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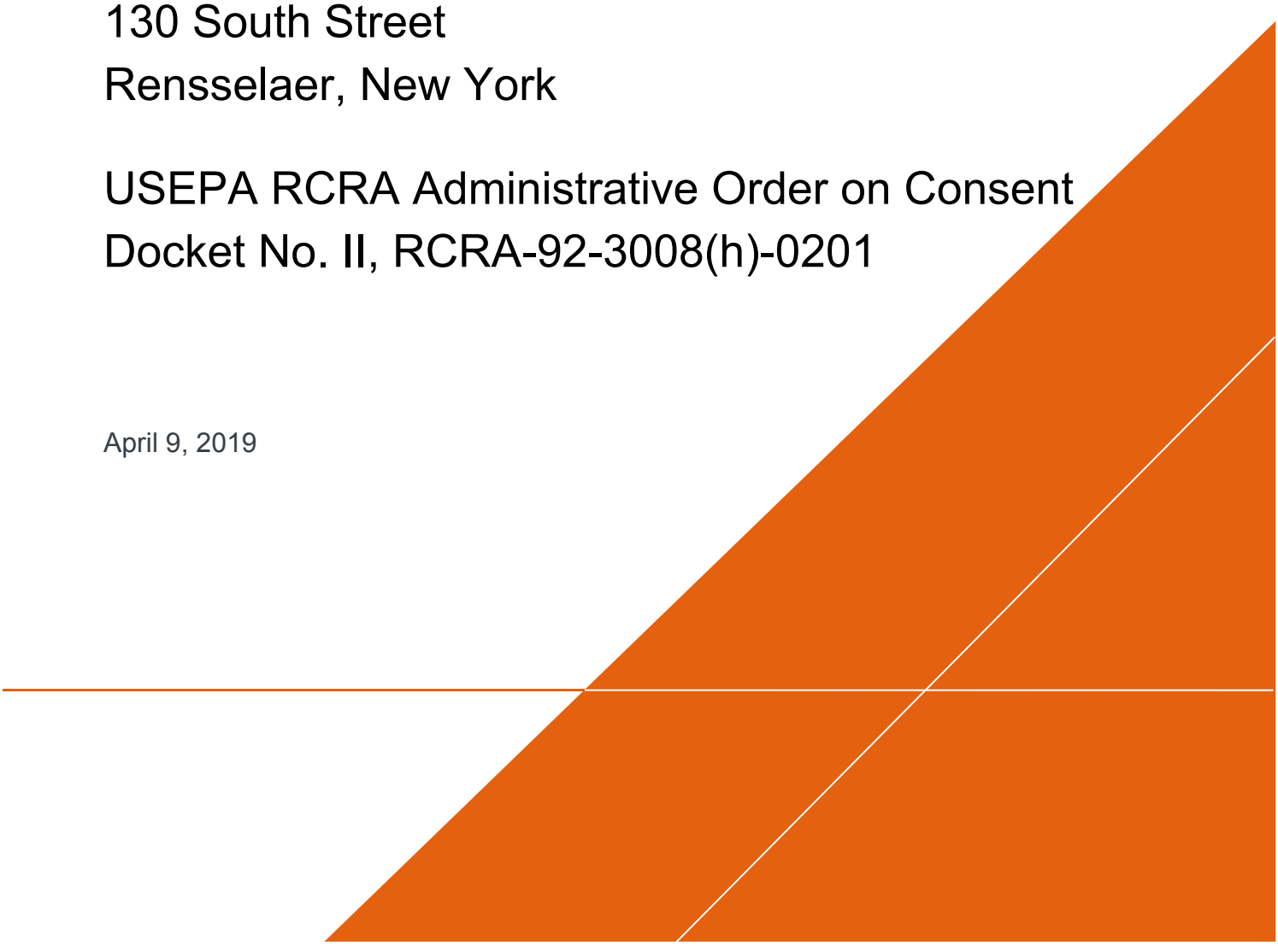
Ashland LLC

2018 CORRECTIVE MEASURE IMPLEMENTATION ANNUAL PROGRESS REPORT

130 South Street
Rensselaer, New York

USEPA RCRA Administrative Order on Consent
Docket No. II, RCRA-92-3008(h)-0201

April 9, 2019



2018 CORRECTIVE MEASURE IMPLEMENTATION ANNUAL PROGRESS REPORT

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Rensselaer, New York

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ACRONYMS AND ABBREVIATIONS

1,1-DCE	1,1-dichloroethene
1,2-DCA	1,2-dichloroethane
2017 CMI Annual Report	2017 Corrective Measures Implementation Annual Report
2018 CMI Annual Report	2018 Corrective Measure Implementation Annual Progress Report
Arcadis	Arcadis U.S., Inc.
Ashland	Ashland LLC
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, and xylenes
cis-1,2-DCE	cis-1,2-dichloroethene
CMI Work Plan	Corrective Measures Implementation Work Plan
CSM	conceptual site model
CVOC	chlorinated volatile organic compound
DO	dissolved oxygen
ERD	enhanced reductive dechlorination
ERD Work Plan	Enhanced Reductive Dechlorination System Optimization Work Plan
EVO	emulsified vegetable oil
IRZ	in-situ reactive zone
mg/L	milligrams per liter
MiHPT	membrane interface probe with a hydraulic profiling tool
MNA	monitored natural attenuation
NYSDEC	New York State Department of Environmental Protection
NYSDOH	New York State Department of Health
ORP	oxidation-reduction potential
OUL	Ozark Underground Laboratory
PCE	tetrachloroethene
ppm	parts per million
reporting period	January 1 through December 31, 2018
ROI	radius of influence
Site	Ashland Property located at 130 South Street in Rensselaer, New York

SMP	Site Management Plan
TCE	trichloroethene
TOC	total organic carbon
TOGS	Technical and Operational Guidance Series
trans-1,2-DCE	trans-1,2-dichloroethene
USEPA	United States Environmental Protection Agency
VAP	vertical aquifer profiling
VC	vinyl chloride
VOC	volatile organic compound
µg/L	micrograms per liter

1 INTRODUCTION

On behalf of Ashland LLC (Ashland), Arcadis U.S., Inc. (Arcadis) prepared this 2018 Corrective Measure Implementation Annual Progress Report (2018 CMI Annual Report) for the Ashland Property located at 130 South Street in Rensselaer, New York (site; Figure 1). This report details the activities conducted on site from January 1 through December 31, 2018 (reporting period).

Arcadis prepared this 2018 CMI Annual Report as required by the Administrative Order on Consent, Docket No. II, RCRA-92-3008(h)-0201, between Ashland and the United States Environmental Protection Agency (USEPA) Region 2, and according to the Corrective Measures Implementation Work Plan (CMI Work Plan; Arcadis 2010). The CMI Work Plan (Arcadis 2010) was approved by the USEPA in a letter dated March 16, 2010 and updated for groundwater monitoring as approved by the USEPA in a letter dated March 17, 2011 (USEPA 2010, 2011a). Groundwater remediation activities consist of the implementation of an enhanced reductive dechlorination (ERD) program along the downgradient portion of the site to address potential off-site migration of chlorinated volatile organic compounds (CVOCs) in groundwater. This is the eighth year of remedy implementation.

The activities listed below comprise the ongoing scope of the selected site remedy:

- Operate an enhanced bioattenuation remediation system to achieve ERD along the downgradient portion of the property and starting in 2018 at confirmed source areas.
- Monitor performance of the ERD system.
- Monitor concentrations of benzene, toluene, ethylbenzene, and xylenes (BTEX) in groundwater from MW-20.
- Monitor groundwater and, if necessary, evaluate the need for additional vapor monitoring at the former Volvo service center located across the railroad tracks and approximately 125 feet west of the site.
- Provide institutional and engineering controls.

During this reporting period, Arcadis presented a revised conceptual site model (CSM) and proposed path forward for the site to representatives of the USEPA, New York State Department of Environmental Conservation (NYSDEC), and New York State Department of Health (NYSDOH) via teleconference on August 22, 2018 and conducted a site visit for the regulatory agencies during the ERD injection event (October 30, 2018). The revised CSM presented elements of results from site characterization activities completed in 2017 and detailed in the 2017 Corrective Measures Implementation Annual Report (2017 CMI Annual Report; Arcadis 2018a). The presentation included a proposal to expand the existing ERD system based on the results of the 2017 investigation activities. Arcadis received approval from the NYSDEC via email on September 24, 2018 to implement the Enhanced Reductive Dechlorination System Optimization Work Plan (ERD Work Plan; Arcadis 2018b) to optimize the current site remedy. As outlined in the ERD Work Plan (Arcadis 2018b), Arcadis expanded the injection well network to target CVOC mass flux areas and source zones identified during site characterization activities completed in 2017. Additional field activities identified in the ERD Work Plan (Arcadis 2018b) were completed in 2018 and are discussed in Sections 4, 5, and 6.

This 2018 CMI Annual Report is organized into the sections listed in the table below.

Section	Purpose
Section 1 – Introduction	Provides a brief overview of the groundwater remediation activities and organization of this 2018 CMI Annual Report.
Section 2 – Corrective Measure Objectives	Provides the objectives of the remedy.
Section 3 – Conceptual Site Model Update	Discusses the additional field activities completed to further evaluate and update the CSM.
Section 4 – Enhanced Reductive Dechlorination Summary	Discusses the ERD injection methodology, well network, injection substrate, the 2018 injection event, and post-performance monitoring.
Section 5 – Groundwater Monitoring	Summarizes site-wide groundwater monitoring events, modifications to the program, and results for the past year.
Section 6 – Well Abandonment	Summarizes the well abandonment activities completed in 2018.
Section 7 – Engineering and Institutional Controls	Documents implementation and inspection of engineering and institutional controls at the Site.
Section 8 – Conclusion, Recommendations, and Schedule	Summarizes the remedial activities conducted during this reporting period. Presents recommendations for future activities and a schedule for the future work.
Section 9 – References	Lists the references cited throughout this 2018 CMI Annual Report.

2 CORRECTIVE MEASURE OBJECTIVES

In the Revised Draft Corrective Measures Study Report (Arcadis 2009), Arcadis proposed a tiered approach to identifying the corrective measure objectives using goals for short-term protectiveness, intermediate performance (defined as the initial 10 to 15 years after remedy implementation), and final cleanup goals.

The short-term protectiveness goals include:

- Prevention of unacceptable human exposure to constituents (on site and off site)
- Prevention of migration of constituents (off site).

The intermediate performance goals include:

- Protection of human health and the environment (on site and off site)
- Maintenance of plume control (on site)
- Returning the site to a productive asset for the surrounding community (on site).

Final cleanup goals include:

- Protection of human health and the environment (on site and off site)
- Achieving cleanup objectives (on site and off site).

Media cleanup standards for on-site conditions have not been established because institutional controls (deed restrictions on water use, health and safety provisions for below-grade excavation) and engineering controls (e.g., fencing, asphalt, and building slabs) can be used to prevent exposure to these media.

3 CONCEPTUAL SITE MODEL UPDATE

Multiple supplemental investigations were completed in 2017 to update the project CSM and provide data to optimize the existing ERD program by evaluating potential source area CVOC extents. Data from the supplemental investigations are provided in the 2017 CMI Annual Report (Arcadis 2018a). The 2017 supplemental investigations included:

- Performed soil vapor screening for CVOCs using Gore™ Modules.
- Used a membrane interface probe with a hydraulic profiling tool (MiHPT) and vertical aquifer profiling (VAP) to evaluate site aquifer permeability and CVOC distribution to facilitate evaluation of mass flux.
- Installed three dual-purpose injection/monitoring wells (MW-22, MW-23, MW-24) following the MiHPT and VAP investigations to further refine the understanding of the site potentiometric surface, ERD progress, and monitored natural attenuation (MNA) parameters in site groundwater.

The 2017 investigation results indicated two areas of residual CVOC source area impacts and a potential mass flux pathway not targeted by the existing ERD remedy. These results were presented to the NYSDEC and USEPA by phone during a meeting in Albany, New York on October 18, 2017. Arcadis proposed the limited scale deep zone molasses injection event, which was approved by the NYSDEC via email on October 27, 2017 and completed in the fall of 2017 utilizing the newly installed wells.

On August 22, 2018, Arcadis presented the injection results and revised CSM to representatives of the NYSDEC, USEPA, and NYSDOH via teleconference. The revised CSM is detailed below and the injection event is discussed in Section 4:

- CVOC source mass was delineated on site laterally and vertically using membrane interface probe sensor data. Two discrete areas of CVOC mass were identified: a northern source area and a southern source area. The northern source area is upgradient of current ERD injection Transect B, and the southern source area is upgradient of ERD injection Transect A. The third centrally located potential source area (identified during the January 2017 qualitative investigation) was determined to be limited and of insignificant mass.
- The supplemental investigation results indicated that source mass was present at deeper intervals than previously understood and that a likely mass flux zone was present below the existing ERD treatment zone.
- The limited-scale injection event at wells MW-22, MW-23, and MW-24 with a 2% molasses and rhodamine dye (at 40 parts per million [ppm] concentration) solution confirmed that the deeper source and mass flux zones identified during the supplemental investigation were conducive to injection of reagent to promote ERD in those intervals.
- During post-injection monitoring, rhodamine dye was detected in downgradient wells, confirming that deeper CVOC source and mass flux pathways identified during the supplemental evaluation are the likely source of off-site impacts.

The participants discussed a proposed path forward for system optimization based on the revised CSM. Following this meeting, Arcadis submitted the ERD Work Plan (Arcadis 2018b) to implement an expansion of the existing ERD remedy. The expansion involved increasing the injection well network by

installing both deeper and source injection wells and completing a source treatment evaluation using an injection event. The optimized ERD system included source area injection wells to promote degradation of source mass, combined with deeper injection well transects at the property boundary to target mass flux zones that are hydraulically connected to downgradient wells. The NYSDEC approved the ERD Work Plan (Arcadis 2018b) via email on September 24, 2018. System expansion was implemented over the dates of October 1 to 19, 2018.

4 ENHANCED REDUCTIVE DECHLORINATION SUMMARY

This section discusses the historical injections including ERD injection methodology, well network, and injection substrate; the 2018 injection event; and post-performance monitoring completed to date.

4.1 Historical Injections

Groundwater remediation activities began in October 2010 with the injection of a dilute molasses solution in three events conducted approximately quarterly (see Table 1a). The original injection well network comprised five wells in each of the two in-situ reactive zone (IRZ) areas. The Southern IRZ Area injection well transect (also designated as the A-line) included injection wells IW-A2, IW-A3, IW-A5, IW-A6, and IW-A7. As detailed in Section 6, injection wells IW-A1, IW-A5, IW-A-6, and IW-A7 were abandoned in October 2018. The Northern IRZ Area injection well transect (also designated as the B-line) includes injection wells IW-B1, IW-B2, IW-B3, IW-B4, and IW-B5. The remaining injection wells are constructed of 2-inch-inner-diameter wells with stainless steel screens that are 10 feet in length across the water-bearing zone. The bottoms of the screens are located approximately 15 to 20 feet below ground surface (bgs) for the A-line injection wells and 12 to 15 feet bgs for the B-line injection wells.

Injection frequency was determined based on general longevity of organic carbon within the IRZ. The CMI Work Plan (Arcadis 2010) proposed the use of molasses as an initial source of soluble organic carbon, which quickly established the IRZ by developing a microbial population capable of reductive dechlorination along the site boundary. Analyses indicated that total organic carbon (TOC) was being consumed, requiring periodic injections of the substrate to maintain the required organic carbon load and subsequent reducing conditions.

At the end of the first year of molasses injection, it was evident that a healthy microbial population had become established and that the geology at the site was conducive to a switch to emulsified vegetable oil (EVO). EVO sorbs to soil particles in the water-bearing zone and supplies dissolved organic carbon sufficient to maintain the established reducing conditions favorable for ERD in groundwater for a longer period (typically up to 2 years or longer). This reduces the number of injections required without compromising the well-established microbial population. The switch to EVO as the organic carbon source was proposed in a letter submitted to the USEPA on September 23, 2011 (Arcadis 2011) and approved via an email on October 5, 2011 (USEPA 2011b).

EVO injections were completed in 2011, 2013, and 2015; a limited-scale molasses injection event was completed in 2017. The details of the 2017 molasses injection event are presented in the 2017 Annual CMI Report (Arcadis 2018a).

4.2 Remedial Optimization and 2018 Injection Event

The NYSDEC approved the ERD Work Plan (Arcadis 2018b) on September 24, 2018 (via email), following the teleconference between Arcadis, the NYSDEC, the USEPA, and the NYSDOH. Arcadis implemented the following changes from September 26 to December 4, 2018 to optimize the system as outlined in the ERD Work Plan (Arcadis 2018b):

- Expanded the existing ERD system infrastructure to include 17 additional injection wells (Figure 1) targeting source areas and deeper mass flux zones identified in the revised CSM.
- Completed an injection event at the newly installed injection wells using EVO to establish and promote ERD to remediate CVOC source mass and mass flux zones. Injected conservative tracers to facilitate evaluation of groundwater flow paths, groundwater velocity, and organic carbon consumption rates.

Arcadis coordinated the installation and development of 17 injection wells and one monitoring well from October 1 to 19, 2018 as described in the Enhanced Reductive Dechlorination System Optimization Well Installation Summary (Arcadis 2019).

Injection into the newly installed wells commenced following installation and development the new wells per the ERD Work Plan and occurred from October 17 to December 4, 2018 (Arcadis 2018b). The injection was completed using a mobile injection trailer and/or dedicated injection manifolds and tanks. Injection equipment consisted of:

- Injection solution mixing tank(s)
- Injection pump(s), as needed
- Solution delivery piping or hoses
- Wellhead assemblies
- Instruments necessary to monitor injection progress (e.g., flow totalizers, pressure gauges).

Injection solution was prepared on site using potable water, EVO (approximately 2 percent by volume in the injection solution), and conservative tracers rhodamine WT and fluorescein. The conservative tracers were split between the north and south end to try to confirm suspected flow pathways. Injection into the Northern IRZ area included 62 ppm of rhodamine WT and injection into the Southern IRZ area included 27 ppm of fluorescein. EVO was supplied by EOS Remediation, LLC. Fluorescein and rhodamine WT fluorescent dye tracers were provided by Ozark Underground Laboratory (OUL).

Approximately 67,000 gallons of injection solution were prepared and injected into the planned injection network shown on Figure 2, which included the 17 newly installed wells and one monitoring well (MW-22). Table 1b summarizes the injection volumes. Injections were not deemed necessary in the pre-existing shallow injection wells along the property boundary however the need for such injections will continue to be evaluated in the future. The ERD Work Plan (Arcadis 2018b) included the injection of up to 88,000 gallons of injection solution based on a design consistent with wells screened over 15-foot intervals but allowed for revisions to the well design based on the geology observed during drilling. Final design based on encountered geology during drilling included several 10-foot screens and the adjusted target injection volume was approximately 74,000 gallons. Well screen information is outlined in the Enhanced Reductive Dechlorination System Optimization Well Installation Summary (Arcadis 2019). Approximately 91 percent of the targeted injection volume was injected during this injection event. Target volume was not met due to lower than expected achievable injection rates at select wells and failure of the well seal at injection well IW-A10. However, the well network configuration allowed for specific wells to adaptively exceed volumetric injection targets to expand their radius of influence (ROI), and it is anticipated that the

completed injection event resulted in successful distribution of EVO and tracer into the source areas and mass flux zones identified in the ERD Work Plan (Arcadis 2018b).

Field staff measured achievable and sustainable injection flow rates, wellhead injection pressures, and cumulative injection volumes periodically during injection at all wells. Field logs are provided in Appendix A. Injection solution samples were collected periodically from solution mixing tanks for TOC and dye (fluorescein or rhodamine WT as applicable) analysis to verify injection solution reagent strength. Monitoring wells near injection wells were visually inspected during injection for the presence of tracer.

As previously discussed with the USEPA, Arcadis and Ashland will continue to review remedy effectiveness and optimization of the delivery system and will communicate any recommended changes to the Agencies (NYSDEC, USEPA, and NYSDOH) prior to any potential future injection events.

4.3 Post-Injection Monitoring and Results

Performance monitoring following the 2018 injection event will be completed periodically for up to 1 year as outlined in the ERD Work Plan (Arcadis 2018b). At the completion of the monitoring period, Arcadis will prepare a summary of the results and path forward for continued ERD system operations based on the results of the injection event and post-injection monitoring data. Specifically, the post-injection performance monitoring activities include:

- TOC and tracer (fluorescein or rhodamine WT as applicable) sample collection via grab sampling in four on-site monitoring wells (MW-19, MW-23, MW-24, and MW-25). Sample collection frequency is as follows: 3 days post-injection, weekly for 1 month, monthly for 3 months, and quarterly for 1 year following injection.
- TOC and tracer (fluorescein or rhodamine WT as applicable) sampling in five off-site monitoring locations (MW-16, MW-18, MW-21, IMP-3, and IP-1). TOC samples are collected via grab sampling, and dye samples are collected via carbon trap samplers provided by OUL. Sample collection frequency is as follows: 3 days post-injection, weekly for 1 month, monthly for 3 months, and quarterly for 1 year following injection.
- CVOC samples are collected via grab sampling in four on-site monitoring wells (MW-19, MW-23, MW-24, and MW-25) and five off-site monitoring wells (MW-16, MW-18, MW-21, IMP-3, and IP-1). Samples will be collected quarterly for 1 year following injection.
- Field parameters including pH, dissolved oxygen (DO), oxidation-reduction potential (ORP), temperature, conductivity, turbidity, color, and depth to groundwater are recorded during each monitoring event following a one-well-volume purge.
- Monitoring wells surrounding injection wells are also visually inspected during the post-injection performance monitoring events to assess status of tracer distribution.

The post-injection performance monitoring results for this reporting period are presented in Table 2.

5 GROUNDWATER MONITORING

This section summarizes site-wide groundwater monitoring events, modifications to the program, and results for 2018.

5.1 Groundwater Monitoring Program

The groundwater monitoring program presented in the CMI Work Plan (Arcadis 2010) establishes the relevant Sampling and Analysis Plan and quality assurance/quality control parameters for future monitoring, which track the efficacy of the corrective measure. Quarterly sampling of a selected monitoring network was performed primarily downgradient and off site from the IRZs for the first 2 years of implementation at the following locations: IP-1, IMP-3, MW-16, MW-17, MW-18, and MW-21. Monitoring well MW-13, which is located on site and upgradient of the Southern IRZ Area, is used as a background location. In 2018, a few modifications were made to the monitoring program, which included additional wells and analytes as detailed below. Tables 3a and 3b summarize the 2018 semiannual monitoring program for IRZ performance and BTEX constituents in MW-20.

5.2 Groundwater Monitoring Activities

Two monitoring events were performed at the site in April and October 2018. Monitoring is intended to track performance of the corrective measure implementation and provide data to support injection frequency (i.e., TOC concentrations at injection wells through time). The April 2018 sampling event was conducted on April 9, 10, and 19, 2018; the October 2018 event was conducted on October 3 and 4, 2018. Groundwater monitoring results are discussed in Section 5.6.

Additional samples were also collected during the April (MW-1, MW-22, MW-23, and MW-24) and October (MW-25) 2018 sampling events to support the post-injection monitoring data collection. In addition, MNA parameters (Table 2) were collected during the April 2018 sampling event including sulfate, manganese, and iron. Additional data collected is summarized in Tables 3a and 3b.

5.3 Laboratory Analyses

Tables 3a and 3b show the analyses required at each monitoring well. Groundwater samples collected during the April and October events were analyzed for the following parameters:

- Volatile organic compounds (VOCs) using USEPA SW 846 Method 8260
- TOC using USEPA SW 846 Method 9060A
- Ethane, ethene, and methane using USEPA SW 846 Method Robert S. Kerr (RSK-175) standard operating procedure. These parameters are included in the program as an evaluation tool to track reducing conditions and degradation of CVOCs into these less harmful end products.

As stated above, during the April event, additional samples were collected at all 17 wells listed in Table 3a to evaluate site-wide geochemistry in support of the ongoing ERD remedy. This evaluation included samples collected for the following parameters:

- Sulfate using USEPA Method 300.0

- Dissolved iron and dissolved manganese using USEPA Method 6010C.

5.4 Quality Assurance/Quality Control

The data packages for the semiannual sampling events were reviewed by an Arcadis data validator. Any qualification of the data was determined using the National Functional Guidelines for Organic Data Review (USEPA 1999), National Functional Guidelines for Inorganic Data Review (USEPA 2002), and Arcadis' professional judgment.

Data verification was performed at a Level II and included review of the data package completeness, laboratory control samples and method blanks, matrix spike recoveries, and holding time compliance. There were no issues with the data analysis to report for the April 2018 data. The October 2018 VOC data for samples IW-A2 and IW-B3 were rejected because the pH was greater than 2 standard units and analyzed beyond 7 days. Detected compound results were qualified as estimated (J) and nondetects were qualified as rejected (R) for IW-A2 and IW-B3.

Data Usability Summary Reports were prepared for the April 2018 and October 2018 data by Arcadis and are provided in Appendix B.

5.5 Groundwater Monitoring Methodology

Before collecting groundwater samples, a comprehensive round of water level measurements was conducted across the site for comparison to historical groundwater elevations. The groundwater elevation results are discussed in Section 5.6.1.

Groundwater samples were collected according to the methodology described in the CMI Work Plan (Arcadis 2010) using low-flow sampling techniques to minimize turbidity in the samples. Each well was purged using a peristaltic pump at a flow rate between 200 and 300 milliliters per minute. Groundwater samples were collected from each well after water quality field parameters (including pH, ORP, temperature, turbidity, DO, and conductivity) stabilized (i.e., within +/- 0.1 for pH, 10 percent for DO, 3 percent for conductivity, and 10 millivolts for ORP). The water quality field parameters were monitored and recorded approximately every 5 minutes until stabilization was achieved. Field data for the sampling events (April and October 2018) are provided in Table 4. The groundwater monitoring field logs are included in Appendix C.

Following collection, groundwater samples were packed for shipment in a cooler with ice under appropriate chain-of-custody protocol and transported to TestAmerica Laboratories, Inc. located in Buffalo, New York.

5.6 Groundwater Monitoring Results

This section discusses the groundwater elevation, TOC, methane, pH (field measured), and VOC (including ethene and ethane) data. Historically, the following compounds have been detected at the site: 1,1-dichloroethene (1,1-DCE), 1,2-dichloroethane (1,2-DCA), cis-1,2-dichloroethene (cis-1,2-DCE), trans-1,2-dichloroethene (trans-1,2-DCE), trichloroethene (TCE), tetrachloroethene (PCE), and vinyl chloride (VC).

The performance of ERD can be evaluated in various ways, including:

- Maintenance of elevated levels of organic carbon as electron donors
- Favorable geochemical conditions to support degradation of parent compounds (i.e., PCE and TCE) into dechlorination daughter compounds (cis-1,2-DCE and VC) and end products (ethane and ethene), including:
    - Presence of reducing methanogenic conditions in target treatment zones (i.e., the presence of methane) favorable for microorganisms capable of dechlorination of CVOCs
    - Depletion nitrate or sulfate levels in target treatment zones with recovering levels downgradient;
    - Presence of elevated dissolved iron and manganese in target treatment zones.
- Increasing trends in dechlorination daughter compounds (cis-1,2-DCE and VC) and end products (ethane and ethene) and decreasing trends of parent compounds (i.e., PCE and TCE).

5.6.1 Groundwater Elevation

Two rounds of groundwater levels were collected as part of the semiannual groundwater sampling activities and are presented in Table 5. Similar to the 2017 gauging events, monitoring wells MW-10 and MW-11, located adjacent to the CSX railroad, were not gauged because they are damaged. Groundwater contours for the April and October 2018 sampling events are shown on Figures 3 and 4. Groundwater elevation data collected in both gauging events suggest that groundwater flow was consistent with historical observations (flowing generally to the north-northwest).

5.6.2 Total Organic Carbon, Methane, and pH

TOC samples provide data necessary to evaluate organic carbon released from the EVO substrate including: distribution, downgradient transportation prior to consumption, and consumption via continuous ERD. TOC samples were collected at 14 monitoring wells and three injection wells during the April 2018 sampling event and at 11 monitoring wells and two injection wells during the October 2018 sampling event.

The target TOC concentration is 20 milligrams per liter (mg/L) which is assumed to be sufficient to promote ERD based on Arcadis' experience with EVO injections. TOC concentrations remained greater than the target at the pre-existing injection wells sampled (IW-A2 and IW-B3) and monitoring well MW-B1, while TOC dropped below the target at MW-A1 (since June 2016) and MW-20 (since October 2017). TOC concentrations were elevated in monitoring wells MW-22 (600 mg/L), MW-23 (31 mg/L), and MW-24 (28 mg/L) during the April 2018 sampling event, all showing an increase in concentration from the September 2017 data and since the limited scale injection event in the fall of 2017.

Downgradient TOC results for the six off-site locations (IMP-3, IP-1, MW-16, MW-17, MW-18, and MW-21) are consistent with historical values, ranging from nondetect (less than the laboratory reporting limit) to 8.5 mg/L. TOC was not detected at MW-1 and MW-13 upgradient from treatment consistent with background levels. The TOC concentration in newly installed well MW-25 was 5.3 mg/L during the October 2018 event (prior to the late 2018 injection event). Groundwater TOC results are presented in Table 6.

Strong reducing and methanogenic conditions favorable for ERD were observed during the reporting period within or at the immediate downgradient of property boundary IRZs. In December 2018, methane concentrations (Table 6) remained elevated as compared to the October concentrations in MW-A1 (A-line IRZ) and MW-B1 (B-line IRZ) at 17 and 10 mg/L, respectively and at MW-25 (2.2 mg/L), indicating strong reducing conditions (i.e., greater than 1 mg/L). At downgradient monitoring locations, methane concentrations were generally consistent with historical observed levels with variations during this reporting period. In April 2018, the methane concentration in monitoring well MW-1 was nondetect, consistent with the background levels. Methane concentrations in monitoring wells MW-22, MW-23, and MW-24 were 4.4, 12, and 1.3 mg/L, respectively, during the April 2018 sampling event.

pH values in the performance monitoring wells have been maintained in the ranges favorable for ERD (i.e., above a pH of 5 and below 9 standard units) throughout the reporting period (Table 4).

Groundwater TOC and methane concentrations from the April and October 2018 sampling events are summarized in Tables 6 and 7, respectively, and are shown on Figure 5. The “at-a-glance” charts for the performance monitoring wells (MW-B1, MW-A1, and MW-19) and select downgradient monitoring wells (MW-16, MW-18, IP-1, and IMP-3) are presented on Figures 6 through 12. Once additional data is collected in 2019, “at-a-glance” charts will be developed for monitoring wells MW-23, MW-24, and MW-25.

5.6.3 Volatile Organic Compounds

Site groundwater VOC results have historically been compared to guidance values/standards, as applicable, found in the Technical and Operational Guidance Series (TOGS; NYSDEC 1998), and its addenda (January 1999 Errata Sheet, April 2000 Addendum, and June 2004 Addendum). Exceedances of TOGS (NYSDEC 1998) discussed below reflect results greater than these values/standards in groundwater. The results of VOC analysis from samples collected at the background well, IRZ performance monitoring wells, downgradient wells, and wells near the former Volvo service center are discussed below. The concentrations of dechlorination end products (ethane and ethene) and detected VOCs in groundwater collected during this reporting period are summarized in Tables 7 and 8, respectively.

Note that the data presented in this report represents conditions prior to the late 2018 full scale injection event. Data to be collected in 2019 will be used to evaluate the performance of this recent injection event.

5.6.3.1 Background Well

Samples collected from monitoring well MW-13 (the background location) were nondetect for all CVOC analytes during the 2018 sampling events. Total xylene was the only analyte detected at an estimated concentration of 1.6 micrograms per liter (µg/L) during the October 2018 sampling event. This is consistent with historical observations at this location.

5.6.3.2 In-Situ Reactive Zone Monitoring Wells

The monitoring wells located within and immediately downgradient of the IRZs (MW-B1, MW-A1, and MW-19) are included in the monitoring program to evaluate the effectiveness of ERD on groundwater

VOC concentrations along the property boundary. Performance monitoring results in molar concentrations for key CVOCs (PCE, TCE, cis-1,2-DCE, and VC), their dechlorination end products (ethene and ethane), and the reducing condition indicator (i.e., methane) are presented on Figures 6, 7, and 8 for MW-B1, MW-A1, and MW-19, respectively.

As shown on Figures 6, 7, and 8, groundwater monitoring results at the IRZ monitoring wells continued to demonstrate the effectiveness of ERD treatment within and immediately downgradient of the IRZs along the property boundary. Data collected from these wells are summarized below.

5.6.3.2.1 B-Line In-Situ Reactive Zone Monitoring Well MW-B1

PCE and TCE and the dechlorination end products (ethene and ethane) were all nondetect during both sampling events during this reporting period. The concentrations of dechlorination daughter products (cis-1,2-DCE and VC) were detected at 17 and 15 µg/L, and VC was detected at 7.4 and 27 µg/L during April and October 2018 sampling events, respectively (Table 8). CVOC concentrations demonstrated decreasing trends and shifting to dechlorination end products since the start of injection along the property boundary, and the data collected during this reporting period were consistent with these trends. With the support of the elevated methane concentrations indicating strong reducing conditions and sustained TOC concentrations greater than the target threshold of 20 mg/L, CVOC data collected at MW-B1 suggest that complete ERD was occurring within the B-line IRZ.

5.6.3.2.2 Monitoring Wells MW-23 and MW-24

Monitoring wells MW-23 and MW-24, located near MW-B1, were included during this reporting period to support the expansion of the existing ERD remedy and the IRZ injection wells on the north side of the site. Monitoring wells MW-23 and MW-24 were not sampled for VOCs during this reporting period. Ethene was detected in MW-24 at an estimated concentration of 33 µg/L and was nondetect in MW-23. Ethane was nondetect at both locations during the April 2018 sampling event. Both MW-23 and MW-24 show strong reducing and methanogenic conditions favorable for ERD (i.e., greater than 1 mg/L) with methane concentrations of 12 and 1.3 mg/L, and elevated TOC concentrations of 31 and 28 mg/L, respectively.

5.6.3.2.3 A-Line In-Situ Reactive Zone Monitoring Wells MW-A1 and MW-19

In monitoring well MW-A1, parent CVOC compounds PCE and TCE were detected at concentrations of 3.6 and 9.9 µg/L, respectively, during the April 2018 sampling event. The concentrations of dechlorination daughter products cis-1,2-DCE and VC were detected at 330 and 120 µg/L, respectively, during the April 2018 sampling event. Though these concentrations are an increase from the most recent events, PCE, TCE, cis-1,2-DCE, and VC were not detected during the October 2018 event (Table 8). Ethene and ethane in monitoring well MW-A1 were detected at 100 µg/L and 21 µg/L (estimated) in April 2018 and 340 µg/L and 49 µg/L (estimated) in October 2018, respectively. In monitoring well MW-19, parent CVOC compounds (PCE and TCE) were detected at concentrations of 11 and 23 µg/L in April 2018 and 2.8 µg/L (estimated) and 3.1 µg/L (estimated) in October 2018. The concentrations of dechlorination daughter products (cis-1,2-DCE and VC) followed the general decreasing trends, with slight fluctuations. Cis-1,2-DCE was detected at a concentration of 930 µg/L and an estimated concentration of 170 µg/L, and VC was detected at 330 µg/L and 68 µg/L during the April and October 2018 sampling events, respectively (Table 8). Ethane was detected at a concentration of 390 µg/L during the April 2018 event and an

estimated concentration of 91 µg/L in October 2018. Ethene was detected at concentrations of 330 µg/L and 120 J µg/L, respectively, during the April and October 2018 events.

The CVOC data collected during this reporting period suggest that the ERD process and transformation from parent compounds to degradation daughter compounds continues to occur within the A-line IRZ.

The molarities of parent compounds (PCE and TCE) and dechlorination daughter products (cis-1,2-DCE and VC) and the total molarity for these four compounds are plotted on Figures 6, 7, and 8 to provide a mass balance of CVOCs as an overall indication of the progress of degradation. The total CVOC molarity at MW-B1 and MW-A1 has been decreasing since the start of ERD injections, indicating that ERD and CVOC mass reduction is occurring at this location. Fluctuations of total molarity of parent compounds observed in MW-19 have historically been attributed to residual CVOC mass that is sorbed to soil and liberated as a result of the ERD injections. Total molarity at MW-19 steadily decreased from October 2014 to 2016 and has fluctuated since.

Ketones such as acetone, 2-butonone, and 2-hexanone are temporary products of fermentation of organic carbon substrates (e.g., EVO). These compounds may be detected where organic carbon substrate is injected (e.g., injection wells) or near the injection areas. However, these compounds degrade and/or attenuate rapidly when transported downgradient of the treatment zone via groundwater movement because they serve as electron donors to support ERD. Acetone has exceeded TOGS (NYSDEC 1998) occasionally since injection began, particularly during quarterly injections with molasses. Acetone and 2-butonone were not detected in IW-A2 or IW-B3 during the April 2018 sampling event. Monitoring of these parameters will continue during the next sampling event.

5.6.3.3 Crossgradient from In-Situ Reactive Zone

MW-20 is at the downgradient edge of the property between and crossgradient from the two IRZ lines. Concentrations of CVOCs have fluctuated through time. Specifically, concentrations of PCE, TCE, and cis-1,2-DCE, and VC were 55 µg/L, 13 µg/L, 11 µg/L, and 0.96 J µg/L, respectively, in April 2018. In October, PCE, TCE, cis-1,2-DCE, and VC concentrations were 98 µg/L, 9.3 µg/L, 10 µg/L, and nondetect, respectively. However, the presence of dechlorination daughter compounds (primarily cis-1,2-DCE) suggests that natural degradation is likely occurring at or upgradient of this area.

BTEX concentrations have demonstrated general decreasing trends at MW-20 since the start of ERD treatment. However, similar to CVOC concentrations, BTEX concentrations fluctuated through time during this reporting period. In April 2018, BTEX concentrations were detected at the following concentrations: benzene (11 µg/L), toluene (1.1 µg/L), ethylbenzene (10 µg/L), and total xylenes (77 µg/L). In October 2018, BTEX concentrations were not detected. The variation in BTEX concentrations is likely attributed to groundwater flushing from upgradient and consumption as organic carbon to promote ERD within this area. Fluctuations have been observed historically, with higher concentrations noted during the following events: October 2017, June 2016, August 2011, and September 2010. Laboratory analytical data from MW-20 are provided in Table 8. Arcadis will continue to monitor VOCs in groundwater at this location.

5.6.3.4 Downgradient Monitoring Wells

Molar concentrations of CVOCs, dechlorination daughter/end products, and the reducing condition indicator (methane) at downgradient off-site monitoring wells MW-16, MW-18, IP-1, and IMP-3 are

presented on Figures 9 through 12. As shown on Figures 9 through 12, the concentrations of dechlorination daughter products (i.e., cis-1,2-DCE and VC) at these off-site monitoring wells increased following the start of IRZ injection, but remained relatively stable with fluctuations (especially in MW-16) during recent sampling events (2014 through 2018). Concentrations of methane were slightly elevated in IP-1 (April and October 2018) and MW-18 (April 2018) However, reducing conditions (elevated methane) and TOC concentrations greater than background are not observed in in MW-16 or IMP-3.

Groundwater samples collected from MW-17 and MW-21, located on the southwestern edge of the downgradient off-site property, continue to be nondetect for CVOCs during both events in the reporting period. IMP-3, IP-1, and MW-18, located in the center of the off-site wells, exhibited exceedances of TOGS (NYSDEC 1998) criteria for cis-1,2-DCE and VC in the April and October 2018 sampling events, similar to historical results. In April 2018, cis-1,2-DCE and TCE exceeded TOGS (NYSDEC 1998) criteria in MW-16; in October 2018, cis-1,2-DCE, TCE, and VC were greater than TOGS (NYSDEC 1998) criteria in MW-16. Concentrations reported in 2018 were consistent with historical groundwater monitoring data for these off-site wells.

5.6.3.5 Off-Site Groundwater Near the Former Volvo Service Center

To address vapor intrusion concerns, the following CVOCs are being tracked in off-site groundwater near the former Volvo service center as part of the monitoring program: 1,2-DCA, benzene, cis-1,2-DCE, TCE, trans-1,2-DCE, and VC. Table 8 provides data collected near the off-site impacted areas (IMP-3, IP-1, MW-16, and MW-18) that track potential soil vapor exposure in commercial buildings near these monitoring wells. VOC results for monitoring location IMP-3 decreased to nondetect by 2013; however, in 2014, 2016, 2017, and 2018, concentrations of cis-1,2-DCE and VC greater than TOGS (NYSDEC 1998) values were detected. Monitoring locations IP-1 and MW-18 exhibited exceedances of TOGS (NYSDEC 1998) values for cis-1,2-DCE, VC, benzene, and trans-1,2-DCE, consistent with historical values during at least one or both sampling events. Concentrations of TCE, VC, 1,2-DCA, and cis-1,2-DCE in MW-16 continue to exceed TOGS (NYSDEC 1998) values.

Property use at the former Volvo service center has not changed since implementation in 2010. Arcadis will continue to track property use and groundwater results in future annual reports.

Current concentrations of 1,2-DCA, benzene, cis-1,2-DCE, trans-1,2-DCE, and VC do not indicate a change in condition warranting additional action for vapor intrusion concerns for offsite locations.

5.6.3.6 Additional Wells MW-1, MW-22, and MW-25

As noted above, monitoring well MW-1 was added to the October 2017 and April 2018 sampling events to support the supplemental source investigation. Prior to 2017, monitoring well MW-1 was last sampled in 2009 and December 2016. With the exception of PCE concentrations (0.95 J µg/L), the following analyte concentrations were generally less than their historical concentrations, but continue to be greater than their respective TOGS (NYSDEC 1998): TCE (34 µg/L), cis-1,2-DCE (160 µg/L), and VC (7.4 µg/L). PCE concentrations were less than the TOGS (NYSDEC 1998) standard of 5 µg/L during the April 2018 sampling event. Monitoring well MW-1 was not sampled during the October 2018 event.

Monitoring wells MW-22 and MW-25 are located centrally on the south side of the site; both wells will support the ERD injections discussed in Section 4. MW-22 was not sampled for VOCs during this

reporting period, but ethane and ethene concentrations were 240 J µg/L and 210 J µg/L, respectively. Monitoring well MW-25 was installed on October 1, 2018 and sampled during the October 2018 sampling event to provide additional background data prior to the late 2018 EVO injections on the south side of the site. PCE (9300 D µg/L), TCE (220 µg/L), 1,1-DCA (17 J µg/L), cis-1,2-DCE (850 µg/L), and VC (690 µg/L) were reported at concentrations greater than their respective TOGS (NYSDEC 1998). These elevated concentrations will be monitored during the post-injection sampling. Ethane and ethene were detected at concentrations of 290 and 190 µg/L, respectively. As noted above, MW-22 and MW-25 show strong reducing and methanogenic conditions favorable for ERD (i.e., greater than 1 mg/L) with methane concentrations of 4.4 mg/L and 2.2 D mg/L, respectively.

5.6.4 Geochemistry Results

To evaluate site groundwater geochemistry, additional samples were collected from the semiannual sample list of monitoring wells as well as the additional locations MW-1, MW-22, MW-23, and MW-24 as part of the April 2018 routine groundwater monitoring event. The purpose of the samples was to provide data to evaluate the ongoing ERD remedy and establish geochemical trends in ambient groundwater upgradient of the injection transects. Wells were selected for expanded analyses to provide a range of concentrations across the site, including on-site upgradient and concurrent with ERD treatment areas and downgradient of treatment in off-site wells.

Samples were analyzed for varying combinations of geochemical indicator parameters, including dissolved iron and manganese, sulfate, and methane. These data were used to assess site groundwater geochemistry trends and to support the ongoing remedy.

The results are presented in Tables 7 and 9, and summarized below:

- The depletion of oxygen is observed across the site in the groundwater samples as the monitoring wells reach stabilization. Dissolved oxygen ranged from 0.0 to 1.56 mg/L and 0.0 to 1.63 mg/L during the April and October 2018 events, respectively.
- Dissolved iron ranged from 0.019 J mg/L to 280 mg/L and dissolved manganese ranged from 0.013 to 20 mg/L during the April 2018 event. Dissolved iron and dissolved manganese were not analyzed during the October 2018 event.
- Sulfate concentrations ranged from 16 to 680 mg/L, suggesting relatively elevated sulfate concentrations in both ambient and treated groundwater during the April 2018 event. Sulfate concentrations were not analyzed during the October 2018 event.
- Methane was detected in all wells sampled except monitoring wells MW-1 and MW-16 as part of the April 2018 event, with concentrations ranging from 1.2 to 14 mg/L. During October 2018 event, methane ranged from 0.52 to 17 mg/L. Though a shorter list of wells were sampled, methane was detected in all that were sampled including MW-16.

These data indicate that site groundwater conditions range from moderately to strongly reducing across the site, including both upgradient and downgradient of the ERD transects. This is evidenced by the depletion of oxygen across the site, relatively high concentrations of dissolved iron and manganese in most wells, and detections of methane in all wells sampled.

Geochemistry data upgradient of the ERD transects also indicate moderately to strongly reducing conditions, which is consistent with observed CVOC degradation products in wells upgradient of the ERD transects and indicates that ambient groundwater is capable of naturally degrading CVOCs. Notably, the highest concentrations of dissolved metals were observed in MW-22, located upgradient to northwest of the presumed source areas. These data, along with elevated methane at that location, suggest strongly reducing conditions.

Geochemistry data near the ERD transects indicates strongly reducing conditions consistent with active ERD treatments, and downgradient wells demonstrate strongly to moderately reducing conditions that are likely attributable to a combination of downgradient effects of ERD treatment and ambient groundwater conditions. Geochemistry data collected in April and October 2018 indicate that site groundwater is strongly to moderately reducing and will support ongoing ERD treatment of CVOCs. Data further indicate that, under ambient conditions, site groundwater geochemistry is favorable for reductive dechlorination of CVOCs. Future groundwater monitoring events may include similar geochemical analysis as needed to continue to evaluate ERD effectiveness and geochemical trends in site groundwater to support the ongoing remedy.

5.6.5 Summary

The following observations can be made based on data collected since submittal of the 2017 CMI Annual Report (Arcadis 2018a):

- Evaluation of data collected from wells near or within the IRZ confirms that successful ERD has been sustained along the property boundary as a result of the 2017 limited scale injection. This is evidenced by the strong reducing and methanogenic conditions favorable for ERD in monitoring wells MW-A1, MW-19, and MW-B1; nondetect concentrations of parent compounds; and continued transformation of parent compounds to dechlorination daughter and end products.
- There is no clear evidence that sustained ERD is occurring off site yet from the limited 2017 injection event, although tracer has been observed to travel to off-site wells. Significantly higher volumes were injected across more wells in 2018 and therefore the 2018 injection event is expected to have a greater effect on CVOCs migrating downgradient. Changes/trends in downgradient groundwater will be monitored closely in 2019.
- The presence of dechlorination daughter and/or end products at areas that have not been influenced by ERD treatment suggests that natural attenuation is occurring at or upgradient of these locations with other organic compounds potentially served as electron donors (e.g., BTEX).

6 WELL ABANDONMENT

In addition to the well installation and injections, six wells (IW-A1, IW-A5, IW-A6, IW-A7, PZ-1, and PZ-2) were abandoned in October 2018 to accommodate construction activities on the bridge adjacent to the site. These wells were associated with previous environmental investigations and/or remedial activities and were currently not critical to the implementation or monitoring of the ongoing remedy. If necessary, the wells can be replaced in the future following the construction efforts on the adjacent bridge.

A New York State licensed well driller performed the well abandonment activities. A representative of Arcadis was present during the work and documented all monitoring well decommissioning activities, including daily reports, photographs, and sketches as necessary. The wells were decommissioned using the steps described below, which are in conformance with NYSDEC CP-43: Groundwater Monitoring Well Decommissioning Policy (NYSDEC 2009).

Abandonment included the following procedures:

- Well construction details for each well to be abandoned were reviewed to confirm as-built well depth, screen interval, and surface seal information.
- The wells were positively identified before initiating the abandonment.
- Water levels and well depths were measured using a well sounder.
- Cement or bentonite grout was used to backfill (via tremie pipe) each well from the bottom up.
- Surface completion materials were removed (e.g., flush mounts, concrete pads) from each well location.
- The well casing was cut and removed to a depth of 2 feet below ground surface.
- Ground surface around each abandoned well was repaired to match the surrounding areas.

Well abandonment documentation is provided in Appendix D.

7 ENGINEERING AND INSTITUTIONAL CONTROLS

As described in the CMI Work Plan (Arcadis 2010) and the Statement of Basis for Proposed Remedy Selection (USEPA 2009), Arcadis is responsible for institutional controls at the site including maintaining perimeter control and tracking surface covers (building slabs and asphalt pavement). The details related to this responsibility are identified in the Draft Site Management Plan (SMP; Arcadis 2017) submitted to USEPA for approval on January 31, 2017. A revised SMP will be submitted for approval in 2019 now that ERD optimization has been completed. The revised SMP will include the Environmental Easement for the site once it is finalized and recorded.

Arcadis performs annual reviews of these institutional controls as part of the semiannual monitoring events. Conditions are similar to those documented in the 2017 CMI Annual Report (Arcadis 2018a), which was provided as Appendix C. Arcadis is currently considering appropriate repairs to be conducted in 2019. Appendix E contains the site inspection log completed in October, as well as a photo log. As requested by the NYSDEC, an Institutional and Engineering Controls Certification Form is provided in Appendix F.

Issues identified during the annual review are summarized below:

- MW-10, MW-11, and MW-12S/D are slated for repair to the outer casings or well abandonment (upon NYSDEC approval) in 2019.
- Collapsed asphalt near the culvert continues to be maintained with Type 2 crusher run gravel (see photo provided in Appendix E).
- Additional areas of the site were filled in with Type 2 crusher run gravel, including the sump and the manhole, which at one point served as an access point to the recovery well lines for the former groundwater treatment system.
- Ashland received a notice of violation letter dated October 24, 2018 from the City of Rensselaer. This complaint was regarding vegetation overgrowth, graffiti on the fence, as well as the fence needing a few repairs. Arcadis is working with subcontractors to address these issues as weather conditions allow. It is anticipated that this work will be completed in early 2019.

8 CONCLUSIONS, RECOMMENDATIONS, AND SCHEDULE

Based on the data collected to date, the ERD injection remedy at the site continues to maintain an IRZ along the western site boundary to address potential off-site migration of CVOCs in groundwater. Performance monitoring data and post-injection data indicate TOC concentrations within the IRZ that support continued remediation.

Semiannual groundwater monitoring will be conducted in accordance with the monitoring schedules and methodology included in this 2018 CMI Annual Report. If groundwater monitoring data suggest that ERD is occurring at the downgradient off-site areas, as evidenced by degradation of VOCs and/or the presence of TOC, additional MNA parameters may be collected to facilitate the understanding and/or optimization of the groundwater remedy for the off-site area. These MNA parameters include sulfate, nitrate, manganese, and iron per the CMI Work Plan (Arcadis 2010; Table 2).

Arcadis continues to perform an in-depth evaluation of the site with emphasis on remedy performance and optimization. Any data collected or proposed ERD modifications will be forwarded to the NYSDEC for discussion before implementation. Following completion of post-injection monitoring related to the ERD Work Plan (Arcadis 2018b), Arcadis will discuss with all project stakeholders the performance of ERD, revisions to the CSM as necessary, and a continued proposed path forward for ERD at the site.

9 REFERENCES

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TABLES

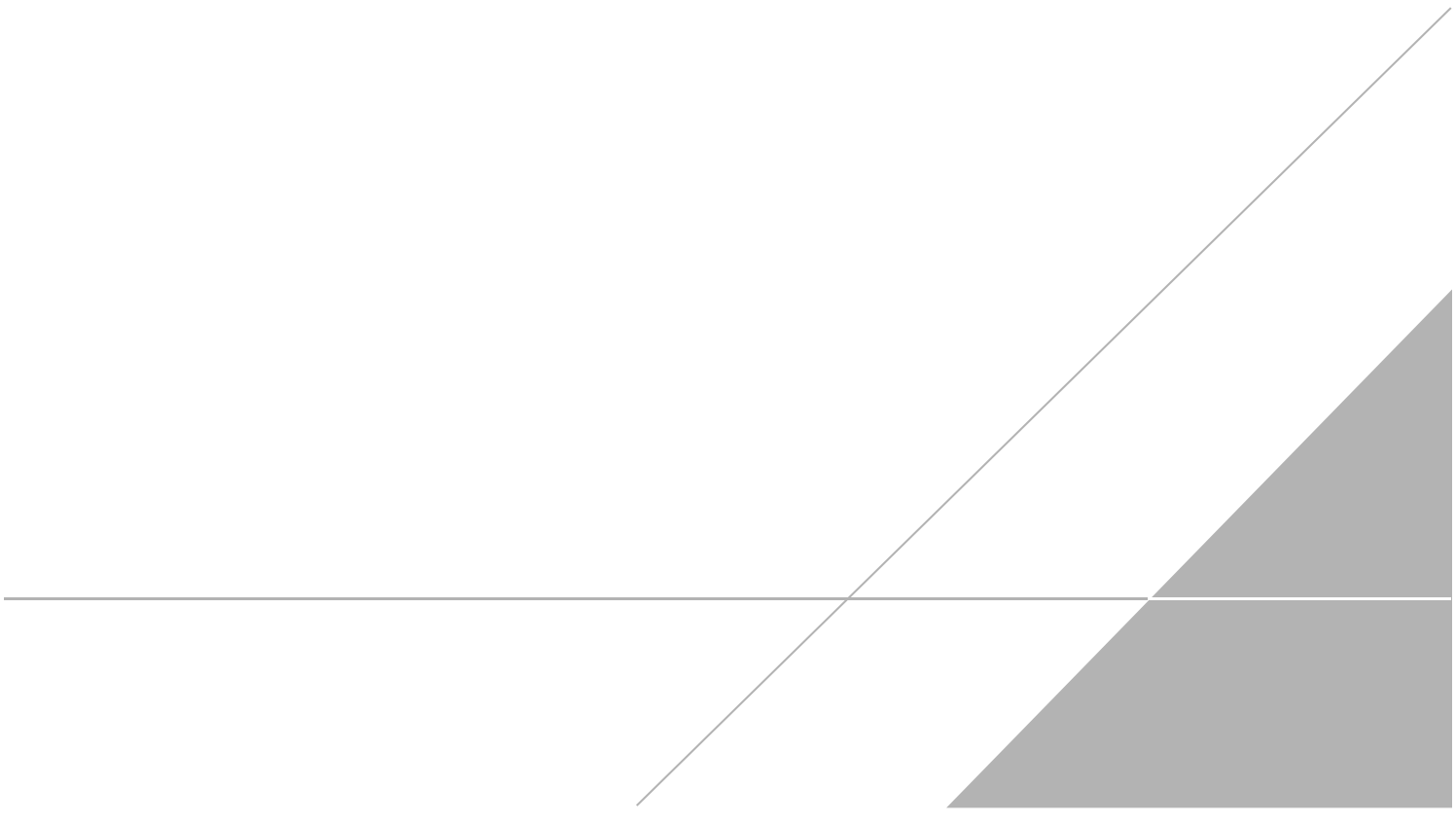

Table 1a
IRZ Injection Summary (2010-2015)
2018 Corrective Measure Implementation Annual Progress Report
Ashland LLC
130 South Street, Rensselaer, New York

ARCADIS Design & Consultancy for natural and built assets

Molasses Injections

Location ID	Cumulative Volume (gallons)*	Average Injection Rate (gpm)**	Cumulative Volume (gallons)*	Average Injection Rate (gpm)**	Cumulative Volume (gallons)***	Average Injection Rate (gpm)***
Southern IRZ	**October 2010**		**January 2011-March 2011**		**July 2011-August 2011**	
IW-A2	201	0.2	773	0.3	940	0.2
IW-A3	469	0.5	1,209	0.5	1,019	0.3
IW-A5	477	0.6	736	0.4	1,035	0.3
IW-A6	980	1.2	1,670	0.9	1,064	0.3
IW-A7	992	1.1	759	0.3	1,120	0.3
Subtotal	3,100	--	5,100	--	5,200	--
Average	624	0.7	1,030	0.5	1,036	0.3
Northern IRZ	**October 2010**		**January 2011-March 2011**		**July 2011-August 2011**	
IW-B1	12	0.04	283	0.2	988	0.03
IW-B2	372	1.2	389	0.2	1,105	0.05
IW-B3	339	1.3	441	0.2	1,011	0.03
IW-B4	194	0.6	286	0.1	560	0.02
IW-B5	699	2.3	1,614	1.2	1,632	0.07
Subtotal	1,600	--	3,000	--	5,300	--
Average	323	1.1	603	0.4	1,059	0.04

EVO Injections

Location ID	Cumulative Volume (gallons)***	Average Injection Rate (gpm)***	Cumulative Volume (gallons)***	Average Injection Rate (gpm)***	Cumulative Volume (gallons)***	Average Injection Rate (gpm)***
Southern IRZ	**October 2011-December 2011**		**July 2013-October 2013**		**September 2015-November 2015**	
IW-A2	1,306	0.2	1,305	0.2	736	0.06
IW-A3	1,309	0.3	1,310	0.3	1,325	0.60
IW-A5	1,320	0.3	1,368	0.3	1,085	0.12
IW-A6	1,300	0.2	1,363	0.4	1,029	0.12
IW-A7	1,312	0.2	1,305	0.2	374	0.04
Subtotal	6,500	--	6,700	--	4,500	--
Average	1,309	0.3	1,330	0.3	910	0.2
Northern IRZ	**October 2011-December 2011**		**July 2013-October 2013**		**September 2015-January 2016**	
IW-B1	690	0.02	25	0.003	275	0.003
IW-B2	1,955	0.21	1,720	0.05	1,275	0.02
IW-B3	1,285	0.04	735	0.01	975	0.02
IW-B4	705	0.02	1,330	0.05	633	0.01
IW-B5	2,275	0.22	1,800	0.07	846	0.01
Subtotal	6,900	--	5,600	--	4,000	--
Average	1,382	0.10	1,122	0.04	801	0.01

NOTES:
EVO = emulsified vegetable oil
gpm = gallons per minute
IRZ = in-situ reactive zone
* = Volume adjusted for overflow recovered molasses.
** = Based on injection flow rate measured at wellhead.
*** = Based on injection flow rate measured at wellhead (A-line) or changes of tank volumes vs. time (B-line).
-- = not applicable

Table 1b
IRZ Injection Summary (2017-2018)
2018 Corrective Measure Implementation Annual Progress Report
Ashland LLC
130 South Street, Rensselaer, New York

	Location ID	Cumulative Volume (gallons)*	Average Injection Rate (gpm)*
Molasses Injections	**Southern Source Zone**	**November 2017**	
	IW-A08	--	--
	IW-A09	--	--
	IW-A10	--	--
	IW-A11	--	--
	IW-A12	--	--
	IW-A13	--	--
	IW-A14	--	--
	MW-22	5,767	1.2
	Subtotal:	5,800	--
	Average:	5,767	1.2
	Northern Source Zone	**November 2017**	
	IW-B06	--	--
	IW-B07	--	--
	IW-B08	--	--
	IW-B09	--	--
	IW-B10	--	--
	IW-B11	--	--
	IW-B12	--	--
	IW-B13	--	--
	IW-B14	--	--
	IW-B15	--	--
	MW-23	1,162	0.6
	MW-24	3,320	0.7
	Subtotal:	4,500	--
	Average:	2,241	0.6

	Location ID	Cumulative Volume (gallons)*	Average Injection Rate (gpm)*
EVO Injections	**Southern Source Zone**	**October 2018-December 2018**	
	IW-A08	3,629	0.2
	IW-A09	4,524	0.9
	IW-A10	95	0.1
	IW-A11	5,530	2.4
	IW-A12	5,751	1.0
	IW-A13	3,515	1.3
	IW-A14	4,016	0.4
	MW-22	3,531	0.7
	Subtotal:	30,600	--
	Average:	3,824	0.9
	Northern Source Zone	**October 2018-December 2018**	
	IW-B06	1,135	0.2
	IW-B07	2,553	0.4
	IW-B08	1,996	0.3
	IW-B09	4,734	0.5
	IW-B10[b]	3,706	0.3
	IW-B11	3,242	0.5
	IW-B12	4,055	0.5
	IW-B13	5,051	0.9
	IW-B14	4,950	1.2
	IW-B15	4,911	1.7
	MW-23	--[a]	--[a]
	MW-24	--[a]	--[a]
	Subtotal:	36,300	--
	Average:	3,633	0.7

NOTES:
[a] Monitoring wells MW-23 and MW-24 used for monitoring during 2018 injection event.
[b] Significant daylighting was observed during the injection event, potentially due to a failed well seal. IW-B10 was taken offline.
EVO = emulsified vegetable oil
gpm = gallons per minute
* = Based on injection flow rate measured at wellhead (A-line) or changes of tank volumes vs. time (B-line).
-- = not applicable.

Table 2
Post-Injection Performance Monitoring
2018 Corrective Measure Implementation Annual Progress Report
Ashland LLC
130 South Street, Rensselaer, New York

Location ID	Date Collected	TOC (mg/L)	Groundwater Grab Sample		Charcoal Packet Sample	
			FL (mg/L)	RWT (mg/L)	FL (mg/L)	RWT (mg/L)
Injection Solution	10/23/2018	1,800 ^	35,900	--	--	--
	10/31/2018	7,800 B^	40,000	--	--	--
	11/7/2018	2,200	--	85,300	--	--
	11/13/2018	1,500 ^	--	80,900	--	--
	11/20/2018	1,100	ND	81,400	--	--
	11/27/2018	1,300	ND	134,000	--	--
MW-19	11/20/2018	8.20	1.86	0.197	--	--
	11/29/2018	7.60 [7.80]	3.21	0.260	--	--
	12/5/2018	7.60	1.40	0.169	--	--
	12/11/2018	7.30	1.30	0.156	--	--
MW-23	11/20/2018	21.0	ND	792	--	--
	11/29/2018	45.0	ND	893	--	--
	12/5/2018	32.0 B	ND	909	--	--
	12/11/2018	25.0	ND	819	--	--
MW-24	11/20/2018	13.0	ND	1,120	--	--
	11/29/2018	46.0	ND	1,600	--	--
	12/5/2018	81.0 B	ND	1,300	--	--
	12/11/2018	61.0	ND	1,120	--	--
MW-25	11/20/2018	6.20	0.287	0.215	--	--
	11/29/2018	7.50	0.0570	ND	--	--
	12/5/2018	7.20 B	ND	ND	--	--
	12/11/2018	6.30	ND	ND	--	--
IMP-3	11/13/2018	--	--	--	1.30	ND
	11/20/2018	1.40	--	--	0.442	ND
	11/29/2018	1.00	--	--	0.290	ND
	12/5/2018	1.60 B	--	--	0.508	ND
	12/11/2018	1.80	--	--	1.83	ND
IP-1	11/13/2018	--	--	--	0.655	ND
	11/20/2018	4.30	--	--	ND	ND
	11/29/2018	4.10	--	--	ND	ND
	12/5/2018	4.30 B	--	--	0.467	ND
	12/11/2018	4.60	--	--	0.734	ND
MW-16	11/13/2018	--	--	--	0.288	ND
	11/20/2018	1.40	--	--	0.315	ND
	11/29/2018	1.80	--	--	1.42	1.40
	12/5/2018	1.50 B	--	--	1.24	1.25
	12/11/2018	1.80	--	--	3.01	1.09
MW-18	11/13/2018	--	--	--	1.88	ND
	11/20/2018	2.50	--	--	1.57	ND
	11/29/2018	2.10	--	--	ND	--[a]
	12/5/2018	2.60 B	--	--	1.34	ND
	12/11/2018	2.70	--	--	2.72	0.808

Table 2
Post-Injection Performance Monitoring
2018 Corrective Measure Implementation Annual Progress Report
Ashland LLC
130 South Street, Rensselaer, New York

Location ID	Date Collected	TOC (mg/L)	Groundwater Grab Sample		Charcoal Packet Sample	
			FL (mg/L)	RWT (mg/L)	FL (mg/L)	RWT (mg/L)
MW-21	11/20/2018	3.50	--	--	2.18	ND
	11/29/2018	3.60	--	--	1.43	ND
	12/5/2018	4.40 B [4.30]	--	--	0.423	1.02
	12/11/2018	4.50	--	--	0.307	ND

NOTES:
1. Duplicate sample results are presented in brackets.
[a] Charcoal packet placed on 11/20/2018 was not present during time of collection and was not analyzed.
FL = fluorescein dye result from charcoal packet sample
mg/L = milligrams per liter
ND = nondetect result
RWT = rhodamine WT (tracer) result from charcoal packet sample
TOC = total organic carbon
-- = not sampled
^ = ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
B = Compound was found in the blank and sample.

