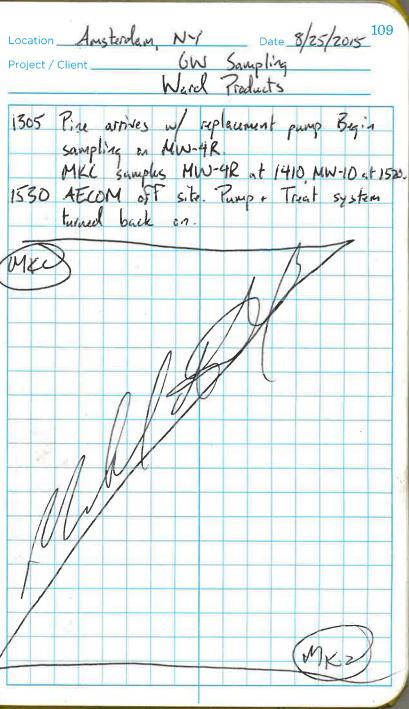
AES Work Order #

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Experience is the solution	A full service	analytical	research labo	ratory off	ering s	olutio	ns to en	vironmental concerns
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				A P				CS- 317745
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				P A	-		-	
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				P				
				A				
				P A			-	
				Р				
				A				
				A				
				Р	1		-	
Shipment Arrived Via:		CC Repor	t To / Special Ins	tructions/R	emarks:			
FedEx UPS Client AES Ot	her:							
Turnaround Time Request:	1	-						
	Normal							
🗆 2 Day 🗆 5 Day								
Note: Samples received after 3:30 pm are co Relinquished by: (Signature)	onsidered next business day	Received	by: (Signature)	-			-	Date/Time
Mulk	h						1	
Relinquished by: (Signature)		Received	by: (Signature)			_		Date/Time
1	the second s			_			1	
Relinquished by: (Signature)	<i>K</i>	Received	for Laboratory b	iy:				Date/Time
	1 450		2010	pro	1	-		19,2115 7.226
TEMPERATURE	AES Bottles	PRO	PERLY PRESERVED	)			RECEIV	ed Within Holding Times
Ambient or Chille	2   V   "	(	Y N					Y N
Notes:		otes:				No	tes:	
WHITE - Lab C	opy	YELLOV	N - Sampler Copy	/			PINK - G	enerator Copy

Adirondack Environmental Services, Inc.

108 Location <u>Amsterdam</u> NY Date <u>8/25/2015</u> Project/Client <u>GW Sampling</u> Ward Products 09:5 AECOM (M. Kuzia-Carmel/MKC 6. Durlwey/6D) on site. Conditions: clear, 85°F. Access treatment system shed. System running. Shut down system · prepare for GW sampling. GD to MW-11 MKC to MW-4R. GD is using Geopump Z (peristaltic) MKC is using SS Mensson Pro (submersible) MKC unable to get Monsoon to work. Contact Pine For troubleshooting. Pine will send replacement. 0445 MKL begins geneing wells on site. GD sampled. MW-11 at 1035 MW IR at 1135. 1030 * Dup collected From MW-4 MS MSD From MW-14" Well ID DTW DTB Notes MW-1 N/A 7.27 well dry 2"dia. MW-2 8.29 11.58 2" well 10.66 14.80 2" well MW-3 MW-5 N/A 18.17 well dey, 2" MW-6 20.38 37.38 2" exped MW-7 18.38 33.88 2" MW-8 16.36 30,07 2" MW-9 17.95 46.35 2" RW-02 19.04 30.72 6"? 60 samples MW-4 at 1204 MW-14 at 1320 MW-17 at 1452



110 Location Amsterdam, NY Date 8/26/2015 Project / Client ______ Ward Products AELOM (MKC 6D) on site Conditions: clear, 0930 80°F. Attempt to locate MW-13. Abandon search For Min-13, GD to Min-Ke (Peri pump) MKC to Min-19 (sub. pump). Contact Zine. Pipe will deliver a metal 1000 detector to site. Sample MW-16 at 1103 MW-19 at 1115 Pine on site w/ metal detector, AELOM 1230 locates MW-13 Insufficient bottleware to Sample. Sample MW 20 at 1250, MW-15 at 1225 AECOM off site to drop off samples. 1400 AECOM returns to site to complete sampling 1600 MKC to MW-13 GD to MW-18 Sample Mw-18 et 1606 Mw-13 at 1630. Begin AECOM OFF site For day 1650 YE

Location <u>Amsterdam</u>, NY Date <u>8/27/2015</u> Project / Client <u>Catch Basin Inspection / NW Genging</u> Werel Products ASAD MULL FALL I AUNTY

0200	Mrc	drops	ct	6	W .	Sam	ples	1	-lw-	131	·w-	13)
	at A	ES!										-
0930	AELO		40 0	G		4	5	6	d	F.		
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## Pine Environmental Services, LLC.

405 Cambridge Ave Syracuse, NY 13208 Toll-free: (877) 903-PINE (7463)

## Pine Environmental Services, Inc.

	ment ID 16547						
Des	cription HACH 2100P T	Turbidimeter					
Ca	librated 8/18/2015 2:36	:20PM					
Manuf	facturer HACH			State Certifie	d		
	Number 2100P				s Pass		
	ber/ Lot 09120C038991			Temp °	C 25		
	Number			[]	/ 10		
	ocation New York			Humidity %	0 49		
Depa	artment						
		Calibra	tion Specification	15			
	Group # 1			Range Acc %			
	oup Name Turbidity		ŀ	Reading Acc %			
S	tated Accy Pct of Reading	ıg		Plus/Minus	0.00		
Nom In Val / In V	/al In Type	<u>Out Val</u>	Out Type	<u>Fnd As</u>	<u>Lft As</u>	Dev%	Pass/Fail
0.10/0.10	NTU	0.10	NTU	0.10	0.10	0.00%	Pass
20.0 / 20.0	NTU	20.0	NTU	20.0	20.0	0.00%	Pass
100 / 100	NTU	100	NTU	100	100	0.00%	Pass
800 / 800	NTU	800	NTU	800	800	0.00%	Pass
8007800				000			
		ration				s Of Cal Ent	ry Date)
	Used During the Calib	ration		Serial Numb	<u>(A</u> per /	s Of Cal Ent	ext Cal Date
		ration Manufacturer	Model Number		(A per / La	s Of Cal Ent st Cal Date/ E	ext Cal Date
Test Instruments Test Standard ID	Used During the Calib	Manufacturer	Model Number	Serial Numb	(A per / La	s Of Cal Ent <u>N</u> st Cal Date/ E pened Date	ext Cal Date
<u>Test Instruments</u> <u>Test Standard ID</u> NYS TURB	Used During the Calib Description	Manufacturer		Serial Numb	(A per / La	s Of Cal Ent <u>N</u> st Cal Date/ E pened Date	ext Cal Date Expiration D
Test Instruments Test Standard ID NYS TURB <0.1 NTU -	Used During the Calibo Description NYS TURB <0.1 NTU - A5124	<u>Manufacturer</u> HACH	<u>Model Number</u> WQA90598	Serial Numb	(A per / La	<u>s Of Cal Ent</u> <u>St Cal Date/ E</u> <u>Sened Date</u> 8	lext Cal Date xpiration Date /31/2016
Test Instruments Test Standard ID NYS TURB <0.1 NTU - A5124 NYS TURB 100	Used During the Calib Description NYS TURB <0.1 NTU - A5124 NYS TURB 100 NTU -	<u>Manufacturer</u> HACH	Model Number	Serial Numb	(A per / La	<u>s Of Cal Ent</u> <u>St Cal Date/ E</u> <u>Sened Date</u> 8	ext Cal Date Expiration D
Test Instruments Test Standard ID NYS TURB <0.1 NTU - A5124 NYS TURB 100 NTU - A5169	Used During the Calib Description NYS TURB <0.1 NTU - A5124 NYS TURB 100 NTU - A5169	Manufacturer HACH HACH	<u>Model Number</u> WQA90598 WQA90598	Serial Number	(A per / La	<u>s Of Cal Ent</u> <u>St Cal Date/ E</u> <u>pened Date</u> 8 9	lext Cal Date expiration Date /31/2016 /30/2016
Test Instruments Test Standard ID NYS TURB <0.1 NTU - A5124 NYS TURB 100 NTU - A5169 NYS TURB 20	Used During the Calibo Description NYS TURB <0.1 NTU - A5124 NYS TURB 100 NTU - A5169 NYS TURB 20 NTU -	Manufacturer HACH HACH	<u>Model Number</u> WQA90598	Serial Number	(A per / La	<u>s Of Cal Ent</u> <u>St Cal Date/ E</u> <u>pened Date</u> 8 9	lext Cal Date xpiration Date /31/2016
Test Instruments Test Standard ID NYS TURB <0.1 NTU - A5124 NYS TURB 100 NTU - A5169	Used During the Calib Description NYS TURB <0.1 NTU - A5124 NYS TURB 100 NTU - A5169	Manufacturer HACH HACH HACH	<u>Model Number</u> WQA90598 WQA90598	Serial Number	(A per / La	<u>s Of Cal Ent</u> <u>ist Cal Date/ E</u> <u>sened Date</u> 8 9 9	lext Cal Date expiration Date /31/2016 /30/2016

Calibration Result Calibration Successful Who Calibrated Joe Filippi



#### Pine Environmental Services, LLC.

405 Cambridge Ave Syracuse, NY 13208 Toll-free: (877) 903-PINE (7463)

#### Pine Environmental Services, Inc.

Instrument ID 16547 Description HACH 2100P Turbidimeter Calibrated 8/18/2015 2:36:20PM

All instruments are calibrated by Pine Environmental Services, LLC. according to the manufacturer's specifications, but it is the customer's responsibility to calibrate and maintain this unit in accordance with the manufacturer's specifications and/or the customer's own specific needs.

Notify Pine Environmental Services, LLC. of any defect within 24 hours of receipt of equipment Please call 866-960-7463 for Technical Assistance



Pine Environmental Services, LLC.

405 Cambridge Ave Syracuse, NY 13208 Toll-free: (877) 903-PINE (7463)

### Pine Environmental Services, Inc.

Instrument ID 27206 Description HACH 2100P Turbidity meter Calibrated 8/18/2015 2:36:57PM

2

All instruments are calibrated by Pine Environmental Services, LLC. according to the manufacturer's specifications, but it is the customer's responsibility to calibrate and maintain this unit in accordance with the manufacturer's specifications and/or the customer's own specific needs.

Notify Pine Environmental Services, LLC. of any defect within 24 hours of receipt of equipment Please call 866-960-7463 for Technical Assistance



## Pine Environmental Services, LLC.

405 Cambridge Ave Syracuse, NY 13208 Toll-free: (877) 903-PINE (7463)

## Pine Environmental Services, Inc.

Instrun	nent ID 27206						
Desc	ription HACH 2100P	Turbidity meter					
Cal	ibrated 8/18/2015 2:3	6:57PM					
Manuf	acturer HACH			State Cert	ified		
Model N	lumber 2100P			St	atus Pass		
Serial Numb	er/ Lot 930900003749	)		Tem	p°C 25		
	lumber						
	ocation New York			Humidit	<b>y %</b> 49		
Depa	rtment						
		Calibra	tion Specificatior	15			
	Group # 1			Range Acc	% 0.0000		
Gr	oup Name Turbidity		I	Reading Acc			
St	ated Accy Pct of Read	ing		Plus/Min	us 0.00		
Nom In Val / In V	al In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
0.10/0.10	NTU	0.10	NTU	0.10	0.10	0.00%	Pass
20.00 / 20.00	NTU	20.00	NTU	20.00	20.00	0.00%	Pass
100.00 / 100.00	NTU	100.00	NTU	100.00	100.00	0.00%	Pass
800.00 / 800.00	NTU	800.00	NTU	800.00	800.00	0.00%	Pass
Test Instruments	Used During the Calib	oration			(A	s Of Cal Enti	v Date)
Test Standard 1D	Description	Manufacturer	Model Number	<u>Serial Nu</u> Lot Num	umber / ber La	st Cal Date/ E	ext Cal Date
NYS TURB	NYS TURB <0.1 NTU	НАСН	WQA90598		01	pened Date 8/	31/2016
<0.1 NTU -	- A5124	nach	WQA70570			0/	5172010
A5124							
NYS TURB 100	NYS TURB 100 NTU	- HACH	WQA90598	A5169		9/	30/2016
NTU - A5169	A5169						
NYS TURB 20	NYS TURB 20 NTU -	HACH	WQA90598			9/	30/2016
NTU - A5170	A5170					0/	20/2016
NYS TURB 800 - A5169	NYS TURB 800 NTU A5169	- HACH	WQA90598			9/	30/2016

Notes about this calibration

Calibration Result Calibration Successful Who Calibrated Joe Filippi



#### Pine Environmental Services, LLC.

405 Cambridge Ave Syracuse, NY 13208 Toll-free: (877) 903-PINE (7463)

## Pine Environmental Services, Inc.

Instrument I	<b>ID</b> 24325						
Descriptio	on Horiba U-5	2					
Calibrat	ed 8/18/2015	2:21:03PM					
Manufactur	er Horiba			State Certifie			
Model Numb					s Pass		
Serial Number/ L				Temp %	C 25		
Numb				¥¥	/ 10		
	on New York			Humidity %	/0 49		
Departme	ent						_
		Calib	ration Specific	ations			
Gro	oup # 1			Range Acc %			
Group N	Name PH			Reading Acc %			
Stated	Accy Pct of Re	eading		Plus/Minus	0.00		
Nom In Val / In Val	<u>In Type</u>	<u>Out Val</u>	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
7.00 / 7.00	PH	7.00	PH	7.00	7.00	0.00%	Pass
4.00 / 4.00	PH	4.00	РН	4.00	4.00	0.00%	Pass
Gro	oup # 2			Range Acc %	0.0000		
Group N	Name Turbidity	/		Reading Acc %	3.0000		
Stated	Accy Pct of Re	eading		Plus/Minus	0.00		
Nom In Val / In Val	In Type	<u>Out Val</u>	Out Type	Fnd As	<u>Lft As</u>	Dev%	Pass/Fail
0.00 / 0.00	NTU	0.00	NTU	0.00	0.00	0.00%	Pass
800.00 / 800.00	NTU	800.00	NTU	800.00	800.00	0.00%	Pass
Gro	oup # 3			Range Acc %	0.0000		
Group N	Name Conduct	ivity		Reading Acc %	3.0000		
Stated	Accy Pct of Re	eading		Plus/Minus	0.000		
Nom In Val / In Val	<u>In Type</u>	<u>Out Val</u>	Out_Type	Fnd As	<u>Lft As</u>	Dev%	Pass/Fail
0.718/0.718	ms/cm	0.718	ms/cm	0.718	0.718	0.00%	Pass
5.000 / 5.000	ms/cm	5.000	ms/cm	5.000	5.000	0.00%	Pass
80.000 / 80.000	ms/cm	80.000	ms/cm	80.000	80.000	0.00%	Pass
Gro	oup#4			Range Acc %			
Group N	Name Redox ((	ORP)		Reading Acc %			
Stated	Accy Pct of Re	eading		Plus/Minus	0.00		
Nom In Val / In Val	<u>In Type</u>	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
240.00 / 240.00	mv	240.00	mv	240.00	240.00	0.00%	Pass
	oup # 5			Range Acc %			
Group N	Name Disolved	l Oxygen Zero		Reading Acc %			
Stated	Accy Pct of Re	eading		Plus/Minus	0.00		



#### Pine Environmental Services, LLC.

405 Cambridge Ave Syracuse, NY 13208 Toll-free: (877) 903-PINE (7463)

## Pine Environmental Services, Inc.

Dese	nent ID         24325           cription         Horiba U-52           librated         8/18/2015         2:21	:03PM					
	Group # 5 oup Name Disolved Ox tated Accy Pct of Readin		I	Range Acc % Reading Acc % Plus/Minus	3.00	00	
Nom In Val / In V	al In Type	<u>Out Val</u>	Out Type	Fnd As	Lft A	s Dev?	6 Pass/Fail
0.00 / 0.00	mg/L	0.00	mg/L	0.00	0.00	0.009	% Pass
St	Group # 6 oup Name Temperature tated Accy Plus / Minus			Range Acc % Reading Acc % Plus/Minus	0.00 0.00	00	( Dec./De.!!
<u>Nom In Val / In V</u> 20.00 / 20.00	degrees C	<u>Out Val</u> 8.84	<u>Out Type</u> mg/L	<u>Fnd As</u> 8.84	Lft A 8.84	_	-
Test Standard ID	Description	Manufacturer	Model Number	Serial Number		Last Cal Date/ Opened Date	<u>Next Cal Date /</u> Expiration Date
Test Standard ID	Used During the Calibo Description		Model Number				Next Cal Date /
NYS COND 5K - 5AB057	NYS COND 5K - 5AB057	AquaPhoenix Scientific	SL20500-5G	5AB057		<u>opened built</u>	2/28/2016
NYS COND 718 - 5GE716	NYS COND 718 - 5GE716	GFS	SL20718-HA50	G 5GE716			5/31/2016
NYS COND 80K - 4AJ839	NYS COND 80K - 4AJ839	AquaPhoenix Scientific	SL20032-5G	4AJ839			10/31/2016
NYS DO ZERO NYS ORP 240 - 8039	NYS DO ZERO NYS ORP 240 - 6448	EMD Hanna	WQA90122 240 MV	201023821 8039			9/30/2019
8039 NYS PH 7 - 4A1882	NYS PH 7 - 4AI882	VWR	SL1007-5G	4AI882			9/30/2016
NYS PH4 - 4AL777	NYS PH 4 - 4AL777	VWR	SL1007-5G	4AL777			12/31/2016
NYS TURB 0 NTU - C580803	NYS TURB 0 NTU - C580803	GFS	SL30005-5G	C580803			6/30/2016
NYS TURB 800 NTU - A3073	NYS TURBIDITY Standard 800 ntu - A3073	Horiba	SL40047-1L	A3073			2/28/2016

Notes about this calibration

Calibration Result Calibration Successful Who Calibrated Joe Filippi



#### Pine Environmental Services, LLC.

405 Cambridge Ave Syracuse, NY 13208 Toll-free: (877) 903-PINE (7463)

#### Pine Environmental Services, Inc.

Instrument ID	25213		
Description	Horiba U-52		
	8/18/2015 2:21:23PM		
Manufacturer	Horiba	State Certified	
Model Number	U-5000	Status	Pass
Serial Number/ Lot	TVRNE5VS	Тетр °С	25
Number			
Location	New York	Humidity %	49
Department			
	ne INSTRUMENT TEST	on Specifications	
Test Performed: Yes	As Found Result: Pass	As Left Result:	Pass
<u>Test Instruments Used D</u> <u>Test Standard ID</u> <u>Descrip</u>		Serial Number Model Number Lot Number	(As Of Cal Entry Date) r / <u>Next Cal Date /</u> Last Cal Date/ Expiration Date Opened Date

Notes about this calibration

Calibration Result Calibration Successful Who Calibrated Joe Filippi

All instruments are calibrated by Pine Environmental Services, LLC. according to the manufacturer's specifications, but it is the customer's responsibility to calibrate and maintain this unit in accordance with the manufacturer's specifications and/or the customer's own specific needs.

### Notify Pine Environmental Services, LLC. of any defect within 24 hours of receipt of equipment Please call 866-960-7463 for Technical Assistance



#### Pine Environmental Services, LLC.

405 Cambridge Ave Syracuse, NY 13208 Toll-free: (877) 903-PINE (7463)

## Pine Environmental Services, Inc.

Instrument	ID 21389						
Descripti	on Horiba U-5	2					
Calibrat	ed 8/17/2015	4:12:18PM					
Manufactur	er Horiba			State Certifie	d		
Model Numb	er U-52			Statu	is Pass		
Serial Number/ L	ot 2HCHBA2	V		Temp °	C 25		
Numb	-						
	on New York			Humidity %	6 56		
Departme	ent						
		Calib	oration Specific	ations			
	oup#1			Range Acc %			
Group N	Reading Acc %						
Stated	Accy Pct of Re	ading		Plus/Minus	0.00		
Nom In Val / In Val	In Type	<u>Out Val</u>	Out Type	Fnd As	<u>Lft As</u>	Dev%	Pass/Fail
7.00 / 7.00	PH	7.00	PH	7.00	7.00	0.00%	Pass
4.00 / 4.00	PH	4.00	PH	4.00	4.00	0.00%	Pass
Gro	oup # 2			Range Acc %	0.0000		
Group N	Name Turbidity	/		Reading Acc %	3.0000		
Stated	Accy Pct of Re	ading		Plus/Minus	0.00		
Nom In Val / In Val	<u>In Type</u>	<u>Out Val</u>	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
0.00 / 0.00	NTU	0.00	NTU	0.00	0.00	0.00%	Pass
800.00 / 800.00	NTU	800.00	NTU	800.00	800.00	0.00%	Pass
Gro	oup # 3			Range Acc %	0.0000		
Group N	Name Conducti	vity		Reading Acc %	3.0000		
Stated	Accy Pct of Re	ading		Plus/Minus	0.000		
Nom In Val / In Val	In Type	<u>Out Val</u>	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
0.718 / 0.718	ms/cm	0.718	ms/cm	0.718	0.718	0.00%	Pass
5.000 / 5.000	ms/cm	5.000	ms/cm	5.000	5.000	0.00%	Pass
80.000 / 80.000	ms/cm	80.000	ms/cm	80.000	80.000	0.00%	Pass
Gro	oup#4			Range Acc %	0.0000		
Group N	Name Redox (O	ORP)		Reading Acc %	3.0000		
Stated	Accy Pct of Re	eading		Plus/Minus	0.00		
<u>Nom In Val / In Val</u>	In Type	<u>Out Val</u>	<u>Out Type</u>	<u>Fnd As</u>	Lft As	Dev%	Pass/Fail
240.00 / 240.00	mv	240.00	mv	240.00	240.00	0.00%	Pass
	oup # 5			Range Acc %			
Group N	Name Disolved	Oxygen Zero		Reading Acc %			
Stated	Accy Pct of Re	ading		Plus/Minus	0.00		



#### Pine Environmental Services, LLC.

405 Cambridge Ave Syracuse, NY 13208 Toll-free: (877) 903-PINE (7463)

# Pine Environmental Services, Inc.

Dese	nent ID 21389 cription Horiba U-52 librated 8/17/2015 4:12	:18PM					
	Group # 5 oup Name Disolved Oxy tated Accy Pct of Readir	•	I	Range Acc % Reading Acc % Plus/Minus	3.000		
Nom In Val / In V	al In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
0.00 / 0.00	mg/L	0.00	mg/L	0.00	0.00	0.00%	Pass
	Group # 6 oup Name Temperature tated Accy Plus / Minus	DO Span	I	Range Acc % Reading Acc % Plus/Minus	0.000		
<u>Nom In Val / In V</u>	al <u>In Type</u>	<u>Out Val</u>	<u>Out Type</u>	Fnd As	Lft As	Dev%	Pass/Fail
20.00 / 20.00	degrees C	8.84	mg/L	8.84	8.84	0.00%	Pass
<u>Test Standard ID</u> NYS COND 5K - 5AB057 NYS COND 718	Description NYS COND 5K - 5AB057 NYS COND 718 -	Manufacturer AquaPhoenix Scientific GFS	<u>Model Number</u> SL20500-5G SL20718-HA50	Lot Number 5AB057 G 5GE716			28/2016 31/2016
- 5GE716 NYS COND 80K - 4AJ839	5GE716 NYS COND 80K - 4AJ839	AquaPhoenix Scientific	SL20032-5G	4AJ839		10	/31/2016
NYS DO ZERO NYS ORP 240 - 8039	NYS DO ZERO NYS ORP 240 - 6448	EMD Hanna	WQA90122 240 MV	201023821 8039			30/2019
NYS PH 7 - 4AI882	NYS PH 7 - 4A1882	VWR	SL1007-5G	4A1882			30/2016
NYS PH4 - 4AL777 NYS TURB 0	NYS PH 4 - 4AL777 NYS TURB 0 NTU -	VWR GFS	SL1007-5G SL30005-5G	4AL777 C580803			/31/2016
NYS TURB 0 NTU - C580803 NYS TURB 800	C580803 NYS TURBIDITY	Horiba	SL30003-34	A3073			28/2016
NTU - A3073	STANDARD 800 NTU - A3073						

Notes about this calibration

Calibration Result Calibration Successful Who Calibrated Joe Filippi



#### Pine Environmental Services, LLC.

405 Cambridge Ave Syracuse, NY 13208 Toll-free: (877) 903-PINE (7463)

### Pine Environmental Services, Inc.

Instrument ID 21389 Description Horiba U-52 Calibrated 8/17/2015 4:12:18PM

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Notify Pine Environmental Services, LLC. of any defect within 24 hours of receipt of equipment Please call 866-960-7463 for Technical Assistance



#### Pine Environmental Services, LLC.

405 Cambridge Ave Syracuse, NY 13208 Toll-free: (877) 903-PINE (7463)

## Pine Environmental Services, Inc.

Instrument ID	19276		
Description	Horiba U-52 Display		
Calibrated	8/18/2015 2:23:58PM		
Manufacturer	Horiba	State C	ertified
Model Number	U-5000		Status Pass
Serial Number/ Lot	AV8KCBHW	Te	emp °C 24
Number			
Location	New York	Humi	idity % 49
Department			
Group Group Nar		on Specifications	
Test Performed: Yes	As Found Result: Pass	As Left	Result: Pass
Test Instruments Used D Test Standard ID Descrip			(As Of Cal Entry Date)         1 Number /       Next Cal Date /         1 Number       Last Cal Date/ Expiration Date         1 Number       Opened Date

Notes about this calibration

Calibration Result Calibration Successful Who Calibrated Joe Filippi

All instruments are calibrated by Pine Environmental Services, LLC. according to the manufacturer's specifications, but it is the customer's responsibility to calibrate and maintain this unit in accordance with the manufacturer's specifications and/or the customer's own specific needs.