Table 3a
Sample Summary and IRZ Performance and BTEX Monitoring – April 2018
2018 Corrective Measure Implementation Annual Progress Report
Ashland LLC
130 South Street, Rensselaer, New York

ARCADIS Design & Consultancy for natural and built assets

Parameter Well IDs	Semiannual (2 times/year)				Nitrate USEPA 300.0	Sulfate USEPA 300.0	Total Iron USEPA 6010C	Dissolved Iron USEPA 6010C	Total Manganese USEPA 6010C	Dissolved Manganese USEPA 6010C	Water Level --	Field Parameters --
	VOCs	Ethane/Ethene	Methane	TOC								
IP-1	X	X	X	X		X		X		X	X	X
IMP-3	X	X	X	X		X		X		X	X	X
IW-A2	X	X	X	X		X		X		X	X	X
IW-B3	X	X	X	X		X		X		X	X	X
MW-A1	X			X		X		X		X	X	X
MW-B1	X	X	X	X		X		X		X	X	X
MW-1	X	X	X	X		X		X		X	X	X
MW-13	X			X		X		X		X	X	X
MW-16	X	X	X	X		X		X		X	X	X
MW-17	X			X		X		X		X	X	X
MW-18	X	X	X	X		X		X		X	X	X
MW-19	X	X	X	X		X		X		X	X	X
MW-20	X*	X	X	X		X		X		X	X	X
MW-21	X			X		X		X		X	X	X
MW-22		X	X	X		X		X		X	X	X
MW-23		X	X	X		X		X		X	X	X
MW-24		X	X	X		X		X		X	X	X

NOTES:
1. Samples will be analyzed by TestAmerica Laboratories, Inc. located in Buffalo, New York.
2. Field parameters include pH, dissolved oxygen, oxidation-reduction potential, temperature, conductivity, and turbidity.
3. Dissolved metal samples will be filtered in the field prior to filling up sample bottles.
BTEX = benzene, toluene, ethylbenzene, and xylenes
IRZ = in-situ reactive zone
TOC = total organic carbon
USEPA = United States Environmental Protection Agency
VOC = volatile organic compounds
X = sample to be collected
* = semiannual sampling to monitor VOC (i.e., BTEX) concentrations in MW-20

Table 3b
Sample Summary and IRZ Performance and BTEX Monitoring – October 2018
2018 Corrective Measure Implementation Annual Progress Report
Ashland LLC
130 South Street, Rensselaer, New York

Parameter Well IDs	Semiannual (2 times/year)				Water Level --	Field Parameters --
	VOCs	Ethane/ Ethene	Methane	TOC		
IP-1	X	X	X	X	X	X
IMP-3	X			X	X	X
IW-A2	X			X	X	X
IW-B3	X			X	X	X
MW-A1	X	X	X	X	X	X
MW-B1	X	X	X	X	X	X
MW-13	X			X	X	X
MW-16	X	X	X	X	X	X
MW-17	X			X	X	X
MW-18	X	X	X	X	X	X
MW-19	X	X	X	X	X	X
MW-20	X*				X	X
MW-21	X			X	X	X
MW-25	X	X	X	X	X	X

NOTES:
1. Samples will be analyzed by TestAmerica Laboratories, Inc. located in Buffalo, New York.
2. Field parameters include pH, dissolved oxygen, oxidation-reduction potential, temperature, conductivity, and turbidity.
3. Dissolved metal samples will be filtered in the field prior to filling up sample bottles.
BTEX = benzene, toluene, ethylbenzene, and xylenes
IRZ = in-situ reactive zone
TOC = total organic carbon
VOC = volatile organic compound
X = sample to be collected
* = semiannual sampling to monitor VOC (i.e., BTEX) concentrations in MW-20

Table 4
Field Parameters After Stabilization was Achieved (2016-2018)
2018 Corrective Measure Implementation Annual Progress Report
Ashland LLC
130 South Street, Rensselaer, New York

Well ID	Date Sampled	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	pH (SU)	Temperature (°C)	Turbidity (NTUs)
IMP-3	06/30/16	1.75	0.99	-154	7.75	17.96	3.8
	12/20/16	1.13	4.38	0.0	7.05	10.75	0.0
	05/15/17	1.71	0.00	25	7.37	10.60	22.8
	10/30/17	1.72	1.69	-61	6.49	15.45	37.6
	04/09/18	0.985	1.56	-15	7.31	10.56	30.9
	10/03/18	1.60	0.57	-119	6.97	16.70	0.0
IP-1	06/28/16	1.14	0.0	-119	5.36	16.42	13.1
	12/20/16	1.14	0.55	-84	6.40	9.39	26.9
	05/15/17	1.00	0.00	-32	7.30	11.03	108.0
	10/30/17	1.10	3.60	-109	6.83	14.20	11.6
	04/09/18	0.775	0.00	-115	7.33	9.00	102
	10/03/18	0.856	0.00	-181	6.99	64.4	0.0
IW-A2	06/30/16	6.81	0.38	-215	7.31	19.90	537
	12/21/16	3.97	1.30	-207	6.88	9.00	363
	05/16/17	3.25	0.00	-83	6.76	18.60	588
	10/31/17	4.16	2.66	-113	6.80	14.25	446
	04/10/18	3.31	0.00	-161	7.19	11.44	149
	10/04/18	3.75	0.69	-193	6.97	15.38	101
IW-B3	06/30/16	2.37	3.33	-57	7.70	19.68	187
	12/21/16	3.09	0.70	-156	6.91	10.11	324
	05/16/17	1.43	0.00	-8	6.31	11.95	399
	10/31/17	2.82	1.99	-133	6.71	11.92	324
	04/10/18	2.94	0.00	-122	7.32	8.49	153
	10/03/18	2.44	0.49	-173	6.81	18.92	195
MW-13	06/28/16	0.718	0.53	-74	7.78	15.76	0.0
	12/20/16	0.688	2.30	54	8.01	7.76	0.0
	05/16/17	0.459	0.00	121	7.40	12.87	0.0
	10/31/17	0.745	1.06	-33	6.95	13.61	0.0
	04/10/18	0.572	0.00	64	7.95	6.72	17.7
	10/04/18	0.580	0.00	-95	7.52	58.5	0.0
MW-16	06/30/16	1.21	0.61	6	7.59	18.97	0.8
	12/20/16	1.64	4.71	-58	7.40	11.26	0.0
	05/15/17	0.951	0.00	205	7.10	15.39	5.8
	10/30/17	1.11	6.99	-17	7.20	14.36	22.9
	04/09/18	1.12	0.47	144	7.71	9.81	10.1
	10/03/18	1.22	0.63	-39	7.14	16.56	0.0

Table 4
Field Parameters After Stabilization was Achieved (2016-2018)
2018 Corrective Measure Implementation Annual Progress Report
Ashland LLC
130 South Street, Rensselaer, New York

Well ID	Date Sampled	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	pH (SU)	Temperature (ºC)	Turbidity (NTUs)
MW-17	06/28/16	1.92	8.18	-84	4.95	19.99	49.0
	12/21/16	NS	NS	NS	NS	NS	NS
	05/15/17	1.68	0.00	-14	7.04	14.26	25.7
	10/30/17	1.48	2.46	-79	6.99	17.10	20.4
	04/09/18	2.05	0.00	-60	7.72	11.91	22.1
	10/03/18	1.65	0.00	-168	7.06	65.0	0.0
MW-18	06/28/16	1.13	0.0	-89	5.66	17.01	90.7
	12/20/16	1.23	0.33	-57	6.66	10.40	6.0
	05/15/17	0.686	0.00	14	6.91	12.62	114
	10/30/17	1.19	2.36	-60	6.82	13.50	0.0
	04/09/18	0.770	0.00	21	7.33	10.02	28.7
	10/03/18	0.898	0.00	-120	6.88	60.7	0.0
MW-19	06/30/16	0.718	0.41	-206	7.33	14.65	13.1
	12/20/16	1.09	0.32	-56	6.80	7.80	19.0
	05/16/17	0.688	0.00	-62	7.16	15.05	7.0
	10/31/17	0.836	5.42	-99	6.62	15.36	10.4
	04/10/18	0.886	0.00	-131	7.43	6.11	30.1
	10/04/18	0.50	1.63	-99	7.22	17.81	36.5
MW-20	06/30/16	1.15	0.45	-193	7.57	17.62	0.0
	12/21/16	1.53	2.22	-48	7.29	8.08	1.6
	05/16/17	0.776	0.00	94	7.11	11.61	0.0
	10/31/17	1.21	1.36	-76	5.84	14.97	9.92
	04/10/18	0.799	0.00	-46	7.28	6.77	20.9
	10/04/18	1.00	0.00	-111	6.89	62.8	0.0
MW-21	06/30/16	4.71	6.08	21	7.69	18.58	17.4
	12/20/16[a]	1.80	1.49	-64	6.66	9.48	11.5
	05/15/17	0.819	6.30	327	7.50	13.44	9.9
	10/30/17	2.02	4.13	-58	6.98	14.14	14.6
	04/09/18	1.00	1.06	-63	7.32	8.81	20.8
	10/03/18	2.35	0.47	-169	6.90	15.48	0.0
MW-22	10/31/17	1.75	1.47	-69	6.81	15.48	26.9
	04/10/18	3.19	0.00	-106	6.39	7.56	73.3
MW-23	10/31/17	3.10	10.67	-43	6.99	10.06	6.2
	04/10/18	3.19	0.00	-175	7.30	10.47	20.8
MW-24	10/31/17	1.74	3.85	41	6.85	13.51	29.6
	04/10/18	1.31	0.00	-220	7.44	10.50	24.9
MW-25	10/04/18	1.88	0.00	-43	6.75	64.7	0.0

Table 4
Field Parameters After Stabilization was Achieved (2016-2018)
2018 Corrective Measure Implementation Annual Progress Report
Ashland LLC
130 South Street, Rensselaer, New York

Well ID	Date Sampled	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	pH (SU)	Temperature (°C)	Turbidity (NTUs)
MW-A1	06/30/16	1.78	0.65	-162	7.03	15.01	255
	12/20/16	1.77	0.95	-121	6.81	7.95	10.6
	05/16/17	1.04	0.00	-48	6.69	16.27	26.3
	10/31/17	1.50	1.36	-88	6.31	14.82	10.5
	04/10/18	1.03	1.50	-93	7.28	8.21	23.3
	10/04/18	1.33	0.57	-115	6.83	16.08	0.0
MW-B1	06/28/16	2.16	0.37	-204	7.85	16.23	30.1
	12/21/16	2.20	0.71	-80	6.77	11.69	2.8
	05/16/17	2.09	0.00	4	6.68	11.75	2
	10/30/17	2.40	2.29	-57	6.68	14.06	5.4
	04/10/18	2.71	0.00	-154	7.32	8.41	5.9
	10/03/18	2.22	0.00	-159	6.64	61.9	0.0
MW-1	12/20/16	1.63	5.86	12	7.39	8.86	0.0
	10/30/17	1.37	6.65	100	7.06	16.12	6.5
	12/20/16	0.801	0.44	3	6.59	8.20	1.5
	4/10/18	1.26	1.12	-22	7.84	6.83	9.3

NOTES:
[1] = Monitoring well MW-21 purged dry. The well was allowed to recharge and subsequently sampled.
°C = degrees Celsius
mg/L = milligrams per liter
mS/cm = milliSiemens per centimeter
mV = millivolts
NS = not sampled
NTU = nephelometric turbidity unit
SU = standard unit

Table 5
Summary of Groundwater Elevation Data (1999-2018)
2018 Corrective Measure Implementation Annual Progress Report
Ashland LLC
130 South Street, Rensselaer, New York

Well ID	Measuring Point Elevation (msl)	Date	DTW	Groundwater Elevation (msl)
MW-1	28.98	11/15/1999	8.47	20.51
		5/24/2000	5.78	23.20
		11/29/2000	6.73	22.25
		7/6/2001	NM	NM
		11/7/2001	8.07	20.91
		5/21/2002	6.30	22.68
		11/12/2002	6.79	22.19
		4/21/2003	7.03	21.95
		7/14/2003	6.61	22.37
		10/28/2003	7.08	21.90
		4/6/2004	6.54	22.44
		10/12/2004	8.49	20.49
		4/13/2005	7.28	21.70
		10/4/2005	9.65	19.33
		5/2/2006	7.29	21.69
		10/3/2006	6.51	22.47
		4/9/2007	6.75	22.23
		9/11/2007	6.58	22.40
		4/9/2008	5.34	23.64
		9/15/2008	5.55	23.43
		4/6/2009	5.78	23.20
		9/23/2009	7.32	21.66
		4/15/2010	5.91	23.07
		3/10/2011	4.37	24.61
		8/8/2011	7.15	21.83
		10/13/2011	5.14	23.84
		1/25/2012	6.31	22.67
		3/29/2012	6.70	22.28
		7/3/2012	7.30	21.68
		3/21/2013	5.25	23.73
		11/20/2013	10.22	18.76
		10/14/2014	9.26	19.72
		4/22/2015	6.24	22.74
		1/27/2016	8.20	20.78
		6/28/2016	9.80	19.18
		12/19/2016	6.99	21.99
		5/15/2017	5.30	23.68
		10/30/2017	9.81	19.17
		4/10/2018	7.18	21.80
		10/3/2018	5.08	23.90
MW-3	24.27	11/15/1999	5.48	18.79
		5/24/2000	1.94	22.33
		11/29/2000	4.93	19.34
		7/6/2001	3.35	20.92
		11/7/2001	5.50	18.77
		5/21/2002	3.48	20.79
		11/12/2002	4.26	20.01
		4/21/2003	4.64	19.63
		7/14/2003	3.62	20.65
		10/28/2003	3.42	20.85
		4/6/2004	3.54	20.73
		10/12/2004	5.34	18.93
		4/13/2005	4.38	19.89
		10/5/2005	7.10	17.17
		5/2/2006	4.79	19.48
		10/3/2006	5.10	19.17
		4/9/2007	4.88	19.39
		9/11/2007	5.07	19.20
		4/9/2008	1.32	22.95
		9/15/2008	2.32	21.95
		4/6/2009	2.32	21.95
		9/23/2009	3.79	20.48
		4/15/2010	2.50	21.77
Under ice		3/10/2011*	--	--
		8/8/2011	3.96	20.31
		10/13/2011	1.42	22.85
		1/25/2012	3.06	21.21
		3/29/2012	3.41	20.86
		7/3/2012	3.54	20.73
		3/21/2013	1.70	22.57
		11/20/2013	3.35	20.92
		10/14/2014	6.20	18.07
		4/22/2015	4.45	19.82
		1/27/2016	4.88	19.39
		6/28/2016	6.05	18.22
		12/19/2016	5.29	18.98
		5/15/2017	2.20	22.07
		10/30/2017	6.24	18.03
		4/9/2018	4.29	19.98
		10/3/2018	3.29	20.98

Table 5
Summary of Groundwater Elevation Data (1999-2018)
2018 Corrective Measure Implementation Annual Progress Report
Ashland LLC
130 South Street, Rensselaer, New York

Well ID	Measuring Point Elevation (msl)	Date	DTW	Groundwater Elevation (msl)
MW-4	25.95	11/15/1999	8.61	17.34
		5/24/2000	4.79	21.16
		11/29/2000	7.39	18.56
		7/6/2001	5.68	20.27
		11/7/2001	8.71	17.24
		5/21/2002	7.15	18.80
		11/12/2002	7.45	18.50
		4/21/2003	8.41	17.54
		7/14/2003	6.95	19.00
		10/28/2003	7.55	18.40
		4/6/2004	7.06	18.89
		10/12/2004	8.55	17.40
		4/13/2005	7.51	18.44
		10/5/2005	10.86	15.09
		5/2/2006	6.90	19.05
		10/3/2006	5.84	20.11
		4/9/2007	7.30	18.65
		9/11/2007	6.61	19.34
		4/9/2008	5.58	20.37
		9/15/2008	6.37	19.58
		4/6/2009	6.23	19.72
		9/23/2009	7.33	18.62
		4/15/2010	5.50	20.45
		3/10/2011	4.58	21.37
		8/8/2011	7.41	18.54
		10/13/2011	4.66	21.29
		1/25/2012	6.20	19.75
		3/29/2012	6.45	19.50
		7/3/2012	9.51	16.44
		3/21/2013	5.65	20.30
		11/20/2013	10.55	15.40
		10/14/2014	10.50	15.45
		4/22/2015	7.62	18.33
		1/27/2016	8.63	17.32
		6/28/2016	NM	NM
		12/19/2016	6.91	19.04
		5/15/2017	4.54	21.41
		10/30/2017	7.41	18.54
		4/9/2018	7.40	18.55
		10/3/2018	3.79	22.16
MW-9	27.18	11/15/1999	7.98	19.20
		5/24/2000	4.34	22.84
		11/29/2000	6.81	20.37
		7/6/2001	5.59	21.59
		11/7/2001	7.99	19.19
		5/21/2002	7.93	19.25
		11/12/2002	7.88	19.30
		4/21/2003	8.29	18.89
		7/14/2003	8.04	19.14
		10/28/2003	9.28	17.90
		4/6/2004	6.18	21.00
		10/12/2004	8.78	18.40
		4/13/2005	7.75	19.43
		10/5/2005	10.55	16.63
		5/2/2006	7.04	20.14
		10/3/2006	7.63	19.55
		4/9/2007	6.39	20.79
		9/11/2007	6.76	20.42
		4/9/2008	4.18	23.00
		9/15/2008	5.68	21.50
		4/6/2009	4.79	22.39
		9/23/2009	7.06	20.12
		4/15/2010	5.01	22.17
		3/10/2011	3.80	23.38
		8/8/2011	7.12	20.06
		10/13/2011	4.41	22.77
		1/25/2012	5.81	21.37
		3/29/2012	5.79	21.39
		7/3/2012	6.70	20.48
		3/21/2013	4.22	22.96
		11/20/2013	12.16	15.02
		10/14/2014	11.70	15.48
		4/22/2015	10.50	16.68
		1/27/2016	11.52	15.66
		6/28/2016	11.70	15.48
		12/19/2016	10.80	16.38
		5/15/2017	10.01	17.17
		10/30/2017	11.36	15.82
		4/9/2018	10.33	16.85
		10/3/2018	10.40	16.78

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Well ID	Measuring Point Elevation (msl)	Date	DTW	Groundwater Elevation (msl)
MW-10	26.34	11/15/1999	6.58	19.76
		5/24/2000	3.49	22.85
		11/29/2000	5.86	20.48
		7/6/2001	4.73	21.61
		11/7/2001	6.78	19.56
		5/21/2002	4.45	21.89
		11/12/2002	5.34	21.00
		4/21/2003	5.34	21.00
		7/14/2003	5.68	20.66
		10/28/2003	3.80	22.54
		4/6/2004	4.61	21.73
		10/12/2004	6.61	19.73
		4/13/2005	5.63	20.71
		10/4/2005	8.34	18.00
		5/2/2006	5.63	20.71
		10/3/2006	4.44	21.90
		4/9/2007	4.84	21.50
		9/11/2007	6.76	19.58
		4/9/2008	4.38	21.96
		9/15/2008	4.61	21.73
		4/6/2009	5.05	21.29
		9/23/2009	7.37	18.97
		4/15/2010	5.62	20.72
		3/10/2011	4.06	22.28
		8/8/2011	7.25	19.09
		10/13/2011	4.05	22.29
		1/25/2012	6.20	20.14
		3/29/2012	6.66	19.68
		7/3/2012	7.12	19.22
		3/21/2013	4.82	21.52
		11/20/2013	8.53	17.81
		10/14/2014	8.30	18.04
Obstruction at 4.72 feet bgs		4/22/2015	NM	NM
		1/27/2016	NM**	NM**
		6/28/2016	NM	NM
		12/19/2016	NM	NM
		5/15/2017	4.57	21.77
		10/30/2017	NM	NM
		4/9/2018	NM	NM
		10/3/2018	NM	NM
MW-11	25.16	11/15/1999	7.21	17.95
		5/24/2000	5.61	19.55
		11/29/2000	6.46	18.70
		7/6/2001	5.88	19.28
		11/7/2001	8.62	16.54
		5/21/2002	5.60	19.56
		11/12/2002	6.38	18.78
		4/21/2003	6.29	18.87
		7/14/2003	5.83	19.33
		10/28/2003	6.98	18.18
		4/6/2004	5.62	19.54
		10/12/2004	7.54	17.62
		4/13/2005	5.97	19.19
		10/4/2005	9.66	15.50
		5/2/2006	6.02	19.14
		10/3/2006	5.58	19.58
		4/9/2007	5.64	19.52
		9/11/2007	5.33	19.83
		4/9/2008	5.69	19.47
		9/15/2008	5.61	19.55
		4/6/2009	5.72	19.44
		9/23/2009	8.13	17.03
		4/15/2010	10.50	14.66
		3/10/2011**	NM	NM
		8/8/2011**	NM	NM
		10/13/2011**	NM	NM
		1/25/2012**	NM	NM
		3/29/2012**	NM	NM
		7/3/2012**	NM	NM
		3/21/2013	NM	NM
		11/20/2013	NM	NM
		10/14/2014	9.50	15.66
		4/22/2015	NM	NM
		1/27/2016	NM**	NM**
		6/28/2016	NM	NM
		12/19/2016	NM	NM
		5/15/2017	NM	NM
		10/30/2017	NM	NM
		4/9/2018	NM	NM
		10/3/2018	NM	NM

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Well ID	Measuring Point Elevation (msl)	Date	DTW	Groundwater Elevation (msl)
MW-12S	23.12	11/15/1999	8.43	14.69
		5/24/2000	7.21	15.91
		11/29/2000	8.30	14.82
		7/6/2001	6.48	16.64
		11/7/2001	9.21	13.91
		5/21/2002	7.23	15.89
		11/12/2002	8.15	14.97
		4/21/2003	8.21	14.91
		7/14/2003	7.92	15.20
		10/28/2003	7.05	16.07
		4/6/2004	7.15	15.97
		10/12/2004	7.70	15.42
		4/13/2005	7.50	15.62
		10/4/2005	10.38	12.74
		5/2/2006	6.17	16.95
		10/3/2006	7.58	15.54
		4/9/2007	7.21	15.91
		9/11/2007	6.80	16.32
		4/9/2008	7.06	16.06
		9/15/2008	7.79	15.33
		4/6/2009	7.65	15.47
		9/23/2009	8.91	14.21
		4/15/2010	6.30	16.82
		3/10/2011	6.47	16.65
		8/8/2011	8.70	14.42
		10/13/2011	7.68	15.44
		1/25/2012	8.15	14.97
		3/29/2012	8.16	14.96
		7/3/2012	8.68	14.44
		3/21/2013	7.20	15.92
		11/20/2013	9.45	13.67
		10/14/2014	9.90	13.22
		4/22/2015	NM	NM
		1/27/2016	8.30	14.82
		6/28/2016	7.86	15.26
		12/19/2016	7.01	16.11
		5/15/2017	5.30	17.82
		10/30/2017	9.46	13.66
		4/9/2018	6.48	16.64
		10/3/2018	5.69	17.43
MW-12D	24.08	11/15/1999	9.02	15.06
		5/24/2000	7.54	16.54
		11/29/2000	8.98	15.10
		7/6/2001	8.21	15.87
		11/7/2001	9.52	14.56
		5/21/2002	7.81	16.27
		11/12/2002	8.84	15.24
		4/21/2003	7.61	16.47
		7/14/2003	8.44	15.64
		10/28/2003	9.66	14.42
		4/6/2004	7.21	16.87
		10/12/2004	8.64	15.44
		4/13/2005	7.82	16.26
		10/4/2005	9.92	14.16
		5/2/2006	7.75	16.33
		10/3/2006	8.22	15.86
		4/9/2007	7.26	16.82
		9/11/2007	8.51	15.57
		4/9/2008	7.16	16.92
		9/15/2008	8.18	15.90
		4/6/2009	7.70	16.38
		9/23/2009	9.28	14.80
		4/15/2010	7.70	16.38
		3/10/2011	6.28	17.80
		8/8/2011	9.03	15.05
		10/13/2011	7.74	16.34
		1/25/2012	8.35	15.73
		3/29/2012	8.35	15.73
		7/3/2012	8.80	15.28
		3/21/2013	7.29	16.79
		11/20/2013	9.92	14.16
		10/14/2014	10.10	13.98
		4/22/2015	NM	NM
		1/27/2016	8.88	15.20
		6/28/2016	9.62	14.46
		12/19/2016	NM	NM
		5/15/2017	7.49	16.59
		10/30/2017	10.88	13.20
		4/9/2018	8.52	15.56
		10/3/2018	7.68	16.40

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Well ID	Measuring Point Elevation (msl)	Date	DTW	Groundwater Elevation (msl)
MW-13	36.86	11/15/1999	3.83	33.03
		5/24/2000	3.89	32.97
		11/29/2000	4.51	32.35
		7/6/2001	3.49	33.37
		11/7/2001	4.75	32.11
		5/21/2002	3.04	33.82
		11/12/2002	3.54	33.32
		4/21/2003	3.33	33.53
		7/14/2003	3.42	33.44
		10/28/2003	3.88	32.98
		4/6/2004	2.67	34.19
		10/12/2004	3.32	33.54
		4/13/2005	2.73	34.13
		10/4/2005	4.24	32.62
		5/2/2006	2.87	33.99
		10/3/2006	3.19	33.67
		4/9/2007	2.72	34.14
		9/11/2007	3.07	33.79
		4/9/2008	2.63	34.23
		9/15/2008	3.25	33.61
		4/6/2009	3.59	33.27
		9/23/2009	4.31	32.55
		4/15/2010	2.90	33.96
		3/10/2011	2.00	34.86
		8/8/2011	3.45	33.41
		10/13/2011	2.91	33.95
		1/25/2012	2.92	33.94
		3/29/2012	2.78	34.08
		7/3/2012	4.12	32.74
		9/13/2012	3.52	33.34
		3/21/2013	2.79	34.07
		11/20/2013	4.16	32.70
		10/14/2014	4.70	32.16
		4/22/2015	3.30	33.56
		1/27/2016	3.13	33.73
		6/28/2016	4.58	32.28
		12/19/2016	3.79	33.07
		5/15/2017	2.59	34.27
		10/30/2017	5.00	31.86
		4/10/2018	2.91	33.95
		10/3/2018	2.36	34.50
MW-14	33.85	11/15/1999	7.11	26.74
		5/24/2000	6.41	27.44
		11/29/2000	7.17	26.68
		7/6/2001	6.93	26.92
		11/7/2001	7.93	25.92
		5/21/2002	5.90	27.95
		11/12/2002	7.28	26.57
		4/21/2003	6.18	27.67
		7/14/2003	6.86	26.99
		10/28/2003	7.18	26.67
		4/6/2004	5.70	28.15
		10/12/2004	6.95	26.90
		4/13/2005	6.20	27.65
		10/4/2005	8.51	25.34
		5/2/2006	6.00	27.85
		10/3/2006	6.04	27.81
		4/9/2007	5.91	27.94
		9/11/2007	6.01	27.84
		4/9/2008	5.80	28.05
		9/15/2008	6.35	27.50
		4/6/2009	5.95	27.90
		9/23/2009	7.46	26.39
		4/15/2010	5.98	27.87
		3/10/2011	5.05	28.80
		8/8/2011	7.65	26.20
		10/13/2011	4.97	28.88
		1/25/2012	6.37	27.48
		3/29/2012	6.50	27.35
		7/3/2012	7.60	26.25
		3/21/2013	5.86	27.99
		11/20/2013	7.98	25.87
		10/14/2014	8.60	25.25
		4/22/2015	6.41	27.44
		1/27/2016	6.73	27.12
		6/28/2016	8.16	25.69
		12/19/2016	6.08	27.77
		5/15/2017	5.55	28.30
		10/30/2017	8.60	25.25
		4/9/2018	6.63	27.22
		10/3/2018	4.78	29.07

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Well ID	Measuring Point Elevation (msl)	Date	DTW	Groundwater Elevation (msl)
MW-15	25.19	11/15/1999	3.91	21.28
		5/24/2000	2.56	22.63
		11/29/2000	2.98	22.21
		7/6/2001	3.02	22.17
		11/7/2001	4.37	20.82
		5/21/2002	2.88	22.31
		11/12/2002	2.91	22.28
		4/21/2003	3.46	21.73
		7/14/2003	3.08	22.11
		10/28/2003	2.98	22.21
		4/6/2004	2.93	22.26
		10/12/2004	3.68	21.51
		4/13/2005	3.45	21.74
		8/11/2005	5.21	19.98
		10/6/2005	4.84	20.35
		5/2/2006	2.74	22.45
		10/3/2006	2.17	23.02
		4/9/2007	2.29	22.90
		9/11/2007	2.20	22.99
		4/9/2008	2.26	22.93
		9/15/2008	2.10	23.09
		4/6/2009	2.37	22.82
		9/23/2009	3.43	21.76
		4/15/2010	2.55	22.64
		3/10/2011	1.85	23.34
		8/8/2011	2.96	22.23
		10/13/2011	1.93	23.26
		1/25/2012	2.55	22.64
		3/29/2012	2.97	22.22
		7/3/2012	3.35	21.84
		3/21/2013	2.10	23.09
		11/20/2013	4.10	21.09
		10/14/2014	4.40	20.79
		4/22/2015	1.83	23.36
		1/27/2016	2.37	22.82
		6/28/2016	4.20	20.99
		12/19/2016	2.09	23.10
		5/15/2017	1.55	23.64
		10/30/2017	9.16	16.03
		4/9/2018	1.78	23.41
		10/3/2018	1.65	23.54
MW-16	25.41	7/6/2001	8.28	17.13
		11/7/2001	8.75	16.66
		5/21/2002	7.25	18.16
		11/12/2002	8.11	17.30
		4/21/2003	8.46	16.95
		7/14/2003	8.26	17.15
		10/28/2003	8.03	17.38
		4/6/2004	7.68	17.73
		10/12/2004	8.56	16.85
		4/13/2005	8.15	17.26
		8/11/2005	8.83	16.58
		10/6/2005	9.21	16.20
		5/2/2006	8.23	17.18
		10/3/2006	7.48	17.93
		4/9/2007	9.25	16.16
		9/11/2007	7.38	18.03
		4/9/2008	7.47	17.94
		9/15/2008	7.97	17.44
		4/6/2009	7.64	17.77
		9/23/2009	8.81	16.60
		4/15/2010	7.70	17.71
		3/10/2011	5.65	19.76
		8/8/2011	8.28	17.13
		10/13/2011	7.32	18.09
		1/25/2012	8.25	17.16
		3/29/2012	8.35	17.06
		7/3/2012	5.48	19.93
		9/14/2012	8.22	17.19
		3/21/2013	7.55	17.86
		11/20/2013	8.25	17.16
		10/14/2014	8.60	16.81
		4/22/2015	NM	NM
		1/27/2016	8.18	17.23
		6/28/2016	8.91	16.50
		12/19/2016	7.98	17.43
		5/15/2017	6.47	18.94
		10/30/2017	8.29	17.12
		4/9/2018	7.88	17.53
		10/3/2018	7.01	18.40

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Well ID	Measuring Point Elevation (msl)	Date	DTW	Groundwater Elevation (msl)
MW-17	21.78	7/6/2001	6.10	15.68
		11/7/2001	6.78	15.00
		5/21/2002	6.07	15.71
		11/12/2002	6.57	15.21
		4/21/2003	6.31	15.47
		7/14/2003	6.29	15.49
		10/28/2003	6.56	15.22
		4/6/2004	5.94	15.84
		10/12/2004	6.47	15.31
		4/13/2005	6.08	15.70
		10/4/2005	7.89	13.89
		5/2/2006	5.89	15.89
		10/3/2006	6.33	15.45
		4/9/2007	6.03	15.75
		9/11/2007	6.75	15.03
		4/9/2008	5.77	16.01
		9/15/2008	6.38	15.40
		4/6/2009	5.89	15.89
		9/23/2009	5.78	16.00
		4/15/2010	6.00	15.78
		3/10/2011	5.46	16.32
		8/8/2011	6.30	15.48
		10/13/2011	6.00	15.78
		1/25/2012	6.25	15.53
		3/29/2012	6.16	15.62
		7/3/2012	6.25	15.53
		9/13/2012	6.34	15.44
		3/21/2013	5.58	16.20
		11/20/2013	7.06	14.72
		10/14/2014	6.00	15.78
		4/22/2015	5.93	15.85
		1/27/2016	6.45	15.33
		6/28/2016	6.46	15.32
		12/19/2016	NM	NM
		5/15/2017	5.65	16.13
		10/30/2017	12.46	9.32
		4/9/2018	6.19	15.59
		10/3/2018	5.77	16.01
MW-18	23.98	7/6/2001	5.08	18.90
		11/7/2001	6.36	17.62
		5/21/2002	4.38	19.60
		11/12/2002	5.62	18.36
		4/21/2003	5.71	18.27
		7/14/2003	5.13	18.85
		10/28/2003	5.54	18.44
		4/6/2004	4.33	19.65
		10/12/2004	6.73	17.25
		4/13/2005	5.38	18.60
		10/5/2005	7.18	16.80
		5/2/2006	5.30	18.68
		10/3/2006	4.48	19.50
		4/9/2007	4.53	19.45
		9/11/2007	4.29	19.69
		4/9/2008	4.19	19.79
		9/15/2008	4.88	19.10
		4/6/2009	4.60	19.38
		9/23/2009	6.53	17.45
		4/15/2010	4.96	19.02
		3/10/2011	3.10	20.88
		8/8/2011	6.10	17.88
		10/13/2011	4.73	19.25
		1/25/2012	5.44	18.54
		3/29/2012	5.70	18.28
		7/3/2012	6.35	17.63
		9/14/2012	5.75	18.23
		3/21/2013	4.42	19.56
		11/20/2013	6.74	17.24
		10/14/2014	6.90	17.08
		4/22/2015	NM	NM
		1/27/2016	6.01	17.97
		6/28/2016	7.01	16.97
		12/19/2016	5.52	18.46
		5/15/2017	4.10	19.88
		10/30/2017	6.65	17.33
		4/9/2018	5.47	18.51
		10/3/2018	4.11	19.87

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Well ID	Measuring Point Elevation (msl)	Date	DTW	Groundwater Elevation (msl)
MW-19	25.51	7/6/2001	3.65	21.86
		11/7/2001	4.56	20.95
		5/21/2002	NM	NM
		11/12/2002	3.49	22.02
		4/21/2003	3.53	21.98
		7/14/2003	3.71	21.80
		10/28/2003	3.11	22.40
		4/6/2004	3.76	21.75
		10/12/2004	4.17	21.34
		4/13/2005	3.82	21.69
		8/11/2005	5.38	20.13
		10/4/2005	4.91	20.60
		5/2/2006	1.91	23.60
		10/3/2006	1.62	23.89
		4/9/2007	1.72	23.79
		9/11/2007	1.90	23.61
		4/9/2008	1.79	23.72
		9/15/2008	2.51	23.00
		4/6/2009	2.27	23.24
		9/23/2009	5.78	19.73
		4/15/2010	2.38	23.13
		3/10/2011	1.61	23.90
		8/8/2011	2.81	22.70
		10/13/2011	2.02	23.49
		1/25/2012	2.45	23.06
		3/29/2012	2.60	22.91
		7/3/2012	3.10	22.41
		9/13/2012	3.02	22.49
		3/21/2013	2.15	23.36
		11/20/2013	2.55	22.96
		10/14/2014	3.40	22.11
		4/22/2015	2.19	23.32
		1/27/2016	2.13	23.38
		6/28/2016	3.51	22.00
		12/19/2016	2.63	22.88
		5/15/2017	2.22	23.29
		10/30/2017	2.64	22.87
		4/10/2018	2.36	23.15
		10/3/2018	1.87	23.64
SUMP	26.82	11/15/1999	9.34	17.48
		5/24/2000	1.44	25.38
		11/29/2000	3.08	23.74
		7/6/2001	3.80	23.02
		11/7/2001	6.48	20.34
		5/21/2002	NM	NM
		11/12/2002	9.30	17.52
		4/21/2003	NM	NM
		7/14/2003	17.24	9.58
		10/28/2003	18.60	8.22
		4/6/2004	9.29	17.53
		10/12/2004	18.80	8.02
		4/13/2005	18.75	8.07
		10/5/2005	14.00	12.82
		5/2/2006	18.74	8.08
		10/4/2006	18.62	8.20
		4/9/2007	18.71	8.11
		9/11/2007	8.80	18.02
		4/9/2008	3.01	23.81
		9/15/2008	4.10	22.72
		4/6/2009	2.27	24.55
		9/23/2009	5.55	21.27
		4/15/2010	3.81	23.01
		3/10/2011	2.11	24.71
		8/8/2011	5.55	21.27
		10/13/2011	5.12	21.70
		1/25/2012	4.65	22.17
		3/29/2012	4.85	21.97
		7/3/2012	5.12	21.70
		3/21/2013	5.02	21.80
		11/20/2013	8.30	18.52
		10/14/2014	8.10	18.72
		4/22/2015	6.40	20.42
		1/27/2016	6.63	20.19
		6/28/2016	NM	NM
		12/19/2016	NM	NM
		5/15/2017	3.47	23.35
		10/30/2017	8.70	18.12
		4/9/2018	5.84	20.98
		10/3/2018	7.68	19.14

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Summary of Groundwater Elevation Data (1999-2018)
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Ashland LLC
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Well ID	Measuring Point Elevation (msl)	Date	DTW	Groundwater Elevation (msl)
MW-A1	28.34	4/9/2008	4.73	23.61
		9/15/2008	4.97	23.37
		4/6/2009	4.81	23.53
		9/23/2009	5.62	22.72
		4/15/2010	7.16	21.18
		3/10/2011	4.37	23.97
		8/8/2011	5.65	22.69
		10/13/2011	4.85	23.49
		1/25/2012	7.80	20.54
		3/29/2012	5.40	22.94
		7/3/2012	6.06	22.28
		9/13/2012	5.82	22.52
		3/21/2013	4.90	23.44
		11/20/2013	5.70	22.64
		10/14/2014	6.70	21.64
		4/22/2015	5.10	23.24
		1/27/2016	5.27	23.07
		6/28/2016	6.40	21.94
		12/19/2016	6.65	21.69
		5/15/2017	5.93	22.41
		10/30/2017	5.76	22.58
		4/10/2018	4.91	23.43
		10/3/2018	4.64	23.70
MW-B1	27.53	4/9/2008	5.18	22.35
		9/15/2008	5.14	22.41
		4/6/2009	5.34	22.21
		9/23/2009	6.31	21.24
		4/15/2010	5.34	22.21
		3/10/2011	4.50	23.05
		8/8/2011	5.91	21.64
		10/13/2011	5.40	22.15
		1/125/12	8.40	19.15
		3/29/2012	5.75	21.80
		7/3/2012	6.77	20.78
		9/13/2012	6.11	21.44
		3/21/2013	5.50	22.05
		11/20/2013	8.30	19.23
		10/14/2014	8.00	19.53
		4/22/2015	6.24	21.29
		1/27/2016	6.80	20.73
		6/28/2016	7.79	19.74
		12/19/2016	6.31	21.22
		5/15/2017	5.11	22.42
		10/30/2017	6.62	20.91
		4/10/2018	6.57	20.96
		10/3/2018	5.27	22.26
MW-B2	27.40	4/9/2008	5.08	22.32
		4/6/2009	5.19	22.21
		9/23/2009	6.11	21.29
		4/15/2010	5.23	22.17
		3/10/2011	4.37	23.03
		8/8/2011	5.52	21.88
		10/13/2011	4.94	22.46
		1/25/2012	7.85	19.55
		3/29/2012	4.76	22.64
		7/3/2012	5.96	21.44
		3/21/2013	4.91	22.49
		11/20/2013	6.89	20.51
		10/14/2014	6.70	20.70
		4/22/2015	5.32	22.08
		1/27/2016	6.07	21.33
		6/28/2016	6.92	20.48
		12/19/2016	5.82	21.58
		5/15/2017	4.82	22.58
		10/30/2017	6.76	20.64
		4/9/2018	5.61	21.79
		10/3/2018	4.81	22.59
IMP-1	25.13	10/13/2011	6.32	18.81
		1/25/2012	7.15	17.98
		3/29/2012	7.31	17.82
		7/3/2012	7.89	17.24
		3/21/2013	6.00	19.13
		11/20/2013	8.45	16.68
		10/14/2014	8.70	16.43
		4/22/2015	NM	NM
		1/27/2016	7.79	17.34
		6/28/2016	8.80	16.33
		12/19/2016	7.40	17.73
		5/15/2017	5.91	19.22
		10/30/2017	8.55	16.58
		4/9/2018	7.12	18.01
		10/3/2018	4.55	20.58

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Well ID	Measuring Point Elevation (msl)	Date	DTW	Groundwater Elevation (msl)
IMP-2	25.17	10/13/2011	6.32	18.85
		1/25/2012	7.48	17.69
		3/29/2012	7.61	17.56
		7/3/2012	8.16	17.01
		3/21/2013	6.35	-6.35
		11/20/2013	8.62	16.55
		10/14/2014	9.20	15.97
		4/22/2015	NM	NM
		1/27/2016	7.96	17.21
		6/28/2016	NM	NM
		12/19/2016	7.88	17.29
		5/15/2017	6.55	18.62
		10/30/2017	8.41	16.76
		4/9/2018	NM	NM
		10/3/2018	5.95	19.22
IMP-3	25.13	9/15/2008	8.39	16.74
		4/6/2009	7.62	-7.62
		9/23/2009	9.70	-9.70
		4/15/2010	7.64	-7.64
		3/10/2011	5.51	-5.51
		8/8/2011	9.26	-9.26
		10/13/2011	7.33	-7.33
		1/25/2012	8.72	-8.72
		3/29/2012	8.78	-8.78
		7/3/2012	9.33	-9.33
		9/14/2012	8.71	-8.71
		3/21/2013	7.40	-7.40
		11/20/2013	9.43	15.70
		10/14/2014	9.80	15.33
		4/22/2015	NM	NM
		1/27/2016	8.66	16.47
		6/28/2016	9.89	15.24
		12/19/2016	8.30	16.83
		5/15/2017	6.77	18.36
		10/30/2017	8.50	16.63
		4/9/2018	8.14	16.99
		10/3/2018	6.83	18.30
IP-1	25.15	4/15/2010	5.03	20.12
		3/10/2011	3.72	-3.72
		8/8/2011	5.70	-5.70
		10/13/2011	4.46	-4.46
		1/25/2012	5.28	-5.28
		3/29/2012	5.65	-5.65
		7/3/2012	6.28	-6.28
		9/14/2012	5.52	-5.52
		3/21/2013	4.63	-4.63
		11/20/2013	6.36	18.79
		10/14/2014	6.40	18.75
		4/22/2015	NM	NM
		1/27/2016	5.67	19.48
		6/28/2016	6.68	18.47
		12/19/2016	4.93	20.22
		5/15/2017	3.83	21.32
		10/30/2017	5.74	19.41
		4/9/2018	5.01	20.14
		10/3/2018	4.00	21.15
MW-20	25.36	4/15/2010	2.67	22.69
		3/10/2011	2.05	-2.05
		8/8/2011	3.04	-3.04
		10/13/2011	2.16	-2.16
		1/25/2012	2.66	-2.66
		3/29/2012	3.10	-3.10
		7/3/2012	3.42	-3.42
		9/13/2012	2.77	-2.77
		3/21/2013	2.15	-2.15
		11/20/2013	3.65	21.71
		10/14/2014	3.90	21.46
		4/22/2015	1.88	23.48
		1/27/2016	2.34	23.02
		6/28/2016	3.81	21.55
		12/19/2016	2.05	23.31
		5/15/2017	1.63	23.73
		10/30/2017	3.16	22.20
		4/10/2018	1.94	23.42
		10/3/2018	1.64	23.72

Table 5
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Well ID	Measuring Point Elevation (msl)	Date	DTW	Groundwater Elevation (msl)
MW-21	27.97	4/15/2010	10.16	17.81
		3/10/2011	7.35	-7.35
		8/8/2011	11.45	-11.45
		10/13/2011	10.65	-10.65
		1/25/2012	13.00	-13.00
		3/29/2012	10.83	-10.83
		7/3/2012	11.15	-11.15
		9/14/2012	11.27	-11.27
		3/21/2013	9.76	-9.76
		11/20/2013	11.68	16.29
		10/14/2014	12.10	15.87
		4/22/2015	9.60	18.37
		1/27/2016	10.53	17.44
		6/28/2016	11.90	16.07
		12/19/2016	11.01	16.96
		5/15/2017	8.37	19.60
		10/30/2017	11.46	16.51
		4/9/2018	10.27	17.70
		10/3/2018	10.03	17.94
MW-22	30.65	10/30/2017	3.12	27.53
		4/10/2018	1.76	28.89
		10/3/2018	1.35	29.30
MW-23	26.69	10/30/2017	9.50	17.19
		4/10/2018	8.58	18.11
		10/3/2018	7.76	18.93
MW-24	25.43	10/30/2017	7.30	18.13
		4/10/2018	5.78	19.65
		10/3/2018	5.68	19.75
MW-25	28.13	10/3/2018	4.06	24.07
PZ-1	27.88	10/13/2011	4.30	23.58
		1/25/2012	4.11	23.77
		3/29/2012	5.00	22.88
		7/3/2012	5.60	22.28
		3/21/2013	4.16	23.72
		11/20/2013	5.04	22.84
		10/14/2014	6.00	21.88
		4/22/2015	4.15	23.73
		1/27/2016	5.08	22.80
		6/28/2016	6.15	21.73
		12/19/2016	4.40	23.48
		5/15/2017	3.95	23.93
		10/30/2017	4.03	23.85
		4/9/2018	4.31	23.57
		10/3/2018	4.03	23.85
PZ-2	28.34	10/13/2011	4.76	23.58
		1/25/2012	5.06	23.28
		3/29/2012	5.06	23.28
		7/3/2012	6.00	22.34
		3/21/2013	4.94	23.40
		11/20/2013	6.02	22.32
		10/14/2014	6.00	22.34
		4/22/2015	4.97	23.37
		1/27/2016	5.54	22.80
		6/28/2016	7.03	21.31
		12/19/2016	5.30	23.04
		5/15/2017	5.21	23.13
		10/30/2017	5.26	23.08
		4/9/2018	5.31	23.03
		10/3/2018	5.30	23.04
PZ-3	29.97	10/13/2011	4.11	25.86
		1/25/2012	7.30	22.67
		3/29/2012	5.01	24.96
		7/3/2012	5.65	24.32
		3/21/2013	4.53	25.44
		11/20/2013	6.34	23.63
		10/14/2014	5.70	24.27
		4/22/2015	4.60	25.37
		1/27/2016	5.44	24.53
		6/28/2016	6.06	23.91
		12/19/2016	5.37	24.60
		5/15/2017	4.46	25.51
		10/30/2017	5.70	24.27
		4/9/2018	4.79	25.18
		10/3/2018	4.07	25.90

Table 5
Summary of Groundwater Elevation Data (1999-2018)
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Well ID	Measuring Point Elevation (msl)	Date	DTW	Groundwater Elevation (msl)
PZ-4	25.20	10/13/2011	1.54	23.66
		1/25/2012	3.17	22.03
		3/29/2012	3.30	21.90
		7/3/2012	3.63	21.57
		3/21/2013	1.52	23.68
		11/20/2013	6.77	18.43
		10/14/2014	6.70	18.50
		4/22/2015	5.00	20.20
		1/27/2016	5.21	19.99
		6/28/2016	6.21	18.99
		12/19/2016	6.28	18.92
		5/15/2017	1.95	23.25
		10/30/2017	7.21	17.99
		4/9/2018	4.37	20.83
		10/3/2018	4.00	21.20
PZ-5	25.52	10/13/2011	2.65	22.87
		1/25/2012	4.22	21.30
		3/29/2012	4.35	21.17
		7/3/2012	4.36	21.16
		3/21/2013	3.25	22.27
		11/20/2013	6.98	18.54
		10/14/2014	5.60	19.92
		4/22/2015	4.46	21.06
		1/27/2016	5.17	20.35
		6/28/2016	6.27	19.25
		12/19/2016	5.36	20.16
		5/15/2017	2.55	22.97
		10/30/2017	6.80	18.72
		4/9/2018	4.99	20.53
		10/3/2018	3.23	22.29
PZ-6	25.22	10/13/2011	3.49	21.73
		1/25/2012	4.46	20.76
		3/29/2012	4.55	20.67
		7/3/2012	4.88	20.34
		3/21/2013	3.35	21.87
		11/20/2013	6.46	18.76
		10/14/2014	5.70	19.52
		4/22/2015	4.01	21.21
		1/27/2016	4.85	20.37
		6/28/2016	5.94	19.28
		12/19/2016	4.83	20.39
		5/15/2017	2.81	22.41
		10/30/2017	4.60	20.62
		4/9/2018	4.32	20.90
		10/3/2018	6.24	18.98
PZ-7	24.90	10/13/2011	3.28	21.62
		1/25/2012	6.12	18.78
		3/29/2012	4.02	20.88
		7/3/2012	4.45	20.45
		3/21/2013	3.02	21.88
		11/20/2013	4.89	20.01
		10/14/2014	5.10	19.80
		4/22/2015	3.22	21.68
		1/27/2016	4.17	20.73
		6/28/2016	5.18	19.72
		12/19/2016	3.73	21.17
		5/15/2017	2.68	22.22
		10/30/2017	4.80	20.10
		4/9/2018	3.83	21.07
		10/3/2018	2.75	22.15
BM-2	28.02	10/13/2011	3.33	24.69
		1/25/2012	< 0.5	--
		3/29/2012	3.65	24.37
		7/3/2012	3.70	24.32
		3/21/2013	3.65	24.37
		11/20/2013	3.72	24.30
		10/14/2014	3.50	24.52
		4/22/2015	3.62	--
		1/27/2016	3.50	24.52
		6/28/2016	3.72	24.30
		12/19/2016	0.80	27.22
		5/15/2017	3.70	24.32
		10/30/2017	3.74	24.28
		4/9/2018	3.71	24.31
		10/3/2018	3.70	24.32

Table 5
Summary of Groundwater Elevation Data (1999-2018)
2018 Corrective Measure Implementation Annual Progress Report
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130 South Street, Rensselaer, New York

Well ID	Measuring Point Elevation (msl)	Date	DTW	Groundwater Elevation (msl)
BM-4	26.59	10/13/2011	7.01	19.58
		1/25/2012	< 0.5	--
		3/29/2012	7.90	18.69
		7/3/2012	8.00	18.59
		3/21/2013	NM	NM
		11/20/2013	8.05	18.54
		10/14/2014	7.90	18.69
		4/22/2015	7.97	18.62
		1/27/2016	7.99	18.60
		6/28/2016	NM	NM
		12/19/2016	NM	NM
		5/15/2017	8.20	18.39
		10/30/2017	8.25	18.34
		4/9/2018	NM	NM
		10/3/2018	8.00	18.59
MH-1	16.50	10/13/2011	7.12	9.38
		1/25/2012	NM	NM
		3/29/2012	7.90	8.60
		7/3/2012	7.90	8.60
		3/21/2013	7.98	8.52
		11/20/2013	8.05	8.45
		10/14/2014	8.50	8.00
		4/22/2015	8.00	8.50
		1/27/2016	8.05	8.45
		6/28/2016	8.03	8.47
		12/19/2016	NM	NM
		5/15/2017	7.90	8.60
		10/30/2017	8.00	8.50
		4/9/2018	8.02	8.48
		10/3/2018	7.81	8.69
MH-2	15.40	10/13/2011	NM	NM
		1/25/2012	NM	NM
		3/29/2012	NM	NM
		7/3/2012	NM	NM
		3/21/2013	NM	NM
		11/20/2013	NM	NM
		10/14/2014	8.20	8.50
		4/22/2015	7.89	8.58
		1/27/2016	NM	NM
		6/28/2016	NM	NM
		12/19/2016	NM	NM
		5/15/2017	NM	NM
		10/30/2017	NM	NM
		4/9/2018	NM	NM
		10/3/2018	7.73	7.67

NOTES:
1. All elevations are referenced to feet above mean sea level (msl).
2. Top of inner casing measuring point elevations were updated with survey performed by Thew Associates in 2018.
bgs = below ground surface
DTW = depth to groundwater in feet below measuring point
NM = Not measured. April 22, 2015 wells were inaccessible along the CSX rail line due to railroad construction.
* = Unable to located due to ice.
** = Well casing damaged.

Table 6
Summary of TOC Results (2003-2018)
2018 Corrective Measure Implementation Annual Progress Report
Ashland LLC
130 South Street, Rensselaer, New York

Location ID	Date Collected	Total Organic Carbon (mg/L)
IMP-3	2/28/2006	**2.30**
	5/3/2006	**1.00**
	4/15/2010	1.00 U
	3/9/2011	1.00 U
	8/10/2011	**1.30**
	10/14/2011	1.00 U
	1/24/2012	1.00 U
	3/30/2012	1.00 U
	7/3/2012	**1.00**
	9/14/2012	1.00 U
	3/22/2013	**1.90**
	11/21/2013	**1.50**
	5/29/2014	1.00 U
	10/14/2014	**1.10**
	1/27/2016	1.00 U
	6/30/2016	**1.50**
	12/20/2016	2.30 UB
	5/15/2017	**0.910 J**
	10/30/2017	1.30 UB
	4/9/2018	1.4 UB
	10/3/2018	1.7 UB
IP-1	2/28/2006	**3.10**
	5/3/2006	**3.10**
	4/15/2010	**3.20**
	3/9/2011	**3.70**
	8/10/2011	**4.90**
	10/14/2011	**4.30**
	1/24/2012	**4.20**
	3/30/2012	**4.80**
	7/3/2012	**5.30**
	9/14/2012	**4.40**
	3/22/2013	**4.80**
	11/21/2013	**7.60**
	5/29/2014	**5.00**
	10/14/2014	**5.40**
	1/27/2016	**4.50**
	6/28/2016	**4.40**
	12/20/2016	**4.60 [4.40]**
	5/15/2017	**4.10**
	10/30/2017	**4.30**
	4/9/2018	**3.7**
	10/3/2018	4.3 UB

Table 6
Summary of TOC Results (2003-2018)
2018 Corrective Measure Implementation Annual Progress Report
Ashland LLC
130 South Street, Rensselaer, New York

Location ID	Date Collected	Total Organic Carbon (mg/L)
IW-A2	10/20/2010	**20,000**
	11/8/2010	**300**
	11/23/2010	**250**
	12/28/2010	**230**
	4/11/2011	**790**
	5/12/2011	**220**
	6/2/2011	**310**
	10/14/2011	**960**
	1/25/2012	**7,100**
	3/29/2012	**4,700**
	7/2/2012	**3,400**
	9/13/2012	**1,400**
	3/22/2013	**290**
	11/21/2013	**1,200**
	5/29/2014	**340**
	10/15/2014	**280**
	4/23/2015	**200**
	1/27/2016	**3,900**
	6/30/2016	**4,100**
	12/21/2016	**620**
	5/16/2017	**380**
	10/31/2017	**420**
	4/10/2018	**260**
	10/4/2018	**210**
IW-B3	10/14/2011	**1,600**
	1/24/2012	**8,100**
	3/29/2012	**3,600**
	7/2/2012	**4,000**
	9/13/2012	**2,100**
	3/21/2013	**560**
	11/21/2013	**3,000**
	5/29/2014	**860**
	10/15/2014	**570**
	4/22/2015	**320**
	1/27/2016	**1,500**
	6/30/2016	**1,800**
	12/21/2016	**390**
	5/16/2017	**500**
	10/31/2017	**380**
	4/10/2018	**250**
	10/3/2018	**240**
MW-1	7/16/2003	1.00 U
	4/12/2007	**1.70**
	9/14/2007	**3.90**
	12/20/2016	2.60 UB
	10/30/2017	2.20 UB
	4/10/2018	1.7 UB

Table 6
Summary of TOC Results (2003-2018)
2018 Corrective Measure Implementation Annual Progress Report
Ashland LLC
130 South Street, Rensselaer, New York

Location ID	Date Collected	Total Organic Carbon (mg/L)
MW-13	7/16/2003	**3.60**
	4/10/2007	1.00 U
	4/16/2010	1.00 U
	3/9/2011	1.00 U
	8/9/2011	1.00 U
	10/14/2011	1.00 U
	1/25/2012	1.00 U
	3/29/2012	1.00 U
	7/2/2012	1.00 U
	9/13/2012	1.00 U
	3/21/2013	1.00 U
	11/21/2013	**2.60**
	5/29/2014	1.00 U
	10/15/2014	1.00 U
	4/22/2015	1.00 U
	1/27/2016	1.00 U
	6/28/2016	1.00 U
	12/20/2016	1.00 UB
	5/16/2017	**0.590 J**
	10/31/2017	1.00 UB
	4/10/2018	1.0 UB
	10/4/2018	1.1 UB
MW-16	7/15/2003	0.100 U
	8/11/2005	**1.70**
	4/12/2007	1.00 U
	9/24/2007	**2.10**
	4/15/2010	1.00 U
	3/8/2011	1.00 U
	8/9/2011	**1.40**
	10/14/2011	**1.20**
	1/24/2012	**1.20**
	3/30/2012	**1.40**
	7/2/2012	**1.60**
	9/14/2012	**1.60**
	3/22/2013	**1.20**
	11/21/2013	**4.20**
	5/29/2014	1.00 U
	10/14/2014	**1.70**
	1/27/2016	**1.10**
	6/30/2016	**1.60**
	12/20/2016	1.10 UB
	5/15/2017	**1.10**
	10/30/2017	2.10 UB
	4/9/2018	1 UB
	10/3/2018	1.2 UB

Table 6
Summary of TOC Results (2003-2018)
2018 Corrective Measure Implementation Annual Progress Report
Ashland LLC
130 South Street, Rensselaer, New York

Location ID	Date Collected	Total Organic Carbon (mg/L)
MW-17	7/15/2003	0.100 U
	2/28/2006	1.00 U
	4/10/2007	1.00 U
	4/15/2010	1.00 U [1.00 U]
	3/8/2011	**1.50**
	8/9/2011	**1.30**
	10/13/2011	1.00 U
	1/24/2012	**1.10 J [5.50 J]**
	3/30/2012	**1.00**
	7/2/2012	**1.50**
	9/13/2012	**1.50**
	3/22/2013	**1.60**
	11/21/2013	1.00 U
	5/29/2014	**1.10**
	10/15/2014	**1.50**
	4/22/2015	**1.30**
	1/27/2016	**1.20**
	6/28/2016	**1.50**
	5/15/2017	**1.40**
	10/30/2017	**3.20**
	4/9/2018	1.6 UB
	10/3/2018	1.8 UB
MW-18	2/28/2006	**1.80**
	5/3/2006	**2.00**
	4/12/2007	**11.0**
	9/24/2007	**2.00**
	4/15/2010	**1.10**
	3/9/2011	**1.60**
	8/10/2011	**1.40**
	10/14/2011	**1.50**
	1/24/2012	**1.30**
	3/30/2012	**1.50**
	7/3/2012	**1.70**
	9/14/2012	**2.00**
	3/22/2013	**2.30**
	11/21/2013	**2.60**
	5/29/2014	**1.80**
	10/14/2014	**3.30**
	1/27/2016	**2.00**
	6/28/2016	**2.40**
	12/20/2016	2.50 UB
	5/15/2017	**2.70**
	10/30/2017	2.50 UB
	4/9/2018	**2.6**
	10/3/2018	2.8 UB

Table 6
Summary of TOC Results (2003-2018)
2018 Corrective Measure Implementation Annual Progress Report
Ashland LLC
130 South Street, Rensselaer, New York

Location ID	Date Collected	Total Organic Carbon (mg/L)
MW-19	7/16/2003	**6.30**
	8/11/2005	**6.90**
	5/10/2006	**69.0**
	4/12/2007	**1.50 [2.80]**
	9/18/2007	**11.0**
	3/9/2011	**6.90**
	8/9/2011	**9.10**
	10/13/2011	**7.10**
	1/25/2012	**29.0**
	3/29/2012	**28.0 [27.0]**
	7/2/2012	**8.40 [8.30]**
	9/13/2012	**8.10 [8.10]**
	3/21/2013	**6.30 [6.40]**
	11/21/2013	**8.30 J [4.10 J]**
	5/29/2014	**8.80 [9.40]**
	10/15/2014	**8.10 [7.70]**
	4/23/2015	**6.20 [5.90]**
	1/27/2016	**8.90**
	6/30/2016	**23.0 [24.0]**
	12/20/2016	**5.00**
	5/16/2017	**4.60 [4.60]**
	10/31/2017	**5.30 [5.80]**
	4/9/2018	**5.7 [5.7]**
	10/4/2018	**4.6 [4.6]**
MW-20	10/31/2017	**21.0**
	4/10/2018	**4**
MW-21	4/16/2010	**2.30**
	3/8/2011	**2.80**
	8/9/2011	**2.90**
	10/13/2011	**3.70**
	1/24/2012	**3.20**
	3/30/2012	**2.90**
	7/2/2012	**3.10**
	9/14/2012	**4.50**
	3/22/2013	**3.20**
	11/21/2013	**2.80**
	5/29/2014	**2.20**
	10/15/2014	**2.70**
	4/22/2015	**2.70**
	1/27/2016	**3.20**
	6/30/2016	**4.20**
	12/20/2016	**4.70**
	5/15/2017	**3.00**
	10/30/2017	**4.20**
	4/9/2018	**4.6**
	10/3/2018	**8.5**

Table 6
Summary of TOC Results (2003-2018)
2018 Corrective Measure Implementation Annual Progress Report
Ashland LLC
130 South Street, Rensselaer, New York

Location ID	Date Collected	Total Organic Carbon (mg/L)
MW-22	9/15/2017	**6.50 B**
	4/10/2018	--
	4/19/2018	**600**
MW-23	9/15/2017	**1.60 B**
	4/10/2018	--
	4/19/2018	**31**
MW-24	9/15/2017	**3.20 B [3.20 B]**
	4/10/2018	--
	4/19/2018	**28**
MW-25	10/4/2018	**5.3**
MW-A1	10/20/2010	**14.0**
	11/8/2010	**7.90**
	11/23/2010	**6.30**
	12/28/2010	10.0 U
	3/9/2011	**6.20 [6.90]**
	4/11/2011	100 U
	5/12/2011	**6.30**
	6/2/2011	**14.0**
	8/9/2011	**8.10 [8.60]**
	10/13/2011	**6.80 [6.80]**
	1/25/2012	**77.0**
	3/29/2012	**58.0**
	7/2/2012	**23.0**
	9/13/2012	**11.0**
	3/21/2013	**11.0**
	11/21/2013	**680**
	5/29/2014	**93.0**
	10/15/2014	**19.0**
	4/23/2015	**15.0**
	1/27/2016	**260**
	6/30/2016	**65.0**
	12/20/2016	**12.0**
	5/16/2017	**9.20**
	10/31/2017	**11.0**
	4/10/2018	**10**
	10/4/2018	**13**

Table 6
Summary of TOC Results (2003-2018)
2018 Corrective Measure Implementation Annual Progress Report
Ashland LLC
130 South Street, Rensselaer, New York

Location ID	Date Collected	Total Organic Carbon (mg/L)
MW-B1	3/9/2011	**1,700**
	8/10/2011	**2,200**
	10/13/2011	**930**
	1/24/2012	**590**
	3/29/2012	**600**
	7/2/2012	**600**
	9/13/2012	**480**
	3/21/2013	**260**
	11/21/2013	**86.0**
	5/29/2014	**30.0**
	10/15/2014	**35.0**
	4/22/2015	**27.0**
	1/27/2016	**39.0**
	6/28/2016	**22.0**
	12/21/2016	**29.0**
	5/16/2017	**18.0**
	10/30/2017	**22.0**
	4/10/2018	**21**
	10/3/2018	**17**
PZ-6	2/28/2006	**4.60**
	5/3/2006	**4.10**
	9/14/2007	**8.20**
	12/20/2016	1.90 UB

NOTES:

1. Bold results denote detections.
2. All results are in mg/L, equivalent to parts per million.
3. Duplicate sample results are in brackets.

mg/L = milligrams per liter

-- = not analyzed

B = Compound was found in the blank and sample.

J = Indicates an estimated value.

U = Undetected; result is less than the project quantitation limit or if estimated results (J flags) are to be reported, less than the method detection limit.

UB = Compound considered nondetect at the listed value due to associated blank contamination.

Table 7
Summary of MNA Parameters in Groundwater (2010-2018)
2018 Corrective Measure Implementation Annual Progress Report
Ashland LLC
130 South Street, Rensselaer, New York

Location ID	Date Collected	Ethane (µg/L)	Ethene (µg/L)	Methane (µg/L)
IMP-3	4/15/2010	**1.2**	**0.49**	**260**
	10/30/2017	7.5 U	7.0 U	**210**
	4/9/2018	83 U	77 U	**170**
	10/3/2018	NA	NA	NA
IP-1	4/15/2010	**34**	**8.0**	**2,100**
	3/9/2011	NA	NA	**0.62**
	8/10/2011	NA	NA	**980 J**
	10/14/2011	NA	NA	**2,400**
	1/24/2012	NA	NA	**2,200 J**
	3/30/2012	NA	NA	**2,000**
	9/14/2012	**50 J**	**14 J**	**2,200**
	3/22/2013	**43**	**13**	**2,300**
	11/21/2013	**56**	**13**	**2,500**
	5/29/2014	1.1 U	1.0 U	**1,200**
	10/14/2014	**43**	**8.5**	**1,300**
	1/27/2016	NA	NA	**1,500**
	6/28/2016	150 U	140 U	**600**
	12/20/2016	150 U [75 U]	140 U [70 U]	380 UB [470 UB]
	5/15/2017	75 U	70 U	380 UB
	10/30/2017	170 U	150 U	**1,800**
	4/9/2018	83 U	77 U	**2,300**
	10/3/2018	**61**	**8.8**	**2,700**
IW-A2	10/31/2017	330 U	310 U	**4,200**
	4/10/2018	750 U	700 U	**13,000**
	10/4/2018	NA	NA	NA
IW-B3	10/31/2017	330 U	310 U	**5,500**
	4/10/2018	750 U	700 U	**14,000**
	10/4/2018	NA	NA	NA
MW-1	12/20/2016	7.5 U	7.0 U	4.0 UB
	10/30/2017	7.5 U	7.0 U	4.0 U
	4/10/2018	7.5 U	7.0 U	4.0 U
	10/3/2018	NS	NS	NS
MW-13	4/16/2010	0.35 U	0.33 U	0.19 U
	4/10/2018	NA	NA	NA
	10/4/2018	NA	NA	NA
MW-16	4/15/2010	0.35 U	0.33 U	**3.4**
	3/30/2012	1.1 U	1.0 U	**0.72**
	7/2/2012	**8.1**	1.0 U	**150**
	9/14/2012	**3.3 J**	1.0 UJ	**25 J**
	3/22/2013	1.1 U	1.0 U	0.58 U
	11/21/2013	1.1 U	1.0 U	**1.1**
	5/29/2014	1.1 U	1.0 U	**42**
	10/14/2014	**16**	1.0 U	**340**
	6/30/2016	**10**	7.0 U	120 UB
	12/20/2016	7.5 U	7.0 U	27 UB
	5/15/2017	7.5 U	7.0 U	8.3 UB
	10/30/2017	**7.7**	7.0 U	**140**
	4/9/2018	7.5 U	7.0 U	4.0 U
	10/3/2018	7.5 U	7.0 U	**52**
MW-17	4/15/2010	0.35 U [0.35 U]	0.33 U [0.33 U]	**5.0 [5.4]**
	4/9/2018	NA	NA	NA
	10/3/2018	NA	NA	NA

Table 7
Summary of MNA Parameters in Groundwater (2010-2018)
2018 Corrective Measure Implementation Annual Progress Report
Ashland LLC
130 South Street, Rensselaer, New York

Location ID	Date Collected	Ethane (µg/L)	Ethene (µg/L)	Methane (µg/L)
MW-18	4/15/2010	**20**	**1.7**	**180**
	3/30/2012	**3.2**	1.0 U	**130**
	7/3/2012	**5.4**	1.0 U	**43**
	9/14/2012	**21 J**	**1.0 J**	**170 J**
	3/22/2013	1.1 U	1.0 U	0.58 U
	11/21/2013	**17**	**2.0**	**230**
	5/29/2014	1.1 U	1.0 U	**690**
	10/14/2014	**29**	**2.7**	**470**
	6/28/2016	150 U	140 U	**470**
	12/20/2016	75 U	70 U	90 UB
	5/15/2017	75 U	70 U	220 UB
	10/30/2017	170 U	150 U	**570**
	4/9/2018	170 U	150 U	**1,200**
	10/3/2018	**26**	7.0 U	**590 D**
MW-19	3/9/2011	**72**	**100**	**5,800**
	8/9/2011	**94**	**160 J**	**3,800 J**
	10/13/2011	**140**	**180**	**5,000 J**
	1/25/2012	**120**	**310**	**6,700**
	3/29/2012	**140 [180]**	**320 [410]**	**8,400 [11,000]**
	7/2/2012	**160 [160]**	**400 [380]**	**7,700 [7,500]**
	9/13/2012	**84 J [92 J]**	**180 J [190 J]**	**4,100 [4,400]**
	3/21/2013	**180 [200]**	**360 [400]**	**3,800 [4,100]**
	11/21/2013	**91 J [170 J]**	**170 J [300 J]**	**4,900 J [9,000 J]**
	5/29/2014	**350 [310]**	610 J [1.0 UJ]	**15,000 [14,000]**
	10/15/2014	**180 [180]**	**190 [180]**	**5,700 [5,400]**
	4/23/2015	**120 J [120 J]**	**130 J [130 J]**	**1,900 [2,100]**
	1/27/2016	NA	NA	**15,000 [17,000]**
	6/30/2016	**94 J [130 J]**	**81 J [110 J]**	**1,700 [2,400]**
	12/20/2016	380 U	350 U	430 UB
	5/16/2017	75 U [75 U]	29 J [70 U]	580 UB [460 UB]
	10/31/2017	**110 J [140 J]**	**56 J [78 J]**	**1,400 [1,600]**
	4/9/2018	**390 [350]**	**330 [300 J]**	**5400 [4900]**
	10/4/2018	**91J [180 J]**	**120 J [210 J]**	**1000 [1,300]**
MW-20	10/31/2017	170 U	150 U	**5,400**
	4/10/2018	170 U	150 U	**550**
	10/4/2018	NA	NA	NA
MW-21	4/16/2010	0.35 U	0.33 U	**0.89**
	4/9/2018	NA	NA	NA
	10/3/2018	NA	NA	NA
MW-22	9/15/2017	**91 J**	**52 J**	**1,100**
	4/19/2018	**240 J**	**210 J**	**4,400**
	10/3/2018	NS	NS	NS
MW-23	9/15/2017	**12**	**18**	**98**
	4/19/2018	170 U	150 U	**12,000**
	10/3/2018	NS	NS	NS
MW-24	9/15/2017	**13 [9.9]**	7.0 U [7.0 U]	**190 [160]**
	4/19/2018	170 U	**33 J**	**1,300**
	10/3/2018	NS	NS	NS
MW-25	10/4/2018	**290**	**190**	**2,200 D**

Table 7
Summary of MNA Parameters in Groundwater (2010-2018)
2018 Corrective Measure Implementation Annual Progress Report
Ashland LLC
130 South Street, Rensselaer, New York

Location ID	Date Collected	Ethane (µg/L)	Ethene (µg/L)	Methane (µg/L)
MW-A1	3/9/2011	**460 [500]**	**380 [420]**	**9,500 [11,000]**
	8/9/2011	**320 J [320]**	**250 J [250 J]**	**6,400 J [6,400 J]**
	10/13/2011	**440 J [520]**	**530 J [380]**	**15,000 J [10,000 J]**
	1/25/2012	**140**	**71**	**7,000**
	3/29/2012	**280**	**230**	**12,000**
	7/2/2012	**170**	**140**	**8,900**
	9/13/2012	**110 J**	**65 J**	**6,700**
	3/21/2013	**230**	**37**	**13,000**
	11/21/2013	**38**	**16**	**11,000**
	5/29/2014	**40**	**8.5**	**3,000**
	10/15/2014	**86**	**13**	**10,000**
	1/27/2016	NA	NA	**13,000**
	6/30/2016	380 U	350 U	5,400 UB
	12/20/2016	150 U	140 U	**2,600**
	5/16/2017	150 U	140 U	**2,300**
	10/31/2017	330 U	310 U	**12,000**
	4/10/2018	NA	NA	NA
	4/19/2018	**100**	**21 J**	**7500**
	10/4/2018	**340**	**49 J**	**17,000**
MW-B1	3/9/2011	**30**	1.0 U	**7,300**
	8/10/2011	**9.5**	**13 J**	**10,000 J**
	10/13/2011	**25**	**9.3**	**26,000 J**
	1/24/2012	**50**	**3.2**	**8,100**
	3/29/2012	**91**	1.0 U	**11,000**
	7/2/2012	**78**	1.0 U	**11,000**
	9/13/2012	**20 J**	1.0 UJ	**4,000**
	3/21/2013	**69**	1.0 U	**13,000**
	11/21/2013	**65**	1.0 U	**13,000**
	5/29/2014	1.1 U	1.0 U	**4,100**
	10/15/2014	**110**	**4.2**	**7,000**
	4/22/2015	**33 J**	**2.9 J**	**3,500**
	1/27/2016	NA	NA	**13,000**
	6/28/2016	380 U	350 U	**5,100**
	12/21/2016	380 U	350 U	**2,100**
	5/16/2017	75 U	70 U	**950**
	10/30/2017	170 U	150 U	**5,300**
	4/10/2018	750 U	700 U	**13,000**
	10/3/2018	**750 U**	**700 U**	**10,000**
PZ-6	12/20/2016	7.5 U	7.0 U	42 UB

NOTES:

1. Bold results denote detections.

2. Duplicate sample results are in brackets.

3. All results are in micrograms per liter (µg/L), equivalent to parts per billion.

MNA = monitored natural attenuation

NA = not analyzed

NS = not sampled

µg/L = micrograms per liter

D = Compound quantitated using a secondary dilution.

J = Indicates an estimated value.

U = Undetected; result is less than the project quantitation limit or if estimated results (J flags) are to be reported, less than the method detection limit.

UB = Compound considered nondetect at the listed value due to associated blank contamination.

Table 8
Summary of Volatile Organic Compounds (2010-2018)
2018 Corrective Measure Implementation Annual Progress Report
Ashland LLC
130 South Street, Rensselaer, New York

ARCADIS Design & Consultancy for natural and built assets

Location ID: / Date Collected:	NYSDEC TOGS 1.1.1 Water Guidance Values	Units	IMP-3 04/15/10	IMP-3 03/09/11	IMP-3 08/10/11	IMP-3 10/14/11	IMP-3 01/24/12	IMP-3 03/30/12	IMP-3 07/03/12	IMP-3 09/14/12	IMP-3 03/22/13	IMP-3 11/21/13	IMP-3 05/29/14	IMP-3 10/14/14	IMP-3 01/27/16	IMP-3 06/30/16	IMP-3 12/20/16	IMP-3 05/15/17	IMP-3 10/30/17	IMP-3 04/09/18	IMP-3 10/03/18	IP-1 04/15/10
Detected Volatile Organics																						
1,1,1-Trichloroethane	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U
1,1,2-trichloro-1,2,2-trifluoroethane	5	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA
1,2-Dichlorobenzene	3	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA
2-Butanone	- -	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	5.0 U	10 U	10 U	10 U	10 U	5.0 U	10 U	10 U	20 U
2-Hexanone	50	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	20 U
4-Methyl-2-pentanone	- -	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	20 U
Acetone	50	µg/L	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	10 U	5.0 U	10 U	10 U	10 U	10 UB	5.0 UB	3.3 J	10 UB	50 U
Benzene	1	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U
Carbon Disulfide	- -	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	4.0 U
Carbon Tetrachloride	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U
Chlorobenzene	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U
Chloroethane	5	µg/L	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U
Chloroform	7	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U
Cyclohexane	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA
Dichlorodifluoromethane	5	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA
Ethylbenzene	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U
Isopropylbenzene	5	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA
Methylcyclohexane	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA
Methylene Chloride	5	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U
Toluene	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U
Xylenes (total)	5	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	4.0 U
Tetrachloroethene	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U
Trichloroethene	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U
1,1-Dichloroethane	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U
1,2-Dichloroethane	0.6	µg/L	1.8	6.7	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.3	0.43 J	3.1	1.0	2.0 U
cis-1,2-Dichloroethene	5	µg/L	14	27	4.0	1.9	7.2	10	1.0 U	36	1.6	1.0 U	6.0	160	66	58	120 D	80	78	130 D	72	200
trans-1,2-Dichloroethene	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0	1.0 U	1.0 U	1.0 U	2.3	1.0 U	0.93 J	1.0 U	1.0	0.83 J	1.9	0.91 J	3.5
Vinyl Chloride	2	µg/L	2.7	6.4	1.2	1.0 U	1.0 U	1.7	1.0 U	3.6	1.0 U	1.0 U	1.0 U	15	7.8	8.4	1.0 U	10	2.3	5.7	5.9	68
Total VOCs	- -	µg/L	19	40	5.2	1.9	7.2	12	ND	41	1.6	ND	6.0	180	74	67 J	120	92	82 J	140 J	83 J	270

NOTES:

1. All results are in micrograms per liter (µg/L), equivalent to parts per billion.

2. NYSDEC. 1998. TOGS 1.1.1 Water Guidance Values/Standards = New York State Department of Environmental Conservation Technical and Operational Guidance Series, June 1998, and its addenda (January 1999 Errata Sheet, April 2000 Addendum, and June 2004 Addendum).

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NA = not analyzed

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D = Compound quantitated using a secondary dilution.

F1 MS and/or MSD Recovery is outside acceptable Limits.