Notify Pine Environmental Services, LLC. of any defect within 24 hours of receipt of equipment Please call 866-960-7463 for Technical Assistance

# 2016 Field Notes

# Well Gauging Form 61 Edson Street, Amsterdam, NY

Sampling Date	s: 5/10/2016	- 5/11/2011	<b>p</b>
Monitoring Well	Top of Casing Elevation (ft msl)	Depth to Water (ft bgs)	Condition of Well*
MW-1	471.55	3.03	No bolts
MW-1R	471.46	3.09	No bolts
MW-2	471.20	4.15	No bolts
MVV-3	473.03	4.16	No bilts no J plug tubing in well
MW-4	470.17	5.52	No bolts
MW-4R	470.29	16.68	No bolts
MW-5	475.62	17.23	No J Plug: tubing in well
MW-6	470.97	16.84	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
MW-7	469.14	15,13	No bolts no Jplug
MW-8	467.38	12.80	No J plug, 1 bolt
MW-9	465.43	15.09	
MW-10	466.77	15,90	
MW-11	485.37	14.17	
MW-12	468.18	18.06	No bolts
MW-13	462.12	12.38	No bolts
MW-14	453.66	10.04	
MW-15	445.20	8.29	
MW-16	449.50	19.30	
MW-17	450.84	6.52	
MW-18	463.76	20.31	
MW-19	441.64	29.47	
MW-20	442.38	22.74	No bolts
RW-01	472.08	62.76	
RW-02	465.57	16.17	

*Describe the condition of each monitoring well and if there are any issues to address (condition of the pad, cover, casing, lock)

IW-04

17.17

7/30/2014

AECOM

Project Name and Number:		1.1 1	21	/ Samplin		1	
				ts - An	ng terol an	n/	
Monitoring Well Number:		Mw-	IR	Date:	5/10/2	2016	
Samplers:		60	)				
Sample Number:		MW-IR	05101	QA/QC	Collected?		
Purging / Sampling Method:		Three Well	Volumes		_		
<ol> <li>L = Well Depth:</li> <li>D = Riser Diameter (I.D.):</li> <li>W = Depth to Water:</li> <li>C = Column of Water in Well:</li> <li>V = Volume of Water in Well</li> <li>3(V) = Target Purge Volume</li> </ol>		9)(0.5D) ² (7.4		14,88 2,43	feet feet gal gal	D (inches) 1-inch 2-inch 3-inch 4-inch 6-inch	D (feet) 0.08 0.17 0.25 0.33 0.50
		D (inches) V (gal / ft)	1-inch 0.041	2-inch 0.163	3-inch 0.37	4-inch 0.65	6-inch 1.5
Nater Quality Readings Collect	ed Using	YSI	556 M	PS-15,	F100 87		, ,
Parameter	Units	YSI		A	ر. Readings	V	V
Parameter Time	Units 24 hr	Y51 1012	1017	1022	Readings	1032	1037
Parameter Fime Water Level (0.33)	Units 24 hr feet	YSI		A	ر. Readings	V	D
Parameter Time Water Level (0.33) Volume Purged	Units 24 hr feet gal	(51 1012 4,31	1017 4.88	1022 5,51	Readings 10 Z 7 5,90	1032 6.18	1037 6:49
Parameter Time Water Level (0.33) Volume Purged Flow Rate	Units 24 hr feet gal mL/min	(51 1012 4,31 250	1017 4,88 250	1022 5,51 250	V Readings 10 Z 7 5, 90 200	1032 6.18 150	1037 6:49 150
Parameter Time Nater Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%)	Units 24 hr feet gal mL/min NTU	(51 4,31 250 15,7	1017 4,88 250 il.6	1022 5,51 250 10:4	Readings 10 Z 7 5,90 200 10,3	1032 6.18 150 10.0	1037 6:49 150 9:8
Parameter Time Vater Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%)	Units 24 hr feet gal mL/min NTU %	(51 4,31 250 15,7 53,9	1017 4,88 250 jl,6 44,6	1022 5,51 250 10:4 41.1	Readings 10 Z 7 5,90 200 10,3 40,4	/ 6.18 /50 /0.0 40.6	1037 6:49 150 9:8 40:3
Parameter Time Vater Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%)	Units 24 hr feet gal mL/min NTU % mg/L.	(51 4,31 250 15,7 53,9 6,10	1017 4.88 250 11.6 44.6 5.00	1022 5,51 250 16:4 41.1 4,60	Readings 10 Z 7 5,90 200 10,3 40,4 4,52	1032 6.18 150 10.0 40.6 4.55	1037 6,49 150 9,8 40,3 4,51
Parameter Time Vater Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10)	Units 24 hr feet gal mL/min NTU % mg/L MeV	(SI 4,31 250 15,7 53,9 6,10 97,2	1017 4,88 250 11,6 44,6 5,00 114,5	1022 5,51 250 10,4 41.1 4,60 122,4	V Readings 10 Z 7 5, 90 200 10, 3 40, 4 4, 52 128, 7	1032 6.18 150 10.0 40.6 4.55 129.0	1037 6,49 150 9,8 40,3 4,51 128,8
Parameter Fime Vater Level (0.33) Volume Purged Flow Rate Furbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity (+/- 3%)	Units 24 hr feet gal mL/min NTU % mg/L MeV mS/cm ^c	(51 4,31 250 15,7 53,9 6,10	1017 4.88 250 11.6 44.6 5.00	1022 5,51 250 16:4 41.1 4,60	Readings           10 Z 7           5,90           200           10,3           40,4           4,52           12.8;7           0,470	1032 6.18 150 10.0 40.6 4.55	1037 6,49 150 9,8 40,3 4,51
Parameter Time Vater Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity (+/- 3%) Conductivity (+/- 3%)	Units 24 hr feet gal mL/min NTU % mg/L MeV mS/cm ^c mS/cm	(SI 4,31 250 15,7 53,9 6,10 97,2 0,472 -	1017 4,88 250 11,6 44,6 5,00 114,5 0,470	1022 5,51 250 10,4 41.1 4,60 122,4 0,472	V           Readings           10 Z 7           5,90           200           10,3           40,4           4,52           128,7           0,410	V 1032 6.18 150 10.0 40.6 4.55 129.0 0.469 -	1037 6,49 150 9,8 40,3 4,51 128,8 0,461
Parameter Time Nater Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity (+/- 3%) Conductivity (+/- 3%) DH (+/- 0.1)	Units 24 hr feet gal mL/min NTU % mg/L MeV mS/cm ^c mS/cm pH unit	(SI 4,31 250 15,7 53,9 6,10 97,2 0,472 - 5,87	1017 4,88 250 11,6 44,6 5,00 114,5 0,470 - 5,68	1022 5,51 250 10:4 41.1 4,60 122,4 6,472 - 5,71	Readings           10 Z 7           5,90           200           10,3           40,4           4,52           128,7           0,470           5,69	V 1032 6.18 150 10.0 40.6 4.55 129.0 0.469 - 5.70	1037 6,49 150 9,8 40.3 4.51 128.8 0,461 - 5,73
Parameter Time Nater Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity (+/- 3%) Conductivity (+/- 3%) DH (+/- 0.1) Temp (+/- 0.5)	Units 24 hr feet gal mL/min NTU % mg/L MeV mS/cm ^c mS/cm pH unit C°	(SI 4,31 250 15,7 53,9 6,10 97,2 0,472 - 5,87 10,38	1017 4.88 250 il.6 44.6 5.00 114.5 0.470 - 5.68 10.29	1022 5,51 250 10:4 41.1 4.60 122,4 6,472 - 5,71 10:33	V           Readings           10 Z 7           5,90           2cco           16.3           40.4           4.52           128.7           0.410           -           5,69           10.26	V 1032 6.18 150 10.0 40.6 4.55 129.0 0.469 - 5.70 i6.29	1037 6,49 150 9,8 40,3 4,51 128,8 0,461 - 5,73 16,36
Parameter Time Nater Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity (+/- 3%) Conductivity (+/- 3%) DH (+/- 0.1)	Units 24 hr feet gal mL/min NTU % mg/L MeV mS/cm ^c mS/cm pH unit	(SI 4,31 250 15,7 53,9 6,10 97,2 0,472 - 5,87	1017 4,88 250 11,6 44,6 5,00 114,5 0,470 - 5,68	1022 5,51 250 10:4 41.1 4,60 122,4 6,472 - 5,71	Readings           10 Z 7           5,90           200           10,3           40,4           4,52           128,7           0,470           5,69	V 1032 6.18 150 10.0 40.6 4.55 129.0 0.469 - 5.70	1037 6,49 150 9,8 40.3 4.51 128.8 0,461 - 5,73

	Monito	oring Well	Purging	/ Sampli	ng Form			
Project Name and Number:		War	ol P	roducts	5			
Monitoring Well Number:		Ner-	.4	Date:	5/10	5/16		
Samplers:		6	D					
Sample Number:		Mh-	4 654	pil QA/QC	Collected?			
Purging / Sampling Method:		Three Well	Volumes					
<ol> <li>L = Well Depth:</li> <li>D = Riser Diameter (I.D.):</li> <li>W = Depth to Water:</li> <li>C = Column of Water in Well:</li> <li>V = Volume of Water in Well =</li> <li>3(V) = Target Purge Volume</li> </ol>	- C(3.1415	9)(0.5D) ² (7.4	·	<u>/4.34</u> <u>5.45</u> <u>8.89</u> <u>1.45</u> <u>4.35</u>	feet feet gal gal	D (inches) 1-inch 2-inch 3-inch 4-inch 6-inch	D (feet) 0.08 0.17 0.25 0.33 0.50	
		D (inches) V (gal / ft)	Conversion	2-inch 0.163	determine \ 3-inch 0.37	/ given C 4-inch 0.65	6-inch 1.5	
Water Quality Readings Collecte	d Using	YS1 5	56 MP	5-151	=100870	2		
Parameter	Units				Readings	V	V	
Time	24 hr	1113	1118	1/23	1128		1138	
Water Level (0.33)	feet	6.04	6.41	6.79	7.08	7,36	7.70	
Volume Purged	gal	250						
Flow Rate	mL/min	250	250	250	200	200	200	
Turbidity (+/- 10%)	NTU	20.0	14.7	13.1	12.8	12,7	12.5	
Dissolved Oxygen (+/- 10%)	%	56.3	40.8	37,5	38.6	37.8	38.6	
Dissolved Oxygen (+/- 10%)	mg/L	6.55	4.64	4.28	4.38	4.26	4.34	
Eh / ORP (+/- 10)	MeV	117.5	121.6	121.0	120,0	119.2	1/7.1	
Specific Conductivity (+/- 3%)	mS/cm ^c	0.370	0.371	6,369	0,368	0.373	0:372	
Conductivity (+/- 3%)	mS/cm	0 27		-		-		
pH (+/- 0.1)	pH unit	5.33	5.44	5,56	5,54	5.52	5.53	
Temp (+/- 0.5)	C	9.45	9.72	9.63	9,77	9.85	9.81	
Color	Visual	Clean	Clar	Clear None	Clean None	Clean	Kone	
Odor	Olfactory	None	None	IVENE	IVENC	None	None	
Comments:	Sa. Ms	mple + MSL	e . c.l	1140, lected,				
•							Page 1 of 1	

	Monito	oring Well	Purging	/ Samplir	ng Form		<u> </u>	
Project Name and Number:		Ward	Produ	ts - An	usterdam	/ 604	181900	
Monitoring Well Number:		MW-	4R	Date:	5/10/-	2016		
Samplers:		Mike	Kuzia-	larmel_	6reg "	Dualave	(	
Sample Number:		MW-4R	051016	QA/QC	Collected?	DUP-	01	
Purging / Sampling Method:		Three Well		Low-Fie	w Snungl	ing w/	submersible	pump
<ol> <li>L = Well Depth:</li> <li>D = Riser Diameter (I.D.):</li> <li>W = Depth to Water:</li> <li>C = Column of Water in Well:</li> <li>V = Volume of Water in Well =</li> <li>3(V) = Target Purge Volume</li> </ol>	= C(3.14159	9)(0.5D) ² (7.4		0.17 16.68 18.05 2.94 8.82	feet feet feet gal gal	D (inches) 1-inch (2-inch 3-inch 4-inch 6-inch	D (feet) 0.08 0.17 0.25 0.33 0.50	
				n factors to o		-		
		D (inches) V (gal / ft)	1-inch 0.041	(2-inch 0.163)	3-inch 0.37	4-inch 0.65	6-inch 1.5	
Water Quality Readings Collecte	ed Using	YSI -	556/H	ach 21	007	•		
Parameter	Units				Readings			
Time	24 hr	0952	0957	1002	1007	1012		
Water Level (0.33)	feet	18.54	23.63	24.98	25.05	25.08		
Volume Purged	gal	-	1.2	2.5	3.6	4.8		
Flow Rate	mL/min	450	500	450	450	500		
Turbidity (+/- 10%)	NTU	>1,000	71,000	24.6	7.4	5.2		
Dissolved Oxygen (+/- 10%)	%	17.0	15.0	15.4	15.9	16.0		
Dissolved Oxygen (+/- 10%)	mg/L	1.85	1.61	1.63	1.68	1.73		
Eh / ORP (+/- 10)	MeV	-33	-15.1	10.1	4.6	6.7		
Specific Conductivity (+/- 3%)	mS/cm ^c	1.496	0.940	1.382	1.407	1.393		
Conductivity (+/- 3%)	mS/cm		-			-		
pH (+/- 0.1)	pH unit	7.24	7.29	7.21	7.24	7.18		
Temp (+/- 0.5)	C°	11.54	12.20	12.15	12.26	12.32		
Color	Visual	dk gray	brown	cloudy	cloudy	clear		
Odor	Olfactory	none	none	none	none	none		5
comments: Sample at	1015	(vocs,	tlex.	Chrom	., I (P	Metals)		
H							Page 1 of 1	

ect Name and Number: toring Well Number: plers: ple Number: ing / Sampling Method: = Well Depth: = Riser Diameter (I.D.): = Depth to Water:		MW-1		Date: Carmel, QA/QC	<u>5/10/</u> <u>Greg</u> Collected?	2016 Dunlaver No	1	
plers: ple Number: ing / Sampling Method: = Well Depth: = Riser Diameter (I.D.):		Mike MW-lo	Kuzia- 651016	Carmel, QAVQC	Collected?	Dunlave No		
ple Number: ing / Sampling Method: = Well Depth: = Riser Diameter (I.D.):		MW-10	651016	QA/QC	Collected?	No		
ing / Sampling Method: = Well Depth: = Riser Diameter (I.D.):				1			CI N	
= Well Depth: = Riser Diameter (I.D.):		<del>Three Well</del>	Volumes /	Low- Flo	~ Samel	·/	C 1 3	
= Riser Diameter (I.D.):						ing w/	Jubinisit	the Pump
= Column of Water in Well: = Volume of Water in Well = V) = Target Purge Volume	- C(3.14159	))(0.5D) ² (7.4	-	0.17 15.40 34.59 5.64 16.92	5	D (inches) 1-inch (2-inch 3-inch 4-inch 6-inch	D (feet) 0.08 0.17 0.25 0.33 0.50	
×		D (inches) V (gal / ft)	1-inch	2-inch	3-inch	4-inch	6-inch	
er Quality Readings Collecte	d Using			$\overline{}$		0.00		
meter	Units				Readings			
}	24 hr	1113	1123	1133	1143	1153		
	feet	16.42	16.86	17.08	17.14	17.14		
						9.4		
					500			
					4.			
			1					
		0.763	0.862	0.803	0.804	0.806		
						7.05		
			12.55			12.35		
1 	Olfactory	none	LIGWAY	clear	Clear	- ileac		
	er Quality Readings Collecter meter er Level (0.33) me Purged Rate idity (+/- 10%) olved Oxygen (+/- 10%) olved Oxygen (+/- 10%) olved Oxygen (+/- 10%) olved Oxygen (+/- 3%) olved Oxygen (+/- 3%) t/- 0.1) p (+/- 0.5) r	er Quality Readings Collected Using meter Units 24 hr er Level (0.33) feet me Purged gal Rate mL/min idity (+/- 10%) NTU olved Oxygen (+/- 10%) % olved Oxygen (+/- 10%) mg/L ORP (+/- 10) MeV cific Conductivity (+/- 3%) mS/cm ^c ductivity (+/- 3%) mS/cm +/- 0.1) pH unit p (+/- 0.5) C° r Visual	D (inches) V (gal / ft)           V (gal / ft)           V (gal / ft)           Meter $1/5 I - 5$ meter         Units           er Level (0.33)         feet         16.42           me Purged         gal         -           Rate         mL/min         500           idity (+/- 10%)         NTU         48.2           olved Oxygen (+/- 10%)         %         9.6           olved Oxygen (+/- 10%)         mg/L         1.04           ORP (+/- 10)         MeV         36.1           stific Conductivity (+/- 3%)         mS/cm ^c 0.763           ductivity (+/- 3%)         mS/cm         -           +/- 0.1)         pH unit         7.47           p (+/- 0.5)         C ^c 12.55           r         Visual         cloudy	D (inches)       1-inch         V (gal / ft)       0.041         re Quality Readings Collected Using $1'5I - 556 / H_z$ meter       Units         er Level (0.33)       feet         me Purged       gal         gal       -         Z.5         Rate       mL/min         idity (+/- 10%)       NTU         olved Oxygen (+/- 10%)       %         olved Oxygen (+/- 10%)       mg/L         loved Oxygen (+/- 10%)       mg/L         olved Oxygen (+/- 10%)       mg/L         idity (+/- 3%)       mS/cm ^c o.763       0.862         ductivity (+/- 3%)       mS/cm         r       -         y (+/- 0.5)       C ^c r       Visual         cloudy       cloudy	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $

		Ŭ		, earlipin	ng Form			
Project Name and Number:		_ W.	and	Produ	cts			
Monitoring Well Number:		MW	- 1/	Date:	5/	10/1	6	
Samplers:		61	)		,	,		
Sample Number:		MW-	11 0510	16 QAVQC	Collected?	-		
Purging / Sampling Method:		Three Well	l Volumes					
<ol> <li>L = Well Depth:</li> <li>D = Riser Diameter (I.D.):</li> <li>W = Depth to Water:</li> <li>C = Column of Water in Well</li> <li>V = Volume of Water in Well</li> <li>3(V) = Target Purge Volume</li> </ol>		9)(0.5D) ² (7.4	·	<u>30 28</u> <u>14,17</u> <u>16,11</u> <u>2,63</u> <u>7,89</u> n factors to	feet feet gal gal	D (inches 1-inch 2-inch 3-inch 4-inch 6-inch	) D (feet) 0.08 0.17 0.25 0.33 0.50	
		D (inches) V (gal / ft)	1-inch 0.041	2-inch 0.163	3-inch 0.37	4-inch 0.65	6-inch	
Mator Quality Boodings Collect	od Licina	VCI	551 m	ns -	155	101273	7	
Water Quality Readings Collect Parameter	ed Using <b>Units</b>	<u> 451</u>	556 M	PS -		10:372	2	V
Water Quality Readings Collect Parameter Time	Units				Readings	_	J	
Parameter Time		08.56	0901	0906	Readings	6916	0921	0926
Parameter Time Water Level (0.33)	Units 24 hr feet				Readings	_	J	
Parameter Time	Units 24 hr	08.56	0901	0906	Readings 0911 17,89	6916	0921	0926
Parameter Time Water Level (0.33) Volume Purged Flow Rate	Units 24 hr feet gal	08.56  5.44 250	0901 16.20 250	0906 16.90	Readings	0916 18.28 250	J 0921 18,60 250	0926  8,91 ZD0
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%)	Units 24 hr feet gal mL/min	08.56 [5.44	0901 16.20 250 2.54	0906 16.90 250	Readings 09/1 17,89 250 2.89 32.0	6916 18.28	J 0921 18,60	0926
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%)	Units 24 hr feet gal mL/min NTU %	<u>08.56</u> <u>15.44</u> <u>250</u> <u>4,78</u> <u>59.5</u>	0901 16.20 250	0906 16.90 250 3.06	Readings 09/1 17,89 250 2.89 32.0	0916 18.28 250 2.67	J 18,60 2,81 2,6,9	0926 18,91 200 3,03
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%)	Units 24 hr feet gal mL/min NTU % mg/L	08.56 15.44 250 4.78 58.5 7.32	0901 16.20 250 2.54 45,9 5.35	0906 /6.90 250 3.06 38.2 4.45	Readings 0911 17,89 2.50 2.89 32.0 3,70	6916 18.28 250 2.67 28,5 3,30	J 0921 18,60 250 2,81 26,9 3,10	0926 18,91 200 3,03 24.8 2.88
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10)	Units 24 hr feet gal mL/min NTU % mg/L MeV	02.56 15.44 250 4,78 59.5 7,32 89.2	0901 16.20 250 2.54 45.9 5.35 97.9	0906 /6.90 250 3.06 38.2 4.45 107.6	Readings 09/1 17,89 2.50 2.89 32.0 3,70 112,7	6916 18.28 250 2.67 28,5 3.30 114,1	0921 18,60 250 2,81 26,9 3,10 116,8	0926  8.91 200 3.03 24.8 2.88 116.3
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity (+/- 3%)	Units 24 hr feet gal mL/min NTU % mg/L MeV mS/cm ^c	08.56 15.44 250 4.78 58.5 7.32	0901 16.20 250 2.54 45,9 5.35	0906 /6.90 250 3.06 38.2 4.45	Readings 0911 17,89 2.50 2.89 32.0 3,70	6916 18.28 250 2.67 28,5 3,30	J 0921 18,60 250 2,81 26,9 3,10	0926 18,91 200 3,03 24.8 2.88
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity (+/- 3%)	Units 24 hr feet gal mL/min NTU % mg/L MeV mS/cm ^c mS/cm	08.56 15.44 250 4.78 58.5 7.32 89.2 0.405 -	0901 16.20 2.50 2.54 45,9 5.35 97,9 6.401	0906 16.90 250 3.06 38.2 4.45 107.6 0.397 -	Readings 09/1 17,89 2.50 2.89 32.0 3,70 1/2,7 0,389 -	6916 18,28 250 2,67 28,5 3,30 114,1 - 6,390	J 0921 18,60 2.50 2.81 26,9 3,10 116,8 6,394 -	0926 18,91 2500 3,03 24,8 2.88 116,3 0,396
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity (+/- 3%) Conductivity (+/- 3%) pH (+/- 0.1)	Units 24 hr feet gal mL/min NTU % mg/L MeV mS/cm ^c mS/cm pH unit	08.56 15.44 250 4.78 58.5 7.32 89.2 0,405 - 6,97	0901 16.20 2.50 2.54 45,9 5.35 97,9 6.401  6.60	0906 16.90 250 3.06 38.2 4.45 107.6 0.397 - 6.35	Readings 09/1 17,89 250 2.89 32.0 3,70 112,7 0,389 - 5,78	69/6 18.28 250 2.67 28,5 3.30 114,1 -0.390 - 5.66	U 0921 18.60 2.50 2.81 26.9 3.10 116.8 0.394 - 5.57	0926 18,91 200 3,03 24.8 2.88 116.3 0,396  5,59
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity (+/- 3%)	Units 24 hr feet gal mL/min NTU % mg/L MeV mS/cm ^c mS/cm	08.56 15.44 250 4.78 58.5 7.32 89.2 0.405 -	0901 16.20 2.50 2.54 45,9 5.35 97,9 6.401	0906 16.90 250 3.06 38.2 4.45 107.6 0.397 -	Readings 09/1 17,89 2.50 2.89 32.0 3,70 1/2,7 0,389 -	6916 18,28 250 2,67 28,5 3,30 114,1 - 6,390	J 0921 18,60 2.50 2.81 26,9 3,10 116,8 6,394 -	0926 18,91 2500 3,03 24,8 2.88 116,3 0,396

	Monito	oring Well	Purging	/ Samplii	ng Form				
Project Name and Number:		Ward	Troduct	s - Ams	terdam ,	1 604819	100		
Monitoring Well Number:		MW-1	3	Date:	5/10/	2016			
Samplers:		Mike	Kuzia-	Larmel_	breg D	unlavey			
Sample Number:		MW-13			J Collected?	No			
Purging / Sampling Method:	-	Three Well	Volumes /	Low- How	Sampli	$n_{\rm e}$ m/5.	biners, ble	Zump	
Purging / Sampling Method:Ibree Well Volumes / Low How Sampling w/ Submurg ble Rump1. L = Well Depth: $0.17$ feet2. D = Riser Diameter (I.D.): $0.17$ feet3. W = Depth to Water: $1.238$ feet4. C = Column of Water in Well: $5.V = Volume of Water in Well = C(3.14159)(0.5D)^2(7.48)$ 5. V = Volume of Water in Well = C(3.14159)(0.5D)^2(7.48) $9.23$ gal2. J = Target Purge Volume $27.69$ gal									
			Conversior	n factors to	determine \	/ given C			
		D (inches) V (gal / ft)	1-inch 0.041	(2-inch (0.163)	3-inch 0.37	4-inch 0.65	6-inch 1.5		
Water Quality Readings Collecte	ed Using	YSI-5	556 /H	ach ZI	007				
Parameter	Units				Readings				
Time	24 hr	1235	1245	1255	1305	1315	1325		
Water Level (0.33)	feet	14.36	25.53	34.60	44.11	44.24	44.28		
Volume Purged	gal		22.4	-5	\$7.3	= 9.5	<i>≏11.</i> 7		
Flow Rate	mL/min	500	500	500	500	500	500		
Turbidity (+/- 10%)	NTU	240	55.9	32.1	18.4	16.8	12.0		
Dissolved Oxygen (+/- 10%)	%	3.2	2.2	1.2	2.8	1.0	08		
Dissolved Oxygen (+/- 10%)	mg/L	0.35	0.23	0.13	0.30	0.11	0.08		
Eh / ORP (+/- 10)	MeV	.75.7	-70.3	-59.7	-58.7	-58.3	-57.6		
Specific Conductivity (+/- 3%)	mS/cm ^c	0.679	0.655	0.585	0.551	0.619	0.593		
Conductivity (+/- 3%)	mS/cm	-		~					
pH (+/- 0.1)	pH unit	7.28	7.04	6.98	7.08	7.04	7.06		
Temp (+/- 0.5)	C°	11.26	11,47	11.61	11.52	11.17	1.00		
Color	Visual	cloudy	dear	clear	char	clear	clear		
Odor	Olfactory	none	none	none	none	nene	none		
Comments: Sample at	133(								
		<u> </u>					Page 1 of	1	

Project Name and Number: Monitoring Well Number: Samplers: Sample Number: Purging / Sampling Method: 1. L = Well Depth: 2. D = Riser Diameter (I.D.): 3. W = Depth to Water: 4. C = Column of Water in Well: 5. V = Volume of Water in Well = ( 6. 3(V) = Target Purge Volume		6	U - 0510	Produ Date:		<u> </u>	
Samplers: Sample Number: Purging / Sampling Method: 1. L = Well Depth: 2. D = Riser Diameter (I.D.): 3. W = Depth to Water: 4. C = Column of Water in Well: 5. V = Volume of Water in Well = 0		6 MW-14	U - 0510			<u> </u>	
Sample Number: Purging / Sampling Method: 1. L = Well Depth: 2. D = Riser Diameter (I.D.): 3. W = Depth to Water: 4. C = Column of Water in Well: 5. V = Volume of Water in Well = 0		6 MW-14	U - 0510			<u> </u>	
Purging / Sampling Method: 1. L = Well Depth: 2. D = Riser Diameter (I.D.): 3. W = Depth to Water: 4. C = Column of Water in Well: 5. V = Volume of Water in Well = 0				2/ 6QA/QC	Collected?		
<ol> <li>L = Well Depth:</li> <li>D = Riser Diameter (I.D.):</li> <li>W = Depth to Water:</li> <li>C = Column of Water in Well:</li> <li>V = Volume of Water in Well = 0</li> </ol>		Three Well	Volumes				
2. D = Riser Diameter (I.D.): 3. W = Depth to Water: 4. C = Column of Water in Well: 5. V = Volume of Water in Well = 0							
	C(3.14159	9)(0.5D) ² (7.4	8)	60,4/ 10,04 50,37 8,22 24,66	feet feet feet gal	D (inches) 1-inch 2-inch 3-inch 4-inch 6-inch	D (feet) 0.08 0.17 0.25 0.33 0.50
			Conversio	n factors to c	determine V	' given C	
		D (inches) V (gal / ft)	1-inch 0.041	2-inch 0.163	3-inch 0.37	4-inch 0.65	6-inch 1.5
Water Quality Readings Collected	Using	151	556	MPS-	15 F)0	00872	,
Parameter	Units				Readings		
Time	24 hr	1228	1233	1238	1243	1248	1253
Water Level (0.33)	feet	11,07	11,70	12.16	12,48	12,82	13,09
Volume Purged	gal						
Flow Rate	mL/min	250	250	200	200	175	175
Turbidity (+/- 10%)	NTU	3,48	3.41	3,01	2,88	3.09	2,78
Dissolved Oxygen (+/- 10%)	%	63.3	49.5	47.8	47.8	49.1	47.9
Dissolved Oxygen (+/- 10%)	mg/L	7.07	5.37	5,18	5.15	5,31	5,23
Eh / ORP (+/- 10)	MeV	94.0	125,2	142.0	149.3	152.3	157.3
	mS/cm ^c	6.677	0.681	0,644	0.645	0,650	0,649
		0.011	01001	0.074	· · · · · · · · · · · · · · · · · · ·	0,050	- 10T/
Conductivity (+/- 3%)	mS/cm	1.62	5,25	5.01	4,92	4,85	11.72
pH (+/- 0.1)	pH unit	6.02		101			4.76
Temp (+/- 0.5)	C°	10.84	11.74	11.65	11.88	11,72	11.74
Color	Visual	Clear	Clear	Clear	Clear	Clear	Clean
Odor	Olfactory	None	None	None	None	None	Nare

Project Name and Number: Monitoring Well Number: Samplers:			d Prod	uits -	Amsterde	11.0	481900	
-						sm/ uv	<u>vorivo</u>	
Samplers:		MW	-15	_ Date:	5/10	2016		
		Mike	Kuzia	- Carmel	6rig .	Punlaver	,	
Sample Number:		MW-15						
Purging / Sampling Method:	:	Three Well	Volumes	/Low-F	Flow San	pling w/	Subjuer	sible
<ol> <li>L = Well Depth:</li> <li>D = Riser Diameter (I.D.):</li> <li>W = Depth to Water:</li> <li>C = Column of Water in Well:</li> <li>V = Volume of Water in Well = 3(V) = Target Purge Volume</li> </ol>		9)(0.5D) ² (7.4	18)	54.12 0.17 8.29 45.83 7.48 22.44	feet feet feet gal	D (inches) <u>1-inch</u> (2-inch 3-inch 4-inch 6-inch	D (feet) 0.08 0.17 0.25 0.33 0.50	
			Conversio	n factors to	determine	√ given C		_
		D (inches)	1-inch	2-inch	3-inch 0.37	4-inch 0.65	6-inch	
Nater Quality Readings Collecte		V (gal / ft) YST	0.041	0.163 Hach 2			1.5	
Parameter	ed Using Units	YSI	556 /	Hach 2	-1007 Readings	-		
Parameter Fime	ed Using Units 24 hr	Y5I 1410	556 /	Hach 2	-1007 Readings   1470	1450	1500	
Parameter Fime Water Level (0.33)	ed Using Units 24 hr feet	YSI	556 / 1420 20.42	Hach 2 1430 24.80	1007 Readings 1470 35.72	1450	1500 37.04	
Parameter Fime Nater Level (0.33) /olume Purged	ed Using Units 24 hr feet gal	1410 10,44	556 / 1420 20.42 2	Hach 2 1430 24.80 24.25	.1007 Readings 1470 35.72 ≏6.3	- 1450 37.09 28.5	1500 37.06 ≈10. 7	
Parameter Time Nater Level (0.33) Volume Purged Flow Rate	ed Using Units 24 hr feet gal mL/min	Y5I 1410 10,44 500.	1420 20.42 2 500	Hach 2 1430 24.80 24.25 500	1007 Readings 1470 35.72 ≏6.3 550	1450 37.09 ~ 8.5 500	1500 37.04 ≈10.7 500	
Parameter Fime Nater Level (0.33) /olume Purged Flow Rate Furbidity (+/- 10%)	ed Using Units 24 hr feet gal mL/min NTU	Y5I 1410 10,44 500 568	1420 20.42 2 500 479	Hach 2 1430 24.80 ≈ 4.25 500 72	1007 Readings 1470 35.72 ≏6.3 550 29	1450 37.09 28.5 500 26	1500 37.04 ≈10.7 500 21	
Parameter Fime Nater Level (0.33) /olume Purged Flow Rate Furbidity (+/- 10%) Dissolved Oxygen (+/- 10%)	ed Using Units 24 hr feet gal mL/min NTU %	Y5I 1410 10,44 500 568 2,9	1420 20.42 2 500 479 34.6	Hach 2 1430 24.80 \$24.80 \$24.80 \$20 72 25.1	1007 Readings 1470 35.72 26.3 580 29 24.2	1450 37.09 28.5 500 26 19.6	1500 37.06 210.7 500 21 20.4	
Parameter Fime Nater Level (0.33) Volume Purged Flow Rate Furbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%)	ed Using Units 24 hr feet gal mL/min NTU % mg/L	Y5I 1410 10.44 500 568 2.9 0.31	556 / 20.42 2 500 479 36.6 3.92	Hach 2 1430 24.80 * 4.25 500 72 25.1 2.68	Readings i 4 70 35.72 26.3 580 29 24.2 2.61	1450 37.09 28.5 500 26 19.6 2.02	1500 37.06 210.7 500 21 20.4 2.15	
Parameter Fime Nater Level (0.33) /olume Purged Flow Rate Furbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10)	ed Using Units 24 hr feet gal mL/min NTU % mg/L MeV	YST 1410 10,44 500 568 2.9 0.31 -95.1	556 / 20.42 2 500 479 36.6 3.92 -54.0	Hach 2 1430 24.80 \$ 4.25 500 72 25.1 2.68 -41.7	.1007 Readings j 4 70 35.72 20.3 580 29 24.2 2.61 -57.8	1450 37,09 28,5 500 26 19.6 2.02 -62.1	1500 37.06 210.7 500 21 20.4 2.13 -60.8	
Parameter Fime Vater Level (0.33) /olume Purged Flow Rate Furbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity (+/- 3%)	ed Using Units 24 hr feet gal mL/min NTU % mg/L MeV mS/cm ^c	Y5I 1410 10.44 500 568 2.9 0.31	556 / 20.42 2 500 479 36.6 3.92 -54.0 0.827	Hach 2 1430 24.80 * 4.25 500 72 25.1 2.68	Readings i 4 70 35.72 26.3 580 29 24.2 2.61	1450 37.09 28.5 500 26 19.6 2.02	1500 37.04 ≈10.71 500 21 20.4 2.15 -60.8 0.940	
Parameter Fime Nater Level (0.33) /olume Purged Flow Rate Furbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity (+/- 3%) Conductivity (+/- 3%)	ed Using Units 24 hr feet gal mL/min NTU % mg/L MeV mS/cm ^c mS/cm	Y5I 1410 10,44 500 568 2.9 0.31 -95.1 1.099 -	556 / 20.42 2 500 479 36.6 3.92 -54.0 0.827	Hach 2 1430 24.80 24.80 24.80 24.80 72 25.1 2.68 -49.7 0.915 -	.1007 Readings 1470 35.72 26.3 580 29 24.2 2.61 -57.8 0.918 -	1450 37.09 ~ 8.5 500 26 19.6 2.02 -62.1 0.932 -	1500 37.04 210.7 20.7 2.15 -60.8 0.940 -	
Parameter Time Nater Level (0.33) /olume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity (+/- 3%) Conductivity (+/- 3%) DH (+/- 0.1)	ed Using Units 24 hr feet gal mL/min NTU % mg/L MeV mS/cm ^c mS/cm pH unit	Y5I 1410 10,44 500 568 2.9 0.31 -95.1 1.099 -7.16	556 / 20.42 2 500 479 36.6 3.92 -54.0 0.827 - 7.01	Hach 2 1430 24.80 ≈ 4.25 500 72 25.1 2.68 -47.7 0.915 - 6.96	1007 Readings 1470 35.72 26.3 580 29 24.2 2.61 -57.8 0.918 - 6.98	1450 37.09 ~ 8.5 500 26 19.6 2.02 -62.1 0.932 - 6.96	1500 37.04 ≈10.71 500 21 20.4 2.15 -60.8 0.940 - 6.97	
Parameter Fime Nater Level (0.33) /olume Purged Flow Rate Furbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity (+/- 3%) Conductivity (+/- 3%)	ed Using Units 24 hr feet gal mL/min NTU % mg/L MeV mS/cm ^c mS/cm	Y5I 1410 10,44 500 568 2.9 0.31 -95.1 1.099 -	556 / 20.42 2 500 479 36.6 3.92 -54.0 0.827	Hach 2 1430 24.80 24.80 24.80 24.80 72 25.1 2.68 -49.7 0.915 -	.1007 Readings 1470 35.72 26.3 580 29 24.2 2.61 -57.8 0.918 -	1450 37.09 ~ 8.5 500 26 19.6 2.02 -62.1 0.932 -	1500 37.04 210.7 20.7 2.15 -60.8 0.940 -	