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Ashland LLC
130 South Street, Rensselaer, New York

ARCADIS Design & Consultancy for natural and built assets

Location ID: / Date Collected:	NYSDEC TOGS 1.1.1 Water Guidance Values	Units	IP-1 03/09/11	IP-1 08/10/11	IP-1 10/14/11	IP-1 01/24/12	IP-1 03/30/12	IP-1 07/03/12	IP-1 09/14/12	IP-1 03/22/13	IP-1 11/21/13	IP-1 05/29/14	IP-1 10/14/14	IP-1 01/27/16	IP-1 06/28/16	IP-1 12/20/16	IP-1 05/15/17	IP-1 10/30/17	IP-1 04/09/18	IP-1 10/03/18	IW-A2 01/25/12	IW-A2 03/29/12
Detected Volatile Organics																						
1,1,1-Trichloroethane	5	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	5.0 U	2.0 U	2.0 U	10 U	10 U [10 U]	10 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U
1,1,2-trichloro-1,2,2-trifluoroethane	5	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	10 U [10 U]	10 U	1.0 U	1.0 U	1.0 U	NA	NA
1,2-Dichlorobenzene	3	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	10 U [10 U]	10 U	1.0 U	1.0 U	1.0 U	NA	NA
2-Butanone	- -	µg/L	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	50 U	10 U	20 U	100 U	100 U [100 U]	100 U	5.0 U	10 U	10 U	79	890
2-Hexanone	50	µg/L	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	25 U	10 U	10 U	50 U	50 U [50 U]	50 U	5.0 U	5.0 U	5.0 U	10 U	100 U
4-Methyl-2-pentanone	- -	µg/L	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	25 U	10 U	10 U	50 U	50 U [50 U]	50 U	5.0 U	5.0 U	5.0 U	10 U	100 U
Acetone	50	µg/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 UJ	50 U	10 U	20 U	100 U	100 U [100 U]	100 U	5.0 UB	3.4 J	10 UB	25 U	290
Benzene	1	µg/L	2.0 U	2.1	2.1	2.0 U	2.1	2.7	2.8	2.0	2.5 J	5.0 U	2.1	2.0 U	10 U	10 U [10 U]	10 U	2.0	1.5	1.9	3.3	23
Carbon Disulfide	- -	µg/L	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	5.0 U	2.0 U	2.0 U	10 U	10 U [10 U]	10 U	1.0 U	1.0 U	1.0 U	2.0 U	20 U
Carbon Tetrachloride	5	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	5.0 U	2.0 U	2.0 U	10 U	10 U [10 U]	10 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U
Chlorobenzene	5	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	5.0 U	2.0 U	2.0 U	10 U	10 U [10 U]	10 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U
Chloroethane	5	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	10 U	5.0 U	2.0 UJ	2.0 U	10 U	10 U [10 U]	10 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U
Chloroform	7	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	5.0 U	2.0 U	2.0 U	10 U	10 U [10 U]	10 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U
Cyclohexane	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	10 U [10 U]	10 U	1.0 U	1.0 U	1.0 U	NA	NA
Dichlorodifluoromethane	5	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	10 U [10 U]	10 U	1.0 U	1.0 U	1.0 U	NA	NA
Ethylbenzene	5	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	5.0 U	2.0 U	2.0 U	10 U	10 U [10 U]	10 U	1.0 U	1.0 U	1.0 U	4.5	13
Isopropylbenzene	5	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	10 U [10 U]	10 U	1.0 U	1.0 U	1.0 U	NA	NA
Methylcyclohexane	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	10 U [10 U]	10 U	1.0 U	1.0 U	1.0 U	NA	NA
Methylene Chloride	5	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 UJ	12 J	2.0 U	2.0 U	10 U	10 U [10 U]	9.6 J	1.0 U	1.0 U	1.0 U	5.0 U	50 U
Toluene	5	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	5.0 U	2.0 U	2.0 U	10 U	10 U [10 U]	10 U	1.0 U	1.0 U	1.0 U	1.7	10 U
Xylenes (total)	5	µg/L	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	10 U	4.0 U	4.0 U	20 U	20 U [20 U]	20 U	2.0 U	2.0 U	2.0 U	58	180
Tetrachloroethene	5	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	5.0 U	2.0 U	2.0 U	10 U	10 U [10 U]	10 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U
Trichloroethene	5	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	5.0 U	2.0 UJ	2.0 U	10 U	10 U [10 U]	10 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U
1,1-Dichloroethane	5	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	5.0 U	2.0 U	2.0 U	10 U	10 U [10 U]	10 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U
1,2-Dichloroethane	0.6	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	5.0 U	2.0 U	2.0 U	10 U	10 U [10 U]	10 U	0.56 J	0.34 J	0.39 J	1.0 U	10 U
cis-1,2-Dichloroethene	5	µg/L	210	250	360	220	190	290	420 D	240	530 DJ	390	570	420 DJ	510	520 [530]	280	500	350 D	370 D	1.0 U	10 U
trans-1,2-Dichloroethene	5	µg/L	4.1	4.8	6.7	3.8	3.8	5.8	9.0	3.9	12 J	5.0 U	7.0	4.8	10 U	10 U [10 U]	10 U	6.0	4.6	6.4	1.0 U	10 U
Vinyl Chloride	2	µg/L	83	110	240	120	160	220	260 D	190	190 J	180	150	110	110	110 [140]	63	80	68	65	1.0 U	10 U
Total VOCs	- -	µg/L	300	370	610	340	360	520	690	440	730 J	580 J	730	530 J	620	630 [670]	350 J	590 J	430 J	450 J	150	1,400

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Detected Volatile Organics																						
1,1,1-Trichloroethane	5	µg/L	10 U	5.0 U	1.0 U	5.0 U	10 U	1.0 UJ	1.0 UJ	5.0 U	40 U	40 U	50 U	1.4	50 U	R	20 U	1.0 U	1.0 U	10 U	10 U	1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane	5	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	40 U	40 U	50 U	1.0 U	50 U	R	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	3	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	40 U	40 U	50 U	0.28 J	50 U	R	NA	NA	NA	NA	NA	NA
2-Butanone	- -	µg/L	800	710	10 U	630	100 U	5.0 UJ	5.0 UJ	240	460	400 U	500 U	10	500 U	R	1,500	220	820 D	540	100 U	130
2-Hexanone	50	µg/L	100 U	56	10 U	50 U	50 U	5.0 UJ	5.0 UJ	25 U	70 J	200 U	250 U	5.0 U	250 U	R	660	10 U	33	100 U	100 U	24
4-Methyl-2-pentanone	- -	µg/L	180	50 U	10 U	50 U	50 U	5.0 UJ	5.0 UJ	25 U	200 U	200 U	250 U	5.0 U	250 U	R	200 U	10 U	10 U	100 U	100 U	10 U
Acetone	50	µg/L	750	2,000	25 U	350	100 U	5.0 UJ	5.0 UJ	220	850	400 U	500 U	49	500 U	R	500 U	230	290	410	250 U	300
Benzene	1	µg/L	22	23	18	27	11	7.3 J	11 J	6.1	23 J	50	50 U	13	50 U	R	20 U	1.0 U	1.0 U	10 U	10 U	1.0 U
Carbon Disulfide	- -	µg/L	20 U	10 U	2.0 U	10 U	10 U	1.0 UJ	1.0 UJ	5.0 U	40 U	40 U	50 U	3.5	50 U	R	40 U	2.0 U	2.0 U	20 U	20 U	2.0 U
Carbon Tetrachloride	5	µg/L	10 U	5.0 U	1.0 U	5.0 U	10 U	1.0 UJ	1.0 UJ	5.0 U	40 U	40 U	50 U	1.0 U	50 U	R	20 U	1.0 U	1.0 U	10 U	10 U	1.0 U
Chlorobenzene	5	µg/L	10 U	5.0 U	1.0 U	5.0 U	10 U	1.0 UJ	1.0 UJ	5.0 U	40 U	40 U	50 U	2.7	50 U	R	20 U	1.0 U	1.0 U	10 U	10 U	1.0 U
Chloroethane	5	µg/L	10 U	5.0 U	1.0 U	25 U	10 U	1.0 UJ	1.0 UJ	5.0 U	40 U	40 U	50 U	1.0 U	50 U	R	20 U	1.0 U	1.0 U	10 U	10 U	5.0 U
Chloroform	7	µg/L	10 U	5.0 U	1.0 U	5.0 U	10 U	1.0 UJ	1.0 UJ	5.0 U	40 U	40 U	50 U	1.0 U	50 U	R	20 U	2.8	1.0 U	10 U	10 U	1.0 U
Cyclohexane	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	40 U	40 U	50 U	1.1	50 U	R	NA	NA	NA	NA	NA	NA
Dichlorodifluoromethane	5	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	40 U	40 U	50 U	1.0 U	50 U	R	NA	NA	NA	NA	NA	NA
Ethylbenzene	5	µg/L	10 U	9.0	14	17	10 U	5.1 J	2.5 J	5.0 U	40 U	40 U	50 U	4.0	50 U	R	20 U	1.4	1.1	10 U	10 U	1.0 U
Isopropylbenzene	5	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	40 U	40 U	50 U	3.8	50 U	R	NA	NA	NA	NA	NA	NA
Methylcyclohexane	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	40 U	40 U	50 U	1.6	50 U	R	NA	NA	NA	NA	NA	NA
Methylene Chloride	5	µg/L	50 U	25 U	5.0 U	25 U	10 UJ	1.0 UJ	1.0 UJ	5.0 U	40 U	40 U	50 U	1.0 U	50 U	R	100 U	5.0	5.0 U	50 U	50 U	5.0 U
Toluene	5	µg/L	10 U	8.2	5.1	6.6	10 U	2.2 J	1.1 J	5.0 U	40 U	40 U	50 U	2.5	50 U	R	120	53	260 D	2,000 D	690	190
Xylenes (total)	5	µg/L	95	85	210	160	120	77 J	160 J	10 U	42 J	190	85 J	45	73 J	42 J	40 U	2.0 U	2.0 U	20 U	20 U	2.0 U
Tetrachloroethene	5	µg/L	10 U	5.0 U	1.0 U	5.0 U	10 U	1.0 UJ	1.0 UJ	5.0 U	40 U	40 U	50 U	1.0	50 U	R	20 U	1.0 U	1.0 U	10 U	10 U	1.0 U
Trichloroethene	5	µg/L	10 U	5.0 U	1.0 U	5.0 U	10 U	1.0 UJ	1.0 UJ	5.0 U	40 U	40 U	50 U	70	50 U	R	20 U	1.0 U	1.0	10 U	10 U	1.0 U
1,1-Dichloroethane	5	µg/L	10 U	5.0 U	1.0 U	5.0 U	10 U	1.0 UJ	1.0 UJ	5.0 U	40 U	40 U	50 U	1.0 U	50 U	R	20 U	1.0 U	1.0 U	10 U	10 U	1.0 U
1,1-Dichloroethene	5	µg/L	10 U	5.0 U	1.0 U	5.0 U	10 U	1.0 UJ	1.0 UJ	5.0 U	40 U	40 U	50 U	1.0 U	50 U	R	20 U	1.0 U	1.0 U	10 U	10 U	1.0 U
1,2-Dichloroethane	0.6	µg/L	10 U	5.0 U	1.0 U	5.0 U	10 U	1.0 UJ	1.0 UJ	5.0 U	40 U	40 U	50 U	1.0 U	50 U	R	20 U	5.9	6.2	10 U	10 U	1.0 U
cis-1,2-Dichloroethene	5	µg/L	10 U	5.0 U	1.0 U	5.0 U	10 U	1.0 UJ	1.0 UJ	5.0 U	40 U	40 U	50 U	17	50 U	R	30	20	20	11	10 U	2.9
trans-1,2-Dichloroethene	5	µg/L	10 U	5.0 U	1.0 U	5.0 U	10 U	1.0 UJ	1.0 UJ	5.0 U	40 U	40 U	50 U	0.19 J	50 U	R	20 U	1.6	2.0	10 U	10 U	1.0 U
Vinyl Chloride	2	µg/L	10 U	5.0 U	1.0 U	5.0 U	10 U	1.0 UJ	1.0 UJ	5.0 U	40 U	40 U	50 U	2.2	50 U	R	20 U	8.2	6.4	10 U	10 U	2.0
Total VOCs	- -	µg/L	1,800	2,900	250	1,200	130	92 J	170 J	470	1,400 J	240	85 J	220 J	73 J	42 J	2,300	550	1,400	3,000	690	650

NOTES:

1. All results are in micrograms per liter (µg/L), equivalent to parts per billion.

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ARCADIS Design & Consultancy for natural and built assets

Location ID: / Date Collected:	NYSDEC TOGS 1.1.1 Water Guidance Values	Units	IW-B3 05/29/14	IW-B3 10/15/14	IW-B3 04/22/15	IW-B3 01/27/16	IW-B3 06/30/16	IW-B3 12/21/16	IW-B3 05/16/17	IW-B3 10/31/17	IW-B3 04/10/18	IW-B3 10/03/18	MW-1 12/20/16	MW-1 10/30/17	MW-1 04/10/18	MW-13 04/16/10	MW-13 03/09/11	MW-13 08/09/11	MW-13 10/14/11	MW-13 01/25/12	MW-13 03/29/12	MW-13 07/02/12
Detected Volatile Organics																						
1,1,1-Trichloroethane	5	µg/L	10 U	1.0 U	2.0 UJ	1.0 U	40 U	40 U	100 U	1.0 U	400 U	R	10 U	6.8	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane	5	µg/L	NA	NA	NA	NA	40 U	40 U	100 U	1.0 U	400 U	R	10 U	2.0 U	2.0 U	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	3	µg/L	NA	NA	NA	NA	40 U	40 U	100 U	1.0 U	400 U	R	10 U	2.0 U	2.0 U	NA	NA	NA	NA	NA	NA	NA
2-Butanone	- -	µg/L	100 U	5.0 U	10 UJ	36	3,300	400 U	1,000 U	3.6 J	4,000 U	R	100 U	10 U	20 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Hexanone	50	µg/L	60	5.0 U	10 UJ	5.0 U	370	200 U	500 U	5.0 U	2,000 U	R	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Methyl-2-pentanone	- -	µg/L	50 U	5.0 U	10 UJ	5.0 U	200 U	200 U	500 U	5.0 U	2,000 U	R	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acetone	50	µg/L	120	21	10 UJ	19 J	4,000	400 U	1,000 U	22 UB	4,000 U	R	100 U	10 UB	20 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Benzene	1	µg/L	10 U	1.0 U	2.0 UJ	1.0 U	40 U	40 U	100 U	0.22 J	400 U	R	10 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon Disulfide	- -	µg/L	10 U	1.0 U	2.0 UJ	1.0 U	40 U	40 U	100 U	5.1	400 U	R	10 U	0.63 J	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Carbon Tetrachloride	5	µg/L	10 U	1.0 U	2.0 UJ	1.0 U	40 U	40 U	100 U	1.0 U	400 U	R	10 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	5	µg/L	10 U	1.0 U	2.0 UJ	1.0 U	40 U	40 U	100 U	1.0 U	400 U	R	10 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	5	µg/L	10 U	1.0 UJ	2.0 UJ	1.0 U	40 U	40 U	100 U	1.0 U	400 U	R	10 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	7	µg/L	10 U	1.0 U	2.0 UJ	7.9	40 U	40 U	100 U	1.0 U	400 U	R	10 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	- -	µg/L	NA	NA	NA	NA	40 U	40 U	100 U	1.0 U	400 U	R	10 U	2.0 U	2.0 U	NA	NA	NA	NA	NA	NA	NA
Dichlorodifluoromethane	5	µg/L	NA	NA	NA	NA	40 U	40 U	100 U	1.0 U	400 U	R	10 U	2.0 U	2.0 U	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	5	µg/L	10 U	1.0 U	2.0 UJ	1.0 U	40 U	40 U	100 U	1.2	400 U	R	10 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropylbenzene	5	µg/L	NA	NA	NA	NA	40 U	40 U	100 U	1.0 U	400 U	R	10 U	2.0 U	2.0 U	NA	NA	NA	NA	NA	NA	NA
Methylcyclohexane	- -	µg/L	NA	NA	NA	NA	40 U	40 U	100 U	1.0 U	400 U	R	10 U	2.0 U	2.0 U	NA	NA	NA	NA	NA	NA	NA
Methylene Chloride	5	µg/L	19 J	1.0 U	2.0 UJ	3.1	40 U	40 U	100 U	1.0 U	400 U	R	10 U	2.0 U	2.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Toluene	5	µg/L	240	19	2.0 UJ	1.5	40 U	40 U	100 U	36	400 U	R	10 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	5	µg/L	20 U	2.0 U	4.0 UJ	2.0 U	80 U	80 U	200 U	2.4	800 U	R	20 U	4.0 U	4.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Tetrachloroethene	5	µg/L	10 U	1.0 U	2.0 UJ	1.0 U	40 U	40 U	100 U	0.25 J	400 U	R	4.6 J	12	0.95 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	5	µg/L	10 U	1.0 UJ	2.0 UJ	1.0 U	40 U	40 U	100 U	11	400 U	R	120	180	34	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	5	µg/L	10 U	1.0 U	2.0 UJ	1.0 U	40 U	40 U	100 U	1.0 U	400 U	R	10 U	3.1	1.6 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	5	µg/L	10 U	1.0 U	2.0 UJ	1.0 U	40 U	40 U	100 U	1.0 U	400 U	R	10 U	17	2.1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	0.6	µg/L	10 U	1.0 U	2.0 UJ	1.0 U	40 U	40 U	100 U	0.26 J	400 U	R	10 U	0.54 J	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	5	µg/L	10 U	1.0 U	2.0 UJ	1.1	40 U	40 U	100 U	1.7	400 U	R	290	660	160	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	5	µg/L	10 U	1.0 U	2.0 UJ	1.0 U	40 U	40 U	100 U	0.23 J	400 U	R	10 U	3.0	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl Chloride	2	µg/L	10 U	1.0 U	2.0 UJ	1.0 U	40 U	40 U	100 U	0.13 J	400 U	R	10 U	9.0	7.4	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total VOCs	- -	µg/L	440 J	40	ND	69 J	7,700	ND	ND	62 J	ND	ND	410 J	890 J	210 J	ND	ND	ND	ND	ND	ND	ND

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Detected Volatile Organics																						
1,1,1-Trichloroethane	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U	1.0 U	2.0 U
1,1,2-trichloro-1,2,2-trifluoroethane	5	µg/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	3	µg/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
2-Butanone	- -	µg/L	10 U	10 U	10 U	10 U	5.0 U	5.0 U	10 U	10 U	10 U	10 U	5.0 U	10 U	10 U	10 U	10 U	50 U	50 U	10 U	10 U	20 U
2-Hexanone	50	µg/L	10 U	10 U	10 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	10 U	10 U	50 U	50 U	10 UJ	10 U	20 U
4-Methyl-2-pentanone	- -	µg/L	10 U	10 U	10 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	10 U	10 U	50 U	50 U	10 U	10 U	20 U
Acetone	50	µg/L	25 U	25 U	25 U	16	5.0 U	5.0 U	10 U	10 U	10 U	10 UB	5.0 UB	10 U	10 U	25 U	25 U	130 U	130 U	25 U	25 U	50 U
Benzene	1	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U	1.0 U	2.0 U
Carbon Disulfide	- -	µg/L	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	10 U	10 U	2.0 U	2.0 U	4.0 U
Carbon Tetrachloride	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U	1.0 U	2.0 U
Chlorobenzene	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U	1.0 U	2.0 U
Chloroethane	5	µg/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 UJ	5.0 U	1.0 U	1.0 U	2.0 U
Chloroform	7	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U	1.0 U	2.0 U
Cyclohexane	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
Dichlorodifluoromethane	5	µg/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U	1.0 U	2.0 U
Isopropylbenzene	5	µg/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
Methylcyclohexane	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
Methylene Chloride	5	µg/L	5.0 U	5.0 U	5.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	25 U	25 U	5.0 U	5.0 U	10 U
Toluene	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U	1.0 U	2.0 U
Xylenes (total)	5	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	1.6 J	2.0 U	2.0 U	10 U	10 U	2.0 U	2.0 U	4.0 U
Tetrachloroethene	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U	1.0 U	2.0 U
Trichloroethene	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	7.3	15	35	35	16	18	45
1,1-Dichloroethene	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U	1.0 U	2.0 U
1,1-Dichloroethene	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.1	5.0 U	5.0 U	1.1	1.3	3.8
1,2-Dichloroethane	0.6	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4	5.0 U	5.0 U	1.7	2.2	6.8
cis-1,2-Dichloroethene	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	66	160	350	380	180	170 D	420 D
trans-1,2-Dichloroethene	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.7	5.0 U	5.0 U	3.4	1.6	4.4
Vinyl Chloride	2	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.6	11	6.2	2.1	1.0 U	11
Total VOCs	- -	µg/L	ND	ND	ND	16	ND	ND	ND	ND	ND	ND	ND	ND	1.6 J	73	180	400	420	200	190	490

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Location ID: / Date Collected:	NYSDEC TOGS 1.1.1 Water Guidance Values	Units	MW-16 09/14/12	MW-16 03/22/13	MW-16 11/21/13	MW-16 05/29/14	MW-16 10/14/14	MW-16 01/27/16	MW-16 06/30/16	MW-16 12/20/16	MW-16 05/15/17	MW-16 10/30/17	MW-16 04/09/18	MW-16 10/03/18	MW-17 04/15/10	MW-17 03/08/11	MW-17 08/09/11	MW-17 10/13/11	MW-17 01/24/12	MW-17 03/30/12	MW-17 07/02/12	MW-17 09/13/12
Detected Volatile Organics																						
1,1,1-Trichloroethane	5	µg/L	5.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	8.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane	5	µg/L	NA	NA	NA	NA	NA	NA	8.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	3	µg/L	NA	NA	NA	NA	NA	NA	8.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
2-Butanone	- -	µg/L	50 U	10 U	50 U	10 U	5.0 U	10 U	80 U	10 U	20 U	5.0 U	10 U	10 U	10 U [10 U]	10 U	10 U	10 UJ	10 U [10 U]	10 U	10 U	10 U
2-Hexanone	50	µg/L	50 U	10 U	50 U	5.0 U	5.0 U	5.0 U	40 U	5.0 U	10 U	5.0 U	5.0 U	5.0 U	10 U [10 U]	10 U	10 U	10 U	10 U [10 U]	10 U	10 U	10 U
4-Methyl-2-pentanone	- -	µg/L	50 U	10 U	50 U	5.0 U	5.0 U	5.0 U	40 U	5.0 U	10 U	5.0 U	5.0 U	5.0 U	10 U [10 U]	10 U	10 U	10 U	10 U [10 U]	10 U	10 U	10 U
Acetone	50	µg/L	130 U	25 U	130 U	10 U	5.0 U	10 U	80 U	10 U	20 U	5.0 UB	10 U	10 U	25 U [25 U]	25 U	25 U	25 UJ	25 U [25 U]	25 U	25 U	25 U
Benzene	1	µg/L	5.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	8.0 U	1.0 U	2.0 U	0.50 J	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U
Carbon Disulfide	- -	µg/L	10 U	2.0 U	10 U	1.0 U	1.0 U	1.0 U	8.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	2.0 U [2.0 U]	2.0 U	2.0 U	2.0 U	2.0 U [2.0 U]	2.0 U	2.0 U	2.0 U
Carbon Tetrachloride	5	µg/L	5.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	8.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U
Chlorobenzene	5	µg/L	5.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	8.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U
Chloroethane	5	µg/L	5.0 U	1.0 U	25 U	1.0 U	1.0 UJ	1.0 U	8.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U
Chloroform	7	µg/L	5.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	8.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U
Cyclohexane	- -	µg/L	NA	NA	NA	NA	NA	NA	8.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
Dichlorodifluoromethane	5	µg/L	NA	NA	NA	NA	NA	NA	8.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	5	µg/L	5.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	8.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U
Isopropylbenzene	5	µg/L	NA	NA	NA	NA	NA	NA	8.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
Methylcyclohexane	- -	µg/L	NA	NA	NA	NA	NA	NA	8.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
Methylene Chloride	5	µg/L	25 U	5.0 U	25 U	1.0 UJ	1.0 U	1.0 U	8.0 U	1.0 U	1.4 J	1.0 U	1.0 U	1.0 U	5.0 U [5.0 U]	5.0 U	5.0 U	5.0 U	5.0 U [5.0 U]	5.0 U	5.0 U	5.0 U
Toluene	5	µg/L	5.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	8.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U
Xylenes (total)	5	µg/L	10 U	2.0 U	10 U	2.0 U	2.0 U	2.0 U	16 U	2.0 U	4.0 U	2.0 U	2.0 U	2.0 U	2.0 U [2.0 U]	2.0 U	2.0 U	2.0 U	2.0 U [2.0 U]	2.0 U	2.0 U	2.0 U
Tetrachloroethene	5	µg/L	5.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	8.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U
Trichloroethene	5	µg/L	44	1.9	32	6.8	21 J	13	27	9.9	16	30	20	21	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	5	µg/L	5.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	8.0 U	1.0 U	2.0 U	0.57 J	1.0 U	0.40 J	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	0.6	µg/L	5.0 U	1.0 U	6.0	1.0 U	4.8	1.3	3.7 J	0.62 J	0.95 J	3.1	1.3	1.6	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	5	µg/L	410	17	360	65	440	160 D	330	77	130	330	160 D	230 D	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	5	µg/L	5.4	1.0 U	5.0 U	1.0 U	4.1	1.0 U	8.0 U	1.0 U	2.0 U	3.4	1.7	2.7	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U
Vinyl Chloride	2	µg/L	14	1.0 U	5.0 U	1.0 U	16	1.0 U	8.0	1.7	2.0 U	8.6	1.0 U	4.0	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U
Total VOCs	- -	µg/L	470	19	400	72	490 J	170	370 J	89 J	150 J	380 J	180	260 J	ND [ND]	ND	ND	ND	ND [ND]	ND	ND	ND

NOTES:

1. All results are in micrograms per liter (µg/L), equivalent to parts per billion.

2. NYSDEC. 1998. TOGS 1.1.1 Water Guidance Values/Standards = New York State Department of Environmental Conservation Technical and Operational Guidance Series, June 1998, and its addenda (January 1999 Errata Sheet, April 2000 Addendum, and June 2004 Addendum).

3. Shaded cells denote results in exceedance of criteria.

NA = not analyzed

NYSDEC = New York State Department of Environmental Conservation

TOGS = Technical and Operational Guidance Series

VOC = volatile organic compound.

[ ] = Duplicate results are shown in brackets.

- - = no standard/guidance value

D = Compound quantitated using a secondary dilution.

F1 MS and/or MSD Recovery is outside acceptable Limits.

J = Indicates an estimated value.

R = The sample results were rejected

U = The compound was analyzed for but not detected. The associated value is the compound quantitation limit.

UB =Compound considered nondetect at the listed value due to associated blank contamination.

UJ = The compound was analyzed for but not detected. The associated value is the compound quantitation limit. Indicates an estimated value.

Table 8
Summary of Volatile Organic Compounds (2010-2018)
2018 Corrective Measure Implementation Annual Progress Report
Ashland LLC
130 South Street, Rensselaer, New York

Location ID: / Date Collected:	NYSDEC TOGS 1.1.1 Water Guidance Values	Units	MW-17 03/22/13	MW-17 11/21/13	MW-17 05/29/14	MW-17 10/15/14	MW-17 04/22/15	MW-17 01/27/16	MW-17 06/28/16	MW-17 05/15/17	MW-17 10/30/17	MW-17 04/09/18	MW-17 10/03/18	MW-18 04/15/10	MW-18 03/09/11	MW-18 08/10/11	MW-18 10/14/11	MW-18 01/24/12	MW-18 03/30/12	MW-18 07/03/12	MW-18 09/14/12	MW-18 03/22/13
Detected Volatile Organics																						
1,1,1-Trichloroethane	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	2.0 U
1,1,2-trichloro-1,2,2-trifluoroethane	5	µg/L	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	3	µg/L	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Butanone	- -	µg/L	10 U	10 U	10 U	5.0 U	5.0 U	10 U	10 U	10 U	5.0 U	10 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	10 U	10 U	20 U
2-Hexanone	50	µg/L	10 U	10 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	10 U	20 U	20 U	20 U	20 U	20 UJ	20 U	10 U	10 U	20 U
4-Methyl-2-pentanone	- -	µg/L	10 U	10 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	10 U	20 U	20 U	20 U	20 U	20 U	20 U	10 U	10 U	20 U
Acetone	50	µg/L	25 U	25 U	10 U	5.0 U	5.0 U	10 U	10 U	10 UB	5.0 UB	3.2 J	20 UB	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25 U	50 U
Benzene	1	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	1.0 U	1.0	2.0 U
Carbon Disulfide	- -	µg/L	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	2.0 U	2.0 U	4.0 U
Carbon Tetrachloride	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	2.0 U
Chlorobenzene	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	2.0 U
Chloroethane	5	µg/L	1.0 U	5.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	2.0 U	2.0 UJ	79 J	2.0 U	2.0 U	1.0 U	1.0 U	2.0 U
Chloroform	7	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	2.0 U
Cyclohexane	- -	µg/L	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichlorodifluoromethane	5	µg/L	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	2.0 U
Isopropylbenzene	5	µg/L	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylcyclohexane	- -	µg/L	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylene Chloride	5	µg/L	5.0 U	5.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	10 U	10 U	10 U	10 U	10 U	10 U	5.0 U	5.0 U	10 U
Toluene	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	2.0 U
Xylenes (total)	5	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	2.0 U	2.0 U	4.0 U
Tetrachloroethene	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	2.0 U
Trichloroethene	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	2.0 U
1,1-Dichloroethene	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	2.0 U
1,2-Dichloroethane	0.6	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	3.8	3.0	2.0 U	2.0 U	2.0 U	2.0 U	1.1	1.0 U	2.0 U
cis-1,2-Dichloroethene	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	280	310	120	310	200	220	96	390 D	250
trans-1,2-Dichloroethene	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	3.9	3.2	2.4	5.2	2.4	2.1	2.0	6.7	4.3
Vinyl Chloride	2	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	49	15	30	92	2.0 U	17	28	110 D	32
Total VOCs	- -	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.2 J	6.1 J	340	330	150	490 J	200	240	130	510	290

NOTES:

1. All results are in micrograms per liter (µg/L), equivalent to parts per billion.

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Ashland LLC
130 South Street, Rensselaer, New York

ARCADIS Design & Consultancy for natural and built assets

Location ID: / Date Collected:	NYSDEC TOGS 1.1.1 Water Guidance Values	Units	MW-18 11/21/13	MW-18 05/29/14	MW-18 10/14/14	MW-18 01/27/16	MW-18 06/28/16	MW-18 12/20/16	MW-18 05/15/17	MW-18 10/30/17	MW-18 04/09/18	MW-18 10/03/18	MW-19 03/09/11	MW-19 08/09/11	MW-19 10/13/11	MW-19 01/25/12	MW-19 03/29/12	MW-19 07/02/12	MW-19 09/13/12	MW-19 03/21/13	MW-19 11/21/13
Detected Volatile Organics																					
1,1,1-Trichloroethane	5	µg/L	2.0 U	2.0 U	1.0 U	1.0 U	8.0 U	8.0 U	10 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	5.0 U	1.2	1.0 U [1.0 U]	1.0 U [2.0 U]	1.0 U [1.0 U]	5.0 U [10 U]	5.0 U [5.0 U]
1,1,2-trichloro-1,2,2-trifluoroethane	5	µg/L	NA	NA	NA	NA	8.0 U	8.0 U	10 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	3	µg/L	NA	NA	NA	NA	8.0 U	8.0 U	10 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Butanone	- -	µg/L	20 U	20 U	5.0 U	10 U	80 U	80 U	100 U	5.0 U	10 U	10 U	50 U	10 U	50 U	10 U	10 U [10 U]	10 U [20 U]	10 U [10 U]	50 U [100 U]	50 U [50 U]
2-Hexanone	50	µg/L	20 U	10 U	5.0 U	5.0 U	40 U	40 U	50 U	5.0 U	5.0 U	5.0 U	50 U	10 U	50 U	10 U	10 U [10 U]	10 U [20 U]	10 U [10 U]	50 U [100 U]	50 U [50 U]
4-Methyl-2-pentanone	- -	µg/L	20 U	10 U	5.0 U	5.0 U	40 U	40 U	50 U	5.0 U	5.0 U	5.0 U	50 U	10 U	50 U	10 UJ	10 U [10 U]	10 U [20 U]	10 U [10 U]	50 U [100 U]	50 U [50 U]
Acetone	50	µg/L	50 U	20 U	5.0 U	10 U	80 U	80 UJ	100 U	5.0 UB	3.2 J	10 U	120 U	25 U	130 U	25 U	25 U [25 U]	25 U [50 U]	25 U [25 U]	130 U [250 U]	130 U [130 U]
Benzene	1	µg/L	2.0 U	2.0 U	1.2	1.0 U	8.0 U	8.0 U	10 U	1.1	1.0	1.2	12	12	8.8	5.2	6.2 [6.1]	13 [18]	14 [13]	6.3 [10 U]	9.6 [11]
Carbon Disulfide	- -	µg/L	4.0 U	2.0 U	1.0 U	1.0 U	8.0 U	8.0 UJ	10 U	1.0 U	1.0 U	1.0 U	10 U	2.0 U	10 U	2.0 U	2.0 U [2.0 U]	2.0 U [4.0 U]	2.0 U [2.0 U]	10 U [20 U]	10 U [10 U]
Carbon Tetrachloride	5	µg/L	2.0 U	2.0 U	1.0 U	1.0 U	8.0 U	8.0 U	10 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	5.0 UJ	1.0 U	1.0 U [1.0 U]	1.0 U [2.0 U]	1.0 U [1.0 U]	5.0 U [10 U]	5.0 U [5.0 U]
Chlorobenzene	5	µg/L	2.0 U	2.0 U	1.0 U	1.0 U	8.0 U	8.0 U	10 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	5.0 U	1.0 U	1.0 U [1.0 U]	1.0 U [2.0 U]	1.0 U [1.0 U]	5.0 U [10 U]	5.0 U [5.0 U]
Chloroethane	5	µg/L	10 U	2.0 U	1.0 UJ	1.0 U	8.0 U	8.0 U	10 U	1.0 U	1.0 U	1.0 U	92	110	38	37	38 [40]	77 [82]	150 J [160]	28 [29]	67 [70]
Chloroform	7	µg/L	2.0 U	2.0 U	1.0 U	1.0 U	8.0 U	8.0 U	10 U	1.0 U	1.0 U	1.0 U	5.0 U	2.9	5.0 U	1.0 U	1.0 [1.0 U]	1.0 U [2.0 U]	1.0 [1.0 U]	5.0 U [10 U]	5.0 U [5.0]
Cyclohexane	- -	µg/L	NA	NA	NA	NA	8.0 U	8.0 U	10 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichlorodifluoromethane	5	µg/L	NA	NA	NA	NA	8.0 U	8.0 U	10 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	5	µg/L	2.0 U	2.0 U	1.0 U	1.0 U	8.0 U	8.0 U	10 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	5.0 U	1.0 U	1.0 U [1.0 U]	1.0 U [2.0 U]	1.0 U [1.0 U]	5.0 U [10 U]	5.0 U [5.0 U]
Isopropylbenzene	5	µg/L	NA	NA	NA	NA	8.0 U	8.0 U	10 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylcyclohexane	- -	µg/L	NA	NA	NA	NA	8.0 U	8.0 U	10 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylene Chloride	5	µg/L	10 U	3.8 J	1.0 U	1.0 U	8.0 U	8.0 UJ	6.3 J	1.0 U	1.0 U	1.0 U	25 U	5.0 U	25 U	5.0 U	5.0 U [5.0 U]	5.0 U [10 U]	5.0 U [5.0 U]	25 U [50 U]	25 U [25 U]
Toluene	5	µg/L	2.0 U	2.0 U	1.0 U	1.0 U	8.0 U	8.0 U	10 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	5.0 U	1.9	3.3 [2.8]	2.3 [3.0]	2.5 [2.3]	5.0 U [10 U]	5.0 U [5.0 U]
Xylenes (total)	5	µg/L	4.0 U	4.0 U	2.0 U	2.0 U	16 U	16 U	20 U	2.0 U	2.0 U	2.0 U	10 U	2.0 U	10 U	2.0 U	2.0 U [2.1]	2.0 U [4.0 U]	2.0 U [2.0 U]	10 U [20 U]	10 U [10 U]
Tetrachloroethene	5	µg/L	2.0 U	2.0 U	1.0 U	1.0 U	8.0 U	8.0 U	10 U	1.0 U	1.0 U	1.0 U	5.0 U	6.7	6.3	1.0 U	1.0 U [1.0 U]	1.0 U [2.0 U]	1.0 U [1.0 U]	6.9 [10 U]	6.1 [7.6]
Trichloroethene	5	µg/L	2.0 U	2.0 U	1.0 UJ	1.0 U	8.0 U	8.0 U	10 U	1.0 U	1.0 U	1.0 U	44	6.8	5.0 U	1.0 U	1.0 U [1.0 U]	1.0 U [2.0 U]	2.6 [2.3]	19 [18]	6.4 [7.0]
1,1-Dichloroethane	5	µg/L	2.0 U	2.0 U	1.0 U	1.0 U	8.0 U	8.0 U	10 U	1.0 U	1.0 U	1.0 U	75	67	44	35	18 [19]	140 [150]	82 [73]	27 [27]	41 [40]
1,1-Dichloroethene	5	µg/L	2.0 U	2.0 U	1.0 U	1.0 U	8.0 U	8.0 U	10 U	0.58 J	0.49 J	0.44 J	5.0 U	1.0 U	5.0 U	1.0 U	1.0 U [1.0 U]	1.0 U [2.0 U]	1.0 U [1.0 U]	5.0 U [10 U]	5.0 U [5.0 U]
1,2-Dichloroethane	0.6	µg/L	2.3	2.4	1.0 U	1.0 U	8.0 U	8.0 U	10 U	0.47 J	0.54 J	1.2	5.0 U	1.0 U	5.0 U	1.0 U	1.0 U [1.0 U]	1.0 U [2.0 U]	1.0 U [1.0 U]	5.0 U [10 U]	5.0 U [5.0 U]
cis-1,2-Dichloroethene	5	µg/L	350	330 D	430	330 D	410	440	360	420	420 D	380 D	530	100	370	1.1	1.0 U [1.0 U]	4.3 [6.3]	99 [89]	820 J [780]	400 J [420]
trans-1,2-Dichloroethene	5	µg/L	5.3	6.1	4.9	3.5	8.0 U	8.0 U	10 U	4.3	7.3	2.5	5.0 U	3.9	5.0 U	2.8	2.9 [2.9]	5.9 [6.7]	6.1 [5.4]	5.0 U [10 U]	5.4 J [5.9]
Vinyl Chloride	2	µg/L	79	120	170	69	110	150	100	93	71	120 D	220	160	230	3.2	1.0 U [1.0 U]	11 [16]	150 D [160 D]	250 [240]	280 J [230]
Total VOCs	- -	µg/L	440	460 J	610	400	520	590	470 J	520 J	500 J	510 J	970	470	700	87	69 [73]	250 [280]	510 J [510]	1,200 J [1,100]	820 J [800]

NOTES:

1. All results are in micrograms per liter (µg/L), equivalent to parts per billion.

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3. Shaded cells denote results in exceedance of criteria.

NA = not analyzed

NYSDEC = New York State Department of Environmental Conservation

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VOC = volatile organic compound.

[ ] = Duplicate results are shown in brackets.

- - = no standard/guidance value

D = Compound quantitated using a secondary dilution.

F1 MS and/or MSD Recovery is outside acceptable Limits.

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U = The compound was analyzed for but not detected. The associated value is the compound quantitation limit.

UB =Compound considered nondetect at the listed value due to associated blank contamination.

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Summary of Volatile Organic Compounds (2010-2018)
2018 Corrective Measure Implementation Annual Progress Report
Ashland LLC
130 South Street, Rensselaer, New York

ARCADIS Design & Consultancy for natural and built assets

Location ID: / Date Collected:	NYSDEC TOGS 1.1.1 Water Guidance Values	Units	MW-19 05/29/14	MW-19 10/15/14	MW-19 04/23/15	MW-19 01/27/16	MW-19 06/30/16	MW-19 12/20/16	MW-19 05/16/17	MW-19 10/31/17	MW-19 04/09/18	MW-19 10/04/18	MW-20 04/16/10	MW-20 03/10/11	MW-20 08/10/11	MW-20 09/13/12	MW-20 03/22/13	MW-20 11/21/13	MW-20 05/29/14
Detected Volatile Organics																			
1,1,1-Trichloroethane	5	µg/L	25 U [25 U]	1.0 U [2.0 U]	1.0 U [1.0 U]	5.0 U [5.0 U]	2.0 U [2.0 U]	2.0 U	1.0 U [40 U]	1.0 U [1.0 U]	0.84 J [20 U]	5.0 U [5.0 U]	NA	1.0 U	10 U	1.0 U	1.0 U	2.0 U	1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane	5	µg/L	NA	NA	NA	NA	2.0 U [2.0 U]	4.2	270 D [280]	12 [12]	170 D [230]	5.0 U [5.0 U]	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	3	µg/L	NA	NA	NA	NA	2.0 U [2.0 U]	2.0 U	1.0 U [40 U]	1.0 U [1.0 U]	1.0 U [20 U]	5.0 U [5.0 U]	NA	NA	NA	NA	NA	NA	NA
2-Butanone	- -	µg/L	250 U [250 U]	5.0 U [10 U]	5.0 U [5.0 U]	50 U [50 U]	20 U [20 U]	20 U	10 U [400 U]	5.0 U [5.0 U]	10 U [200 U]	50 U [50 U]	NA	10 U	100 U	10 U	10 U	20 U	10 U
2-Hexanone	50	µg/L	130 U [130 U]	5.0 U [10 U]	5.0 U [5.0 U]	25 U [25 U]	10 U [10 U]	10 U	5.0 U [200 U]	5.0 U [5.0 U]	5.0 U [100 U]	25 U [25 U]	NA	10 U	100 U	10 U	10 U	20 U	5.0 U
4-Methyl-2-pentanone	- -	µg/L	130 U [130 U]	5.0 U [10 U]	5.0 U [5.0 U]	25 U [25 U]	10 U [10 U]	10 U	5.0 U [200 U]	5.0 U [5.0 U]	5.0 U [100 U]	25 U [25 U]	NA	10 U	100 U	10 U	10 U	20 U	5.0 U
Acetone	50	µg/L	250 U [250 U]	5.0 U [10 U]	5.0 U [5.0 U]	50 UJ [50 U]	6.6 J [6.3 J]	20 U	10 UB [400 U]	5.2 UB [5.0 UB]	4.4 J [200 U]	50 U [50 U]	NA	25 U	250 U	25 U	25 U	50 U	10 U
Benzene	1	µg/L	25 U [25 U]	6.6 [6.2]	4.0 [4.0]	7.3 [7.8]	7.0 [7.7]	3.2	7.1 [40 U]	3.7 [3.7]	7.9 [10 J]	5.0 U [5.0 U]	470	5.1	360	100	14	330	13
Carbon Disulfide	- -	µg/L	25 U [25 U]	1.0 U [2.0 U]	1.0 U [1.0 U]	5.0 U [5.0 U]	2.0 U [2.0 U]	2.0 U	0.41 J [40 U]	1.0 U [1.0 U]	1.0 U [20 U]	5.0 U [5.0 U]	NA	2.0 U	20 U	2.0 U	2.0 U	4.0 U	1.0 U
Carbon Tetrachloride	5	µg/L	25 U [25 U]	1.0 U [2.0 U]	1.0 U [1.0 U]	5.0 U [5.0 U]	2.0 U [2.0 U]	2.0 U	1.0 U [40 U]	1.0 U [1.0 U]	1.0 U [20 U]	5.0 U [5.0 U]	NA	1.5	10 U	1.0 U	1.0 U	2.0 U	1.0 U
Chlorobenzene	5	µg/L	25 U [25 U]	1.0 U [2.0 U]	1.0 U [1.0 U]	5.0 U [5.0 U]	2.0 U [2.0 U]	2.0 U	1.0 U [40 U]	1.0 U [1.0 U]	1.0 U [20 U]	5.0 U [5.0 U]	NA	1.0 U	10 U	1.0 U	1.0 U	2.0 U	1.0 U
Chloroethane	5	µg/L	230 [240]	39 J [33 J]	34 J [33]	180 J [180]	86 [95]	32	22 [40 U]	16 [17]	45 [48]	12 [11]	NA	1.0 U	10 UJ	1.0 U	1.0 U	10 U	1.0 U
Chloroform	7	µg/L	25 U [25 U]	4.3 [4.1]	3.3 [3.5]	5.0 U [5.0 U]	2.0 U [2.0 U]	2.0 U	1.7 [40 U]	0.56 J [0.56 J]	6.5 [7.7 J]	5.0 U [5.0 U]	NA	2.5	10 U	1.0 U	1.0 U	2.0 U	1.0 U
Cyclohexane	- -	µg/L	NA	NA	NA	NA	2.0 U [2.0 U]	2.0 U	0.29 J [40 U]	0.61 J [0.60 J]	0.32 J [20 U]	5.0 U [5.0 U]	NA	NA	NA	NA	NA	NA	NA
Dichlorodifluoromethane	5	µg/L	NA	NA	NA	NA	2.0 U [2.0 U]	2.0 U	1.0 U [40 U]	1.0 U [1.0 U]	19 [20 U]	5.0 U [5.0 U]	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	5	µg/L	25 U [25 U]	1.0 U [2.0 U]	1.0 U [1.0 U]	5.0 U [5.0 U]	2.0 U [2.0 U]	2.0 U	1.0 U [40 U]	0.30 J [0.35 J]	1.0 U [20 U]	5.0 U [5.0 U]	760	1.7	210	17	1.0 U	88	18
Isopropylbenzene	5	µg/L	NA	NA	NA	NA	2.0 U [2.0 U]	2.0 U	1.0 U [40 U]	1.0 U [1.0 U]	1.0 U [20 U]	5.0 U [5.0 U]	NA	NA	NA	NA	NA	NA	NA
Methylcyclohexane	- -	µg/L	NA	NA	NA	NA	2.0 U [2.0 U]	2.0 U	1.0 U [40 U]	1.0 U [1.0 U]	1.0 U [20 U]	5.0 U [5.0 U]	NA	NA	NA	NA	NA	NA	NA
Methylene Chloride	5	µg/L	25 J [28 J]	1.3 [2.0 U]	1.0 U [1.0 U]	5.0 U [5.0 U]	2.0 U [2.0 U]	2.0 U	0.96 J [23 J]	1.0 UB [1.0 UB]	1.0 U [20 U]	5.0 UB [5.0 UB]	NA	5.0 U	50 U	5.0 U	5.0 U	10 U	1.0 UJ
Toluene	5	µg/L	25 U [25 U]	2.3 [2.0 U]	1.5 [1.6]	5.0 U [5.0 U]	2.4 [2.4]	2.0 U	2.0 [40 U]	0.27 J [0.29 J]	1.9 [20 U]	5.0 U [5.0 U]	2,900	1.0 U	350	4.1	1.0 U	90	1.0 U
Xylenes (total)	5	µg/L	50 U [50 U]	2.0 U [4.0 U]	2.0 U [2.0 U]	10 U [10 U]	4.0 U [4.0 U]	4.0 U	2.0 U [80 U]	2.0 U [0.28 J]	2.0 U [40 U]	10 U [10 U]	7,100	8.8	1,700	77	5.4	410	6.7
Tetrachloroethene	5	µg/L	25 U [25 U]	5.9 [5.6]	15 [15]	5.0 U [5.0 U]	2.0 U [2.0 U]	2.0 U	9.9 [40 U]	1.6 [1.7]	11 [14 J]	5.0 UB [5.2]	NA	52	10 U	32	21	2.0 U	17
Trichloroethene	5	µg/L	56 [54]	10 J [9.1 J]	13 [13]	5.0 U [5.0 U]	2.0 U [2.0 U]	1.1 J	29 [33 J]	3.5 [3.7]	23 [24]	3.1 J [3.4 J]	NA	3.1	10 U	15	15	4.6	18
1,1-Dichloroethane	5	µg/L	110 [110]	26 [23]	15 J [16]	36 [40]	27 [30]	11	31 [37 J]	10 [10]	26 [31]	8.9 [8.7]	NA	1.0 U	10 U	1.0 U	1.0 U	2.0 U	1.0 U
1,1-Dichloroethene	5	µg/L	25 U [25 U]	1.2 [2.0 U]	1.3 [1.5]	5.0 U [5.0 U]	2.0 U [2.0 U]	2.0 U	4.6 [40 U]	1.0 U [1.0 U]	3.7 [20 U]	5.0 U [5.0 U]	NA	1.0 U	10 U	1.0 U	1.0 U	2.0 U	1.0 U
1,2-Dichloroethane	0.6	µg/L	25 U [25 U]	1.0 U [2.0 U]	1.0 U [1.0 U]	5.0 U [5.0 U]	2.0 U [2.0 U]	2.0 U	0.32 J [40 U]	0.30 J [0.33 J]	0.21 J [20 U]	5.0 U [5.0 U]	NA	1.0 U	10 U	1.0 U	1.0 U	2.0 U	1.0 U
cis-1,2-Dichloroethene	5	µg/L	1,900 J [1,800]	490 [450]	380 [400]	66 [74]	39 [42]	120	1,700 DJ [1,700]	140 [140]	930 D [920]	170 J[150 J]	NA	1.2	80	16	5.3	30	11
trans-1,2-Dichloroethene	5	µg/L	25 U [25 U]	5.6 [4.9]	4.3 [4.5]	5.0 U [5.0 U]	3.9 [4.2]	2.0 U	7.0 [40 U]	2.9 [3.0]	5.2 [20 U]	5.0 U [5.0 U]	NA	1.0 U	10 U	1.0 U	1.0 U	2.0 U	1.0 U
Vinyl Chloride	2	µg/L	510 [510]	330 [270]	180 [170]	98 [87]	67 J [73]	120	560 D [540]	110 [110]	330 D [300]	68 [85]	NA	1.0 U	20	4.7	1.0 U	12	1.7
Total VOCs	- -	µg/L	2,800 J [2,700 J]	920 J [810 J]	650 J [660]	390 J [390]	240 J [260 J]	290 J	2,400 J [2,300 J]	290 J [290 J]	1,400 J [1,400 J]	270 J [270 J]	11,000	76	2,700	270	61	960	85

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Detected Volatile Organics																						
1,1,1-Trichloroethane	5	µg/L	1.0 U	1.0 U	1.0 U	40 U	1.0 U	2.0 U	25 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane	5	µg/L	NA	NA	NA	40 U	1.0 U	2.0 U	25 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	3	µg/L	NA	NA	NA	40 U	1.0 U	2.0 U	25 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Butanone	- -	µg/L	5.0 U	5.0 U	10 U	400 U	10 U	20 U	130 U	10 U	10 U	10 U	10 U	10 U	10 UJ	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Hexanone	50	µg/L	5.0 U	5.0 U	5.0 U	200 U	5.0 U	10 U	130 U	5.0 U	5.0 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	5.0 U
4-Methyl-2-pentanone	- -	µg/L	5.0 U	5.0 U	5.0 U	200 U	5.0 U	10 U	130 U	5.0 U	5.0 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	5.0 U
Acetone	50	µg/L	11	5.0 U	10 UJ	400 U	10 U	20 UB	130 U	10 U	4.6 J	25 U	25 U	25 U	25 UJ	25 U	25 U	25 U	25 U	25 U	25 U	10 U
Benzene	1	µg/L	310	6.6	7.1	300	0.59 J	2.0 U	410	11	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon Disulfide	- -	µg/L	1.0 U	1.0 U	1.0 U	40 U	1.0 U	2.0 U	25 U	1.0 U	1.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	1.0 U
Carbon Tetrachloride	5	µg/L	1.0 U	1.0	1.0 U	40 U	1.3	1.7 J	25 U	0.58 J	2.5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	5	µg/L	1.0 U	1.0 U	1.0 U	40 U	1.0 U	2.0 U	25 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	5	µg/L	1.0 UJ	1.0 U	1.0 U	40 U	1.0 U	2.0 U	25 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U
Chloroform	7	µg/L	1.0 U	2.3	1.3	40 U	2.2	2.6	25 U	1.5	3.6 UB	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	- -	µg/L	NA	NA	NA	40 U	1.0 U	2.0 U	25 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichlorodifluoromethane	5	µg/L	NA	NA	NA	40 U	1.0 U	2.0 U	25 U	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	5	µg/L	69	6.0	7.4	220	1.0 U	2.0 U	520 J	10	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropylbenzene	5	µg/L	NA	NA	NA	40 U	1.0 U	2.0 U	50	1.2	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylcyclohexane	- -	µg/L	NA	NA	NA	40 U	1.0 U	2.0 U	16 J	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylene Chloride	5	µg/L	1.0 U	1.0 U	1.0 U	40 U	1.0 U	1.7 J	25 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 UJ
Toluene	5	µg/L	34	1.0 U	3.3	86	1.0 U	2.0 U	190	1.1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	5	µg/L	250	36	45	2,400	2.0 U	4.0 U	5,200	77	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Tetrachloroethene	5	µg/L	2.2	54	42	40 U	58	80	25 U	55	98	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	5	µg/L	1.0 UJ	6.9	5.2	40 U	4.8	6.0	25 U	13	9.3	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	5	µg/L	1.0 U	1.0 U	1.0 U	40 U	1.0 U	2.0 U	25 U	0.46 J	0.70 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	5	µg/L	1.0 U	1.0 U	1.0 U	40 U	1.0 U	2.0 U	25 U	1.0 U	0.23 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	5	µg/L	23	4.8	6.8	40 U	2.6	3.9	77	11	10	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	5	µg/L	1.2	1.0 U	1.0 U	40 U	1.0 U	2.0 U	4.8 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl Chloride	2	µg/L	9.1	1.0 U	1.0 U	40 U	1.0 U	2.0 U	14 J	0.96 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total VOCs	- -	µg/L	710	120	120	3,000	69 J	96 J	6,400 J	180 J	130 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

NOTES:

1. All results are in micrograms per liter (µg/L), equivalent to parts per billion.

2. NYSDEC. 1998. TOGS 1.1.1 Water Guidance Values/Standards = New York State Department of Environmental Conservation Technical and Operational Guidance Series, June 1998, and its addenda (January 1999 Errata Sheet, April 2000 Addendum, and June 2004 Addendum).

3. Shaded cells denote results in exceedance of criteria.

NA = not analyzed

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[ ] = Duplicate results are shown in brackets.

- - = no standard/guidance value

D = Compound quantitated using a secondary dilution.

F1 MS and/or MSD Recovery is outside acceptable Limits.

J = Indicates an estimated value.

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U = The compound was analyzed for but not detected. The associated value is the compound quantitation limit.

UB =Compound considered nondetect at the listed value due to associated blank contamination.

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Table 8
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2018 Corrective Measure Implementation Annual Progress Report
Ashland LLC
130 South Street, Rensselaer, New York

ARCADIS Design & Consultancy for natural and built assets

Location ID: / Date Collected:	NYSDEC TOGS 1.1.1 Water Guidance Values	Units	MW-21 10/15/14	MW-21 04/22/15	MW-21 01/27/16	MW-21 06/30/16	MW-21 12/20/16	MW-21 05/15/17	MW-21 10/30/17	MW-21 04/09/18	MW-21 10/03/18	MW-22 09/15/17	MW-23 09/15/17	MW-24 09/15/17	MW-25 10/04/18	MW-A1 03/09/11	MW-A1 08/09/11	MW-A1 10/13/11	MW-A1 01/25/12	MW-A1 03/29/12
Detected Volatile Organics																				
1,1,1-Trichloroethane	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	23	200 U	100 U [100 U]	20 U	5.0 U [5.0 U]	5.0 U [5.0 U]	5.0 U [5.0 U]	12	1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane	5	µg/L	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	200 U	100 U [100 U]	20 U	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	3	µg/L	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	200 U	100 U [100 U]	20 U	NA	NA	NA	NA	NA
2-Butanone	- -	µg/L	5.0 U	5.0 U	10 U	10 U	10 U	10 U	5.0 U	10 U	10 U	100 U	2,000 U	1,000 U [1,000 U]	200 U	50 U [50 U]	50 U [50 U]	50 U [50 U]	10 U	10 U
2-Hexanone	50	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	50 U	1,000 U	500 U [500 U]	100 U	50 U [50 U]	50 U [50 U]	50 U [50 U]	10 U	10 U
4-Methyl-2-pentanone	- -	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	50 U	1,000 U	500 U [500 U]	100 U	50 U [50 U]	50 U [50 U]	50 U [50 U]	10 U	10 U
Acetone	50	µg/L	5.0 U	5.0 U	10 U	10 U	10 U	10 UB	5.0 UB	4.5 J	10 UB	100 U	2,000 U	1,000 U [1,000 U]	2,000 U	120 U [120 U]	130 U [130 U]	130 U [130 U]	25 U	25 U
Benzene	1	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	6.7 J	200 U	100 U [100 U]	20 U	7.7 [7.2]	9.5 [9.8]	5.2 [7.7]	8.8	7.9
Carbon Disulfide	- -	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.21 J	1.0 U	10 U	200 U	100 U [100 U]	20 U	10 U [10 U]	10 U [10 U]	10 U [10 U]	2.0 U	2.0 U
Carbon Tetrachloride	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	200 U	100 U [100 U]	20 U	5.0 U [5.0 U]	5.0 U [5.0 U]	5.0 UJ [5.0 U]	1.0 U	1.0 U
Chlorobenzene	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	49	200 U	100 U [100 U]	20 U	5.0 U [5.0 U]	5.0 U [5.0 U]	5.0 U [5.0 U]	2.1	2.0
Chloroethane	5	µg/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	200 U	100 U [100 U]	20 U	5.0 U [5.0 U]	17 [16 J]	5.0 U [5.0 U]	13	20
Chloroform	7	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	0.91 J	1.0 U	1.0 U	1.0 U	1.0 U	10 U	200 U	34 J [100 U]	20 U	5.0 U [5.0 U]	5.0 U [5.0 U]	5.0 U [5.0 U]	1.0 U	1.0 U
Cyclohexane	- -	µg/L	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.9 J	200 U	100 U [100 U]	20 U	NA	NA	NA	NA	NA
Dichlorodifluoromethane	5	µg/L	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	200 U	100 U [100 U]	20 U	NA	NA	NA	NA	NA
Ethylbenzene	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	200 U	100 U [100 U]	20 U	5.0 U [5.0 U]	5.0 U [5.0 U]	5.0 U [5.0 U]	1.0 U	1.0 U
Isopropylbenzene	5	µg/L	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	200 U	100 U [100 U]	20 U	NA	NA	NA	NA	NA
Methylcyclohexane	- -	µg/L	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.6 J	200 U	100 U [100 U]	20 U	NA	NA	NA	NA	NA
Methylene Chloride	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	200 U	100 U [100 U]	20 UB	25 U [25 U]	25 U [25 U]	25 U [25 U]	5.0 U	5.0 U
Toluene	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	200 U	100 U [100 U]	20 U	5.0 U [5.0 U]	5.0 U [5.0 U]	5.0 U [5.0 U]	1.0 U	1.0 U
Xylenes (total)	5	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	7.9 J	400 U	200 U [200 U]	40 U	10 U [10 U]	10 U [10 U]	10 U [10 U]	2.0 U	2.0 U
Tetrachloroethene	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	200 U	100 U [100 U]	9,300 D	5.0 U [5.0 U]	5.0 U [5.0 U]	5.0 U [5.0 U]	1.0 U	1.0 U
Trichloroethene	5	µg/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	440	5,800	3,100 [3,200]	220	5.0 U [5.0 U]	5.0 U [5.0 U]	5.0 U [5.0 U]	1.0 U	1.2
1,1-Dichloroethane	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	7.1 J	200 U	100 U [100 U]	17 J	22 [21]	19 [20]	15 [17]	17	11
1,1-Dichloroethene	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	200 U	100 U [100 U]	20 U	5.0 U [5.0 U]	5.0 U [5.0 U]	5.0 U [5.0 U]	1.0 U	1.0 U
1,2-Dichloroethane	0.6	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	200 U	100 U [100 U]	20 U	5.0 U [5.0 U]	5.0 U [5.0 U]	5.0 U [5.0 U]	1.0 U	1.0 U
cis-1,2-Dichloroethene	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	790 F1	4,900	650 [630]	850	270 [260]	220 J [250 J]	200 [210]	25	36
trans-1,2-Dichloroethene	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	200 U	100 U [100 U]	20 U	5.0 U [5.0 U]	5.0 U [5.0 U]	5.0 U [5.0 U]	1.0 U	1.0 U
Vinyl Chloride	2	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	700 F1	260	100 U [100 U]	690	490 [460]	310 [410]	600 J [470]	50	70
Total VOCs	- -	µg/L	ND	ND	ND	ND	0.91 J	ND	ND	4.7 J	3.5 J	2,000 J	11,000	3,800 J [3,800]	11,077	790 [750]	580 J [710 J]	820 J [700]	130	150

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Detected Volatile Organics																						
1,1,1-Trichloroethane	5	µg/L	1.0 U	2.0 U	1.0 U	1.0 U	4.0 U	1.0 U	1.0 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	4.0 U	5.0 U	50 U	50 U	5.0 U	1.0 U	1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane	5	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.1	3.2	4.0 U	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	3	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	4.0 U	NA	NA	NA	NA	NA	NA
2-Butanone	- -	µg/L	10 U	51	10 U	73	40 U	5.0 U	5.0 U	100 U	10 U	10 U	10 U	5.0 U	20 U	40 U	430	7,800	5,100 J	520	47	10 U
2-Hexanone	50	µg/L	10 U	20 U	10 U	10 U	20 U	5.0 U	5.0 U	50 U	5.0 U	5.0 U	5.0 U	5.0 U	10 U	20 U	50 U	500 U	500 U	50 UJ	10 U	10 U
4-Methyl-2-pentanone	- -	µg/L	10 U	20 U	10 U	10 U	20 U	5.0 U	5.0 U	50 U	5.0 U	5.0 U	5.0 U	5.0 U	10 U	20 U	50 U	500 U	500 U	50 U	10 U	10 U
Acetone	50	µg/L	25 U	73	25 U	120	40 U	5.0 U	5.0 U	100 U	13	10 U	10 UB	9.5 UB	20 U	15 J	120 U	1,300 U	1,300 UJ	130 U	25 U	25 U
Benzene	1	µg/L	8.7	12	5.3	11	9.2	6.7	6.3	10 U	5.8	8.8	7.1	9.3	9.9	6.1	5.0 UJ	50 UJ	50 U	5.0 U	1.0 U	1.0 U
Carbon Disulfide	- -	µg/L	2.0 U	4.0 U	2.0 U	2.0 U	4.0 U	1.0 U	1.0 U	10 U	1.0 U	1.0 U	1.0 U	0.28 J	2.0 U	4.0 U	10 U	100 U	100 U	10 U	2.0 U	2.0 U
Carbon Tetrachloride	5	µg/L	1.0 U	2.0 U	1.0 U	1.0 U	4.0 U	1.0 U	1.0 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	4.0 U	5.0 U	50 U	50 U	5.0 U	1.0 U	1.0 U
Chlorobenzene	5	µg/L	2.7	3.1	2.0	2.5	4.0 U	1.4	1.8	10 U	0.98 J	1.3	1.3	1.1	2.0 U	4.0 U	5.0 UJ	50 U	50 U	5.0 U	1.0 U	1.0 U
Chloroethane	5	µg/L	13	38	6.8	21	6.9	4.5 J	1.0 U	10 U	4.3	9.8	4.3	25	39	7.6	5.0 U	50 U	50 U	5.0 U	1.0 U	1.0 U
Chloroform	7	µg/L	1.3	2.0 U	1.0 U	1.0 U	4.0 U	1.0 U	1.0 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.1 J	4.0 U	5.0 U	50 U	50 U	5.0 U	1.0 U	1.0 U
Cyclohexane	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	0.47 J	0.82 J	2.0 U	4.0 U	NA	NA	NA	NA	NA	NA
Dichlorodifluoromethane	5	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	4.0 U	NA	NA	NA	NA	NA	NA
Ethylbenzene	5	µg/L	1.0 U	2.0 U	1.0 U	1.0 U	4.0 U	1.0 U	1.0 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	4.0 U	5.0 UJ	50 UJ	50 U	5.0 U	1.0 U	1.0 U
Isopropylbenzene	5	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	4.0 U	NA	NA	NA	NA	NA	NA
Methylcyclohexane	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	0.61 J	2.0 U	4.0 U	NA	NA	NA	NA	NA	NA
Methylene Chloride	5	µg/L	5.0 U	10 U	5.0 U	5.0 U	4.0 UJ	1.0 U	1.0 U	10 U	1.0 U	1.0 U	1.0 U	1.0 UB	2.0 U	4.0 U	25 U	250 U	250 U	25 U	5.0 U	5.0 U
Toluene	5	µg/L	1.0 U	4.9	1.0 U	1.0 U	4.0 U	3.2	1.0 U	10 U	1.3	0.86 J	1.0 U	0.51 J	2.0 U	4.0 U	5.0 UJ	50 UJ	50 U	5.0 U	2.1	2.2
Xylenes (total)	5	µg/L	2.0 U	4.0 U	2.0 U	2.0 U	8.0 U	2.0 U	2.0 U	20 U	2.0 U	2.0 U	2.0 U	0.36 J	4.0 U	8.0 U	10 UJ	100 UJ	100 U	10 U	2.0 U	2.0 U
Tetrachloroethene	5	µg/L	1.0 U	2.0 U	1.0 U	1.0 U	4.0 U	1.0 U	1.0 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U	3.6	4.0 U	5.0 U	50 U	50 U	5.0 U	1.0 U	1.0 U
Trichloroethene	5	µg/L	1.3	2.0 U	3.5	1.0 U	4.0 U	1.0 UJ	1.0 U	10 U	1.0 U	1.0 U	1.0 U	0.83 J	9.9	4.0 U	5.0 U	50 U	50 U	5.0 U	1.0 U	1.0 U
1,1-Dichloroethene	5	µg/L	14	12	9.3	1.0 U	4.0 U	1.0 U	1.5	10 U	1.0 U	0.84 J	1.1	5.7	21	3.6 J	5.0 U	50 U	50 U	5.0 U	1.0 U	1.0 U
1,1-Dichloroethene	5	µg/L	1.0 U	2.0 U	1.0 U	1.0 U	4.0 U	1.0 U	1.0 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4 J	4.0 U	5.0 U	50 U	50 U	5.0 U	1.0 U	1.0 U
1,2-Dichloroethane	0.6	µg/L	1.0 U	2.0 U	1.0 U	1.0 U	4.0 U	1.0 U	1.0 U	10 U	1.0 U	1.0 U	1.0 U	0.26 J	2.0 U	4.0 U	34	50 U	50 U	5.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	5	µg/L	130	150	86	7.6	5.7	6.3	27	10 U	6.7	13	24	26	330 D	4.0 U	710	50 U	68	5.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	5	µg/L	1.5	2.0 U	1.0 U	1.0 U	4.0 U	1.0 U	1.0 U	10 U	1.0 U	1.0 U	1.0 U	1.8	3.4	4.0 U	45	50 U	50 U	10	5.9	3.6
Vinyl Chloride	2	µg/L	200 D	230 D	120	4.2	4.0 U	17	51	10 U	17	39	70	28	120	4.0 U	270	50 U	50 U	5.0 U	1.0 U	1.0 U
Total VOCs	- -	µg/L	370	570	230	240	22	39 J	88	ND	49 J	74 J	110	99 J	540 J	32 J	1,500	7,800	5,200 J	530	55	5.8

NOTES:

1. All results are in micrograms per liter (µg/L), equivalent to parts per billion.

2. NYSDEC. 1998. TOGS 1.1.1 Water Guidance Values/Standards = New York State Department of Environmental Conservation Technical and Operational Guidance Series, June 1998, and its addenda (January 1999 Errata Sheet, April 2000 Addendum, and June 2004 Addendum).

3. Shaded cells denote results in exceedance of criteria.

NA = not analyzed

NYSDEC = New York State Department of Environmental Conservation

TOGS = Technical and Operational Guidance Series

VOC = volatile organic compound.

[ ] = Duplicate results are shown in brackets.

- - = no standard/guidance value

D = Compound quantitated using a secondary dilution.

F1 MS and/or MSD Recovery is outside acceptable Limits.

J = Indicates an estimated value.

R = The sample results were rejected

U = The compound was analyzed for but not detected. The associated value is the compound quantitation limit.

UB =Compound considered nondetect at the listed value due to associated blank contamination.

UJ = The compound was analyzed for but not detected. The associated value is the compound quantitation limit. Indicates an estimated value.

Table 8
Summary of Volatile Organic Compounds (2010-2018)
2018 Corrective Measure Implementation Annual Progress Report
Ashland LLC
130 South Street, Rensselaer, New York

ARCADIS Design & Consultancy for natural and built assets

Location ID: / Date Collected:	NYSDEC TOGS 1.1.1 Water Guidance Values	Units	MW-B1 09/13/12	MW-B1 03/21/13	MW-B1 11/21/13	MW-B1 05/29/14	MW-B1 10/15/14	MW-B1 04/22/15	MW-B1 01/27/16	MW-B1 06/28/16	MW-B1 12/21/16	MW-B1 05/16/17	MW-B1 10/30/17	MW-B1 04/10/18	MW-B1 10/03/18	PZ-6 12/20/16
Detected Volatile Organics																
1,1,1-Trichloroethane	5	µg/L	1.0 U	1.0 U	1.0 U	4.0 U	1.0 U	1.0 U	5.0 U	4.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	39
1,1,2-trichloro-1,2,2-trifluoroethane	5	µg/L	NA	NA	NA	NA	NA	NA	NA	4.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U
1,2-Dichlorobenzene	3	µg/L	NA	NA	NA	NA	NA	NA	NA	4.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U
2-Butanone	- -	µg/L	10 U	10 U	10 U	40 U	5.0 U	5.0 U	50 U	40 U	10 U	10 U	5.0 U	20 U	20 U	10 U
2-Hexanone	50	µg/L	10 U	10 U	10 U	20 U	5.0 U	5.0 U	25 U	20 U	5.0 U	5.0 U	5.0 U	10 U	10 U	5.0 U
4-Methyl-2-pentanone	- -	µg/L	10 U	10 U	10 U	20 U	5.0 U	5.0 U	25 U	20 U	5.0 U	5.0 U	5.0 U	10 U	10 U	5.0 U
Acetone	50	µg/L	25 U	25 U	25 U	40 U	5.0 U	5.0 U	50 U	40 U	10 U	10 UB	5.0 UB	20 U	20 U	10 U
Benzene	1	µg/L	1.0 U	1.0 U	1.0 U	4.0 U	1.0 U	1.0 U	5.0 U	4.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U
Carbon Disulfide	- -	µg/L	2.0 U	2.0 U	2.0 U	4.0 U	1.0 U	1.0 U	5.0 U	4.0 U	1.0 U	0.24 J	1.0 U	2.0 U	2.0 U	1.0 U
Carbon Tetrachloride	5	µg/L	1.0 U	1.0 U	1.0 U	4.0 U	1.0 U	1.0 U	5.0 U	4.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U
Chlorobenzene	5	µg/L	1.0 U	1.0 U	1.0 U	4.0 U	1.0 U	1.0 U	5.0 U	4.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U
Chloroethane	5	µg/L	3.7	1.0 U	5.0 U	4.0 U	1.0 UJ	1.0 U	5.0 U	4.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U
Chloroform	7	µg/L	1.0 U	1.0 U	1.0 U	4.0 U	1.0 U	1.0 U	5.0 U	4.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U
Cyclohexane	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	4.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U
Dichlorodifluoromethane	5	µg/L	NA	NA	NA	NA	NA	NA	NA	4.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U
Ethylbenzene	5	µg/L	1.0 U	1.0 U	1.0 U	4.0 U	1.0 U	1.0 U	5.0 U	4.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U
Isopropylbenzene	5	µg/L	NA	NA	NA	NA	NA	NA	NA	4.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U
Methylcyclohexane	- -	µg/L	NA	NA	NA	NA	NA	NA	NA	4.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U
Methylene Chloride	5	µg/L	5.0 U	5.0 U	5.0 U	6.9 J	1.0 U	1.0 U	5.0 U	4.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U
Toluene	5	µg/L	2.7	1.6	1.0 U	4.0 U	1.0 U	1.0 U	5.0 U	4.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U
Xylenes (total)	5	µg/L	2.0 U	2.0 U	2.0 U	8.0 U	2.0 U	2.0 U	10 U	8.0 U	2.0 U	2.0 U	2.0 U	4.0 U	4.0 U	2.0 U
Tetrachloroethene	5	µg/L	1.0 U	1.0 U	1.0 U	4.0 U	1.0 U	1.0 U	5.0 U	4.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U
Trichloroethene	5	µg/L	1.0 U	1.0 U	1.0 U	4.0 U	1.0 UJ	1.0 U	5.0 U	4.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	5.2
1,1-Dichloroethene	5	µg/L	1.0 U	1.0 U	1.0 U	4.0 U	1.0 U	1.0 U	5.0 U	4.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	13
1,2-Dichloroethane	0.6	µg/L	1.0 U	1.0 U	1.0 U	4.0 U	1.0 U	1.0	5.0 U	4.0 U	1.0 U	0.44 J	0.48 J	2.0 U	0.77 J	1.0 U
cis-1,2-Dichloroethene	5	µg/L	1.0 U	1.0 U	1.0 U	14	7.3	8.7	5.0 U	4.0 U	1.0 U	3.3	2.3	17	15	29
trans-1,2-Dichloroethene	5	µg/L	3.7	1.0 U	1.0 U	4.0 U	1.2	1.4	5.0 U	4.0 U	1.0 U	0.99 J	0.96 J	2.0 U	2.0 U	1.0 U
Vinyl Chloride	2	µg/L	1.0 U	1.0 U	1.0 U	18	10	14	5.0 U	4.0 U	1.0 U	6.5	2.2	7.4	27	25
Total VOCs	- -	µg/L	10	1.6	ND	39 J	19	25	ND	ND	ND	11 J	5.9 J	24	43 J	110

NOTES:

1. All results are in micrograms per liter (µg/L), equivalent to parts per billion.

2. NYSDEC. 1998. TOGS 1.1.1 Water Guidance Values/Standards = New York State Department of Environmental Conservation Technical and Operational Guidance Series, June 1998, and its addenda (January 1999 Errata Sheet, April 2000 Addendum, and June 2004 Addendum).

3. Shaded cells denote results in exceedance of criteria.

NA = not analyzed

NYSDEC = New York State Department of Environmental Conservation

TOGS = Technical and Operational Guidance Series

VOC = volatile organic compound.

[ ] = Duplicate results are shown in brackets.

- - = no standard/guidance value

D = Compound quantitated using a secondary dilution.

F1 MS and/or MSD Recovery is outside acceptable Limits.

J = Indicates an estimated value.

R = The sample results were rejected

U = The compound was analyzed for but not detected. The associated value is the compound quantitation limit.

UB =Compound considered nondetect at the listed value due to associated blank contamination.

UJ = The compound was analyzed for but not detected. The associated value is the compound quantitation limit. Indicates an estimated value.

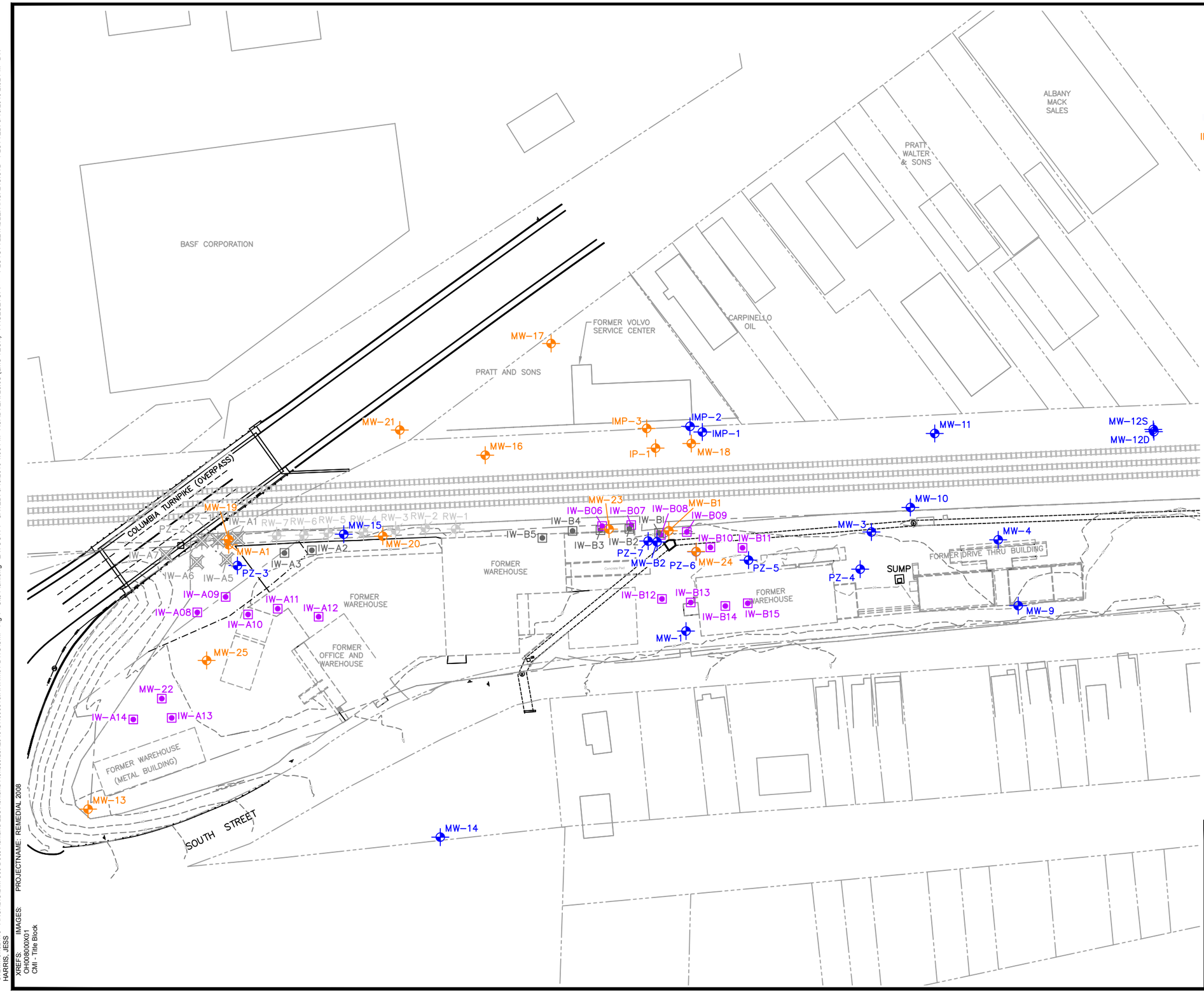
Table 9
Summary of Geochemistry Parameters in Groundwater (2017-2018)
2018 Corrective Measures Implementation Annual Progress Report
Ashland LLC
130 South Street, Rensselaer, New York

ARCADIS Design & Consultancy for natural and built assets

Sample Name	Date Collected	Result Units	Sulfate	Filtered Iron	Filtered Manganese
IMP-3	10/30/17	mg/L	510	3.00 J	0.210 J
	04/09/18	mg/L	320	1.80	0.120
IP-1	10/30/17	mg/L	220	11.0 J	3.80 J
	04/09/18	mg/L	97	15.0	5.00
IW-A2	10/31/17	mg/L	43 UB	270 J	4.00 J
	04/10/18	mg/L	20 U	170	3.80
IW-B3	10/31/17	mg/L	20 UB	100 J	3.60 J
	04/10/18	mg/L	20 U	120	3.90
MW-1	10/30/17	mg/L	38 UB	0.0730 J	0.00410 J
	04/10/18	mg/L	31	0.0190 J	0.0130
MW-13	10/31/17	mg/L	63 UB	0.150 J	0.370 J
	04/10/18	mg/L	61	0.0500 U	0.140
MW-16	10/30/17	mg/L	240	0.780 J	2.00 J
	04/09/18	mg/L	330	0.0500 U	0.00900 UB
MW-17	10/30/17	mg/L	670	12.0 J	0.390 J
	04/09/18	mg/L	680	5.40	0.530
MW-18	10/30/17	mg/L	120	3.50 J	3.00 J
	04/09/18	mg/L	130	1.40	2.90
MW-19	10/31/17	mg/L	47 UB [48 UB]	7.00 J [7.40 J]	1.40 J [1.50 J]
	04/09/18	mg/L	32 [33]	17.0 [16.0]	1.60 B [1.50]
MW-20	10/31/17	mg/L	22 UB	27.0 J	0.750 J
	04/10/18	mg/L	68	1.80	0.0440
MW-21	10/30/17	mg/L	150	6.10 J	6.30 J
	04/09/18	mg/L	92	0.0500 U	0.320
MW-22	10/31/17	mg/L	- -	23.0	8.60
	04/10/18	mg/L	- -	280	20.0
	04/19/18	mg/L	20 U	- -	- -
MW-23	10/31/17	mg/L	- -	5.30 J	0.570 J
	04/10/18	mg/L	- -	1.50	1.20
	04/19/18	mg/L	190	- -	- -
MW-24	10/31/17	mg/L	- -	1.60 J	2.20 J
	04/10/18	mg/L	- -	2.60	10.0
	04/19/18	mg/L	23	- -	- -
MW-A1	10/31/17	mg/L	10 UB	16.0 J	7.80 J
	04/10/18	mg/L	16	19.0	7.70
MW-B1	10/30/17	mg/L	230	6.40 J	3.10 J
	04/10/18	mg/L	300	20.0	4.20

NOTES:
1. Analytical results are in milligrams per liter (mg/L).
2. Geochemistry parameters were not analyzed during the October 2018 event.
[ ] = duplicate sample results
-- = not analyzed
B = Compound was found in the blank and sample.
J = The concentration is an approximate value.
U = Indicates the analyte was analyzed, but not detected.
UB = Compound considered nondetect at the listed value due to associated blank contamination.

FIGURES



LEGEND:

- IMP-1/MW-1/PZ-1 — GROUNDWATER GAUGING WELL
- IP-1/IMP-3/MW-16 — PERFORMANCE MONITORING GROUNDWATER SAMPLING LOCATIONS
- IW-A2 — INJECTION WELL LOCATION
- IW-A14 — ERD SYSTEM OPTIMIZATION INJECTION WELL (2018)
- SURFACE CONTOUR
- RAILROAD TRACK
- CULVERTED STREAM PIPE
- PROPERTY LINE
- FORMER BUILDINGS AND STRUCTURES
- RECOVERY WELLS ABANDONED IN 2016
- INJECTION WELLS/PIEZOMETERS ABANDONED IN 2018

NOTES:

1. LOCATIONS AND TOPOGRAPHY EAST OF CSX RAILROAD PROPERTY AND WEST OF AND INCLUDING SOUTH STREET, SURVEYED BY THEW ASSOCIATES PE-LS, PLLC (OCTOBER 2008). TWO NEW MONITORING WELLS, MW-20 & MW-21, AND TEN NEW INJECTION WELLS, IW-A2 THROUGH IW-A7 & IW-B2 THROUGH IW-B5, WERE SURVEYED ON JULY 2, 2010 BY THEW ASSOCIATES. ONE NEW MONITORING WELL (MW-25) AND 17 NEW INJECTION WELLS (IW-A08 THROUGH IW-A14; IW-B06 THROUGH IW-B15) WERE SURVEYED ON DECEMBER 5, 2018 BY THEW ASSOCIATES, ALONG WITH THREE DUAL-PURPOSE MONITORING AND INJECTION WELLS INSTALLED IN 2017 (MW-22 THROUGH MW-24).
2. REFERENCED HORIZONTALLY TO THE NORTH AMERICAN DATUM OF 1983 (NAD83) AND PROJECTED ON THE NEW YORK STATE PLANE COORDINATE SYSTEM (EAST ZONE). VERTICAL REFERENCE TO NGVD 1929.
3. ASHLAND PROPERTY BOUNDARY ESTABLISHED BY THEW ASSOCIATES SURVEY AND DEED RESEARCH (OCTOBER 2008). OTHER PROPERTY LINES AND MAP FEATURES ARE FROM RENSSELAER COUNTY TAX MAPPING AND NEW YORK STATE CLEARING-HOUSE AERIAL PHOTOGRAPHY.
4. INJECTION WELL MW-22 WAS INSTALLED DURING THE 2017 LIMITED-SCALE INJECTION EVENT.

0 100' 200'

GRAPHIC SCALE

ASHLAND INC.
RENSSELAER, NEW YORK
2018 CORRECTIVE MEASURES IMPLEMENTATION ANNUAL PROGRESS REPORT

SITE PLAN

ARCADIS Design & Consultancy for natural and built assets

FIGURE 1

CITY: SYRACUSE, NY DIV/GROUP: ENV/IM-DIV DB: R. BASSETT, E. KRAHMER, R. ALLEN PM: W. GOLLA TM/TR: K. POTTER LYR:ON=*;OFF=REF; (FRZ)
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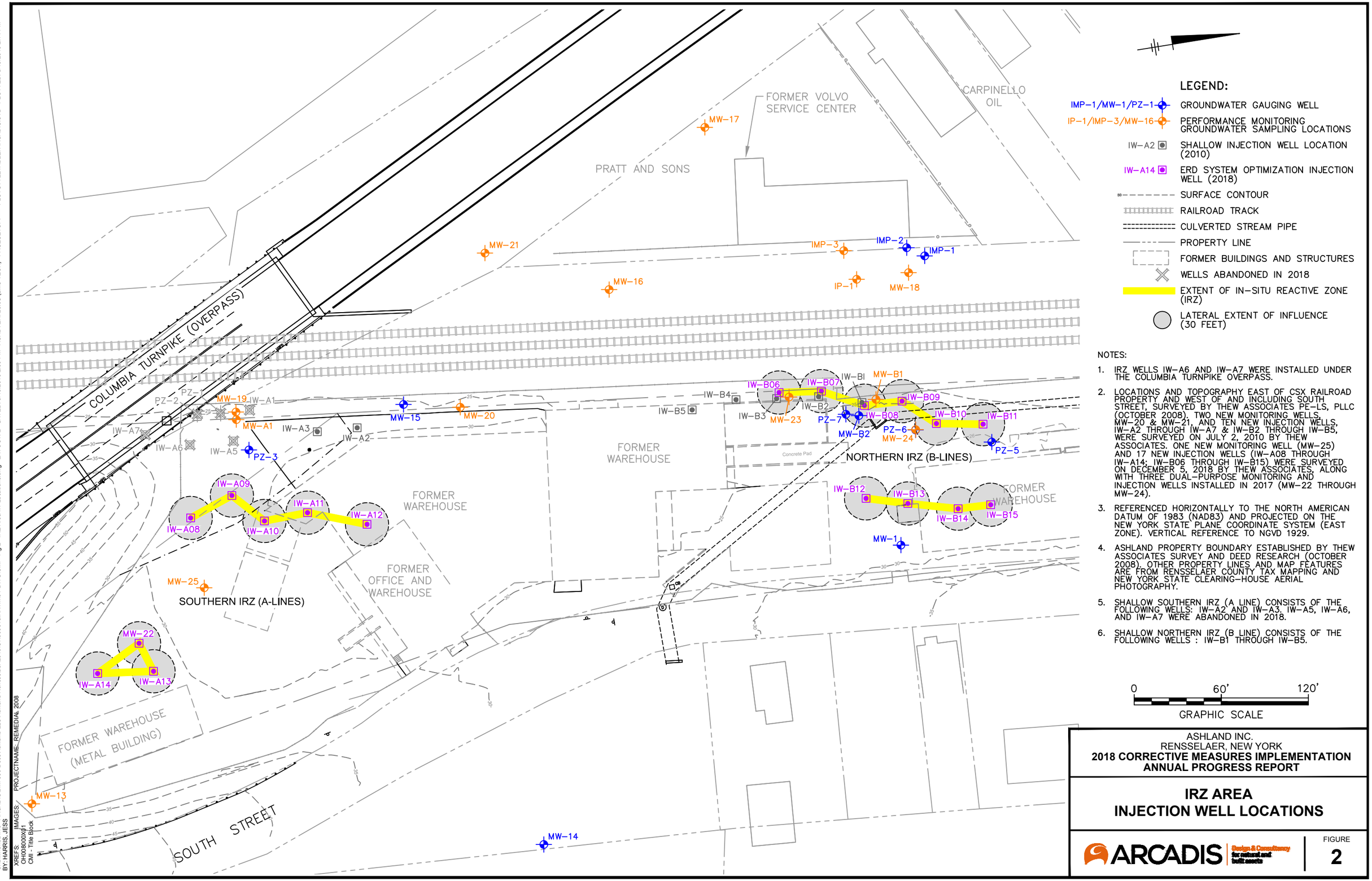

NOTES:

1. IRZ WELLS IW-A6 AND IW-A7 WERE INSTALLED UNDER THE COLUMBIA TURNPIKE OVERPASS.
2. LOCATIONS AND TOPOGRAPHY EAST OF CSX RAILROAD PROPERTY AND WEST OF AND INCLUDING SOUTH STREET, SURVEYED BY THEW ASSOCIATES PE-LS, PLLC (OCTOBER 2008). TWO NEW MONITORING WELLS, MW-20 & MW-21, AND TEN NEW INJECTION WELLS, IW-A2 THROUGH IW-A7 & IW-B2 THROUGH IW-B5, WERE SURVEYED ON JULY 2, 2010 BY THEW ASSOCIATES. ONE NEW MONITORING WELL (MW-25) AND 17 NEW INJECTION WELLS (IW-A08 THROUGH IW-A14; IW-B06 THROUGH IW-B15) WERE SURVEYED ON DECEMBER 5, 2018 BY THEW ASSOCIATES, ALONG WITH THREE DUAL-PURPOSE MONITORING AND INJECTION WELLS INSTALLED IN 2017 (MW-22 THROUGH MW-24).
3. REFERENCED HORIZONTALLY TO THE NORTH AMERICAN DATUM OF 1983 (NAD83) AND PROJECTED ON THE NEW YORK STATE PLANE COORDINATE SYSTEM (EAST ZONE). VERTICAL REFERENCE TO NGVD 1929.
4. ASHLAND PROPERTY BOUNDARY ESTABLISHED BY THEW ASSOCIATES SURVEY AND DEED RESEARCH (OCTOBER 2008). OTHER PROPERTY LINES AND MAP FEATURES ARE FROM RENSSELAER COUNTY TAX MAPPING AND NEW YORK STATE CLEARING-HOUSE AERIAL PHOTOGRAPHY.
5. SHALLOW SOUTHERN IRZ (A LINE) CONSISTS OF THE FOLLOWING WELLS: IW-A2 AND IW-A3. IW-A5, IW-A6, AND IW-A7 WERE ABANDONED IN 2018.
6. SHALLOW NORTHERN IRZ (B LINE) CONSISTS OF THE FOLLOWING WELLS : IW-B1 THROUGH IW-B5.

0 60' 120'

GRAPHIC SCALE

ASHLAND INC.
RENSSELAER, NEW YORK
2018 CORRECTIVE MEASURES IMPLEMENTATION ANNUAL PROGRESS REPORT

IRZ AREA INJECTION WELL LOCATIONS

ARCADIS Design & Consultancy for natural and built assets

FIGURE 2

CITY: SYRACUSE, NY DIV/GROUP: ENV/IM-DV DB: R. BASSETT, E. KRAHMER, R. ALLEN PM: W. GOLLA TM/TR: K. POTTER LYR:ON=*;OFF=REF, (FRZ)
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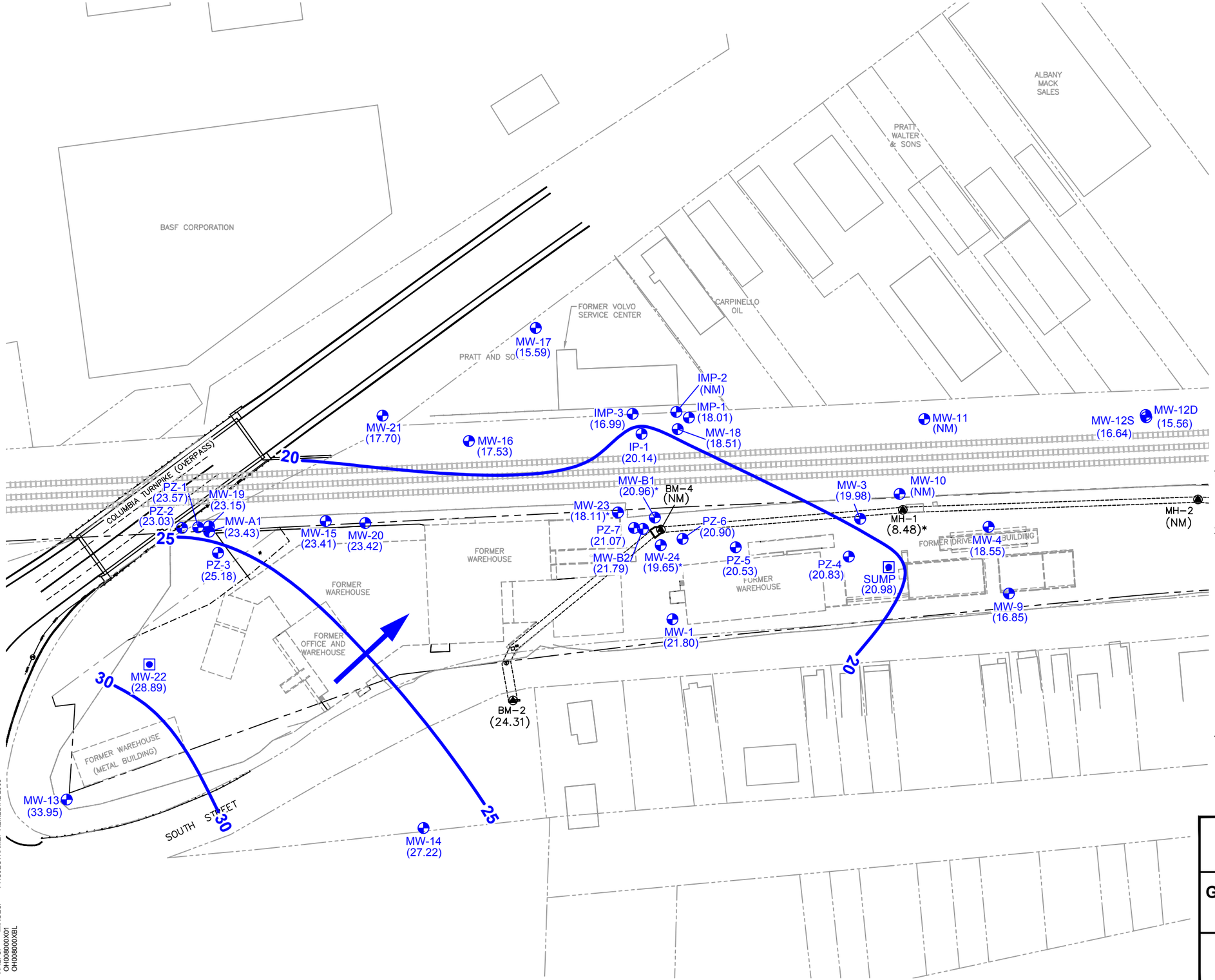

LEGEND:

MW-1 PZ-1 GP-18 IMP-1 IP-1	PERFORMANCE MONITORING GROUNDWATER SAMPLING LOCATIONS
(33.95)	GROUNDWATER ELEVATION COLLECTED ON APRIL 9, 2018 (FEET)
MW-22	ERD SYSTEM OPTIMIZATION INJECTION WELL(2017)
30	GROUNDWATER ELEVATION CONTOUR LINE
MH–1	CULVERTED STREAM PIPE INVERT ELEVATION/SURFACE WATER ELEVATION (NOT USED IN CONTOURING)
	SURFACE CONTOUR
	RAILROAD TRACK
	CULVERTED STREAM PIPE
	PROPERTY LINE
	FORMER BUILDINGS AND STRUCTURES
*	WELL NOT USED IN CONTOURING
(NM)	NOT MEASURED

NOTES:

1. INVERT ELEVATIONS FOR THE CULVERTED STREAM THAT RUNS EAST TO NORTHEAST ON THE SITE WERE SURVEYED BY THEW ASSOCIATES PE–LS, PLCC (OCTOBER 2008).
2. LOCATIONS AND TOPOGRAPHY EAST OF CSX RAILROAD PROPERTY AND WEST OF AND INCLUDING SOUTH STREET, SURVEYED BY THEW ASSOCIATES PE–LS, PLLC (OCTOBER 2008). TWO NEW MONITORING WELLS, MW–20 & MW–21, WERE SURVEYED ON JULY 2, 2010 BY THEW ASSOCIATES. REFERENCED HORIZONTALLY TO THE NORTH AMERICAN DATUM OF 1983 (NAD83) AND PROJECTED ON THE NEW YORK STATE PLANE COORDINATE SYSTEM (EAST ZONE). VERTICAL REFERENCE TO NGVD 1929. ASHLAND PROPERTY BOUNDARY ESTABLISHED BY THEW ASSOCIATES SURVEY AND DEED RESEARCH (OCTOBER 2008). OTHER PROPERTY LINES AND MAP FEATURES ARE FROM RENSSELAER COUNTY TAX MAPPING AND NEW YORK STATE CLEARING–HOUSE AERIAL PHOTOGRAPHY.
3. MONITORING WELLS MW–22 THROUGH MW–24 LOCATIONS ARE APPROXIMATE.

0 100' 200'

GRAPHIC SCALE

ASHLAND LLC.
RENSSELAER, NEW YORK
2018 CORRECTIVE MEASURE IMPLEMENTATION ANNUAL PROGRESS REPORT

GROUNDWATER ELEVATION CONTOURS APRIL 9, 2018

ARCADIS Design & Consultancy for natural and built assets

FIGURE 3

CITY: SYRACUSE, NY GROUP: ENVCAD DB: P. LISTER, E. KRAHMER, R. ALLEN PM: M. KITTINGER TM/TR: K. POTTER LYR:ON=*;OFF=REF; (FRZ)
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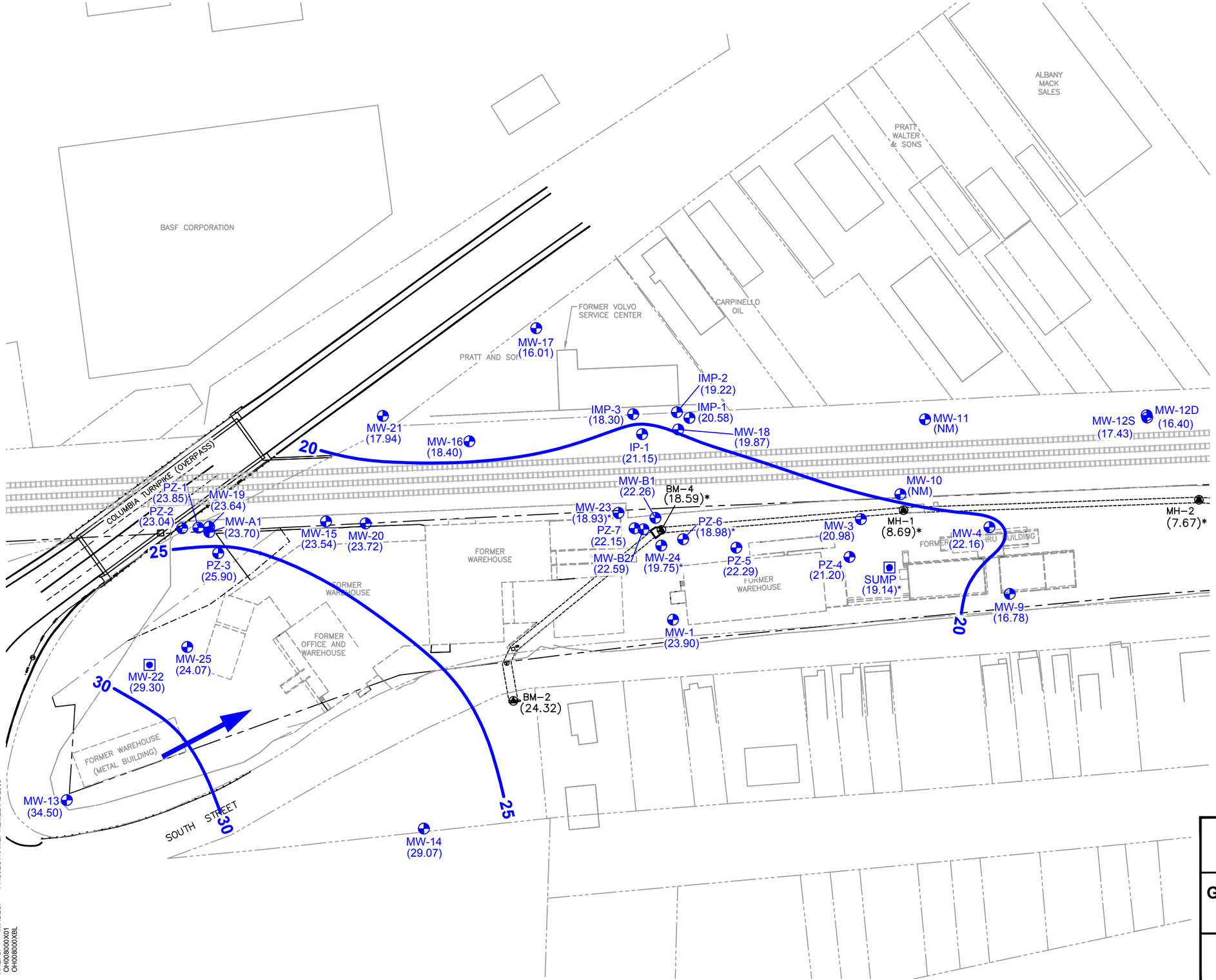
OH008000X01
OH008000XBL



LEGEND:

- MW-1, PZ-1, GP-18, IMP-1, IP-1 — PERFORMANCE MONITORING GROUNDWATER SAMPLING LOCATIONS
- (34.50) — GROUNDWATER ELEVATION COLLECTED ON OCTOBER 3, 2018 (FEET)
- MW-22 — ERD SYSTEM OPTIMIZATION INJECTION WELL (2017)
- 30 — GROUNDWATER ELEVATION CONTOUR LINE
- MH-1 — CULVERTED STREAM PIPE INVERT ELEVATION/SURFACE WATER ELEVATION (NOT USED IN CONTOURING)
- SURFACE CONTOUR
- RAILROAD TRACK
- CULVERTED STREAM PIPE
- PROPERTY LINE
- FORMER BUILDINGS AND STRUCTURES
- * WELL NOT USED IN CONTOURING
- (NM) NOT MEASURED

NOTES:

1. INVERT ELEVATIONS FOR THE CULVERTED STREAM THAT RUNS EAST TO NORTHEAST ON THE SITE WERE SURVEYED BY THEW ASSOCIATES PE–LS, PLCC (OCTOBER 2008).
2. LOCATIONS AND TOPOGRAPHY EAST OF CSX RAILROAD PROPERTY AND WEST OF AND INCLUDING SOUTH STREET, SURVEYED BY THEW ASSOCIATES PE–LS, PLLC (OCTOBER 2008). TWO NEW MONITORING WELLS, MW–20 & MW–21, WERE SURVEYED ON JULY 2, 2010 BY THEW ASSOCIATES. REFERENCED HORIZONTALLY TO THE NORTH AMERICAN DATUM OF 1983 (NAD83) AND PROJECTED ON THE NEW YORK STATE PLANE COORDINATE SYSTEM (EAST ZONE). VERTICAL REFERENCE TO NGVD 1929. ASHLAND PROPERTY BOUNDARY ESTABLISHED BY THEW ASSOCIATES SURVEY AND DEED RESEARCH (OCTOBER 2008). OTHER PROPERTY LINES AND MAP FEATURES ARE FROM RENSSELAER COUNTY TAX MAPPING AND NEW YORK STATE CLEARING–HOUSE AERIAL PHOTOGRAPHY.
3. MONITORING WELLS MW–22 THROUGH MW–24 LOCATIONS ARE APPROXIMATE.

0 100' 200'

GRAPHIC SCALE

ASHLAND LLC.
RENSSELAER, NEW YORK
2018 CORRECTIVE MEASURE IMPLEMENTATION ANNUAL PROGRESS REPORT

GROUNDWATER ELEVATION CONTOURS OCTOBER 3, 2018

ARCADIS Design & Consultancy for natural and built assets

FIGURE 4

CITY: SYRACUSE, NY GROUP: ENVCAD DB: P. LISTER, E. KRAHMER, R. ALLEN PM: M. KITTINGER TM/TR: K. POTTER LYR:ON=*;OFF=REF; (FRZ)
C:\Users\FMI00841\OneDrive - ARCADIS\BIM 360 Docs\Ashland LLC\1H2018 Rensselaer\2019NY\NJ8000.NY09101-DWG\REN-GWM-Fig4-4Q18.dwg LAYOUT: 4 SAVED: 3/11/2019 4:10 PM ACADVER: 21.0S (LMS TECH) PAGESETUP: --- PLOTSTYLETABLE: ARCADIS-EDMONDS.CTB PLOTTED: 3/11/2019 4:56 PM BY: MOHD. FARHAN ULLAH
XREFS: IMAGES: PROJECTNAME: REMEDIAL 2008
OH008000X01
OH008000XBL

IW-B3		
Date	4/10/2018	10/3/2018
Inorganics - Filtered (mg/L)		
Iron	**120**	NA
Manganese	**3.90**	NA
Natural Attenuation Parameters (µg/L)		
Methane	**14,000**	NA
Hydrocarbons (mg/L)		
Total Organic Carbon	**250**	**240**

MW-21		
Date	4/9/2018	10/3/2018
VOCs (µg/L)		
Acetone	**4.5 J**	
Carbon Disulfide	**0.21 J**	1.0 U
Total VOCs	**4.7 J**	1.0 U
Inorganics - Filtered (mg/L)		
Manganese	**0.320**	NA
Natural Attenuation Parameters (µg/L)		
Sulfate	**92,000**	NA
Hydrocarbons (mg/L)		
Total Organic Carbon	**4.60**	**8.50**

MW-16		
Date	4/9/2018	10/3/2018
VOCs (µg/L)		
TCE	**20**	**21**
1,1-DCA	1.0 U	**0.40 J**
1,1-DCE	**1.1**	**1.2**
1,2-DCA	**1.3**	**1.6**
cis-1,2-DCE	**160 D**	**230 D**
trans-1,2-DCE	**1.7**	**2.7**
VC	1.0 U	**4.0**
Total VOCs	**180**	**260 J**
Natural Attenuation Parameters (µg/L)		
Methane	4.0 U	**52**
Sulfate	**330,000**	NA
Hydrocarbons (mg/L)		
Total Organic Carbon	0.880 UB	1.20 UB

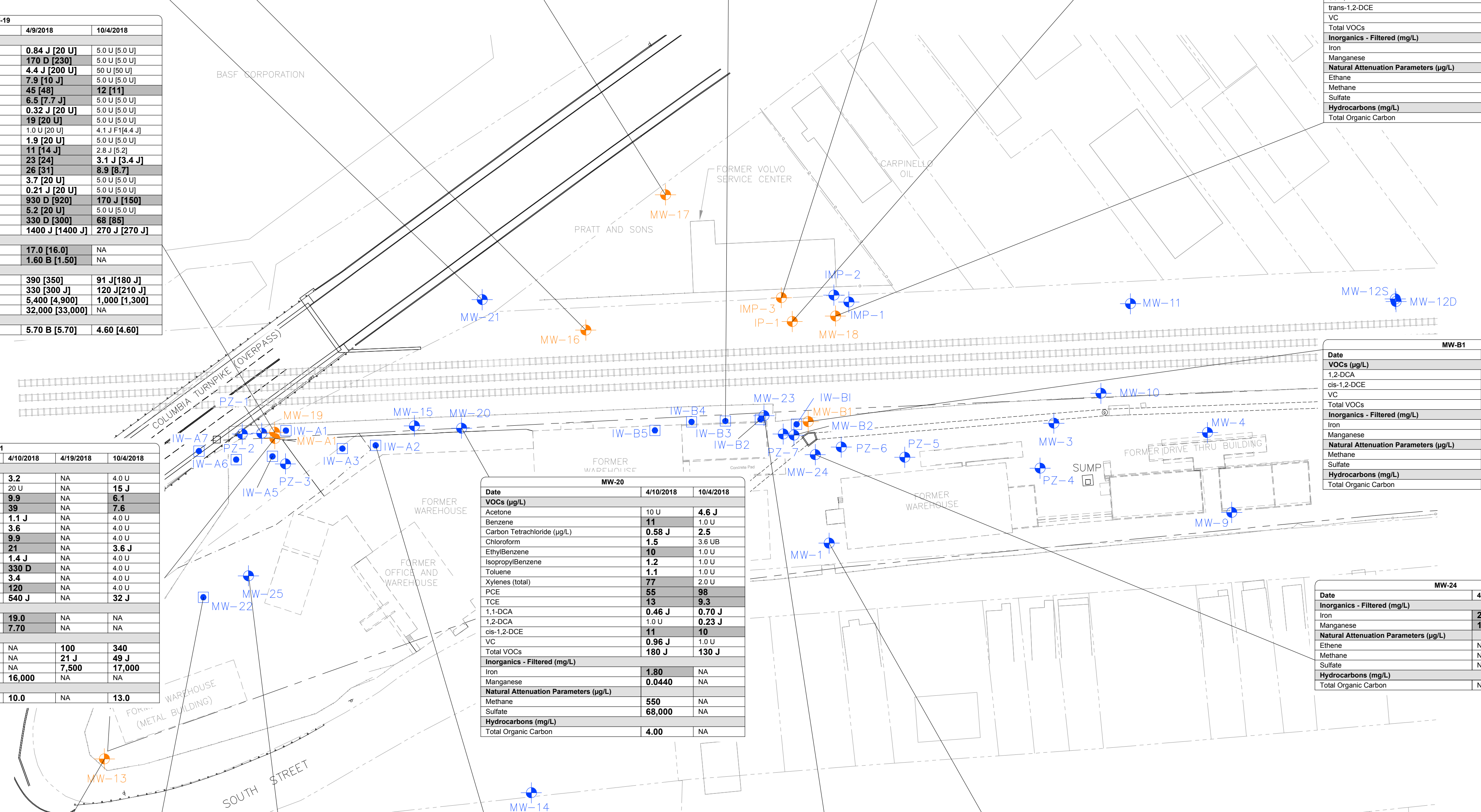
MW-17		
Date	4/9/2018	10/3/2018
VOCs (µg/L)		
Acetone	**3.2 J**	**6.1**
Total VOCs	**3.2 J**	**6.1**
Inorganics - Filtered (mg/L)		
Iron	**5.40**	NA
Manganese	**0.530**	NA
Natural Attenuation Parameters (µg/L)		
Sulfate	**680,000**	NA
Hydrocarbons (mg/L)		
Total Organic Carbon	1.60 UB	1.80 UB

IMP-3		
Date	4/9/2018	10/3/2018
VOCs (µg/L)		
Acetone	**3.3 J**	3.5 UB
1,2-DCA	**3.1**	**1.0**
cis-1,2-DCE	**130 D**	**72**
trans-1,2-DCE	**1.9**	**0.91 J**
VC	**5.7**	**5.9**
Total VOCs	**140 J**	**83 J**
Inorganics - Filtered (mg/L)		
Iron	**1.80**	NA
Manganese	**0.120**	NA
Natural Attenuation Parameters (µg/L)		
Methane	**170**	NA
Sulfate	**320,000**	NA
Hydrocarbons (mg/L)		
Total Organic Carbon	1.40 UB	1.70 UB

IP-1		
Date	4/9/2018	10/3/2018
VOCs (µg/L)		
Acetone	**3.4 J**	
Benzene	**1.5**	**1.9**
1,1-DCE	**0.49 J**	**0.37 J**
1,2-DCA	**0.34 J**	**0.39 J**
cis-1,2-DCE	**350 D**	**370 D**
trans-1,2-DCE	**4.6**	**6.4**
VC	**68**	**65**
Total VOCs	**430 J**	**445 J**
Inorganics - Filtered (mg/L)		
Iron	**15.0**	NA
Manganese	**5.00**	NA
Natural Attenuation Parameters (µg/L)		
Ethane	83 U	**61**
Ethene	77 U	**8.8**
Methane	**2,300**	**2,700**
Sulfate	**97,000**	NA
Hydrocarbons (mg/L)		
Total Organic Carbon	**3.70**	4.30 UB

MW-19		
Date	4/9/2018	10/4/2018
VOCs (µg/L)		
1,1,1-Trichloroethane	**0.84 J [20 U]**	5.0 U [5.0 U]
1,1,2-trichloro-1,2,2-trifluoroethane	**170 D [230]**	5.0 U [5.0 U]
Acetone	**4.4 J [200 U]**	50 U [50 U]
Benzene	**7.9 [10 J]**	5.0 U [5.0 U]
Chloroethane	**45 [48]**	**12 [11]**
Chloroform	**6.5 [7.7 J]**	5.0 U [5.0 U]
Cyclohexane	**0.32 J [20 U]**	5.0 U [5.0 U]
DichlorodifluoroMethane	**19 [20 U]**	5.0 U [5.0 U]
Methylene Chloride	1.0 U [20 U]	4.1 J F1[4.4 J]
Toluene	**1.9 [20 U]**	5.0 U [5.0 U]
PCE	**11 [14 J]**	2.8 J [5.2]
TCE	**23 [24]**	**3.1 J [3.4 J]**
1,1-DCA	**26 [31]**	**8.9 [8.7]**
1,1-DCE	**3.7 [20 U]**	5.0 U [5.0 U]
1,2-DCA	**0.21 J [20 U]**	5.0 U [5.0 U]
cis-1,2-DCE	**930 D [920]**	**170 J [150]**
trans-1,2-DCE	**5.2 [20 U]**	5.0 U [5.0 U]
VC	**330 D [300]**	**68 [85]**
Total VOCs	**1400 J [1400 J]**	**270 J [270 J]**
Inorganics - Filtered (mg/L)		
Iron	**17.0 [16.0]**	NA
Manganese	**1.60 B [1.50]**	NA
Natural Attenuation Parameters (µg/L)		
Ethane	**390 [350]**	**91 J[180 J]**
Ethene	**330 [300 J]**	**120 J[210 J]**
Methane	**5,400 [4,900]**	**1,000 [1,300]**
Sulfate	**32,000 [33,000]**	NA
Hydrocarbons (mg/L)		
Total Organic Carbon	**5.70 B [5.70]**	**4.60 [4.60]**

MW-18		
Date	4/9/2018	10/3/2018
VOCs (µg/L)		
Acetone	**3.2 J**	10 U
Benzene	**1.0**	**1.2**
1,1-DCE	**0.49 J**	**0.44 J**
1,2-DCA	**0.54 J**	**1.2**
cis-1,2-DCE	**420 D**	**380 D**
trans-1,2-DCE	**7.3**	**2.5**
VC	**71**	**120 D**
Total VOCs	**500 J**	**510 J**
Inorganics - Filtered (mg/L)		
Iron	**1.40**	NA
Manganese	**2.90**	NA
Natural Attenuation Parameters (µg/L)		
Ethane	170 U	**26**
Methane	**1,200**	**590 D**
Sulfate	**130,000**	NA
Hydrocarbons (mg/L)		
Total Organic Carbon	**2.60**	2.80 UB



MW-B1		
Date	4/10/2018	10/3/2018
VOCs (µg/L)		
1,2-DCA	2.0 U	**0.77 J**
cis-1,2-DCE	**17**	**15**
VC	**7.4**	**27**
Total VOCs	**24**	**43 J**
Inorganics - Filtered (mg/L)		
Iron	**20.0**	NA
Manganese	**4.20**	NA
Natural Attenuation Parameters (µg/L)		
Methane	**13,000**	**10,000**
Sulfate	**300,000**	NA
Hydrocarbons (mg/L)		
Total Organic Carbon	**21.0**	**17.0**

MW-A1			
Date	4/10/2018	4/19/2018	10/4/2018
VOCs (µg/L)			
1,1,2-trichloro-1,2,2-trifluoroethane	**3.2**	NA	4.0 U
Acetone	20 U	NA	**15 J**
Benzene	**9.9**	NA	**6.1**
Chloroethane	**39**	NA	**7.6**
Chloroform	**1.1 J**	NA	4.0 U
PCE	**3.6**	NA	4.0 U
TCE	**9.9**	NA	4.0 U
1,1-DCA	**21**	NA	**3.6 J**
1,1-DCE	**1.4 J**	NA	4.0 U
cis-1,2-DCE	**330 D**	NA	4.0 U
trans-1,2-DCE	**3.4**	NA	4.0 U
VC	**120**	NA	4.0 U
Total VOCs	**540 J**	NA	**32 J**
Inorganics - Filtered (mg/L)			
Iron	**19.0**	NA	NA
Manganese	**7.70**	NA	NA
Natural Attenuation Parameters (µg/L)			
Ethane	NA	**100**	**340**
Ethene	NA	**21 J**	**49 J**
Methane	NA	**7,500**	**17,000**
Sulfate	**16,000**	NA	NA
Hydrocarbons (mg/L)			
Total Organic Carbon	**10.0**	NA	**13.0**

MW-20		
Date	4/10/2018	10/4/2018
VOCs (µg/L)		
Acetone	10 U	**4.6 J**
Benzene	**11**	1.0 U
Carbon Tetrachloride (µg/L)	**0.58 J**	**2.5**
Chloroform	**1.5**	3.6 UB
EthylBenzene	**10**	1.0 U
IsopropylBenzene	**1.2**	1.0 U
Toluene	**1.1**	1.0 U
Xylenes (total)	**77**	2.0 U
PCE	**55**	**98**
TCE	**13**	**9.3**
1,1-DCA	**0.46 J**	**0.70 J**
1,2-DCA	1.0 U	**0.23 J**
cis-1,2-DCE	**11**	**10**
VC	**0.96 J**	1.0 U
Total VOCs	**180 J**	**130 J**
Inorganics - Filtered (mg/L)		
Iron	**1.80**	NA
Manganese	**0.0440**	NA
Natural Attenuation Parameters (µg/L)		
Methane	**550**	NA
Sulfate	**68,000**	NA
Hydrocarbons (mg/L)		
Total Organic Carbon	**4.00**	NA

MW-24		
Date	4/10/2018	4/19/2018
Inorganics - Filtered (mg/L)		
Iron	**2.60**	NA
Manganese	**10.0**	NA
Natural Attenuation Parameters (µg/L)		
Ethene	NA	**33 J**
Methane	NA	**1,300**
Sulfate	NA	**23,000**
Hydrocarbons (mg/L)		
Total Organic Carbon	NA	**28.0**

MW-13		
Date	4/10/2018	10/4/2018
VOCs (µg/L)		
Xylenes (total)	2.0 U	**1.6 J**
Total VOCs	ND	**1.6 J**
Inorganics - Filtered (mg/L)		
Manganese	**0.140**	NA
Natural Attenuation Parameters (µg/L)		
Sulfate	**61000**	NA
Hydrocarbons (mg/L)		
Total Organic Carbon	0.540 UB	1.10 UB

MW-22		
Date	4/10/2018	4/19/2018
Inorganics - Filtered (mg/L)		
Iron	**280**	NA
Manganese	**20.0**	NA
Natural Attenuation Parameters (µg/L)		
Ethane	NA	**240 J**
Ethene	NA	**210 J**
Methane	NA	**4,400**
Hydrocarbons (mg/L)		
Total Organic Carbon	NA	**600**

MW-25	
Date	10/4/2018
VOCs (µg/L)	
PCE	**9,300 D**
TCE	**220**
1,1-Dichloroethane	**17 J**
cis-1,2-DCE	**850**
VC	**690**
Total VOCs	**11,077 J**
Natural Attenuation Parameters (µg/L)	
Ethane	**290**
Ethene	**190**
Methane	**2200 D**
Hydrocarbons (mg/L)	
Total Organic Carbon	**5.30**

IW-A2		
Date	4/10/2018	10/4/2018
VOCs (µg/L)		
Xylenes (total)	**73 J**	**42 J**
Total VOCs	**73 J**	**42 J**
Inorganics - Filtered (mg/L)		
Iron	**170**	NA
Manganese	**3.80**	NA
Natural Attenuation Parameters (µg/L)		
Methane	**13,000**	NA
Hydrocarbons (mg/L)		
Total Organic Carbon	**260**	**210**

MW-23		
Date	4/10/2018	4/19/2018
Inorganics - Filtered (mg/L)		
Iron	**1.50**	NA
Manganese	**1.20**	NA
Natural Attenuation Parameters (µg/L)		
Methane	NA	**12,000**
Sulfate	NA	**190,000**
Hydrocarbons (mg/L)		
Total Organic Carbon	NA	**31.0**

MW-1	
Date	4/10/2018
VOCs (µg/L)	
PCE	**0.95 J**
TCE	**34**
1,1-DCA	**1.6 J**
1,1-DCE	**2.1**
cis-1,2-DCE	**160**
VC	**7.4**
Total VOCs	**210 J**
Inorganics - Filtered (mg/L)	
Iron	**0.0190 J**
Manganese	**0.0130**
Natural Attenuation Parameters (µg/L)	
Sulfate	**31,000**

CVOCs = CHLORINATED VOLATILE ORGANIC COMPOUNDS
MNA = MONITORED Natural Attenuation Parameters (µg/L)
VOCs = VOLATILE ORGANIC COMPOUNDS
TOC = TOTAL ORGANIC CARBON
NYSDEC TOGS = NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION TECHNICAL AND OPERATION GUIDANCE SERIES.

LEGEND:

- IMP-1/MW-1/PZ-1 — GROUNDWATER GAUGING WELL
- IP-1/IMP-3/MW-16 — PERFORMANCE MONITORING GROUNDWATER SAMPLING LOCATIONS
- IW-B1 — ERD SYSTEM OPTIMIZATION INJECTION WELL (2017)
- RAILROAD TRACK
- CULVERTED STREAM PIPE
- PROPERTY LINE
- FORMER BUILDINGS AND STRUCTURES
- D — CONCENTRATION IS BASED ON A DILUTED SAMPLE ANALYSIS
- J — INDICATES AN ESTIMATED VALUE
- NA — NOT ANALYZED
- ND — NONE DETECTED
- U — INDICATES THE ANALYTE WAS ANALYSED FOR BUT NOT DETECTED
- B — COMPOUND WAS FOUND IN THE BLANK AND SAMPLE
- µg/L — MICROGRAMS PER LITER
- mg/L — MILLIGRAMS PER LITER

BOLD RESULTS DENOTE DETECTIONS

SHADED CELLS DENOTE RESULTS EXCEEDING NYSDEC TOGS 1.1.1 WATER GUIDANCE VALUES/STANDARDS

DUPLICATE RESULTS ARE IN BRACKETS

ONLY VOC CONSTITUENTS WITH ONE OR MORE EXCEEDANCES AT A GIVEN LOCATION ARE SUMMARIZED

Analyte	Unit	NYSDEC TOGS 1.1.1 Water Guidance Values
2-Butanone	(µg/L)	--
2-Hexanone	(µg/L)	50
Acetone	(µg/L)	50
Benzene	(µg/L)	1
Chlorobenzene	(µg/L)	5
Chloroethane	(µg/L)	5
Chloroform	(µg/L)	7
Ethylbenzene	(µg/L)	5
Isopropylbenzene	(µg/L)	5
Methylene Chloride	(µg/L)	5
Toluene	(µg/L)	5
Xylenes (total)	(µg/L)	5
Tetrachloroethene	(µg/L)	5
Trichloroethene	(µg/L)	5
1,1-Dichloroethane	(µg/L)	5
1,1-Dichloroethene	(µg/L)	5
1,2-Dichloroethane	(µg/L)	0.6
cis-1,2-Dichloroethene	(µg/L)	5
trans-1,2-Dichloroethene	(µg/L)	5
Vinyl Chloride	(µg/L)	2
Filtered Iron	(mg/L)	0.3
Filtered Manganese	(mg/L)	0.3

0 100' 200'
GRAPHIC SCALE

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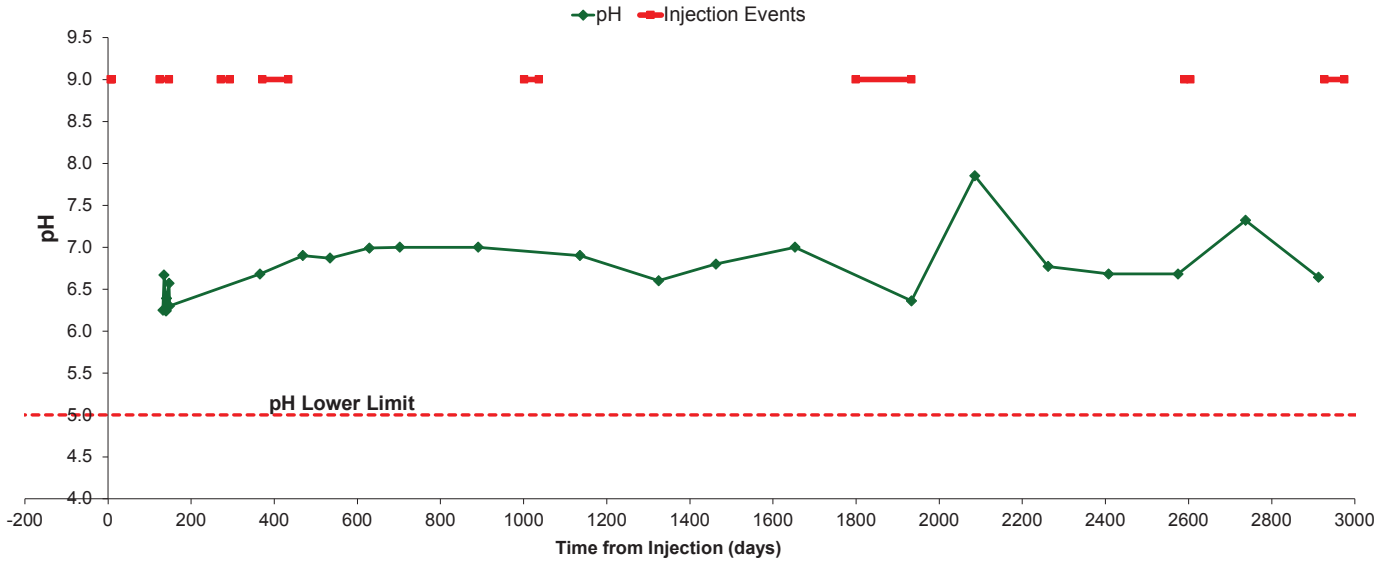
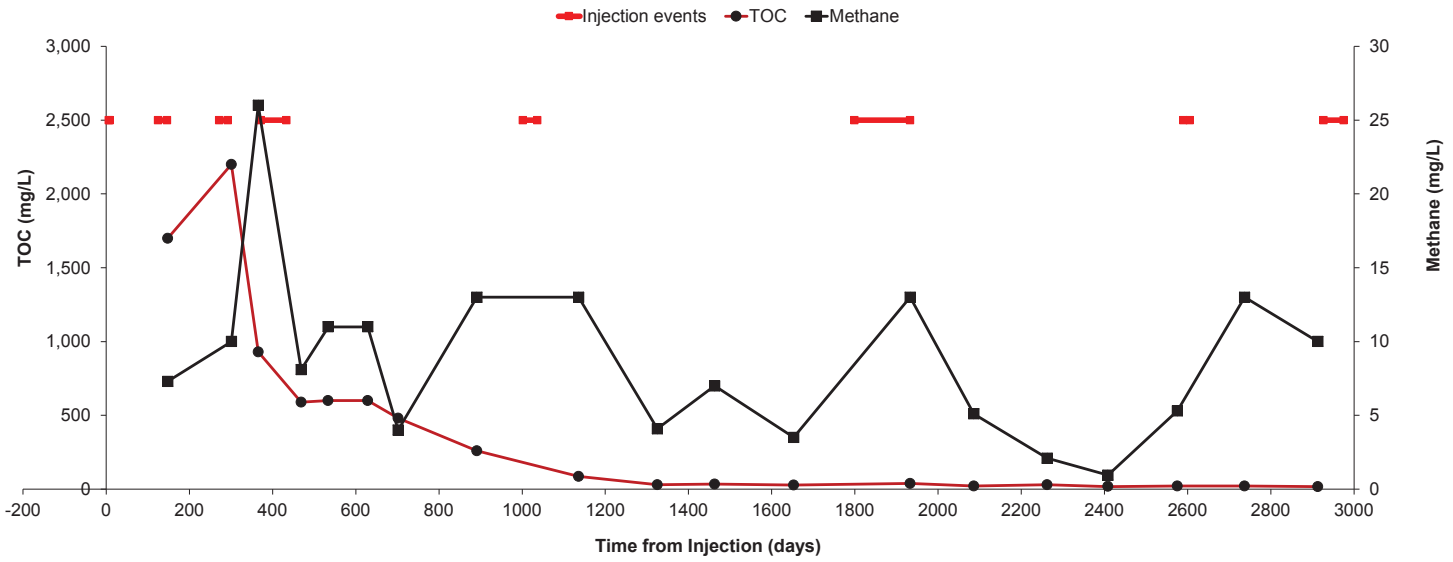
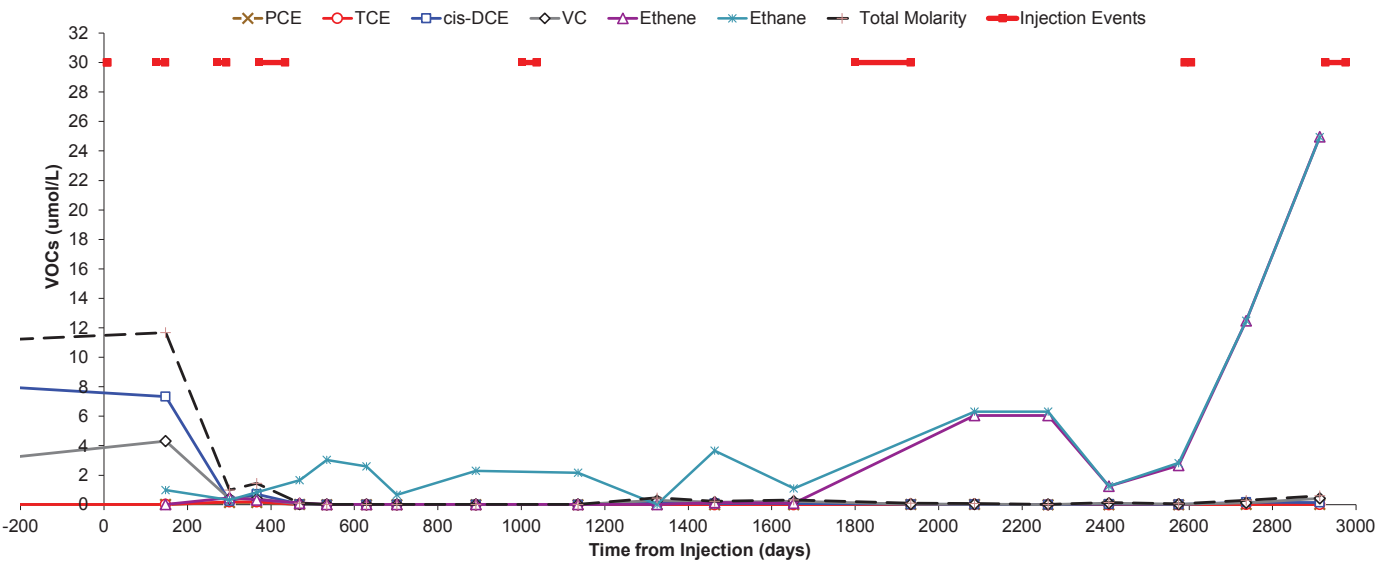
VOCs, TOC AND MNA PARAMETERS IN GROUNDWATER (2018)

ARCADIS Design & Consultancy for natural and built assets

FIGURE 5







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MW-B1 PERFORMANCE MONITORING RESULTS

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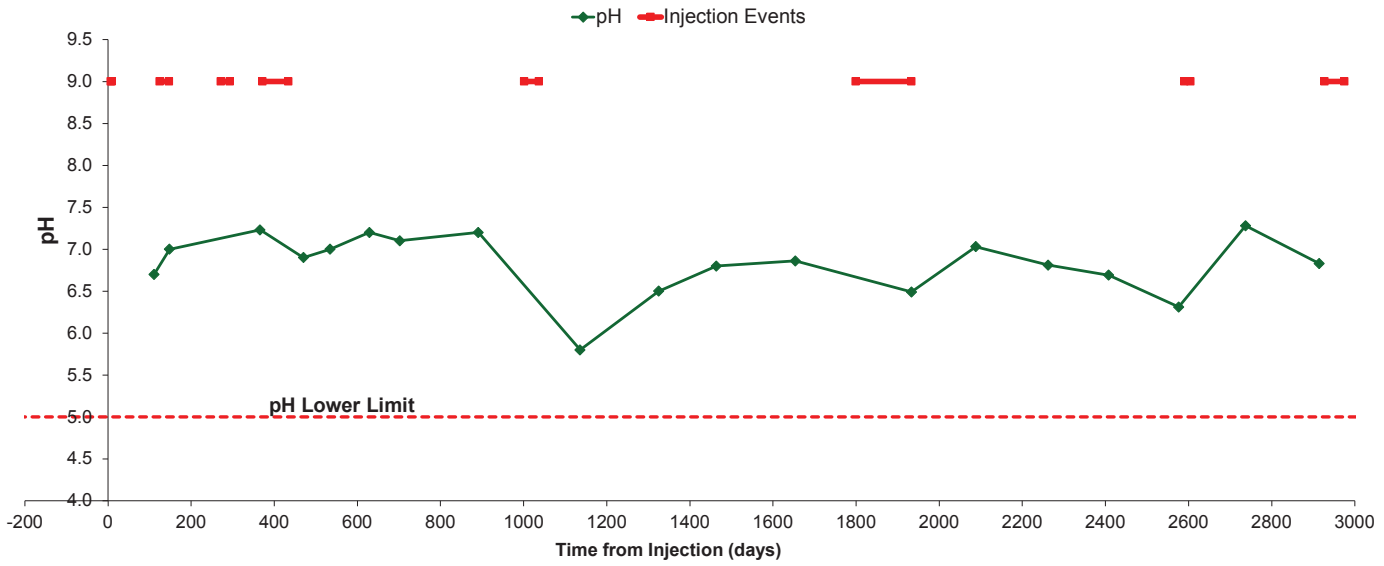
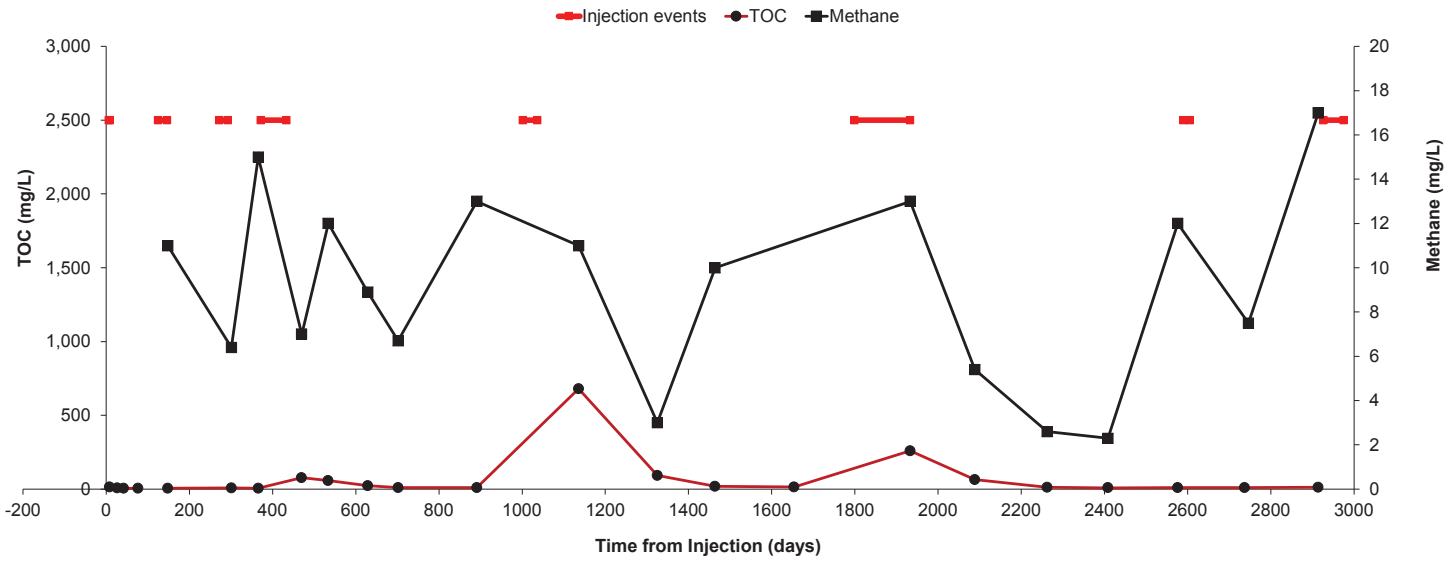
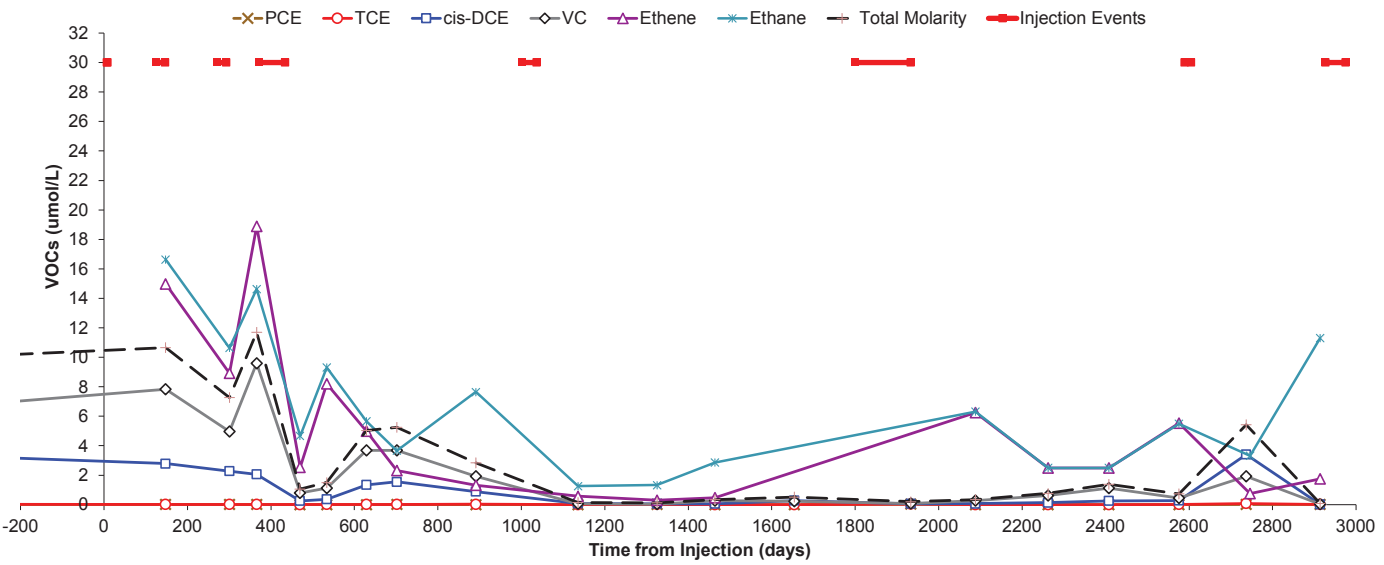
FIGURE
6







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2018 CORRECTIVE MEASURE IMPLEMENTATION ANNUAL REPORT

MW-A1 PERFORMANCE MONITORING RESULTS

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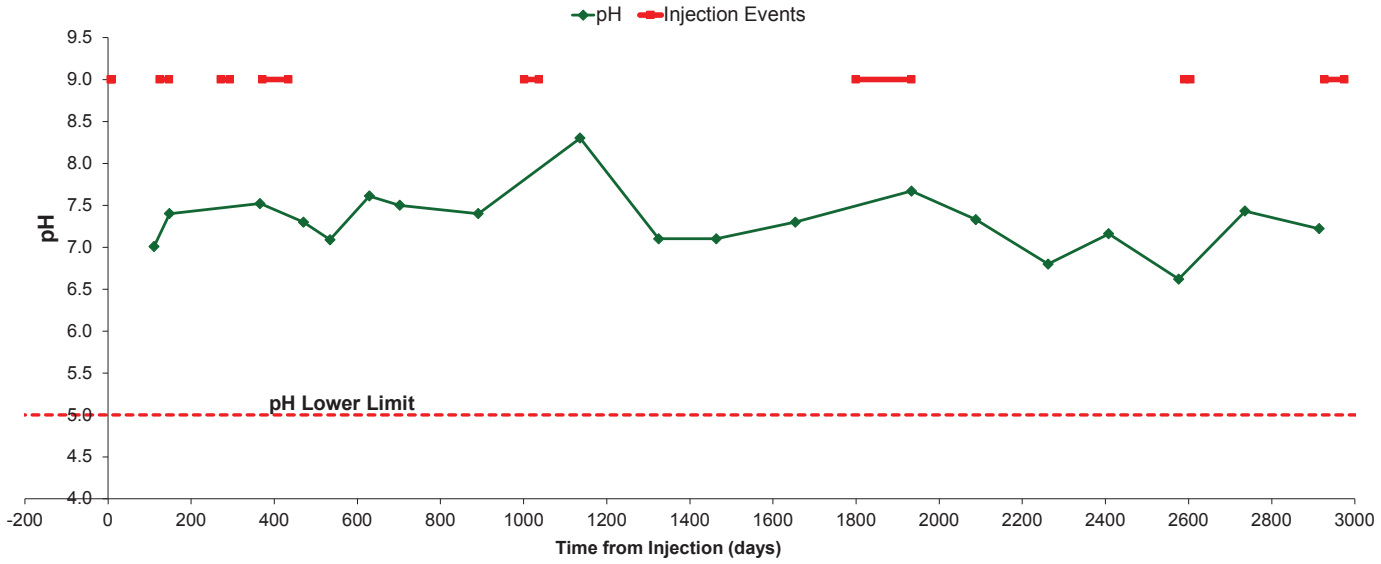
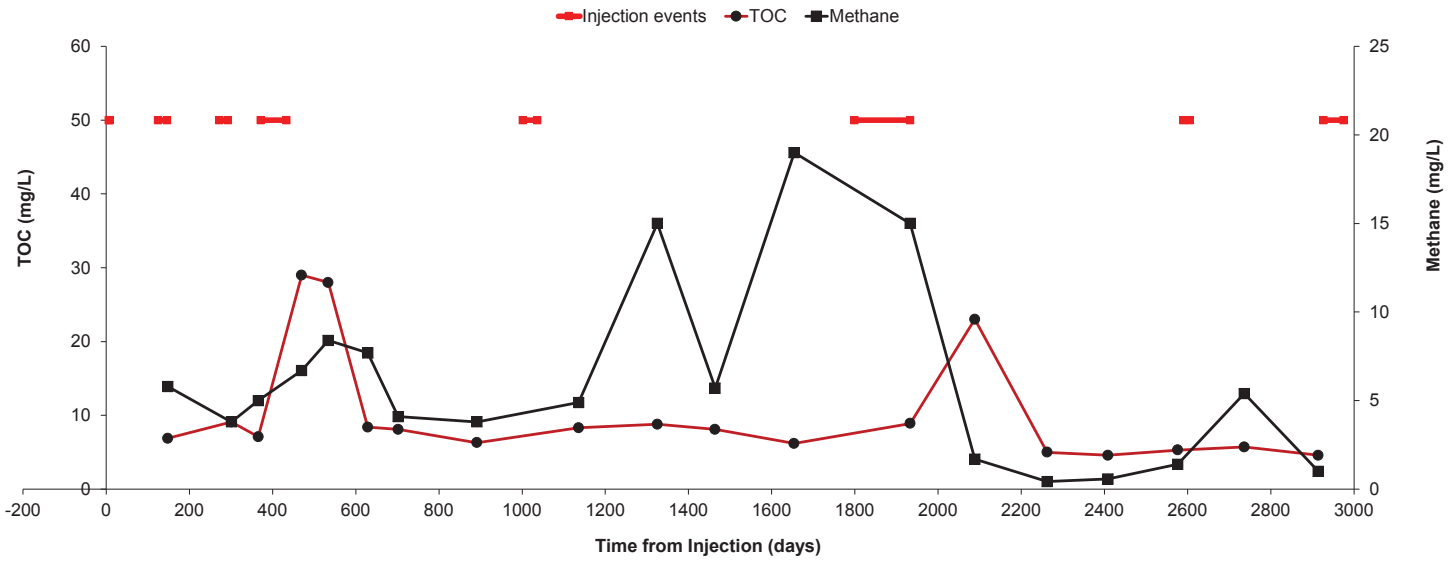
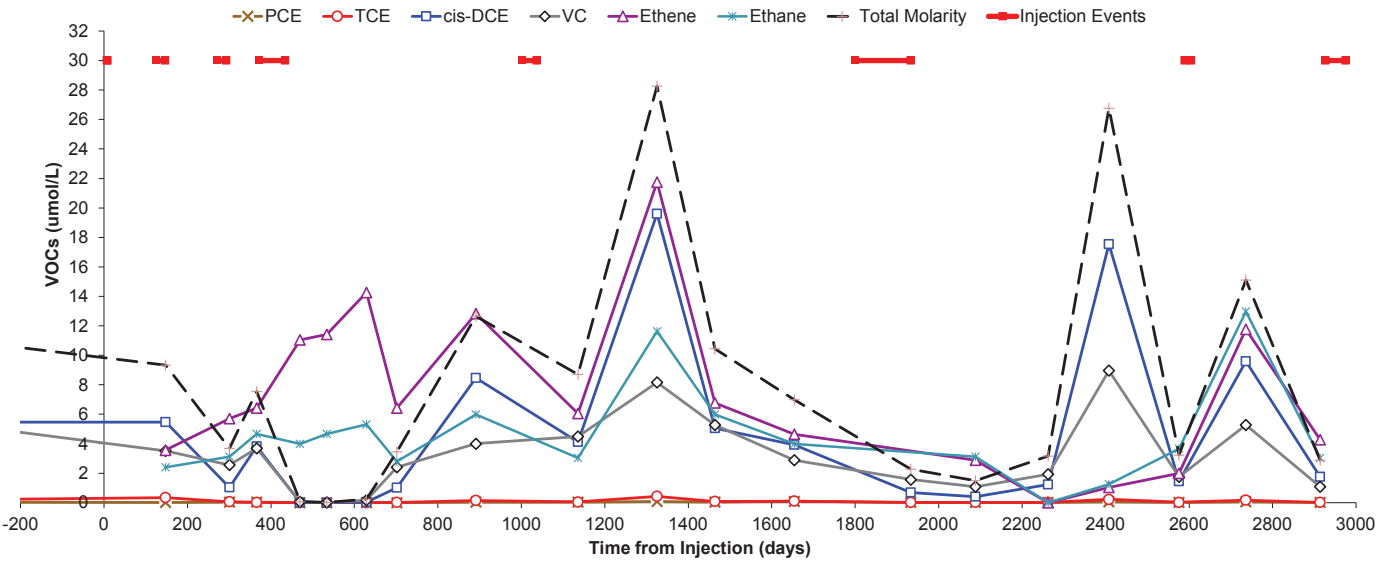
FIGURE
7