		<i>L</i>	Nord	Prod	lue TS		
Monitoring Well Number:		MW	-16	Date:	_5/	11/16	
Samplers:		(	60				<u>.</u>
Sample Number:		Mw-16	05111	6 QA/QC	Collected?	-	<u> </u>
Purging / Sampling Method:		Three Well	Volumes				
1. L = Well Depth: 2. D = Riser Diameter (I.D.): 3. W = Depth to Water: 4. C = Column of Water in Well: 5. V = Volume of Water in Well = 6. 3(V) = Target Purge Volume	= C(3.14159	9)(0.5D) ² (7.4	8)	66.98 19.30 47.68 7.78 23.34	feet feet gal gal	D (inches) 1-inch 2-inch 3-inch 4-inch 6-inch	D (feet) 0.08 0.17 0.25 0.33 0.50
			Conversior	n factors to	determine \	/ given C	
		D (inches) V (gal / ft)	1-inch 0.041	2-inch 0.163	3-inch 0.37	4-inch 0.65	6-inch 1.5
Parameter	Units	V (gal / ft) YS /	0.041 556 /	0.163 1PS - 1	0.37 ( <i>5 F   0 0</i> Readings	0.65 872	1.5
Water Quality Readings Collecte Parameter Time	Units 24 hr	V (gal / ft) YS / 1026	0.041 556 M	0.163 1PS - 1 1036	0.37	0.65 872 1046	1.5
Parameter Time Water Level (0.33)	Units 24 hr feet	V (gal / ft) YS /	0.041 556 /	0.163 1PS - 1	0.37	0.65 872	1.5
Parameter Time Water Level (0.33) Volume Purged	Units 24 hr feet gal	V (gal / ft) YS / 1026 20-46	0.041 556 N 1031 21,02	0.163 1PS - 1 1036 21.44	0.37 15 F / 6 0 Readings 104 / 21. 75	0.65 87 Z 1046 21.98	1.5 /05/ 22.28
Parameter Time Water Level (0.33) Volume Purged Flow Rate	Units 24 hr feet gal mL/min	V (gal / ft) YS / 1026 20-46 14250	0.041 556 N 1031 21,02 200	0.163 1PS - 1 21.44 150	0.37 15 F / 6 0 Readings 104/ 21.75 150	0.65 872 1046 21.98 150	1.5 /05/ .22.28 /5-0
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%)	Units 24 hr feet gal mL/min NTU	V (gal / ft) YS / 1026 20-46 12250 12.6	0.041 556 N 1.031 21.02 200 14.6	0.163 1PS-1 21.44 150 11.1	0.37 15 F   6 0 Readings 104   21. 75 150 10.3	0.65 87 2 1046 21.98 150 11,2	1.5 /05/ 22.28 /5-0 /0.7
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%)	Units 24 hr feet gal mL/min NTU %	V (gal / ft) YS / 20-46 12250 12.6 59.1	0.041 556 N 1031 21,02 200 14.6 38.1	0.163 1PS-1 21.44 150 11.1 35.6	0.37 15 F   6 0 Readings 1041 21.75 150 10.3 34. <b>B</b>	0.65 87 2 1046 21.98 150 11.2 35.0	1.5 /05/ /22.28 /50 /0,7 34,2
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%)	Units 24 hr feet gal mL/min NTU % mg/L	V (gal / ft) YS / 20-46 12250 12.6 59.1 6.66	0.041 556 N 1031 21,02 200 14.6 38.1 4.10	0.163 1PS-1 21.44 150 11.1 35.6 3.95	0.37 <b>Readings</b> 1041 21.75 150 10.3 34. <b>B</b> 3.84	0.65 <u>872</u> 1046 21.98 150 11.2 35.0 3.88	1.5 /05/ /22.28 /50 /0.7 34.2 3.78
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10)	Units 24 hr feet gal mL/min NTU % mg/L MeV	V (gal / ft) YS / IOZ 6 20-46 IM250 IZ.6 59.1 6.66 90.2	0.041 556 N 1031 21.02 200 14.6 38.1 4.10 110.0	0.163 1PS - 1 1036 21.44 150 11.1 35.6 3.95 (11.5	0.37 15 F 10 0 Readings 1041 21. 75 150 10.3 34. <b>B</b> 3.84 111.1	0.65 872 1046 21.98 150 11.2 35.0 3.88 169.5	1.5 /05/ 22. 28 /5-0 /0, 7 34, 2 3, 78 /06, 0
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity (+/- 3%)	Units 24 hr feet gal mL/min NTU % mg/L MeV mS/cm ^c	V (gal / ft) YS / IOZ 6 Z 0.46 IM250 IZ.6 59.1 6.66 90.2 6.152	0.041 556 N 1031 21,02 200 14.6 38.1 4.10	0.163 1PS-1 21.44 150 11.1 35.6 3.95	0.37 <b>Readings</b> 1041 21.75 150 10.3 34. <b>B</b> 3.84	0.65 <u>872</u> 1046 21.98 150 11.2 35.0 3.88	1.5 /05/ 22.28 /5-0 /0.7 34,2 3,78 /06,0 0.145
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity (+/- 3%) Conductivity (+/- 3%)	Units 24 hr feet gal mL/min NTU % mg/L MeV mS/cm ^c mS/cm	V (gal / ft) YS / IOZ 6 20-46 IM250 IZ. 6 59.1 6.66 90.2 0.152 T	0.041 556 N 1031 21.02 200 14.6 38.1 4.10 110.0 0.151 -	0.163 1PS - 1 1036 21.44 150 11.1 35.6 3.95 111.5 0.147 -	0.37 <b>Readings</b> 1041 21.75 150 10.3 34. <b>B</b> 3.84 111.1 0.145 -	0.65 872 1046 21.98 150 11.2 35.0 3.88 167.5 6.145 -	1.5 105/ 22.28 150 10.7 34.2 3.78 106.0 0.145 
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity (+/- 3%) Conductivity (+/- 3%) pH (+/- 0.1)	Units 24 hr feet gal mL/min NTU % mg/L MeV mS/cm ^c mS/cm pH unit	V (gal / ft) YS / IOZ6 20.46 IM250 IZ.6 59.1 6.66 90.2 0.152 T 5.39	0.041 556 N 1031 21.02 200 14.6 38.1 4.10 110.0 0.151  5.42	0.163 1PS- 1036 21.44 150 11.1 35.6 3.95 11.5 0.147 	0.37 <b>Readings</b> 1041 21.75 150 10.3 34. <b>B</b> 3.84 111.1 0,145 - 5.40	0.65 872 1046 21.98 150 11,2 35.0 3.88 167.5 6.145 	1.5 /05/ 22.28 /5-0 /0.7 34.2 3.78 /06.0 0.145 5.38
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity (+/- 3%) Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5)	Units 24 hr feet gal mL/min NTU % mg/L MeV mS/cm ^c mS/cm pH unit C°	V (gal / ft) YS / IOZ 6 20-46 IM250 /2.6 59.1 6.66 90.2 0.152 T 5.39 10,50	0.041 556 N 1031 21,02 200 14.6 38.1 4.10 110.0 0,151 - 5.42 11.05	0.163 1PS - 1 1036 21.44 150 11.1 35.6 3.95 111.5 0.147  5.48 10.63	0.37 <b>Readings</b> 104 21.75 150 10.3 34. <b>B</b> 3.84 111.1 0,145 - 5.40 10.62	0.65 872 1046 21.98 150 11,2 35.0 3.88 107.5 6.145 	1.5 /05/ 22.28 /5-0 /0.7 34.2 3.78 /06.0 0.145 
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity (+/- 3%) Conductivity (+/- 3%) pH (+/- 0.1)	Units 24 hr feet gal mL/min NTU % mg/L MeV mS/cm ^c mS/cm pH unit	V (gal / ft) YS / IOZ6 20.46 IM250 IZ.6 59.1 6.66 90.2 0.152 T 5.39	0.041 556 N 1031 21.02 200 14.6 38.1 4.10 110.0 0.151  5.42	0.163 1PS- 1036 21.44 150 11.1 35.6 3.95 11.5 0.147 	0.37 <b>Readings</b> 1041 21.75 150 10.3 34. <b>B</b> 3.84 111.1 0,145 - 5.40	0.65 872 1046 21.98 150 11,2 35.0 3.88 167.5 6.145 	1.5 /05/ 22.28 /5-0 /0.7 34.2 3.78 /06.0 0.145 5.38

Page 1 of 1

Project Name and Number: Monitoring Well Number: Samplers:		W	1	A				
-			and p	Inaduct	5			
Samplers:		We MW 61	-17	Date:	5/1	1/16		
		6	0					
Sample Number:		MW-1	7 05111	GA/QC	Collected?			
Purging / Sampling Method:		Three Well	Volumes					
<ol> <li>L = Well Depth:</li> <li>D = Riser Diameter (I.D.):</li> <li>W = Depth to Water:</li> <li>C = Column of Water in Well:</li> <li>V = Volume of Water in Well =</li> <li>3(V) = Target Purge Volume</li> </ol>	= C(3.14159	9)(0.5D) ² (7.4	·	66.26 6.52 59.74 9.75 29.25	feet feet gal gal	D (inches) 1-inch 2-inch 3-inch 4-inch 6-inch	D (feet) 0.08 0.17 0.25 0.33 0.50	
		D (inches) V (gal / ft)	Conversior	2-inch 0.163	determine V 3-inch 0.37	/ given C 4-inch 0.65	6-inch 1.5	
Water Quality Readings Collecte	nd Using	YSI	SEC N	105-	15F100	-877		
water addity readings collecte	a comg		556 /		137 100			)
Parameter	Units				Readings	-		/
Parameter Time	Units 24 hr	6902	0907	0912	Readings	6922	6927	1
Parameter Time Water Level (0.33)	Units 24 hr feet				Readings	-		0932 11.27
Parameter Time Water Level (0.33) Volume Purged	Units 24 hr feet gal	6902 1,63	0907 8,66	0912 9.36	Readings           69/7           10,01	6922	10,92	11.27
Parameter Time Water Level (0.33) Volume Purged Flow Rate	Units 24 hr feet gal mL/min	6902 7,63 250	0907 8,66 250	0912 9.36 200	<b>Readings</b> 0917 10,01 200	6922 10,54 150	10,92	11.27 150
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%)	Units 24 hr feet gal mL/min NTU	6902 1,63 250 4,95	0907 8,66 250 6,86	0912 9.36 200 8,12	<b>Readings</b> 6917 10,01 200 7,24	6922 16,54 150 6,23	10,92 150 5,83	11.27 150 5,31
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%)	Units 24 hr feet gal mL/min NTU %	6902 1,63 250 4,95 37,4	0907 8,66 250 6.86 12.7	0912 9.36 200 8,12 9.2	<b>Readings</b> 6917 10,01 200 7,24 7,24	6922 10,54 150 6,23 6,3	10,92 150 5,83 6,0	11.27 150 5,31 6,0
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%)	Units 24 hr feet gal mL/min NTU % mg/L	6902 1,63 250 4,95 37,4 4,44	0907 8,66 250 6.86 12,7 1,47	0912 9.36 200 8,12 9.2 1.05	<b>Readings</b> 6917 10,01 200 7,24 7,2 6,82	6922 10,54 150 6,23 6,3 0,71	10,92 150 5,83 6,0 6,66	11.27 150 5,31 6,6 0,68
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10)	Units 24 hr feet gal mL/min NTU % mg/L MeV	6902 7,63 250 4,95 37,4 9,44 30,9	0907 8,66 250 6.86 12.7 1.47 48.0	0912 9.36 200 8,12 9.2 1.05 55,9	<b>Readings</b> 6917 10,01 200 7,24 7,2 6,82 67,4	6922 10,54 150 6.23 6.3 0,71 76,1	10,92 150 5.83 6.0 6.66 82.3	11.27 150 5,31 6,0 0,68 83,7
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity (+/- 3%)	Units 24 hr feet gal mL/min NTU % mg/L MeV mS/cm ^c	6902 1,63 250 4,95 37,4 4,44	0907 8,66 250 6.86 12.7 1.47	0912 9.36 200 8,12 9.2 1.05	<b>Readings</b> 6917 10,01 200 7,24 7,2 6,82	6922 10,54 150 6,23 6,3 0,71	10,92 150 5,83 6,0 6,66	150 5,31 6,0 0,68
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity (+/- 3%) Conductivity (+/- 3%)	Units 24 hr feet gal mL/min NTU % mg/L MeV mS/cm ^c mS/cm	6902 7,63 250 4,95 37,4 4,44 30,9 0.143	0907 8,66 250 6.86 12.7 1.47 48.0 0.135 -	0912 9.36 200 8,12 9.2 1.05 5.9 0.129	Readings 6917 10,01 200 7,24 7,2 6,82 67,4 0,124 -	6922 10,54 150 6.23 6.3 0,71 76.1 0.120	10,92 150 5,83 6,0 6,66 82.3 0,119	11.27 150 5,31 6,0 0,68 83,7 0,115
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity (+/- 3%)	Units 24 hr feet gal mL/min NTU % mg/L MeV mS/cm ^c	6902 7,63 250 4,95 37,4 9,44 30,9	0907 8,66 250 6.86 12.7 1.47 48.0	0912 9.36 200 8,12 9.2 1.05 55,9	<b>Readings</b> 6917 10,01 200 7,24 7,2 6,82 67,4	6922 10,54 150 6.23 6.3 0,71 76,1	10,92 150 5.83 6.0 6.66 82.3	11.27 150 5,31 6,0 0,68 83,7
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity (+/- 3%) Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5)	Units 24 hr feet gal mL/min NTU % mg/L MeV mS/cm ^c mS/cm	6902 7,63 250 4,95 37,4 4,44 30,9 0.143 - 6.39 9,58	0907 8,66 250 6.86 12.7 1.47 48.0 0.135 - 6.27 9.39	0912 9.36 200 8,12 9.2 1.05 55,9 0.129 	Readings 6917 10,01 200 7,24 7,2 6,82 67,4 0,124 - 5,94 9,82	6922 10,54 150 6.23 6.3 0,71 76,1 0,120 - 5,7/ 10,22	10,92 150 5,83 6,0 6,66 82.3 0,119 - 5,50 10,32	11.27 150 5,31 6,0 0.68 83,7 0,115
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity (+/- 3%) Conductivity (+/- 3%)	Units 24 hr feet gal mL/min NTU % mg/L MeV mS/cm ^c mS/cm pH unit	6902 7,63 250 4,95 37,4 4,44 30,9 0.143 - 6,39	0907 8,66 250 6.86 12.7 1.47 48.0 0.135 - 6.27	0912 9.36 200 8,12 9.2 1.05 55,9 0.129 	Readings 6917 10,01 200 7,24 7,2 6,82 67,4 0,124 - 5,94	6922 10,54 150 6.23 6.3 0,71 76,1 0,120 - 5,71	10,92 150 5,83 6,0 6,66 82.3 0,119 - 5,50	11.27 150 5,31 6,0 0,68 83,7 0,115 - 5:43

Continued ...

	Monito	oring Well	Purging	Samplin	g Form	· · · ·	
Project Name and Number:		Wa	~d				
Monitoring Well Number:		Mu-	~d - 17	Date:	5/1	1/16	
Samplers:			60				
Sample Number:		Mw-17	0511/6	QA/QC C	Collected?	J	
Purging / Sampling Method:		Three Well	Volumes				
					( t		
1. L = Well Depth:			-		feet	D (inches)	D (feet)
2. D = Riser Diameter (I.D.): 2. $W = Dopth to Water:$			-	<u> </u>	feet	1-inch	0.08
3. W = Depth to Water: 4. C = Column of Water in Well:			-		feet feet	2-inch 3-inch	0.17 0.25
	0/0 4 4454						
5. $V = Volume of Water in Well = 2(V) = Target Burge Volume$	= 0(3.1415	a)(U.SD) (7.4	·o) -		gal	4-inch	0.33
6. 3(V) = Target Purge Volume			-		gal	6-inch	0.50
			Conversion	factors to c	letermine 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
Parameter	Units	V	1	T	Readings	1	· · · · · · · · · · · · · · · · · · ·
	24 hr	0937	6842				
Water Level (0.33)	feet	11.59	11,00				
Volume Purged	gal	150	150				
Flow Rate	mL/min		5.37				
Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%)	NTU %	4,99 5,2	5.6				
Dissolved Oxygen (+/- 10%)		0.59	0.62				
Eh / ORP (+/- 10)	mg/L MeV	88.9	96.5				
Specific Conductivity (+/- 3%)	mS/cm ^c	0.114	0,109				
Conductivity (+/- 3%)	mS/cm	-	-				
pH (+/- 0.1)	pH unit	5,33	5.25				
Temp (+/- 0.5)	C*	10.31	10.45			·,	
Color	Visual	Clear	Clear				
Odor	Olfactory	Ne	None				
Comments:		: @	<u> </u>	4.		·	<u> </u>
							ZZ Page 1 of 1

	Monito	oring Well	Purging	/ Samplii	ng Form			
Project Name and Number:		Wa.	nd 1	Produc	.45			
Monitoring Well Number:		Wa. MW-	-18	Date:	5/1	11/16		
Samplers:			60	-				
Sample Number:		MW-18	8 05111	6 QAVQC	Collected?	_		
Purging / Sampling Method:		Three Well	Volumes				_	
				15 55				
1. L = Well Depth:				65.55	feet	D (inches)	D (feet)	1
2. D = Riser Diameter (I.D.):					feet	1-inch	0.08	
3. W = Depth to Water:				20.31		2-inch	0.17	1
4. C = Column of Water in Well:				45.24		3-inch	0.25	4
5. V = Volume of Water in Well	= C(3.14159	))(0.5D) ² (7.4	8)	7,38		4-inch	0.33	
6. 3(V) = Target Purge Volume				22.15	gal	6-inch	0.50	ļ
			Conversion	footore to	datarmine 1	Laiver C		
			Conversio	n factors to	uerennine /	given C		
	1	D (inches)	1 inch		2 inch	Aireh	Ginah	1
		D (inches) V (gal / ft)	1-inch 0.041	2-inch ) 0.163	3-inch 0.37	4-inch 0.65	6-inch 1.5	·
	1.18	v (gai / it)	0.041	0.100	0.07	0.05	1.5	1
Water Quality Readings Collect	Ū							
Parameter	Units				Readings		V	V
Time	24 hr	1/36	//4/	1146	1251	1156	1201	1266
Time Water Level (0.33)	24 hr feet	1136 20,92	1141 20.91	1146			1201 21.24	1 <b>2</b> 66 21,30
Time Water Level (0.33) Volume Purged	24 hr feet gal	20,92	20.91	21.01	1 <b>15</b> 21, 11	1156	21.24	21,30
Time Water Level (0.33) Volume Purged Flow Rate	24 hr feet gal mL/min	20,92	20.91 200	21.01	1151 21.11 200	1156 21.19 200	21.24	21,30
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%)	24 hr feet gal mL/min NTU	20,92 250 4.89	20.91 200 9.21	21.01 250 3.88	1151 21.11 2.84	1156 21.19 200 2.11	21.24 200 1.41	21,30 200 1.87
Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%)	24 hr feet gal mL/min NTU %	20,92 250 4.89 28.4	20.91 200 4.21 21.3	21.01 250 3.88 15.5	1 <u>15</u> 21,11 2.00 2.84 11,6	1156 21.19 2.00 2.11 9.2	21.24 200 1.41 9.0	21,30 200 1,87 8,3
Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%)	24 hr feet gal mL/min NTU % mg/L	20,92 250 4.89 28,4 3,13	20.91 200 9.21 21.3 2.34	21.01 250 3.88 15.5 1.70	1 <b>15</b> 21, 11 2.00 2.84 11.6 1.24	1156 21.19 2.00 2.11 9.2 1.12	21.24 200 1.41 9.0 1.08	21,30 200 1.87 8.3 0,99
Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10)	24 hr feet gal mL/min NTU % mg/L MeV	26,92 250 4.89 28.4 3,13 108.5	20.9/ 200 4.21 21.3 2.34 115.4	21.01 250 3.88 15.5 1.70 116.1	1 <b>251</b> 21,11 2.00 2.84 11,6 1.24 112,0	1156 21.19 2.00 2.11 9.2 1.12 116.0	21.24 200 1.41 9.0 1.08 1.19,6	21,30 200 1.87 8.3 0,99 /23.1
Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity (+/- 3%)	24 hr feet gal mL/min NTU % mg/L MeV mS/cm ^c	20,92 250 4.89 28,4 3,13	20.91 200 9.21 21.3 2.34	21.01 250 3.88 15.5 1.70	1 <b>15</b> 21, 11 2.00 2.84 11.6 1.24	1156 21.19 2.00 2.11 9.2 1.12	21.24 200 1.41 9.0 1.08	21,30 200 1.87 8.3 0,99
Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity (+/- 3%) Conductivity (+/- 3%)	24 hr feet gal mL/min NTU % mg/L MeV mS/cm ^c mS/cm	26,92 250 4.89 28.4 3.13 108.5 0,217	20.9/ 200 9,21 21,3 2.34 115.4 0,217	21.01 250 3.88 15.5 1.70 116,1 0.220	1 <b>251</b> 21, 11 2.00 2.84 11.6 1.24 112.0 0.225	1156 21.19 2.11 9.2 1.12 116.0 6.226	21. 24 200 1.41 9.0 1.08 1.19.6 0.229	21,30 200 1.87 8.3 0,99 /23.1 0,228
Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity (+/- 3%) Conductivity (+/- 3%) pH (+/- 0.1)	24 hr feet gal mL/min NTU % mg/L MeV mS/cm ^c mS/cm	26,92 250 4.89 28,4 3,13 108.5 0,217 4.69	20.9/ 200 9,21 21,3 2.34 115.4 0,217 4,87	21.01 250 3.88 15.5 1.70 116.1 0.220 5.00	1 <b>25</b> 21, 11 2.84 11.6 1.24 112.0 0.225 	1156 21.19 2.11 9.2 1.12 116.0 6.226 5.16	21. 24 200 1.41 9.0 1.08 1.19.6 0.229 5,13	21,30 200 1.87 8.3 0,99 123,1 0,228 - 5.07
Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity (+/- 3%) Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5)	24 hr feet gal mL/min NTU % mg/L MeV mS/cm ^c mS/cm pH unit C [*]	20,92 250 4.89 28,4 3,13 108.5 0,217 4.69 11,21	20.9/ 200 4,2/ 21,3 7.34 115.4 0,2/7 4,87 11.40	21.01 250 3.88 15.5 1.70 116.1 0.220 5,00 11.54	1 <b>25</b> 21, 11 2.00 2.84 11.6 1.24 112.0 0.225 - 5.24 12.02	1256 21.19 2.00 2.11 9.2 1.12 116.0 6.226 5.16 11.68	21. 24 200 1.41 9.0 1.98 1.19.6 0.229 5,13 11.53	21,30 200 1,87 8,3 0,99 123,1 0,228 - 5,07 11,60
Time Vater Level (0.33) /olume Purged Flow Rate Furbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 3%) Dissolved Oxygen (+/- 3%) Conductivity (+/- 3%) Different (+/- 0.1) Temp (+/- 0.5) Color	24 hr feet gal mL/min NTU % mg/L MeV mS/cm ^c mS/cm pH unit C [*] Visual	20,92 250 4.89 28.4 3.13 108.5 0.217 4.69 11.21 Cleor	20.9/ 200 4,21 21,3 2.34 115.4 6,217 4,87 11.40 clear	21.01 250 3.88 15.5 1.70 116.1 0.220 5.00 11.54 Clim	1151 21,11 200 2.84 11.6 1.24 112.0 0.225 	1256 21.19 2.00 2.11 9.2 1.12 116.0 6.226 5.16 11.68 Clan	21. 24 200 1.41 9.0 1.98 1.08 1.19.6 0.229 5:13 11.53 Clear	21,30 200 1.87 8.3 0,99 123.1 0,228 - 5.07 11,60 Clear
Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity (+/- 3%) Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5) Color	24 hr feet gal mL/min NTU % mg/L MeV mS/cm ^c mS/cm pH unit C [*]	20,92 250 4.89 28,4 3,13 108.5 0,217 4.69 11,21	20.9/ 200 4,2/ 21,3 7.34 115.4 0,2/7 4,87 11.40	21.01 250 3.88 15.5 1.70 116.1 0.220 5,00 11.54	1 <b>25</b> 21, 11 2.00 2.84 11.6 1.24 112.0 0.225 - 5.24 12.02	1256 21.19 2.00 2.11 9.2 1.12 116.0 6.226 5.16 11.68	21. 24 200 1.41 9.0 1.98 1.19.6 0.229 5,13 11.53	21,30 200 1,87 8,3 0,99 123,1 0,228 - 5,07 11,60
Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity (+/- 3%) Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5) Color Odor	24 hr feet gal mL/min NTU % mg/L MeV mS/cm ^c mS/cm ^c pH unit C [*] Visual Olfactory	20,92 250 4.89 28.4 3.13 108.5 0.217 4.69 11,21 Clear Nore	20.9/ 200 4.21 21.3 7.34 115.4 0.217 - 4.87 11.40 clear None	21.01 250 3.88 15.5 1.70 116.1 0.220 5.00 11.54 Clim None	1151 21,11 200 2.84 11.6 1.24 112.0 0.225 5.24 12.02 clear None	1256 21.19 2.00 2.11 9.2 1.12 116.0 6.226 5.16 11.68 Clan	21. 24 200 1.41 9.0 1.98 1.08 1.19.6 0.229 5:13 11.53 Clear	21,30 200 1.87 8.3 0,99 123.1 0,228 - 5.07 11,60 Clear
Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%)	24 hr feet gal mL/min NTU % mg/L MeV mS/cm ^c mS/cm ^c pH unit C [*] Visual Olfactory	20,92 250 4.89 28.4 3.13 108.5 0.217 4.69 11.21 Cleor	20.9/ 200 4.21 21.3 7.34 115.4 0.217 - 4.87 11.40 clear None	21.01 250 3.88 15.5 1.70 116.1 0.220 5.00 11.54 Clim None	1151 21,11 200 2.84 11.6 1.24 112.0 0.225 5.24 12.02 clear None	1256 21.19 2.00 2.11 9.2 1.12 116.0 6.226 5.16 11.68 Clan	21. 24 200 1.41 9.0 1.98 1.08 1.19.6 0.229 5:13 11.53 Clear	21,30 200 1.87 8.3 0,99 123.1 0,228 - 5.07 11,60 Clear
Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity (+/- 3%) Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5) Color Odor	24 hr feet gal mL/min NTU % mg/L MeV mS/cm ^c mS/cm ^c pH unit C [*] Visual Olfactory	20,92 250 4.89 28.4 3.13 108.5 0.217 4.69 11,21 Clear Nore	20.9/ 200 4.21 21.3 7.34 115.4 0.217 - 4.87 11.40 clear None	21.01 250 3.88 15.5 1.70 116.1 0.220 5.00 11.54 Clim None	1151 21,11 200 2.84 11.6 1.24 112.0 0.225 5.24 12.02 clear None	1256 21.19 2.00 2.11 9.2 1.12 116.0 6.226 5.16 11.68 Clan	21. 24 200 1.41 9.0 1.98 1.08 1.19.6 0.229 5:13 11.53 Clear	21,30 200 1.87 8.3 0,99 123.1 0,228 - 5.07 11,60 Clear
Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity (+/- 3%) Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5) Color Odor	24 hr feet gal mL/min NTU % mg/L MeV mS/cm ^c mS/cm ^c pH unit C [*] Visual Olfactory	20,92 250 4.89 28.4 3.13 108.5 0.217 4.69 11,21 Clear Nore	20.9/ 200 4.21 21.3 7.34 115.4 0.217 - 4.87 11.40 clear None	21.01 250 3.88 15.5 1.70 116.1 0.220 5.00 11.54 Clim None	1151 21,11 200 2.84 11.6 1.24 112.0 0.225 5.24 12.02 clear None	1256 21.19 2.00 2.11 9.2 1.12 116.0 6.226 5.16 11.68 Clan	21. 24 200 1.41 9.0 1.98 1.08 1.19.6 0.229 5:13 11.53 Clear	21,30 200 1.87 8.3 0,99 123.1 0,228 - 5.07 11,60 Clear None

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		-	Furging	/ Sampin	ng Form			
Project Name and Number:		Ward	Produ	its - A	msterda	n/404	181900	
Monitoring Well Number:		MW-	9	Date:	5/1	1/2016		
Samplers:	_	Mike	Kuzia-	Curnel	breg	Durlavey		
Sample Number:	<u>+</u>	1W-19	osille	QA/QC	J Collected?	No		
Purging / Sampling Method:	H-	nree Well		Low-Flo	w Sampl	ing w/	submersil	he
1. L = Well Depth: 2. D = Riser Diameter (I.D.): 3. W = Depth to Water: 4. C = Column of Water in Well: 5. V = Volume of Water in Well = $\mathcal{L}$ 3(V) = Target Purge Volume		0.5D) ² (7.4	8)	70.54 0.17 29.47 41.07 6.69 20.07	feet feet feet gal gal	D (inches) 1-inch 2-inch 3-inch 4-inch 6-inch	0.08 0.17 0.25 0.33	
					, yai	0-mon	0.50	
			Conversior		•		0.50	
, J(V) – Farget Furge Volume		(inches) (gal / ft)	Conversior 1-inch 0.041	factors to	•		0.50 6-inch 1.5	
Water Quality Readings Collecte	ed Using	(inches)	1-inch 0.041	factors to	determine V 3-inch 0.37	V given C 4-inch 0.65	6-inch	
Water Quality Readings Collecte	ed Using	(inches) (gal / ft) \{5_1-5	1-inch 0.041 56 / H	ein Zil	determine V 3-inch 0.37 007 Readings	V given C 4-inch 0.65	6-inch 1.5	
Water Quality Readings Collecte Parameter Time	ed Using	(inches) (gal / ft) YST · 5	1-inch 0.041 56 / H.	2-inch 0.163 a.h 210	determine V 3-inch 0.37 007 Readings 0940	V given C 4-inch 0.65	6-inch 1.5 0 <b>150</b>	
Water Quality Readings Collecte Parameter Time Water Level (0.33)	ed Using	(inches) (gal / ft) \{5_1-5	1-inch 0.041 56 / Ha 0925 36.51	0935 39.64	determine 3-inch 0.37 007 Readings 0940 41.25	V given C 4-inch 0.65 	6-inch 1.5 0150 43.11	
Water Quality Readings Collecte Parameter Time Water Level (0.33) Volume Purged	ed Using	(inches) (gal / ft) YST - 5 9915 32.01	1-inch 0.041 56 / Ha 0925 36.51 ≈ 1.5	0935 39.64 ≈ 2.8	determine 3-inch 0.37 01 Readings 0940 41.25 24.3	V given C 4-inch 0.65 42.4% = 5. %	6-inch 1.5 0150 43.11 ≈7.0	
Water Quality Readings Collecte Parameter Time Water Level (0.33) Volume Purged Flow Rate	Units Units 24 hr ( feet gal mL/min	(inches) (gal / ft) YST - 5 32.01 500	1-inch 0.041 56 / H 56 / H 56 / H 36.51 ≈ 1.5 506	0935 39.64 ≈ 2.8 450	determine 3-inch 0.37 017 Readings 0940 41.25 24.3 500	V given C 4-inch 0.65 42.4% =5.8 500	6-inch 1.5 0150 43.11 27.0 450	
Water Quality Readings Collecte Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%)	ed Using Units 24 hr ( feet gal mL/min NTU	(inches) (gal / ft) YST - 5 3915 32.01 500 44	1-inch 0.041 56 / H. 56 / H. 36.51 ≈ 1.5 500 61	093.5 39.64 2.8 450 134	determine \ 3-inch 0.37 007 Readings 0940 41.25 24.3 500 144	V given C 4-inch 0.65 42.18 25.8 500 160	6-inch 1.5 43.11 27.0 450 146	
Water Quality Readings Collecte Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%)	ed Using	$(inches)  (gal / ft)  151 \cdot 532.6150044101.8$	1-inch 0.041 56 / H 56 / H 56 / H 36.51 ≤ 1.5 506 61 4.9	093.5 39.64 ≈ 2.8 450 134 2.6	determine \ 3-inch 0.37 007 Readings 0940 41.25 24.3 500 144 2.4	V given C 4-inch 0.65 47.18 47.18 25.8 500 160 2.9	6-inch 1.5 43.11 27.0 450 146 2.2	2
Water Quality Readings Collecte Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%)	ed Using Units 24 hr ( feet gal mL/min NTU % mg/L	$\frac{(inches)}{(gal / ft)}$ $\frac{\sqrt{51} \cdot 5}{32.61}$ $\frac{500}{44}$ $101.8$ $11.09$	1-inch 0.041 56 / H 56 / H 56 36.51 2 15 500 41 4,9 0.54	093.5 39.64 ≈ 2.8 450 134 2.6 0.29	3-inch         0.37         007         Readings         0940         41.25         24.3         500         144         2.4         0.26	V given C 4-inch 0.65 4- 4- 2.6 4- 4- 2.6 500 160 2.6 0.32	6-inch 1.5 43.11 27.0 450 146 2.2 0.24	
Water Quality Readings Collecte Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10)	Units Units 24 hr ( feet gal mL/min NTU % mg/L MeV	(inches) (gal / ft) (gal / ft) YST - 532.0150044101.811.09- \$3.5	$ \begin{array}{c} 1-inch \\ 0.041 \\ \hline 56 / H_{1} \\ \hline 56 - 56 \\ \hline 4.5 \\ 506 \\ \hline 4.9 \\ -64.2 \\ \hline \end{array} $	0.163 0.163 0.163 0.163 0.163 0.163 0.163 0.163 0.164 ○.164 ○.26 0.24 -64.2	3-inch         0.37         007         Readings         0940         41.25         24.3         500         144         2.4         0.26         -63.1	V given C 4-inch 0.65 42.4% =5.% 500 160 2.4 0.32 -63.7	6-inch 1.5 0150 43.11 27.0 450 146 2.2 0.24 -64.7	~> 
Water Quality Readings Collecte Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity (+/- 3%)	Units Units 24 hr ( feet gal mL/min NTU % mg/L MeV mS/cm ^c	$\frac{(inches)}{(gal / ft)}$ $\frac{\sqrt{51} \cdot 5}{32.61}$ $\frac{500}{44}$ $101.8$ $11.09$	1-inch 0.041 56 / H. 56 / H. 36.51 = 1.5 500 61 4.9 0.54 -64.2 1.151	093.5 39.64 ≈ 2.8 450 134 2.6 0.29	3-inch         0.37         007         Readings         0940         41.25         24.3         500         144         2.4         0.26	V given C 4-inch 0.65 4- 4- 2.6 4- 4- 2.6 500 160 2.6 0.32	6-inch 1.5 43.11 27.0 450 146 2.2 0.24	~
Water Quality Readings Collecte Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity (+/- 3%)	ved Using Units 24 hr ( feet gal mL/min NTU % mg/L MeV mS/cm ^c mS/cm	(inches) (gal / ft) YST-5 32.01 500 44 101.8 11.09 - \$3.5 6.014	1-inch 0.041 56 / H. 56 / H. 56 / H. 36.51 = 1.5 500 61 4.9 0.54 -64.2 1.181 =	0935 39.64 2.6 39.64 2.8 450 134 2.6 0.29 -64.2 1.168 -	determine 3-inch 0.37 007 Readings 0940 41.25 24.3 500 144 2.4 0.26 -63.1 1.159 -	V given C 4-inch 0.65 42.98 =5.8 500 160 2.9 0.32 -63.7 1.148 	6-inch 1.5 0150 43.11 27.0 450 146 2.2 0.24 -64.7 1.096 	2
Water Quality Readings Collecte Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity (+/- 3%) Conductivity (+/- 3%) pH (+/- 0.1)	ed Using Units 24 hr ( feet gal mL/min NTU % mg/L MeV mS/cm ^c mS/cm	(inches) (gal / ft) YST-5 32.01 500 44 101.8 11.09 - \$3.5 6.014	$ \begin{array}{c} 1-inch \\ 0.041 \\ \hline 0.041 \\ \hline 56 / H. \\ \hline 56 - 51 \\ \hline - 1.5 \\ 500 \\ \hline 61 \\ - 4.9 \\ 0.54 \\ - 64.2 \\ \hline 1.151 \\ \hline - 7.15 \\ \end{array} $	0935 39.64 2.6 134 2.6 0.29 -64.2 1.168 - 7.05	determine 3-inch 0.37 007 Readings 0940 41.25 24.3 500 144 2.4 0.26 -63.1 1.159 -7.00	V given C 4-inch 0.65 42.98 =5.8 500 160 2.9 0.32 -63.7 1.148  6.98	6-inch 1.5 0950 43.11 27.0 450 146 2.2 0.24 -64.7 1.096 	~
Water Quality Readings Collecte Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity (+/- 3%) Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5)	ved Using Units 24 hr ( feet gal mL/min NTU % mg/L MeV mS/cm ^c mS/cm pH unit C°	(inches) (gal / ft)	$ \begin{array}{c} 1-inch \\ 0.041 \\ \hline 0.041 \\ \hline 56 / H. \\ \hline 56 / H. \\ \hline 500 \\ 61 \\ \hline 4.9 \\ 0.54 \\ \hline -64.2 \\ 1.151 \\ \hline 7.15 \\ 11.36 \\ \end{array} $	$\begin{array}{c} \begin{array}{c} \text{factors to} \\ \hline \\ \text{P-inch} \\ \hline 0.163 \\ \hline 0.29 \\ \hline -2.6 \\ \hline 0.29 \\ \hline -64.2 \\ \hline 1.05 \\ \hline 1.05 \\ \hline 11.63 \\ \hline \end{array}$	determine 3-inch 0.37 0.37 0.37 0.37 Readings 0.940 41.25 2.4,3 500 144 2.4 0.26 -63.1 1.159 -7.00 (1.76	V given C 4-inch 0.65 42.98 =5.8 500 160 2.9 0.32 -63.7 1.148  6.98 11.42	6-inch 1.5 0950 43.11 27.0 450 146 2.2 0.24 -64.7 1.096  6.95 11.74	~
Water Quality Readings Collecte Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity (+/- 3%) Conductivity (+/- 3%) pH (+/- 0.1)	ed Using Units 24 hr ( feet gal mL/min NTU % mg/L MeV mS/cm ^c mS/cm pH unit C°	(inches) (gal / ft) YST-5 32.01 500 44 101.8 11.09 - \$3.5 6.014	$ \begin{array}{c} 1-inch \\ 0.041 \\ \hline 0.041 \\ \hline 56 / H. \\ \hline 56 - 51 \\ \hline - 1.5 \\ 500 \\ \hline 61 \\ - 4.9 \\ 0.54 \\ - 64.2 \\ \hline 1.151 \\ \hline - 7.15 \\ \end{array} $	0935 39.64 2.6 134 2.6 0.29 -64.2 1.168 - 7.05	determine 3-inch 0.37 007 Readings 0940 41.25 24.3 500 144 2.4 0.26 -63.1 1.159 -7.00	V given C 4-inch 0.65 42.98 =5.8 500 160 2.9 0.32 -63.7 1.148  6.98 11.42	6-inch 1.5 0950 43.11 27.0 450 146 2.2 0.24 -64.7 1.096 	~

	Monite	oring Wel	I Purging	/ Sampli	ng Form				
Project Name and Number:		Maro	1 Prod	uits - ,	Amsterda	m/60	481900		
Monitoring Well Number:		MW.	-20	Date:	5/11/	2016			
Samplers:		_Mike	Kuzia	- Carme	brea	Dunla	wy		
Sample Number:			051116				•		
Purging / Sampling Method:		Three-Well	Volumes /	Low-F	low Sam	pling w/	Submers	ille pump	
Purging / Sampling Method:Three-Well Volumes-/Lew - FlewSampling w/ Submarsille pump1. L = Well Depth: $57.05$ feet $0.17$ feet2. D = Riser Diameter (I.D.): $0.17$ feet $1-inch$ 3. W = Depth to Water: $27.74$ feet $2-ihch$ 4. C = Column of Water in Well: $57.05$ feet $2-ihch$ 5. V = Volume of Water in Well = C(3.14159)(0.5D) ² (7.48) $5.59$ gal6. 3(V) = Target Purge Volume $14.77$ gal									
			Conversior	factors to	determine \	/ given C			
		D (inches) V (gal / ft)	1-inch 0.041	2-inch 0.163	3-inch 0.37	4-inch 0.65	6-inch 1.5		
Water Quality Readings Collecte	ed Using	YSI-	556/	Hach	21007				
Parameter	Units				Readings				
Time	24 hr	1058	1103	1108	1113	1118	1123	1128	
Water Level (0.33)	feet	26.44	34.87	35.68	36.42	36 93	37.11	37.09	
Volume Purged	gal	_	=1.5	\$ 2.8	343	*56	27.1	~ 8.4	
Flow Rate	mL/min	500	500	450	500	450	500	500	
Turbidity (+/- 10%)	NTU	>1,000	742	533	301	314	327	329	
Dissolved Oxygen (+/- 10%)	%	7.29	9.7	9,1	6.4	5.8	5.4	5.1	
Dissolved Oxygen (+/- 10%)	mg/L	0.74	1.03	0.97	0.68	0.62	0.58	0.55	
Eh / ORP (+/- 10)	MeV	-142.5	-74.7	-617	-55.1	-54.0	-52.5	-51.0	
Specific Conductivity (+/- 3%)	mS/cm ^c	1.308	1.243	1.233	1.186	1.170	1.166	1,160	
Conductivity (+/- 3%)	mS/cm	-	-		-		_		
pH (+/- 0.1)	pH unit	7.54	7.22	7.17	715	7.13	7.11	7.10	
Temp (+/- 0.5)	C.	12.19	1715	12.33	1754	7.13	12.55	12.62	
Color	Visual	black	doudy	cloudy	7.15 12.54 Joudy	cloudy	12.55 Joudy	cloudy	
Odor	Olfactory	none	none	rone	none	none	name	none	
Comments: Sample at	1135	- (vol	is, He	x. Chr	om,, T	CP Md	Page 1 of	1	

URS Page ____ of ___ Job Project No. Sheet _ of __ 5/11/2016 Description Date Computed by ____ Ward Products - Equip. Cal Checked by _ Date Reference <u>1'SI - 556</u> (# 33364) pt(14.0) - 3.96 pH(7.0) - 6.94 pH(10.0) - 9.97 cond. (1,000 ms/cm) - 1,016 ORP (240 mV) - 242 <u>YSI - 556 (#37743)</u> pH(1.0) - 4.02 pH(1.0) - 7.00 pH(10.0) - 10.01 cond. (1,000 ms/cm) - 1,004 ORP(240 mV) - 248

* All Giv samples For VOCS, Hex Chan, and ICP Metals * into treatment system. AECOM observes that to MW-17 (using, peristallic phys) + MKC site Conditions: clear 70°F. Acress thatment slied to restart system. All purge water 0830 AELOM (M. Kuzia Cannel G. Durlaney) on needs to MW-19 (using submersible pump). 1215 All Sampling/gausing complete Parkage up all scuples Return to firstment system RW-Z is displaying a 'llow voltage' alurt upon restart. It appears that RW-2 isn't 1230 AECOM of site to Advardance Labos system shed - shut down GD heads OW Saughing / MW Oscurging - Sample MW-20 at 1135 (MKQ) - Sample MW-18 at 1208 (60) - Sample MW-16 at 1053 (60) - Sample MW-19 at 1010 UNKC - Sample MW-17 at 0944 (60) Ward Products in Albany, NY. "MIN ALICM. / UDIDOT CMMAInd. Project / Client - Sample MW-4R at 1015 (MKd) + Duplicate Sample MW-1R at 1040 (60) + MS/MSD" Vackage up all samples Return to treatment system shed. System is running. Shut down * All GW samples For VOCS, Hex. Chromy site Conditions: clear, 70°F. Aucos treatment system + bugin tasks. (51) heads to MW-11 (using peristallie pump) while WKC gauges system glead to restart system. All purge 0830 AELOM (M. Kuria Camel, 6. Dunlavey) on rulls and sets up on MW-4R (wing AECOM off site to Adimalaik Labs Date Jul tuite Project / Client GW Sampling /MW Bauging Ward Products - Sample MW-15 at 1516 (MKC+6D Sample MW-13 at 1330 (MKC) - Sample Min-11 at 0933/60 Sample MW-10 at 1155 (MKC) Sample MW-14 at 1255 (6D) water into treatment system. and ICP Metals in Albany, NY. ocation / WSILIDIAM, Nº I Submersible pump All 1520 ぶれく



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

# **CHAIN OF CUSTODY RECORD**

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AES Work Order #

Experience is the solution

Client Name:

- 61	A full service	analytical r	esearch labo	ratory offeri	ng solutions to enviro	onmental	concerns
	Address:	750	Apollo	Dese	Chelms Ford	MA	01824

AELO				250	Ap	ollo	De	Je	(	hel	m	store	I MA	01824
Send Report To:	4 1 4		Project N	Name (Location)	te l	And		1	Samp	lers:	(Na	mes)	and b	Dunlavay
Client Phone No.	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	Client Email:	TYVA.	PO N	umber:	709	190 A	CM	Samp	iers:	(Si	gnature	) /	it.
978) 905	- 2112	penniter a	tking B	PON	604	*	Time		PLy	M	P	Number	1	¥2
AES Sample Number	Sam	Client ple Identification	& Location		Da	ate ipled	A=a.m P=p.m	1.	Sample Matrix	Comp	Grab	of Cont's	Ana	alysis Required
	MW-II				5/10/	2016	093	P			×	4	VOLS, H	A. Chiome, CP Metals
	MW- IR						1040	-			×	+	*	1
	MW-4						1140	-			×	4		
		051011		4 051016)			140		112-12-22		×	4		
	MSD	051016	g pere	+ 551016			11-10	23			×	+		
	MW-14			1	-		255	A	SW		x	4		
		2 0510					1015				x	4		
	DUP						-	AP	GW		×	4		
	MW-10	05101	6				1155	(A) P	GW		×	4		
	State and state and	0510					1330	A	GW		×	4		
	MW-15	05101	6		V		1510	A	SW		×	4		V
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Note: Samples r Relinquished b	received after 3:30 pm a by: (Signature)	re considered next	business da	Received	l by: (Sig	gnature)							1	Date/Time
14. h	-API-	Le f	12					_					2	
Relinquished b	y: (Signature)	<		Received	l by: (Si	gnature)								Date/Time
Relinquished b	y: (Signature)			Received	l for Lab	oratory I	by:	-		10040	1		511	Date/Time
			AES	11	12	6.2							P110	1.16 4.04
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Notes:	Ambient or C	hilled Y	N	Notes:	Y	N				P	lote		Y	N
	WHITE - La	b Copy			W - Sam	pler Cop	y						Generator Co	ру

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:	4	Address:	A 1	11.7	1	11.		Ē	V.	+ also
AECON Send Report To:										01824
Send Report 10:	Atkins	Ward	Portur	is (Amster	dans	)	M	Ku	214-6	and 6. Rinlary
<b>Client Phone No</b>	Client E	imail:	PO N	umber:		8	Samp	lers: (	Signature	
(978) 90:	5-2112 jenni	Fir. atking Oale	aw.com	70990A(1	M		Ma	wi	T	h
AES	1	Client		Date	Time A=a.m.	-	Sampte Matrix	E R	Number	
Sample Number	Sample Iden	tification & Location		Sampled	P=p.m.				1	Analysis Required
	MW-19	and the second		5/11/2016	1010	P (	GW	)	+	VOCS Hex. Chion. TCP Metals
	MW-20				1135	P	GW	7		
	MW.17						6W	×	-	
	MW-16	051116			1053	P	GW	)	44	1
	MW-18	051116	_	V	1208	Đ	GW	)	44	V
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Notes:	Ambient or Chilled	Y N	otes:	Y N				No		V N
L	WHITE - Lab Copy	1-1-1	YELLO	W - Sampler Cop	ly	-			PINK -	Generator Copy
			_	vironment	_	rvio	ces,	Inc		



#### Pine Environmental Services, LLC.

405 Cambridge Ave Syracuse, NY 13208 Toll-free: (877) 903-PINE (7463)

### Pine Environmental Services, Inc.

	ent ID 7293 ription HACH 2100P 7	Turbidimeter					10.
Cali	brated 5/3/2016 9:15:	03AM					
	cturer HACH			State Certi			
	umber 2100P				atus Pass		
	er/Lot 06070C017868			Temp	<b>°C</b> 20		
	umber			and here a			
	ocation New York			Humidit	<b>y %</b> 40		
Depa	rtment	er hertest Ans			6. M		
		Calibra	tion Specification	IS			
	Group # 1			Range Acc	% 0.0000		
Gro	up Name Turbidity		F	Reading Acc '	% 3.0000		
Sta	ated Accy Pct of Reading	ng		Plus/Min	us 0.00		
Nom In Val / In Va	<u>In Type</u>	<u>Out Val</u>	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
0.10/0.10	NTU	0.10	NTU	0.10	0.10	0.00%	Pass
20.00 / 20.00	NTU	20.00	NTU	20.00	20.00	0.00%	Pass
100.00 / 100.00	NTU	100.00	NTU	100.00	100.00	0.00%	Pass
800.00 / 800.00	NTU	800.00	NTU	800.00	800.00	0.00%	Pass
Test Instruments	Used During the Calibi	ration			(As (	Of Cal Entr	v Date)
	Description	<u>Manufacturer</u>	<u>Model Number</u>	<u>Serial Nu</u> Lot Num	<u>mber /</u> ber Last (		xt Cal Date
NYS TURB <0.1 NTU - 45124	<0.1 NTU TURBIDITY STANDARD	' HACH	WQA90598		<u>Open</u>		31/2016
NYS TURB 100 NTU - A5169	100 NTU TURBIDITY STANDARD	НАСН	WQA90598	A5169		9/2	30/2016
NTU - A5170	20 NTU TURBIDITY STANDARD	-	WQA90598			9/3	30/2016
NYS TURB 800 - A5169	800 NTU TURBIDITY STANDARD	НАСН	WQA90598			9/3	30/2016

Notes about this calibration

Calibration Result Calibration Successful Who Calibrated Joseph P. Burkhart

Pine Environmental Services, LLC., Windsor Industrial Park, 92 North Main Street, Bldg 20, Windsor, NJ 08561, 800-301-9663 www.pine-environmental.com



#### Pine Environmental Services, LLC.

405 Cambridge Ave Syracuse, NY 13208 Toll-free: (877) 903-PINE (7463)

#### Pine Environmental Services, Inc.

Instrument ID 7293 Description HACH 2100P Turbidimeter Calibrated 5/3/2016 9:15:03AM

All instruments are calibrated by Pine Environmental Services, LLC. according to the manufacturer's specifications, but it is the customer's responsibility to calibrate and maintain this unit in accordance with the manufacturer's specifications and/or the customer's own specific needs.

Notify Pine Environmental Services, LLC. of any defect within 24 hours of receipt of equipment Please call 866-960-7463 for Technical Assistance



#### **Pine Environmental Services, LLC.**

405 Cambridge Ave Syracuse, NY 13208 Toll-free: (877) 903-PINE (7463)

### Pine Environmental Services, Inc.

Descri	nt ID 27206 ption HACH 2100P T rated 5/3/2016 9:14:2	-						
	turer HACH			State Certifie				
	mber 2100P							
	/ Lot 930900003749			Temp °	<b>C</b> 20			
March	mber ation New York			Humidity 9	/ 10			
Depart				Humany	/0 40			
Depart	ment	cul India (199	The Cast Units	hearth Sole	9			
		Calibra	tion Specification	ns				
(	Group # 1			Range Acc %	0.000	0		
Grou	p Name Turbidity		I	Reading Acc %	3.000	0		
Stat	ed Accy Pct of Readin	ıg		Plus/Minus	0.00			
<u>Nom In Val / In Val</u>	<u>In Type</u>	<u>Out Val</u>	Out Type	Fnd As	Lft As	5	Dev%	Pass/Fail
0.10/0.10	NTU	0.10	NTU	0.10	0.10		0.00%	Pass
20.00 / 20.00	NTU	20.00	NTU	20.00	20.00	1	0.00%	Pass
100.00 / 100.00	NTU	100.00	NTU	100.00	100.0		0.00%	Pass
800.00 / 800.00	NTU	800.00	NTU	800.00	800.0	0	0.00%	Pass
Test Instruments II	sed During the Calibi	etion					Col Entr	v Date)
Test mistruments 0	seu During the Canor	ation		Serial Numl	-	ASUL		ext Cal Date /
Test Standard ID D	escription	<u>Manufacturer</u>	Model Number	Lot Number		Last Cal		piration Date
NYS TURB <	0.1 NTU TURBIDITY				9	Opened		21/2016
	TANDARD	НАСН	WQA90598				8/.	31/2016
A5124	ΙΑΝΔΑΚΔ							
	00 NTU TURBIDITY	НАСН	WQA90598	A5169			9/2	30/2016
	TANDARD							
	0 NTU TURBIDITY	HACH	WQA90598				9/3	30/2016
	TANDARD							
	00 NTU TURBIDITY	HACH	WQA90598				9/:	30/2016
- A5169 S	TANDARD							

Notes about this calibration

Calibration Result Calibration Successful Who Calibrated Joseph P. Burkhart

Pine Environmental Services, LLC., Windsor Industrial Park, 92 North Main Street, Bldg 20, Windsor, NJ 08561, 800-301-9663 www.pine-environmental.com



#### Pine Environmental Services, LLC.

405 Cambridge Ave Syracuse, NY 13208 Toll-free: (877) 903-PINE (7463)

#### Pine Environmental Services, Inc.

Instrument ID 27206 Description HACH 2100P Turbidity meter Calibrated 5/3/2016 9:14:25AM

All instruments are calibrated by Pine Environmental Services, LLC. according to the manufacturer's specifications, but it is the customer's responsibility to calibrate and maintain this unit in accordance with the manufacturer's specifications and/or the customer's own specific needs.

Notify Pine Environmental Services, LLC. of any defect within 24 hours of receipt of equipment Please call 866-960-7463 for Technical Assistance



#### Pine Environmental Services, LLC.

405 Cambridge Ave Syracuse, NY 13208 Toll-free: (877) 903-PINE (7463)

### Pine Environmental Services, Inc.

Instrument	I <b>D</b> 33364				101 X 1	d another to	and a second program.
Description	on YSI 556						
Calibrat	ed 5/3/2016 9:	12:10AM					
Manufactur	er YSI			State Certifie	d		
Model Numb	er 556			Statu	is Pass		
Serial Number/ L	ot 151100158			Temp °	C 20		
Numb	er						
Locatio	on New York			Humidity %	<b>%</b> 40		
Departme	nt	1.1.0010.20			N THEN	27.5	
		Cal	ibration Specific	ations	09.00	ZYR US	āv op šķi
a de la competition de la comp		Cal	ioration Specific				
	oup # 1			Range Acc %			
-	ame pH			Reading Acc %			
Stated	Accy Plus / Mi	nus		Plus/Minus	0.20		
<u>Nom In Val / In Val</u>	<u>In Type</u>	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
4.00 / 4.00	PH	4.00	PH	4.00	4.00	0.00%	Pass
7.00 / 7.00	PH	7.00	PH	7.00	7.00	0.00%	Pass
10.00 / 10.00	РН	10.00	РН	10.00	10.00	0.00%	Pass
	oup # 2			Range Acc %	0.0000		
Group N	Name Conducti	vity		Reading Acc %	1.0000		
Stated	Accy Pct of Re	ading		Plus/Minus	0.000		
<u>Nom In Val / In Val</u>	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
1.413 / 1.413	ms/cm	1.413	ms/cm	1.413	1.413	0.00%	Pass
Gro	oup# 3			Range Acc %	0.0000		
	Name ORP			Reading Acc %	0.0000		
Stated	Accy Plus / Mi	inus		Plus/Minus	20.00		
Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
240.00 / 240.00	mv	240.00	mv	240.00	240.00	0.00%	Pass
Gro	oup#4			Range Acc %	0.0000		
Group N	Name Dissolve	d Oxygen Spar	1	Reading Acc %	2.0000		
Stated	Accy Pct of Re	ading		Plus/Minus	0.00		
<u>Nom In Val / In Val</u>	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
100.00 / 100.00	%	100.00	%	100.00	100.00	0.00%	Pass

Pine Environmental Services, LLC., Windsor Industrial Park, 92 North Main Street, Bldg 20, Windsor, NJ 08561, 800-301-9663 www.pine-environmental.com



#### Pine Environmental Services, LLC.

405 Cambridge Ave Syracuse, NY 13208 Toll-free: (877) 903-PINE (7463)

### Pine Environmental Services, Inc.

Instrument ID 33364 Description YSI 556 Calibrated 5/3/2016 9:12:10AM

Test Instruments	Used During the Calib	ration			(As Of Cal Entry Date)
Test Standard ID	Description	<u>Manufacturer</u>	Model Number	<u>Serial Number /</u> Lot Number	<u>Next Cal Date /</u> Last Cal Date/ Expiration Date Opened Date
NYS COND 1.413 - 5GF613	NYS COND 1.413	AquaPhoenix Scientific		5GF613	6/30/2016
NYS DO ZERO	NYS DO ZERO	EMD	WQA90122	201023821	
NYS ORP 240 - 8039	NYS ORP 240 - 6448	Hanna	240 MV	8039	9/30/2019
NYS PH 10 - 4AC399	NYS PH 10 - 4AC399	VWR	SL1007-5G	4AC399	3/31/2016
NYS PH 4 - 4AB415	ROC PH 4 Standard 4AE330	AquaPhoenix Scientific	SL1004-5G	4AE330	5/31/2016
NYS PH 7 - 4AI882	NYS PH 7 - 4A1882	VWR	SL1007-5G	4A1882	9/30/2016

Notes about this calibration

Calibration Result Calibration Successful Who Calibrated Joseph P. Burkhart

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#### Pine Environmental Services, LLC.