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2018 CORRECTIVE MEASURE IMPLEMENTATION ANNUAL REPORT

MW-19 PERFORMANCE MONITORING RESULTS

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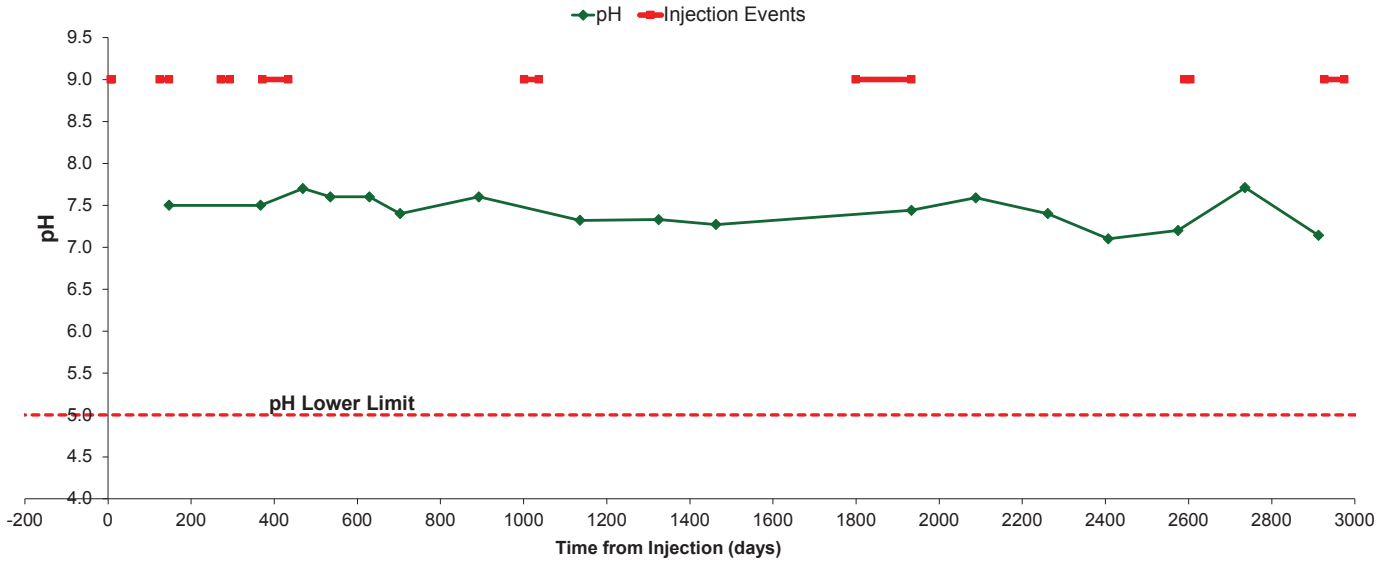
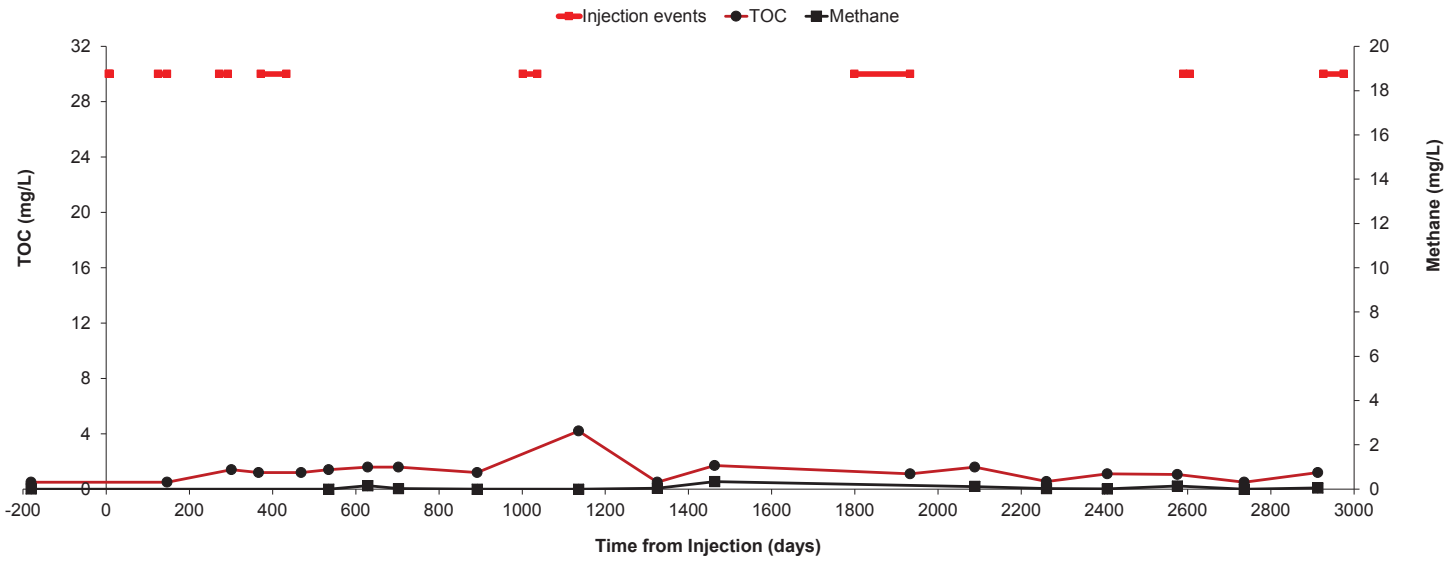
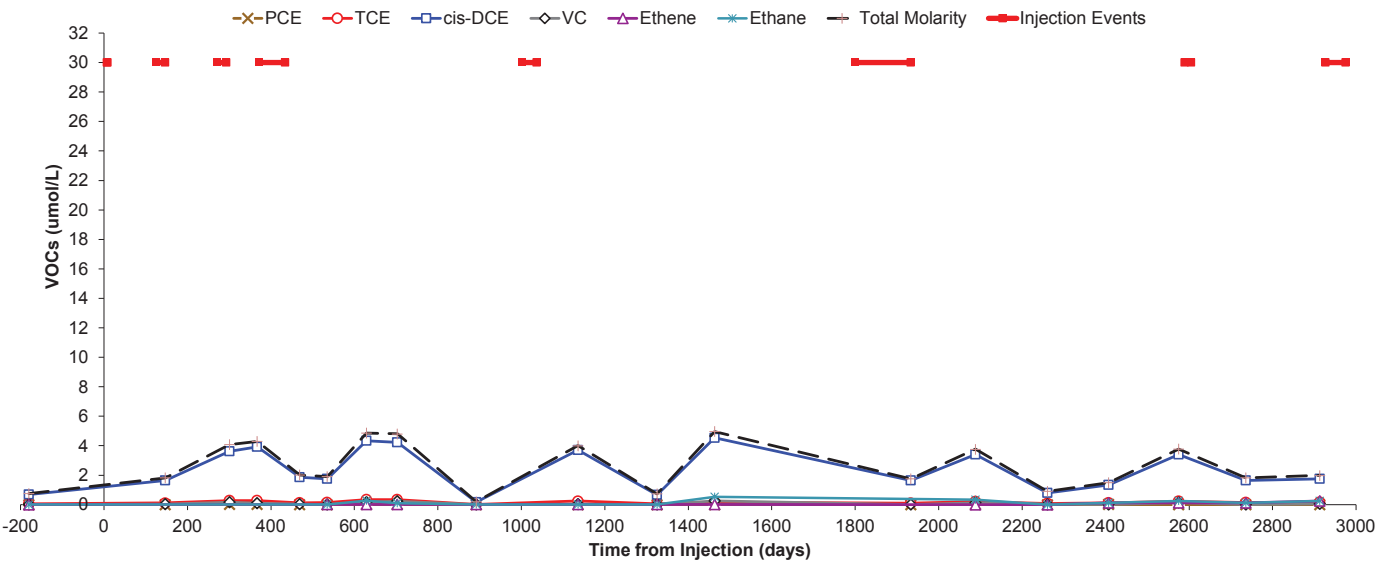
FIGURE
8







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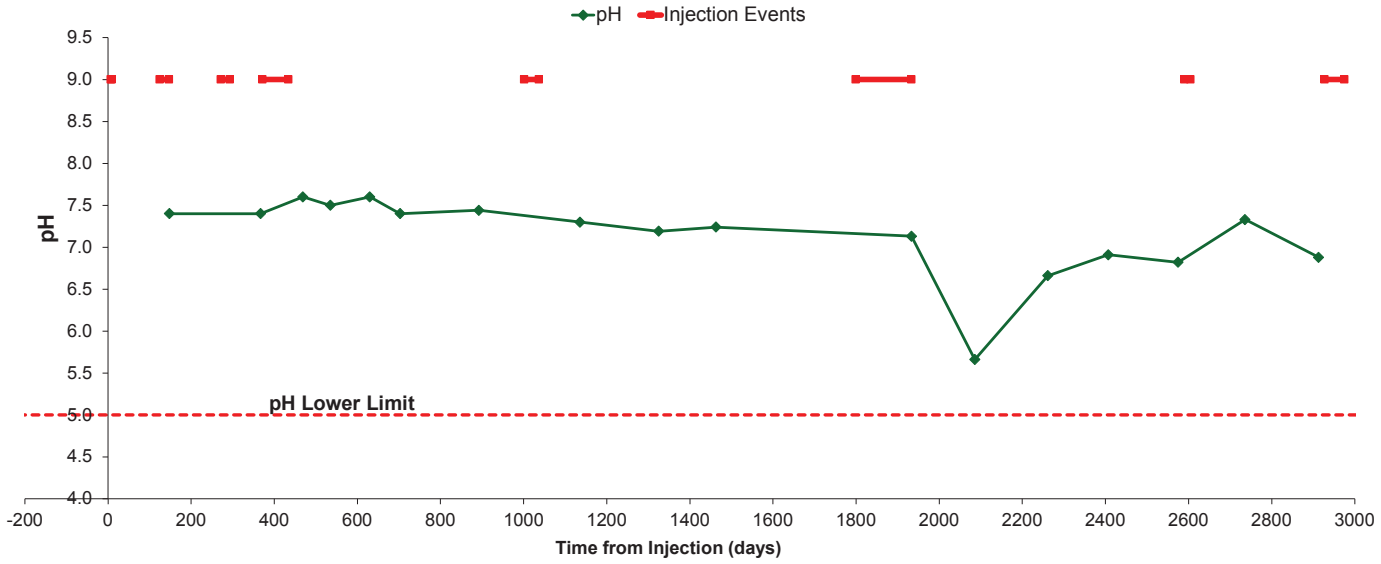
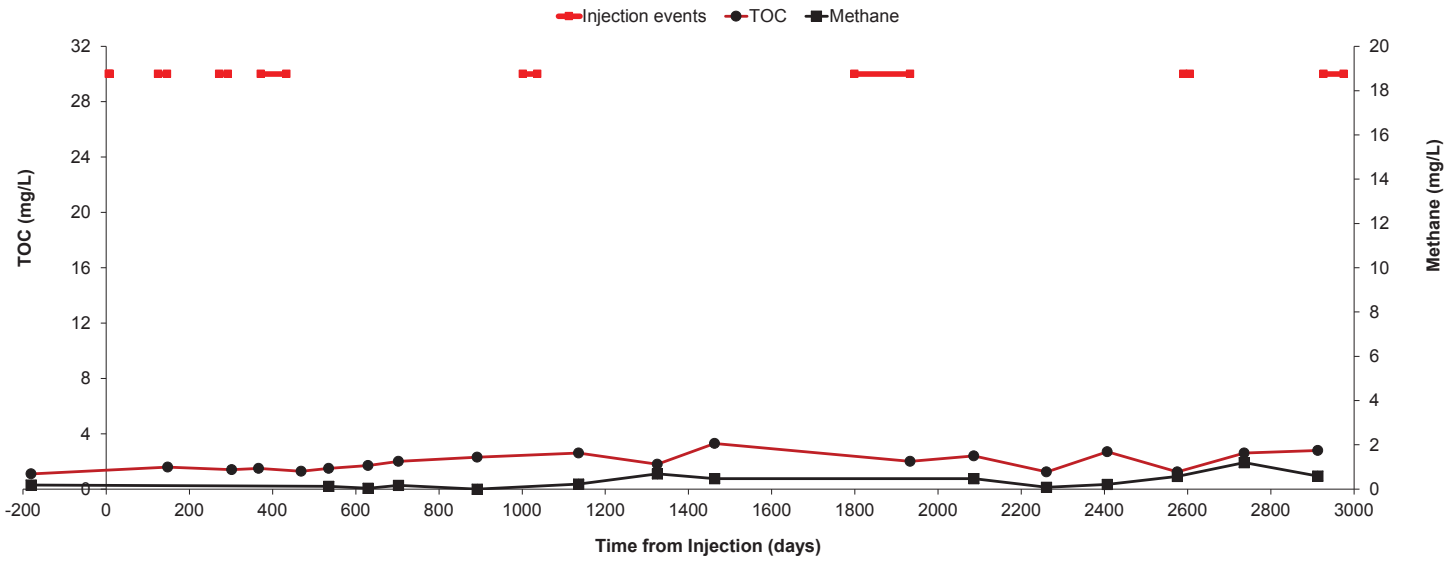
2018 CORRECTIVE MEASURE IMPLEMENTATION ANNUAL REPORT

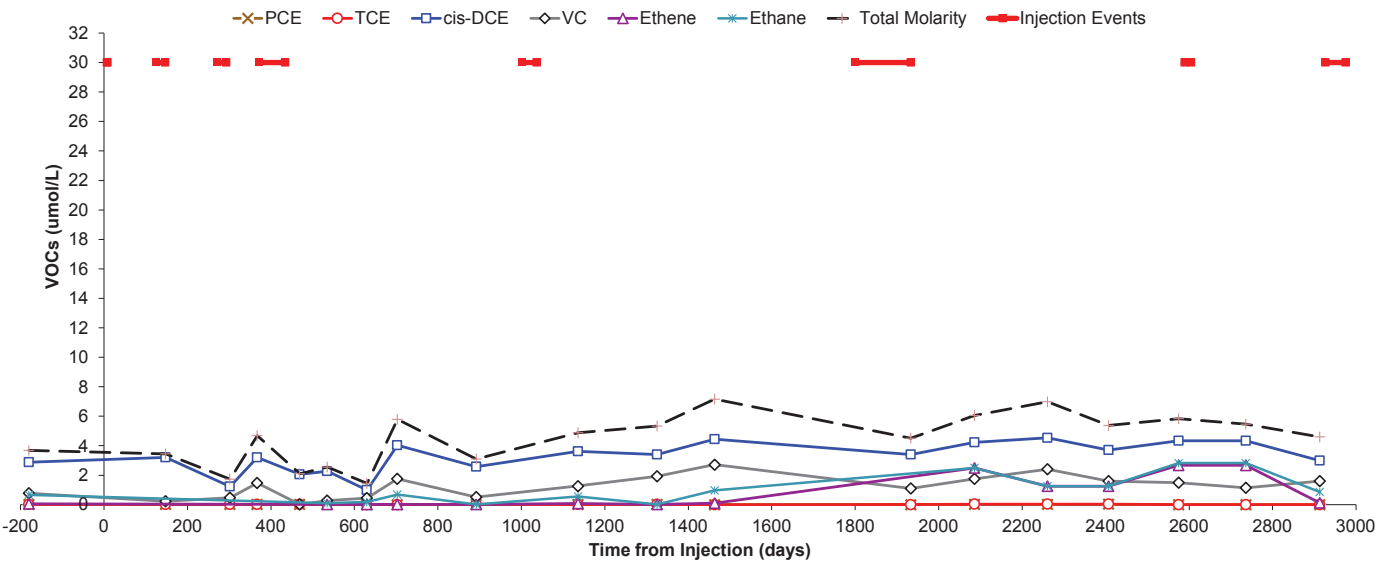
MW-16 PERFORMANCE MONITORING RESULTS

ARCADIS

FIGURE
9







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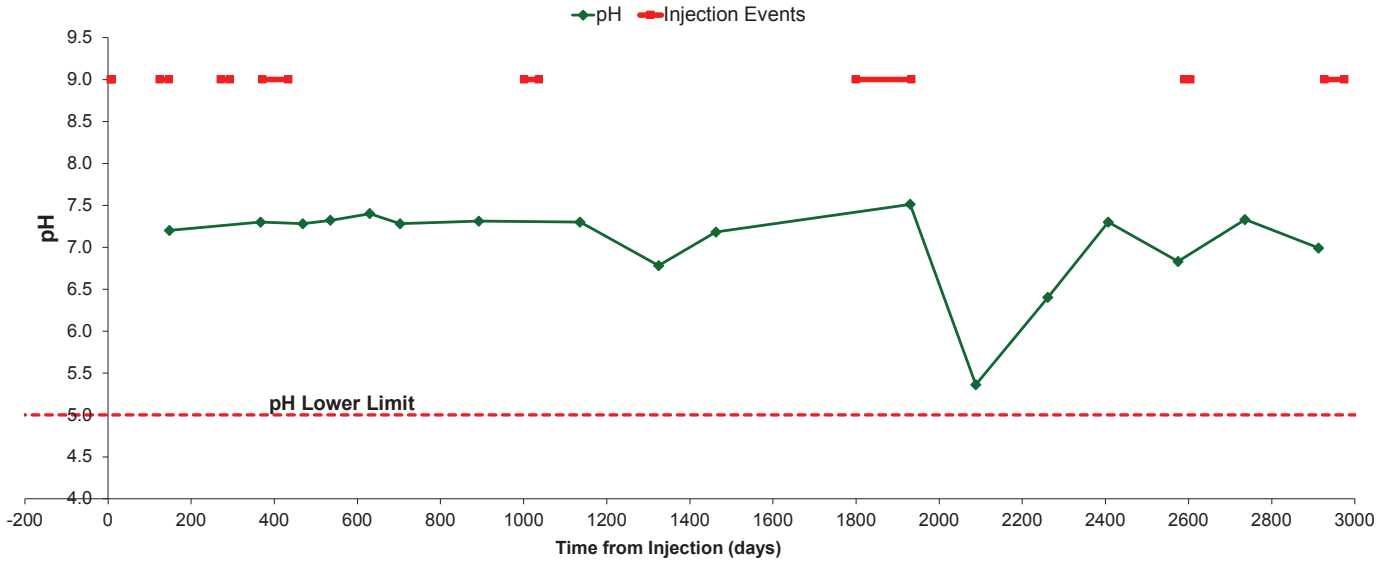
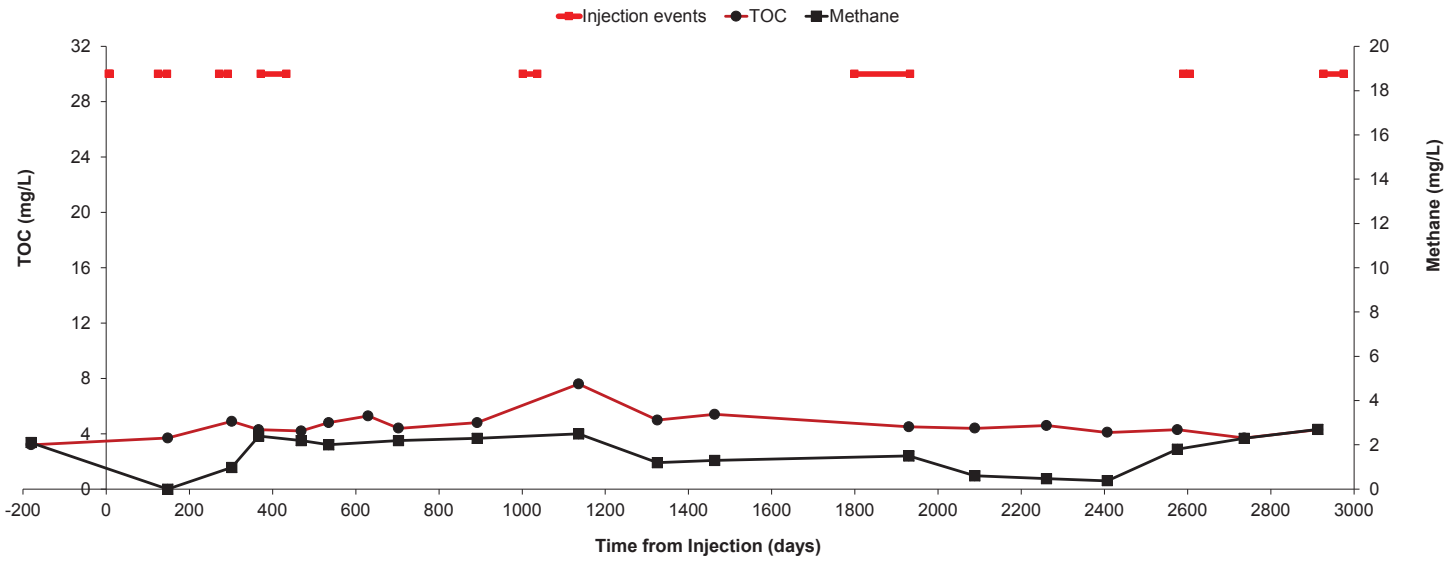
2018 CORRECTIVE MEASURE IMPLEMENTATION ANNUAL REPORT

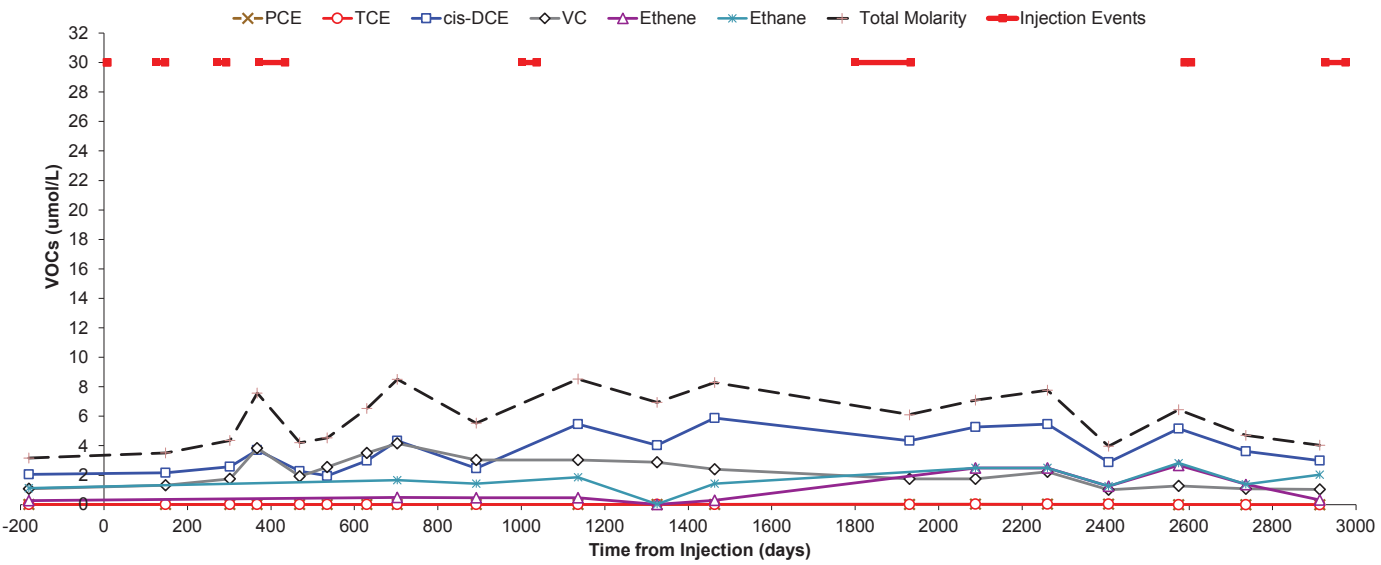
MW-18 PERFORMANCE MONITORING RESULTS

ARCADIS

FIGURE
10







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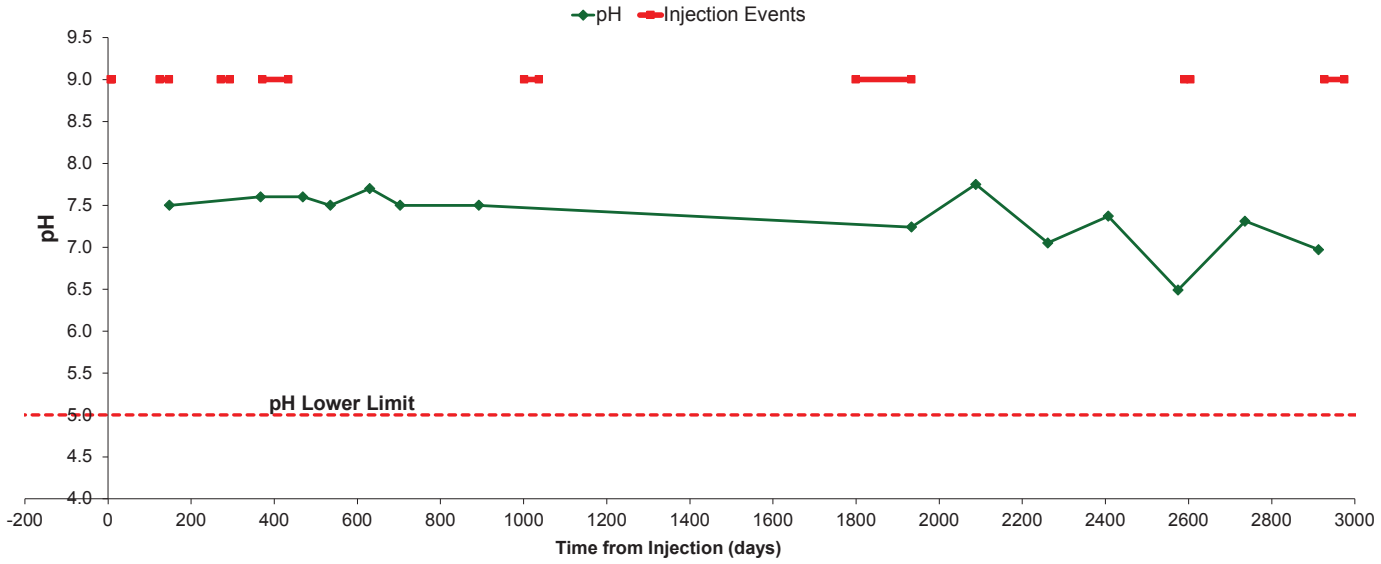
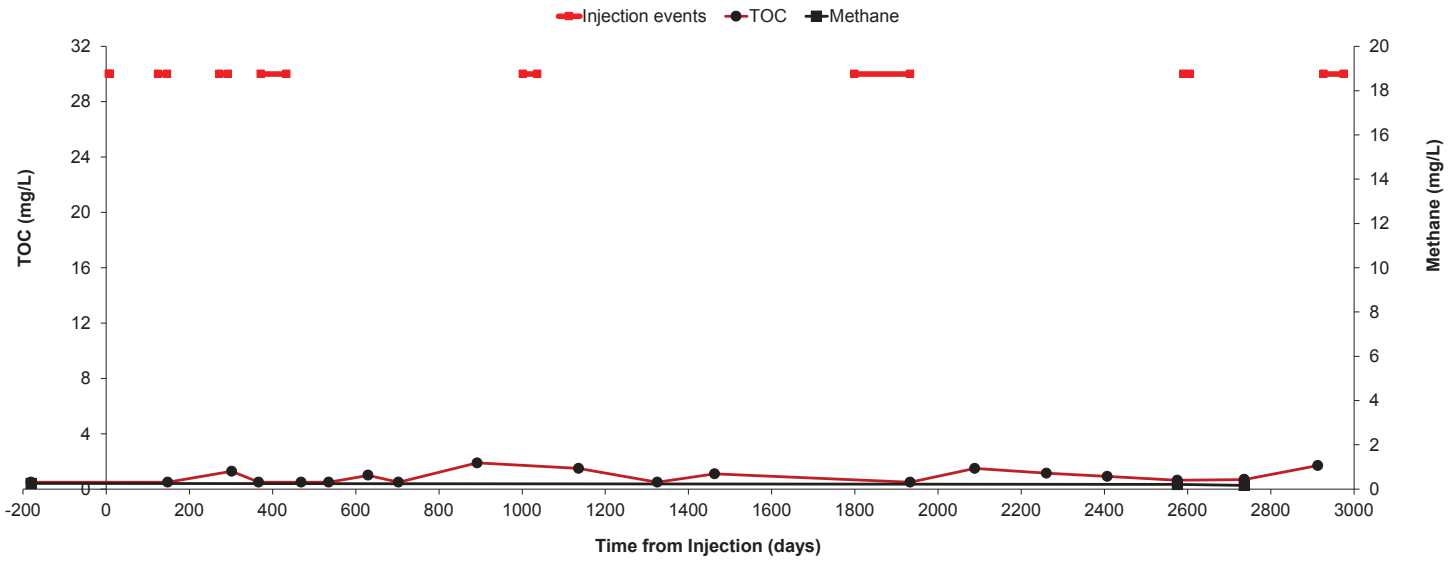
2018 CORRECTIVE MEASURE IMPLEMENTATION ANNUAL REPORT

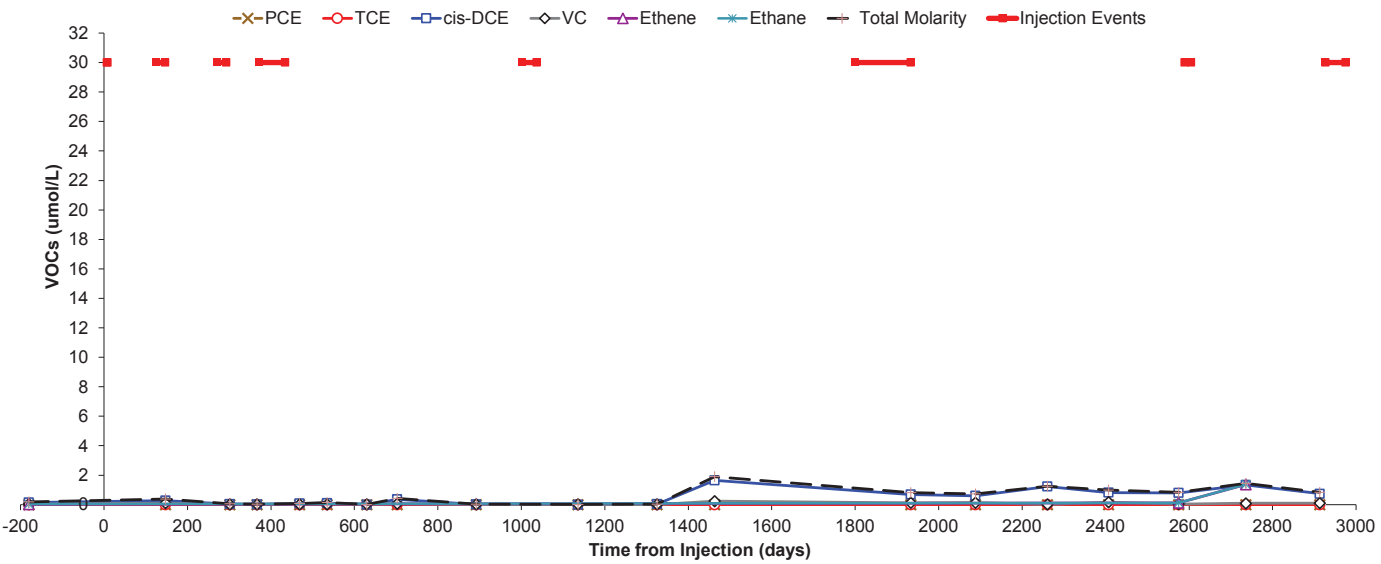
IP-1 PERFORMANCE MONITORING RESULTS

ARCADIS

FIGURE
11







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2018 CORRECTIVE MEASURE IMPLEMENTATION ANNUAL REPORT

IMP-3 PERFORMANCE MONITORING RESULTS

ARCADIS

FIGURE
12

APPENDIX A

2018 Injection Event Field Logs

Ashland Rensselaer Injection tracking OH009019.RRTM

Fall - 2019

EVO

Date 10/26

Weather Rain/snow 30's - 40's

Field Personnel

Well ID	Time	Flow Meter	Pressure	Flow Rate	Total	Comments
IW-B12	0800	8115	0	0	0	System off Start inj @ 0955
	1015	8133	2.5	0.9	18	
	1210	8200	2.6	0.58	85	
	1420	8304	2.7	0.71	189	
	1610	8397	—	0.65	282	
						Yesterday's total: 2141
						End of day total: 282
						Total: 2423

Well ID	Time	Flow Meter	Pressure	Flow Rate	Total	Comments
IW-B09	0800	11324	0	0	0	Start Inj @ 0955
	1015	11326	0.5	0.1	2	
	1210	11382	2.5	0.5	58	
	1420	11465	3.0	0.5	141	
	1610	11525	—	0.46	201	
						Yesterday's total: ~~2400~~ 2642
						End of day total: 201
						Total: 2843

Well ID	Time	Flow Meter	Pressure	Flow Rate	Total	Comments
IW-B10	0800	1606	0	0	0	Start Inj @ 0955
	1015	1608	1.0	0.05	1	
	1210	1609	3.0	0.21	29	
	1420	1654	4.0	0.27	74	Reduce pressure
	1610	1698	—	0.27	118	
						Yesterday's total: ~~4411~~ 2392
						End of day total: 118
						Total: 2510

Well ID	Time	Flow Meter	Pressure	Flow Rate	Total	Comments
IW-B06	0800	6621	0	0	0	Start Inj @ 0955
	1015	6649	3.0	1.4	28	
	1210	6747	1.5	0.93	126	
	1420	6752	2.25	0.49	131	** Total, rate appears to be low
	1610	6761	—	0.32	140	
						Yesterday's total: 787
						End of day total: 140
						Total: 927

Well ID	Time	Flow Meter	Pressure	Flow Rate	Total	Comments
IW-B07	0800	35381	0	0	0	start Inj @ 0955
	1015	35402	2.6	1.05	21	
	1210	35445	2.8	0.47	64	
	1420	35489	3.0	0.4	108	
	1610	35511	—	0.29	130	
						Yesterday's total: 1455
						End of day total: 130
						Total: 1585

11/26/2018

Ashland Rensselaer Injection tracking OH009019.RRTM — Date

Fall - 2018 — Weather

EVO — Field Personnel

Well ID	Time	Flow Meter	Pressure	Flow Rate	Total	Comments
	0900	19871	0	0	0	Start Inj @ 0955
	1015	19889	1.9	0.85	17	
3) IW-B09	1210	19925	0.0	0.4	54	Day lighting
	1420	19963	0.0	0.38	92	"
	1610	19996	—	0.29	125	Yesterday's total: 1127
						End of day total: 125
						Total: 1252

Well ID	Time	Flow Meter	Pressure	Flow Rate	Total	Comments
	0900	16231	0	0	0	Start Inj @ 0955
	1015	16248	2.5	0.85	17	
(4) IW-B11	1210	16307	2.5	0.56	76	
	1420	16376	3.0	0.55	145	
	1610	16436	—	0.47	205	Yesterday's total: 2162
						End of day total: 205
						Total: 2367

Well ID	Time	Flow Meter	Pressure	Flow Rate	Total	Comments
	1015	NA	0	—	0	Begin Inj
B13	1210	NA	-0.5	1.0	110	136
	1420	NA	-0.5	1.0	265	
	1610	NA	0.5	0.72	313	
						Yesterday's total: 4500
						End of day total: 313
						Total: 4813

Well ID	Time	Flow Meter	Pressure	Flow Rate	Total	Comments
	1365	—			0	
MW2L	1510	~~NA~~	—	0.6	75	150
	1610	NA	—	.46	85	
						Yesterday's total: 3297
						End of day total: 85
						Total: 3382

Well ID	Time	Flow Meter	Pressure	Flow Rate	Total	Comments
	1510	NA	0.0	—	0	Begin inject.
IW-A14	1610	NA	0.0	0.166	10	220
						Yesterday's total:
						End of day total:
						Total:

Ashland Rensselaer Injection tracking OH009019.RRTM

Fall - 2018

EVO

Date 11/26/18

Weather 30's - Rain

Field Personnel Mike Reina

Well ID	Time	DO (mg/L)	ORP	COND	pH	Turbidity	DTW	Comments
~~EW-B2~~ PZ-7	~~1000~~ 1125	1.11	343	0.797	6.21	45.3	2.99	
	1610	2.87	104	0.772	6.79	169	2.91	

Well ID	Time	DO (mg/L)	ORP	COND	pH	Turbidity	DTW	Comments
MW-B2	1125	2.24	74	2.01	6.61	157	4.61	
	1610	1.63	58	2.09	6.76	234	4.44	

Well ID	Time	DO (mg/L)	ORP	COND	pH	Turbidity	DTW	Comments
MW-B1	1125	1.49	12	2.39	6.59	203	4.91	
	1610	11.50	40	2.37	6.80	298	4.74	

Well ID	Time	DO (mg/L)	ORP	COND	pH	Turbidity	DTW	Comments
PZ-6	1125	4.88	58	0.769	7.06	17.3	3.21	
	1610	7.21	12	0.892	7.12	147	3.09	

Time	DO (mg/L)	ORP	COND	pH	Turbidity	DTW	Comments

Ashland Rensselaer Injection tracking OH009019.RRTM

Fall - 2018

EVO

Date 11/27/18

Weather 30° - Snow

Field Personnel Mike Redmen

Well ID	Time	Flow Meter	Pressure	Flow Rate	Total	Comments
1 IW-B10	0640	1698	0	0	0	OFF
	0920	1704	2.6	0.06	6	Start Inj. 0744
	1130	1732	2.8	0.15	34	
	1418	1761	2.9	0.16	63	
	1610	1781	—	0.19	83	Yesterday's total: 2560
	1700	Underground				End of day total: 83 + 125 11/26-11/27 208
						Total: 2668

175

Well ID	Time	Flow Meter	Pressure	Flow Rate	Total	Comments
2 IW-B09	0640	11525	0	0	0	
	0920	11584	2.0	0.59	59	
	1130	11645	2.8	0.52	120	
	1418	11710	3.0	0.46	185	
	1610	11755	—	0.53	230	Yesterday's total: 2843
	1700	under ground				End of day total: 230
						Total: 3073

275

Well ID	Time	Flow Meter	Pressure	Flow Rate	Total	Comments
3 IW-B08	0640	19996	0	0	0	
	0920	20016	0.6	0.2	20	
	1130	20036	0.8	0.15	34	
	1418	20082	0.5	0.22	86	
	1610	20117	—	0.28	121	Yesterday's total: 1252
						End of day total: 121
						Total: 1373

Well ID	Time	Flow Meter	Pressure	Flow Rate	Total	Comments
4 IW-B11	0640	16436	0	0	0	
	0920	16471	1.5	0.35	35	
	1130	16506	2.0	0.31	72	
	1418	16555	2.5	0.30	119	
	1610	16586	—	0.34	150	Yesterday's total: 2367
						End of day total: 150
						Total: 2517

Well ID	Time	Flow Meter	Pressure	Flow Rate	Total	Comments
5 IW-B07	0640	35511	0	0	0	
	0920	35547	1.5	0.36	36	
	1130	35579	2.8	0.30	68	
	1418	35599	3.0	0.22	88	
	1610	35618	—	0.25	107	Yesterday's total: 1585
						End of day total: 107
						Total: 1692

Ashland Rensselaer Injection tracking OH009019.RRTM

Date 11/27/18

Fall - 2018

Weather 30's - Snow

EVO

Field Personnel Mike Redmon

Well ID	Time	Flow Meter	Pressure	Flow Rate	Total	Comments
IW-B06	0640	6761	0	0	0	Off - Start inj @ 0740
	0920	6764	2.0	0.03	3	
	1130	6855	1.4	0.41	94	
	1418	6865	2.0	0.26	104	Not sure if totalizer is working
	1610	6866	—	0.24	105	Yesterday's total: 927
						End of day total: 105
						Total: 1037

Well ID	Time	Flow Meter	Pressure	Flow Rate	Total	Comments
IW-B12	0640	8397	0	0	0	Off - Start inj @ 0740
	0920	8488	2.6	0.91	91	
	1130	8575	2.6	0.77	178	
	1418	8687	2.6	0.73	290	
	1610	8747	—	0.80	350	Yesterday's total: 2423
	1700		Under gravity			End of day total: 350
						Total: 2773

Well ID	Time	Flow Meter	Pressure	Flow Rate	Total	Comments
IW-A14	0800	NA	0.0	—	0	Start inj @ 0800
	0920	NA	0.0	0.33	40	
	1145	NA	0.0	0.31	70	
	1418	NA	0.0	0.31	105	
	1610	NA	0.0	0.25	125	Yesterday's total: 3515
		Under gravity				End of day total:
						Total:

Well ID	Time	Flow Meter	Pressure	Flow Rate	Total	Comments
						Yesterday's total:
						End of day total:
						Total:

Well ID	Time	Flow Meter	Pressure	Flow Rate	Total	Comments
						Yesterday's total:
						End of day total:
						Total:

* ND = No Detection of Breakthrough

Ashland Rensselaer Injection tracking OH009019.RRTM Date 11/27/18

Fall - 2018 Weather 34° Snow

EVO Field Personnel Mike Rodman

Well ID	Time	DO (mg/L)	ORP	COND	pH	Turbidity	DTW	Comments
PZ-7	0840	4.32	286	0.698	6.80	844	2.12	NP
	1510	3.93	274	0.667	6.76	966	2.10	

Well ID	Time	DO (mg/L)	ORP	COND	pH	Turbidity	DTW	Comments
MW-B2	0840	1.50	-16	2.08	6.84	152	4.39*	ND
	1510	10.60	-14	2.01	6.82	149	4.25	

Well ID	Time	DO (mg/L)	ORP	COND	pH	Turbidity	DTW	Comments
MW-B1	0840	2.09	-20	2.47	6.80	116	4.72	ND
	1510	1.79	-13	2.38	6.76	126	4.35	

Well ID	Time	DO (mg/L)	ORP	COND	pH	Turbidity	DTW	Comments
PZ-6	0840	2.83	1	0.717	7.14	176	2.77	ND
	1510	5.45	4	0.659	7.19	236	2.35	

Well ID	Time	DO (mg/L)	ORP	COND	pH	Turbidity	DTW	Comments

...and Rensselaer Injection tracking OH009019.RRTM

Fall - 2018

EVO

Date 11/28/18

Weather 35° - Cloudy - intermittent snow

Field Personnel Mike Redman

Well ID	Time	Flow Meter	Pressure	Flow Rate	Total	Comments
IW-B10	0715	1781	0.0	—	0	Start Inj @ 0715
	1005	1815	2.5	0.2	34	
	1115	1830	2.8	0.2	49	
	1308	1839	3.0	0.17	58	
	1455	1884	3.0	0.22	103	
	1542	1895	—	0.22	114	Yesterday's total: 2608
						End of day total: 114 + 95 from 11/27-11/28
						Total: 2877

Well ID	Time	Flow Meter	Pressure	Flow Rate	Total	Comments
IW-B09	0715	11755	1.9	—	0	Start Inj.
	1005	11834	2.6	0.46	79	
	1115	11877	2.8	0.51	122	
	1308	11929	2.8	0.50	174	
	1455	11964	3.0	0.45	209	
	1542	11993	—	0.47	238	Yesterday's total: 3301
						End of day total: 238 + 195 from 11/27-11/28
						Total: 3734

Well ID	Time	Flow Meter	Pressure	Flow Rate	Total	Comments
IW-B08	0715	19996	0.0	—	0	Start Inj
	1005	20213	0.0	1.3	217	
	1115	20222	0.0	0.94	226	
	1308	20265	1.0	0.77	269	
	1455	20305	1.5	0.67	309	
	1542	20330	—	0.66	334	Yesterday's total: 1373
						End of day total: 334
						Total: 1707

Well ID	Time	Flow Meter	Pressure	Flow Rate	Total	Comments
IW-B11	0715	16436	3.0	—	0	Start Inj
	1005	16543	2.8	0.63	107	
	1115	16605	2.8	0.7	169	
	1308	16700	2.8	0.75	264	
	1455	16732	3.0	0.64	296	
	1542	16751	—	0.62	315	Yesterday's total: 2517
						End of day total: 315
						Total: 2832

Well ID	Time	Flow Meter	Pressure	Flow Rate	Total	Comments
IW-B07	0715	35511	2.5	—	0	Start Inj
	1005	35656	3.0	0.85	145	
	1115	35656	3.0	0.6	145	
	1308	35675	2.0	0.47	164	
	1455	35702	3.0	0.42	191	
	1542	35728	—	0.42	217	Yesterday's total: 1692
						End of day total: 217
						Total: 1909

Baker Battery

#4

285

350
460
507

Ashland Rensselaer Injection tracking OH009019.RRTM — Date: 11/28/2018

Fall - 2018 — Weather

EVO — Field Personnel

Well ID	Time	Flow Meter	Pressure	Flow Rate	Total	Comments
IW-B06	0715	6766	2.5	—	0	Start Inj
	1005	6877	3.0	0.06	11	
	1115	6788	2.8	0.1	22	
	1308	6789	2.8	0.0	22	
	1455	6788	3.0	0.0	22	Yesterday's total: 1037
	1542	6784	—	0.0	23	End of day total: 23
						Total: 1060

Well ID	Time	Flow Meter	Pressure	Flow Rate	Total	Comments
IW-B12	0715	8747	2.4	—	0	Start Inj
	1005	8915	2.4	0.30	60	
	1115	8837	2.4	0.39	90	
	1308	8875	2.4	0.35	120	
	1455	8907	2.6	0.35	160	Yesterday's total: 2773
	1542	8926	—	0.35	179	End of day total: 179 + 238 on 11/27-11/28
						Total: 3190

Well ID	Time	Flow Meter	Pressure	Flow Rate	Total	Comments
IW-A14	0715	NA	—	—	0	Start vol 250gal
	1005	NA	—		30 gal	
	1115	NA	—		40 gal	
	1308	NA	—		60 gal	
	1542	NA	—		85	Yesterday's total: 3515
						End of day total: 85 + 110 on 11/27-11/28
						Total: 3710

Well ID	Time	Flow Meter	Pressure	Flow Rate	Total	Comments
						Yesterday's total:
						End of day total:
						Total:

Well ID	Time	Flow Meter	Pressure	Flow Rate	Total	Comments
						Yesterday's total:
						End of day total:
						Total:

* ND = No Detected for Breakthrough

Ashland Rensselaer Injection tracking OH009019.RRTM

Fall - 2018

EVO

Date 11/28/18

Weather 30's - 40's - Cloudy - Potential Snow

Field Personnel Mike Rodmo.

Well ID	Time	DO (mg/L)	ORP	COND	pH	Turbidity	DTW	Comments
PZ-7	0935	2.92	315	0.716	6.90	656	2.29	ND
	1450	7.05	185	0.760	6.75	800	2.36	ND

Well ID	Time	DO (mg/L)	ORP	COND	pH	Turbidity	DTW	Comments
MW-52	0835	1.84	240	2.01	6.83	242	4.32	ND
	1450	1.54	78	2.03	6.81	335	4.46	ND

Well ID	Time	DO (mg/L)	ORP	COND	pH	Turbidity	DTW	Comments
MW-B1	0835	1.64	7	2.52	6.74	78.4	4.48	ND
	1450	3.14	29	2.44	6.81	130	4.26	ND

Well ID	Time	DO (mg/L)	ORP	COND	pH	Turbidity	DTW	Comments
PZ-6	0935	4.57	48	0.799	7.17	113	2.54	ND
	1450	4.54	62	0.809	7.17	74.8	2.66	ND

Well ID	Time	DO (mg/L)	ORP	COND	pH	Turbidity	DTW	Comments

Ashland Rensselaer Injection tracking OH009019.RRTM

Fall - 2018

EVO

Date 11/29/30

Weather 30's - 40's Sunny

Field Personnel M.L. R

Well ID	Time	DO (mg/L)	ORP	COND	pH	Turbidity	DTW	Comments
PZ-7	0949	3.07	38	0.705	5.97	127	2.56	mostly clear, slight yellowish tint? no odor
	1427	6.98	22.1	0.761	6.07	22.1	2.37	

Well ID	Time	DO (mg/L)	ORP	COND	pH	Turbidity	DTW	Comments
MW-B2	0950	2.60	300	1.96	6.29	49.8	4.56	clear, no odor, slight yellow tint
	1427	2.37	175	1.98	6.57	55.1	4.22	

Well ID	Time	DO (mg/L)	ORP	COND	pH	Turbidity	DTW	Comments
MW-B1	0954	2.51	87	2.38	6.60	160	4.57	cloudy, yellow tint, no odor
	1427	3.15	102	2.29	6.65	57.9	4.33	

Well ID	Time	DO (mg/L)	ORP	COND	pH	Turbidity	DTW	Comments
P7-C	0955	5.31	52	0.768	7.04	83.7	2.92	Mostly clear, slight yellow tint no odor
	1427	4.99	76	0.798	7.14	533	2.65	

Well ID	Time	DO (mg/L)	ORP	COND	pH	Turbidity	DTW	Comments

Ashland Rensselaer Injection tracking OH009019.RRTM | Date: 11/30/18

Fall - 2018 | Weather: 30's - 40's - Sunny

EVO | Field Personnel: Mike Rodman

Well ID	Time	Flow Meter	Pressure	Flow Rate	Total	Comments
IW-B10	0750	1967	2.5		0	Freshwater Flush
	0900	1967	2.8	—	0	Start Inj
	1113	1993	1.5	0.2	26	
	1345	2053	2.0	0.3	86	
	1451	2071	2.5	0.3	104	Yesterday's total: 2877
	1617	2089	—	0.29	122	End of day total: 122 +100 gravity (222) +300 weekend
						Total: 3099

Well ID	Time	Flow Meter	Pressure	Flow Rate	Total	Comments
IW-B09	0750	12013	2.5	—	0	FW Flush
	0900	12039	3.0	—	0	Start Inj
	1113	12109	3.0	0.53	70	
	1345	12188	2.8	0.52	149	
	1451	12208	3.0	0.48	169	Yesterday's total: 3734
	1617	12227	—	0.46	188	End of day total: 188 +195 gravity
						Total: 4117

Well ID	Time	Flow Meter	Pressure	Flow Rate	Total	Comments
IW-B08	0750	20366	2.0	—	0	FWF
	0900	20384	1.5	—	0	Start Inj
	1113	20436	1.6	0.41	54	
	1345	20513	2.0	0.45	129	
	1451	20545	2.0	0.46	161	Yesterday's total: 1707
	1617	20578	—	0.48	194	End of day total: 194
						Total: 1901

Well ID	Time	Flow Meter	Pressure	Flow Rate	Total	Comments
IW-B11	0750	16827	2.0	—	0	FWF
	0900	16848	2.0	—	0	Start Inj
	1113	16895	2.8	0.35	47	
	1345	16944	2.8	0.34	96	
	1451	16954	2.8	0.31	106	Yesterday's total: 2832
	1617	16978	—	0.32	130	End of day total: 130
						Total: 2962

Well ID	Time	Flow Meter	Pressure	Flow Rate	Total	Comments
IW-B07	0750	35745	2.5	—	0	FWF
	0900	35910	2.8	—	0	Start Inj - Closed bleed off valve @ 1030
	1113	36297	3.0	2.9	387	
	1345	36324	3.0	1.45	414	
	1451	36340	3.0	1.22	430	Yesterday's total: 1909
	1617	36352	—	1.09	442	End of day total: 442
						Total: 2351

Ashland Rensselaer Injection tracking OH009019.RRTM Date 11/30/2018

Fall - 2018 Weather

EVO Field Personnel

Well ID	Time	Flow Meter	Pressure	Flow Rate	Total	Comments
6 IW-B06	0750	6809	2.4	—	—	FWF
	0900	6813	2.8	—	—	Start Inj
	1113	6813	3.0	0	0	
	1346	6814	3.0	0	1	
	1451	6814	3.0	0	1	Yesterday's total: 1060
	1617	6814	—	0	1	End of day total: 1
						Total: 1061

Well ID	Time	Flow Meter	Pressure	Flow Rate	Total	Comments
7 IW-B12	0750	8976	3.0	—	0	FWF
	0900	9002	2.4	—	0	Start Inj
	1113	9050	0.8	0.36	48	
	1346	9089	2.8	0.31	187	
	1451	9107	2.8	0.30	105	Yesterday's total: 3190
	1617	9122	2.8	0.30	126	End of day total: 120+215 Gravity
						Total: 3525

+300 weekend

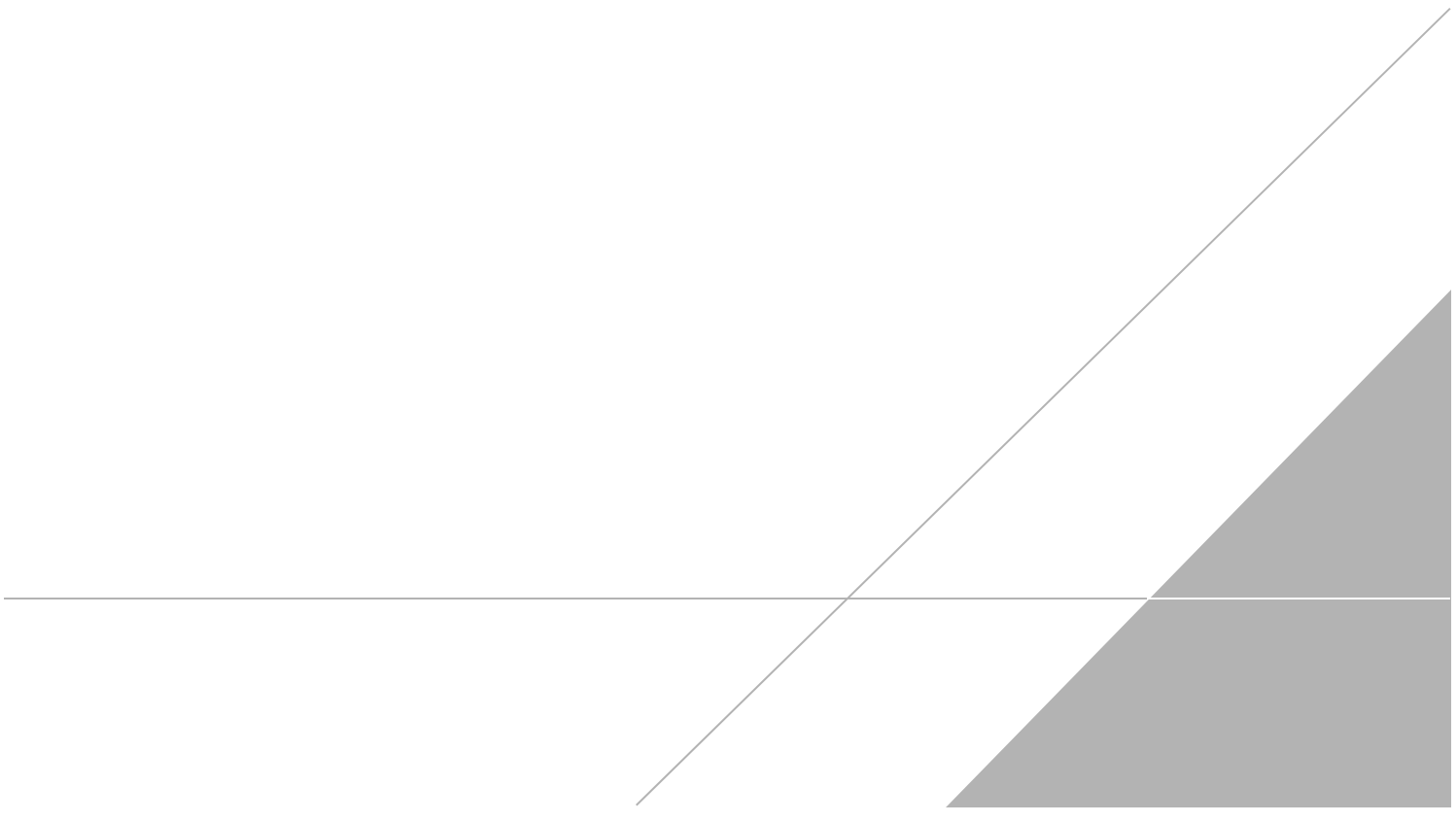
Well ID	Time	Flow Meter	Pressure	Flow Rate	Total	Comments
						Yesterday's total: 3710
						End of day total: 0 + 150 gravity
						Total: 3860

Well ID	Time	Flow Meter	Pressure	Flow Rate	Total	Comments
						Yesterday's total:
						End of day total:
						Total:

Well ID	Time	Flow Meter	Pressure	Flow Rate	Total	Comments
						Yesterday's total:
						End of day total:
						Total:

APPENDIX B

2018 Data Usability Summary Reports



DATA VALIDATION CHECKLIST

Ashland
Rensselaer

ARCADIS, Inc.
6041 Wallace Road
Extension, Suite 300,
Wexford, PA 15090
Tel. 724-934-9528
Fax. --

Sample Team:	ARCADIS
Sample Matrix:	Water
Lab Project Manager:	Eddie Barnett
SDG Numbers:	480-133895-1 and 480-134512
Analyses:	VOCs – 8260C, Dissolved Gases – RSK 175, Metals – 6010C, TOC - 9060A and Anions – 300.0
QA Reporting Level:	ARCADIS, Level II
ARCADIS Project Manager:	Denise Pereira

Environmental Project: Ashland

Project Number: NYNJ8000.NJ14
PN:
Report: --

Data were reviewed in accordance with USEPA National Functional Guidelines of January 2017 (Organic Data Review and Inorganic Data Review) and NJDEP Technical Guidance documents.

The data verification was performed at a Level II and included review of data package completeness, Laboratory Control Sample and Laboratory Control Sample Duplicate recoveries, Method Blanks, Field Blanks, Trip Blanks, Matrix Spike and Matrix Spike Duplicate recoveries, Field Duplicates, Laboratory Duplicate results and Holding Time compliance. Laboratory calculations were not verified. Only QA/QC results and analytical data associated with analytes/compounds of interest were reviewed for this validation.

Only QA/QC results and analytical data associated with analytes/compounds of interest were reviewed for this validation.

ANALYTICAL DATA PACKAGE DOCUMENTATION

The following samples were included in this data validation:

SDG Number	Sample ID	Sample Date	Parent Sample
480-133895-1	MW-17	04/09/18	
480-133895-1	MW-21	04/09/18	
480-133895-1	MW-16	04/09/18	
480-133895-1	IP-1	04/09/18	
480-133895-1	IMP-3	04/09/18	
480-133895-1	MW-18	04/09/18	
480-133895-1	MW-22	04/10/18	
480-133895-1	MW-13	04/10/18	
480-133895-1	FB-20180409	04/09/18	
480-133895-1	MW-19	04/09/18	
480-133895-1	BD-20180410	04/10/18	PD-MW-19
480-133895-1	MW-A1	04/10/18	
480-133895-1	IW-A2	04/10/18	
480-133895-1	MW-20	04/10/18	
480-133895-1	MW-23	04/10/18	
480-133895-1	IW-B3	04/10/18	
480-133895-1	MW-24	04/10/18	
480-133895-1	MW-1	04/10/18	
480-133895-1	MW-B1	04/10/18	
480-133895-1	FB-20180410	04/10/18	
480-133895-1	Trip Blank	04/10/18	
480-134512-1	MW-A1	04/19/18	
480-134512-1	MW-22	04/19/18	
480-134512-1	MW-23	04/19/18	
480-134512-1	MW-24	04/19/18	

I. GENERAL INFORMATION

ITEMS REVIEWED	REPORTED/REVIEWED		PERFORMANCE ACCEPTABLE		ITEM NOT REQUIRED
	NO	YES	NO	YES	
1. Chain of Custody		X		X	
2. Sampling dates and times		X		X	
3. Sample type on COC		X		X	
4. Field QC samples		X		X	
5. Case Narrative		X		X	
6. Sample Receipt Condition		X		X	

The analytical report was complete with the following exceptions or notations.

Comments:

II. VOLATILES

ITEMS REVIEWED	REPORTED/REVIEWED		PERFORMANCE ACCEPTABLE		ITEM NOT REQUIRED
	NO	YES	NO	YES	
1. Holding times		X		X	
2. Reporting limits		X		X	
3. Blanks					
A. Method Blanks		X		X	
B. Field Blanks/Equipment Blanks		X		X	
C. Trip Blanks		X		X	
4. Laboratory control sample (LCS) %R		X		X	
5. Laboratory control sample duplicate (LCSD) %R		X		X	
6. LCS/LCSD RPD		X		X	
7. Matrix spike (MS) %R		X		X	
8. MSD %R		X	X		
9. MS/MSD RPD		X		X	
10. Surrogate Recoveries		X		X	
11. Field Duplicate Comparison		X		X	

COMMENTS: Performance was acceptable, with the following exceptions and notes.

Note: There were a number of sample results that were greater than the instrument calibration range and flagged by the laboratory “E”. The laboratory analyzed at a dilution and were flagged as being reported from a secondary dilution “D”.

3A-B. Carbon disulfide was detected in two method blanks. The associated field samples were non-detect; therefore, qualification of the data was not warranted.

Methylene chloride was detected in one field blank. The associated field samples were non-detect; therefore, qualification of the data was not warranted.

4-6. The recovery of 2-butanone (MEK) was above the control limit in the LCS for batch 408910. The associated field samples were non-detect for this compound; therefore, qualification of the data was not warranted.

7-9. Sample MW-1 was used as the MS/MSD for cis-1,2-dichloroethene was above the control limit in MSD. The due to the concentration of the Parent sample and the addition of MS concentration being above the instrument calibration range parent sample result was not qualified as estimated.

11. Sample BD-20180410 was collected as a field duplicate of MW-19. The RPDs were acceptable at less than 30%.

III. METALS

ITEMS REVIEWED	REPORTED/REVIEWED		PERFORMANCE ACCEPTABLE		ITEM NOT REQUIRED
	NO	YES	NO	YES	
1. Holding times		X		X	
2. Reporting limits		X		X	
3. Blanks					
A. Method Blanks		X	X		
B. Field Blanks/Equipment Blanks		X		X	
4. Laboratory control sample (LCS) %R		X		X	
5. Laboratory control sample duplicate (LCSD) %R	X				X
6. LCS/LCSD RPD	X				X
7. Matrix spike (MS) %R		X		X	
8. MSD %R		X		X	
9. MS/MSD RPD		X		X	
10. Field/Lab Duplicate Comparison		X		X	

COMMENTS: Performance was acceptable, with the following exceptions and notes.

3A. Manganese was detected in one method blank. The associated field samples were qualified as non-detect for manganese if the sample concentrations were less than ten times the blank value.

7-9. Sample MW-1 was used as the MS/MSD. The recoveries and RPDs were acceptable.

10. Sample BD-20180410 was collected as a field duplicate of MW-19. The RPDs were acceptable at less than 30%.

IV. GENRAL CHEMISTRY

ITEMS REVIEWED	REPORTED/REVIEWED		PERFORMANCE ACCEPTABLE		ITEM NOT REQUIRED
	NO	YES	NO	YES	
1. Holding times		X		X	
2. Reporting limits		X		X	
3. Blanks					
A. Method Blanks		X	X	X	
B. Field Blanks/Equipment Blanks		X		X	
4. Laboratory control sample (LCS) %R		X		X	
5. Laboratory control sample duplicate (LCSD) %R	X				X
6. LCS/LCSD RPD	X				X
7. Matrix spike (MS) %R		X		X	
8. MSD %R		X		X	
9. MS/MSD RPD		X		X	
10. Field/Lab Duplicate Comparison		X		X	

COMMENTS: Performance was acceptable, with the following exceptions and notes.

3A. TOC was detected in two method blanks. The associated field samples were qualified as non-detect for TOC if the sample concentrations were less than five times the blank value.

Sulfate was detected in two method blanks. The associated field samples were non-detect and/or sample concentration was more than five times the blank value for sulfate; therefore, qualification of the data was not warranted.

7-9. Samples BD-20180410, MW-1 and MW-21 were used as the MS/MSDs for TOC. The recoveries and RPDs were acceptable.

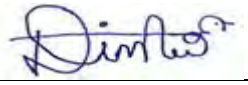
Samples MW-24, IW-A2, MW-1 and MW-16 were used as the MS/MSD for sulfate. The recoveries and RPDs were acceptable.

10. Sample BD-20180410 was collected as a field duplicate of MW-19. The RPDs were acceptable at less than 30%.

Sample FB-20180409 was analyzed as a lab duplicate for TOC. The RPDs were acceptable at less than 30%.

IV. GENRAL CHEMISTRY

VALIDATION PERFORMED BY: Dilip Kumar

SIGNATURE: 

DATE: May 03, 2018

PEER REVIEW BY: Dennis Capria

DATE: May 08, 2018

CHAIN OF CUSTODY/
CORRECTED SAMPLE ANALYSIS DATA SHEET

777 New Durham Road
Edison, New Jersey 08817
Phone: (732) 549-3900 Fax: (732) 549-3679

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

480501-Albany

CHAIN OF CUSTODY / ANALYSIS REQUEST

Name (for report and invoice) Joe Zaso, Shannon Lloyd	Samplers Name (Printed) T. Citrone, J. Sidor	Site/Project Identification
Company ~~GOSH~~ Arcadis	P. O. #	State (Location of site): NJ: X NY: Other:
		Regulatory Program: DKQP:
Address 6041 Wallace Road Ext, Suite 300	Analysis Turnaround Time: Standard X; Rush Charges Authorized For: 2 Week, 1 Week, Other	
City Wexford State PA		
Phone 724-934-9528 Fax		

ANALYSIS REQUESTED (ENTER "X" BELOW TO INDICATE REQUEST)

Sample Identification	Date	Time	Matrix	No. of Cont.	TCL 8260C	Total Organic Carbon 415.1	Dissolved Gases RSK175 SOP	Sulfate 300.0	Dissolved Iron, Manganese 6020	480-133895 COC	Sample Numbers
MW-17	4/9/18	1612	GW	7	X	X		X	X		
MW-21	4/9/18	1609	GW	7	X	X		X	X		
MW-16	4/9/18	1502	GW	10	X	X	X	X	X		
IP-1	4/9/18	1502	GW	10	X	X	X	X	X		
IMW-3	4/9/18	1335	GW	10	X	X	X	X	X		
MW-18	4/9/18	1342	GW	10	X	X	X	X	X		
MW-22	4/10/18	0433	GW	1					X		
MW-13	4/10/18	0831	GW	7	X	X		X	X		
FB-20180409	4/9/18	1630	GW	10	X	X	X	X	X		
MW-14	4/9/18	1025	GW	10	X	X	X	X	X		

Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH, 6 = Other _____, 7 = Other _____ Soil: / Water:

LAB USE ONLY: Project No: / Job No:

Special Instructions 1.4, 1.9°C #4 Water Metals Filtered (Yes/No)? _____

Relinquished by	Company	Date / Time	Received by	Company
John Sidor	Arcadis	4/10/18 1640	1)	TA Albany 4-10-18 1640
2)	TA Albany	4-10-18 1800	2)	TAB 4/11/18 0100
3)			3)	
4)			4)	

Laboratory Certifications: New Jersey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132), Massachusetts (M-NJ312), North Carolina (No. 578)

TAL - 0016 (0715)

777 New Durham Road
Edison, New Jersey 08817
Phone: (732) 549-3900 Fax: (732) 549-3679

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

480501-Albany

CHAIN OF CUSTODY / ANALYSIS REQUEST

Name (for report and invoice)	Samplers Name (Printed)	Site/Project Identification
Company Same as	P.O. #	State (Location of site): NJ: ☐ NY: ☐ Other:
Address	Analysis Turnaround Time: Standard ☐	Regulatory Program: DKQP: ☐
City State	Rush Charges Authorized For: 2 Week ☐ 1 Week ☐ Other ☐	LAB USE ONLY Project No:
Phone Fax		Job No:

Sample Identification	Date	Time	Matrix	No. of Cont.	TCL 8260C	Total Organic Carbon 415.1	Dissolved Gases RSK 175 SOP	Sulfate 300.0	Dissolved Iron, Manganese MS/MSD							Sample Numbers
BD-20180410	4/10/18		GW	10	X	X	X	X	X							
MW-A1	4/10/18	1147	GW	7	X	X		X	X							
TW-42	4/10/18	1241	GW	10	X	X	X	X	X							
MW-20	4/10/18	1414	GW	10	X	X	X	X	X							
MW-23	4/10/18	1212	GW	1					X							
TW-B3	4/10/18	1302	GW	10	X	X	X	X	X							
MW-24	4/10/18	1017	GW	1				X	X							
MW-1	4/10/18	0832	GW	30	X	X	X	X	X	X						
MW-B1	4/10/18	1117	GW	10	X	X	X	X	X							
FB-20180410	4/10/18	1450	GW	10	X	X	X	X	X							

Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH 6 = Other _____, 7 = Other _____

Soil:
Water:

Special Instructions 1-4, 1.9°C #4 Water Metals Filtered (Yes/No)? _____

Relinquished by	Company	Date / Time	Received by	Company
John Sidor	Arcadis	4/10/18 1638	1) Tim Knoll	TA Albany 1638
Relinquished by	Company	Date / Time	Received by	Company
2) Tim Knoll	TA Albany	4-10-18 1800	2)	TAB 4/11/18 0100
Relinquished by	Company	Date / Time	Received by	Company
3)			3)	
Relinquished by	Company	Date / Time	Received by	Company
4)			4)	

Laboratory Certifications: New Jersey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132). TAL - 0016 (0715)

Massachusetts (M-NJ312), North Carolina (No. 578)

777 New Durham Road
Edison, New Jersey 08817
Phone: (732) 549-3900 Fax: (732) 549-3679

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

430501-Albany

CHAIN OF CUSTODY / ANALYSIS REQUEST

Name (for report and invoice)	Samplers Name (Printed)	Site/Project Identification
Company: Same	PO# 115	State (Location of site): NJ: ☐ NY: ☐ Other:
Address	Analysis Turnaround Time: Standard ☐	Regulatory Program: DKQP: ☐
City State	Rush Charges Authorized For: 2 Week ☐ 1 Week ☐ Other ☐	LAB USE ONLY Project No:
Phone Fax		Job No:

ANALYSIS REQUESTED (ENTER "X" BELOW TO INDICATE REQUEST)

Sample Identification	Date	Time	Matrix	No. of Cont.	TCL 8260C										Sample Numbers
Trip Blank	4/10/18		GW	2	X										

4-10-18

Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH — Soil:

6 = Other _____, 7 = Other _____ — Water:

Special Instructions 1.4, 1.9°C #4 Water Metals Filtered (Yes/No)? _____

Relinquished by	Company	Date / Time	Received by	Company
John Sidor	Arcadis	4/10/18 1638	1) Tim Kryllos	TA 4-10-18 1638
2) Tim Kryllos	TA Albany	4-10-18 1800	2)	TA 4/11/18 0100
3)			3)	
4)			4)	

Laboratory Certifications: New Jersey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132).