405 Cambridge Ave Syracuse, NY 13208 Toll-free: (877) 903-PINE (7463)

### Pine Environmental Services, Inc.

Instrument I							120
-	on YSI 556						
Calibrate	ed 5/3/2016 9	:13:53AM					
Manufacture	er YSI			State Certifie	d		
Model Numbe	er 556			Statu	s Pass		
Serial Number/ Lo				Temp °	C 20		
Numbe		het.					
	on New York			Humidity %	<b>6</b> 40		
Departme	nt				·	100	
		Cali	bration Specific:	ations			
Gro	up# 1			Range Acc %	0 0000		
	lame pH			Reading Acc %			
	Accy Plus / M	inus		Plus/Minus			
Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
7.00 / 7.00	PH	7.00	PH	7.00	7.00	0.00%	Pass
4.00 / 4.00	PH	4.00	РН	4.00	4.00	0.00%	Pass
10.00 / 10.00	PH	10.00	PH	10.00	10.00	0.00%	Pass
Gro	oup#2			Range Acc %	0.0000	(1), <u>e</u> s pel	
Group N	lame Conduct	ivity		Reading Acc %	1.0000		
Stated A	Accy Pct of Re	eading		Plus/Minus	0.000		
<u>Nom In Val / In Val</u>	<u>In Type</u>	<u>Out Val</u>	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
1.413 / 1.413	ms/cm	1.413	ms/cm	1.413	1.413	0.00%	Pass
Gro	oup#3		interes have provide	Range Acc %	0.0000	o Bang P	
	ame ORP			Reading Acc %			
Stated /	Accy Plus / M	inus		Plus/Minus	20.00		
<u>Nom In Val / In Val</u>	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
240.00 / 240.00	mv	240.00	mv	240.00	240.00	0.00%	Pass
Gro	oup#4			Range Acc %	0.0000		
•		ed Oxygen Span		Reading Acc %	2.0000		
Stated A	Accy Pct of Re	eading		Plus/Minus	0.00		
<u>Nom In Val / In Val</u>	<u>In Type</u>	<u>Out Val</u>	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
100.00 / 100.00	%	100.00	%	100.00	100.00	0.00%	Pass

Pine Environmental Services, LLC., Windsor Industrial Park, 92 North Main Street, Bldg 20, Windsor, NJ 08561, 800-301-9663 www.pine-environmental.com



#### Pine Environmental Services, LLC.

405 Cambridge Ave Syracuse, NY 13208 Toll-free: (877) 903-PINE (7463)

### Pine Environmental Services, Inc.

 Instrument ID
 32743

 Description
 YSI 556

 Calibrated
 5/3/2016
 9:13:53AM

Test Instruments	Used During the Calib	<u>ration</u>			(As Of Cal Entry Date)
Test Standard ID	<b>Description</b>	<u>Manufacturer</u>	Model Number	<u>Serial Number /</u> Lot Number	<u>Next Cal Date /</u> Last Cal Date/ Expiration Date Opened Date
NYS COND 1.413 - 5GF613	NYS COND 1.413	AquaPhoenix Scientific		5GF613	6/30/2016
NYS DO ZERO	NYS DO ZERO	EMD	WQA90122	201023821	
NYS ORP 240 -	NYS ORP 240 - 6448	Hanna	240 MV	8039	9/30/2019
8039 NYS PH 10 - 4AC399	NYS PH 10 - 4AC399	VWR	SL1007-5G	4AC399	3/31/2016
NYS PH 4 -	ROC PH 4 Standard	AquaPhoenix	SL1004-5G	4AE330	5/31/2016
4AB415	4AE330	Scientific			
NYS PH 7 - 4A1882	NYS PH 7 - 4A1882	VWR	SL1007-5G	4A1882	9/30/2016

Notes about this calibration

Calibration Result Calibration Successful Who Calibrated Joseph P. Burkhart

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#### Well Gauging Form 61 Edson Street, Amsterdam, NY NYSDEC Site #4-029-004

8/18/16

Sampling Dates:

Monitoring Well	Top of Casing Elevation (ft msl)	Depth to Water (ft bgs)	Condition of Well*
MW-1	471.55	4.27	Good, no cap
MW-1R	471.46	4.43	Good no cap
MW-2	471.20	19.85	No Bolfs
MW-3	473.03	9.40	No Bolts, cap
MW-4	470.17	7.90	Good, NU Bolts, well open, no cap
MW-4R	470.29	19.32	Good, No Bolts
MW-5	475.62	17.48	Good, No Cap
MW-6	470.97	4-27	Good, No Cap
MW-7	469.14	17.88	No Bolts, Cap
MW-8	467.38	15.35	No cap, botts
MW-9	465.43	17.90	No eqp, bolto
MW-10	466.77	19.20	No Bolts
MW-11 🔀	485.37	16.73	
MW-12	468.18	20.88	No Tolto
MW-13	462.12	15.95	NO Balte
MW-14	453.66	13.15	No cap
MW-15	445.20	11.50	Good
MW-16	449.50	23.03	Good
MW-17	450.84	9.70	Good, hard to find
MW-18	463.76	23.22	
MW-19	441.64	12.70	Good
MW-20	442.38	25.00	No Golfs
RW-01	472.08	45.05	Good
RW-02	465.57	19.15	Grood

*Describe the condition of each monitoring well and if there are any issues to address (condition of the pad, cover, casing, lock)

Amsterdamate: $3/18/2016$ armul, Ross M'Grady/QC Collected?MS MSD/QC Collected?MS MSD// feet $1-inch 0.08$ // feet $2-inch 0.17$ // feet $3-inch 0.25$ // feet $4-inch 0.33$ // feet $6-inch 0.50$
Armel, Ross McGredy AC Collected? MS MSD - Flow H feet 17 feet 13 feet 1.inch 0.08 2.inch 0.17 3.inch 0.25 4.inch 0.33
AC Collected? MS MSD - Flow - Flow
Heet       D (inches)       D (feet)         1       feet       1-inch       0.08         13       feet       2-inch       0.17         51       feet       3-inch       0.25         2.2pgal       4-inch       0.33
feetD (inches)D (feet)feet1-inch0.08feet2-inch0.17feet3-inch0.25a.zpgal4-inch0.33
7         feet         1-inch         0.08           43         feet         2-inch         0.17           51         feet         3-inch         0.25           2.2pgal         4-inch         0.33
rs to determine V given C
2
3-inch         4-inch         6-inch           63         0.37         0.65         1.5
7.00P Readings
0 1045 1050 1055 1100
76 10.58 11.42 12.42 13.99
16 10.28 11.16 16.76 13.1
200 200 200 500
6 6.81 6.47 4.55 11.5
4.20 3.70 3.47 3.76
2 41.5 40.9 40.5 42.8
t9 0.474 0.450 0.504 0.540
5 7.20 7.19 7.18 7.16
03 17.08 17.21 17.00 16.21
at clear clear clear clear
re none none none none

	Monito	oring Well	Purging	/ Sampli	ng Form			
Project Name and Number:		War	+ Prod	ucts				
Monitoring Well Number:		MW	- 24	Date:	8/13/1	'6		
Samplers:		RA	n/mk	C	. /			
Sample Number:		MW-4	081816	QA/QC	Collected?			
Purging / Sampling Method:		Three Well	Volumes	Low-F	low			
<ol> <li>L = Well Depth:</li> <li>D = Riser Diameter (I.D.):</li> <li>W = Depth to Water:</li> <li>C = Column of Water in Well:</li> <li>V = Volume of Water in Well'=</li> <li>3(V) = Target Purge Volume</li> </ol>	= C(3.1415		•	14.41 0.17 7.90 6.51 1.06 3.18	feet feet feet feet	D (inches) 1-inch 2-inch 3-inch 4-inch 6-inch / given C	D (feet) 0.08 0.17 0.25 0.33 0.50	
		D (inches) V (gal / ft)	1-inch 0.041	2-inch 0.163	3-inch 0.37	4-inch 0.65	6-inch 1.5	
Water Quality Readings Collecte Parameter	ed Using <b>Units</b>	YSI	556/H	ach 2100	Readings			
Time	24 hr	1204	1210	1215	1220	1225	1770	
Water Level (0.33)	feet						1230	
		8.68	10.02	10.73	11.63	12.56	13.28	
Volume Purged	gal			100	1.2			
Flow Rate	mL/min	250	200	2.00	250	250	250	
Turbidity (+/- 10%)	NTU	5.54	3.45	8.08	5.87	3.83	3.76	
Dissolved Oxygen (+/- 10%)	%	48.1	43.8	42.4	39.6	29.1	31.9	
Dissolved Oxygen (+/- 10%)	mg/L	4.81	4.39	4.21	3.98	2.92	3.14	
Eh / ORP (+/- 10)	MeV	-0.0	7.3	24.	25.3	24.3	24.7	
Specific Conductivity (+/- 3%)	mS/cm ^c	0.479	0.468	0.470	0.471	0.470	0.469	
Conductivity (+/- 3%)	mS/cm		-	1999	-	-	~	
pH (+/- 0.1)	pH unit	7.14	7.35	7.11	7.14	7.14	7.11	
Temp (+/- 0.5)	C°	7.14	15.24	15.84	15.47	15.14	15.29	
Color	Visual	clear	clear	clear	clear	clear	clear	
Odor	Olfactory	none	none	NOind	Acial	none	noire	
Comments: Sample at (Purge dry at 12		2.25 ga	llans re	mored				
							Page 1 of 1	

110-121

- Second

	Monito	oring Wel	Purging	/ Samplii	ng Form				
Project Name and Number:		Wa	.d Pr	oducts					
Monitoring Well Number:		MW-L	R	Date:	<u>08/18</u>	/16			
Samplers:		RM	/MEC	×					
Sample Number:		MW - 41	2 08/816	QA/QC	Collected?	DUP-	031	316	
Purging / Sampling Method:		Three Well	Volumes						
<ol> <li>L = Well Depth:</li> <li>D = Riser Diameter (I.D.):</li> <li>W = Depth to Water:</li> <li>C = Column of Water in Well:</li> <li>V = Volume of Water in Well =</li> <li>3(V) = Target Purge Volume</li> </ol>	= C(3.14159	9)(0.5D) ² (7.4			feet feet gal gal	D (inches) 1-inch 2-inch 3-inch 4-inch 6-inch	D (feet) 0.08 0.17 0.25 0.33 0.50		
		D (inches) V (gal / ft)	1-inch 0.041	2-inch 0.163	3-inch 0.37	4-inch 0.65	6-inch 1.5		
Water Quality Readings Collecte Parameter	ed Using <b>Units</b>				Readings	-			
Time	24 hr	1211	1216	1221	1226	1231	1236	1241	1246
Water Level (0.33)	feet	19.88	20.10	2023	20.30	20.60	20.62	20.62	20.6L
Volume Purged	gal	0	0.5	0.90	1.5	2.0	2.5	3.0	3.5
Flow Rate	mL/min	< 160	1 G/m	0.1 G/min		u	u		min cloo
Turbidity (+/- 10%)	NTU	40.5	94.2	42.0	23.0	16.5	11.3	10.5	9.8
Dissolved Oxygen (+/- 10%)	%	5.0	3.5	4.4	7.6	10.3	12.8	14.2	15.4
Dissolved Oxygen (+/- 10%)	mg/L	0.52	.35	0.45	0.77	\$ 1.10	1.28	1.40	1.58
Eh / ORP (+/- 10)	MeV	55.9	46.0	63.2	57.4	59.0	67.0	70.2	69.8
Specific Conductivity (+/- 3%)	mS/cm ^c	1.008	1096	1.057	1.662		1.167	1.199	
Conductivity (+/- 3%)	mS/cm	0.863	0.873	0.842	0.842	1.088	0.932	0.948	1.216
pH (+/- 0.1)	pH unit	7.42	-		6.87	6.97	6.99		0.953
Temp (+/- 0.5)	C°		6.76	6.75	14.16	14.38		7.06	14:00
Color	Visual	13.75	Clear	14.40	Clear	cleer	14.50	clecr	elerr
Odor	Olfactory	Cloydy No	No	Grun No	NO			No	NO
		140				No	NO		NO
Comments: S~w	rpled	Q	1246						
				<u></u>			Page 1 of	1	

Test inter

A Busiel

	Monito	oring Well	Purging	/ Samplii	ng Form			
Project Name and Number:		Na	rd Pr	date				
Monitoring Well Number:		MN-1	10 /mkc	Date:	8/18/	16		
Samplers:		RM	IMEC.	ς				
Sample Number:		MW-10	081816	QA/QC	Collected?	No		
Purging / Sampling Method:		Three Well	Volumes					
<ol> <li>L = Well Depth:</li> <li>D = Riser Diameter (I.D.):</li> <li>W = Depth to Water:</li> <li>C = Column of Water in Well:</li> <li>V = Volume of Water in Well =</li> <li>3(V) = Target Purge Volume</li> </ol>	= C(3.1415§	9)(0.5D) ² (7.4		50.22 0.17 19.20 31.02 5.05 15.17	feet feet gal gal	D (inches) 1-inch 2-inch 3-inch 4-inch 6-inch	D (feet) 0.08 0.17 0.25 0.33 0.50	
		D (inches) V (gal / ft)	1-inch 0.041	2-inch 0.163	3-inch 0.37	4-inch 0.65	6-inch 1.5	
Water Quality Readings Collecte	ed Using	YSI	556			-		
Parameter	Units				Readings			
Time	24 hr	1315	1320	1325		1335	1340	1345
Water Level (0.33)	feet	19.22	19.58	19.38	19.38	19.38	19.38	19.28
Volume Purged	gal	0	0.75	1.75	2.5	3.29	4.00	4.5
Flow Rate	mL/min	-	-	-	-	-	-	-
Turbidity (+/- 10%)	NTU	31.4	28.5	29.2	14.7	8.67	8.21	7.80
Dissolved Oxygen (+/- 10%)	%	18.9	4.9	36	4.1	3.4	3.0	2.6
Dissolved Oxygen (+/- 10%)	mg/L	2.00	0.50	0.37	0.43	0.38	0,30	0.29
Eh / ORP (+/- 10)	MeV	23.0	- 19.3	- 1.4	+(.(	2.3	4.4	7.9
Specific Conductivity (+/- 3%)	mS/cm ^c	0.696	6.711	0.709	0.708	6.712	0.714	0.718
Conductivity (+/- 3%)	mS/cm	0.555	0.564	0.560	0.562	0.568	C.570	0.571
pH (+/- 0.1)	pH unit	7.35	7.16	7.02	7.03	7.04	7.07	7.07
Temp (+/- 0.5)	C°	14:56	14.19	14.03	14.20	14.70	14.44	14.38
Color	Visual	Clear	Clear	clerr	clear	clear	clear	17.30 Clear
Odor	Olfactory	No	NO	NO	NO	NO	NO	No
0001								
Comments:		<u> </u>				,		
	mpled	e	(345			1		
							Page 1 of	1

Thereit.

Theorem .

<u>M</u> ₩ <u>Thre</u> .14159)(0.5 .14159)(0.5	$\frac{100 - 11}{100}$ $\frac{100 - 11}{200}$ $\frac{100}{200}$ $\frac{100}{200}$ $\frac{100}{200}$ $\frac{100}{200}$ $\frac{100}{200}$ $\frac{100}{200}$ $\frac{100}{200}$	Y 1616 701umes /	Date: Date: QA/QC Low - Flo. 29.4% 0.17 Ha.73 12.75 2,07 (.21) n factors to 2-inch 0.163 a.ch $Zl$	feet feet gal gal determine V 3-inch 0.37	/2014 M ² Cre N _c D (inches) 1-inch (2-inch 3-inch 4-inch 6-inch	D (feet) 0.08 0.17 0.25 0.33 0.50 6-inch 1.5	
<u>M</u> ₩ <u>Thre</u> .14159)(0.5 .14159)(0.5	$\frac{M_{i}}{M_{i}}$ $\frac{M_{i}}{M$	$\frac{4}{100}$	2.14 - (arrQA/QC) $1 - 29.490.1712.7512.752.076.21m factors to2-inch0.163arch$ $21$	Collected? Collected? feet feet feet gal gal determine V 3-inch 0.37	M Creations N c N c N c N c N c N c N c N c N c N c	D (feet) 0.08 0.17) 0.25 0.33 0.50 6-inch	
<u>Thre</u> .14159)(0.5 .14159)(0.5 .14159)(0.5 .14159)(0.5	$\frac{3-(1  C}{2}$ $\frac{3-(1  C}{2}$ $\frac{3}{(7.48)}$ $\frac{3}{(7.48)}$ $\frac{3}{(7.48)}$	25 (4 / 4	QA/QC 29.49 0,17 12.75 2,07 6.21 n factors to 2-inch 0.163 a.ch $21$	Collected? _feet _feet _feet _gal _gal _determine V 	N _c D (inches) 1-inch (2-inch 3-inch 4-inch 6-inch 7 given C 4-inch	D (feet) 0.08 0.17) 0.25 0.33 0.50 6-inch	
<u>Thre</u> .14159)(0.5 .14159)(0.5 .14159)(0.5 .14159)(0.5	ee Well V 5D) ² (7.48 0 10 10 10 10 10 10 10 10 10 10 10 10 1	2010 2000 1-inch 0.041 25(4 / 4	$   \begin{array}{c}             Low - Fle.             29.49             0,17             He.73             12.75             2,07             ( L_{2})             factors to             2-inch             0.163             e.ch Zl             $	feet feet gal gal determine V 3-inch 0.37	D (inches) 1-inch (2-inch 3-inch 4-inch 6-inch 7 given C 4-inch	0.08 0.17 0.25 0.33 0.50 6-inch	
.14159)(0.5 D (in V (ga sing Y nits	$(5D)^2(7.48)$ $(5D)^2(7.48)$ $(5D)^2(7.48)$ $(5D)^2(7.48)$	2) Conversion 1-inch 0.041 556 / H	$   \begin{array}{c}     29.45 \\     0,17 \\     He.73 \\     I2.75 \\     2.07 \\     (.21) \\     n factors to \\     \hline     2-inct \\     0.163 \\     e.ch Z1   \end{array} $	feet feet gal gal determine V 3-inch 0.37	1-inch (2-inch 3-inch 4-inch 6-inch given C 4-inch	0.08 0.17 0.25 0.33 0.50 6-inch	
D (in V (ga ingY nits	C nches) al / ft) 51 5	Conversion 1-inch 0.041 55(2 / 4	$\begin{array}{c} 0.17 \\ H_{1}.73 \\ 12.75 \\ 2.07 \\ (21) \\ 1.07 \\ 0.163 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ 1.07 \\ $	feet feet gal gal determine V 3-inch 0.37	1-inch (2-inch 3-inch 4-inch 6-inch given C 4-inch	0.08 0.17 0.25 0.33 0.50 6-inch	
v (ga ing ⊥ nits	1ches) al / ft) 51 5	1-inch 0.041 55(5/ H	2-inch 0.163	3-inch 0.37 009	4-inch		
v (ga ing ⊥ nits	al / ft) 51 5	0.041 556 / H	0.163 nch Z	0.37 00P			
nits	125	/					
	125	0935		-			
4 hr I 🗛	125	0935		Readings			
		The second second second second	0945	0955	1005		
eet 18	5.78	23.11	23.19	23,22	23 21		
gal 🚽 -	-					8	
Jmin 🕹	5850	250	250	250	250		
	1.61	5.74	4.25	4.34	4.08		
	49	16.6	14.0	15.2	15.4		
	81	1.50	1,50	1.43	1.63		
lev (2)	19	36.3	28.6	29.5	32.8		
	537	0.525	0.524	0.522	0.525		
	/_//	0.10)		-	0.505		
	00		7.18	7.21	7.16		·
	.31	7.14	11.54	11.53	11.59		
	205	clent	Lear	clear			
			10201		clear	· · · · · · · · · · · · · · · · · · ·	
3		ictory nend			ictory none none none	ictory none none none none none	ictory none none none none

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	Monito	oring Well	Purging	/ Samplin	ng Form			
Project Name and Number:		Wa	d P	iducts			*	
Monitoring Well Number:		MW-1	3	Date:	08/18	/16		
Samplers:			/MEC					
Sample Number:		MW-13	081816	QA/QC	Collected?			
Purging / Sampling Method:		Three Well	Volumes					
<ol> <li>L = Well Depth:</li> <li>D = Riser Diameter (I.D.):</li> <li>W = Depth to Water:</li> <li>C = Column of Water in Well:</li> <li>V = Volume of Water in Well =</li> <li>3(V) = Target Purge Volume</li> </ol>	= C(3.1415	9)(0.5D) ² (7.4		68.78 0.17 15.95 52.8 8.6 26	feet feet gal gal	D (inches) 1-inch 2-inch 3-inch 4-inch 6-inch / given C	D (feet) 0.08 0.17 0.25 0.33 0.50	
		D (inches) V (gal / ft)	1-inch 0.041	2-inch 0.163	3-inch 0.37	4-inch 0.65	6-inch 1.5	
Water Quality Readings Collecte	ed Using <b>Units</b>				Readings	-		
Time	24 hr	1405	1410	145	1420	1425	1430	1435
Water Level (0.33)	feet	17.10	18.70	19.00	19.55	19.60	19.62	19.63
Volume Purged	gal	0	0.5	0.75	1.00	1.50	1.90	2.3
Flow Rate	mL/min	-	-	-	-	-	-	-
Turbidity (+/- 10%)	NTU	12.9	11.4	11.2	14.5	13.2	12.7	[[.1]
Dissolved Oxygen (+/- 10%)	%	80	2.0	3.3	4.5	0.9	0.9	6.9
Dissolved Oxygen (+/- 10%)	mg/L	0.39	0.31		0.46	0.09	0.09	0.09
Eh / ORP (+/- 10)	MeV	- 39.1	- 61.4	0.37	- 83.2	- 88.3	- 87.4	-86.1
Specific Conductivity (+/- 3%)	mS/cm ^c	0.502	0.596	0.617	0.628	0.632	0. 623	0.618
Conductivity (+/- 3%)	mS/cm	0.792	0.447	0.520	0.520	0.510	0.500	0.488
pH (+/- 0.1)	pH unit	7.19	7.21	7.17	7.20	7.19	7.16	7.12
Temp (+/- 0.5)	C°	13.82	14.54	16.70	1606	15.80	15.32	14.92
Color	Visual	clear	Clear	Clear	Clear	clear	clear	cher
Odor	Olfactory	No	No	No	NU	NO	NO	NO
S. Ya	5 Groot	Q Sub prom et dia	p would	hard	pomp to go	e a :t th	Slow Page 1 of	1
he	ter L	erol de	, stal	te				

	Monito	oring Well	Purging	/ Sampli	ng Form			
Project Name and Number:		Na.	d Pro	ducts				
Monitoring Well Number:		MW-I	4	Date:	8/9/	116		
Samplers:		RM	n/mE					
Sample Number:		MW-14	931916	QA/QC	Collected?			
Purging / Sampling Method:		Three Well	Volumes	_				
<ol> <li>L = Well Depth:</li> <li>D = Riser Diameter (I.D.):</li> <li>W = Depth to Water:</li> <li>C = Column of Water in Well:</li> <li>V = Volume of Water in Well =</li> <li>3(V) = Target Purge Volume</li> </ol>		9)(0.5D) ² (7.4	8)	60.54 0.17 13.15 47.39 7.7 2.3	feet feet feet gal gal	D (inches) 1-inch 2-inch 3-inch 4-inch 6-inch	D (feet) 0.08 0.17 0.25 0.33 0.50	
		D (inches)	Conversion	2-inch	determine \	/ given C 4-inch	6-inch	1
Water Quality Readings Collecte	ed Using	V (gal / ft)	0.041	0.163	0.37	0.65	1.5	
Parameter	Units				Readings			
Time	24 hr	1058	1103	1108	1113	1118	1123	1128
Water Level (0.33)	feet	14.67	16.70	17.78	18.23	18.62	18.87	18.97
/olume Purged	gal				41			
Flow Rate	mL/min	200	200	150	150	150	100	100
Furbidity (+/- 10%)	NTU	7.40	3.71	3.96	7.54	2,43	8.35	2.96
Dissolved Oxygen (+/- 10%)	%	44.2	34,4	34.3	36.5	35.9	383	36.2
Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10)	mg/L	7.58	3.80	3.80	3.74	3.66	3.87	3.67
	MeV	210.4	174.5	217.3	171.9	1226	85.3	67.5
Specific Conductivity (+/- 3%)	mS/cm ^c	0.947	0.447	0.449	0.948	0.454	0.956	0.960
Conductivity (+/- 3%) bH (+/- 0.1)	mS/cm		-	-74		-		-
Temp (+/- 0.5)	pH unit C°	7.27	7.34	7.38	7.41	7.44	7.43	7.41
Color	Visual	15.61	13.15	13.23	14.22	14.29	14.66	14.47
Odor	Olfactory	clear	clear	clear	clear	clear	clear	clear
	Ollactory	non	non	none	none	none	noir	nane
Comments: Sample O	1135							

Project Name and Number: Monitoring Well Number:		Wa	urd Tra	oducts						
Monitoring Well Number:										
<b>–</b>		MW-	-15	_ Date:	08/19	/16	- 1997-10			
Samplers:		RM	/mtc							
Sample Number:		MW - 15		QA/QC	Collected?	_				
Purging / Sampling Method:		Three Wel	l Volumes							
<ol> <li>L = Well Depth:</li> <li>D = Riser Diameter (I.D.):</li> <li>W = Depth to Water:</li> <li>C = Column of Water in Well:</li> <li>V = Volume of Water in Well =</li> <li>3(V) = Target Purge Volume</li> </ol>		9)(0.5D) ² (7.4	·	54.49 0.17 11.50 48.99 7.00 21.00	_ feet _ feet _ feet _ gal _ gal	D (inches 1-inch 2-inch 3-inch 4-inch 6-inch	) D (feet) 0.08 0.17 0.25 0.33 0.50			
			Conversio	on factors to	determine	V given C				
		D (inches) V (gal / ft)	1-inch 0.041	2-inch 1 0.163	3-inch 0.37	4-inch 0.65	6-inch 1.5	]		
Water Quality Readings Collecte	ed Using	V (gal / ft)		1 0.163		0.65				
Parameter	Units	V (gal / ft)	0.041	1 0.163	0.37	0.65		]		
Parameter Time	Units 24 hr	V (gal / ft)	0.041 556 A	1 0.163	0.37 tach 210 Readings	0.65		/045	1050	1055
Parameter Time Water Level (0.33)	Units 24 hr feet	V (gal / ft)	0.041 356 A	1 0.163	0.37	0.65	1.5	1045 20.90	1050 20.93	
Parameter Time Water Level (0.33) Volume Purged	Units 24 hr feet gal	V (gal / ft)	0.041 556 A	1 0.163	0.37 tach 210 Readings	0.65 • <b>F</b>	1.5			
Parameter Time Water Levei (0.33) Volume Purged Flow Rate	Units 24 hr feet gal mL/min	V (gal / ft) yCT 10(5 12.70 0	0.041 556 A 1020 15.20 .5	1 0.163	0.37 hach 210 Readings 1030 19.08	0.65 • F /03r 19.40	1.5 1.5 20.50	20.90	20.93	20.9
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%)	Units 24 hr feet gal mL/min NTU	V (gal / ft) yCT 10 (s 12 .70 0 - 28.6	0.041 356 A	1 0.163	0.37 Charlen 2 10 Readings 10.08 2.0	0.65 0.65 0.65 0.65 0.65 0.65 0.65 0.65	1.5 20.50 3.8 -	20.90	20.93	20.9
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%)	Units 24 hr feet gal mL/min NTU %	V (gal / ft) YCT 10 (5 12 . 70 0 - 28.6 6.1	0.041 556 A 1020 15.20 .5	1 0.163	0.37 Readings 10.30 19.08 2.0 	0.65 03r 19.40 2.8	1.5 20.50 3.8	20.90	20.93 5.0 -	20.9
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%)	Units 24 hr feet gal mL/min NTU % mg/L	V (gal / ft) ycT 1015 12.70 0 28.6 6.1 0.65	0.041 556 A 1020 15.20 .5 - 21.7 0.9 0.09	1 0.163 1 0.163 1 0.2c 1 0.2c 1 0.2c 1 0.2c 1 0.2c 1 0.2c 1 0.2c 1 0.2c 2 4.5c 2 .0c	0.37 Readings /030 19.08 2.0 	0.65 03r 19.40 2.8 - 27.0	1.5 20.50 3.8 - 18.2 0.6	20.90 4.2 - 16.3 0.8	20.93 5.0 - 15.0	20.98
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10)	Units 24 hr feet gal mL/min NTU % mg/L MeV	V (gal / ft) YCT 10 (5 12 . 70 0 - 28.6 6.1	0.041 556 A 1020 15.20 .5 - 21.7 0.9	1 0.163	0.37 Readings 10.30 19.08 2.0 	0.65 0.65 10.3r 19.40 2.8 - 27.0 0.3	1.5 20.50 3.8 -	20.90 4.2 - 16.3 0.8 0.09	20.93 5.0 - 15.0 9.8 0.00	20.9
Parameter Time Water Levei (0.33) Volume Purged Flow Rate	Units 24 hr feet gal mL/min NTU % mg/L	V (gal / ft) ycT 1015 12.70 0 - 28.6 6.1 0.45 -3.3	0.041 556 A 1020 15.20 .5 - 21.7 0.9 0.09 .58.6	1 0.163 NPS 1 102c 1(6.20 1.2 24.5 2.0 0.19 -64.1	0.37 Readings 10.30 19.08 2.0 - 39.1 2.0 0.22 - 53.8	0.65 0.65 0.35 19.40 2.8 - 27.0 0.3 0.03 -67.3	1.5 20.50 3.8 - 18.2 0.6 0.06 -70.3	20.90 4.2 - 16.3 0.8 0.09 - 68.8	20.93 5.0 - 15.0 0.8 0.08 -74:9	20.98 6.0 - - - - - - - - - - - - - - - - - - -
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10)	Units 24 hr feet gal mL/min NTU % mg/L MeV	V (gal / ft) yCT 1015 12.70 0 - 28.6 6.1 0.45 -3.3 1.179	0.041 556 A 1020 15.20 .5 - 21.7 0.9 0.09 .58.6 1.184	1 0.163 NPS 1 102c 16.20 1.2 24.5 2.0 0.19 -64.1 1.187	0.37 Readings 10.08 2.0 - 39.1 2.0 0.22 -53.8 0.673	0.65 0.65 0.35 11.40 2.8 - 27.0 0.03 -67.3 1.171	1.5 1.5 20.50 3.8 - 18.2 0.6 0.06 -70.3 (.170	20.90 4.2 - 16.3 0.8 0.09 - 68.8 1.166	20.93 5.0 - 15.0 0.8 0.00 -74.9 0.17	2019 6.0 - - - - - - - - - - - - - - - - - - -
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity (+/- 3%) Conductivity (+/- 3%)	Units 24 hr feet gal mL/min NTU % mg/L MeV mS/cm ^c	V (gal / ft) yCT 1015 12.70 0 - 28.6 6.1 0.65 -35.3 1.179 0.941	0.041 556 A 1020 15.20 .5 - 21.7 0.9 0.09 .58.6 1.184 0.936	1 0.163 NPS 1 102c 1(6.20 1.2 24.5 2.0 0.19 -64.1	0.37 Readings 10.30 19.08 2.0 	0.65 0.65 0.35 11.40 2.8 - 27.0 0.03 -67.3 1.171 0.93	1.5 1.5 20.50 3.8 - 18.2 0.6 0.6 -70.3 1.170 0.926	20.90 4.2 - 16.3 0.8 0.09 - 68.8 1.166 0.931	20.93 5.0 - 15.0 0.8 0.08 -74.9 0.179 0.179	2019 6.0 - 14.1 0.7 0.57 - 73 1.174 0.90
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity (+/- 3%) Conductivity (+/- 3%) DH (+/- 0.1) Temp (+/- 0.5)	Units 24 hr feet gal mL/min NTU % mg/L MeV mS/cm ^c mS/cm	V (gal / ft) yCT 1015 12.70 0 - 28.6 6.1 0.45 -35.3 1.179 0.941 7.13	0.041 556 A 1020 15.20 .5 - 21.7 0.9 0.09 .58.6 1.184 0.936 7.04	1 0.163 1 0.163 1 0.163 1 0.2 c 1 (6.2 o 1.2 - 24.5 2.0 0.19 - 64.1 1.187 0.960 6.94	0.37 Readings 10.30 19.08 2.0 0.22 -53.8 0.673 0.540 6.67	0.65 0.65 10.35 11.40 2.8 - 27.0 0.03 -67.3 1.171 0.93 6.90	1.5 1.5 20.50 3.8 - 18.2 0.6 0.06 -70.3 1.170 0.926 6.96	20.90 4.2 - 16.3 0.8 0.09 - 68.8 1.166 0.931 6.94	20.93 5.0 - 15.0 0.8 0.00 -74.9 0.17 0.937 6.937	20.98 6.00 
Parameter Time Water Level (0.33) Volume Purged Flow Rate Turbidity (+/- 10%) Dissolved Oxygen (+/- 10%) Dissolved Oxygen (+/- 10%) Eh / ORP (+/- 10) Specific Conductivity (+/- 3%) Conductivity (+/- 3%) DH (+/- 0.1)	Units 24 hr feet gal mL/min NTU % mg/L MeV mS/cm ^c mS/cm pH unit	V (gal / ft) yCT 1015 12.70 0 - 28.6 6.1 0.65 -35.3 1.179 0.941	0.041 556 A 1020 15.20 .5 - 21.7 0.9 0.09 .58.6 1.184 0.936	1 0.163 APS 1 102c 16.20 1.2 - 24.5 2.0 0.19 -64.1 1.187 0.960	0.37 Readings 10.30 19.08 2.0 	0.65 0.65 0.35 11.40 2.8 - 27.0 0.03 -67.3 1.171 0.93	1.5 1.5 20.50 3.8 - 18.2 0.6 0.6 -70.3 1.170 0.926	20.90 4.2 - 16.3 0.8 0.09 - 68.8 1.166 0.931	20.93 5.0 - 15.0 0.8 0.08 -74.9 0.179 0.179	20.98 6.00 

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C(3.1415	MW-16	/Mcc OBIGIL6 Volumes 8) Conversion 1-inch 0.041	Date: QA/QC 67.co 0.17 23.oz 43.97 7.17 2(.5 1 factors to 2-inch 0.163	Collected? feet feet feet gal	D (inches) 1-inch 2-inch 3-inch 4-inch 6-inch	D (feet) 0.08 0.17 0.25 0.33 0.50 6-inch 1.5	
C(3.1415	<u>RM</u> <u>MWJ - 16</u> Three Well 9)(0.5D) ² (7.4 D (inches) V (gal / ft)	/Mcc OBIGIL6 Volumes 8) Conversion 1-inch 0.041	QA/QC 67.00 0.17 23.02 43.97 7.17 21.5 n factors to 2-inch 0.163	Collected? feet feet gal gal determine \ 3-inch	D (inches) 1-inch 2-inch 3-inch 4-inch 6-inch / given C 4-inch	0.08 0.17 0.25 0.33 0.50 6-inch	
C(3.1415	<u>RM</u> <u>MWJ - 16</u> Three Well 9)(0.5D) ² (7.4 D (inches) V (gal / ft)	/Mcc OBIGIL6 Volumes 8) Conversion 1-inch 0.041	QA/QC 67.00 0.17 23.02 43.97 7.17 21.5 n factors to 2-inch 0.163	Collected? feet feet gal gal determine \ 3-inch	D (inches) 1-inch 2-inch 3-inch 4-inch 6-inch / given C 4-inch	0.08 0.17 0.25 0.33 0.50 6-inch	
C(3.1415	<u>Three Well</u> 9)(0.5D) ² (7.4 D (inches) V (gal / ft)	Volumes 8) Conversior 1-inch 0.041	67.00 0.17 23.02 43.97 7.17 21.5 1 factors to 2-inch 0.163	feet feet feet gal gal determine \ 3-inch	D (inches) 1-inch 2-inch 3-inch 4-inch 6-inch / given C 4-inch	0.08 0.17 0.25 0.33 0.50 6-inch	
C(3.14159	9)(0.5D) ² (7.4 D (inches) V (gal / ft)	8) Conversior 1-inch 0.041	<b>c.17</b> <b>25.03</b> <b>43.97</b> <b>7.17</b> <b>2(.5</b> a factors to 2-inch 0.163	feet feet gal gal determine \	1-inch 2-inch 3-inch 4-inch 6-inch / given C 4-inch	0.08 0.17 0.25 0.33 0.50 6-inch	
C(3.1415	D (inches) V (gal / ft)	Conversion 1-inch 0.041	<b>c.17</b> <b>25.03</b> <b>43.97</b> <b>7.17</b> <b>2(.5</b> a factors to 2-inch 0.163	feet feet gal gal determine \	1-inch 2-inch 3-inch 4-inch 6-inch / given C 4-inch	0.08 0.17 0.25 0.33 0.50 6-inch	
	V (gal / ft)	1-inch 0.041	2-inch 0.163	3-inch	- 4-inch		
	YSI. "	551./1.					
Using		<u>, , , , , , , , , , , , , , , , , , , </u>	ch 2100		-		
Units	167.7		al und	Readings	2000	( ) ) )	1.3.4.00
24 hr	0935	0940	0945	0450	0955	1000	1005
feet	24.57	26.30	26.80	21,03	27.11	27.17	27.15
gal			0.50	21.2		a.co	
mL/min	250	250	250	250	250	250	250
NTU	4.97	2.56	2,07	143	2.18	1.97	2.03
%	39.1	32.9	28.9	24,2	30.8	31.2	30.3
mg/L	4.34	3,59	3.10	3.21	3.37	3.49	3.25
MeV	223.4	229.1	209.4	203.6	1952	193.9	196.6
mS/cm ^c	0.214	0.215	0.212	0.210	0.210	0.211	0:212
mS/cm	-		-	-	-	-	-
pH unit	6.80	6.56	6.37	6.37	6.40	6,42	6.40
C°	6.30	11.03	11.07	11.12	11.18	11.20	11.23
Visual	cloudy	clear	clear	clear	clear	elear	iliar
Olfactory	none	nom	non	none	none	Nom	none
	MED	. )	eristaltic	PUMP.	Insuffici	ent NFf	
-	100-	100 TMKD	100 - (Mr)	too fred ample at 1007 w/ peristaltie	imple at 1007 w/ peristaltic pump.	ample at 1007 w/ peristaltic pump. Insufficia	100-1007 w/ peristaltic pump. Insufficient liFt. w/ submersible pump

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	Monito	oring Well	Purging	/ Sampli	ng Form			
⊃roject Name and Number:		W	.J To	odrete				
Nonitoring Well Number:		MW-1	7 0811416	- Date:	8/1/	6		
Samplers:		RM	1 Mkc	-				
Sample Number:			08 1416	QA/QC	Collected?	No		
Purging / Sampling Method:		Three Well	Volumes /	Low- F	Ten Saw	pline	_	
<ol> <li>L = Well Depth:</li> <li>D = Riser Diameter (I.D.):</li> <li>W = Depth to Water:</li> <li>C = Column of Water in Well:</li> <li>V = Volume of Water in Well</li> <li>3(V) = Target Purge Volume</li> </ol>		9)(0.5D) ² (7.4		66.31 0.17 9.20 56.61 9.22 28	feet feet feet gal gal determine V	D (inches) 1-inch 2-inch 3-inch 4-inch 6-inch	D (feet) 0.08 0.1 0.25 0.33 0.50	
		D (inches) V (gal / ft)	1-inch 0.041	2-inch	3-inch 0.37	4-inch 0.65	6-inch 1.5	
Water Quality Readings Collect	-	Y52 · ·	550/Ha 27)	uh 210				
Parameter Time	Units 24 hr	A.4.20	091-	A5/212	Readings	0450	6000	0414
Water Level (0.33)	feet	0530	0875	0840	0545	0850	0900	0910
Volume Purged	gal	10.32	1.2.71	17.15	10.00	14.00	2,5	10.11
Flow Rate	mL/min	350	300	250	250	200	200	200
Turbidity (+/- 10%)	NTU	7.00	6.71	3.41	2.89	5.65	4.73	5.08
Dissolved Oxygen (+/- 10%)	%	67.2	10.2	9.9	10.4		1.17 4.4	9.7
Dissolved Oxygen (+/- 10%)	mg/L	6.31	10.21.10	1.06	1.1	10.7	0.95	1.03
Eh / ORP (+/- 10)	MeV	- 20.0	-35.3	-45.3	- 47.4	-47.7	-46.2	-50,1
Specific Conductivity (+/- 3%)	mS/cm ^c	0.278	0.205	0.200	0.200	0.200	0.200	0 200
Conductivity (+/- 3%)	mS/cm	0.210	0.10)	0.000		0.60	0.200	-
pH (+/- 0.1)	pH unit	4.16	5.74	5.90	6.01	6.04	6.15	6.09
Temp (+/- 0.5)	C°	12.38	12,07	12,19	12.28	12.37	12.49	12.42
Color	Visual	clear	1 Lear Sulfur	clear	clear	CHAT	dear sulfur	eller Sulfur
	Olfactory		150	Sulfur	Sulfur	sulfur		10.

9(m)c

	Monito	oring Well	Purging	/ Sampli	ng Form			
Project Name and Number:		N	ard T	Produc	ts			
Monitoring Well Number:		MW-	18	Date:	8/18/	116		
Samplers:			Imke					
Sample Number:		Mw-18	081316	QA/QC	Collected?	No		
Purging / Sampling Method:		Three Well	Volumes					
<ol> <li>L = Well Depth:</li> <li>D = Riser Diameter (I.D.):</li> <li>W = Depth to Water:</li> <li>C = Column of Water in Well:</li> <li>V = Volume of Water in Well =</li> <li>3(V) = Target Purge Volume</li> </ol>	= C(3.14159	9)(0.5D) ² (7.4		65.65 0.17 23.22 42.43 6.9 20.7	feet feet feet gal	D (inches) 1-inch 2-inch 3-inch 4-inch 6-inch	D (feet) 0.08 0.17 0.25 0.33 0.50	
		D (inches) V (gal / ft)	1-inch 0.041	2-inch 0.163	3-inch 0.37	4-inch 0.65	6-inch 1.5	
Water Quality Readings Collecte	ed Using		556 /t		1			I
Parameter	Units		,		Readings			
Time	24 hr	1350	1355	1400	1405	1410		
Water Level (0.33)	feet	23.89	24.11	24.13	+724.12	24.15		
Volume Purged	gal	-		-	106-1.10			
Flow Rate	mL/min	150	150	150	150	150		
Turbidity (+/- 10%)	NTU	7.77	6.94	3,72	1.44	150		
Dissolved Oxygen (+/- 10%)	%	10.8	7.6	7.4	-8.1	8,4		
Dissolved Oxygen (+/- 10%)	mg/L	1.14	0.82			0.84		
Eh / ORP (+/- 10)	MeV		189	0.79	0.5%	12.0		
Specific Conductivity (+/- 3%)	mS/cm ^c	4.4				0.285		
		0.289	0.286	0.285	0.285	005		*******
Conductivity (+/- 3%)	mS/cm	77-		-	7			
pH (+/- 0.1)	pH unit	7.75	7.11	7.09	7.15	7.11		
Temp (+/- 0.5)	C°	13.22	12.32	12.30	12.29	12.28		
				clear	llar			
Color Odor Comments: Sample at 1	Visual Olfactory	clear none	ikat none	clear none	ulear none	clear		
							Page 1 of	

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Monitoring Well Purging / Sampling Form										
Project Name and Number:	lionit		rd T	C.325	-					
Monitoring Well Number:					8/19/	16			1	
Samplers:		RM	Inke						1	
Sample Number:		Mw-19	081916	QA/QC	Collected?	No				
Purging / Sampling Method:		Three Well	Volumes					246-02-5-		
<ol> <li>L = Well Depth:</li> <li>D = Riser Diameter (I.D.):</li> <li>W = Depth to Water:</li> <li>C = Column of Water in Well:</li> <li>V = Volume of Water in Well =</li> <li>3(V) = Target Purge Volume</li> </ol>	: C(3.1415§	9)(0.5D) ² (7.4	8)	70.56 0.17 12.70 57.86 9.4 2.8	feet feet feet gal gal	D (inches) 1-inch 2-inch 3-inch 4-inch 6-inch	D (feet) 0.08 0.17 0.25 0.33 0.50			
		D (inches)	Conversion	n factors to	determine \	/ given C	6-inch	1		
		V (gal / ft)	0.041		0.37	0.65	1.5			
Water Quality Readings Collecte	d Using					-				
Parameter	Units				Readings					
Time	24 hr	8:30	83s	840	845	850	855	900	209	
Water Level (0.33)	feet	34.65	40.20	42.30	48.00	75.80	47.70	47.80	47.82	
Volume Purged	gal	0	1	1.5	2.0	2.2	2.5	3.0	3.2	
Flow Rate	mL/min	-	-		-	_	~	-	-	
Turbidity (+/- 10%)	NTU	30.3	51.0	68.8	53.7	50.9	53.2	51.8	50.1	
Dissolved Oxygen (+/- 10%)	%	5.7	1.2	1.3	1.0	1.3	1.3	1.5	1.3	
Dissolved Oxygen (+/- 10%)	mg/L	0.60	0.13	0.14	0.10	0.14	0.13	0.15	0.14	
Eh / ORP (+/- 10)	MeV	205.3	105.5	55.9	- 27.7	- 61.7	- 70.2	- 80.0	- 90.1	
Specific Conductivity (+/- 3%)	mS/cm ^c	1.052	1.254	1.224	1.071	0.977	0.968	0.893	0.887	
Conductivity (+/- 3%)	mS/cm	0.800	0.951	0.936	0.825	0.766	0.736	0.708	0.700	
pH (+/- 0.1)	pH unit	645	6.05	6.28	6.45	6.62	6.72	6.80	6.99	
Temp (+/- 0.5)	C°	12.69	12.34	12.68	12.86	13.60	13.52	13.80	13.90	T
Color	Visual	Clear	close	clear	Che.r.	clegr	clear	Clear	clear	Γ
Odor	Olfactory	No	NI	No	1 supr	sultur	No	NO	No	t
Comments: Sampled Pump Na		905 ing O	Constan	f rate	L.		Page 1 of	1		

	Monito	oring Wel	I Purging	/ Sampli	ng Form				1	
Project Name and Number:		Wa	rd F	roducts						
Monitoring Well Number:		MW-	20	Date:	8/19/	16			-	
Samplers:		RM /	Inte				ł.		- 8	
Sample Number:		Mw-2	081916	QA/QC	Collected?	00				
Purging / Sampling Method:		Three Well	Volumes							
<ol> <li>L = Well Depth:</li> <li>D = Riser Diameter (I.D.):</li> <li>W = Depth to Water:</li> <li>C = Column of Water in Well:</li> <li>V = Volume of Water in Well =</li> <li>3(V) = Target Purge Volume</li> </ol>	C(3.14159	9)(0.5D) ² (7.4		<u>\$ 22</u> 15.60	feet feet gal gal	D (inches) 1-inch 2-inch 3-inch 4-inch 6-inch	D (feet) 0.08 0.17 0.25 0.33 0.50			
		D (inches)	Conversior	n factors to 2-inch	determine V 3-inch	√ given C 4-inch	6-inch	1		
		V (gal / ft)	0.041	0.163	0.37	0.65	1.5			
Water Quality Readings Collecte	d Using	YSI	556	MPS	/ Hack	2100 p				
Parameter	Units				Readings	•				
Time	24 hr	925	930	935	940	945	950	955	1000	
Water Level (0.33)	feet	26.70	28.10	29.80	31.80	32.15	32.45	32.50	32.50	
Volume Purged	gal	0	.25	. 50	1.06	1.25	2.00	2.40	2.75	
Flow Rate	mL/min	-	-	-	-	-	-	-	-	
Turbidity (+/- 10%)	NTU	69.6	191	132	95.5	94.3	85.1	83.2	82.1	-
Dissolved Oxygen (+/- 10%)	%	31.9	35.8	(8.9	18.2	17.0	15.3	13.7	13.8	
Dissolved Oxygen (+/- 10%)	mg/L	3.34	3.92	1.99	1.86	1.74	1.55	1.40	1.32	
Eh / ORP (+/- 10)	MeV	-40.2	-28.6		- 35.0	- 31.9	- 31.2	- 30.6	-19.9	
Specific Conductivity (+/- 3%)	mS/cm ^c	1.443	1.444	1.429	1.417	1.404	1.374	1.348	1.329	
Conductivity (+/- 3%)	mS/cm	1.126	1.150	1.108	1.123	1.113	1.097	1.079	1.088	
pH (+/- 0.1)	pH unit	7.06	6.95	6.93	6.89	6.95	6.96	6,98	6.99	-
Temp (+/- 0.5)	C°	12.52	14.42	13.23	14.13	14.17	14.42	14.52	14.70	-
Color	Visual	clear	clear	ale.r	clear	clear	clear	clerr	clear	_
Odor	Olfactory	NO	No	ND	NO	NI	NO	NO	No	
Comments: Sampl	ed O	1000					Page 1 of			



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:						
AECON		250 A	pollo Din	.e (	halw	50.0	1.1	1A 01824
Send Report To:		Project Name (Locatio	in)		Sam	plers: (N	lames)	110
Wanter a	Client Email	Waid Am	Number:	NY	M.	27 4	-117.14	- Carpuel, Ress Milid.
Glient Phone No:	Client Email	: "	Number:		Sam	piers: (a	signature	)
450			Date	Time	Sampl	e Type	Number	
AES Sample Number	Clien Sample Identificat	lion & Location	Sampled	A=a.m. P=p.m.	Matrix	Comp Grab	of Cont's	Analysis Required
	MW-11 08	51816	3/18/16	1016 P		X	4	VOCS, Helders JCP
	MW-IR 01	51816	1		GN	X	4	
	MS - 08	51816 (HW.IR		1135 P		1	4	
	MSD - 08	1816 (MW-1R			GW	X	4	
	MW-4 0	81816			GN	7	-4	
	MW-4R C	81816	1.1.1	1246 0	62	X	4	
	DUP-1 0			A	GW	×	+	
	MW-18 0		226-123	HIS P	GW	×	4	
			1355	1345 A	D CHW	5 X	140	
	MW - 13	081816 1550	24 1	1431 P	767	HI X	-4	and a second
		150	159	3.7.2P	1.70	4	0.91	
		103	782	7 4 A	04		0.99	
		4 S 0 138	0.756	A	0.25	5	0.49	5
			17.0	A	17		 7.11	
Shipment Arriv	ed Via:	CC Rep	ort To / Special In:	structions/A	emarks:	19	12.1	
FedEx UPS	Client AES Other:	ider hand		6.66.00-	1.40	0	ilent	
Aler								
Turnaround Time	e Request:	4:5						
🗆 2 Day	🗆 5 Day							
Note: Samples re Relinquished by	eceived after 3:30 pm are considered r r: (Signature)		ed by: (Signature)					Date/Time
Relinquished by	y: (Signature)	Receive	ed by: (Signature)					Date/Time
Relinquished by	y: (Signature)	Receive	ed for Laboratory	by:	••••			Date/Time
	TEMPERATURE	AES Bottles	ROPERLY PRESERVE	D			RECEIVE	ED WITHIN HOLDING TIMES
A Notes:	mbient or Chilled	Y N	Y N			Not	es:(	Y) N
	WHITE - Lab Copy	YELL	DW - Sampler Cop	у			PINK - G	enerator Copy
	1	Adirondack Fr	vironment	n Serv	ices	Inc		



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

## **CHAIN OF CUSTODY RECORD**

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AES Work Order #

**Experience** is the solution

A full service analytical research laboratory offering solutions to environmental concerns

Client Name:	ECIA	Address:	R	Le. 1	1.			4	71.15	14. NV
Sond Renart In.	ECOM	Project Nan	ne (Location)	1 36 -	-un c		Samp	iers:	(Names)	botter NY Sc. 1. J. M. Ko K. Z.
Client Phone No:	Attains	mail:	PON	umber:	strd	eize	Samp	lers:	Ss M	20. 1.J. / M. K. K. Z.
(518)9	51:2200 1100	For attenso	arcom	LAUA				-+	(	
AES		Client		Date	Time A=a.n		Sample	e Type	Number e of	
Sample Number	Sample Ident	ification & Location		Sampled	P=p.n		Matrix	Comp	G Cont's	And an
	MW - 19	081916		8/19/16	905	P	GW	1	14	VOLS ICT Hetals
	MW - 17	081916		1	920	P	Gw	١	14	9
	MW.20				1000	A) P	GW	1	14	
•	MW - 15				1055	A	GW		14	
	MW - 16	081916			1115	A	GN		14	
	MW - 14			1	135	A) P	GW		14	V
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						A				
MRC)						A				
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-						P A				(44)
Shipment Arriv			1	t To / Special Ins		P	1			
FedEx UPS Turnaround Tim 1 Day 2 Day Note: Samples re	Client AES Other: e Request: 3 Day Average Nor 5 Day eceived after 3:30 pm are consider	mai								
Relinquished by	y: (olgnature)		Heceived	by: (Signature)						Date/Time
Relinquished by	y: (Signature)		Received	by: (Signature)						Date/Time
Relinquished by	y: (Signature)	En D	Received	for Laboratory b	iy:		L.			Date/Time
A Notes:	TEMPERATURE Ambient or Chilled	AES [#] Bottles Y N D D No		PPERLY PRESERVEN	D			N	RECEN	VED WITHIN HOLDING TIMES
	WHITE - Lab Copy		YELLOV	N - Sampier Cop	y				PINK -	Generator Copy
		Adirondo	ick Env	vironmento	al Se	ervi	ces.	Inc		



#### Pine Environmental Services, LLC.

405 Cambridge Ave Syracuse, NY 13208 Toll-free: (877) 903-PINE (7463)

#### Pine Environmental Services, Inc.

Instrum	ent ID 27207						
Desci	ription HACH 2100P 7	Furbidity meter					
Cali	brated 8/5/2016 8:47:	23AM					
Manufa	cturer HACH			State Certifie			
Model N	umber 2100P				is Pass		
	er/Lot 010500028939			Temp °	<b>C</b> 24		
- ,	umber			TT 114 0			
	ocation New York			Humidity %	<b>%</b> 41		
Depa	rtment						
		Calibra	tion Specificatio	ns			
	Group # 1			Range Acc %	0.0000		
Gro	up Name Turbidity			Reading Acc %	3.0000		
Sta	ated Accy Pct of Readi	ng		Plus/Minus	0.00		
<u>Nom In Val / In Va</u>	d In Type	<u>Out Val</u>	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
0.10 / 0.10	NTU	0.10	NTU	0.10	0.10	0.00%	Pass
20.00 / 20.00	NTU	20.00	NTU	20.00	20.00	0.00%	Pass
100.00 / 100.00	NTU	100.00	NTU	100.00	100.00	0.00%	Pass
800.00 / 800.00	NTU	800.00	NTU	800.00	800.00	0.00%	Pass
Test Instruments	Used During the Calib	ration			(45	Of Cal Entr	v Date)
	Description	Manufacturer	Model Number	<u>Serial Numl</u> Lot Number	ber / <u>Last</u>	<u>Ne</u> Cal Date/ Ex	<u>ext Cal Date /</u> piration Date
NYS TURB <0.1 NTU - A5124	<0.1 NTU TURBIDITY STANDARD	( HACH	WQA90598		Oper	ned Date 8/:	31/2016
NYS TURB 100	100 NTU TURBIDITY STANDARD	HACH	WQA90598	A5169		9/:	30/2016
	20 NTU TURBIDITY STANDARD	HACH	WQA90598			9/:	30/2016
NYS TURB 800 NTU - A5169	800 NTU TURBIDITY STANDARD	НАСН		A5169		9/:	30/2016

Notes about this calibration

Calibration Result Calibration Successful Who Calibrated Joe Filippi



#### Pine Environmental Services, LLC.

405 Cambridge Ave Syracuse, NY 13208 Toll-free: (877) 903-PINE (7463)

## Pine Environmental Services, Inc.

	nent ID 27206 cription HACH 2100P T	urbidity meter						
	ibrated 8/16/2016 11:03	-						
	acturer HACH			State Certifie				
	Number 2100P Der/ Lot 930900003749			Statu Temp %	is Pas	SS		
	Number			remp	C 24			
	ocation New York artment			Humidity %	<b>6</b> 51			
		Calibra	tion Specification	ns				
	Group # 1 oup Name Turbidity tated Accy Pct of Readin	ng	1	Range Acc % Reading Acc % Plus/Minus	3.000			
<u>Nom In Val / In V</u>	al In Type	Out Val	Out Type	Fnd As	<u>Lft A</u>	<u>s</u> <u>Dev</u> %	<u>6 Pass/</u>	<u>Fail</u>
0.10/0.10	NTU	0.10	NTU	0.10	0.10	0.00	% Pa	ass
20.00 / 20.00	NTU	20.00	NTU –	20.00	20.00		% Pa	ass
100.00 / 100.00 800.00 / 800.00	NTU NTU	100.00 800.00	NTU NTU	100.00 800.00	100.0			ass ass
Test Instruments	Used During the Calibr	<u>ration</u>			1	(As Of Cal E	ntry Dat	<u>e)</u>
Test Standard ID	<b>Description</b>	<u>Manufacturer</u>	<u>Model Number</u>	<u>Serial Number</u> Lot Number		<u>Last Cal Date</u> Opened Date	<u>Next Cal</u> Expiratio	
NYS TURB <0.1 NTU - A5124	<0.1 NTU TURBIDITY STANDARD	' HACH	WQA90598				8/31/201	6
NYS TURB 100 NTU - A5169	100 NTU TURBIDITY STANDARD	НАСН	WQA90598	A5169			9/30/201	6
NYS TURB 20 NTU - A5170	20 NTU TURBIDITY STANDARD	НАСН	WQA90598				9/30/201	6
NYS TURB 800 NTU - A5169	800 NTU TURBIDITY STANDARD	НАСН		A5169			9/30/201	6

Notes about this calibration

Calibration Result Calibration Successful Who Calibrated Joe Filippi



#### Pine Environmental Services, LLC.

92 North Main St, Building 20 Windsor, NJ 08561 Toll-free: (800) 301-9663

# Pine Environmental Services, Inc.

Instrument I	D 12315	· · · · · · · · · · · · · · · · · · ·					
Descriptio	on YSI 556						
•	ed 8/15/2016 11:	01:22AM					
Manufactur	er YSI			State Certifie	d		
Model Numb	<b>er</b> 556			Statu	is Pass		
Serial Number/ L				Temp °	C 28.6		
Numb	•••				( 52		
	on New Jersey			Humidity %	6 33		
Departme	nt						
		Calib	ration Specific	ations			
Gro	oup # 1			Range Acc %			
Group N	<b>lame</b> pH			Reading Acc %	3.0000		
Stated .	Accy Pct of Read	ling		Plus/Minus	0.00		
<u>Nom In Val / In Val</u>	<u>In Type</u>	Out Val	Out Type	Fnd As	<u>Lft As</u>	Dev%	Pass/Fail
7.00 / 7.00	PH	7.00	PH	6.90	7.00	0.00%	Pass
4.00 / 4.00	PH	4.00	РН	4.12	4.00	0.00%	Pass
10.00 / 10.00	РН	10.00	PH	10.09	10.00	0.00%	Pass
Gro	oup#2			Range Acc %	0.0000		
Group N	ame Conductivi	ty		Reading Acc %	3.0000		
Stated	Accy Pct of Read	ling		Plus/Minus	0.000		
<u>Nom In Val / In Val</u>	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
1.413 / 1.413	ms/cm	1.413	ms/cm	1.402	1.414	0.07%	Pass
Gro	oup#3			Range Acc %	0.0000		
Group N	ame Redox (OR	LP)		Reading Acc %	3.0000		
Stated .	Accy Pct of Read	ding		Plus/Minus	0.0		
<u>Nom In Val / In Val</u>	<u>In Type</u>	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
240.0 / 240.0	mv	240.0	mv	233.6	240.0	0.00%	Pass
Gro	oup#4			Range Acc %	0.0000		
Group N	ame Dissolved	Oxygen Span		Reading Acc %	3.0000		
Stated	Accy Pct of Read	ding		Plus/Minus	0.0		
<u>Nom In Val / In Val</u>	<u>In Type</u>	Out Val	Out Type	Fnd As	Lft As	Dev%	<u>Pass/Fail</u>
100.0 / 100.0	%	100.0	%	97.8	99.8	-0.20%	Pass



Pine Environmental Services, LLC.