Massachusetts (M-NJ312), North Carolina (No. 578)

TAL - 0016 (0715)

Client: Ashland LLC
Project/Site: Ashland Rensselaer

TestAmerica Job ID: 480-133895-1

Client Sample ID: MW-17
Date Collected: 04/09/18 16:22
Date Received: 04/11/18 01:00

Lab Sample ID: 480-133895-1
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	3.2	J	10	3.0	ug/L			04/14/18 12:34	1
Benzene	1.0	U	1.0	0.41	ug/L			04/14/18 12:34	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			04/14/18 12:34	1
Bromoform	1.0	U	1.0	0.26	ug/L			04/14/18 12:34	1
Bromomethane	1.0	U	1.0	0.69	ug/L			04/14/18 12:34	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			04/14/18 12:34	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			04/14/18 12:34	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			04/14/18 12:34	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			04/14/18 12:34	1
Chloroethane	1.0	U	1.0	0.32	ug/L			04/14/18 12:34	1
Chloroform	1.0	U	1.0	0.34	ug/L			04/14/18 12:34	1
Chloromethane	1.0	U	1.0	0.35	ug/L			04/14/18 12:34	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			04/14/18 12:34	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			04/14/18 12:34	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			04/14/18 12:34	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			04/14/18 12:34	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			04/14/18 12:34	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			04/14/18 12:34	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			04/14/18 12:34	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			04/14/18 12:34	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			04/14/18 12:34	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			04/14/18 12:34	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			04/14/18 12:34	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			04/14/18 12:34	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			04/14/18 12:34	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			04/14/18 12:34	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			04/14/18 12:34	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			04/14/18 12:34	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			04/14/18 12:34	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			04/14/18 12:34	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			04/14/18 12:34	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			04/14/18 12:34	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			04/14/18 12:34	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			04/14/18 12:34	1
Styrene	1.0	U	1.0	0.73	ug/L			04/14/18 12:34	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			04/14/18 12:34	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			04/14/18 12:34	1
Toluene	1.0	U	1.0	0.51	ug/L			04/14/18 12:34	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			04/14/18 12:34	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			04/14/18 12:34	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			04/14/18 12:34	1
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			04/14/18 12:34	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			04/14/18 12:34	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			04/14/18 12:34	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			04/14/18 12:34	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			04/14/18 12:34	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			04/14/18 12:34	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			04/14/18 12:34	1

Client Sample ID: MW-17

Date Collected: 04/09/18 16:22
Date Received: 04/11/18 01:00

Lab Sample ID: 480-133895-1
Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*73 - 120*		*04/14/18 12:34*	*1*
Dibromofluoromethane (Surr)	*104*		*75 - 123*		*04/14/18 12:34*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*77 - 120*		*04/14/18 12:34*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*04/14/18 12:34*	*1*

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**5.4**		0.050	0.019	mg/L		04/12/18 10:40	04/13/18 12:31	1
~~Manganese~~	**0.53**	**~~B~~**	0.0030	0.00040	mg/L		04/12/18 10:40	04/13/18 12:31	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**680**	**~~B~~**	40	7.0	mg/L			04/17/18 13:34	20
TOC Result 1	**1.7**	**~~B~~** UB	1.0	0.43	mg/L			04/15/18 03:58	1
TOC Result 2	**1.7**	UB	1.0	0.43	mg/L			04/15/18 03:58	1
Total Organic Carbon	**1.6**	UB	1.0	0.43	mg/L			04/15/18 03:58	1

Client Sample ID: MW-21

Date Collected: 04/09/18 16:09
Date Received: 04/11/18 01:00

Lab Sample ID: 480-133895-2
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**4.5**	**J**	10	3.0	ug/L			04/14/18 12:58	1
Benzene	1.0	U	1.0	0.41	ug/L			04/14/18 12:58	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			04/14/18 12:58	1
Bromoform	1.0	U	1.0	0.26	ug/L			04/14/18 12:58	1
Bromomethane	1.0	U	1.0	0.69	ug/L			04/14/18 12:58	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			04/14/18 12:58	1
Carbon disulfide	**0.21**	**J**	1.0	0.19	ug/L			04/14/18 12:58	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			04/14/18 12:58	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			04/14/18 12:58	1
Chloroethane	1.0	U	1.0	0.32	ug/L			04/14/18 12:58	1
Chloroform	1.0	U	1.0	0.34	ug/L			04/14/18 12:58	1
Chloromethane	1.0	U	1.0	0.35	ug/L			04/14/18 12:58	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			04/14/18 12:58	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			04/14/18 12:58	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			04/14/18 12:58	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			04/14/18 12:58	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			04/14/18 12:58	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			04/14/18 12:58	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			04/14/18 12:58	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			04/14/18 12:58	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			04/14/18 12:58	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			04/14/18 12:58	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			04/14/18 12:58	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			04/14/18 12:58	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			04/14/18 12:58	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			04/14/18 12:58	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			04/14/18 12:58	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			04/14/18 12:58	1

Client Sample ID: MW-21

Date Collected: 04/09/18 16:09
Date Received: 04/11/18 01:00

Lab Sample ID: 480-133895-2
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			04/14/18 12:58	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			04/14/18 12:58	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			04/14/18 12:58	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			04/14/18 12:58	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			04/14/18 12:58	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			04/14/18 12:58	1
Styrene	1.0	U	1.0	0.73	ug/L			04/14/18 12:58	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			04/14/18 12:58	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			04/14/18 12:58	1
Toluene	1.0	U	1.0	0.51	ug/L			04/14/18 12:58	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			04/14/18 12:58	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			04/14/18 12:58	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			04/14/18 12:58	1
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			04/14/18 12:58	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			04/14/18 12:58	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			04/14/18 12:58	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			04/14/18 12:58	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			04/14/18 12:58	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			04/14/18 12:58	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			04/14/18 12:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*73 - 120*		*04/14/18 12:58*	*1*
Dibromofluoromethane (Surr)	*106*		*75 - 123*		*04/14/18 12:58*	*1*
1,2-Dichloroethane-d4 (Surr)	*104*		*77 - 120*		*04/14/18 12:58*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*04/14/18 12:58*	*1*

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.050	U	0.050	0.019	mg/L		04/12/18 10:40	04/13/18 12:35	1
Manganese	**0.32**	**B**	0.0030	0.00040	mg/L		04/12/18 10:40	04/13/18 12:35	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**92**		10	1.7	mg/L			04/13/18 14:28	5
TOC Result 1	**4.5**	**B**	1.0	0.43	mg/L			04/15/18 04:26	1
TOC Result 2	**4.6**		1.0	0.43	mg/L			04/15/18 04:26	1
Total Organic Carbon	**4.6**		1.0	0.43	mg/L			04/15/18 04:26	1

Client Sample ID: MW-16

Date Collected: 04/09/18 15:02
Date Received: 04/11/18 01:00

Lab Sample ID: 480-133895-3
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	3.0	ug/L			04/14/18 13:22	1
Benzene	1.0	U	1.0	0.41	ug/L			04/14/18 13:22	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			04/14/18 13:22	1
Bromoform	1.0	U	1.0	0.26	ug/L			04/14/18 13:22	1
Bromomethane	1.0	U	1.0	0.69	ug/L			04/14/18 13:22	1

Client Sample ID: MW-16
Date Collected: 04/09/18 15:02
Date Received: 04/11/18 01:00

Lab Sample ID: 480-133895-3
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Butanone (MEK)	10	U	10	1.3	ug/L			04/14/18 13:22	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			04/14/18 13:22	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			04/14/18 13:22	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			04/14/18 13:22	1
Chloroethane	1.0	U	1.0	0.32	ug/L			04/14/18 13:22	1
Chloroform	1.0	U	1.0	0.34	ug/L			04/14/18 13:22	1
Chloromethane	1.0	U	1.0	0.35	ug/L			04/14/18 13:22	1
cis-1,2-Dichloroethene	~~170~~	~~E~~	1.0	0.81	ug/L			04/14/18 13:22	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			04/14/18 13:22	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			04/14/18 13:22	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			04/14/18 13:22	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			04/14/18 13:22	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			04/14/18 13:22	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			04/14/18 13:22	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			04/14/18 13:22	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			04/14/18 13:22	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			04/14/18 13:22	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			04/14/18 13:22	1
1,2-Dichloroethane	1.3		1.0	0.21	ug/L			04/14/18 13:22	1
1,1-Dichloroethene	1.1		1.0	0.29	ug/L			04/14/18 13:22	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			04/14/18 13:22	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			04/14/18 13:22	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			04/14/18 13:22	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			04/14/18 13:22	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			04/14/18 13:22	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			04/14/18 13:22	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			04/14/18 13:22	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			04/14/18 13:22	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			04/14/18 13:22	1
Styrene	1.0	U	1.0	0.73	ug/L			04/14/18 13:22	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			04/14/18 13:22	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			04/14/18 13:22	1
Toluene	1.0	U	1.0	0.51	ug/L			04/14/18 13:22	1
trans-1,2-Dichloroethene	1.7		1.0	0.90	ug/L			04/14/18 13:22	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			04/14/18 13:22	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			04/14/18 13:22	1
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			04/14/18 13:22	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			04/14/18 13:22	1
Trichloroethene	20		1.0	0.46	ug/L			04/14/18 13:22	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			04/14/18 13:22	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			04/14/18 13:22	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			04/14/18 13:22	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			04/14/18 13:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*73 - 120*		*04/14/18 13:22*	*1*
Dibromofluoromethane (Surr)	*108*		*75 - 123*		*04/14/18 13:22*	*1*
1,2-Dichloroethane-d4 (Surr)	*105*		*77 - 120*		*04/14/18 13:22*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*04/14/18 13:22*	*1*

Client Sample ID: MW-16
Date Collected: 04/09/18 15:02
Date Received: 04/11/18 01:00

Lab Sample ID: 480-133895-3
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	40	U	40	12	ug/L			04/15/18 16:58	4
Benzene	4.0	U	4.0	1.6	ug/L			04/15/18 16:58	4
Bromodichloromethane	4.0	U	4.0	1.6	ug/L			04/15/18 16:58	4
Bromoform	4.0	U	4.0	1.0	ug/L			04/15/18 16:58	4
Bromomethane	4.0	U	4.0	2.8	ug/L			04/15/18 16:58	4
2-Butanone (MEK)	40	U	40	5.3	ug/L			04/15/18 16:58	4
Carbon disulfide	4.0	U	4.0	0.76	ug/L			04/15/18 16:58	4
Carbon tetrachloride	4.0	U	4.0	1.1	ug/L			04/15/18 16:58	4
Chlorobenzene	4.0	U	4.0	3.0	ug/L			04/15/18 16:58	4
Chloroethane	4.0	U	4.0	1.3	ug/L			04/15/18 16:58	4
Chloroform	4.0	U	4.0	1.4	ug/L			04/15/18 16:58	4
Chloromethane	4.0	U	4.0	1.4	ug/L			04/15/18 16:58	4
cis-1,2-Dichloroethene	160	D	4.0	3.2	ug/L			04/15/18 16:58	4
cis-1,3-Dichloropropene	4.0	U	4.0	1.4	ug/L			04/15/18 16:58	4
Cyclohexane	4.0	U	4.0	0.72	ug/L			04/15/18 16:58	4
Dibromochloromethane	4.0	U	4.0	1.3	ug/L			04/15/18 16:58	4
1,2-Dibromo-3-Chloropropane	4.0	U	4.0	1.6	ug/L			04/15/18 16:58	4
1,2-Dibromoethane	4.0	U	4.0	2.9	ug/L			04/15/18 16:58	4
1,2-Dichlorobenzene	4.0	U	4.0	3.2	ug/L			04/15/18 16:58	4
1,3-Dichlorobenzene	4.0	U	4.0	3.1	ug/L			04/15/18 16:58	4
1,4-Dichlorobenzene	4.0	U	4.0	3.4	ug/L			04/15/18 16:58	4
Dichlorodifluoromethane	4.0	U	4.0	2.7	ug/L			04/15/18 16:58	4
1,1-Dichloroethane	4.0	U	4.0	1.5	ug/L			04/15/18 16:58	4
1,2-Dichloroethane	1.3	J	4.0	0.84	ug/L			04/15/18 16:58	4
1,1-Dichloroethene	4.0	U	4.0	1.2	ug/L			04/15/18 16:58	4
1,2-Dichloropropane	4.0	U	4.0	2.9	ug/L			04/15/18 16:58	4
Ethylbenzene	4.0	U	4.0	3.0	ug/L			04/15/18 16:58	4
2-Hexanone	20	U	20	5.0	ug/L			04/15/18 16:58	4
Isopropylbenzene	4.0	U	4.0	3.2	ug/L			04/15/18 16:58	4
Methyl acetate	10	U	10	5.2	ug/L			04/15/18 16:58	4
Methylcyclohexane	4.0	U	4.0	0.64	ug/L			04/15/18 16:58	4
Methylene Chloride	2.3	J	4.0	1.8	ug/L			04/15/18 16:58	4
4-Methyl-2-pentanone (MIBK)	20	U	20	8.4	ug/L			04/15/18 16:58	4
Methyl tert-butyl ether	4.0	U	4.0	0.64	ug/L			04/15/18 16:58	4
Styrene	4.0	U	4.0	2.9	ug/L			04/15/18 16:58	4
1,1,2,2-Tetrachloroethane	4.0	U	4.0	0.84	ug/L			04/15/18 16:58	4
Tetrachloroethene	4.0	U	4.0	1.4	ug/L			04/15/18 16:58	4
Toluene	4.0	U	4.0	2.0	ug/L			04/15/18 16:58	4
trans-1,2-Dichloroethene	4.0	U	4.0	3.6	ug/L			04/15/18 16:58	4
trans-1,3-Dichloropropene	4.0	U	4.0	1.5	ug/L			04/15/18 16:58	4
1,2,4-Trichlorobenzene	4.0	U	4.0	1.6	ug/L			04/15/18 16:58	4
1,1,1-Trichloroethane	4.0	U	4.0	3.3	ug/L			04/15/18 16:58	4
1,1,2-Trichloroethane	4.0	U	4.0	0.92	ug/L			04/15/18 16:58	4
Trichloroethene	17		4.0	1.8	ug/L			04/15/18 16:58	4
Trichlorofluoromethane	4.0	U	4.0	3.5	ug/L			04/15/18 16:58	4
1,1,2-Trichloro-1,2,2-trifluoroethane	4.0	U	4.0	1.2	ug/L			04/15/18 16:58	4
Vinyl chloride	4.0	U	4.0	3.6	ug/L			04/15/18 16:58	4
Xylenes, Total	8.0	U	8.0	2.6	ug/L			04/15/18 16:58	4

Client Sample ID: MW-16

Lab Sample ID: 480-133895-3

Date Collected: 04/09/18 15:02

Matrix: Water

Date Received: 04/11/18 01:00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*73 - 120*		*04/15/18 16:58*	*4*
Dibromofluoromethane (Surr)	*116*		*75 - 123*		*04/15/18 16:58*	*4*
1,2-Dichloroethane-d4 (Surr)	*111*		*77 - 120*		*04/15/18 16:58*	*4*
Toluene-d8 (Surr)	*104*		*80 - 120*		*04/15/18 16:58*	*4*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	7.5	U	7.5	1.5	ug/L			04/12/18 11:03	1
Ethene	7.0	U	7.0	1.5	ug/L			04/12/18 11:03	1
Methane	4.0	U	4.0	1.0	ug/L			04/12/18 11:03	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.050	U	0.050	0.019	mg/L		04/12/18 10:40	04/13/18 12:39	1
Manganese	**0.0090**	~~B~~ UB	0.0030	0.00040	mg/L		04/12/18 10:40	04/13/18 12:39	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**330**		10	1.7	mg/L			04/13/18 14:42	5
TOC Result 1	~~0.87~~	~~J B~~ UB	1.0	0.43	mg/L			04/15/18 05:21	1
TOC Result 2	~~0.90~~	~~J~~ UB	1.0	0.43	mg/L			04/15/18 05:21	1
Total Organic Carbon	~~0.88~~	~~J~~ UB	1.0	0.43	mg/L			04/15/18 05:21	1

Client Sample ID: IP-1

Lab Sample ID: 480-133895-4

Date Collected: 04/09/18 15:02

Matrix: Water

Date Received: 04/11/18 01:00

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**3.4**	**J**	10	3.0	ug/L			04/14/18 13:46	1
Benzene	**1.5**		1.0	0.41	ug/L			04/14/18 13:46	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			04/14/18 13:46	1
Bromoform	1.0	U	1.0	0.26	ug/L			04/14/18 13:46	1
Bromomethane	1.0	U	1.0	0.69	ug/L			04/14/18 13:46	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			04/14/18 13:46	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			04/14/18 13:46	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			04/14/18 13:46	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			04/14/18 13:46	1
Chloroethane	1.0	U	1.0	0.32	ug/L			04/14/18 13:46	1
Chloroform	1.0	U	1.0	0.34	ug/L			04/14/18 13:46	1
Chloromethane	1.0	U	1.0	0.35	ug/L			04/14/18 13:46	1
~~cis-1,2-Dichloroethene~~	~~340~~	~~E~~	~~1.0~~	0.81	ug/L			04/14/18 13:46	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			04/14/18 13:46	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			04/14/18 13:46	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			04/14/18 13:46	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			04/14/18 13:46	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			04/14/18 13:46	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			04/14/18 13:46	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			04/14/18 13:46	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			04/14/18 13:46	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			04/14/18 13:46	1

Client Sample ID: IP-1

Date Collected: 04/09/18 15:02
Date Received: 04/11/18 01:00

Lab Sample ID: 480-133895-4

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			04/14/18 13:46	1
1,2-Dichloroethane	**0.34**	**J**	1.0	0.21	ug/L			04/14/18 13:46	1
1,1-Dichloroethene	**0.49**	**J**	1.0	0.29	ug/L			04/14/18 13:46	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			04/14/18 13:46	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			04/14/18 13:46	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			04/14/18 13:46	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			04/14/18 13:46	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			04/14/18 13:46	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			04/14/18 13:46	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			04/14/18 13:46	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			04/14/18 13:46	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			04/14/18 13:46	1
Styrene	1.0	U	1.0	0.73	ug/L			04/14/18 13:46	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			04/14/18 13:46	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			04/14/18 13:46	1
Toluene	1.0	U	1.0	0.51	ug/L			04/14/18 13:46	1
trans-1,2-Dichloroethene	**4.6**		1.0	0.90	ug/L			04/14/18 13:46	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			04/14/18 13:46	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			04/14/18 13:46	1
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			04/14/18 13:46	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			04/14/18 13:46	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			04/14/18 13:46	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			04/14/18 13:46	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			04/14/18 13:46	1
Vinyl chloride	**68**		1.0	0.90	ug/L			04/14/18 13:46	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			04/14/18 13:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*73 - 120*		*04/14/18 13:46*	*1*
Dibromofluoromethane (Surr)	*109*		*75 - 123*		*04/14/18 13:46*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*77 - 120*		*04/14/18 13:46*	*1*
Toluene-d8 (Surr)	*95*		*80 - 120*		*04/14/18 13:46*	*1*

Method: 8260C - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
~~Acetone~~	~~80~~	U	~~80~~	24	ug/L			04/15/18 17:22	8
Benzene	~~8.0~~	~~U~~	~~8.0~~	~~3.3~~	~~ug/L~~			~~04/15/18 17:22~~	~~8~~
~~Bromodichloromethane~~	~~8.0~~	~~U~~	~~8.0~~	~~3.1~~	~~ug/L~~			~~04/15/18 17:22~~	~~8~~
~~Bromoform~~	~~8.0~~	~~U~~	~~8.0~~	~~2.1~~	~~ug/L~~			~~04/15/18 17:22~~	~~8~~
~~Bromomethane~~	~~8.0~~	~~U~~	~~8.0~~	~~5.5~~	~~ug/L~~			~~04/15/18 17:22~~	~~8~~
~~2-Butanone (MEK)~~	~~80~~	~~U~~	~~80~~	~~11~~	~~ug/L~~			~~04/15/18 17:22~~	~~8~~
~~Carbon disulfide~~	~~8.0~~	~~U~~	~~8.0~~	~~1.5~~	~~ug/L~~			~~04/15/18 17:22~~	~~8~~
~~Carbon tetrachloride~~	~~8.0~~	~~U~~	~~8.0~~	~~2.2~~	~~ug/L~~			~~04/15/18 17:22~~	~~8~~
~~Chlorobenzene~~	~~8.0~~	~~U~~	~~8.0~~	~~6.0~~	~~ug/L~~			~~04/15/18 17:22~~	~~8~~
~~Chloroethane~~	~~8.0~~	~~U~~	~~8.0~~	~~2.6~~	~~ug/L~~			~~04/15/18 17:22~~	~~8~~
~~Chloroform~~	~~8.0~~	~~U~~	~~8.0~~	~~2.7~~	~~ug/L~~			~~04/15/18 17:22~~	~~8~~
~~Chloromethane~~	~~8.0~~	~~U~~	~~8.0~~	~~2.8~~	~~ug/L~~			~~04/15/18 17:22~~	~~8~~
cis-1,2-Dichloroethene	**350**	D	8.0	6.5	ug/L			04/15/18 17:22	8
~~cis-1,3-Dichloropropene~~	~~8.0~~	~~U~~	~~8.0~~	~~2.9~~	~~ug/L~~			~~04/15/18 17:22~~	~~8~~
~~Cyclohexane~~	~~8.0~~	~~U~~	~~8.0~~	~~1.4~~	~~ug/L~~			~~04/15/18 17:22~~	~~8~~

Client Sample ID: IP-1
Date Collected: 04/09/18 15:02
Date Received: 04/11/18 01:00

Lab Sample ID: 480-133895-4
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromochloromethane	8.0	U	8.0	2.6	ug/L			04/15/18 17:22	8
1,2-Dibromo-3-Chloropropane	8.0	U	8.0	3.1	ug/L			04/15/18 17:22	8
1,2-Dibromoethane	8.0	U	8.0	5.8	ug/L			04/15/18 17:22	8
1,2-Dichlorobenzene	8.0	U	8.0	6.3	ug/L			04/15/18 17:22	8
1,3-Dichlorobenzene	8.0	U	8.0	6.2	ug/L			04/15/18 17:22	8
1,4-Dichlorobenzene	8.0	U	8.0	6.7	ug/L			04/15/18 17:22	8
Dichlorodifluoromethane	8.0	U	8.0	5.4	ug/L			04/15/18 17:22	8
1,1-Dichloroethane	8.0	U	8.0	3.0	ug/L			04/15/18 17:22	8
1,2-Dichloroethane	8.0	U	8.0	1.7	ug/L			04/15/18 17:22	8
1,1-Dichloroethene	8.0	U	8.0	2.3	ug/L			04/15/18 17:22	8
1,2-Dichloropropane	8.0	U	8.0	5.8	ug/L			04/15/18 17:22	8
Ethylbenzene	8.0	U	8.0	5.9	ug/L			04/15/18 17:22	8
2-Hexanone	40	U	40	9.9	ug/L			04/15/18 17:22	8
Isopropylbenzene	8.0	U	8.0	6.3	ug/L			04/15/18 17:22	8
Methyl acetate	20	U	20	10	ug/L			04/15/18 17:22	8
Methylcyclohexane	8.0	U	8.0	1.3	ug/L			04/15/18 17:22	8
Methylene Chloride	8.0	U	8.0	3.5	ug/L			04/15/18 17:22	8
4-Methyl-2-pentanone (MIBK)	40	U	40	17	ug/L			04/15/18 17:22	8
Methyl tert-butyl ether	8.0	U	8.0	1.3	ug/L			04/15/18 17:22	8
Styrene	8.0	U	8.0	5.8	ug/L			04/15/18 17:22	8
1,1,2,2-Tetrachloroethane	8.0	U	8.0	1.7	ug/L			04/15/18 17:22	8
Tetrachloroethene	8.0	U	8.0	2.9	ug/L			04/15/18 17:22	8
Toluene	8.0	U	8.0	4.1	ug/L			04/15/18 17:22	8
trans-1,2-Dichloroethene	8.0	U	8.0	7.2	ug/L			04/15/18 17:22	8
trans-1,3-Dichloropropene	8.0	U	8.0	3.0	ug/L			04/15/18 17:22	8
1,2,4-Trichlorobenzene	8.0	U	8.0	3.3	ug/L			04/15/18 17:22	8
1,1,1-Trichloroethane	8.0	U	8.0	6.6	ug/L			04/15/18 17:22	8
1,1,2-Trichloroethane	8.0	U	8.0	1.8	ug/L			04/15/18 17:22	8
Trichloroethene	8.0	U	8.0	3.7	ug/L			04/15/18 17:22	8
Trichlorofluoromethane	8.0	U	8.0	7.0	ug/L			04/15/18 17:22	8
1,1,2-Trichloro-1,2,2-trifluoroethane	8.0	U	8.0	2.5	ug/L			04/15/18 17:22	8
Vinyl chloride	**60**		8.0	7.2	ug/L			04/15/18 17:22	8
Xylenes, Total	16	U	16	5.3	ug/L			04/15/18 17:22	8

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*73 - 120*		*04/15/18 17:22*	*8*
Dibromofluoromethane (Surr)	*105*		*75 - 123*		*04/15/18 17:22*	*8*
1,2-Dichloroethane-d4 (Surr)	*105*		*77 - 120*		*04/15/18 17:22*	*8*
Toluene-d8 (Surr)	*98*		*80 - 120*		*04/15/18 17:22*	*8*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	83	U	83	17	ug/L			04/12/18 14:49	11
Ethene	77	U	77	17	ug/L			04/12/18 14:49	11
Methane	**2300**		44	11	ug/L			04/12/18 14:49	11

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**15**		0.050	0.019	mg/L		04/12/18 10:40	04/13/18 12:43	1
Manganese	**5.0**	**B**	0.0030	0.00040	mg/L		04/12/18 10:40	04/13/18 12:43	1

Client Sample ID: IP-1

Lab Sample ID: 480-133895-4

Date Collected: 04/09/18 15:02

Matrix: Water

Date Received: 04/11/18 01:00

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	97		10	1.7	mg/L			04/13/18 15:55	5
TOC Result 1	3.6	~~B~~	1.0	0.43	mg/L			04/15/18 05:49	1
TOC Result 2	3.7		1.0	0.43	mg/L			04/15/18 05:49	1
Total Organic Carbon	3.7		1.0	0.43	mg/L			04/15/18 05:49	1

Client Sample ID: IMP-3

Lab Sample ID: 480-133895-5

Date Collected: 04/09/18 13:35

Matrix: Water

Date Received: 04/11/18 01:00

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	3.3	J	10	3.0	ug/L			04/14/18 14:10	1
Benzene	1.0	U	1.0	0.41	ug/L			04/14/18 14:10	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			04/14/18 14:10	1
Bromoform	1.0	U	1.0	0.26	ug/L			04/14/18 14:10	1
Bromomethane	1.0	U	1.0	0.69	ug/L			04/14/18 14:10	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			04/14/18 14:10	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			04/14/18 14:10	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			04/14/18 14:10	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			04/14/18 14:10	1
Chloroethane	1.0	U	1.0	0.32	ug/L			04/14/18 14:10	1
Chloroform	1.0	U	1.0	0.34	ug/L			04/14/18 14:10	1
Chloromethane	1.0	U	1.0	0.35	ug/L			04/14/18 14:10	1
~~cis-1,2-Dichloroethene~~	~~130~~	~~E~~	1.0	0.81	ug/L			04/14/18 14:10	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			04/14/18 14:10	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			04/14/18 14:10	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			04/14/18 14:10	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			04/14/18 14:10	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			04/14/18 14:10	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			04/14/18 14:10	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			04/14/18 14:10	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			04/14/18 14:10	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			04/14/18 14:10	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			04/14/18 14:10	1
1,2-Dichloroethane	3.1		1.0	0.21	ug/L			04/14/18 14:10	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			04/14/18 14:10	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			04/14/18 14:10	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			04/14/18 14:10	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			04/14/18 14:10	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			04/14/18 14:10	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			04/14/18 14:10	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			04/14/18 14:10	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			04/14/18 14:10	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			04/14/18 14:10	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			04/14/18 14:10	1
Styrene	1.0	U	1.0	0.73	ug/L			04/14/18 14:10	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			04/14/18 14:10	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			04/14/18 14:10	1
Toluene	1.0	U	1.0	0.51	ug/L			04/14/18 14:10	1
trans-1,2-Dichloroethene	1.9		1.0	0.90	ug/L			04/14/18 14:10	1

Client Sample ID: IMP-3
Date Collected: 04/09/18 13:35
Date Received: 04/11/18 01:00

Lab Sample ID: 480-133895-5
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			04/14/18 14:10	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			04/14/18 14:10	1
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			04/14/18 14:10	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			04/14/18 14:10	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			04/14/18 14:10	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			04/14/18 14:10	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			04/14/18 14:10	1
Vinyl chloride	**5.7**		1.0	0.90	ug/L			04/14/18 14:10	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			04/14/18 14:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*73 - 120*		*04/14/18 14:10*	*1*
Dibromofluoromethane (Surr)	*106*		*75 - 123*		*04/14/18 14:10*	*1*
1,2-Dichloroethane-d4 (Surr)	*106*		*77 - 120*		*04/14/18 14:10*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*04/14/18 14:10*	*1*

Method: 8260C - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
~~Acetone~~	~~40~~	~~U~~	~~40~~	~~12~~	ug/L			04/15/18 17:45	4
~~Benzene~~	~~4.0~~	~~U~~	~~4.0~~	~~1.6~~	~~ug/L~~			~~04/15/18 17:45~~	~~4~~
~~Bromodichloromethane~~	~~4.0~~	~~U~~	~~4.0~~	~~1.6~~	~~ug/L~~			~~04/15/18 17:45~~	~~4~~
~~Bromoform~~	~~4.0~~	~~U~~	~~4.0~~	~~1.0~~	~~ug/L~~			~~04/15/18 17:45~~	~~4~~
~~Bromomethane~~	~~4.0~~	~~U~~	~~4.0~~	~~2.8~~	~~ug/L~~			~~04/15/18 17:45~~	~~4~~
~~2-Butanone (MEK)~~	~~40~~	~~U~~	~~40~~	~~5.3~~	~~ug/L~~			~~04/15/18 17:45~~	~~4~~
~~Carbon disulfide~~	~~4.0~~	~~U~~	~~4.0~~	~~0.76~~	~~ug/L~~			~~04/15/18 17:45~~	~~4~~
~~Carbon tetrachloride~~	~~4.0~~	~~U~~	~~4.0~~	~~1.1~~	~~ug/L~~			~~04/15/18 17:45~~	~~4~~
~~Chlorobenzene~~	~~4.0~~	~~U~~	~~4.0~~	~~3.0~~	~~ug/L~~			~~04/15/18 17:45~~	~~4~~
~~Chloroethane~~	~~4.0~~	~~U~~	~~4.0~~	~~1.3~~	~~ug/L~~			~~04/15/18 17:45~~	~~4~~
~~Chloroform~~	~~4.0~~	~~U~~	~~4.0~~	~~1.4~~	~~ug/L~~			~~04/15/18 17:45~~	~~4~~
~~Chloromethane~~	~~4.0~~	~~U~~	~~4.0~~	~~1.4~~	~~ug/L~~			~~04/15/18 17:45~~	~~4~~
cis-1,2-Dichloroethene	**130**	D	4.0	3.2	ug/L			04/15/18 17:45	4
~~cis-1,3-Dichloropropene~~	~~4.0~~	~~U~~	~~4.0~~	~~1.4~~	~~ug/L~~			~~04/15/18 17:45~~	~~4~~
~~Cyclohexane~~	~~4.0~~	~~U~~	~~4.0~~	~~0.72~~	~~ug/L~~			~~04/15/18 17:45~~	~~4~~
~~Dibromochloromethane~~	~~4.0~~	~~U~~	~~4.0~~	~~1.3~~	~~ug/L~~			~~04/15/18 17:45~~	~~4~~
~~1,2-Dibromo-3-Chloropropane~~	~~4.0~~	~~U~~	~~4.0~~	~~1.6~~	~~ug/L~~			~~04/15/18 17:45~~	~~4~~
~~1,2-Dibromoethane~~	~~4.0~~	~~U~~	~~4.0~~	~~2.9~~	~~ug/L~~			~~04/15/18 17:45~~	~~4~~
~~1,2-Dichlorobenzene~~	~~4.0~~	~~U~~	~~4.0~~	~~3.2~~	~~ug/L~~			~~04/15/18 17:45~~	~~4~~
~~1,3-Dichlorobenzene~~	~~4.0~~	~~U~~	~~4.0~~	~~3.1~~	~~ug/L~~			~~04/15/18 17:45~~	~~4~~
~~1,4-Dichlorobenzene~~	~~4.0~~	~~U~~	~~4.0~~	~~3.4~~	~~ug/L~~			~~04/15/18 17:45~~	~~4~~
~~Dichlorodifluoromethane~~	~~4.0~~	~~U~~	~~4.0~~	~~2.7~~	~~ug/L~~			~~04/15/18 17:45~~	~~4~~
~~1,1-Dichloroethane~~	~~4.0~~	~~U~~	~~4.0~~	~~1.5~~	~~ug/L~~			~~04/15/18 17:45~~	~~4~~
~~**1,2-Dichloroethane**~~	~~3.2~~	~~J~~	~~4.0~~	~~0.84~~	~~ug/L~~			~~04/15/18 17:45~~	~~4~~
~~1,1-Dichloroethene~~	~~4.0~~	~~U~~	~~4.0~~	~~1.2~~	~~ug/L~~			~~04/15/18 17:45~~	~~4~~
~~1,2-Dichloropropane~~	~~4.0~~	~~U~~	~~4.0~~	~~2.9~~	~~ug/L~~			~~04/15/18 17:45~~	~~4~~
~~Ethylbenzene~~	~~4.0~~	~~U~~	~~4.0~~	~~3.0~~	~~ug/L~~			~~04/15/18 17:45~~	~~4~~
~~2-Hexanone~~	~~20~~	~~U~~	~~20~~	~~5.0~~	~~ug/L~~			~~04/15/18 17:45~~	~~4~~
~~Isopropylbenzene~~	~~4.0~~	~~U~~	~~4.0~~	~~3.2~~	~~ug/L~~			~~04/15/18 17:45~~	~~4~~
~~Methyl acetate~~	~~10~~	~~U~~	~~10~~	~~5.2~~	~~ug/L~~			~~04/15/18 17:45~~	~~4~~
~~Methylcyclohexane~~	~~4.0~~	~~U~~	~~4.0~~	~~0.64~~	~~ug/L~~			~~04/15/18 17:45~~	~~4~~
~~**Methylene Chloride**~~	~~2.2~~	~~J~~	~~4.0~~	~~1.8~~	ug/L			04/15/18 17:45	4

Client Sample ID: IMP-3

Lab Sample ID: 480-133895-5

Date Collected: 04/09/18 13:35

Matrix: Water

Date Received: 04/11/18 01:00

Method: 8260C - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Methyl-2-pentanone (MIBK)	20	U	20	8.4	ug/L			04/15/18 17:45	4
Methyl tert-butyl ether	4.0	U	4.0	0.64	ug/L			04/15/18 17:45	4
Styrene	4.0	U	4.0	2.9	ug/L			04/15/18 17:45	4
1,1,2,2-Tetrachloroethane	4.0	U	4.0	0.84	ug/L			04/15/18 17:45	4
Tetrachloroethene	4.0	U	4.0	1.4	ug/L			04/15/18 17:45	4
Toluene	4.0	U	4.0	2.0	ug/L			04/15/18 17:45	4
trans-1,2-Dichloroethene	4.0	U	4.0	3.6	ug/L			04/15/18 17:45	4
trans-1,3-Dichloropropene	4.0	U	4.0	1.5	ug/L			04/15/18 17:45	4
1,2,4-Trichlorobenzene	4.0	U	4.0	1.6	ug/L			04/15/18 17:45	4
1,1,1-Trichloroethane	4.0	U	4.0	3.3	ug/L			04/15/18 17:45	4
1,1,2-Trichloroethane	4.0	U	4.0	0.92	ug/L			04/15/18 17:45	4
Trichloroethene	4.0	U	4.0	1.8	ug/L			04/15/18 17:45	4
Trichlorofluoromethane	4.0	U	4.0	3.5	ug/L			04/15/18 17:45	4
1,1,2-Trichloro-1,2,2-trifluoroethane	4.0	U	4.0	1.2	ug/L			04/15/18 17:45	4
Vinyl chloride	**4.2**		4.0	3.6	ug/L			04/15/18 17:45	4
Xylenes, Total	8.0	U	8.0	2.6	ug/L			04/15/18 17:45	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*73 - 120*		*04/15/18 17:45*	*4*
Dibromofluoromethane (Surr)	*109*		*75 - 123*		*04/15/18 17:45*	*4*
1,2-Dichloroethane-d4 (Surr)	*105*		*77 - 120*		*04/15/18 17:45*	*4*
Toluene-d8 (Surr)	*100*		*80 - 120*		*04/15/18 17:45*	*4*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	83	U	83	17	ug/L			04/12/18 15:08	11
Ethene	77	U	77	17	ug/L			04/12/18 15:08	11
Methane	**170**		44	11	ug/L			04/12/18 15:08	11

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**1.8**		0.050	0.019	mg/L		04/12/18 10:40	04/13/18 12:47	1
Manganese	**0.12**	B	0.0030	0.00040	mg/L		04/12/18 10:40	04/13/18 12:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**320**		10	1.7	mg/L			04/13/18 16:10	5
TOC Result 1	**1.4**	B UB	1.0	0.43	mg/L			04/15/18 06:17	1
TOC Result 2	**1.3**	UB	1.0	0.43	mg/L			04/15/18 06:17	1
Total Organic Carbon	**1.4**	UB	1.0	0.43	mg/L			04/15/18 06:17	1

Client Sample ID: MW-18

Lab Sample ID: 480-133895-6

Date Collected: 04/09/18 13:42

Matrix: Water

Date Received: 04/11/18 01:00

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**3.2**	**J**	10	3.0	ug/L			04/14/18 14:34	1
Benzene	**1.0**		1.0	0.41	ug/L			04/14/18 14:34	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			04/14/18 14:34	1
Bromoform	1.0	U	1.0	0.26	ug/L			04/14/18 14:34	1

Client Sample ID: MW-18
Date Collected: 04/09/18 13:42
Date Received: 04/11/18 01:00

Lab Sample ID: 480-133895-6
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromomethane	1.0	U	1.0	0.69	ug/L			04/14/18 14:34	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			04/14/18 14:34	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			04/14/18 14:34	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			04/14/18 14:34	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			04/14/18 14:34	1
Chloroethane	1.0	U	1.0	0.32	ug/L			04/14/18 14:34	1
Chloroform	1.0	U	1.0	0.34	ug/L			04/14/18 14:34	1
Chloromethane	1.0	U	1.0	0.35	ug/L			04/14/18 14:34	1
~~cis-1,2-Dichloroethene~~	~~410~~	~~E~~	1.0	0.81	ug/L			04/14/18 14:34	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			04/14/18 14:34	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			04/14/18 14:34	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			04/14/18 14:34	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			04/14/18 14:34	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			04/14/18 14:34	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			04/14/18 14:34	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			04/14/18 14:34	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			04/14/18 14:34	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			04/14/18 14:34	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			04/14/18 14:34	1
1,2-Dichloroethane	**0.54**	**J**	1.0	0.21	ug/L			04/14/18 14:34	1
1,1-Dichloroethene	**0.49**	**J**	1.0	0.29	ug/L			04/14/18 14:34	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			04/14/18 14:34	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			04/14/18 14:34	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			04/14/18 14:34	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			04/14/18 14:34	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			04/14/18 14:34	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			04/14/18 14:34	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			04/14/18 14:34	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			04/14/18 14:34	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			04/14/18 14:34	1
Styrene	1.0	U	1.0	0.73	ug/L			04/14/18 14:34	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			04/14/18 14:34	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			04/14/18 14:34	1
Toluene	1.0	U	1.0	0.51	ug/L			04/14/18 14:34	1
trans-1,2-Dichloroethene	**7.3**		1.0	0.90	ug/L			04/14/18 14:34	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			04/14/18 14:34	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			04/14/18 14:34	1
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			04/14/18 14:34	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			04/14/18 14:34	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			04/14/18 14:34	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			04/14/18 14:34	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			04/14/18 14:34	1
Vinyl chloride	**71**		1.0	0.90	ug/L			04/14/18 14:34	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			04/14/18 14:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*73 - 120*		*04/14/18 14:34*	*1*
Dibromofluoromethane (Surr)	*111*		*75 - 123*		*04/14/18 14:34*	*1*
1,2-Dichloroethane-d4 (Surr)	*106*		*77 - 120*		*04/14/18 14:34*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*04/14/18 14:34*	*1*

Method: 8260C - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	100	U	100	30	ug/L			04/15/18 18:09	10
Benzene	10	U	10	4.1	ug/L			04/15/18 18:09	10
Bromodichloromethane	10	U	10	3.9	ug/L			04/15/18 18:09	10
Bromoform	10	U	10	2.6	ug/L			04/15/18 18:09	10
Bromomethane	10	U	10	6.9	ug/L			04/15/18 18:09	10
2-Butanone (MEK)	100	U *	100	13	ug/L			04/15/18 18:09	10
Carbon disulfide	10	U	10	1.9	ug/L			04/15/18 18:09	10
Carbon tetrachloride	10	U	10	2.7	ug/L			04/15/18 18:09	10
Chlorobenzene	10	U	10	7.5	ug/L			04/15/18 18:09	10
Chloroethane	10	U	10	3.2	ug/L			04/15/18 18:09	10
Chloroform	10	U	10	3.4	ug/L			04/15/18 18:09	10
Chloromethane	10	U	10	3.5	ug/L			04/15/18 18:09	10
cis-1,2-Dichloroethene	**420**	D	10	8.1	ug/L			04/15/18 18:09	10
cis-1,3-Dichloropropene	10	U	10	3.6	ug/L			04/15/18 18:09	10
Cyclohexane	10	U	10	1.8	ug/L			04/15/18 18:09	10
Dibromochloromethane	10	U	10	3.2	ug/L			04/15/18 18:09	10
1,2-Dibromo-3-Chloropropane	10	U	10	3.9	ug/L			04/15/18 18:09	10
1,2-Dibromoethane	10	U	10	7.3	ug/L			04/15/18 18:09	10
1,2-Dichlorobenzene	10	U	10	7.9	ug/L			04/15/18 18:09	10
1,3-Dichlorobenzene	10	U	10	7.8	ug/L			04/15/18 18:09	10
1,4-Dichlorobenzene	10	U	10	8.4	ug/L			04/15/18 18:09	10
Dichlorodifluoromethane	10	U	10	6.8	ug/L			04/15/18 18:09	10
1,1-Dichloroethane	10	U	10	3.8	ug/L			04/15/18 18:09	10
1,2-Dichloroethane	10	U	10	2.1	ug/L			04/15/18 18:09	10
1,1-Dichloroethene	10	U	10	2.9	ug/L			04/15/18 18:09	10
1,2-Dichloropropane	10	U	10	7.2	ug/L			04/15/18 18:09	10
Ethylbenzene	10	U	10	7.4	ug/L			04/15/18 18:09	10
2-Hexanone	50	U	50	12	ug/L			04/15/18 18:09	10
Isopropylbenzene	10	U	10	7.9	ug/L			04/15/18 18:09	10
Methyl acetate	25	U	25	13	ug/L			04/15/18 18:09	10
Methylcyclohexane	10	U	10	1.6	ug/L			04/15/18 18:09	10
Methylene Chloride	**4.9**	**J**	10	4.4	ug/L			04/15/18 18:09	10
4-Methyl-2-pentanone (MIBK)	50	U	50	21	ug/L			04/15/18 18:09	10
Methyl tert-butyl ether	10	U	10	1.6	ug/L			04/15/18 18:09	10
Styrene	10	U	10	7.3	ug/L			04/15/18 18:09	10
1,1,2,2-Tetrachloroethane	10	U	10	2.1	ug/L			04/15/18 18:09	10
Tetrachloroethene	10	U	10	3.6	ug/L			04/15/18 18:09	10
Toluene	10	U	10	5.1	ug/L			04/15/18 18:09	10
trans-1,2-Dichloroethene	10	U	10	9.0	ug/L			04/15/18 18:09	10
trans-1,3-Dichloropropene	10	U	10	3.7	ug/L			04/15/18 18:09	10
1,2,4-Trichlorobenzene	10	U	10	4.1	ug/L			04/15/18 18:09	10
1,1,1-Trichloroethane	10	U	10	8.2	ug/L			04/15/18 18:09	10
1,1,2-Trichloroethane	10	U	10	2.3	ug/L			04/15/18 18:09	10
Trichloroethene	10	U	10	4.6	ug/L			04/15/18 18:09	10
Trichlorofluoromethane	10	U	10	8.8	ug/L			04/15/18 18:09	10
1,1,2-Trichloro-1,2,2-trifluoroethane	10	U	10	3.1	ug/L			04/15/18 18:09	10
Vinyl chloride	**63**		10	9.0	ug/L			04/15/18 18:09	10
Xylenes, Total	20	U	20	6.6	ug/L			04/15/18 18:09	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*73 - 120*		*04/15/18 18:09*	*10*
Dibromofluoromethane (Surr)	*106*		*75 - 123*		*04/15/18 18:09*	*10*
1,2-Dichloroethane-d4 (Surr)	*102*		*77 - 120*		*04/15/18 18:09*	*10*

Client Sample ID: MW-18

Lab Sample ID: 480-133895-6

Date Collected: 04/09/18 13:42

Matrix: Water

Date Received: 04/11/18 01:00

Method: 8260C - Volatile Organic Compounds by GC/MS - DL (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*04/15/18 18:09*	*10*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	170	U	170	33	ug/L			04/13/18 09:41	22
Ethene	150	U	150	33	ug/L			04/13/18 09:41	22
Methane	**1200**		88	22	ug/L			04/13/18 09:41	22

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**1.4**		0.050	0.019	mg/L		04/12/18 10:40	04/13/18 12:50	1
Manganese	**2.9**	**B**	0.0030	0.00040	mg/L		04/12/18 10:40	04/13/18 12:50	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**130**		10	1.7	mg/L			04/13/18 16:24	5
TOC Result 1	**2.5**	**B**	1.0	0.43	mg/L			04/15/18 06:45	1
TOC Result 2	**2.5**		1.0	0.43	mg/L			04/15/18 06:45	1
Total Organic Carbon	**2.6**		1.0	0.43	mg/L			04/15/18 06:45	1

Client Sample ID: MW-22

Lab Sample ID: 480-133895-7

Date Collected: 04/10/18 09:33

Matrix: Water

Date Received: 04/11/18 01:00

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**280**		0.050	0.019	mg/L		04/12/18 10:40	04/13/18 12:54	1
Manganese	**20**	**B**	0.0030	0.00040	mg/L		04/12/18 10:40	04/13/18 12:54	1

Client Sample ID: MW-13

Lab Sample ID: 480-133895-8

Date Collected: 04/10/18 08:31

Matrix: Water

Date Received: 04/11/18 01:00

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	3.0	ug/L			04/16/18 12:11	1
Benzene	1.0	U	1.0	0.41	ug/L			04/16/18 12:11	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			04/16/18 12:11	1
Bromoform	1.0	U	1.0	0.26	ug/L			04/16/18 12:11	1
Bromomethane	1.0	U	1.0	0.69	ug/L			04/16/18 12:11	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			04/16/18 12:11	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			04/16/18 12:11	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			04/16/18 12:11	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			04/16/18 12:11	1
Chloroethane	1.0	U	1.0	0.32	ug/L			04/16/18 12:11	1
Chloroform	1.0	U	1.0	0.34	ug/L			04/16/18 12:11	1
Chloromethane	1.0	U	1.0	0.35	ug/L			04/16/18 12:11	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			04/16/18 12:11	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			04/16/18 12:11	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			04/16/18 12:11	1

Client Sample ID: MW-13
Date Collected: 04/10/18 08:31
Date Received: 04/11/18 01:00

Lab Sample ID: 480-133895-8
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			04/16/18 12:11	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			04/16/18 12:11	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			04/16/18 12:11	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			04/16/18 12:11	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			04/16/18 12:11	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			04/16/18 12:11	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			04/16/18 12:11	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			04/16/18 12:11	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			04/16/18 12:11	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			04/16/18 12:11	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			04/16/18 12:11	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			04/16/18 12:11	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			04/16/18 12:11	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			04/16/18 12:11	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			04/16/18 12:11	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			04/16/18 12:11	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			04/16/18 12:11	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			04/16/18 12:11	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			04/16/18 12:11	1
Styrene	1.0	U	1.0	0.73	ug/L			04/16/18 12:11	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			04/16/18 12:11	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			04/16/18 12:11	1
Toluene	1.0	U	1.0	0.51	ug/L			04/16/18 12:11	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			04/16/18 12:11	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			04/16/18 12:11	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			04/16/18 12:11	1
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			04/16/18 12:11	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			04/16/18 12:11	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			04/16/18 12:11	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			04/16/18 12:11	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			04/16/18 12:11	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			04/16/18 12:11	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			04/16/18 12:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*73 - 120*		*04/16/18 12:11*	*1*
Dibromofluoromethane (Surr)	*101*		*75 - 123*		*04/16/18 12:11*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*77 - 120*		*04/16/18 12:11*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*04/16/18 12:11*	*1*

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.050	U	0.050	0.019	mg/L		04/12/18 10:40	04/13/18 13:13	1
Manganese	**0.14**	~~B~~	0.0030	0.00040	mg/L		04/12/18 10:40	04/13/18 13:13	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**61**		4.0	0.70	mg/L			04/13/18 16:39	2
TOC Result 1	~~0.59~~	~~J B~~ UB	1.0	0.43	mg/L			04/15/18 07:12	1
TOC Result 2	~~0.48~~	~~J~~ UB	1.0	0.43	mg/L			04/15/18 07:12	1

Client Sample ID: MW-13

Date Collected: 04/10/18 08:31
Date Received: 04/11/18 01:00

Lab Sample ID: 480-133895-8

Matrix: Water

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	~~0.54~~	~~J~~ UB	1.0	0.43	mg/L			04/15/18 07:12	1

Client Sample ID: FB-20180409

Date Collected: 04/09/18 16:30
Date Received: 04/11/18 01:00

Lab Sample ID: 480-133895-9

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	3.0	ug/L			04/14/18 14:58	1
Benzene	1.0	U	1.0	0.41	ug/L			04/14/18 14:58	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			04/14/18 14:58	1
Bromoform	1.0	U	1.0	0.26	ug/L			04/14/18 14:58	1
Bromomethane	1.0	U	1.0	0.69	ug/L			04/14/18 14:58	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			04/14/18 14:58	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			04/14/18 14:58	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			04/14/18 14:58	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			04/14/18 14:58	1
Chloroethane	1.0	U	1.0	0.32	ug/L			04/14/18 14:58	1
Chloroform	1.0	U	1.0	0.34	ug/L			04/14/18 14:58	1
Chloromethane	1.0	U	1.0	0.35	ug/L			04/14/18 14:58	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			04/14/18 14:58	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			04/14/18 14:58	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			04/14/18 14:58	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			04/14/18 14:58	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			04/14/18 14:58	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			04/14/18 14:58	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			04/14/18 14:58	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			04/14/18 14:58	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			04/14/18 14:58	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			04/14/18 14:58	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			04/14/18 14:58	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			04/14/18 14:58	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			04/14/18 14:58	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			04/14/18 14:58	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			04/14/18 14:58	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			04/14/18 14:58	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			04/14/18 14:58	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			04/14/18 14:58	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			04/14/18 14:58	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			04/14/18 14:58	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			04/14/18 14:58	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			04/14/18 14:58	1
Styrene	1.0	U	1.0	0.73	ug/L			04/14/18 14:58	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			04/14/18 14:58	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			04/14/18 14:58	1
Toluene	1.0	U	1.0	0.51	ug/L			04/14/18 14:58	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			04/14/18 14:58	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			04/14/18 14:58	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			04/14/18 14:58	1
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			04/14/18 14:58	1

Client Sample ID: FB-20180409

Lab Sample ID: 480-133895-9

Date Collected: 04/09/18 16:30

Matrix: Water

Date Received: 04/11/18 01:00

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			04/14/18 14:58	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			04/14/18 14:58	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			04/14/18 14:58	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			04/14/18 14:58	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			04/14/18 14:58	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			04/14/18 14:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*73 - 120*		*04/14/18 14:58*	*1*
Dibromofluoromethane (Surr)	*107*		*75 - 123*		*04/14/18 14:58*	*1*
1,2-Dichloroethane-d4 (Surr)	*104*		*77 - 120*		*04/14/18 14:58*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*04/14/18 14:58*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	7.5	U	7.5	1.5	ug/L			04/12/18 12:19	1
Ethene	7.0	U	7.0	1.5	ug/L			04/12/18 12:19	1
Methane	4.0	U	4.0	1.0	ug/L			04/12/18 12:19	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.050	U	0.050	0.019	mg/L		04/12/18 10:40	04/13/18 13:17	1
Manganese	0.0030	U	0.0030	0.00040	mg/L		04/12/18 10:40	04/13/18 13:17	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	2.0	U	2.0	0.35	mg/L			04/13/18 16:53	1
TOC Result 1	1.0	U	1.0	0.43	mg/L			04/15/18 09:30	1
TOC Result 2	1.0	U	1.0	0.43	mg/L			04/15/18 09:30	1
Total Organic Carbon	1.0	U	1.0	0.43	mg/L			04/15/18 09:30	1

Client Sample ID: MW-19

Lab Sample ID: 480-133895-10

Date Collected: 04/09/18 10:25

Matrix: Water

Date Received: 04/11/18 01:00

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**4.4**	**J**	10	3.0	ug/L			04/14/18 15:22	1
Benzene	**7.9**		1.0	0.41	ug/L			04/14/18 15:22	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			04/14/18 15:22	1
Bromoform	1.0	U	1.0	0.26	ug/L			04/14/18 15:22	1
Bromomethane	1.0	U	1.0	0.69	ug/L			04/14/18 15:22	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			04/14/18 15:22	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			04/14/18 15:22	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			04/14/18 15:22	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			04/14/18 15:22	1
Chloroethane	**45**		1.0	0.32	ug/L			04/14/18 15:22	1
Chloroform	**6.5**		1.0	0.34	ug/L			04/14/18 15:22	1
Chloromethane	1.0	U	1.0	0.35	ug/L			04/14/18 15:22	1
~~**cis-1,2-Dichloroethene**~~	~~**820**~~	~~**E**~~	1.0	0.81	ug/L			04/14/18 15:22	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			04/14/18 15:22	1

Client Sample ID: MW-19
Date Collected: 04/09/18 10:25
Date Received: 04/11/18 01:00

Lab Sample ID: 480-133895-10
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyclohexane	**0.32**	**J**	1.0	0.18	ug/L			04/14/18 15:22	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			04/14/18 15:22	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			04/14/18 15:22	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			04/14/18 15:22	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			04/14/18 15:22	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			04/14/18 15:22	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			04/14/18 15:22	1
Dichlorodifluoromethane	**19**		1.0	0.68	ug/L			04/14/18 15:22	1
1,1-Dichloroethane	**26**		1.0	0.38	ug/L			04/14/18 15:22	1
1,2-Dichloroethane	**0.21**	**J**	1.0	0.21	ug/L			04/14/18 15:22	1
1,1-Dichloroethene	**3.7**		1.0	0.29	ug/L			04/14/18 15:22	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			04/14/18 15:22	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			04/14/18 15:22	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			04/14/18 15:22	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			04/14/18 15:22	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			04/14/18 15:22	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			04/14/18 15:22	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			04/14/18 15:22	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			04/14/18 15:22	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			04/14/18 15:22	1
Styrene	1.0	U	1.0	0.73	ug/L			04/14/18 15:22	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			04/14/18 15:22	1
Tetrachloroethene	**11**		1.0	0.36	ug/L			04/14/18 15:22	1
Toluene	**1.9**		1.0	0.51	ug/L			04/14/18 15:22	1
trans-1,2-Dichloroethene	**5.2**		1.0	0.90	ug/L			04/14/18 15:22	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			04/14/18 15:22	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			04/14/18 15:22	1
1,1,1-Trichloroethane	**0.84**	**J**	1.0	0.82	ug/L			04/14/18 15:22	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			04/14/18 15:22	1
Trichloroethene	**23**		1.0	0.46	ug/L			04/14/18 15:22	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			04/14/18 15:22	1
~~**1,1,2-Trichloro-1,2,2-trifluoroethane**~~	~~**210**~~	~~**E**~~	~~1.0~~	~~0.31~~	~~ug/L~~			~~04/14/18 15:22~~	~~1~~
~~**Vinyl chloride**~~	~~**340**~~	~~**E**~~	1.0	0.90	ug/L			04/14/18 15:22	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			04/14/18 15:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*73 - 120*		*04/14/18 15:22*	*1*
Dibromofluoromethane (Surr)	*111*		*75 - 123*		*04/14/18 15:22*	*1*
1,2-Dichloroethane-d4 (Surr)	*107*		*77 - 120*		*04/14/18 15:22*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*04/14/18 15:22*	*1*

Method: 8260C - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
~~Acetone~~	~~200~~	~~U~~	~~200~~	~~60~~	~~ug/L~~			~~04/15/18 18:32~~	~~20~~
~~Benzene~~	~~20~~	~~U~~	~~20~~	~~8.2~~	~~ug/L~~			~~04/15/18 18:32~~	~~20~~
~~Bromodichloromethane~~	~~20~~	~~U~~	~~20~~	~~7.8~~	~~ug/L~~			~~04/15/18 18:32~~	~~20~~
~~Bromoform~~	~~20~~	~~U~~	~~20~~	~~5.2~~	~~ug/L~~			~~04/15/18 18:32~~	~~20~~
~~Bromomethane~~	~~20~~	~~U~~	~~20~~	~~14~~	~~ug/L~~			~~04/15/18 18:32~~	~~20~~
~~2-Butanone (MEK)~~	~~200~~	~~U~~	~~200~~	~~26~~	~~ug/L~~			04/15/18 18:32	20

Client Sample ID: MW-19
Date Collected: 04/09/18 10:25
Date Received: 04/11/18 01:00

Lab Sample ID: 480-133895-10
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon disulfide	20	U	20	3.8	ug/L			04/15/18 18:32	20
Carbon tetrachloride	20	U	20	5.4	ug/L			04/15/18 18:32	20
Chlorobenzene	20	U	20	15	ug/L			04/15/18 18:32	20
Chloroethane	44		20	6.4	ug/L			04/15/18 18:32	20
Chloroform	6.9	J	20	6.8	ug/L			04/15/18 18:32	20
Chloromethane	20	U	20	7.0	ug/L			04/15/18 18:32	20
cis-1,2-Dichloroethene	930	D	20	16	ug/L			04/15/18 18:32	20
cis-1,3-Dichloropropene	20	U	20	7.2	ug/L			04/15/18 18:32	20
Cyclohexane	20	U	20	3.6	ug/L			04/15/18 18:32	20
Dibromochloromethane	20	U	20	6.4	ug/L			04/15/18 18:32	20
1,2-Dibromo-3-Chloropropane	20	U	20	7.8	ug/L			04/15/18 18:32	20
1,2-Dibromoethane	20	U	20	15	ug/L			04/15/18 18:32	20
1,2-Dichlorobenzene	20	U	20	16	ug/L			04/15/18 18:32	20
1,3-Dichlorobenzene	20	U	20	16	ug/L			04/15/18 18:32	20
1,4-Dichlorobenzene	20	U	20	17	ug/L			04/15/18 18:32	20
Dichlorodifluoromethane	20	U	20	14	ug/L			04/15/18 18:32	20
1,1-Dichloroethane	27		20	7.6	ug/L			04/15/18 18:32	20
1,2-Dichloroethane	20	U	20	4.2	ug/L			04/15/18 18:32	20
1,1-Dichloroethene	20	U	20	5.8	ug/L			04/15/18 18:32	20
1,2-Dichloropropane	20	U	20	14	ug/L			04/15/18 18:32	20
Ethylbenzene	20	U	20	15	ug/L			04/15/18 18:32	20
2-Hexanone	100	U	100	25	ug/L			04/15/18 18:32	20
Isopropylbenzene	20	U	20	16	ug/L			04/15/18 18:32	20
Methyl acetate	50	U	50	26	ug/L			04/15/18 18:32	20
Methylcyclohexane	20	U	20	3.2	ug/L			04/15/18 18:32	20
Methylene Chloride	9.1	J	20	8.8	ug/L			04/15/18 18:32	20
4-Methyl-2-pentanone (MIBK)	100	U	100	42	ug/L			04/15/18 18:32	20
Methyl tert-butyl ether	20	U	20	3.2	ug/L			04/15/18 18:32	20
Styrene	20	U	20	15	ug/L			04/15/18 18:32	20
1,1,2,2-Tetrachloroethane	20	U	20	4.2	ug/L			04/15/18 18:32	20
Tetrachloroethene	10	J	20	7.2	ug/L			04/15/18 18:32	20
Toluene	20	U	20	10	ug/L			04/15/18 18:32	20
trans-1,2-Dichloroethene	20	U	20	18	ug/L			04/15/18 18:32	20
trans-1,3-Dichloropropene	20	U	20	7.4	ug/L			04/15/18 18:32	20
1,2,4-Trichlorobenzene	20	U	20	8.2	ug/L			04/15/18 18:32	20
1,1,1-Trichloroethane	20	U	20	16	ug/L			04/15/18 18:32	20
1,1,2-Trichloroethane	20	U	20	4.6	ug/L			04/15/18 18:32	20
Trichloroethene	20		20	9.2	ug/L			04/15/18 18:32	20
Trichlorofluoromethane	20	U	20	18	ug/L			04/15/18 18:32	20
1,1,2-Trichloro-1,2,2-trifluoroethane	170	D	20	6.2	ug/L			04/15/18 18:32	20
Vinyl chloride	330	D	20	18	ug/L			04/15/18 18:32	20
Xylenes, Total	40	U	40	13	ug/L			04/15/18 18:32	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*73 - 120*		*04/15/18 18:32*	*20*
Dibromofluoromethane (Surr)	*109*		*75 - 123*		*04/15/18 18:32*	*20*
1,2-Dichloroethane-d4 (Surr)	*107*		*77 - 120*		*04/15/18 18:32*	*20*
Toluene-d8 (Surr)	*98*		*80 - 120*		*04/15/18 18:32*	*20*

Client Sample ID: MW-19

Date Collected: 04/09/18 10:25
Date Received: 04/11/18 01:00

Lab Sample ID: 480-133895-10
Matrix: Water

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	390		330	66	ug/L			04/13/18 10:00	44
Ethene	330		310	66	ug/L			04/13/18 10:00	44
Methane	5400		180	44	ug/L			04/13/18 10:00	44

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	17		0.050	0.019	mg/L		04/12/18 10:40	04/13/18 13:21	1
Manganese	1.6	B	0.0030	0.00040	mg/L		04/12/18 10:40	04/13/18 13:21	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	32		10	1.7	mg/L			04/13/18 17:08	5
TOC Result 1	5.5	B	1.0	0.43	mg/L			04/15/18 10:25	1
TOC Result 2	5.7	B	1.0	0.43	mg/L			04/15/18 10:25	1
Total Organic Carbon	5.7	B	1.0	0.43	mg/L			04/15/18 10:25	1

Client Sample ID: BD-20180410

Date Collected: 04/10/18 00:00
Date Received: 04/11/18 01:00

Lab Sample ID: 480-133895-11
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	200	U	200	60	ug/L			04/18/18 13:23	20
Benzene	10	J	20	8.2	ug/L			04/18/18 13:23	20
Bromodichloromethane	20	U	20	7.8	ug/L			04/18/18 13:23	20
Bromoform	20	U	20	5.2	ug/L			04/18/18 13:23	20
Bromomethane	20	U	20	14	ug/L			04/18/18 13:23	20
2-Butanone (MEK)	200	U	200	26	ug/L			04/18/18 13:23	20
Carbon disulfide	20	U	20	3.8	ug/L			04/18/18 13:23	20
Carbon tetrachloride	20	U	20	5.4	ug/L			04/18/18 13:23	20
Chlorobenzene	20	U	20	15	ug/L			04/18/18 13:23	20
Chloroethane	48		20	6.4	ug/L			04/18/18 13:23	20
Chloroform	7.7	J	20	6.8	ug/L			04/18/18 13:23	20
Chloromethane	20	U	20	7.0	ug/L			04/18/18 13:23	20
cis-1,2-Dichloroethene	920		20	16	ug/L			04/18/18 13:23	20
cis-1,3-Dichloropropene	20	U	20	7.2	ug/L			04/18/18 13:23	20
Cyclohexane	20	U	20	3.6	ug/L			04/18/18 13:23	20
Dibromochloromethane	20	U	20	6.4	ug/L			04/18/18 13:23	20
1,2-Dibromo-3-Chloropropane	20	U	20	7.8	ug/L			04/18/18 13:23	20
1,2-Dibromoethane	20	U	20	15	ug/L			04/18/18 13:23	20
1,2-Dichlorobenzene	20	U	20	16	ug/L			04/18/18 13:23	20
1,3-Dichlorobenzene	20	U	20	16	ug/L			04/18/18 13:23	20
1,4-Dichlorobenzene	20	U	20	17	ug/L			04/18/18 13:23	20
Dichlorodifluoromethane	20	U	20	14	ug/L			04/18/18 13:23	20
1,1-Dichloroethane	31		20	7.6	ug/L			04/18/18 13:23	20
1,2-Dichloroethane	20	U	20	4.2	ug/L			04/18/18 13:23	20
1,1-Dichloroethene	20	U	20	5.8	ug/L			04/18/18 13:23	20
1,2-Dichloropropane	20	U	20	14	ug/L			04/18/18 13:23	20
Ethylbenzene	20	U	20	15	ug/L			04/18/18 13:23	20
2-Hexanone	100	U	100	25	ug/L			04/18/18 13:23	20

Client Sample ID: BD-20180410
Date Collected: 04/10/18 00:00
Date Received: 04/11/18 01:00

Lab Sample ID: 480-133895-11
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropylbenzene	20	U	20	16	ug/L			04/18/18 13:23	20
Methyl acetate	50	U	50	26	ug/L			04/18/18 13:23	20
Methylcyclohexane	20	U	20	3.2	ug/L			04/18/18 13:23	20
Methylene Chloride	20	U	20	8.8	ug/L			04/18/18 13:23	20
4-Methyl-2-pentanone (MIBK)	100	U	100	42	ug/L			04/18/18 13:23	20
Methyl tert-butyl ether	20	U	20	3.2	ug/L			04/18/18 13:23	20
Styrene	20	U	20	15	ug/L			04/18/18 13:23	20
1,1,2,2-Tetrachloroethane	20	U	20	4.2	ug/L			04/18/18 13:23	20
Tetrachloroethene	**14**	**J**	20	7.2	ug/L			04/18/18 13:23	20
Toluene	20	U	20	10	ug/L			04/18/18 13:23	20
trans-1,2-Dichloroethene	20	U	20	18	ug/L			04/18/18 13:23	20
trans-1,3-Dichloropropene	20	U	20	7.4	ug/L			04/18/18 13:23	20
1,2,4-Trichlorobenzene	20	U	20	8.2	ug/L			04/18/18 13:23	20
1,1,1-Trichloroethane	20	U	20	16	ug/L			04/18/18 13:23	20
1,1,2-Trichloroethane	20	U	20	4.6	ug/L			04/18/18 13:23	20
Trichloroethene	**24**		20	9.2	ug/L			04/18/18 13:23	20
Trichlorofluoromethane	20	U	20	18	ug/L			04/18/18 13:23	20
1,1,2-Trichloro-1,2,2-trifluoroethane	**230**		20	6.2	ug/L			04/18/18 13:23	20
Vinyl chloride	**300**		20	18	ug/L			04/18/18 13:23	20
Xylenes, Total	40	U	40	13	ug/L			04/18/18 13:23	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*73 - 120*		*04/18/18 13:23*	*20*
Dibromofluoromethane (Surr)	*98*		*75 - 123*		*04/18/18 13:23*	*20*
1,2-Dichloroethane-d4 (Surr)	*101*		*77 - 120*		*04/18/18 13:23*	*20*
Toluene-d8 (Surr)	*103*		*80 - 120*		*04/18/18 13:23*	*20*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	**350**		330	66	ug/L			04/13/18 10:19	44
Ethene	**300**	**J**	310	66	ug/L			04/13/18 10:19	44
Methane	**4900**		180	44	ug/L			04/13/18 10:19	44

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**16**		0.050	0.019	mg/L		04/12/18 10:40	04/13/18 13:25	1
Manganese	**1.5**	**B**	0.0030	0.00040	mg/L		04/12/18 10:40	04/13/18 13:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**33**		10	1.7	mg/L			04/13/18 17:24	5
TOC Result 1	**5.5**	**B**	1.0	0.43	mg/L			04/15/18 10:53	1
TOC Result 2	**5.7**	**B**	1.0	0.43	mg/L			04/15/18 10:53	1
Total Organic Carbon	**5.7**	**B**	1.0	0.43	mg/L			04/15/18 10:53	1

Client: Ashland LLC
Project/Site: Ashland Rensselaer

TestAmerica Job ID: 480-133895-1

Client Sample ID: MW-A1
Date Collected: 04/10/18 11:47
Date Received: 04/11/18 01:00

Lab Sample ID: 480-133895-12
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	20	U	20	6.0	ug/L			04/16/18 12:36	2
Benzene	**9.9**		2.0	0.82	ug/L			04/16/18 12:36	2
Bromodichloromethane	2.0	U	2.0	0.78	ug/L			04/16/18 12:36	2
Bromoform	2.0	U	2.0	0.52	ug/L			04/16/18 12:36	2
Bromomethane	2.0	U	2.0	1.4	ug/L			04/16/18 12:36	2
2-Butanone (MEK)	20	U	20	2.6	ug/L			04/16/18 12:36	2
Carbon disulfide	2.0	U	2.0	0.38	ug/L			04/16/18 12:36	2
Carbon tetrachloride	2.0	U	2.0	0.54	ug/L			04/16/18 12:36	2
Chlorobenzene	2.0	U	2.0	1.5	ug/L			04/16/18 12:36	2
Chloroethane	**39**		2.0	0.64	ug/L			04/16/18 12:36	2
Chloroform	**1.1**	**J**	2.0	0.68	ug/L			04/16/18 12:36	2
Chloromethane	2.0	U	2.0	0.70	ug/L			04/16/18 12:36	2
~~**cis-1,2-Dichloroethene**~~	~~**320**~~	~~**E**~~	~~2.0~~	1.6	ug/L			04/16/18 12:36	2
cis-1,3-Dichloropropene	2.0	U	2.0	0.72	ug/L			04/16/18 12:36	2
Cyclohexane	2.0	U	2.0	0.36	ug/L			04/16/18 12:36	2
Dibromochloromethane	2.0	U	2.0	0.64	ug/L			04/16/18 12:36	2
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.78	ug/L			04/16/18 12:36	2
1,2-Dibromoethane	2.0	U	2.0	1.5	ug/L			04/16/18 12:36	2
1,2-Dichlorobenzene	2.0	U	2.0	1.6	ug/L			04/16/18 12:36	2
1,3-Dichlorobenzene	2.0	U	2.0	1.6	ug/L			04/16/18 12:36	2
1,4-Dichlorobenzene	2.0	U	2.0	1.7	ug/L			04/16/18 12:36	2
Dichlorodifluoromethane	2.0	U	2.0	1.4	ug/L			04/16/18 12:36	2
1,1-Dichloroethane	**21**		2.0	0.76	ug/L			04/16/18 12:36	2
1,2-Dichloroethane	2.0	U	2.0	0.42	ug/L			04/16/18 12:36	2
1,1-Dichloroethene	**1.4**	**J**	2.0	0.58	ug/L			04/16/18 12:36	2
1,2-Dichloropropane	2.0	U	2.0	1.4	ug/L			04/16/18 12:36	2
Ethylbenzene	2.0	U	2.0	1.5	ug/L			04/16/18 12:36	2
2-Hexanone	10	U	10	2.5	ug/L			04/16/18 12:36	2
Isopropylbenzene	2.0	U	2.0	1.6	ug/L			04/16/18 12:36	2
Methyl acetate	5.0	U	5.0	2.6	ug/L			04/16/18 12:36	2
Methylcyclohexane	2.0	U	2.0	0.32	ug/L			04/16/18 12:36	2
Methylene Chloride	2.0	U	2.0	0.88	ug/L			04/16/18 12:36	2
4-Methyl-2-pentanone (MIBK)	10	U	10	4.2	ug/L			04/16/18 12:36	2
Methyl tert-butyl ether	2.0	U	2.0	0.32	ug/L			04/16/18 12:36	2
Styrene	2.0	U	2.0	1.5	ug/L			04/16/18 12:36	2
1,1,2,2-Tetrachloroethane	2.0	U	2.0	0.42	ug/L			04/16/18 12:36	2
Tetrachloroethene	**3.6**		2.0	0.72	ug/L			04/16/18 12:36	2
Toluene	2.0	U	2.0	1.0	ug/L			04/16/18 12:36	2
trans-1,2-Dichloroethene	**3.4**		2.0	1.8	ug/L			04/16/18 12:36	2
trans-1,3-Dichloropropene	2.0	U	2.0	0.74	ug/L			04/16/18 12:36	2
1,2,4-Trichlorobenzene	2.0	U	2.0	0.82	ug/L			04/16/18 12:36	2
1,1,1-Trichloroethane	2.0	U	2.0	1.6	ug/L			04/16/18 12:36	2
1,1,2-Trichloroethane	2.0	U	2.0	0.46	ug/L			04/16/18 12:36	2
Trichloroethene	**9.9**		2.0	0.92	ug/L			04/16/18 12:36	2
Trichlorofluoromethane	2.0	U	2.0	1.8	ug/L			04/16/18 12:36	2
1,1,2-Trichloro-1,2,2-trifluoroethane	**3.2**		2.0	0.62	ug/L			04/16/18 12:36	2
Vinyl chloride	**120**		2.0	1.8	ug/L			04/16/18 12:36	2
Xylenes, Total	4.0	U	4.0	1.3	ug/L			04/16/18 12:36	2

Client Sample ID: MW-A1

Date Collected: 04/10/18 11:47
Date Received: 04/11/18 01:00

Lab Sample ID: 480-133895-12

Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*73 - 120*		*04/16/18 12:36*	*2*
Dibromofluoromethane (Surr)	*100*		*75 - 123*		*04/16/18 12:36*	*2*
1,2-Dichloroethane-d4 (Surr)	*101*		*77 - 120*		*04/16/18 12:36*	*2*
Toluene-d8 (Surr)	*99*		*80 - 120*		*04/16/18 12:36*	*2*

Method: 8260C - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	80	U	80	24	ug/L			04/17/18 02:37	8
Benzene	**11**		8.0	3.3	ug/L			04/17/18 02:37	8
Bromodichloromethane	8.0	U	8.0	3.1	ug/L			04/17/18 02:37	8
Bromoform	8.0	U	8.0	2.1	ug/L			04/17/18 02:37	8
Bromomethane	8.0	U	8.0	5.5	ug/L			04/17/18 02:37	8
2-Butanone (MEK)	80	U	80	11	ug/L			04/17/18 02:37	8
Carbon disulfide	8.0	U	8.0	1.5	ug/L			04/17/18 02:37	8
Carbon tetrachloride	8.0	U	8.0	2.2	ug/L			04/17/18 02:37	8
Chlorobenzene	8.0	U	8.0	6.0	ug/L			04/17/18 02:37	8
Chloroethane	**43**		8.0	2.6	ug/L			04/17/18 02:37	8
Chloroform	8.0	U	8.0	2.7	ug/L			04/17/18 02:37	8
Chloromethane	8.0	U	8.0	2.8	ug/L			04/17/18 02:37	8
cis-1,2-Dichloroethene	**330**		8.0	6.5	ug/L			04/17/18 02:37	8
cis-1,3-Dichloropropene	8.0	U	8.0	2.9	ug/L			04/17/18 02:37	8
Cyclohexane	8.0	U	8.0	1.4	ug/L			04/17/18 02:37	8
Dibromochloromethane	8.0	U	8.0	2.6	ug/L			04/17/18 02:37	8
1,2-Dibromo-3-Chloropropane	8.0	U	8.0	3.1	ug/L			04/17/18 02:37	8
1,2-Dibromoethane	8.0	U	8.0	5.8	ug/L			04/17/18 02:37	8
1,2-Dichlorobenzene	8.0	U	8.0	6.3	ug/L			04/17/18 02:37	8
1,3-Dichlorobenzene	8.0	U	8.0	6.2	ug/L			04/17/18 02:37	8
1,4-Dichlorobenzene	8.0	U	8.0	6.7	ug/L			04/17/18 02:37	8
Dichlorodifluoromethane	8.0	U	8.0	5.4	ug/L			04/17/18 02:37	8
1,1-Dichloroethane	**21**		8.0	3.0	ug/L			04/17/18 02:37	8
1,2-Dichloroethane	8.0	U	8.0	1.7	ug/L			04/17/18 02:37	8
1,1-Dichloroethene	**2.8**	J	8.0	2.3	ug/L			04/17/18 02:37	8
1,2-Dichloropropane	8.0	U	8.0	5.8	ug/L			04/17/18 02:37	8
Ethylbenzene	8.0	U	8.0	5.9	ug/L			04/17/18 02:37	8
2-Hexanone	40	U	40	9.9	ug/L			04/17/18 02:37	8
Isopropylbenzene	8.0	U	8.0	6.3	ug/L			04/17/18 02:37	8
Methyl acetate	20	U	20	10	ug/L			04/17/18 02:37	8
Methylcyclohexane	8.0	U	8.0	1.3	ug/L			04/17/18 02:37	8
Methylene Chloride	8.0	U	8.0	3.5	ug/L			04/17/18 02:37	8
4-Methyl-2-pentanone (MIBK)	40	U	40	17	ug/L			04/17/18 02:37	8
Methyl tert-butyl ether	8.0	U	8.0	1.3	ug/L			04/17/18 02:37	8
Styrene	8.0	U	8.0	5.8	ug/L			04/17/18 02:37	8
1,1,2,2-Tetrachloroethane	8.0	U	8.0	1.7	ug/L			04/17/18 02:37	8
Tetrachloroethene	**4.7**	J	8.0	2.9	ug/L			04/17/18 02:37	8
Toluene	8.0	U	8.0	4.1	ug/L			04/17/18 02:37	8
trans-1,2-Dichloroethene	8.0	U	8.0	7.2	ug/L			04/17/18 02:37	8
trans-1,3-Dichloropropene	8.0	U	8.0	3.0	ug/L			04/17/18 02:37	8
1,2,4-Trichlorobenzene	8.0	U	8.0	3.3	ug/L			04/17/18 02:37	8
1,1,1-Trichloroethane	8.0	U	8.0	6.6	ug/L			04/17/18 02:37	8
1,1,2-Trichloroethane	8.0	U	8.0	1.8	ug/L			04/17/18 02:37	8