92 North Main St, Building 20 Windsor, NJ 08561 Toll-free: (800) 301-9663

#### Pine Environmental Services, Inc.

 Instrument ID
 12315

 Description
 YSI 556

 Calibrated
 8/15/2016 11:01:22AM

Test Instruments	Used During the Calibr		(As Of Cal Entry Date)			
Test Standard ID	Description	<u>Manufacturer</u>	<u>Model Number</u>	<u>Serial Number /</u> Lot Number	<u>Last Cal Date</u> Opened Date	<u>Next Cal Date /</u> / Expiration Date
NJ COND 1413 6GC013	1413 conductivity standard	AquaPhoenix Scientific	1413	6GC013	4/5/2016	3/31/2017
NJ ORP 240MV 9099	ORP solution 240mv	Hanna	240Mv	9099	3/2/2016	7/31/2020
NJ PH 10 6GB188	BUFFER, PH10 BLUE	AquaPhoenix Scientific	PH10	6GB188	4/5/2016	2/28/2018
NJ PH 4 6GA048	BUFFER, PH4 RED	AquaPhoenix Scientific	PH4	6GA048	4/5/2016	1/31/2018
NJ PH 7 6GA544	BUFFER, PH7 YELLOW	AquaPhoenix Scientific	PH7	6GA544	4/5/2016	1/31/2018

Notes about this calibration

Calibration Result Calibration Successful Who Calibrated William Barnett

All instruments are calibrated by Pine Environmental Services, LLC. according to the manufacturer's specifications, but it is the customer's responsibility to calibrate and maintain this unit in accordance with the manufacturer's specifications and/or the customer's own specific needs.

Notify Pine Environmental Services, LLC. of any defect within 24 hours of receipt of equipment Please call 866-960-7463 for Technical Assistance



#### Pine Environmental Services, LLC.

92 North Main St, Building 20 Windsor, NJ 08561 Toll-free: (800) 301-9663

# Pine Environmental Services, Inc.

Instrument							
Description	on YSI 556						
Calibrat	ed 8/16/2016	10:57:59AM					
Manufactur	er YSI		<u> </u>	State Certifie	ed		
Model Numb	er 556			Statu	is Pass		
Serial Number/ L	•			Temp °	C 28.6		
Numb							
	on New Jersey			Humidity 9	% 41		
Departme	ent						
		Calib	ration Specific	ations			
Gro	oup#1			Range Acc %	0.0000		
Group N	Name PH			Reading Acc %	3.0000		
Stated	Accy Pct of Re	eading		Plus/Minus	0.00		
<u>Nom In Val / In Val</u>	<u>In Type</u>	Out Val	Out Type	Fnd As	<u>Lft As</u>	Dev%	Pass/Fail
7.00 / 7.00	PH	7.00	PH	7.16	7.00	0.00%	Pass
4.00 / 4.00	PH	4.00	PH	3.93	4.00	0.00%	Pass
10.00 / 10.00	PH	10.00	PH	10.02	10.00	0.00%	Pass
	oup#2			Range Acc %	0.0000		
-	Name Conduct	-		Reading Acc %			
Stated	Accy Pct of Re	eading		Plus/Minus	0.000		
<u>Nom In Val / In Val</u>	<u>In Type</u>	<u>Out Val</u>	Out Type	Fnd As	Lft As	Dev%	<u>Pass/Fail</u>
1.413 / 1.413	ms/cm	1.413	ms/cm	1.442	1.413	0.00%	Pass
Gro	oup#3			Range Acc %	0.0000		
Group N	Name Redox (C	ORP)		Reading Acc %	3.0000		
Stated	Accy Pct of Re	eading		Plus/Minus	0.00		
<u>Nom In Val / In Val</u>	In Type	Out Val	Out Type	Fnd As	<u>Lft As</u>	Dev%	Pass/Fail
240.00 / 240.00	mv	240.00	mv	236.00	240.00	0.00%	Pass
Gro	oup#4			Range Acc %	0.0000		
Group N	ame Disolved	l Oxygen Span		Reading Acc %	3.0000		
Stated	Accy Pct of Re	eading		Plus/Minus	0.00		
<u>Nom In Val / In Val</u>	<u>In Type</u>	<u>Out Val</u>	<u>Out Type</u>	Fnd As	<u>Lft As</u>	Dev%	<u>Pass/Fail</u>
100.00 / 100.00	%	100.00	%	97.85	100.00	0.00%	Pass



#### Pine Environmental Services, LLC.

92 North Main St, Building 20 Windsor, NJ 08561 Toll-free: (800) 301-9663

#### **Pine Environmental Services, Inc.**

Instrument ID 22427 Description YSI 556 Calibrated 8/16/2016 10:57:59AM

Test Instruments	Used During the Calibr		(As Of Cal Entry Date)			
Test Standard ID	Description	<u>Manufacturer</u>	Model Number	<u>Serial Number /</u> Lot Number	<u>Last Cal Date</u> Opened Date	<u>Next Cal Date /</u> / Expiration Date
NJ COND 1413 6GC013	1413 conductivity standard	AquaPhoenix Scientific	1413	6GC013	4/5/2016	3/31/2017
NJ ORP 240MV 9099	ORP solution 240mv	Hanna	240Mv	9099	3/2/2016	7/31/2020
NJ PH 10 6GB188	BUFFER, PH10 BLUE	AquaPhoenix Scientific	PH10	6GB188	4/5/2016	2/28/2018
NJ PH 4 6GA048	BUFFER, PH4 RED	AquaPhoenix Scientific	PH4	6GA048	4/5/2016	1/31/2018
NJ PH 7 6GA544	BUFFER, PH7 YELLOW	AquaPhoenix Scientific	PH7	6GA544	4/5/2016	1/31/2018

Notes about this calibration

Calibration Result Calibration Successful Who Calibrated Sigyan Congo

All instruments are calibrated by Pine Environmental Services, LLC. according to the manufacturer's specifications, but it is the customer's responsibility to calibrate and maintain this unit in accordance with the manufacturer's specifications and/or the customer's own specific needs.

Notify Pine Environmental Services, LLC. of any defect within 24 hours of receipt of equipment Please call 866-960-7463 for Technical Assistance

	1	
unment	Calibration	hog
		Products- Ansterdo juipment Calibration

Project No	
Computed by	
Checked by	

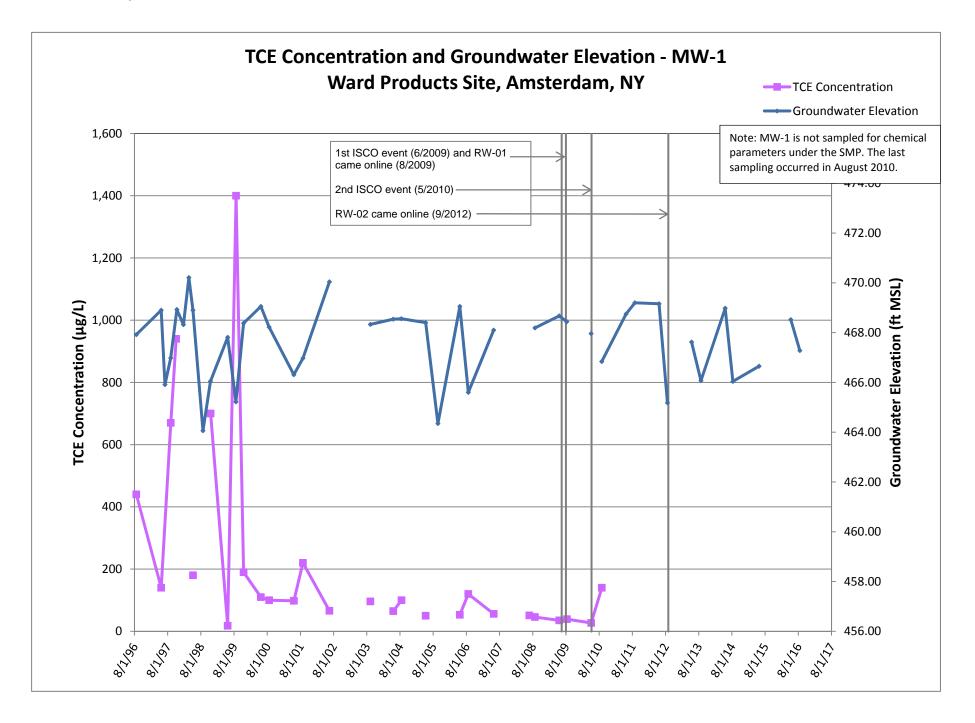
	Page	of
_	Sheet	of
_	Date 8/19	/16
	Date	

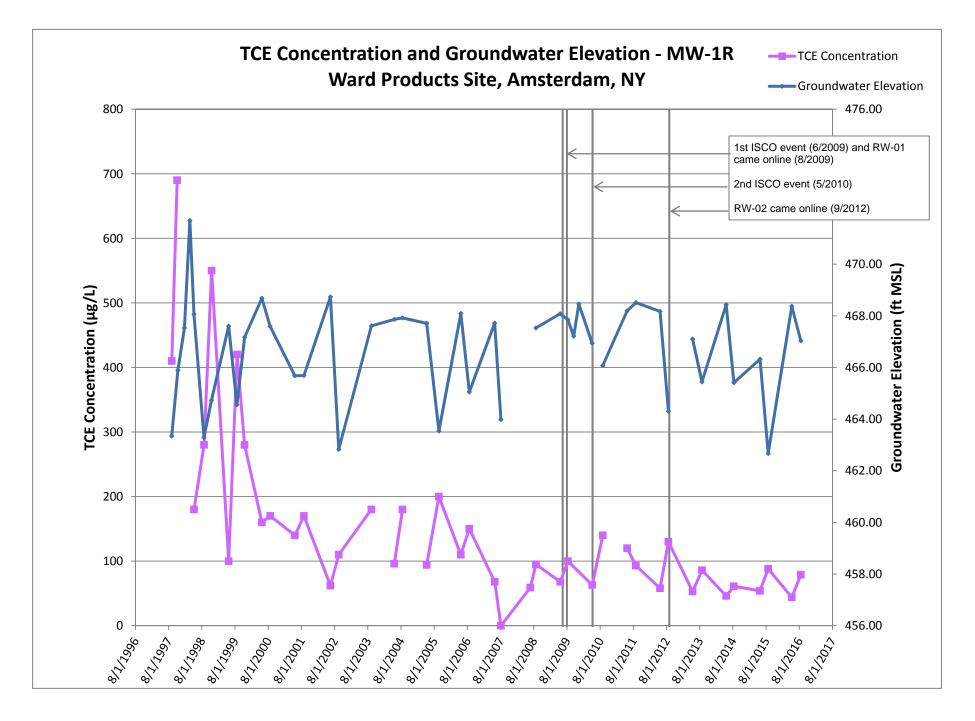
Reference

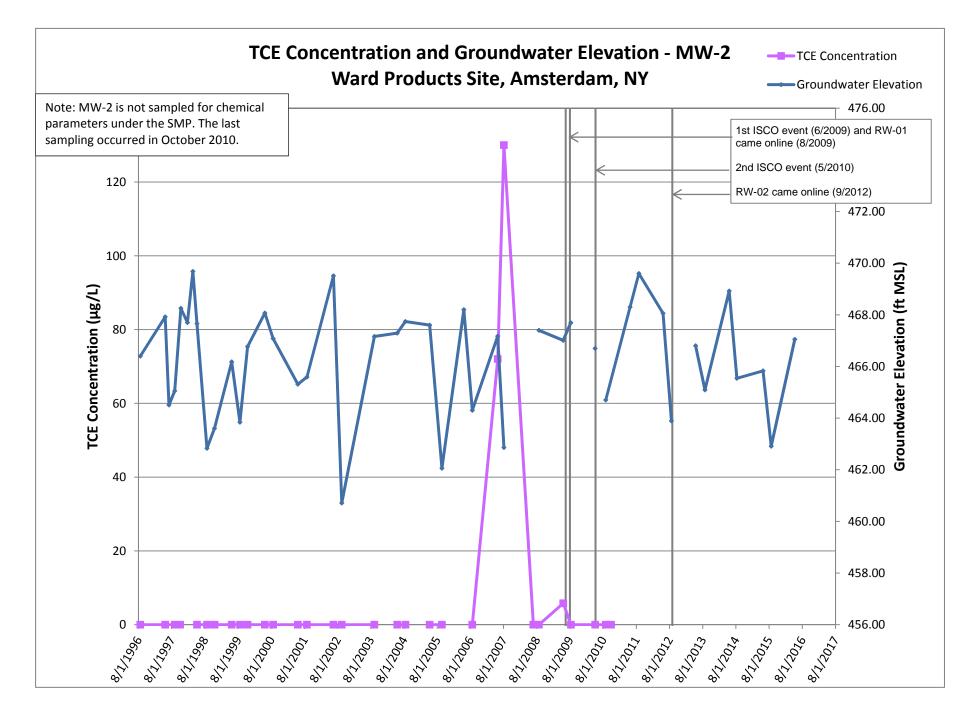
liste YSI-556 #1 (12315) YSI-556 * 2 (022927) conductivity (1.413) - 1.256 pH (10) - 10.19 pH (7) - 6.86 ORP (240) - 252.4 conductivity (1.413) - 1.232 pH(10) - 10.02 pH(7) - 7.15 pH(4) - 3.94 ORP(240) - 247.7

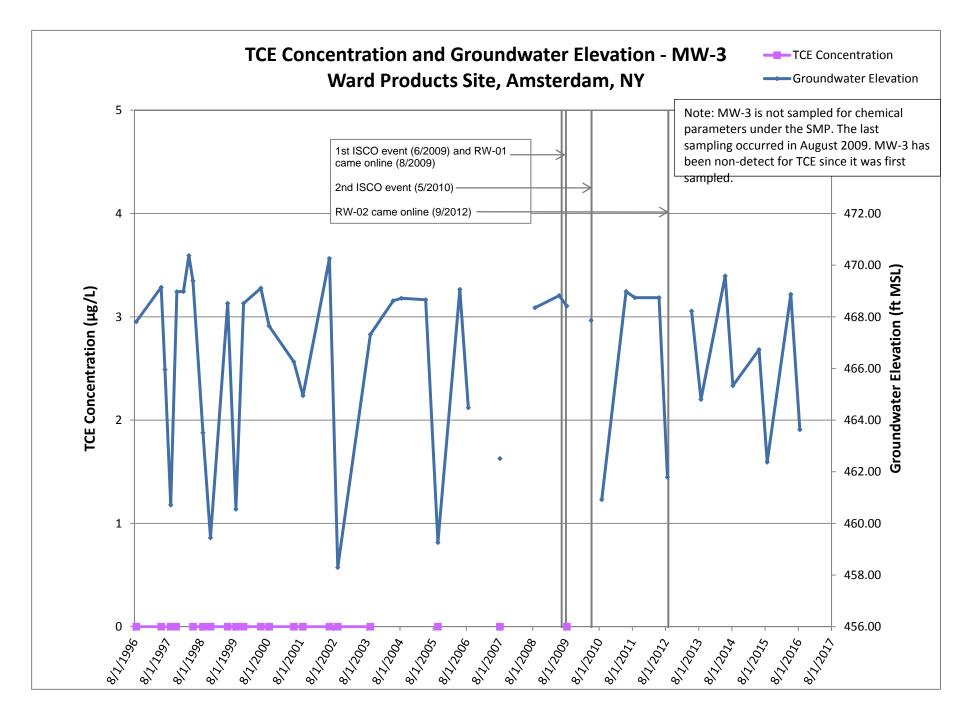
0745 1045 1120 0815 1445 1500 138 Project / Client Location Amsterdam, NY For submersible pump wasn't delivered. Contract Pine to advise. Time will send another sub. Shut hown treatment system and prepare to begin GW sempling. Discover that Flow untiller (DUP collected from MW-1R), (DUP collected from MW-1R), Begin packing up equipment r restart treatment system Jrymon via comite AECOM has completed sampling For the day. Pine (MW-1R, MW-4, MW-4R, MW-10, MW-11, MW-13 MW bauging couple AELOM (M. Kuzia- Cannel, Z McRody) on site Begin GW Sampling/MW Gauging AELOM off sike to lab w/ samples courier on site. Exchange subjursible GW Sampling/MW Gauging Ward Products Date 8/18/2616 0745 . Location Amsterdam NY Project / Client 0830 1200 IFFS site. Re-calibrate YSI multimeters, shut Sampling. down system, and prepare to resume GW equipment, restart system. MW-17, MW-19, MW-20) Begin parking up Sampling resumes. Sampling complete (MW-14, MW-15, MW-16, AELONY off site to lab w/ samples AECOM (M. Khizin - Canual, Z. He Credy) on GW Sampling/MW bauging Word Products Tradiuts Date 8/14/2016 139

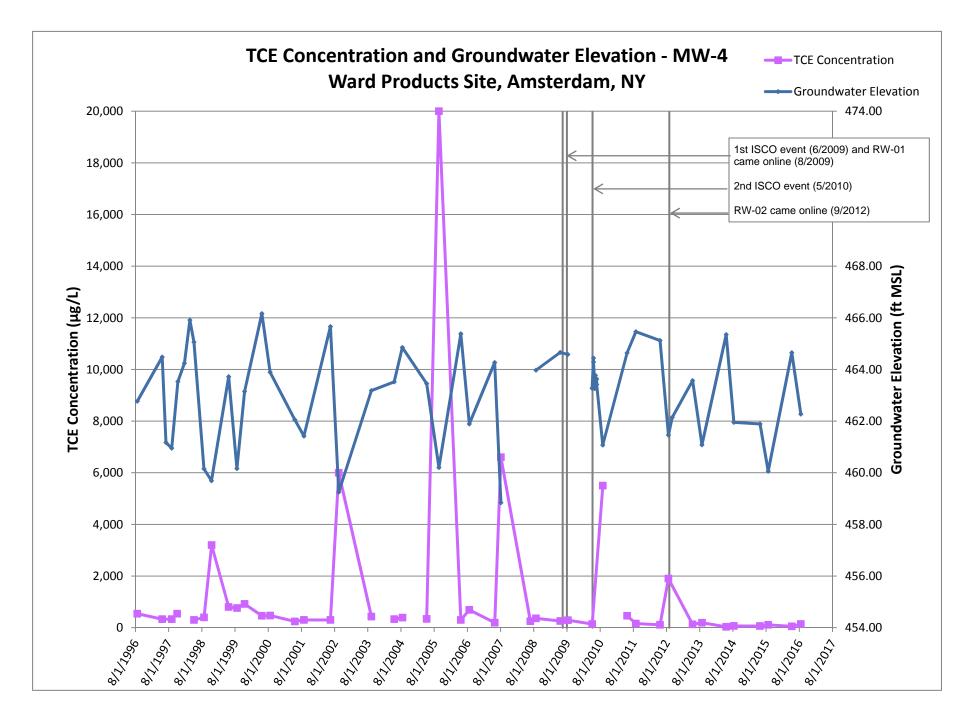
# Appendix C Graphs – Groundwater Elevations and TCE Concentrations Over Time