Client Sample ID: MW-A1

Date Collected: 04/10/18 11:47
Date Received: 04/11/18 01:00

Lab Sample ID: 480-133895-12
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	11		8.0	3.7	ug/L			04/17/18 02:37	8
Trichlorofluoromethane	8.0	U	8.0	7.0	ug/L			04/17/18 02:37	8
1,1,2-Trichloro-1,2,2-trifluoroethane	6.0	J	8.0	2.5	ug/L			04/17/18 02:37	8
Vinyl chloride	140		8.0	7.2	ug/L			04/17/18 02:37	8
Xylenes, Total	16	U	16	5.3	ug/L			04/17/18 02:37	8

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*73 - 120*		*04/17/18 02:37*	*8*
Dibromofluoromethane (Surr)	*99*		*75 - 123*		*04/17/18 02:37*	*8*
1,2-Dichloroethane-d4 (Surr)	*98*		*77 - 120*		*04/17/18 02:37*	*8*
Toluene-d8 (Surr)	*100*		*80 - 120*		*04/17/18 02:37*	*8*

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	19		0.050	0.019	mg/L		04/12/18 10:40	04/13/18 13:29	1
Manganese	7.7	B	0.0030	0.00040	mg/L		04/12/18 10:40	04/13/18 13:29	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	16		10	1.7	mg/L			04/13/18 17:39	5
TOC Result 1	10	B	1.0	0.43	mg/L			04/15/18 11:49	1
TOC Result 2	10	B	1.0	0.43	mg/L			04/15/18 11:49	1
Total Organic Carbon	10	B	1.0	0.43	mg/L			04/15/18 11:49	1

Client Sample ID: IW-A2

Date Collected: 04/10/18 12:41
Date Received: 04/11/18 01:00

Lab Sample ID: 480-133895-13
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	500	U	500	150	ug/L			04/16/18 13:01	50
Benzene	50	U	50	21	ug/L			04/16/18 13:01	50
Bromodichloromethane	50	U	50	20	ug/L			04/16/18 13:01	50
Bromoform	50	U	50	13	ug/L			04/16/18 13:01	50
Bromomethane	50	U	50	35	ug/L			04/16/18 13:01	50
2-Butanone (MEK)	500	U	500	66	ug/L			04/16/18 13:01	50
Carbon disulfide	50	U	50	9.5	ug/L			04/16/18 13:01	50
Carbon tetrachloride	50	U	50	14	ug/L			04/16/18 13:01	50
Chlorobenzene	50	U	50	38	ug/L			04/16/18 13:01	50
Chloroethane	50	U	50	16	ug/L			04/16/18 13:01	50
Chloroform	50	U	50	17	ug/L			04/16/18 13:01	50
Chloromethane	50	U	50	18	ug/L			04/16/18 13:01	50
cis-1,2-Dichloroethene	50	U	50	41	ug/L			04/16/18 13:01	50
cis-1,3-Dichloropropene	50	U	50	18	ug/L			04/16/18 13:01	50
Cyclohexane	50	U	50	9.0	ug/L			04/16/18 13:01	50
Dibromochloromethane	50	U	50	16	ug/L			04/16/18 13:01	50
1,2-Dibromo-3-Chloropropane	50	U	50	20	ug/L			04/16/18 13:01	50
1,2-Dibromoethane	50	U	50	37	ug/L			04/16/18 13:01	50
1,2-Dichlorobenzene	50	U	50	40	ug/L			04/16/18 13:01	50
1,3-Dichlorobenzene	50	U	50	39	ug/L			04/16/18 13:01	50

Client Sample ID: IW-A2
Date Collected: 04/10/18 12:41
Date Received: 04/11/18 01:00

Lab Sample ID: 480-133895-13
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	50	U	50	42	ug/L			04/16/18 13:01	50
Dichlorodifluoromethane	50	U	50	34	ug/L			04/16/18 13:01	50
1,1-Dichloroethane	50	U	50	19	ug/L			04/16/18 13:01	50
1,2-Dichloroethane	50	U	50	11	ug/L			04/16/18 13:01	50
1,1-Dichloroethene	50	U	50	15	ug/L			04/16/18 13:01	50
1,2-Dichloropropane	50	U	50	36	ug/L			04/16/18 13:01	50
Ethylbenzene	50	U	50	37	ug/L			04/16/18 13:01	50
2-Hexanone	250	U	250	62	ug/L			04/16/18 13:01	50
Isopropylbenzene	50	U	50	40	ug/L			04/16/18 13:01	50
Methyl acetate	130	U	130	65	ug/L			04/16/18 13:01	50
Methylcyclohexane	50	U	50	8.0	ug/L			04/16/18 13:01	50
Methylene Chloride	50	U	50	22	ug/L			04/16/18 13:01	50
4-Methyl-2-pentanone (MIBK)	250	U	250	110	ug/L			04/16/18 13:01	50
Methyl tert-butyl ether	50	U	50	8.0	ug/L			04/16/18 13:01	50
Styrene	50	U	50	37	ug/L			04/16/18 13:01	50
1,1,2,2-Tetrachloroethane	50	U	50	11	ug/L			04/16/18 13:01	50
Tetrachloroethene	50	U	50	18	ug/L			04/16/18 13:01	50
Toluene	50	U	50	26	ug/L			04/16/18 13:01	50
trans-1,2-Dichloroethene	50	U	50	45	ug/L			04/16/18 13:01	50
trans-1,3-Dichloropropene	50	U	50	19	ug/L			04/16/18 13:01	50
1,2,4-Trichlorobenzene	50	U	50	21	ug/L			04/16/18 13:01	50
1,1,1-Trichloroethane	50	U	50	41	ug/L			04/16/18 13:01	50
1,1,2-Trichloroethane	50	U	50	12	ug/L			04/16/18 13:01	50
Trichloroethene	50	U	50	23	ug/L			04/16/18 13:01	50
Trichlorofluoromethane	50	U	50	44	ug/L			04/16/18 13:01	50
1,1,2-Trichloro-1,2,2-trifluoroethane	50	U	50	16	ug/L			04/16/18 13:01	50
Vinyl chloride	50	U	50	45	ug/L			04/16/18 13:01	50
Xylenes, Total	**73**	**J**	100	33	ug/L			04/16/18 13:01	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*73 - 120*		*04/16/18 13:01*	*50*
Dibromofluoromethane (Surr)	*99*		*75 - 123*		*04/16/18 13:01*	*50*
1,2-Dichloroethane-d4 (Surr)	*99*		*77 - 120*		*04/16/18 13:01*	*50*
Toluene-d8 (Surr)	*100*		*80 - 120*		*04/16/18 13:01*	*50*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	750	U	750	150	ug/L			04/13/18 10:38	100
Ethene	700	U	700	150	ug/L			04/13/18 10:38	100
Methane	**13000**		400	100	ug/L			04/13/18 10:38	100

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**170**		0.050	0.019	mg/L		04/12/18 10:40	04/13/18 13:33	1
Manganese	**3.8**	**B**	0.0030	0.00040	mg/L		04/12/18 10:40	04/13/18 13:33	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	20	U	20	3.5	mg/L			04/13/18 17:53	10
TOC Result 1	**260**	**B**	4.0	1.7	mg/L			04/15/18 12:16	4

Client Sample ID: IW-A2

Date Collected: 04/10/18 12:41
Date Received: 04/11/18 01:00

Lab Sample ID: 480-133895-13
Matrix: Water

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TOC Result 2	260	B	4.0	1.7	mg/L			04/15/18 12:16	4
Total Organic Carbon	260	B	4.0	1.7	mg/L			04/15/18 12:16	4

Client Sample ID: MW-20

Date Collected: 04/10/18 14:14
Date Received: 04/11/18 01:00

Lab Sample ID: 480-133895-14
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	3.0	ug/L			04/17/18 03:03	1
Benzene	11		1.0	0.41	ug/L			04/17/18 03:03	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			04/17/18 03:03	1
Bromoform	1.0	U	1.0	0.26	ug/L			04/17/18 03:03	1
Bromomethane	1.0	U	1.0	0.69	ug/L			04/17/18 03:03	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			04/17/18 03:03	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			04/17/18 03:03	1
Carbon tetrachloride	0.58	J	1.0	0.27	ug/L			04/17/18 03:03	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			04/17/18 03:03	1
Chloroethane	1.0	U	1.0	0.32	ug/L			04/17/18 03:03	1
Chloroform	1.5		1.0	0.34	ug/L			04/17/18 03:03	1
Chloromethane	1.0	U	1.0	0.35	ug/L			04/17/18 03:03	1
cis-1,2-Dichloroethene	11		1.0	0.81	ug/L			04/17/18 03:03	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			04/17/18 03:03	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			04/17/18 03:03	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			04/17/18 03:03	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			04/17/18 03:03	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			04/17/18 03:03	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			04/17/18 03:03	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			04/17/18 03:03	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			04/17/18 03:03	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			04/17/18 03:03	1
1,1-Dichloroethane	0.46	J	1.0	0.38	ug/L			04/17/18 03:03	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			04/17/18 03:03	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			04/17/18 03:03	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			04/17/18 03:03	1
Ethylbenzene	10		1.0	0.74	ug/L			04/17/18 03:03	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			04/17/18 03:03	1
Isopropylbenzene	1.2		1.0	0.79	ug/L			04/17/18 03:03	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			04/17/18 03:03	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			04/17/18 03:03	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			04/17/18 03:03	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			04/17/18 03:03	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			04/17/18 03:03	1
Styrene	1.0	U	1.0	0.73	ug/L			04/17/18 03:03	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			04/17/18 03:03	1
Tetrachloroethene	55		1.0	0.36	ug/L			04/17/18 03:03	1
Toluene	1.1		1.0	0.51	ug/L			04/17/18 03:03	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			04/17/18 03:03	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			04/17/18 03:03	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			04/17/18 03:03	1

Client Sample ID: MW-20

Date Collected: 04/10/18 14:14
Date Received: 04/11/18 01:00

Lab Sample ID: 480-133895-14
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			04/17/18 03:03	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			04/17/18 03:03	1
Trichloroethene	**13**		1.0	0.46	ug/L			04/17/18 03:03	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			04/17/18 03:03	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			04/17/18 03:03	1
Vinyl chloride	**0.96**	**J**	1.0	0.90	ug/L			04/17/18 03:03	1
Xylenes, Total	**77**		2.0	0.66	ug/L			04/17/18 03:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*73 - 120*		*04/17/18 03:03*	*1*
Dibromofluoromethane (Surr)	*102*		*75 - 123*		*04/17/18 03:03*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*77 - 120*		*04/17/18 03:03*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*04/17/18 03:03*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	170	U	170	33	ug/L			04/13/18 10:56	22
Ethene	150	U	150	33	ug/L			04/13/18 10:56	22
Methane	**550**		88	22	ug/L			04/13/18 10:56	22

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**1.8**		0.050	0.019	mg/L		04/12/18 10:40	04/13/18 13:40	1
Manganese	**0.044**	**B**	0.0030	0.00040	mg/L		04/12/18 10:40	04/13/18 13:40	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**68**		10	1.7	mg/L			04/13/18 19:21	5
TOC Result 1	**4.0**	**B**	1.0	0.43	mg/L			04/15/18 12:44	1
TOC Result 2	**4.1**	**B**	1.0	0.43	mg/L			04/15/18 12:44	1
Total Organic Carbon	**4.0**	**B**	1.0	0.43	mg/L			04/15/18 12:44	1

Client Sample ID: MW-23

Date Collected: 04/10/18 12:12
Date Received: 04/11/18 01:00

Lab Sample ID: 480-133895-15
Matrix: Water

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**1.5**		0.050	0.019	mg/L		04/12/18 10:40	04/13/18 13:44	1
Manganese	**1.2**	**B**	0.0030	0.00040	mg/L		04/12/18 10:40	04/13/18 13:44	1

Client Sample ID: IW-B3

Date Collected: 04/10/18 13:02
Date Received: 04/11/18 01:00

Lab Sample ID: 480-133895-16
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	4000	U	4000	1200	ug/L			04/16/18 13:51	400
Benzene	400	U	400	160	ug/L			04/16/18 13:51	400
Bromodichloromethane	400	U	400	160	ug/L			04/16/18 13:51	400
Bromoform	400	U	400	100	ug/L			04/16/18 13:51	400

Client Sample ID: IW-B3
Date Collected: 04/10/18 13:02
Date Received: 04/11/18 01:00

Lab Sample ID: 480-133895-16
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromomethane	400	U	400	280	ug/L			04/16/18 13:51	400
2-Butanone (MEK)	4000	U	4000	530	ug/L			04/16/18 13:51	400
Carbon disulfide	400	U	400	76	ug/L			04/16/18 13:51	400
Carbon tetrachloride	400	U	400	110	ug/L			04/16/18 13:51	400
Chlorobenzene	400	U	400	300	ug/L			04/16/18 13:51	400
Chloroethane	400	U	400	130	ug/L			04/16/18 13:51	400
Chloroform	400	U	400	140	ug/L			04/16/18 13:51	400
Chloromethane	400	U	400	140	ug/L			04/16/18 13:51	400
cis-1,2-Dichloroethene	400	U	400	320	ug/L			04/16/18 13:51	400
cis-1,3-Dichloropropene	400	U	400	140	ug/L			04/16/18 13:51	400
Cyclohexane	400	U	400	72	ug/L			04/16/18 13:51	400
Dibromochloromethane	400	U	400	130	ug/L			04/16/18 13:51	400
1,2-Dibromo-3-Chloropropane	400	U	400	160	ug/L			04/16/18 13:51	400
1,2-Dibromoethane	400	U	400	290	ug/L			04/16/18 13:51	400
1,2-Dichlorobenzene	400	U	400	320	ug/L			04/16/18 13:51	400
1,3-Dichlorobenzene	400	U	400	310	ug/L			04/16/18 13:51	400
1,4-Dichlorobenzene	400	U	400	340	ug/L			04/16/18 13:51	400
Dichlorodifluoromethane	400	U	400	270	ug/L			04/16/18 13:51	400
1,1-Dichloroethane	400	U	400	150	ug/L			04/16/18 13:51	400
1,2-Dichloroethane	400	U	400	84	ug/L			04/16/18 13:51	400
1,1-Dichloroethene	400	U	400	120	ug/L			04/16/18 13:51	400
1,2-Dichloropropane	400	U	400	290	ug/L			04/16/18 13:51	400
Ethylbenzene	400	U	400	300	ug/L			04/16/18 13:51	400
2-Hexanone	2000	U	2000	500	ug/L			04/16/18 13:51	400
Isopropylbenzene	400	U	400	320	ug/L			04/16/18 13:51	400
Methyl acetate	1000	U	1000	520	ug/L			04/16/18 13:51	400
Methylcyclohexane	400	U	400	64	ug/L			04/16/18 13:51	400
Methylene Chloride	400	U	400	180	ug/L			04/16/18 13:51	400
4-Methyl-2-pentanone (MIBK)	2000	U	2000	840	ug/L			04/16/18 13:51	400
Methyl tert-butyl ether	400	U	400	64	ug/L			04/16/18 13:51	400
Styrene	400	U	400	290	ug/L			04/16/18 13:51	400
1,1,2,2-Tetrachloroethane	400	U	400	84	ug/L			04/16/18 13:51	400
Tetrachloroethene	400	U	400	140	ug/L			04/16/18 13:51	400
Toluene	400	U	400	200	ug/L			04/16/18 13:51	400
trans-1,2-Dichloroethene	400	U	400	360	ug/L			04/16/18 13:51	400
trans-1,3-Dichloropropene	400	U	400	150	ug/L			04/16/18 13:51	400
1,2,4-Trichlorobenzene	400	U	400	160	ug/L			04/16/18 13:51	400
1,1,1-Trichloroethane	400	U	400	330	ug/L			04/16/18 13:51	400
1,1,2-Trichloroethane	400	U	400	92	ug/L			04/16/18 13:51	400
Trichloroethene	400	U	400	180	ug/L			04/16/18 13:51	400
Trichlorofluoromethane	400	U	400	350	ug/L			04/16/18 13:51	400
1,1,2-Trichloro-1,2,2-trifluoroethane	400	U	400	120	ug/L			04/16/18 13:51	400
Vinyl chloride	400	U	400	360	ug/L			04/16/18 13:51	400
Xylenes, Total	800	U	800	260	ug/L			04/16/18 13:51	400

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*73 - 120*		*04/16/18 13:51*	*400*
Dibromofluoromethane (Surr)	*101*		*75 - 123*		*04/16/18 13:51*	*400*
1,2-Dichloroethane-d4 (Surr)	*103*		*77 - 120*		*04/16/18 13:51*	*400*
Toluene-d8 (Surr)	*100*		*80 - 120*		*04/16/18 13:51*	*400*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	750	U	750	150	ug/L			04/13/18 11:15	100
Ethene	700	U	700	150	ug/L			04/13/18 11:15	100
Methane	**14000**		400	100	ug/L			04/13/18 11:15	100

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**120**		0.050	0.019	mg/L		04/12/18 10:40	04/13/18 14:00	1
Manganese	**3.9**	**B**	0.0030	0.00040	mg/L		04/12/18 10:40	04/13/18 14:00	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	20	U	20	3.5	mg/L			04/13/18 19:36	10
TOC Result 1	**250**	**B**	4.0	1.7	mg/L			04/15/18 14:08	4
TOC Result 2	**250**	**B**	4.0	1.7	mg/L			04/15/18 14:08	4
Total Organic Carbon	**250**	**B**	4.0	1.7	mg/L			04/15/18 14:08	4

Client Sample ID: MW-24

Lab Sample ID: 480-133895-17

Date Collected: 04/10/18 10:17

Matrix: Water

Date Received: 04/11/18 01:00

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**2.6**		0.050	0.019	mg/L		04/12/18 10:40	04/13/18 14:07	1
Manganese	**10**	**B**	0.0030	0.00040	mg/L		04/12/18 10:40	04/13/18 14:07	1

Client Sample ID: MW-1

Lab Sample ID: 480-133895-18

Date Collected: 04/10/18 08:32

Matrix: Water

Date Received: 04/11/18 01:00

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	20	U	20	6.0	ug/L			04/16/18 14:16	2
Benzene	2.0	U	2.0	0.82	ug/L			04/16/18 14:16	2
Bromodichloromethane	2.0	U	2.0	0.78	ug/L			04/16/18 14:16	2
Bromoform	2.0	U	2.0	0.52	ug/L			04/16/18 14:16	2
Bromomethane	2.0	U	2.0	1.4	ug/L			04/16/18 14:16	2
2-Butanone (MEK)	20	U	20	2.6	ug/L			04/16/18 14:16	2
Carbon disulfide	2.0	U	2.0	0.38	ug/L			04/16/18 14:16	2
Carbon tetrachloride	2.0	U	2.0	0.54	ug/L			04/16/18 14:16	2
Chlorobenzene	2.0	U	2.0	1.5	ug/L			04/16/18 14:16	2
Chloroethane	2.0	U	2.0	0.64	ug/L			04/16/18 14:16	2
Chloroform	2.0	U	2.0	0.68	ug/L			04/16/18 14:16	2
Chloromethane	2.0	U	2.0	0.70	ug/L			04/16/18 14:16	2
cis-1,2-Dichloroethene	**160**	**F1**	2.0	1.6	ug/L			04/16/18 14:16	2
cis-1,3-Dichloropropene	2.0	U	2.0	0.72	ug/L			04/16/18 14:16	2
Cyclohexane	2.0	U	2.0	0.36	ug/L			04/16/18 14:16	2
Dibromochloromethane	2.0	U	2.0	0.64	ug/L			04/16/18 14:16	2
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.78	ug/L			04/16/18 14:16	2
1,2-Dibromoethane	2.0	U	2.0	1.5	ug/L			04/16/18 14:16	2
1,2-Dichlorobenzene	2.0	U	2.0	1.6	ug/L			04/16/18 14:16	2
1,3-Dichlorobenzene	2.0	U	2.0	1.6	ug/L			04/16/18 14:16	2
1,4-Dichlorobenzene	2.0	U	2.0	1.7	ug/L			04/16/18 14:16	2
Dichlorodifluoromethane	2.0	U	2.0	1.4	ug/L			04/16/18 14:16	2
1,1-Dichloroethane	**1.6**	**J**	2.0	0.76	ug/L			04/16/18 14:16	2

Client Sample ID: MW-1
Date Collected: 04/10/18 08:32
Date Received: 04/11/18 01:00

Lab Sample ID: 480-133895-18
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	2.0	U	2.0	0.42	ug/L			04/16/18 14:16	2
1,1-Dichloroethene	**2.1**		2.0	0.58	ug/L			04/16/18 14:16	2
1,2-Dichloropropane	2.0	U	2.0	1.4	ug/L			04/16/18 14:16	2
Ethylbenzene	2.0	U	2.0	1.5	ug/L			04/16/18 14:16	2
2-Hexanone	10	U	10	2.5	ug/L			04/16/18 14:16	2
Isopropylbenzene	2.0	U	2.0	1.6	ug/L			04/16/18 14:16	2
Methyl acetate	5.0	U	5.0	2.6	ug/L			04/16/18 14:16	2
Methylcyclohexane	2.0	U	2.0	0.32	ug/L			04/16/18 14:16	2
Methylene Chloride	2.0	U	2.0	0.88	ug/L			04/16/18 14:16	2
4-Methyl-2-pentanone (MIBK)	10	U	10	4.2	ug/L			04/16/18 14:16	2
Methyl tert-butyl ether	2.0	U	2.0	0.32	ug/L			04/16/18 14:16	2
Styrene	2.0	U	2.0	1.5	ug/L			04/16/18 14:16	2
1,1,2,2-Tetrachloroethane	2.0	U	2.0	0.42	ug/L			04/16/18 14:16	2
Tetrachloroethene	**0.95**	**J**	2.0	0.72	ug/L			04/16/18 14:16	2
Toluene	2.0	U	2.0	1.0	ug/L			04/16/18 14:16	2
trans-1,2-Dichloroethene	2.0	U	2.0	1.8	ug/L			04/16/18 14:16	2
trans-1,3-Dichloropropene	2.0	U	2.0	0.74	ug/L			04/16/18 14:16	2
1,2,4-Trichlorobenzene	2.0	U	2.0	0.82	ug/L			04/16/18 14:16	2
1,1,1-Trichloroethane	2.0	U	2.0	1.6	ug/L			04/16/18 14:16	2
1,1,2-Trichloroethane	2.0	U	2.0	0.46	ug/L			04/16/18 14:16	2
Trichloroethene	**34**		2.0	0.92	ug/L			04/16/18 14:16	2
Trichlorofluoromethane	2.0	U	2.0	1.8	ug/L			04/16/18 14:16	2
1,1,2-Trichloro-1,2,2-trifluoroethane	2.0	U	2.0	0.62	ug/L			04/16/18 14:16	2
Vinyl chloride	**7.4**		2.0	1.8	ug/L			04/16/18 14:16	2
Xylenes, Total	4.0	U	4.0	1.3	ug/L			04/16/18 14:16	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*73 - 120*		*04/16/18 14:16*	*2*
Dibromofluoromethane (Surr)	*99*		*75 - 123*		*04/16/18 14:16*	*2*
1,2-Dichloroethane-d4 (Surr)	*99*		*77 - 120*		*04/16/18 14:16*	*2*
Toluene-d8 (Surr)	*102*		*80 - 120*		*04/16/18 14:16*	*2*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	7.5	U	7.5	1.5	ug/L			04/12/18 10:01	1
Ethene	7.0	U	7.0	1.5	ug/L			04/12/18 10:01	1
Methane	4.0	U	4.0	1.0	ug/L			04/12/18 10:01	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**0.019**	**J**	0.050	0.019	mg/L		04/12/18 10:40	04/13/18 14:11	1
Manganese	**0.013**	**B**	0.0030	0.00040	mg/L		04/12/18 10:40	04/13/18 14:11	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**31**	**B**	10	1.7	mg/L			04/12/18 20:21	5
TOC Result 1	**1.9**	**B** UB	1.0	0.43	mg/L			04/15/18 14:36	1
TOC Result 2	**1.6**	**B** UB	1.0	0.43	mg/L			04/15/18 14:36	1
Total Organic Carbon	**1.7**	**B** UB	1.0	0.43	mg/L			04/15/18 14:36	1

Client: Ashland LLC
Project/Site: Ashland Rensselaer

TestAmerica Job ID: 480-133895-1

Client Sample ID: MW-B1
Date Collected: 04/10/18 11:17
Date Received: 04/11/18 01:00

Lab Sample ID: 480-133895-19
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	20	U	20	6.0	ug/L			04/16/18 14:41	2
Benzene	2.0	U	2.0	0.82	ug/L			04/16/18 14:41	2
Bromodichloromethane	2.0	U	2.0	0.78	ug/L			04/16/18 14:41	2
Bromoform	2.0	U	2.0	0.52	ug/L			04/16/18 14:41	2
Bromomethane	2.0	U	2.0	1.4	ug/L			04/16/18 14:41	2
2-Butanone (MEK)	20	U	20	2.6	ug/L			04/16/18 14:41	2
Carbon disulfide	2.0	U	2.0	0.38	ug/L			04/16/18 14:41	2
Carbon tetrachloride	2.0	U	2.0	0.54	ug/L			04/16/18 14:41	2
Chlorobenzene	2.0	U	2.0	1.5	ug/L			04/16/18 14:41	2
Chloroethane	2.0	U	2.0	0.64	ug/L			04/16/18 14:41	2
Chloroform	2.0	U	2.0	0.68	ug/L			04/16/18 14:41	2
Chloromethane	2.0	U	2.0	0.70	ug/L			04/16/18 14:41	2
cis-1,2-Dichloroethene	**17**		2.0	1.6	ug/L			04/16/18 14:41	2
cis-1,3-Dichloropropene	2.0	U	2.0	0.72	ug/L			04/16/18 14:41	2
Cyclohexane	2.0	U	2.0	0.36	ug/L			04/16/18 14:41	2
Dibromochloromethane	2.0	U	2.0	0.64	ug/L			04/16/18 14:41	2
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.78	ug/L			04/16/18 14:41	2
1,2-Dibromoethane	2.0	U	2.0	1.5	ug/L			04/16/18 14:41	2
1,2-Dichlorobenzene	2.0	U	2.0	1.6	ug/L			04/16/18 14:41	2
1,3-Dichlorobenzene	2.0	U	2.0	1.6	ug/L			04/16/18 14:41	2
1,4-Dichlorobenzene	2.0	U	2.0	1.7	ug/L			04/16/18 14:41	2
Dichlorodifluoromethane	2.0	U	2.0	1.4	ug/L			04/16/18 14:41	2
1,1-Dichloroethane	2.0	U	2.0	0.76	ug/L			04/16/18 14:41	2
1,2-Dichloroethane	2.0	U	2.0	0.42	ug/L			04/16/18 14:41	2
1,1-Dichloroethene	2.0	U	2.0	0.58	ug/L			04/16/18 14:41	2
1,2-Dichloropropane	2.0	U	2.0	1.4	ug/L			04/16/18 14:41	2
Ethylbenzene	2.0	U	2.0	1.5	ug/L			04/16/18 14:41	2
2-Hexanone	10	U	10	2.5	ug/L			04/16/18 14:41	2
Isopropylbenzene	2.0	U	2.0	1.6	ug/L			04/16/18 14:41	2
Methyl acetate	5.0	U	5.0	2.6	ug/L			04/16/18 14:41	2
Methylcyclohexane	2.0	U	2.0	0.32	ug/L			04/16/18 14:41	2
Methylene Chloride	2.0	U	2.0	0.88	ug/L			04/16/18 14:41	2
4-Methyl-2-pentanone (MIBK)	10	U	10	4.2	ug/L			04/16/18 14:41	2
Methyl tert-butyl ether	2.0	U	2.0	0.32	ug/L			04/16/18 14:41	2
Styrene	2.0	U	2.0	1.5	ug/L			04/16/18 14:41	2
1,1,2,2-Tetrachloroethane	2.0	U	2.0	0.42	ug/L			04/16/18 14:41	2
Tetrachloroethene	2.0	U	2.0	0.72	ug/L			04/16/18 14:41	2
Toluene	2.0	U	2.0	1.0	ug/L			04/16/18 14:41	2
trans-1,2-Dichloroethene	2.0	U	2.0	1.8	ug/L			04/16/18 14:41	2
trans-1,3-Dichloropropene	2.0	U	2.0	0.74	ug/L			04/16/18 14:41	2
1,2,4-Trichlorobenzene	2.0	U	2.0	0.82	ug/L			04/16/18 14:41	2
1,1,1-Trichloroethane	2.0	U	2.0	1.6	ug/L			04/16/18 14:41	2
1,1,2-Trichloroethane	2.0	U	2.0	0.46	ug/L			04/16/18 14:41	2
Trichloroethene	2.0	U	2.0	0.92	ug/L			04/16/18 14:41	2
Trichlorofluoromethane	2.0	U	2.0	1.8	ug/L			04/16/18 14:41	2
1,1,2-Trichloro-1,2,2-trifluoroethane	2.0	U	2.0	0.62	ug/L			04/16/18 14:41	2
Vinyl chloride	**7.4**		2.0	1.8	ug/L			04/16/18 14:41	2
Xylenes, Total	4.0	U	4.0	1.3	ug/L			04/16/18 14:41	2

Client Sample ID: MW-B1

Date Collected: 04/10/18 11:17
Date Received: 04/11/18 01:00

Lab Sample ID: 480-133895-19

Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*73 - 120*		*04/16/18 14:41*	*2*
Dibromofluoromethane (Surr)	*103*		*75 - 123*		*04/16/18 14:41*	*2*
1,2-Dichloroethane-d4 (Surr)	*100*		*77 - 120*		*04/16/18 14:41*	*2*
Toluene-d8 (Surr)	*100*		*80 - 120*		*04/16/18 14:41*	*2*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	750	U	750	150	ug/L			04/13/18 11:34	100
Ethene	700	U	700	150	ug/L			04/13/18 11:34	100
Methane	**13000**		400	100	ug/L			04/13/18 11:34	100

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**20**		0.050	0.019	mg/L		04/12/18 10:40	04/13/18 14:30	1
Manganese	**4.2**	**B**	0.0030	0.00040	mg/L		04/12/18 10:40	04/13/18 14:30	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**300**		20	3.5	mg/L			04/13/18 19:50	10
TOC Result 1	**21**	**B**	1.0	0.43	mg/L			04/15/18 15:59	1
TOC Result 2	**21**	**B**	1.0	0.43	mg/L			04/15/18 15:59	1
Total Organic Carbon	**21**	**B**	1.0	0.43	mg/L			04/15/18 15:59	1

Client Sample ID: FB-20180410

Date Collected: 04/10/18 14:50
Date Received: 04/11/18 01:00

Lab Sample ID: 480-133895-20

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	3.0	ug/L			04/16/18 15:07	1
Benzene	1.0	U	1.0	0.41	ug/L			04/16/18 15:07	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			04/16/18 15:07	1
Bromoform	1.0	U	1.0	0.26	ug/L			04/16/18 15:07	1
Bromomethane	1.0	U	1.0	0.69	ug/L			04/16/18 15:07	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			04/16/18 15:07	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			04/16/18 15:07	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			04/16/18 15:07	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			04/16/18 15:07	1
Chloroethane	1.0	U	1.0	0.32	ug/L			04/16/18 15:07	1
Chloroform	1.0	U	1.0	0.34	ug/L			04/16/18 15:07	1
Chloromethane	1.0	U	1.0	0.35	ug/L			04/16/18 15:07	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			04/16/18 15:07	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			04/16/18 15:07	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			04/16/18 15:07	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			04/16/18 15:07	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			04/16/18 15:07	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			04/16/18 15:07	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			04/16/18 15:07	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			04/16/18 15:07	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			04/16/18 15:07	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			04/16/18 15:07	1

Client Sample ID: FB-20180410
Date Collected: 04/10/18 14:50
Date Received: 04/11/18 01:00

Lab Sample ID: 480-133895-20
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			04/16/18 15:07	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			04/16/18 15:07	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			04/16/18 15:07	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			04/16/18 15:07	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			04/16/18 15:07	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			04/16/18 15:07	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			04/16/18 15:07	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			04/16/18 15:07	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			04/16/18 15:07	1
Methylene Chloride	**5.3**		1.0	0.44	ug/L			04/16/18 15:07	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			04/16/18 15:07	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			04/16/18 15:07	1
Styrene	1.0	U	1.0	0.73	ug/L			04/16/18 15:07	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			04/16/18 15:07	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			04/16/18 15:07	1
Toluene	1.0	U	1.0	0.51	ug/L			04/16/18 15:07	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			04/16/18 15:07	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			04/16/18 15:07	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			04/16/18 15:07	1
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			04/16/18 15:07	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			04/16/18 15:07	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			04/16/18 15:07	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			04/16/18 15:07	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			04/16/18 15:07	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			04/16/18 15:07	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			04/16/18 15:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*73 - 120*		*04/16/18 15:07*	*1*
Dibromofluoromethane (Surr)	*99*		*75 - 123*		*04/16/18 15:07*	*1*
1,2-Dichloroethane-d4 (Surr)	*99*		*77 - 120*		*04/16/18 15:07*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*04/16/18 15:07*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	7.5	U	7.5	1.5	ug/L			04/12/18 14:31	1
Ethene	7.0	U	7.0	1.5	ug/L			04/12/18 14:31	1
Methane	4.0	U	4.0	1.0	ug/L			04/12/18 14:31	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.050	U	0.050	0.019	mg/L		04/12/18 10:40	04/13/18 14:46	1
Manganese	0.0030	U	0.0030	0.00040	mg/L		04/12/18 10:40	04/13/18 14:46	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	2.0	U	2.0	0.35	mg/L			04/13/18 20:05	1
TOC Result 1	1.0	U	1.0	0.43	mg/L			04/15/18 16:27	1
TOC Result 2	1.0	U	1.0	0.43	mg/L			04/15/18 16:27	1
Total Organic Carbon	1.0	U	1.0	0.43	mg/L			04/15/18 16:27	1

Client: Ashland LLC
Project/Site: Ashland Rensselaer

TestAmerica Job ID: 480-133895-1

Client Sample ID: Trip Blank
Date Collected: 04/10/18 00:00
Date Received: 04/11/18 01:00

Lab Sample ID: 480-133895-21
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	3.0	ug/L			04/16/18 15:32	1
Benzene	1.0	U	1.0	0.41	ug/L			04/16/18 15:32	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			04/16/18 15:32	1
Bromoform	1.0	U	1.0	0.26	ug/L			04/16/18 15:32	1
Bromomethane	1.0	U	1.0	0.69	ug/L			04/16/18 15:32	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			04/16/18 15:32	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			04/16/18 15:32	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			04/16/18 15:32	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			04/16/18 15:32	1
Chloroethane	1.0	U	1.0	0.32	ug/L			04/16/18 15:32	1
Chloroform	1.0	U	1.0	0.34	ug/L			04/16/18 15:32	1
Chloromethane	1.0	U	1.0	0.35	ug/L			04/16/18 15:32	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			04/16/18 15:32	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			04/16/18 15:32	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			04/16/18 15:32	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			04/16/18 15:32	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			04/16/18 15:32	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			04/16/18 15:32	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			04/16/18 15:32	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			04/16/18 15:32	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			04/16/18 15:32	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			04/16/18 15:32	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			04/16/18 15:32	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			04/16/18 15:32	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			04/16/18 15:32	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			04/16/18 15:32	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			04/16/18 15:32	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			04/16/18 15:32	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			04/16/18 15:32	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			04/16/18 15:32	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			04/16/18 15:32	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			04/16/18 15:32	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			04/16/18 15:32	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			04/16/18 15:32	1
Styrene	1.0	U	1.0	0.73	ug/L			04/16/18 15:32	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			04/16/18 15:32	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			04/16/18 15:32	1
Toluene	1.0	U	1.0	0.51	ug/L			04/16/18 15:32	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			04/16/18 15:32	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			04/16/18 15:32	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			04/16/18 15:32	1
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			04/16/18 15:32	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			04/16/18 15:32	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			04/16/18 15:32	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			04/16/18 15:32	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			04/16/18 15:32	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			04/16/18 15:32	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			04/16/18 15:32	1

Client: Ashland LLC
Project/Site: Ashland Rensselaer

TestAmerica Job ID: 480-133895-1

Client Sample ID: Trip Blank
Date Collected: 04/10/18 00:00
Date Received: 04/11/18 01:00

Lab Sample ID: 480-133895-21
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		73 - 120		04/16/18 15:32	1
Dibromofluoromethane (Surr)	101		75 - 123		04/16/18 15:32	1
1,2-Dichloroethane-d4 (Surr)	100		77 - 120		04/16/18 15:32	1
Toluene-d8 (Surr)	101		80 - 120		04/16/18 15:32	1

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Phone (912) 354-7858 Fax (912) 352-0165

480501-Albany

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

480-134512 COC

Client Information	Sampler: ES	Lab PM: Barnett, Eddie T	COC No: 680-92914-37021.1
Client Contact: Joe Zaso	Phone: (518) 250-7300	E-Mail: eddie.barnett@testamericainc.com	Page: Page 1 of 1
Company: ARCADIS U.S. Inc			Job #
Address: 6041 Wallace Road Extension Suite 300	Due Date Requested:		
City: Wexford	TAT Requested (days): Standard		
State, Zip: PA, 15090			
Phone: 614-790-2274(Tel)	PO #: PO304761 Task 400		
Email: joseph.zaso@arcadis.com	WO #:		
Project Name: Ashland Rensselaer	Project #: 68016621		
Site:	SSOW#:		

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9060A - (MOD) Local Method	RSK_175 - Methane, Ethane, Ethene	300.0_28D - (MOD) Local Method	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A	A	N		
MW-A1	4/19/18	1030	G	Water				✓			
MW-22		1010		Water			✓		✓		
MW-23		0935		Water							
MW-24		0910		Water							

RK 4-19-18

Possible Hazard Identification
☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☑ Archive For Standard Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Emmanuel Sousa	4/19/18 1430	ARCADIS	Rachel Fowler	4-19-18 1430	TA
Rachel Fowler	4-19-18 1800	TA		4-20-18 0100	TA

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 1.1 #1

Ver: 08/04/2016

Client Sample ID: MW-A1

Date Collected: 04/19/18 10:30
Date Received: 04/20/18 01:00

Lab Sample ID: 480-134512-1
Matrix: Water

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	100		83	17	ug/L			04/20/18 18:13	11
Ethene	21	J	77	17	ug/L			04/20/18 18:13	11

Method: RSK-175 - Dissolved Gases (GC) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	7500		88	22	ug/L			04/23/18 12:47	22

Client Sample ID: MW-22

Date Collected: 04/19/18 10:10
Date Received: 04/20/18 01:00

Lab Sample ID: 480-134512-2
Matrix: Water

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	240	J	330	66	ug/L			04/20/18 18:31	44
Ethene	210	J	310	66	ug/L			04/20/18 18:31	44
Methane	4400		180	44	ug/L			04/20/18 18:31	44

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	20	U	20	3.5	mg/L			04/24/18 23:44	10
TOC Result 1	600		20	8.7	mg/L			04/23/18 10:05	20
TOC Result 2	600		20	8.7	mg/L			04/23/18 10:05	20
Total Organic Carbon	600		20	8.7	mg/L			04/23/18 10:05	20

Client Sample ID: MW-23

Date Collected: 04/19/18 09:35
Date Received: 04/20/18 01:00

Lab Sample ID: 480-134512-3
Matrix: Water

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	170	U	170	33	ug/L			04/20/18 18:48	22
Ethene	150	U	150	33	ug/L			04/20/18 18:48	22

Method: RSK-175 - Dissolved Gases (GC) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	12000		180	44	ug/L			04/23/18 13:04	44

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	190		20	3.5	mg/L			04/24/18 23:59	10
TOC Result 1	31		1.0	0.43	mg/L			04/23/18 10:35	1
TOC Result 2	31		1.0	0.43	mg/L			04/23/18 10:35	1
Total Organic Carbon	31		1.0	0.43	mg/L			04/23/18 10:35	1

Client Sample ID: MW-24

Date Collected: 04/19/18 09:10
Date Received: 04/20/18 01:00

Lab Sample ID: 480-134512-4
Matrix: Water

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	170	U	170	33	ug/L			04/20/18 19:23	22

Client: Ashland LLC
Project/Site: Ashland Rensselaer

TestAmerica Job ID: 480-134512-1

Client Sample ID: MW-24
Date Collected: 04/19/18 09:10
Date Received: 04/20/18 01:00

Lab Sample ID: 480-134512-4
Matrix: Water

Method: RSK-175 - Dissolved Gases (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethene	33	J	150	33	ug/L			04/20/18 19:23	22
Methane	1300		88	22	ug/L			04/20/18 19:23	22

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	23		10	1.7	mg/L			04/25/18 00:13	5
TOC Result 1	28		1.0	0.43	mg/L			04/23/18 12:05	1
TOC Result 2	28		1.0	0.43	mg/L			04/23/18 12:05	1
Total Organic Carbon	28		1.0	0.43	mg/L			04/23/18 12:05	1

DATA VALIDATION CHECKLIST **Ashland Rensselaer**

ARCADIS, Inc.
6041 Wallace Road Extension, Suite 300,
Wexford, PA 15090
Tel. 724-934-9528

Sample Team:	ARCADIS
Sample Matrix:	Water
Lab Project Manager:	Eddie Barnett
SDG Numbers:	480-142989-1, 480-142989-2 and 480-142992-1
Analyses:	VOCs – 8260C, Dissolved Gases – RSK 175 and, TOC - 9060A
QA Reporting Level:	ARCADIS, Level II
ARCADIS Project Manager:	Denise Pereira

Environmental Project: Ashland

Project Number: NYNJ8000.NJ14

Data were reviewed in accordance with USEPA National Functional Guidelines of January 2017 (Organic Data Review and Inorganic Data Review) and NJDEP Technical Guidance documents (April 2014).

The data verification was performed at a Level II and included review of data package completeness, Laboratory Control Sample and Laboratory Control Sample Duplicate recoveries, Method Blanks, Field Blanks, Trip Blanks, Matrix Spike and Matrix Spike Duplicate recoveries, Field Duplicates, Laboratory Duplicate results and Holding Time compliance. Laboratory calculations were not verified. Only QA/QC results and analytical data associated with analytes/compounds of interest were reviewed for this validation.

Only QA/QC results and analytical data associated with analytes/compounds of interest were reviewed for this validation.

ANALYTICAL DATA PACKAGE DOCUMENTATION

The following samples were included in this data validation:

SDG Number	Sample ID	Sample Date	Parent Sample
480-142989-1	MW-A1-100418	10/04/18	
480-142989-1	MW-19-100418	10/04/18	
480-142989-1	DUP-1-100418	10/04/18	MW-19-100418
480-142989-1	FB-2-100418	10/04/18	
480-142989-1	IW-A2-100418	10/04/18	
480-142989-1	MW-13-100418	10/04/18	
480-142989-1	MW-20-100418	10/04/18	
480-142989-1	Trip Blank	10/04/18	
480-142989-2	MW-25-100418	10/04/18	
480-142989-2	Trip Blank	10/04/18	
480-142992-1	IP-1-100318	10/03/18	
480-142992-1	MW-16-100318	10/03/18	
480-142992-1	MW-18-100318	10/03/18	
480-142992-1	MW-B1-100318	10/03/18	
480-142992-1	FB-1-100318	10/03/18	
480-142992-1	IMP-3-100318	10/03/18	
480-142992-1	IW-B3-100318	10/03/18	
480-142992-1	MW-17-100318	10/03/18	
480-142992-1	MW-21-100318	10/03/18	
480-142992-1	Trip Blank	10/03/18	

I. GENERAL INFORMATION

ITEMS REVIEWED	REPORTED/REVIEWED		PERFORMANCE ACCEPTABLE		ITEM NOT REQUIRED
	NO	YES	NO	YES	
1. Chain of Custody		X		X	
2. Sampling dates and times		X		X	
3. Sample type on COC		X		X	
4. Field QC samples		X		X	
5. Case Narrative		X		X	
6. Sample Receipt Condition		X		X	

The analytical report was complete with the following exceptions or notations.

Comments:

II. VOLATILES

ITEMS REVIEWED	REPORTED/REVIEWED		PERFORMANCE ACCEPTABLE		ITEM NOT REQUIRED
	NO	YES	NO	YES	
1. Holding times		X	X		
2. Reporting limits		X		X	
3. Blanks					
A. Method Blanks		X		X	
B. Field Blanks/Equipment Blanks		X	X		
C. Trip Blanks		X	X		
4. Laboratory control sample (LCS) %R		X		X	
5. Laboratory control sample duplicate (LCSD) %R					X
6. LCS/LCSD RPD					X
7. Matrix spike (MS) %R		X	X		
8. Matrix spike duplicate (MSD) %R		X	X		
9. MS/MSD RPD		X		X	
10. Surrogate Recoveries		X		X	
11. Field Duplicate Comparison		X		X	

COMMENTS: Performance was acceptable, with the following exceptions and notes.

Note: There were a number of sample (MW-25-100418, IP-1-100318, MW-16-100318 and MW-18-100318) results that were greater than the instrument calibration range and flagged by the laboratory "E". The laboratory analyzed at a dilution and were flagged as being reported from a secondary dilution "D".

1. pH of these samples IW-A2-100418 and IW-B3-100318 were greater than 2 SU and analyzed beyond 7 days from sample collection. Detected compound results were qualified as estimated (J) and non-detects were qualified as rejected (R).

3A. Carbon disulfide was detected in five method blanks. The associated field samples were non-detect; therefore, qualification of the data was not warranted.

3B-C. Chloroform was detected in two field blanks and two trip blanks. The associated field sample results were qualified as non-detect for chloroform if the sample concentrations were less than five times the blank value.

Tetrachloroethene was detected in one field blank. The associated field sample result was qualified as non-detect for tetrachloroethene, if the sample concentration was less than five times the blank value.

Methylene chloride was detected in two trip blanks. The associated field sample results were qualified as non-detect for methylene chloride if the sample concentration were less than five times the blank value.

Acetone was detected in two trip blanks. The associated field sample results were qualified as non-detect for acetone if the sample concentration were less than five times the blank value.

Bromodichloromethane was detected one trip blank. The associated field sample result was non-detect; therefore, qualification of the data was not warranted.

II. VOLATILES

4-6. The recovery of 2-butanone (MEK) was above the control limit in the LCS for batch 439286. The associated field samples were non-detect for this compound; therefore, qualification of the data was not warranted.

7-9. Sample MW-19-100418 was used as the MS/MSD. The compound cis-1,2-dichloroethene was below the lower control limit in MS and MSD. The detected results of cis-1,2-dichloroethene results in parent and associated field duplicate samples were qualified as estimated.

11. Sample DUP-1-100418 was collected as a field duplicate of MW-19-100418. The RPDs were acceptable at less than 30%.

III. DISSOLVED GASES

ITEMS REVIEWED	REPORTED/REVIEWED		PERFORMANCE ACCEPTABLE		ITEM NOT REQUIRED
	NO	YES	NO	YES	
1. Holding times		X		X	
2. Reporting limits		X		X	
3. Blanks					
A. Method Blanks		X		X	
B. Field Blanks/Equipment Blanks		X		X	
4. Laboratory control sample (LCS) %R		X		X	
5. Laboratory control sample duplicate (LCSD) %R	X				X
6. LCS/LCSD RPD	X				X
7. Matrix spike (MS) %R		X		X	
8. MSD %R		X		X	
9. MS/MSD RPD		X		X	
10. Field/Lab Duplicate Comparison		X		X	

COMMENTS: Performance was acceptable, with the following exceptions and notes.

7-9. Sample MW-19-100418 was used as the MS/MSD. Methane, ethane and ethene were above the upper control limit. The detected results of ethane and ethene were qualified as estimated in parent and associated field duplicate samples. Methane concentration in parent sample was greater than four times of the spike concentration; therefore, qualification of the data was not warranted.

10. Sample DUP-1-100418 was collected as a field duplicate of MW-19-100418. The RPDs were acceptable at less than 30%.

IV. GENRAL CHEMISTRY (TOC)

ITEMS REVIEWED	REPORTED/REVIEWED		PERFORMANCE ACCEPTABLE		ITEM NOT REQUIRED
	NO	YES	NO	YES	
1. Holding times		X		X	
2. Reporting limits		X		X	
3. Blanks					
A. Method Blanks		X	X	X	
B. Field Blanks/Equipment Blanks		X	X		
4. Laboratory control sample (LCS) %R		X		X	
5. Laboratory control sample duplicate (LCSD) %R	X				X
6. LCS/LCSD RPD	X				X
7. Matrix spike (MS) %R		X		X	
8. MSD %R		X		X	
9. MS/MSD RPD		X		X	
10. Field/Lab Duplicate Comparison		X		X	

COMMENTS: Performance was acceptable, with the following exceptions and notes.

3A. TOC was detected in two method blanks. The associated field samples were qualified as non-detect for TOC if the sample concentrations were less than five times the blank value.

3B. TOC was detected in one field blank. The associated field samples were qualified as non-detect for TOC if the sample concentrations were less than five times the blank value.

7-9. Sample MW-19-100418 was used as the MS/MSD for TOC. The recoveries and RPDs were acceptable.

10. Sample DUP-1-100418 was collected as a field duplicate of MW-19-100418. The RPDs were acceptable at less than 30%.

IV. GENRAL CHEMISTRY (TOC)

VALIDATION PERFORMED BY: Suresh

SIGNATURE: 

DATE: October 24, 2018

PEER REVIEW BY: Dennis Capria

DATE: November 2, 2018

CHAIN OF CUSTODY/
CORRECTED SAMPLE ANALYSIS DATA SHEET

TestAmerica Buffalo
10 Hazelwood Drive
Amherst, NY 14228
Phone: 716.691.2600 Fax: 716.691.7991

Chain of Custody Record 243215

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.
TAL-8210 (0713)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager: Joe Zaso	Site Contact: K. Bothwell	Date: 10/4/18	COC No:
Company Name: ARCADIS	Tel/Fax:	Lab Contact:	Carrier:	1 of 1 COCs
Address: 855 RTE 146 STE 210	Analysis Turnaround Time			Sampler: ES/JS
City/State/Zip: Clifton Park, NY 12065	☑ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
Phone: (518) 250-7300	TAT if different from Below: Standard			Walk-in Client:
Fax:	☐ 2 weeks ☐ 1 week ☐ 2 days ☐ 1 day			Lab Sampling:
Project Name: Ashland Rer				Job / SDG No.:
Site:				480-142989 COC
P O #				

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	VOCs	TOCs	RSK	Sample Specific Notes:
IW-A2-100418	10/4/18	0850	G	W	5			✓	✓		
MW-A1-100418		0950	|	|	8			✓	✓	✓	
MW-13-100418		1010	|	|	5			✓	✓		
MW-19-100418		1115	|	|	2			✓	✓	✓	MS/MSD
MW-20-100418		0830	|	|	3			✓			
DUP-1-100418		—	|	|	8			✓	✓	✓	
FB-2-100418		1155	↓	|	8			✓	✓	✓	
Trip Blank		—	—	↓	1			✓			

TAT 10-4-18

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☐ Disposal by Lab ☑ Archive for Standard Months

Special Instructions/QC Requirements & Comments:
* Bill to Ashland PM → Shannon Lloyd (GW Sampling)

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: 2.0 Corr'd: _____ Therm ID No.: 3

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Jessica Stegenga / Emmanuel Sousa	ARCADIS	10/4/18 1353	Tim Knollmyer	TA	10-4-18 1353
Tim Knollmyer	TA	10-4-18 1800		TAB	10/5/18 0115
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Client Sample ID: IW-A2-100418
Date Collected: 10/04/18 08:50
Date Received: 10/05/18 01:15

Lab Sample ID: 480-142989-1
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	400	U R	400	120	ug/L			10/12/18 04:04	40
Benzene	40	U	40	16	ug/L			10/12/18 04:04	40
Bromodichloromethane	40	U	40	16	ug/L			10/12/18 04:04	40
Bromoform	40	U	40	10	ug/L			10/12/18 04:04	40
Bromomethane	40	U	40	28	ug/L			10/12/18 04:04	40
2-Butanone (MEK)	400	U	400	53	ug/L			10/12/18 04:04	40
Carbon disulfide	40	U	40	7.6	ug/L			10/12/18 04:04	40
Carbon tetrachloride	40	U	40	11	ug/L			10/12/18 04:04	40
Chlorobenzene	40	U	40	30	ug/L			10/12/18 04:04	40
Chloroethane	40	U	40	13	ug/L			10/12/18 04:04	40
Chloroform	40	U	40	14	ug/L			10/12/18 04:04	40
Chloromethane	40	U	40	14	ug/L			10/12/18 04:04	40
cis-1,2-Dichloroethene	40	U	40	32	ug/L			10/12/18 04:04	40
cis-1,3-Dichloropropene	40	U	40	14	ug/L			10/12/18 04:04	40
Cyclohexane	40	U	40	7.2	ug/L			10/12/18 04:04	40
Dibromochloromethane	40	U	40	13	ug/L			10/12/18 04:04	40
1,2-Dibromo-3-Chloropropane	40	U	40	16	ug/L			10/12/18 04:04	40
1,2-Dibromoethane	40	U	40	29	ug/L			10/12/18 04:04	40
1,2-Dichlorobenzene	40	U	40	32	ug/L			10/12/18 04:04	40
1,3-Dichlorobenzene	40	U	40	31	ug/L			10/12/18 04:04	40
1,4-Dichlorobenzene	40	U	40	34	ug/L			10/12/18 04:04	40
Dichlorodifluoromethane	40	U	40	27	ug/L			10/12/18 04:04	40
1,1-Dichloroethane	40	U	40	15	ug/L			10/12/18 04:04	40
1,2-Dichloroethane	40	U	40	8.4	ug/L			10/12/18 04:04	40
1,1-Dichloroethene	40	U	40	12	ug/L			10/12/18 04:04	40
1,2-Dichloropropane	40	U	40	29	ug/L			10/12/18 04:04	40
Ethylbenzene	40	U	40	30	ug/L			10/12/18 04:04	40
2-Hexanone	200	U	200	50	ug/L			10/12/18 04:04	40
Isopropylbenzene	40	U	40	32	ug/L			10/12/18 04:04	40
Methyl acetate	100	U	100	52	ug/L			10/12/18 04:04	40
Methylcyclohexane	40	U	40	6.4	ug/L			10/12/18 04:04	40
Methylene Chloride	40	U	40	18	ug/L			10/12/18 04:04	40
4-Methyl-2-pentanone (MIBK)	200	U	200	84	ug/L			10/12/18 04:04	40
Methyl tert-butyl ether	40	U	40	6.4	ug/L			10/12/18 04:04	40
Styrene	40	U	40	29	ug/L			10/12/18 04:04	40
1,1,2,2-Tetrachloroethane	40	U	40	8.4	ug/L			10/12/18 04:04	40
Tetrachloroethene	40	U	40	14	ug/L			10/12/18 04:04	40
Toluene	40	U	40	20	ug/L			10/12/18 04:04	40
trans-1,2-Dichloroethene	40	U	40	36	ug/L			10/12/18 04:04	40
trans-1,3-Dichloropropene	40	U	40	15	ug/L			10/12/18 04:04	40
1,2,4-Trichlorobenzene	40	U	40	16	ug/L			10/12/18 04:04	40
1,1,1-Trichloroethane	40	U	40	33	ug/L			10/12/18 04:04	40
1,1,2-Trichloroethane	40	U	40	9.2	ug/L			10/12/18 04:04	40
Trichloroethene	40	U	40	18	ug/L			10/12/18 04:04	40
Trichlorofluoromethane	40	U	40	35	ug/L			10/12/18 04:04	40
1,1,2-Trichloro-1,2,2-trifluoroethane	40	U	40	12	ug/L			10/12/18 04:04	40
Vinyl chloride	40	U R	40	36	ug/L			10/12/18 04:04	40
Xylenes, Total	**42**	**J**	80	26	ug/L			10/12/18 04:04	40

Client Sample ID: IW-A2-100418

Lab Sample ID: 480-142989-1

Date Collected: 10/04/18 08:50

Matrix: Water

Date Received: 10/05/18 01:15

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*73 - 120*		*10/12/18 04:04*	*40*
Dibromofluoromethane (Surr)	*105*		*75 - 123*		*10/12/18 04:04*	*40*
1,2-Dichloroethane-d4 (Surr)	*104*		*77 - 120*		*10/12/18 04:04*	*40*
Toluene-d8 (Surr)	*99*		*80 - 120*		*10/12/18 04:04*	*40*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TOC Result 1	**210**	**B**	4.0	1.7	mg/L			10/12/18 17:20	4
TOC Result 2	**200**		4.0	1.7	mg/L			10/12/18 17:20	4
Total Organic Carbon	**210**		4.0	1.7	mg/L			10/12/18 17:20	4

Client Sample ID: MW-A1-100418

Lab Sample ID: 480-142989-2

Date Collected: 10/04/18 09:50

Matrix: Water

Date Received: 10/05/18 01:15

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**15**	**J**	40	12	ug/L			10/12/18 04:31	4
Benzene	**6.1**		4.0	1.6	ug/L			10/12/18 04:31	4
Bromodichloromethane	4.0	U	4.0	1.6	ug/L			10/12/18 04:31	4
Bromoform	4.0	U	4.0	1.0	ug/L			10/12/18 04:31	4
Bromomethane	4.0	U	4.0	2.8	ug/L			10/12/18 04:31	4
2-Butanone (MEK)	40	U	40	5.3	ug/L			10/12/18 04:31	4
Carbon disulfide	4.0	U	4.0	0.76	ug/L			10/12/18 04:31	4
Carbon tetrachloride	4.0	U	4.0	1.1	ug/L			10/12/18 04:31	4
Chlorobenzene	4.0	U	4.0	3.0	ug/L			10/12/18 04:31	4
Chloroethane	**7.6**		4.0	1.3	ug/L			10/12/18 04:31	4
Chloroform	4.0	U	4.0	1.4	ug/L			10/12/18 04:31	4
Chloromethane	4.0	U	4.0	1.4	ug/L			10/12/18 04:31	4
cis-1,2-Dichloroethene	4.0	U	4.0	3.2	ug/L			10/12/18 04:31	4
cis-1,3-Dichloropropene	4.0	U	4.0	1.4	ug/L			10/12/18 04:31	4
Cyclohexane	4.0	U	4.0	0.72	ug/L			10/12/18 04:31	4
Dibromochloromethane	4.0	U	4.0	1.3	ug/L			10/12/18 04:31	4
1,2-Dibromo-3-Chloropropane	4.0	U	4.0	1.6	ug/L			10/12/18 04:31	4
1,2-Dibromoethane	4.0	U	4.0	2.9	ug/L			10/12/18 04:31	4
1,2-Dichlorobenzene	4.0	U	4.0	3.2	ug/L			10/12/18 04:31	4
1,3-Dichlorobenzene	4.0	U	4.0	3.1	ug/L			10/12/18 04:31	4
1,4-Dichlorobenzene	4.0	U	4.0	3.4	ug/L			10/12/18 04:31	4
Dichlorodifluoromethane	4.0	U	4.0	2.7	ug/L			10/12/18 04:31	4
1,1-Dichloroethane	**3.6**	**J**	4.0	1.5	ug/L			10/12/18 04:31	4
1,2-Dichloroethane	4.0	U	4.0	0.84	ug/L			10/12/18 04:31	4
1,1-Dichloroethene	4.0	U	4.0	1.2	ug/L			10/12/18 04:31	4
1,2-Dichloropropane	4.0	U	4.0	2.9	ug/L			10/12/18 04:31	4
Ethylbenzene	4.0	U	4.0	3.0	ug/L			10/12/18 04:31	4
2-Hexanone	20	U	20	5.0	ug/L			10/12/18 04:31	4
Isopropylbenzene	4.0	U	4.0	3.2	ug/L			10/12/18 04:31	4
Methyl acetate	10	U	10	5.2	ug/L			10/12/18 04:31	4
Methylcyclohexane	4.0	U	4.0	0.64	ug/L			10/12/18 04:31	4
Methylene Chloride	4.0	U	4.0	1.8	ug/L			10/12/18 04:31	4
4-Methyl-2-pentanone (MIBK)	20	U	20	8.4	ug/L			10/12/18 04:31	4

Client Sample ID: MW-A1-100418

Lab Sample ID: 480-142989-2

Date Collected: 10/04/18 09:50

Matrix: Water

Date Received: 10/05/18 01:15

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	4.0	U	4.0	0.64	ug/L			10/12/18 04:31	4
Styrene	4.0	U	4.0	2.9	ug/L			10/12/18 04:31	4
1,1,2,2-Tetrachloroethane	4.0	U	4.0	0.84	ug/L			10/12/18 04:31	4
Tetrachloroethene	4.0	U	4.0	1.4	ug/L			10/12/18 04:31	4
Toluene	4.0	U	4.0	2.0	ug/L			10/12/18 04:31	4
trans-1,2-Dichloroethene	4.0	U	4.0	3.6	ug/L			10/12/18 04:31	4
trans-1,3-Dichloropropene	4.0	U	4.0	1.5	ug/L			10/12/18 04:31	4
1,2,4-Trichlorobenzene	4.0	U	4.0	1.6	ug/L			10/12/18 04:31	4
1,1,1-Trichloroethane	4.0	U	4.0	3.3	ug/L			10/12/18 04:31	4
1,1,2-Trichloroethane	4.0	U	4.0	0.92	ug/L			10/12/18 04:31	4
Trichloroethene	4.0	U	4.0	1.8	ug/L			10/12/18 04:31	4
Trichlorofluoromethane	4.0	U	4.0	3.5	ug/L			10/12/18 04:31	4
1,1,2-Trichloro-1,2,2-trifluoroethane	4.0	U	4.0	1.2	ug/L			10/12/18 04:31	4
Vinyl chloride	4.0	U	4.0	3.6	ug/L			10/12/18 04:31	4
Xylenes, Total	8.0	U	8.0	2.6	ug/L			10/12/18 04:31	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*73 - 120*		*10/12/18 04:31*	*4*
Dibromofluoromethane (Surr)	*93*		*75 - 123*		*10/12/18 04:31*	*4*
1,2-Dichloroethane-d4 (Surr)	*100*		*77 - 120*		*10/12/18 04:31*	*4*
Toluene-d8 (Surr)	*101*		*80 - 120*		*10/12/18 04:31*	*4*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	**340**		83	17	ug/L			10/10/18 12:20	11
Ethene	**49**	**J**	77	17	ug/L			10/10/18 12:20	11

Method: RSK-175 - Dissolved Gases (GC) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	**17000**		400	100	ug/L			10/10/18 15:13	100

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TOC Result 1	**13**	**B**	1.0	0.43	mg/L			10/12/18 17:50	1
TOC Result 2	**12**		1.0	0.43	mg/L			10/12/18 17:50	1
Total Organic Carbon	**13**		1.0	0.43	mg/L			10/12/18 17:50	1

Client Sample ID: MW-13-100418

Lab Sample ID: 480-142989-3

Date Collected: 10/04/18 10:10

Matrix: Water

Date Received: 10/05/18 01:15

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	3.0	ug/L			10/12/18 04:58	1
Benzene	1.0	U	1.0	0.41	ug/L			10/12/18 04:58	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			10/12/18 04:58	1
Bromoform	1.0	U	1.0	0.26	ug/L			10/12/18 04:58	1
Bromomethane	1.0	U	1.0	0.69	ug/L			10/12/18 04:58	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			10/12/18 04:58	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			10/12/18 04:58	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			10/12/18 04:58	1

Client Sample ID: MW-13-100418
Date Collected: 10/04/18 10:10
Date Received: 10/05/18 01:15

Lab Sample ID: 480-142989-3
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	1.0	U	1.0	0.75	ug/L			10/12/18 04:58	1
Chloroethane	1.0	U	1.0	0.32	ug/L			10/12/18 04:58	1
Chloroform	1.0	U	1.0	0.34	ug/L			10/12/18 04:58	1
Chloromethane	1.0	U	1.0	0.35	ug/L			10/12/18 04:58	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			10/12/18 04:58	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			10/12/18 04:58	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			10/12/18 04:58	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			10/12/18 04:58	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			10/12/18 04:58	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			10/12/18 04:58	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			10/12/18 04:58	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			10/12/18 04:58	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			10/12/18 04:58	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			10/12/18 04:58	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			10/12/18 04:58	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			10/12/18 04:58	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			10/12/18 04:58	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			10/12/18 04:58	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			10/12/18 04:58	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			10/12/18 04:58	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			10/12/18 04:58	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			10/12/18 04:58	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			10/12/18 04:58	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			10/12/18 04:58	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			10/12/18 04:58	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			10/12/18 04:58	1
Styrene	1.0	U	1.0	0.73	ug/L			10/12/18 04:58	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			10/12/18 04:58	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			10/12/18 04:58	1
Toluene	1.0	U	1.0	0.51	ug/L			10/12/18 04:58	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			10/12/18 04:58	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			10/12/18 04:58	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			10/12/18 04:58	1
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			10/12/18 04:58	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			10/12/18 04:58	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			10/12/18 04:58	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			10/12/18 04:58	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			10/12/18 04:58	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			10/12/18 04:58	1
Xylenes, Total	**1.6**	**J**	2.0	0.66	ug/L			10/12/18 04:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*73 - 120*		*10/12/18 04:58*	*1*
Dibromofluoromethane (Surr)	*100*		*75 - 123*		*10/12/18 04:58*	*1*
1,2-Dichloroethane-d4 (Surr)	*98*		*77 - 120*		*10/12/18 04:58*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*10/12/18 04:58*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TOC Result 1	**1.3**	~~B~~ UB	1.0	0.43	mg/L			10/12/18 18:20	1

Client Sample ID: MW-13-100418

Lab Sample ID: 480-142989-3

Date Collected: 10/04/18 10:10

Matrix: Water

Date Received: 10/05/18 01:15

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TOC Result 2	1.0	UB	1.0	0.43	mg/L			10/12/18 18:20	1
Total Organic Carbon	1.1	UB	1.0	0.43	mg/L			10/12/18 18:20	1

Client Sample ID: MW-19-100418

Lab Sample ID: 480-142989-4

Date Collected: 10/04/18 11:15

Matrix: Water

Date Received: 10/05/18 01:15

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	50	U	50	15	ug/L			10/13/18 19:49	5
Benzene	5.0	U	5.0	2.1	ug/L			10/13/18 19:49	5
Bromodichloromethane	5.0	U	5.0	2.0	ug/L			10/13/18 19:49	5
Bromoform	5.0	U	5.0	1.3	ug/L			10/13/18 19:49	5
Bromomethane	5.0	U	5.0	3.5	ug/L			10/13/18 19:49	5
2-Butanone (MEK)	50	U *	50	6.6	ug/L			10/13/18 19:49	5
Carbon disulfide	5.0	U	5.0	0.95	ug/L			10/13/18 19:49	5
Carbon tetrachloride	5.0	U	5.0	1.4	ug/L			10/13/18 19:49	5
Chlorobenzene	5.0	U	5.0	3.8	ug/L			10/13/18 19:49	5
Chloroethane	12		5.0	1.6	ug/L			10/13/18 19:49	5
Chloroform	5.0	U	5.0	1.7	ug/L			10/13/18 19:49	5
Chloromethane	5.0	U	5.0	1.8	ug/L			10/13/18 19:49	5
cis-1,2-Dichloroethene	170	~~F1~~ J	5.0	4.1	ug/L			10/13/18 19:49	5
cis-1,3-Dichloropropene	5.0	U	5.0	1.8	ug/L			10/13/18 19:49	5
Cyclohexane	5.0	U	5.0	0.90	ug/L			10/13/18 19:49	5
Dibromochloromethane	5.0	U	5.0	1.6	ug/L			10/13/18 19:49	5
1,2-Dibromo-3-Chloropropane	5.0	U	5.0	2.0	ug/L			10/13/18 19:49	5
1,2-Dibromoethane	5.0	U	5.0	3.7	ug/L			10/13/18 19:49	5
1,2-Dichlorobenzene	5.0	U	5.0	4.0	ug/L			10/13/18 19:49	5
1,3-Dichlorobenzene	5.0	U	5.0	3.9	ug/L			10/13/18 19:49	5
1,4-Dichlorobenzene	5.0	U	5.0	4.2	ug/L			10/13/18 19:49	5
Dichlorodifluoromethane	5.0	U	5.0	3.4	ug/L			10/13/18 19:49	5
1,1-Dichloroethane	8.9		5.0	1.9	ug/L			10/13/18 19:49	5
1,2-Dichloroethane	5.0	U	5.0	1.1	ug/L			10/13/18 19:49	5
1,1-Dichloroethene	5.0	U	5.0	1.5	ug/L			10/13/18 19:49	5
1,2-Dichloropropane	5.0	U	5.0	3.6	ug/L			10/13/18 19:49	5
Ethylbenzene	5.0	U	5.0	3.7	ug/L			10/13/18 19:49	5
2-Hexanone	25	U	25	6.2	ug/L			10/13/18 19:49	5
Isopropylbenzene	5.0	U	5.0	4.0	ug/L			10/13/18 19:49	5
Methyl acetate	13	U	13	6.5	ug/L			10/13/18 19:49	5
Methylcyclohexane	5.0	U	5.0	0.80	ug/L			10/13/18 19:49	5
Methylene Chloride	~~4.1~~ ~~J F1~~		5.0	UB 2.2	ug/L			10/13/18 19:49	5
4-Methyl-2-pentanone (MIBK)	25	U	25	11	ug/L			10/13/18 19:49	5
Methyl tert-butyl ether	5.0	U	5.0	0.80	ug/L			10/13/18 19:49	5
Styrene	5.0	U	5.0	3.7	ug/L			10/13/18 19:49	5
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1.1	ug/L			10/13/18 19:49	5
Tetrachloroethene	~~2.8~~ ~~J~~		5.0	UB 1.8	ug/L			10/13/18 19:49	5
Toluene	5.0	U	5.0	2.6	ug/L			10/13/18 19:49	5
trans-1,2-Dichloroethene	5.0	U	5.0	4.5	ug/L			10/13/18 19:49	5
trans-1,3-Dichloropropene	5.0	U	5.0	1.9	ug/L			10/13/18 19:49	5
1,2,4-Trichlorobenzene	5.0	U	5.0	2.1	ug/L			10/13/18 19:49	5

Client Sample ID: MW-19-100418

Lab Sample ID: 480-142989-4

Date Collected: 10/04/18 11:15

Matrix: Water

Date Received: 10/05/18 01:15

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	5.0	U	5.0	4.1	ug/L			10/13/18 19:49	5
1,1,2-Trichloroethane	5.0	U	5.0	1.2	ug/L			10/13/18 19:49	5
Trichloroethene	**3.1**	**J**	5.0	2.3	ug/L			10/13/18 19:49	5
Trichlorofluoromethane	5.0	U	5.0	4.4	ug/L			10/13/18 19:49	5
1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U	5.0	1.6	ug/L			10/13/18 19:49	5
Vinyl chloride	**68**		5.0	4.5	ug/L			10/13/18 19:49	5
Xylenes, Total	10	U	10	3.3	ug/L			10/13/18 19:49	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*73 - 120*		*10/13/18 19:49*	*5*
Dibromofluoromethane (Surr)	*95*		*75 - 123*		*10/13/18 19:49*	*5*
1,2-Dichloroethane-d4 (Surr)	*94*		*77 - 120*		*10/13/18 19:49*	*5*
Toluene-d8 (Surr)	*101*		*80 - 120*		*10/13/18 19:49*	*5*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	**91**	**J ~~F1~~**	170	33	ug/L			10/09/18 11:54	22
Ethene	**120**	**J ~~F1~~**	150	33	ug/L			10/09/18 11:54	22
Methane	**1000**		88	22	ug/L			10/09/18 11:54	22

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TOC Result 1	**4.6**	**~~B~~**	1.0	0.43	mg/L			10/12/18 21:18	1
TOC Result 2	**4.3**		1.0	0.43	mg/L			10/12/18 21:18	1
Total Organic Carbon	**4.6**		1.0	0.43	mg/L			10/12/18 21:18	1