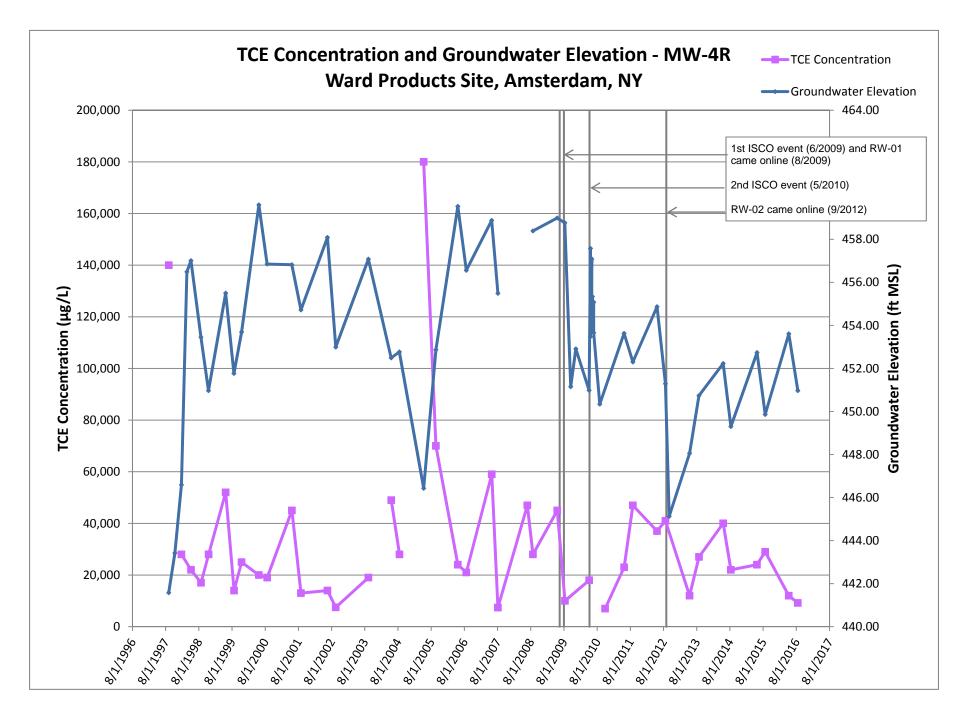


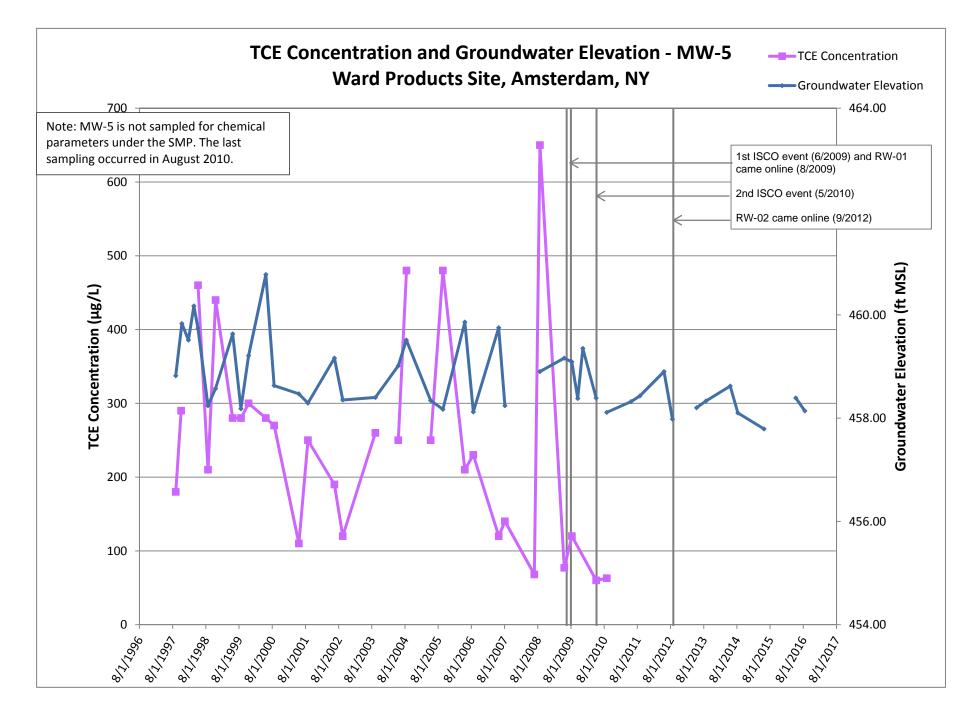


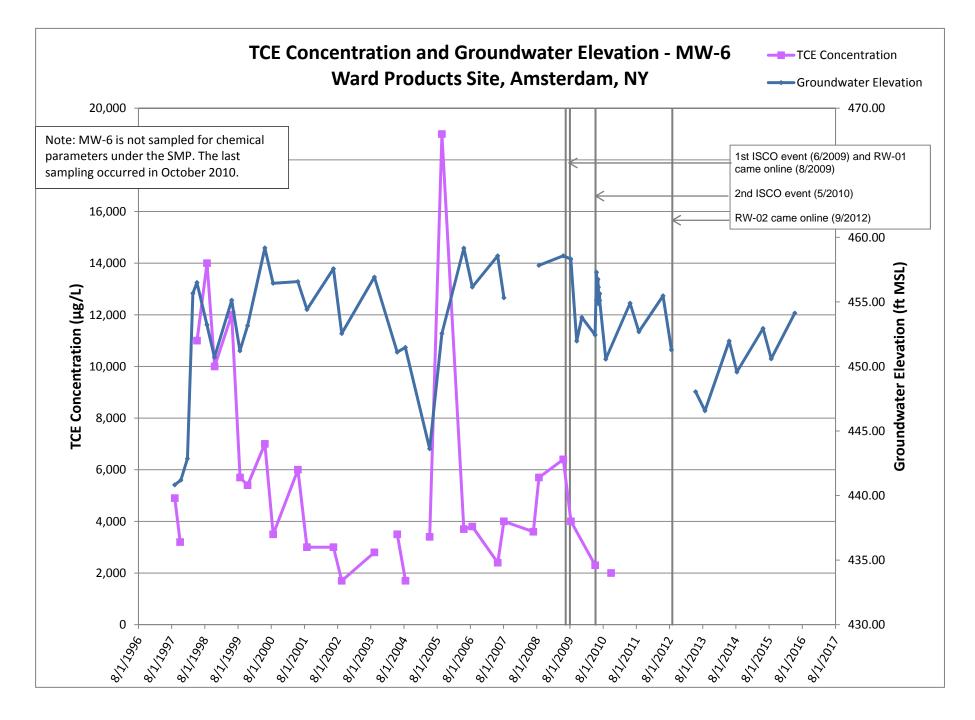


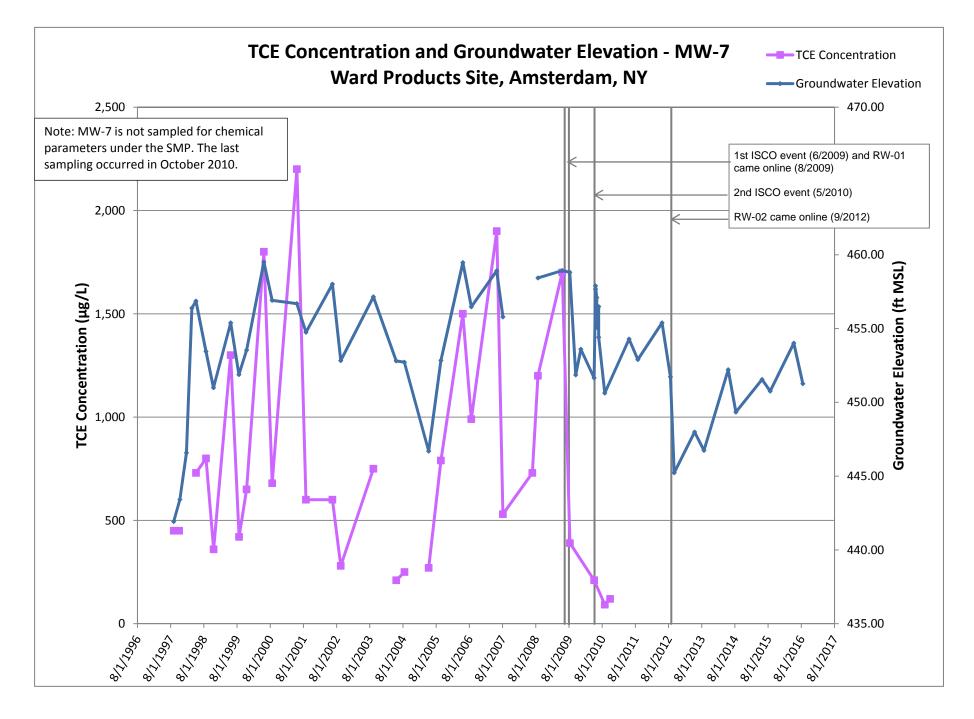


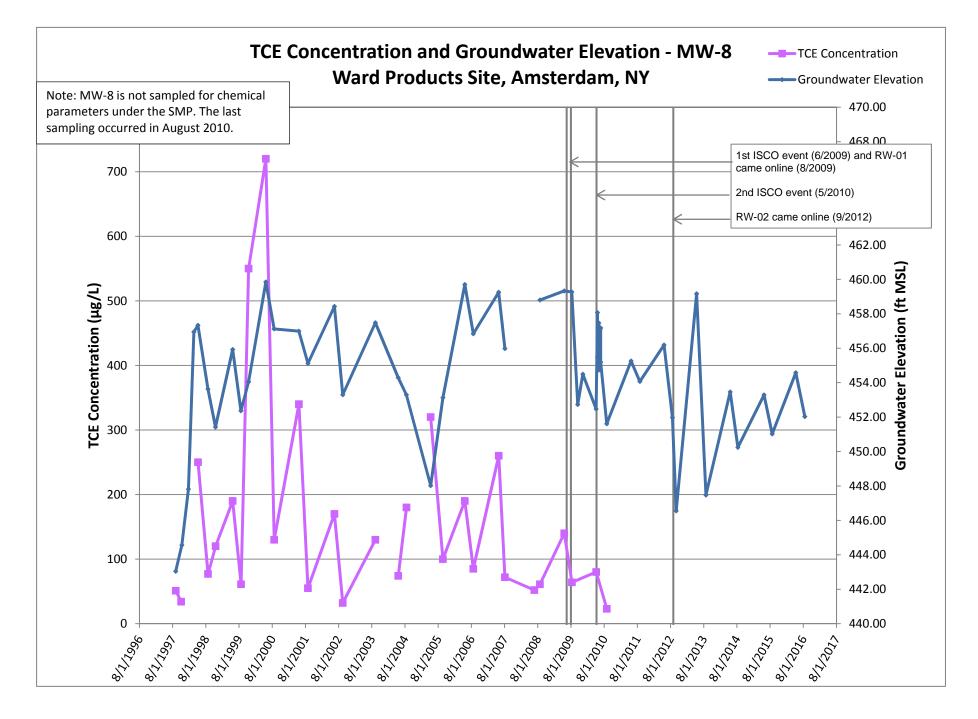


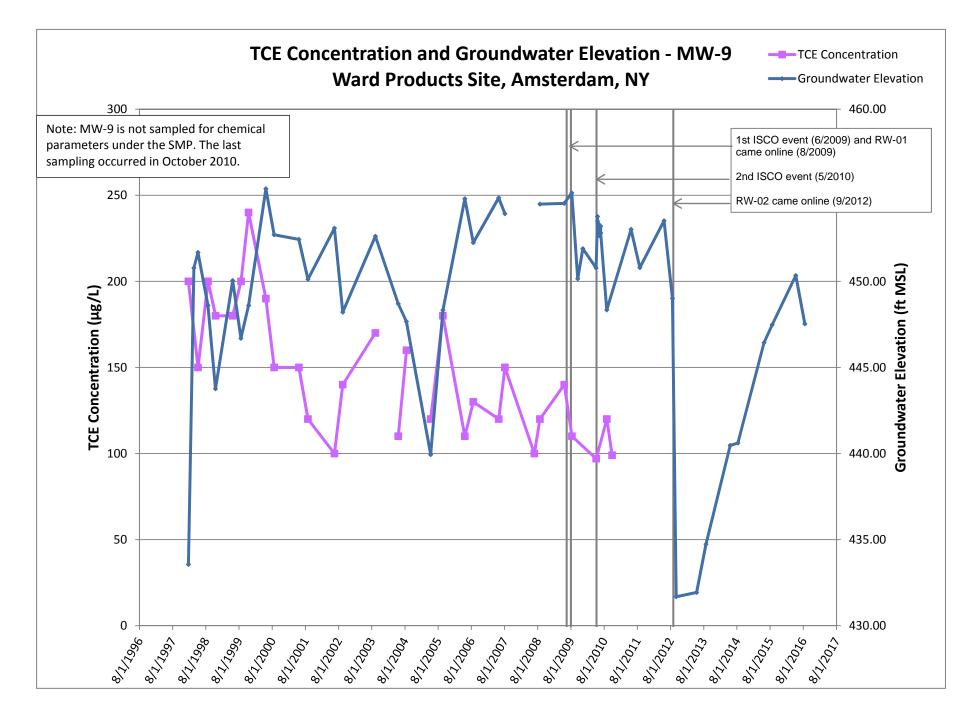


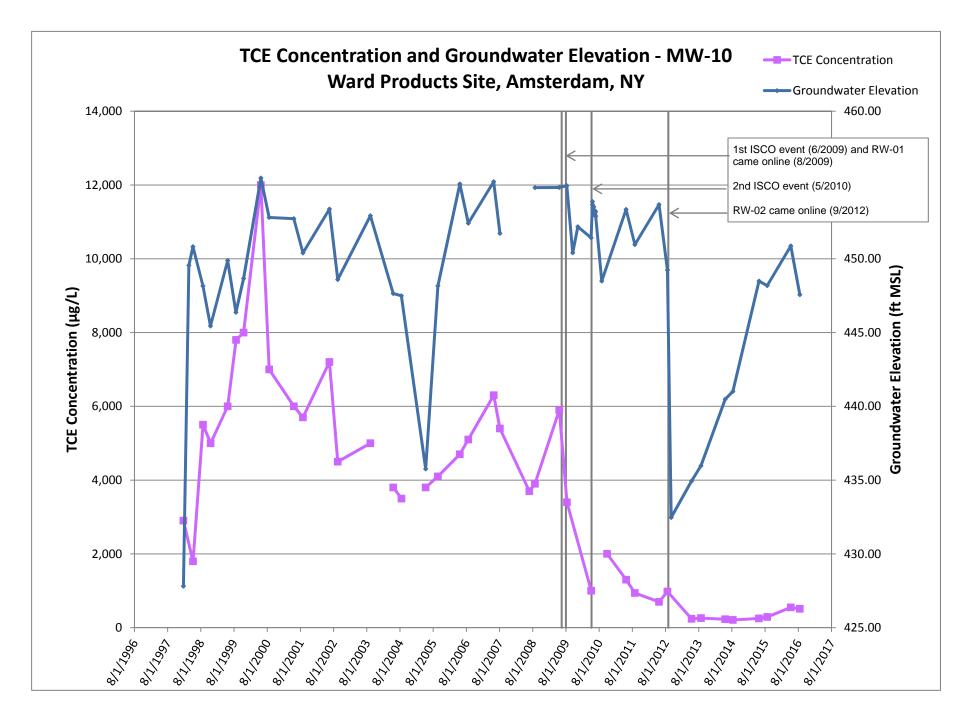


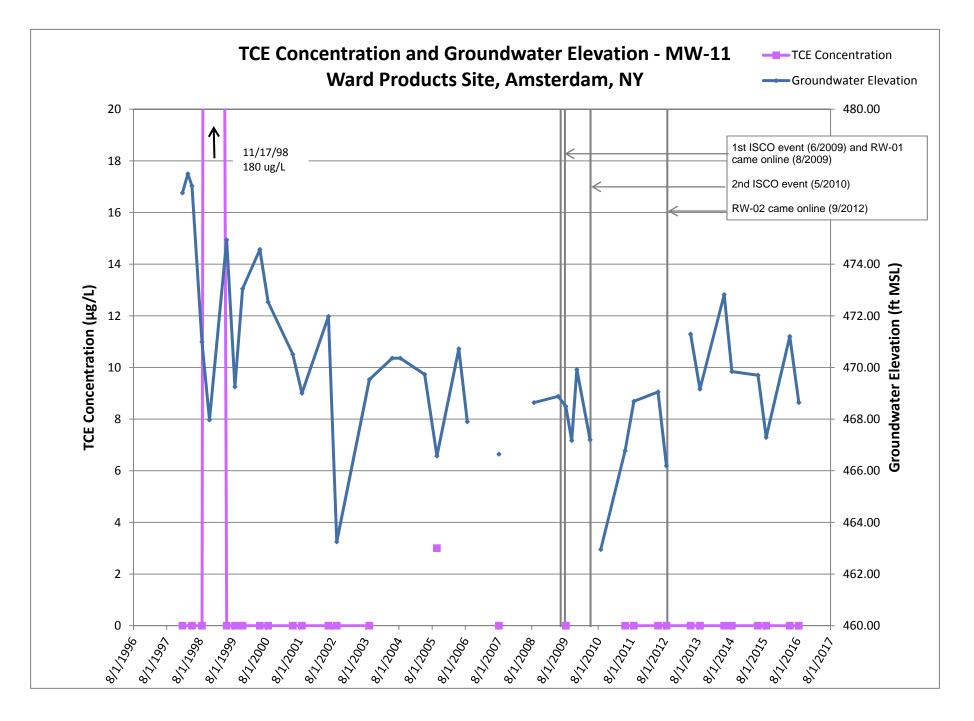


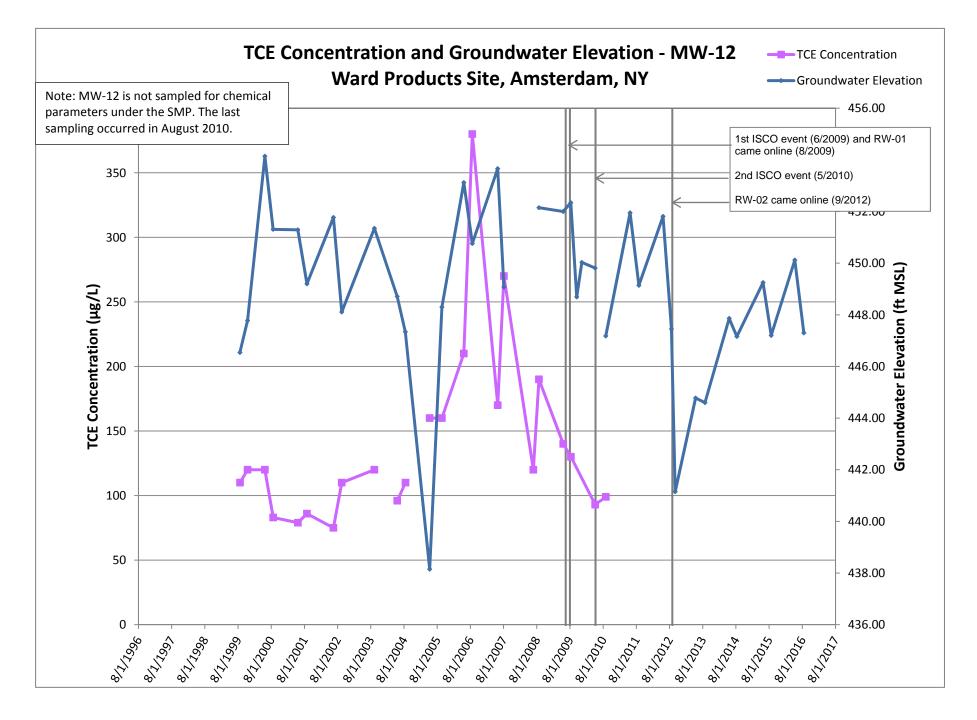


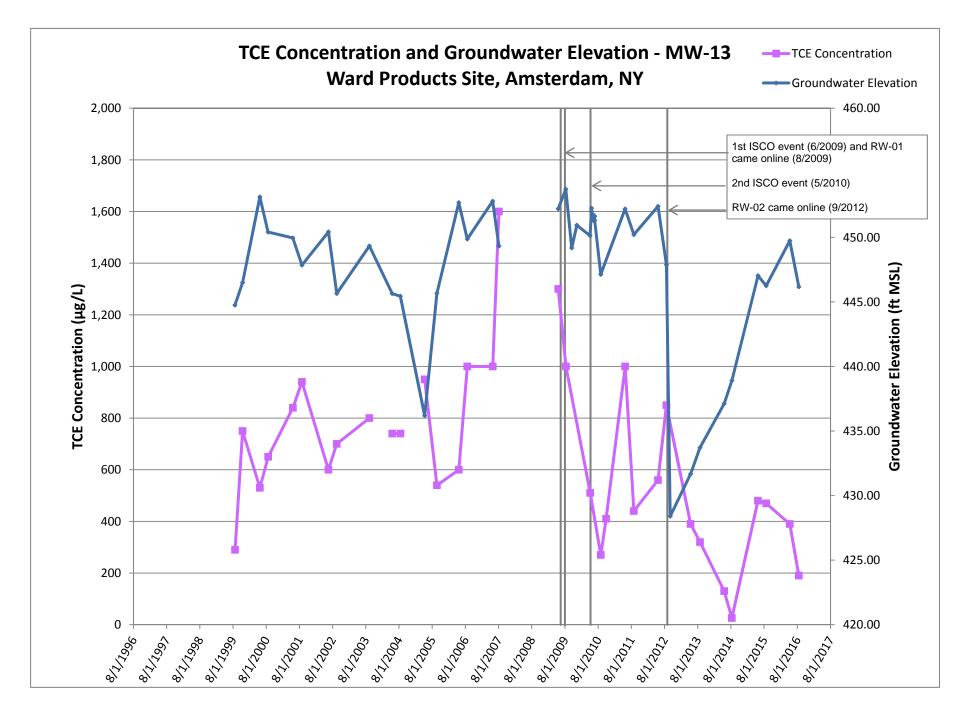


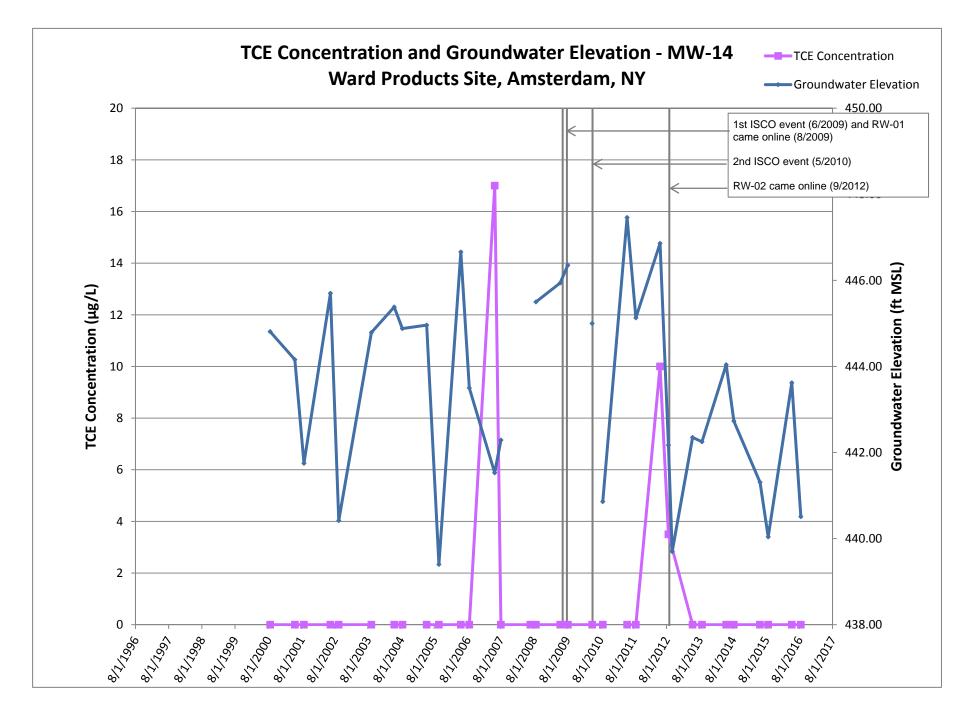


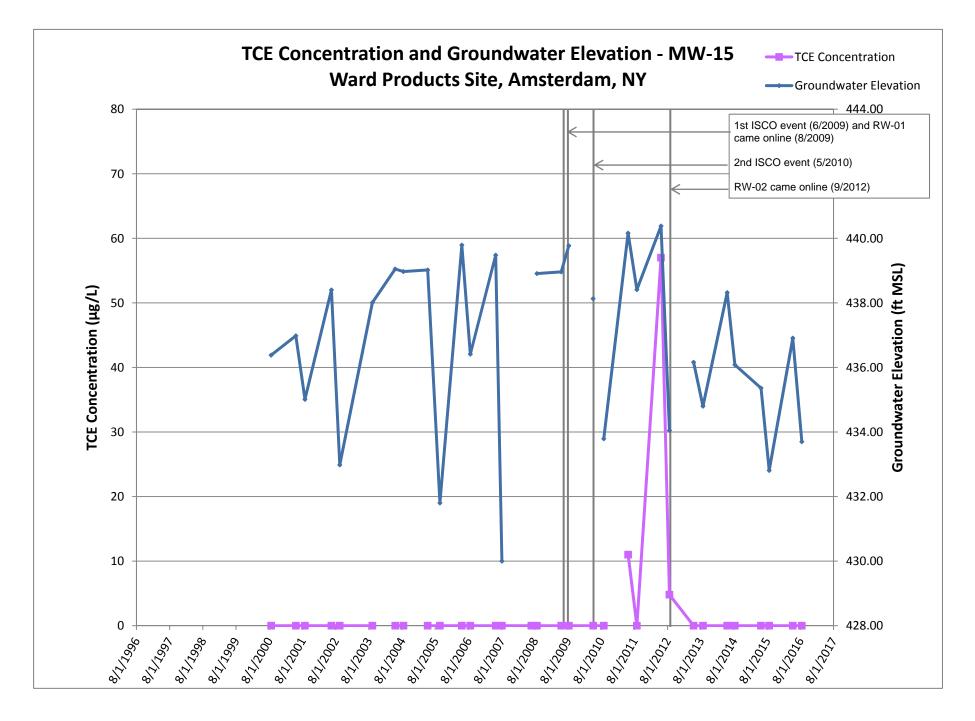


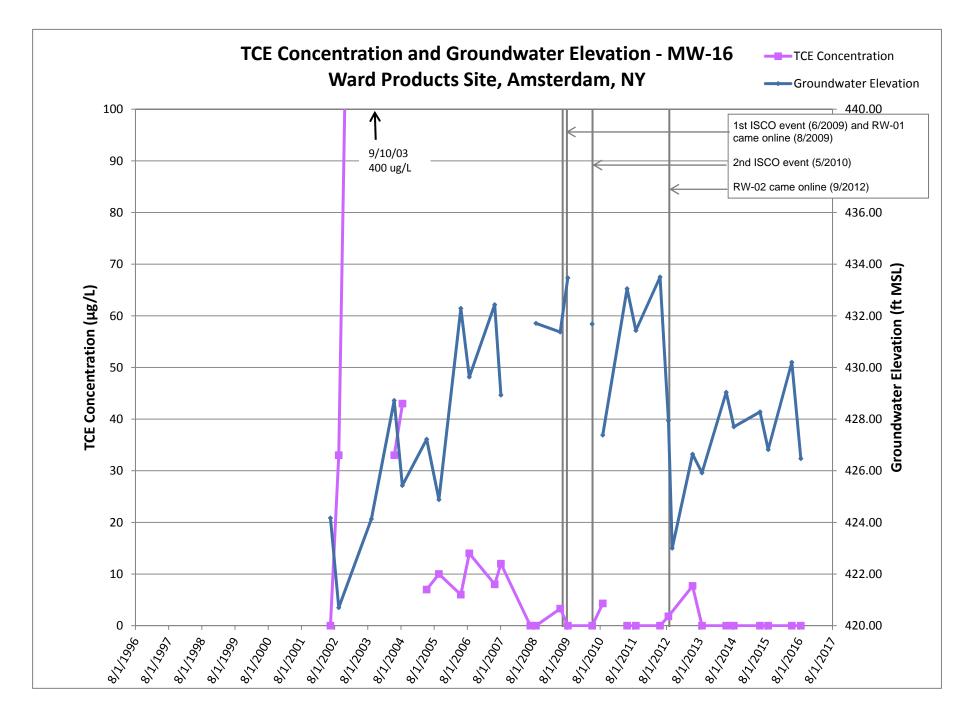


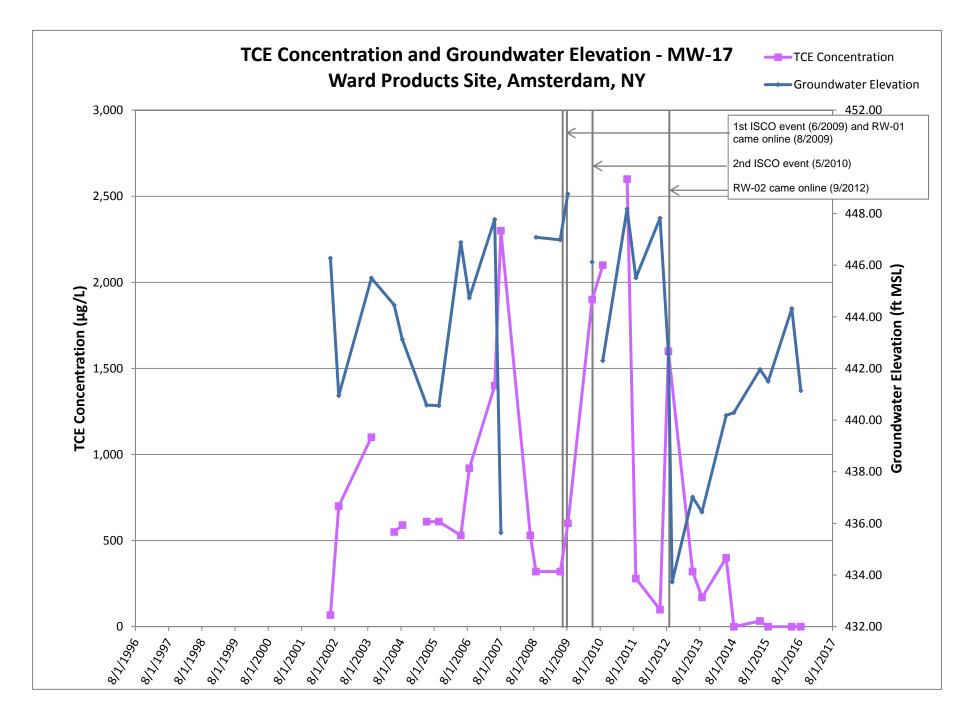


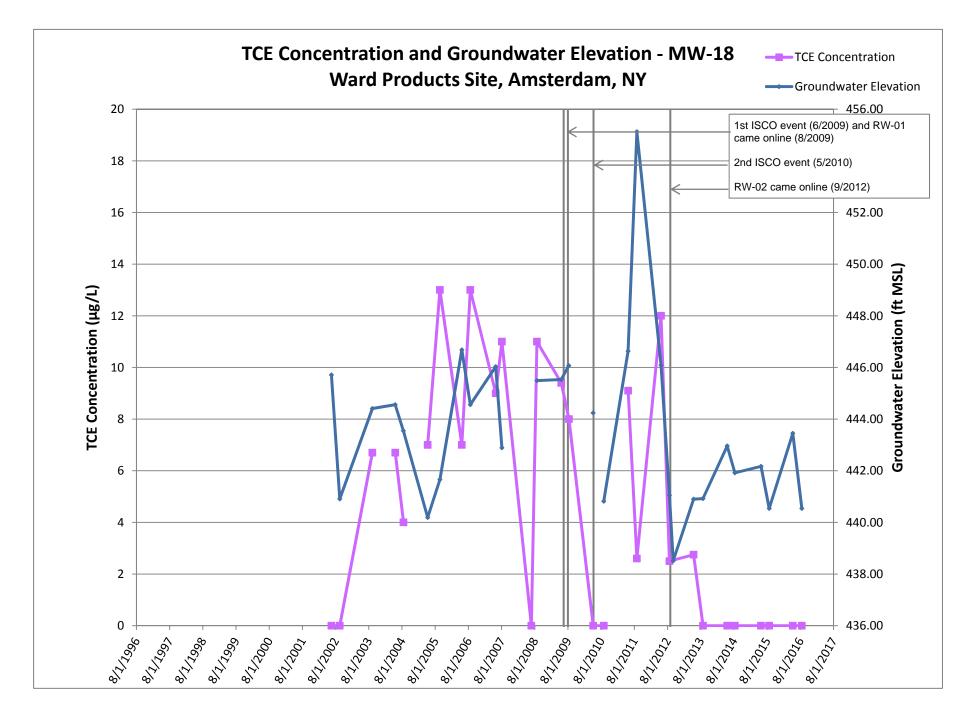




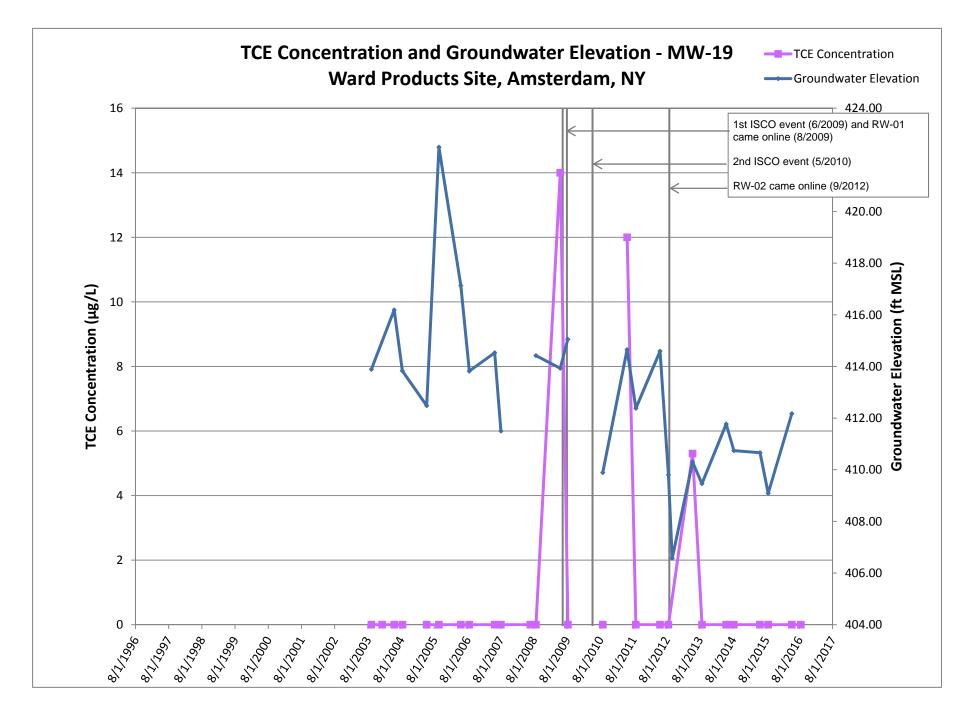


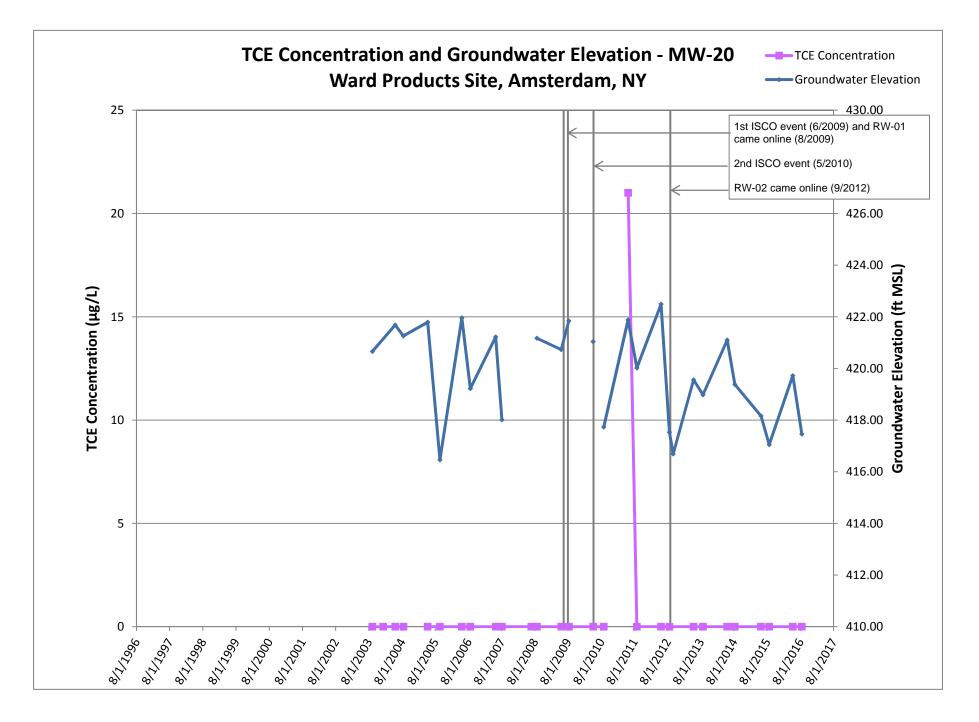






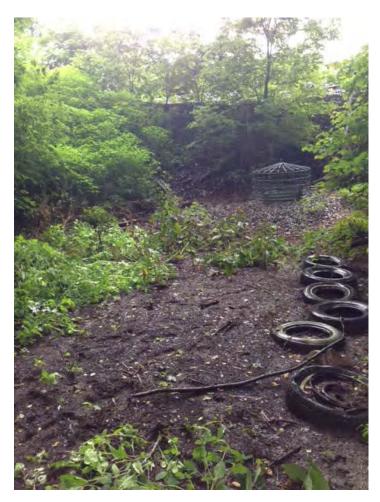
Appendix C - GW analytical graphs-TCE-v-GWE-v2.xlsx





# Appendix D Sediment Basin Photographs – August 2014, August 2015, December 2015

# 2014 Photos



Chapman Road Sediment Basin – August 2014



Chapman Road Sediment Basin – August 2014



Route 5 Sediment Basin – August 2014



Sam Stratton Sediment Basin – August 2014

# 2015 Photos



Route 5 Sediment Basin – August 2015



Route 5 Sediment Basin – August 2015



Route 5 Sediment Basin – August 2015



Route 5 Sediment Basin – August 2015



Sam Stratton Sediment Basin – August 2015



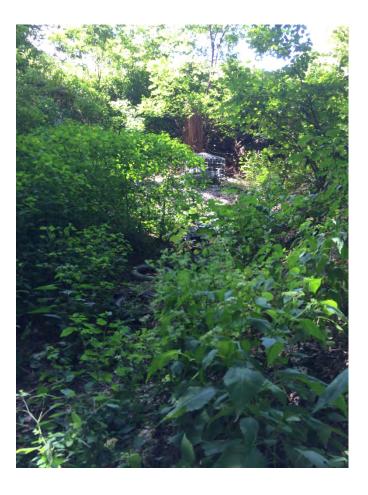
Sam Stratton Sediment Basin – August 2015



Sam Stratton Sediment Basin - August 2015



Chapman Road Sediment Basin – August 2015



Chapman Road Sediment Basin – August 2015



Chapman Road Sediment Basin – August 2015

# 2016 Photos



Route 5 Sediment Basin – December 2016



Sam Stratton Sediment Basin – December 2016

# 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	Site Details 429004	Box 1					
Site Name Ward Products							
Site Address: Edson Street Zip Code: 12010 City/Town: Amsterdam County: Montgomery Site Acreage: 2.5							
Re	eporting Period: December 01, 2013 to December 01, 2016						
		YES	NO				
1.	Is the information above correct?	X					
	If NO, include handwritten above or on a separate sheet.						
2.	Has some or all of the site property been sold, subdivided, me tax map amendment during this Reporting Period?	erged, or undergone a					
3.	Has there been any change of use at the site during this Repo (see 6NYCRR 375-1.11(d))?	orting Period □	×				
4.	Have any federal, state, and/or local permits (e.g., building, dis for or at the property during this Reporting Period?	scharge) been issued $\Box$	X				
	If you answered YES to questions 2 thru 4, include docum that documentation has been previously submitted with the theory of the second s						
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	X					
7.	Are all ICs/ECs in place and functioning as designed?	X					
	IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, DO NOT COMPLETE THE REST OF THIS FORM.						
A Corrective Measures Work Plan must be submitted along with this form to address these issues.							
Sig	gnature of Owner, Remedial Party or Designated Representative	Date					

SITE NO. 429004		I				
Description of	Description of Institutional Controls					
Parcel	<u>Owner</u>	Institutional Control				
56.10-2-34	New Water Realty Corp	c/o B. Littleton				
		Soil Management Plan				
		Building Use Restriction				
		Ground Water Use Restriction				
		Landuse Restriction				
		Monitoring Plan				
		Site Management Plan				
		O&M Plan				
		IC/EC Plan				
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 4

Box 3

## **Description of Engineering Controls**

Parcel 56.10-2-34 Engineering Control

Vapor Mitigation Cover System Groundwater Treatment System Groundwater Containment

	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 and the information processes and experts.			
	engineering practices; and the information presented is accurate and compete. YES NO			
2.	<ol> <li>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:</li> </ol>			
	(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 statement made herein is punishable as a Class "A" misdemeanor, pursuant to Sectio Penal Law.	that a false n 210.45 of the	
	Barbara C. Littleton at c/o 2900 Orchard Place, Orchard Lake, MI 48324 print name print business address		
	am certifying as President of New Water Realty Corporation	or Remedial Party)	
	for the Site named in the Site Details Section of this form. New Water Realty Corporation		
	By Barbara C. Littleton Signature of Owner, Remedial Party, or Designated Representative Rendering Certification	16/2016	
	Barbara C. Littleton, President		

## 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.

print name at 250 Apollo print but	DRIVE Chelmsford, MA 01842 usiness address			
am certifying as a Professional Engineer for the OWNER (Owner or Remedial Party)				
	A TO BAY * HARD			
Michael Darhul BARDAR	12/21/14			
Signature of Professional Engineer, for the Owner or Remedial Party, Rendering Certification	Stamp Date (Required for PE)			

# Appendix F Graphs – TCE Concentration by Season

This Appendix does not include graphs for wells MW-11, MW-14, MW-15, MW-19, and MW-20 because most of the TCE results for these wells were non-detect.