Client Sample ID: MW-20-100418

Lab Sample ID: 480-142989-5

Date Collected: 10/04/18 08:30

Matrix: Water

Date Received: 10/05/18 01:15

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**4.6**	**J**	10	3.0	ug/L			10/13/18 20:15	1
Benzene	1.0	U	1.0	0.41	ug/L			10/13/18 20:15	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			10/13/18 20:15	1
Bromoform	1.0	U	1.0	0.26	ug/L			10/13/18 20:15	1
Bromomethane	1.0	U	1.0	0.69	ug/L			10/13/18 20:15	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			10/13/18 20:15	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			10/13/18 20:15	1
Carbon tetrachloride	**2.5**		1.0	0.27	ug/L			10/13/18 20:15	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			10/13/18 20:15	1
Chloroethane	1.0	U	1.0	0.32	ug/L			10/13/18 20:15	1
Chloroform	**3.6**	UB	1.0	0.34	ug/L			10/13/18 20:15	1
Chloromethane	1.0	U	1.0	0.35	ug/L			10/13/18 20:15	1
cis-1,2-Dichloroethene	**10**		1.0	0.81	ug/L			10/13/18 20:15	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			10/13/18 20:15	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			10/13/18 20:15	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			10/13/18 20:15	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			10/13/18 20:15	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			10/13/18 20:15	1

Client: Ashland LLC
Project/Site: Ashland Rensselaer

TestAmerica Job ID: 480-142989-1

Client Sample ID: MW-20-100418

Lab Sample ID: 480-142989-5

Date Collected: 10/04/18 08:30

Matrix: Water

Date Received: 10/05/18 01:15

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			10/13/18 20:15	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			10/13/18 20:15	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			10/13/18 20:15	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			10/13/18 20:15	1
1,1-Dichloroethane	**0.70**	**J**	1.0	0.38	ug/L			10/13/18 20:15	1
1,2-Dichloroethane	**0.23**	**J**	1.0	0.21	ug/L			10/13/18 20:15	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			10/13/18 20:15	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			10/13/18 20:15	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			10/13/18 20:15	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			10/13/18 20:15	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			10/13/18 20:15	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			10/13/18 20:15	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			10/13/18 20:15	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			10/13/18 20:15	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			10/13/18 20:15	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			10/13/18 20:15	1
Styrene	1.0	U	1.0	0.73	ug/L			10/13/18 20:15	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			10/13/18 20:15	1
Tetrachloroethene	**98**		1.0	0.36	ug/L			10/13/18 20:15	1
Toluene	1.0	U	1.0	0.51	ug/L			10/13/18 20:15	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			10/13/18 20:15	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			10/13/18 20:15	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			10/13/18 20:15	1
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			10/13/18 20:15	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			10/13/18 20:15	1
Trichloroethene	**9.3**		1.0	0.46	ug/L			10/13/18 20:15	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			10/13/18 20:15	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			10/13/18 20:15	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			10/13/18 20:15	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			10/13/18 20:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*73 - 120*		*10/13/18 20:15*	*1*
Dibromofluoromethane (Surr)	*101*		*75 - 123*		*10/13/18 20:15*	*1*
1,2-Dichloroethane-d4 (Surr)	*104*		*77 - 120*		*10/13/18 20:15*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*10/13/18 20:15*	*1*

Client Sample ID: DUP-1-100418

Lab Sample ID: 480-142989-6

Date Collected: 10/04/18 00:00

Matrix: Water

Date Received: 10/05/18 01:15

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	50	U	50	15	ug/L			10/13/18 20:42	5
Benzene	5.0	U	5.0	2.1	ug/L			10/13/18 20:42	5
Bromodichloromethane	5.0	U	5.0	2.0	ug/L			10/13/18 20:42	5
Bromoform	5.0	U	5.0	1.3	ug/L			10/13/18 20:42	5
Bromomethane	5.0	U	5.0	3.5	ug/L			10/13/18 20:42	5
2-Butanone (MEK)	50	U	50	6.6	ug/L			10/13/18 20:42	5
Carbon disulfide	5.0	U	5.0	0.95	ug/L			10/13/18 20:42	5

Client Sample ID: DUP-1-100418
Date Collected: 10/04/18 00:00
Date Received: 10/05/18 01:15

Lab Sample ID: 480-142989-6
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	5.0	U	5.0	1.4	ug/L			10/13/18 20:42	5
Chlorobenzene	5.0	U	5.0	3.8	ug/L			10/13/18 20:42	5
Chloroethane	**11**		5.0	1.6	ug/L			10/13/18 20:42	5
Chloroform	5.0	U	5.0	1.7	ug/L			10/13/18 20:42	5
Chloromethane	5.0	U	5.0	1.8	ug/L			10/13/18 20:42	5
cis-1,2-Dichloroethene	**150**	J	5.0	4.1	ug/L			10/13/18 20:42	5
cis-1,3-Dichloropropene	5.0	U	5.0	1.8	ug/L			10/13/18 20:42	5
Cyclohexane	5.0	U	5.0	0.90	ug/L			10/13/18 20:42	5
Dibromochloromethane	5.0	U	5.0	1.6	ug/L			10/13/18 20:42	5
1,2-Dibromo-3-Chloropropane	5.0	U	5.0	2.0	ug/L			10/13/18 20:42	5
1,2-Dibromoethane	5.0	U	5.0	3.7	ug/L			10/13/18 20:42	5
1,2-Dichlorobenzene	5.0	U	5.0	4.0	ug/L			10/13/18 20:42	5
1,3-Dichlorobenzene	5.0	U	5.0	3.9	ug/L			10/13/18 20:42	5
1,4-Dichlorobenzene	5.0	U	5.0	4.2	ug/L			10/13/18 20:42	5
Dichlorodifluoromethane	5.0	U	5.0	3.4	ug/L			10/13/18 20:42	5
1,1-Dichloroethane	**8.7**		5.0	1.9	ug/L			10/13/18 20:42	5
1,2-Dichloroethane	5.0	U	5.0	1.1	ug/L			10/13/18 20:42	5
1,1-Dichloroethene	5.0	U	5.0	1.5	ug/L			10/13/18 20:42	5
1,2-Dichloropropane	5.0	U	5.0	3.6	ug/L			10/13/18 20:42	5
Ethylbenzene	5.0	U	5.0	3.7	ug/L			10/13/18 20:42	5
2-Hexanone	25	U	25	6.2	ug/L			10/13/18 20:42	5
Isopropylbenzene	5.0	U	5.0	4.0	ug/L			10/13/18 20:42	5
Methyl acetate	13	U	13	6.5	ug/L			10/13/18 20:42	5
Methylcyclohexane	5.0	U	5.0	0.80	ug/L			10/13/18 20:42	5
Methylene Chloride	**4.4**	**J**	5.0	2.2	ug/L	UB		10/13/18 20:42	5
4-Methyl-2-pentanone (MIBK)	25	U	25	11	ug/L			10/13/18 20:42	5
Methyl tert-butyl ether	5.0	U	5.0	0.80	ug/L			10/13/18 20:42	5
Styrene	5.0	U	5.0	3.7	ug/L			10/13/18 20:42	5
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1.1	ug/L			10/13/18 20:42	5
Tetrachloroethene	**5.2**		5.0	1.8	ug/L			10/13/18 20:42	5
Toluene	5.0	U	5.0	2.6	ug/L			10/13/18 20:42	5
trans-1,2-Dichloroethene	5.0	U	5.0	4.5	ug/L			10/13/18 20:42	5
trans-1,3-Dichloropropene	5.0	U	5.0	1.9	ug/L			10/13/18 20:42	5
1,2,4-Trichlorobenzene	5.0	U	5.0	2.1	ug/L			10/13/18 20:42	5
1,1,1-Trichloroethane	5.0	U	5.0	4.1	ug/L			10/13/18 20:42	5
1,1,2-Trichloroethane	5.0	U	5.0	1.2	ug/L			10/13/18 20:42	5
Trichloroethene	**3.4**	**J**	5.0	2.3	ug/L			10/13/18 20:42	5
Trichlorofluoromethane	5.0	U	5.0	4.4	ug/L			10/13/18 20:42	5
1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U	5.0	1.6	ug/L			10/13/18 20:42	5
Vinyl chloride	**85**		5.0	4.5	ug/L			10/13/18 20:42	5
Xylenes, Total	10	U	10	3.3	ug/L			10/13/18 20:42	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*73 - 120*		*10/13/18 20:42*	*5*
Dibromofluoromethane (Surr)	*97*		*75 - 123*		*10/13/18 20:42*	*5*
1,2-Dichloroethane-d4 (Surr)	*103*		*77 - 120*		*10/13/18 20:42*	*5*
Toluene-d8 (Surr)	*101*		*80 - 120*		*10/13/18 20:42*	*5*

Client Sample ID: DUP-1-100418

Lab Sample ID: 480-142989-6
Date Collected: 10/04/18 00:00
Matrix: Water
Date Received: 10/05/18 01:15

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	180	J	7.5	1.5	ug/L			10/10/18 12:39	1
Ethene	210	J	7.0	1.5	ug/L			10/10/18 12:39	1

Method: RSK-175 - Dissolved Gases (GC) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	1300		88	22	ug/L			10/10/18 15:32	22

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TOC Result 1	4.6	B	1.0	0.43	mg/L			10/12/18 18:50	1
TOC Result 2	4.4		1.0	0.43	mg/L			10/12/18 18:50	1
Total Organic Carbon	4.6		1.0	0.43	mg/L			10/12/18 18:50	1

Client Sample ID: FB-2-100418

Lab Sample ID: 480-142989-7
Date Collected: 10/04/18 11:55
Matrix: Water
Date Received: 10/05/18 01:15

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	3.0	ug/L			10/12/18 06:18	1
Benzene	1.0	U	1.0	0.41	ug/L			10/12/18 06:18	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			10/12/18 06:18	1
Bromoform	1.0	U	1.0	0.26	ug/L			10/12/18 06:18	1
Bromomethane	1.0	U	1.0	0.69	ug/L			10/12/18 06:18	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			10/12/18 06:18	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			10/12/18 06:18	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			10/12/18 06:18	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			10/12/18 06:18	1
Chloroethane	1.0	U	1.0	0.32	ug/L			10/12/18 06:18	1
Chloroform	2.8		1.0	0.34	ug/L			10/12/18 06:18	1
Chloromethane	1.0	U	1.0	0.35	ug/L			10/12/18 06:18	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			10/12/18 06:18	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			10/12/18 06:18	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			10/12/18 06:18	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			10/12/18 06:18	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			10/12/18 06:18	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			10/12/18 06:18	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			10/12/18 06:18	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			10/12/18 06:18	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			10/12/18 06:18	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			10/12/18 06:18	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			10/12/18 06:18	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			10/12/18 06:18	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			10/12/18 06:18	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			10/12/18 06:18	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			10/12/18 06:18	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			10/12/18 06:18	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			10/12/18 06:18	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			10/12/18 06:18	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			10/12/18 06:18	1

Client Sample ID: FB-2-100418

Lab Sample ID: 480-142989-7
Matrix: Water
Date Collected: 10/04/18 11:55
Date Received: 10/05/18 01:15

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	1.0	U	1.0	0.44	ug/L			10/12/18 06:18	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			10/12/18 06:18	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			10/12/18 06:18	1
Styrene	1.0	U	1.0	0.73	ug/L			10/12/18 06:18	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			10/12/18 06:18	1
Tetrachloroethene	**0.38**	**J**	1.0	0.36	ug/L			10/12/18 06:18	1
Toluene	1.0	U	1.0	0.51	ug/L			10/12/18 06:18	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			10/12/18 06:18	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			10/12/18 06:18	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			10/12/18 06:18	1
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			10/12/18 06:18	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			10/12/18 06:18	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			10/12/18 06:18	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			10/12/18 06:18	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			10/12/18 06:18	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			10/12/18 06:18	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			10/12/18 06:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*73 - 120*		*10/12/18 06:18*	*1*
Dibromofluoromethane (Surr)	*96*		*75 - 123*		*10/12/18 06:18*	*1*
1,2-Dichloroethane-d4 (Surr)	*99*		*77 - 120*		*10/12/18 06:18*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*10/12/18 06:18*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	7.5	U	7.5	1.5	ug/L			10/10/18 12:58	1
Ethene	7.0	U	7.0	1.5	ug/L			10/10/18 12:58	1
Methane	4.0	U	4.0	1.0	ug/L			10/10/18 12:58	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TOC Result 1	1.0	U	1.0	0.43	mg/L			10/18/18 03:30	1
TOC Result 2	1.0	U	1.0	0.43	mg/L			10/18/18 03:30	1
Total Organic Carbon	1.0	U	1.0	0.43	mg/L			10/18/18 03:30	1

Client Sample ID: Trip Blank

Lab Sample ID: 480-142989-8
Matrix: Water
Date Collected: 10/04/18 00:00
Date Received: 10/05/18 01:15

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	3.0	ug/L			10/12/18 06:44	1
Benzene	1.0	U	1.0	0.41	ug/L			10/12/18 06:44	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			10/12/18 06:44	1
Bromoform	1.0	U	1.0	0.26	ug/L			10/12/18 06:44	1
Bromomethane	1.0	U	1.0	0.69	ug/L			10/12/18 06:44	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			10/12/18 06:44	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			10/12/18 06:44	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			10/12/18 06:44	1

Client Sample ID: Trip Blank

Date Collected: 10/04/18 00:00
Date Received: 10/05/18 01:15

Lab Sample ID: 480-142989-8

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	1.0	U	1.0	0.75	ug/L			10/12/18 06:44	1
Chloroethane	1.0	U	1.0	0.32	ug/L			10/12/18 06:44	1
Chloroform	**3.3**		1.0	0.34	ug/L			10/12/18 06:44	1
Chloromethane	1.0	U	1.0	0.35	ug/L			10/12/18 06:44	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			10/12/18 06:44	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			10/12/18 06:44	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			10/12/18 06:44	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			10/12/18 06:44	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			10/12/18 06:44	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			10/12/18 06:44	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			10/12/18 06:44	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			10/12/18 06:44	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			10/12/18 06:44	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			10/12/18 06:44	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			10/12/18 06:44	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			10/12/18 06:44	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			10/12/18 06:44	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			10/12/18 06:44	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			10/12/18 06:44	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			10/12/18 06:44	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			10/12/18 06:44	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			10/12/18 06:44	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			10/12/18 06:44	1
Methylene Chloride	**0.51**	**J**	1.0	0.44	ug/L			10/12/18 06:44	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			10/12/18 06:44	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			10/12/18 06:44	1
Styrene	1.0	U	1.0	0.73	ug/L			10/12/18 06:44	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			10/12/18 06:44	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			10/12/18 06:44	1
Toluene	1.0	U	1.0	0.51	ug/L			10/12/18 06:44	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			10/12/18 06:44	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			10/12/18 06:44	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			10/12/18 06:44	1
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			10/12/18 06:44	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			10/12/18 06:44	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			10/12/18 06:44	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			10/12/18 06:44	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			10/12/18 06:44	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			10/12/18 06:44	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			10/12/18 06:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*73 - 120*		*10/12/18 06:44*	*1*
Dibromofluoromethane (Surr)	*98*		*75 - 123*		*10/12/18 06:44*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*77 - 120*		*10/12/18 06:44*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*10/12/18 06:44*	*1*

TestAmerica Buffalo
10 Hazelwood Drive
Amherst, NY 14228
Phone: 716.691.2600 Fax: 716.691.7991

480501-Albany

Chain of Custody Record

243214

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.
TAL-8210 (0713)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other

Client Contact	Project Manager: Joe Zasso	Site Contact: K. Bidwell	Date: 10/4/18	COC No:
Company Name: ARCADIS	Tel/Fax:	Lab Contact:	Carrier:	1 of 1 COCs
Address: 855 RTE 146 STE 210	Analysis Turnaround Time			Sampler: JS
City/State/Zip: Clifton Park, NY 12065	☑ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
Phone: (518) 250-7300	TAT if different from Below Standard			Walk-in Client:
Fax:	☐ 2 weeks			Lab Sampling:
Project Name: Ashland Ren.	☐ 1 week			
Site:	☐ 2 days			Job / SDG No.:
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	VOCs	TOCs	RSK	Sample Specific Notes:
MW-25-100418	10/4/18	1128	G	W	8			✓	✓	✓	
Trip Blank	↓	—	—	↓	1			✓			

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☐ Disposal by Lab ☑ Archive for Standard Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:	Cooler Temp. (°C): Obs'd: 3.0 Corr'd:	Therm ID No.: 3

Relinquished by:	Company	Date/Time:	Received by:	Company:	Date/Time:
Jessica Steigerwald Emanuel Sarsa	ARCADIS	10/4/18	Tim Kneller	TA	10-4-18 1357
Relinquished by: Tim Kneller	Company: TA	Date/Time: 10-4-18 1800	Received by:	Company: TAB	Date/Time: 10/5/18 0115
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

TestAmerica Job ID: 480-142989-2

Client Sample ID: MW-25-100418
Date Collected: 10/04/18 11:28
Date Received: 10/05/18 01:15

Lab Sample ID: 480-142989-9
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	200	U	200	60	ug/L			10/13/18 21:08	20
Benzene	20	U	20	8.2	ug/L			10/13/18 21:08	20
Bromodichloromethane	20	U	20	7.8	ug/L			10/13/18 21:08	20
Bromoform	20	U	20	5.2	ug/L			10/13/18 21:08	20
Bromomethane	20	U	20	14	ug/L			10/13/18 21:08	20
2-Butanone (MEK)	200	U	200	26	ug/L			10/13/18 21:08	20
Carbon disulfide	20	U	20	3.8	ug/L			10/13/18 21:08	20
Carbon tetrachloride	20	U	20	5.4	ug/L			10/13/18 21:08	20
Chlorobenzene	20	U	20	15	ug/L			10/13/18 21:08	20
Chloroethane	20	U	20	6.4	ug/L			10/13/18 21:08	20
Chloroform	20	U	20	6.8	ug/L			10/13/18 21:08	20
Chloromethane	20	U	20	7.0	ug/L			10/13/18 21:08	20
cis-1,2-Dichloroethene	**850**		20	16	ug/L			10/13/18 21:08	20
cis-1,3-Dichloropropene	20	U	20	7.2	ug/L			10/13/18 21:08	20
Cyclohexane	20	U	20	3.6	ug/L			10/13/18 21:08	20
Dibromochloromethane	20	U	20	6.4	ug/L			10/13/18 21:08	20
1,2-Dibromo-3-Chloropropane	20	U	20	7.8	ug/L			10/13/18 21:08	20
1,2-Dibromoethane	20	U	20	15	ug/L			10/13/18 21:08	20
1,2-Dichlorobenzene	20	U	20	16	ug/L			10/13/18 21:08	20
1,3-Dichlorobenzene	20	U	20	16	ug/L			10/13/18 21:08	20
1,4-Dichlorobenzene	20	U	20	17	ug/L			10/13/18 21:08	20
Dichlorodifluoromethane	20	U	20	14	ug/L			10/13/18 21:08	20
1,1-Dichloroethane	**17**	**J**	20	7.6	ug/L			10/13/18 21:08	20
1,2-Dichloroethane	20	U	20	4.2	ug/L			10/13/18 21:08	20
1,1-Dichloroethene	20	U	20	5.8	ug/L			10/13/18 21:08	20
1,2-Dichloropropane	20	U	20	14	ug/L			10/13/18 21:08	20
Ethylbenzene	20	U	20	15	ug/L			10/13/18 21:08	20
2-Hexanone	100	U	100	25	ug/L			10/13/18 21:08	20
Isopropylbenzene	20	U	20	16	ug/L			10/13/18 21:08	20
Methyl acetate	50	U	50	26	ug/L			10/13/18 21:08	20
Methylcyclohexane	20	U	20	3.2	ug/L			10/13/18 21:08	20
Methylene Chloride	~~16~~	~~J~~	20	UB 8.8	ug/L			10/13/18 21:08	20
4-Methyl-2-pentanone (MIBK)	100	U	100	42	ug/L			10/13/18 21:08	20
Methyl tert-butyl ether	20	U	20	3.2	ug/L			10/13/18 21:08	20
Styrene	20	U	20	15	ug/L			10/13/18 21:08	20
1,1,2,2-Tetrachloroethane	20	U	20	4.2	ug/L			10/13/18 21:08	20
~~**Tetrachloroethene**~~	~~8800~~	~~E~~	~~20~~	~~7.2~~	~~ug/L~~			~~10/13/18 21:08~~	~~20~~
Toluene	20	U	20	10	ug/L			10/13/18 21:08	20
trans-1,2-Dichloroethene	20	U	20	18	ug/L			10/13/18 21:08	20
trans-1,3-Dichloropropene	20	U	20	7.4	ug/L			10/13/18 21:08	20
1,2,4-Trichlorobenzene	20	U	20	8.2	ug/L			10/13/18 21:08	20
1,1,1-Trichloroethane	20	U	20	16	ug/L			10/13/18 21:08	20
1,1,2-Trichloroethane	20	U	20	4.6	ug/L			10/13/18 21:08	20
Trichloroethene	**220**		20	9.2	ug/L			10/13/18 21:08	20
Trichlorofluoromethane	20	U	20	18	ug/L			10/13/18 21:08	20
1,1,2-Trichloro-1,2,2-trifluoroethane	20	U	20	6.2	ug/L			10/13/18 21:08	20
Vinyl chloride	**690**		20	18	ug/L			10/13/18 21:08	20
Xylenes, Total	40	U	40	13	ug/L			10/13/18 21:08	20

Client Sample ID: MW-25-100418
Date Collected: 10/04/18 11:28
Date Received: 10/05/18 01:15

Lab Sample ID: 480-142989-9
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		73 - 120		10/13/18 21:08	20
Dibromofluoromethane (Surr)	100		75 - 123		10/13/18 21:08	20
1,2-Dichloroethane-d4 (Surr)	103		77 - 120		10/13/18 21:08	20
Toluene-d8 (Surr)	103		80 - 120		10/13/18 21:08	20

Method: 8260C - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	2000	U	2000	600	ug/L			10/16/18 07:38	200
Benzene	200	U	200	82	ug/L			10/16/18 07:38	200
Bromodichloromethane	200	U	200	78	ug/L			10/16/18 07:38	200
Bromoform	200	U	200	52	ug/L			10/16/18 07:38	200
Bromomethane	200	U	200	140	ug/L			10/16/18 07:38	200
2-Butanone (MEK)	2000	U	2000	260	ug/L			10/16/18 07:38	200
Carbon disulfide	200	U	200	38	ug/L			10/16/18 07:38	200
Carbon tetrachloride	200	U	200	54	ug/L			10/16/18 07:38	200
Chlorobenzene	200	U	200	150	ug/L			10/16/18 07:38	200
Chloroethane	200	U	200	64	ug/L			10/16/18 07:38	200
Chloroform	200	U	200	68	ug/L			10/16/18 07:38	200
Chloromethane	200	U	200	70	ug/L			10/16/18 07:38	200
cis-1,2-Dichloroethene	**850**		200	160	ug/L			10/16/18 07:38	200
cis-1,3-Dichloropropene	200	U	200	72	ug/L			10/16/18 07:38	200
Cyclohexane	200	U	200	36	ug/L			10/16/18 07:38	200
Dibromochloromethane	200	U	200	64	ug/L			10/16/18 07:38	200
1,2-Dibromo-3-Chloropropane	200	U	200	78	ug/L			10/16/18 07:38	200
1,2-Dibromoethane	200	U	200	150	ug/L			10/16/18 07:38	200
1,2-Dichlorobenzene	200	U	200	160	ug/L			10/16/18 07:38	200
1,3-Dichlorobenzene	200	U	200	160	ug/L			10/16/18 07:38	200
1,4-Dichlorobenzene	200	U	200	170	ug/L			10/16/18 07:38	200
Dichlorodifluoromethane	200	U	200	140	ug/L			10/16/18 07:38	200
1,1-Dichloroethane	200	U	200	76	ug/L			10/16/18 07:38	200
1,2-Dichloroethane	200	U	200	42	ug/L			10/16/18 07:38	200
1,1-Dichloroethene	200	U	200	58	ug/L			10/16/18 07:38	200
1,2-Dichloropropane	200	U	200	140	ug/L			10/16/18 07:38	200
Ethylbenzene	200	U	200	150	ug/L			10/16/18 07:38	200
2-Hexanone	1000	U	1000	250	ug/L			10/16/18 07:38	200
Isopropylbenzene	200	U	200	160	ug/L			10/16/18 07:38	200
Methyl acetate	500	U	500	260	ug/L			10/16/18 07:38	200
Methylcyclohexane	200	U	200	32	ug/L			10/16/18 07:38	200
Methylene Chloride	200	U	200	88	ug/L			10/16/18 07:38	200
4-Methyl-2-pentanone (MIBK)	1000	U	1000	420	ug/L			10/16/18 07:38	200
Methyl tert-butyl ether	200	U	200	32	ug/L			10/16/18 07:38	200
Styrene	200	U	200	150	ug/L			10/16/18 07:38	200
1,1,2,2-Tetrachloroethane	200	U	200	42	ug/L			10/16/18 07:38	200
Tetrachloroethene	**9300**	D	200	72	ug/L			10/16/18 07:38	200
Toluene	200	U	200	100	ug/L			10/16/18 07:38	200
trans-1,2-Dichloroethene	200	U	200	180	ug/L			10/16/18 07:38	200
trans-1,3-Dichloropropene	200	U	200	74	ug/L			10/16/18 07:38	200
1,2,4-Trichlorobenzene	200	U	200	82	ug/L			10/16/18 07:38	200
1,1,1-Trichloroethane	200	U	200	160	ug/L			10/16/18 07:38	200
1,1,2-Trichloroethane	200	U	200	46	ug/L			10/16/18 07:38	200

Client Sample ID: MW-25-100418

Lab Sample ID: 480-142989-9
Date Collected: 10/04/18 11:28
Matrix: Water
Date Received: 10/05/18 01:15

Method: 8260C - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	210		200	92	ug/L			10/16/18 07:38	200
Trichlorofluoromethane	200	U	200	180	ug/L			10/16/18 07:38	200
1,1,2-Trichloro-1,2,2-trifluoroethane	200	U	200	62	ug/L			10/16/18 07:38	200
Vinyl chloride	660		200	180	ug/L			10/16/18 07:38	200
Xylenes, Total	400	U	400	130	ug/L			10/16/18 07:38	200

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*73 - 120*		*10/16/18 07:38*	*200*
Dibromofluoromethane (Surr)	*97*		*75 - 123*		*10/16/18 07:38*	*200*
1,2-Dichloroethane-d4 (Surr)	*98*		*77 - 120*		*10/16/18 07:38*	*200*
Toluene-d8 (Surr)	*99*		*80 - 120*		*10/16/18 07:38*	*200*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	290		7.5	1.5	ug/L			10/10/18 13:16	1
Ethene	190		7.0	1.5	ug/L			10/10/18 13:16	1

Method: RSK-175 - Dissolved Gases (GC) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	2200	D	88	22	ug/L			10/10/18 15:51	22

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TOC Result 1	5.5	B	1.0	0.43	mg/L			10/12/18 23:17	1
TOC Result 2	5.2		1.0	0.43	mg/L			10/12/18 23:17	1
Total Organic Carbon	5.3		1.0	0.43	mg/L			10/12/18 23:17	1

Client Sample ID: Trip Blank

Lab Sample ID: 480-142989-10
Date Collected: 10/04/18 00:00
Matrix: Water
Date Received: 10/05/18 01:15

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	3.0	J	10	3.0	ug/L			10/12/18 07:11	1
Benzene	1.0	U	1.0	0.41	ug/L			10/12/18 07:11	1
Bromodichloromethane	0.44	J	1.0	0.39	ug/L			10/12/18 07:11	1
Bromoform	1.0	U	1.0	0.26	ug/L			10/12/18 07:11	1
Bromomethane	1.0	U	1.0	0.69	ug/L			10/12/18 07:11	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			10/12/18 07:11	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			10/12/18 07:11	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			10/12/18 07:11	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			10/12/18 07:11	1
Chloroethane	1.0	U	1.0	0.32	ug/L			10/12/18 07:11	1
Chloroform	4.0		1.0	0.34	ug/L			10/12/18 07:11	1
Chloromethane	1.0	U	1.0	0.35	ug/L			10/12/18 07:11	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			10/12/18 07:11	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			10/12/18 07:11	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			10/12/18 07:11	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			10/12/18 07:11	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			10/12/18 07:11	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			10/12/18 07:11	1

Client: Ashland LLC
Project/Site: Ashland Rensselaer

TestAmerica Job ID: 480-142989-2

Client Sample ID: Trip Blank
Date Collected: 10/04/18 00:00
Date Received: 10/05/18 01:15

Lab Sample ID: 480-142989-10
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			10/12/18 07:11	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			10/12/18 07:11	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			10/12/18 07:11	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			10/12/18 07:11	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			10/12/18 07:11	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			10/12/18 07:11	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			10/12/18 07:11	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			10/12/18 07:11	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			10/12/18 07:11	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			10/12/18 07:11	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			10/12/18 07:11	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			10/12/18 07:11	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			10/12/18 07:11	1
Methylene Chloride	**0.49**	**J**	1.0	0.44	ug/L			10/12/18 07:11	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			10/12/18 07:11	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			10/12/18 07:11	1
Styrene	1.0	U	1.0	0.73	ug/L			10/12/18 07:11	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			10/12/18 07:11	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			10/12/18 07:11	1
Toluene	1.0	U	1.0	0.51	ug/L			10/12/18 07:11	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			10/12/18 07:11	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			10/12/18 07:11	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			10/12/18 07:11	1
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			10/12/18 07:11	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			10/12/18 07:11	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			10/12/18 07:11	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			10/12/18 07:11	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			10/12/18 07:11	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			10/12/18 07:11	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			10/12/18 07:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*73 - 120*		*10/12/18 07:11*	*1*
Dibromofluoromethane (Surr)	*109*		*75 - 123*		*10/12/18 07:11*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*77 - 120*		*10/12/18 07:11*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*10/12/18 07:11*	*1*

TestAmerica Laboratories, Inc.
10 Hazelwood Drive
Amherst, NY 14228
Phone: 716.691.2600 Fax: 716.691.7991

480501-Albany

Chain of Custody Record

289726

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THE LEADER IN ENVIRONMENTAL TESTING

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

TAL-8210 (0713)

Client Contact	Project Manager: Joe Zaso	Site Contact: K. Bidwell	Date: 10/3/18	COC No:
Company Name: ARCADIS	Tel/Fax:	Lab Contact:	Carrier:	1 of ___ COCs
Address: 855 RTE 146 STE 210	☑ CALENDAR DAYS ☐ WORKING DAYS			Sampler: ES/JS
City/State/Zip: Clifton Park, NY 12065	TAT if different from Below Standard			For Lab Use Only:
Phone: (518) 250-7300	☐ 2 weeks			Walk-in Client:
Fax:	☐ 1 week			Lab Sampling:
Project Name: Ashland Rensselaer	☐ 2 days			Job / SDG No.:
Site:	☐ 1 day			
P O #				480-142992 COC

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	VOCs	TOCs	RSK	Sample Specific Notes:
IP-1-100318	10/3/18	1020	G	W	8			✓	✓	✓	
IMP-3-100318		1025			5			✓	✓		
MW-16-100318		1135			8			✓	✓	✓	
MW-18-100318		1150			8			✓	✓	✓	
IW-B3-100318		1600			5			✓	✓		
MW-B1-100318		1600			8			✓	✓	✓	
FB-1-100318		1440			8			✓	✓	✓	
MW-17-100318		1710			5			✓	✓		
MW-21-100318		1715			5			✓	✓		
Trip Blank		—	—								

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ___

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☐ Disposal by Lab ☑ Archive for Standard Months

Special Instructions/QC Requirements & Comments:
Shannon Lloyd – Ashland PM ← (* Bill to *)

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: 2.0 Corr'd: ___ | Therm ID No.: 3

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Emmanuel Sarsa	ARCADIS	10/3/18 1820	Karl Jacke	TA	10-3-18 1820
Relinquished by: Karl Jacke	Company: TA	Date/Time: 10-4-18 1800	Received by:	Company: TA	Date/Time: 10/5/18 0115
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Client Sample ID: IP-1-100318
Date Collected: 10/03/18 10:20
Date Received: 10/05/18 01:15

Lab Sample ID: 480-142992-1
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL		MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	~~3.9~~	~~J~~	10	UB	3.0	ug/L			10/12/18 00:31	1
Benzene	1.9		1.0		0.41	ug/L			10/12/18 00:31	1
Bromodichloromethane	1.0	U	1.0		0.39	ug/L			10/12/18 00:31	1
Bromoform	1.0	U	1.0		0.26	ug/L			10/12/18 00:31	1
Bromomethane	1.0	U	1.0		0.69	ug/L			10/12/18 00:31	1
2-Butanone (MEK)	10	U	10		1.3	ug/L			10/12/18 00:31	1
Carbon disulfide	1.0	U	1.0		0.19	ug/L			10/12/18 00:31	1
Carbon tetrachloride	1.0	U	1.0		0.27	ug/L			10/12/18 00:31	1
Chlorobenzene	1.0	U	1.0		0.75	ug/L			10/12/18 00:31	1
Chloroethane	1.0	U	1.0		0.32	ug/L			10/12/18 00:31	1
Chloroform	1.0	U	1.0		0.34	ug/L			10/12/18 00:31	1
Chloromethane	1.0	U	1.0		0.35	ug/L			10/12/18 00:31	1
~~cis-1,2-Dichloroethene~~	~~290~~	~~E~~	~~1.0~~		~~0.81~~	~~ug/L~~			~~10/12/18 00:31~~	~~1~~
cis-1,3-Dichloropropene	1.0	U	1.0		0.36	ug/L			10/12/18 00:31	1
Cyclohexane	1.0	U	1.0		0.18	ug/L			10/12/18 00:31	1
Dibromochloromethane	1.0	U	1.0		0.32	ug/L			10/12/18 00:31	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0		0.39	ug/L			10/12/18 00:31	1
1,2-Dibromoethane	1.0	U	1.0		0.73	ug/L			10/12/18 00:31	1
1,2-Dichlorobenzene	1.0	U	1.0		0.79	ug/L			10/12/18 00:31	1
1,3-Dichlorobenzene	1.0	U	1.0		0.78	ug/L			10/12/18 00:31	1
1,4-Dichlorobenzene	1.0	U	1.0		0.84	ug/L			10/12/18 00:31	1
Dichlorodifluoromethane	1.0	U	1.0		0.68	ug/L			10/12/18 00:31	1
1,1-Dichloroethane	1.0	U	1.0		0.38	ug/L			10/12/18 00:31	1
1,2-Dichloroethane	0.39	J	1.0		0.21	ug/L			10/12/18 00:31	1
1,1-Dichloroethene	0.37	J	1.0		0.29	ug/L			10/12/18 00:31	1
1,2-Dichloropropane	1.0	U	1.0		0.72	ug/L			10/12/18 00:31	1
Ethylbenzene	1.0	U	1.0		0.74	ug/L			10/12/18 00:31	1
2-Hexanone	5.0	U	5.0		1.2	ug/L			10/12/18 00:31	1
Isopropylbenzene	1.0	U	1.0		0.79	ug/L			10/12/18 00:31	1
Methyl acetate	2.5	U	2.5		1.3	ug/L			10/12/18 00:31	1
Methylcyclohexane	1.0	U	1.0		0.16	ug/L			10/12/18 00:31	1
Methylene Chloride	1.0	U	1.0		0.44	ug/L			10/12/18 00:31	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0		2.1	ug/L			10/12/18 00:31	1
Methyl tert-butyl ether	1.0	U	1.0		0.16	ug/L			10/12/18 00:31	1
Styrene	1.0	U	1.0		0.73	ug/L			10/12/18 00:31	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0		0.21	ug/L			10/12/18 00:31	1
Tetrachloroethene	1.0	U	1.0		0.36	ug/L			10/12/18 00:31	1
Toluene	1.0	U	1.0		0.51	ug/L			10/12/18 00:31	1
trans-1,2-Dichloroethene	6.4		1.0		0.90	ug/L			10/12/18 00:31	1
trans-1,3-Dichloropropene	1.0	U	1.0		0.37	ug/L			10/12/18 00:31	1
1,2,4-Trichlorobenzene	1.0	U	1.0		0.41	ug/L			10/12/18 00:31	1
1,1,1-Trichloroethane	1.0	U	1.0		0.82	ug/L			10/12/18 00:31	1
1,1,2-Trichloroethane	1.0	U	1.0		0.23	ug/L			10/12/18 00:31	1
Trichloroethene	1.0	U	1.0		0.46	ug/L			10/12/18 00:31	1
Trichlorofluoromethane	1.0	U	1.0		0.88	ug/L			10/12/18 00:31	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0		0.31	ug/L			10/12/18 00:31	1
Vinyl chloride	65		1.0		0.90	ug/L			10/12/18 00:31	1
Xylenes, Total	2.0	U	2.0		0.66	ug/L			10/12/18 00:31	1

Client: Ashland LLC
Project/Site: Ashland Rensselaer

TestAmerica Job ID: 480-142992-1

Client Sample ID: IP-1-100318
Date Collected: 10/03/18 10:20
Date Received: 10/05/18 01:15

Lab Sample ID: 480-142992-1
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	92		73 - 120		10/12/18 00:31	1
Dibromofluoromethane (Surr)	99		75 - 123		10/12/18 00:31	1
1,2-Dichloroethane-d4 (Surr)	99		77 - 120		10/12/18 00:31	1
Toluene-d8 (Surr)	100		80 - 120		10/12/18 00:31	1

Method: 8260C - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	40	U	40	12	ug/L			10/16/18 01:06	4
Benzene	**2.2**	**J**	4.0	1.6	ug/L			10/16/18 01:06	4
Bromodichloromethane	4.0	U	4.0	1.6	ug/L			10/16/18 01:06	4
Bromoform	4.0	U	4.0	1.0	ug/L			10/16/18 01:06	4
Bromomethane	4.0	U	4.0	2.8	ug/L			10/16/18 01:06	4
2-Butanone (MEK)	40	U	40	5.3	ug/L			10/16/18 01:06	4
Carbon disulfide	4.0	U	4.0	0.76	ug/L			10/16/18 01:06	4
Carbon tetrachloride	4.0	U	4.0	1.1	ug/L			10/16/18 01:06	4
Chlorobenzene	4.0	U	4.0	3.0	ug/L			10/16/18 01:06	4
Chloroethane	4.0	U	4.0	1.3	ug/L			10/16/18 01:06	4
Chloroform	4.0	U	4.0	1.4	ug/L			10/16/18 01:06	4
Chloromethane	4.0	U	4.0	1.4	ug/L			10/16/18 01:06	4
cis-1,2-Dichloroethene	**370**	D	4.0	3.2	ug/L			10/16/18 01:06	4
cis-1,3-Dichloropropene	4.0	U	4.0	1.4	ug/L			10/16/18 01:06	4
Cyclohexane	4.0	U	4.0	0.72	ug/L			10/16/18 01:06	4
Dibromochloromethane	4.0	U	4.0	1.3	ug/L			10/16/18 01:06	4
1,2-Dibromo-3-Chloropropane	4.0	U	4.0	1.6	ug/L			10/16/18 01:06	4
1,2-Dibromoethane	4.0	U	4.0	2.9	ug/L			10/16/18 01:06	4
1,2-Dichlorobenzene	4.0	U	4.0	3.2	ug/L			10/16/18 01:06	4
1,3-Dichlorobenzene	4.0	U	4.0	3.1	ug/L			10/16/18 01:06	4
1,4-Dichlorobenzene	4.0	U	4.0	3.4	ug/L			10/16/18 01:06	4
Dichlorodifluoromethane	4.0	U	4.0	2.7	ug/L			10/16/18 01:06	4
1,1-Dichloroethane	4.0	U	4.0	1.5	ug/L			10/16/18 01:06	4
1,2-Dichloroethane	4.0	U	4.0	0.84	ug/L			10/16/18 01:06	4
1,1-Dichloroethene	4.0	U	4.0	1.2	ug/L			10/16/18 01:06	4
1,2-Dichloropropane	4.0	U	4.0	2.9	ug/L			10/16/18 01:06	4
Ethylbenzene	4.0	U	4.0	3.0	ug/L			10/16/18 01:06	4
2-Hexanone	20	U	20	5.0	ug/L			10/16/18 01:06	4
Isopropylbenzene	4.0	U	4.0	3.2	ug/L			10/16/18 01:06	4
Methyl acetate	10	U	10	5.2	ug/L			10/16/18 01:06	4
Methylcyclohexane	4.0	U	4.0	0.64	ug/L			10/16/18 01:06	4
Methylene Chloride	4.0	U	4.0	1.8	ug/L			10/16/18 01:06	4
4-Methyl-2-pentanone (MIBK)	20	U	20	8.4	ug/L			10/16/18 01:06	4
Methyl tert-butyl ether	4.0	U	4.0	0.64	ug/L			10/16/18 01:06	4
Styrene	4.0	U	4.0	2.9	ug/L			10/16/18 01:06	4
1,1,2,2-Tetrachloroethane	4.0	U	4.0	0.84	ug/L			10/16/18 01:06	4
Tetrachloroethene	4.0	U	4.0	1.4	ug/L			10/16/18 01:06	4
Toluene	4.0	U	4.0	2.0	ug/L			10/16/18 01:06	4
trans-1,2-Dichloroethene	**7.3**		4.0	3.6	ug/L			10/16/18 01:06	4
trans-1,3-Dichloropropene	4.0	U	4.0	1.5	ug/L			10/16/18 01:06	4
1,2,4-Trichlorobenzene	4.0	U	4.0	1.6	ug/L			10/16/18 01:06	4
1,1,1-Trichloroethane	4.0	U	4.0	3.3	ug/L			10/16/18 01:06	4
1,1,2-Trichloroethane	4.0	U	4.0	0.92	ug/L			10/16/18 01:06	4

Client Sample ID: IP-1-100318

Lab Sample ID: 480-142992-1

Date Collected: 10/03/18 10:20

Matrix: Water

Date Received: 10/05/18 01:15

Method: 8260C - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	4.0	U	4.0	1.8	ug/L			10/16/18 01:06	4
Trichlorofluoromethane	4.0	U	4.0	3.5	ug/L			10/16/18 01:06	4
1,1,2-Trichloro-1,2,2-trifluoroethane	4.0	U	4.0	1.2	ug/L			10/16/18 01:06	4
Vinyl chloride	**74**		4.0	3.6	ug/L			10/16/18 01:06	4
Xylenes, Total	8.0	U	8.0	2.6	ug/L			10/16/18 01:06	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*73 - 120*		*10/16/18 01:06*	*4*
Dibromofluoromethane (Surr)	*99*		*75 - 123*		*10/16/18 01:06*	*4*
1,2-Dichloroethane-d4 (Surr)	*96*		*77 - 120*		*10/16/18 01:06*	*4*
Toluene-d8 (Surr)	*99*		*80 - 120*		*10/16/18 01:06*	*4*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	**61**		7.5	1.5	ug/L			10/10/18 13:35	1
Ethene	**8.8**		7.0	1.5	ug/L			10/10/18 13:35	1

Method: RSK-175 - Dissolved Gases (GC) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	**2700**		88	22	ug/L			10/10/18 16:10	22

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TOC Result 1	**4.4**	**B** UB	1.0	0.43	mg/L			10/12/18 23:47	1
TOC Result 2	**4.2**	UB	1.0	0.43	mg/L			10/12/18 23:47	1
Total Organic Carbon	**4.3**	UB	1.0	0.43	mg/L			10/12/18 23:47	1

Client Sample ID: IMP-3-100318

Lab Sample ID: 480-142992-2

Date Collected: 10/03/18 10:25

Matrix: Water

Date Received: 10/05/18 01:15

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**3.5**	**J**	10 UB	3.0	ug/L			10/12/18 00:59	1
Benzene	1.0	U	1.0	0.41	ug/L			10/12/18 00:59	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			10/12/18 00:59	1
Bromoform	1.0	U	1.0	0.26	ug/L			10/12/18 00:59	1
Bromomethane	1.0	U	1.0	0.69	ug/L			10/12/18 00:59	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			10/12/18 00:59	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			10/12/18 00:59	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			10/12/18 00:59	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			10/12/18 00:59	1
Chloroethane	1.0	U	1.0	0.32	ug/L			10/12/18 00:59	1
Chloroform	1.0	U	1.0	0.34	ug/L			10/12/18 00:59	1
Chloromethane	1.0	U ☨	1.0	0.35	ug/L			10/12/18 00:59	1
cis-1,2-Dichloroethene	**72**		1.0	0.81	ug/L			10/12/18 00:59	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			10/12/18 00:59	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			10/12/18 00:59	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			10/12/18 00:59	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			10/12/18 00:59	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			10/12/18 00:59	1

Client Sample ID: IMP-3-100318

Lab Sample ID: 480-142992-2

Date Collected: 10/03/18 10:25

Matrix: Water

Date Received: 10/05/18 01:15

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			10/12/18 00:59	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			10/12/18 00:59	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			10/12/18 00:59	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			10/12/18 00:59	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			10/12/18 00:59	1
1,2-Dichloroethane	**1.0**		1.0	0.21	ug/L			10/12/18 00:59	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			10/12/18 00:59	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			10/12/18 00:59	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			10/12/18 00:59	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			10/12/18 00:59	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			10/12/18 00:59	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			10/12/18 00:59	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			10/12/18 00:59	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			10/12/18 00:59	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			10/12/18 00:59	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			10/12/18 00:59	1
Styrene	1.0	U	1.0	0.73	ug/L			10/12/18 00:59	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			10/12/18 00:59	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			10/12/18 00:59	1
Toluene	1.0	U	1.0	0.51	ug/L			10/12/18 00:59	1
trans-1,2-Dichloroethene	**0.91**	**J**	1.0	0.90	ug/L			10/12/18 00:59	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			10/12/18 00:59	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			10/12/18 00:59	1
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			10/12/18 00:59	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			10/12/18 00:59	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			10/12/18 00:59	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			10/12/18 00:59	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			10/12/18 00:59	1
Vinyl chloride	**5.9**		1.0	0.90	ug/L			10/12/18 00:59	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			10/12/18 00:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*73 - 120*		*10/12/18 00:59*	*1*
Dibromofluoromethane (Surr)	*102*		*75 - 123*		*10/12/18 00:59*	*1*
1,2-Dichloroethane-d4 (Surr)	*96*		*77 - 120*		*10/12/18 00:59*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*10/12/18 00:59*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TOC Result 1	**1.7**	~~B~~ UB	1.0	0.43	mg/L			10/13/18 00:17	1
TOC Result 2	**1.6**	UB	1.0	0.43	mg/L			10/13/18 00:17	1
Total Organic Carbon	**1.7**	UB	1.0	0.43	mg/L			10/13/18 00:17	1

Client Sample ID: MW-16-100318

Lab Sample ID: 480-142992-3

Date Collected: 10/03/18 11:35

Matrix: Water

Date Received: 10/05/18 01:15

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	3.0	ug/L			10/12/18 01:26	1

Client Sample ID: MW-16-100318
Date Collected: 10/03/18 11:35
Date Received: 10/05/18 01:15

Lab Sample ID: 480-142992-3
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0	0.41	ug/L			10/12/18 01:26	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			10/12/18 01:26	1
Bromoform	1.0	U	1.0	0.26	ug/L			10/12/18 01:26	1
Bromomethane	1.0	U	1.0	0.69	ug/L			10/12/18 01:26	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			10/12/18 01:26	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			10/12/18 01:26	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			10/12/18 01:26	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			10/12/18 01:26	1
Chloroethane	1.0	U	1.0	0.32	ug/L			10/12/18 01:26	1
Chloroform	1.0	U	1.0	0.34	ug/L			10/12/18 01:26	1
Chloromethane	1.0	U *	1.0	0.35	ug/L			10/12/18 01:26	1
~~cis-1,2-Dichloroethene~~	~~170~~	~~E~~	~~1.0~~	~~0.81~~	~~ug/L~~			~~10/12/18 01:26~~	~~1~~
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			10/12/18 01:26	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			10/12/18 01:26	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			10/12/18 01:26	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			10/12/18 01:26	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			10/12/18 01:26	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			10/12/18 01:26	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			10/12/18 01:26	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			10/12/18 01:26	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			10/12/18 01:26	1
1,1-Dichloroethane	**0.40**	**J**	1.0	0.38	ug/L			10/12/18 01:26	1
1,2-Dichloroethane	**1.6**		1.0	0.21	ug/L			10/12/18 01:26	1
1,1-Dichloroethene	**1.2**		1.0	0.29	ug/L			10/12/18 01:26	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			10/12/18 01:26	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			10/12/18 01:26	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			10/12/18 01:26	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			10/12/18 01:26	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			10/12/18 01:26	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			10/12/18 01:26	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			10/12/18 01:26	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			10/12/18 01:26	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			10/12/18 01:26	1
Styrene	1.0	U	1.0	0.73	ug/L			10/12/18 01:26	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			10/12/18 01:26	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			10/12/18 01:26	1
Toluene	1.0	U	1.0	0.51	ug/L			10/12/18 01:26	1
trans-1,2-Dichloroethene	**2.7**		1.0	0.90	ug/L			10/12/18 01:26	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			10/12/18 01:26	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			10/12/18 01:26	1
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			10/12/18 01:26	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			10/12/18 01:26	1
Trichloroethene	**21**		1.0	0.46	ug/L			10/12/18 01:26	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			10/12/18 01:26	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			10/12/18 01:26	1
Vinyl chloride	**4.0**		1.0	0.90	ug/L			10/12/18 01:26	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			10/12/18 01:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*73 - 120*		*10/12/18 01:26*	*1*

Client: Ashland LLC
Project/Site: Ashland Rensselaer

TestAmerica Job ID: 480-142992-1

Client Sample ID: MW-16-100318
Date Collected: 10/03/18 11:35
Date Received: 10/05/18 01:15

Lab Sample ID: 480-142992-3
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	101		75 - 123		10/12/18 01:26	1
1,2-Dichloroethane-d4 (Surr)	96		77 - 120		10/12/18 01:26	1
Toluene-d8 (Surr)	101		80 - 120		10/12/18 01:26	1

Method: 8260C - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	40	U	40	12	ug/L			10/16/18 01:33	4
Benzene	4.0	U	4.0	1.6	ug/L			10/16/18 01:33	4
Bromodichloromethane	4.0	U	4.0	1.6	ug/L			10/16/18 01:33	4
Bromoform	4.0	U	4.0	1.0	ug/L			10/16/18 01:33	4
Bromomethane	4.0	U	4.0	2.8	ug/L			10/16/18 01:33	4
2-Butanone (MEK)	40	U	40	5.3	ug/L			10/16/18 01:33	4
Carbon disulfide	4.0	U	4.0	0.76	ug/L			10/16/18 01:33	4
Carbon tetrachloride	4.0	U	4.0	1.1	ug/L			10/16/18 01:33	4
Chlorobenzene	4.0	U	4.0	3.0	ug/L			10/16/18 01:33	4
Chloroethane	4.0	U	4.0	1.3	ug/L			10/16/18 01:33	4
Chloroform	4.0	U	4.0	1.4	ug/L			10/16/18 01:33	4
Chloromethane	4.0	U	4.0	1.4	ug/L			10/16/18 01:33	4
cis-1,2-Dichloroethene	**230**	D	4.0	3.2	ug/L			10/16/18 01:33	4
cis-1,3-Dichloropropene	4.0	U	4.0	1.4	ug/L			10/16/18 01:33	4
Cyclohexane	4.0	U	4.0	0.72	ug/L			10/16/18 01:33	4
Dibromochloromethane	4.0	U	4.0	1.3	ug/L			10/16/18 01:33	4
1,2-Dibromo-3-Chloropropane	4.0	U	4.0	1.6	ug/L			10/16/18 01:33	4
1,2-Dibromoethane	4.0	U	4.0	2.9	ug/L			10/16/18 01:33	4
1,2-Dichlorobenzene	4.0	U	4.0	3.2	ug/L			10/16/18 01:33	4
1,3-Dichlorobenzene	4.0	U	4.0	3.1	ug/L			10/16/18 01:33	4
1,4-Dichlorobenzene	4.0	U	4.0	3.4	ug/L			10/16/18 01:33	4
Dichlorodifluoromethane	4.0	U	4.0	2.7	ug/L			10/16/18 01:33	4
1,1-Dichloroethane	4.0	U	4.0	1.5	ug/L			10/16/18 01:33	4
1,2-Dichloroethane	**2.4**	**J**	4.0	0.84	ug/L			10/16/18 01:33	4
1,1-Dichloroethene	**2.5**	**J**	4.0	1.2	ug/L			10/16/18 01:33	4
1,2-Dichloropropane	4.0	U	4.0	2.9	ug/L			10/16/18 01:33	4
Ethylbenzene	4.0	U	4.0	3.0	ug/L			10/16/18 01:33	4
2-Hexanone	20	U	20	5.0	ug/L			10/16/18 01:33	4
Isopropylbenzene	4.0	U	4.0	3.2	ug/L			10/16/18 01:33	4
Methyl acetate	10	U	10	5.2	ug/L			10/16/18 01:33	4
Methylcyclohexane	4.0	U	4.0	0.64	ug/L			10/16/18 01:33	4
Methylene Chloride	4.0	U	4.0	1.8	ug/L			10/16/18 01:33	4
4-Methyl-2-pentanone (MIBK)	20	U	20	8.4	ug/L			10/16/18 01:33	4
Methyl tert-butyl ether	4.0	U	4.0	0.64	ug/L			10/16/18 01:33	4
Styrene	4.0	U	4.0	2.9	ug/L			10/16/18 01:33	4
1,1,2,2-Tetrachloroethane	4.0	U	4.0	0.84	ug/L			10/16/18 01:33	4
Tetrachloroethene	4.0	U	4.0	1.4	ug/L			10/16/18 01:33	4
Toluene	4.0	U	4.0	2.0	ug/L			10/16/18 01:33	4
trans-1,2-Dichloroethene	**4.0**		4.0	3.6	ug/L			10/16/18 01:33	4
trans-1,3-Dichloropropene	4.0	U	4.0	1.5	ug/L			10/16/18 01:33	4
1,2,4-Trichlorobenzene	4.0	U	4.0	1.6	ug/L			10/16/18 01:33	4
1,1,1-Trichloroethane	4.0	U	4.0	3.3	ug/L			10/16/18 01:33	4
1,1,2-Trichloroethane	4.0	U	4.0	0.92	ug/L			10/16/18 01:33	4

Client Sample ID: MW-16-100318

Date Collected: 10/03/18 11:35
Date Received: 10/05/18 01:15

Lab Sample ID: 480-142992-3

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	29		4.0	1.8	ug/L			10/16/18 01:33	4
Trichlorofluoromethane	4.0	U	4.0	3.5	ug/L			10/16/18 01:33	4
1,1,2-Trichloro-1,2,2-trifluoroethane	4.0	U	4.0	1.2	ug/L			10/16/18 01:33	4
Vinyl chloride	5.3		4.0	3.6	ug/L			10/16/18 01:33	4
Xylenes, Total	8.0	U	8.0	2.6	ug/L			10/16/18 01:33	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*73 - 120*		*10/16/18 01:33*	*4*
Dibromofluoromethane (Surr)	*97*		*75 - 123*		*10/16/18 01:33*	*4*
1,2-Dichloroethane-d4 (Surr)	*93*		*77 - 120*		*10/16/18 01:33*	*4*
Toluene-d8 (Surr)	*99*		*80 - 120*		*10/16/18 01:33*	*4*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	7.5	U	7.5	1.5	ug/L			10/10/18 13:54	1
Ethene	7.0	U	7.0	1.5	ug/L			10/10/18 13:54	1
Methane	52		4.0	1.0	ug/L			10/10/18 13:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TOC Result 1	1.3	B UB	1.0	0.43	mg/L			10/13/18 00:47	1
TOC Result 2	1.1	UB	1.0	0.43	mg/L			10/13/18 00:47	1
Total Organic Carbon	1.2	UB	1.0	0.43	mg/L			10/13/18 00:47	1

Client Sample ID: MW-18-100318

Date Collected: 10/03/18 11:50
Date Received: 10/05/18 01:15

Lab Sample ID: 480-142992-4

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	3.0	ug/L			10/12/18 01:53	1
Benzene	1.2		1.0	0.41	ug/L			10/12/18 01:53	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			10/12/18 01:53	1
Bromoform	1.0	U	1.0	0.26	ug/L			10/12/18 01:53	1
Bromomethane	1.0	U	1.0	0.69	ug/L			10/12/18 01:53	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			10/12/18 01:53	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			10/12/18 01:53	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			10/12/18 01:53	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			10/12/18 01:53	1
Chloroethane	1.0	U	1.0	0.32	ug/L			10/12/18 01:53	1
Chloroform	1.0	U	1.0	0.34	ug/L			10/12/18 01:53	1
Chloromethane	1.0	U *	1.0	0.35	ug/L			10/12/18 01:53	1
cis-1,2-Dichloroethene	290	E	1.0	0.81	ug/L			10/12/18 01:53	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			10/12/18 01:53	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			10/12/18 01:53	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			10/12/18 01:53	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			10/12/18 01:53	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			10/12/18 01:53	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			10/12/18 01:53	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			10/12/18 01:53	1

Client Sample ID: MW-18-100318
Date Collected: 10/03/18 11:50
Date Received: 10/05/18 01:15

Lab Sample ID: 480-142992-4
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			10/12/18 01:53	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			10/12/18 01:53	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			10/12/18 01:53	1
1,2-Dichloroethane	**1.2**		1.0	0.21	ug/L			10/12/18 01:53	1
1,1-Dichloroethene	**0.44**	**J**	1.0	0.29	ug/L			10/12/18 01:53	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			10/12/18 01:53	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			10/12/18 01:53	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			10/12/18 01:53	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			10/12/18 01:53	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			10/12/18 01:53	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			10/12/18 01:53	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			10/12/18 01:53	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			10/12/18 01:53	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			10/12/18 01:53	1
Styrene	1.0	U	1.0	0.73	ug/L			10/12/18 01:53	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			10/12/18 01:53	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			10/12/18 01:53	1
Toluene	1.0	U	1.0	0.51	ug/L			10/12/18 01:53	1
trans-1,2-Dichloroethene	**2.5**		1.0	0.90	ug/L			10/12/18 01:53	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			10/12/18 01:53	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			10/12/18 01:53	1
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			10/12/18 01:53	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			10/12/18 01:53	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			10/12/18 01:53	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			10/12/18 01:53	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			10/12/18 01:53	1
~~**Vinyl chloride**~~	~~**100**~~	~~**E**~~	~~1.0~~	~~0.90~~	~~ug/L~~			~~10/12/18 01:53~~	~~1~~
Xylenes, Total	2.0	U	2.0	0.66	ug/L			10/12/18 01:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*73 - 120*		*10/12/18 01:53*	*1*
Dibromofluoromethane (Surr)	*98*		*75 - 123*		*10/12/18 01:53*	*1*
1,2-Dichloroethane-d4 (Surr)	*97*		*77 - 120*		*10/12/18 01:53*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*10/12/18 01:53*	*1*

Method: 8260C - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
~~Acetone~~	~~40~~	~~U~~	~~40~~	~~12~~	~~ug/L~~			~~10/16/18 02:20~~	~~4~~
~~Benzene~~	~~4.0~~	~~U~~	~~4.0~~	~~1.6~~	~~ug/L~~			~~10/16/18 02:20~~	~~4~~
~~Bromodichloromethane~~	~~4.0~~	~~U~~	~~4.0~~	~~1.6~~	~~ug/L~~			~~10/16/18 02:20~~	~~4~~
~~Bromoform~~	~~4.0~~	~~U~~	~~4.0~~	~~1.0~~	~~ug/L~~			~~10/16/18 02:20~~	~~4~~
~~Bromomethane~~	~~4.0~~	~~U~~	~~4.0~~	~~2.8~~	~~ug/L~~			~~10/16/18 02:20~~	~~4~~
~~2-Butanone (MEK)~~	~~40~~	~~U~~	~~40~~	~~5.3~~	~~ug/L~~			~~10/16/18 02:20~~	~~4~~
~~Carbon disulfide~~	~~4.0~~	~~U~~	~~4.0~~	~~0.76~~	~~ug/L~~			~~10/16/18 02:20~~	~~4~~
~~Carbon tetrachloride~~	~~4.0~~	~~U~~	~~4.0~~	~~1.1~~	~~ug/L~~			~~10/16/18 02:20~~	~~4~~
~~Chlorobenzene~~	~~4.0~~	~~U~~	~~4.0~~	~~3.0~~	~~ug/L~~			~~10/16/18 02:20~~	~~4~~
~~Chloroethane~~	~~4.0~~	~~U~~	~~4.0~~	~~1.3~~	~~ug/L~~			~~10/16/18 02:20~~	~~4~~
~~Chloroform~~	~~4.0~~	~~U~~	~~4.0~~	~~1.4~~	~~ug/L~~			~~10/16/18 02:20~~	~~4~~
~~Chloromethane~~	~~4.0~~	~~U~~	~~4.0~~	~~1.4~~	~~ug/L~~			~~10/16/18 02:20~~	~~4~~
cis-1,2-Dichloroethene	**380**	D	4.0	3.2	ug/L			10/16/18 02:20	4

Client Sample ID: MW-18-100318
Date Collected: 10/03/18 11:50
Date Received: 10/05/18 01:15

Lab Sample ID: 480-142992-4
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	4.0	U	4.0	1.4	ug/L			10/16/18 02:20	4
Cyclohexane	4.0	U	4.0	0.72	ug/L			10/16/18 02:20	4
Dibromochloromethane	4.0	U	4.0	1.3	ug/L			10/16/18 02:20	4
1,2-Dibromo-3-Chloropropane	4.0	U	4.0	1.6	ug/L			10/16/18 02:20	4
1,2-Dibromoethane	4.0	U	4.0	2.9	ug/L			10/16/18 02:20	4
1,2-Dichlorobenzene	4.0	U	4.0	3.2	ug/L			10/16/18 02:20	4
1,3-Dichlorobenzene	4.0	U	4.0	3.1	ug/L			10/16/18 02:20	4
1,4-Dichlorobenzene	4.0	U	4.0	3.4	ug/L			10/16/18 02:20	4
Dichlorodifluoromethane	4.0	U	4.0	2.7	ug/L			10/16/18 02:20	4
1,1-Dichloroethane	4.0	U	4.0	1.5	ug/L			10/16/18 02:20	4
1,2-Dichloroethane	**1.2**	**J**	4.0	0.84	ug/L			10/16/18 02:20	4
1,1-Dichloroethene	4.0	U	4.0	1.2	ug/L			10/16/18 02:20	4
1,2-Dichloropropane	4.0	U	4.0	2.9	ug/L			10/16/18 02:20	4
Ethylbenzene	4.0	U	4.0	3.0	ug/L			10/16/18 02:20	4
2-Hexanone	20	U	20	5.0	ug/L			10/16/18 02:20	4
Isopropylbenzene	4.0	U	4.0	3.2	ug/L			10/16/18 02:20	4
Methyl acetate	10	U	10	5.2	ug/L			10/16/18 02:20	4
Methylcyclohexane	4.0	U	4.0	0.64	ug/L			10/16/18 02:20	4
Methylene Chloride	4.0	U	4.0	1.8	ug/L			10/16/18 02:20	4
4-Methyl-2-pentanone (MIBK)	20	U	20	8.4	ug/L			10/16/18 02:20	4
Methyl tert-butyl ether	4.0	U	4.0	0.64	ug/L			10/16/18 02:20	4
Styrene	4.0	U	4.0	2.9	ug/L			10/16/18 02:20	4
1,1,2,2-Tetrachloroethane	4.0	U	4.0	0.84	ug/L			10/16/18 02:20	4
Tetrachloroethene	4.0	U	4.0	1.4	ug/L			10/16/18 02:20	4
Toluene	4.0	U	4.0	2.0	ug/L			10/16/18 02:20	4
trans-1,2-Dichloroethene	4.0	U	4.0	3.6	ug/L			10/16/18 02:20	4
trans-1,3-Dichloropropene	4.0	U	4.0	1.5	ug/L			10/16/18 02:20	4
1,2,4-Trichlorobenzene	4.0	U	4.0	1.6	ug/L			10/16/18 02:20	4
1,1,1-Trichloroethane	4.0	U	4.0	3.3	ug/L			10/16/18 02:20	4
1,1,2-Trichloroethane	4.0	U	4.0	0.92	ug/L			10/16/18 02:20	4
Trichloroethene	4.0	U	4.0	1.8	ug/L			10/16/18 02:20	4
Trichlorofluoromethane	4.0	U	4.0	3.5	ug/L			10/16/18 02:20	4
1,1,2-Trichloro-1,2,2-trifluoroethane	4.0	U	4.0	1.2	ug/L			10/16/18 02:20	4
Vinyl chloride	**120**	D	4.0	3.6	ug/L			10/16/18 02:20	4
Xylenes, Total	8.0	U	8.0	2.6	ug/L			10/16/18 02:20	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*73 - 120*		*10/16/18 02:20*	*4*
Dibromofluoromethane (Surr)	*100*		*75 - 123*		*10/16/18 02:20*	*4*
1,2-Dichloroethane-d4 (Surr)	*95*		*77 - 120*		*10/16/18 02:20*	*4*
Toluene-d8 (Surr)	*98*		*80 - 120*		*10/16/18 02:20*	*4*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	**26**		7.5	1.5	ug/L			10/10/18 14:13	1
Ethene	7.0	U	7.0	1.5	ug/L			10/10/18 14:13	1

Method: RSK-175 - Dissolved Gases (GC) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	**590**	D	44	11	ug/L			10/10/18 16:29	11

Client Sample ID: MW-18-100318

Lab Sample ID: 480-142992-4

Date Collected: 10/03/18 11:50

Matrix: Water

Date Received: 10/05/18 01:15

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TOC Result 1	2.8	~~B~~ UB	1.0	0.43	mg/L			10/13/18 05:16	1
TOC Result 2	2.7	UB	1.0	0.43	mg/L			10/13/18 05:16	1
Total Organic Carbon	2.8	UB	1.0	0.43	mg/L			10/13/18 05:16	1

Client Sample ID: IW-B3-100318

Lab Sample ID: 480-142992-5

Date Collected: 10/03/18 16:00

Matrix: Water

Date Received: 10/05/18 01:15

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	1300	U R	1300	380	ug/L			10/13/18 17:52	125
Benzene	130	U	130	51	ug/L			10/13/18 17:52	125
Bromodichloromethane	130	U	130	49	ug/L			10/13/18 17:52	125
Bromoform	130	U	130	33	ug/L			10/13/18 17:52	125
Bromomethane	130	U	130	86	ug/L			10/13/18 17:52	125
2-Butanone (MEK)	1300	U	1300	170	ug/L			10/13/18 17:52	125
Carbon disulfide	130	U	130	24	ug/L			10/13/18 17:52	125
Carbon tetrachloride	130	U	130	34	ug/L			10/13/18 17:52	125
Chlorobenzene	130	U	130	94	ug/L			10/13/18 17:52	125
Chloroethane	130	U	130	40	ug/L			10/13/18 17:52	125
Chloroform	130	U	130	43	ug/L			10/13/18 17:52	125
Chloromethane	130	U *	130	44	ug/L			10/13/18 17:52	125
cis-1,2-Dichloroethene	130	U	130	100	ug/L			10/13/18 17:52	125
cis-1,3-Dichloropropene	130	U	130	45	ug/L			10/13/18 17:52	125
Cyclohexane	130	U	130	23	ug/L			10/13/18 17:52	125
Dibromochloromethane	130	U	130	40	ug/L			10/13/18 17:52	125
1,2-Dibromo-3-Chloropropane	130	U	130	49	ug/L			10/13/18 17:52	125
1,2-Dibromoethane	130	U	130	91	ug/L			10/13/18 17:52	125
1,2-Dichlorobenzene	130	U	130	99	ug/L			10/13/18 17:52	125
1,3-Dichlorobenzene	130	U	130	98	ug/L			10/13/18 17:52	125
1,4-Dichlorobenzene	130	U	130	110	ug/L			10/13/18 17:52	125
Dichlorodifluoromethane	130	U	130	85	ug/L			10/13/18 17:52	125
1,1-Dichloroethane	130	U	130	48	ug/L			10/13/18 17:52	125
1,2-Dichloroethane	130	U	130	26	ug/L			10/13/18 17:52	125
1,1-Dichloroethene	130	U	130	36	ug/L			10/13/18 17:52	125
1,2-Dichloropropane	130	U	130	90	ug/L			10/13/18 17:52	125
Ethylbenzene	130	U	130	93	ug/L			10/13/18 17:52	125
2-Hexanone	630	U	630	160	ug/L			10/13/18 17:52	125
Isopropylbenzene	130	U	130	99	ug/L			10/13/18 17:52	125
Methyl acetate	310	U	310	160	ug/L			10/13/18 17:52	125
Methylcyclohexane	130	U	130	20	ug/L			10/13/18 17:52	125
Methylene Chloride	130	U	130	55	ug/L			10/13/18 17:52	125
4-Methyl-2-pentanone (MIBK)	630	U	630	260	ug/L			10/13/18 17:52	125
Methyl tert-butyl ether	130	U	130	20	ug/L			10/13/18 17:52	125
Styrene	130	U	130	91	ug/L			10/13/18 17:52	125
1,1,2,2-Tetrachloroethane	130	U	130	26	ug/L			10/13/18 17:52	125
Tetrachloroethene	130	U	130	45	ug/L			10/13/18 17:52	125
Toluene	130	U	130	64	ug/L			10/13/18 17:52	125
trans-1,2-Dichloroethene	130	U	130	110	ug/L			10/13/18 17:52	125
trans-1,3-Dichloropropene	130	U R	130	46	ug/L			10/13/18 17:52	125

Client Sample ID: IW-B3-100318

Lab Sample ID: 480-142992-5
Matrix: Water
Date Collected: 10/03/18 16:00
Date Received: 10/05/18 01:15

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	130	U R	130	51	ug/L			10/13/18 17:52	125
1,1,1-Trichloroethane	130	U	130	100	ug/L			10/13/18 17:52	125
1,1,2-Trichloroethane	130	U	130	29	ug/L			10/13/18 17:52	125
Trichloroethene	130	U	130	58	ug/L			10/13/18 17:52	125
Trichlorofluoromethane	130	U	130	110	ug/L			10/13/18 17:52	125
1,1,2-Trichloro-1,2,2-trifluoroethane	130	U	130	39	ug/L			10/13/18 17:52	125
Vinyl chloride	130	U	130	110	ug/L			10/13/18 17:52	125
Xylenes, Total	250	U R	250	83	ug/L			10/13/18 17:52	125

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*73 - 120*		*10/13/18 17:52*	*125*
Dibromofluoromethane (Surr)	*101*		*75 - 123*		*10/13/18 17:52*	*125*
1,2-Dichloroethane-d4 (Surr)	*95*		*77 - 120*		*10/13/18 17:52*	*125*
Toluene-d8 (Surr)	*99*		*80 - 120*		*10/13/18 17:52*	*125*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TOC Result 1	**240**		4.0	1.7	mg/L			10/18/18 03:58	4
TOC Result 2	**240**		4.0	1.7	mg/L			10/18/18 03:58	4
Total Organic Carbon	**240**		4.0	1.7	mg/L			10/18/18 03:58	4

Client Sample ID: MW-B1-100318

Lab Sample ID: 480-142992-6
Matrix: Water
Date Collected: 10/03/18 16:00
Date Received: 10/05/18 01:15

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	20	U	20	6.0	ug/L			10/12/18 02:48	2
Benzene	2.0	U	2.0	0.82	ug/L			10/12/18 02:48	2
Bromodichloromethane	2.0	U	2.0	0.78	ug/L			10/12/18 02:48	2
Bromoform	2.0	U	2.0	0.52	ug/L			10/12/18 02:48	2
Bromomethane	2.0	U	2.0	1.4	ug/L			10/12/18 02:48	2
2-Butanone (MEK)	20	U	20	2.6	ug/L			10/12/18 02:48	2
Carbon disulfide	2.0	U	2.0	0.38	ug/L			10/12/18 02:48	2
Carbon tetrachloride	2.0	U	2.0	0.54	ug/L			10/12/18 02:48	2
Chlorobenzene	2.0	U	2.0	1.5	ug/L			10/12/18 02:48	2
Chloroethane	2.0	U	2.0	0.64	ug/L			10/12/18 02:48	2
Chloroform	2.0	U	2.0	0.68	ug/L			10/12/18 02:48	2
Chloromethane	2.0	U*	2.0	0.70	ug/L			10/12/18 02:48	2
cis-1,2-Dichloroethene	**15**		2.0	1.6	ug/L			10/12/18 02:48	2
cis-1,3-Dichloropropene	2.0	U	2.0	0.72	ug/L			10/12/18 02:48	2
Cyclohexane	2.0	U	2.0	0.36	ug/L			10/12/18 02:48	2
Dibromochloromethane	2.0	U	2.0	0.64	ug/L			10/12/18 02:48	2
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.78	ug/L			10/12/18 02:48	2
1,2-Dibromoethane	2.0	U	2.0	1.5	ug/L			10/12/18 02:48	2
1,2-Dichlorobenzene	2.0	U	2.0	1.6	ug/L			10/12/18 02:48	2
1,3-Dichlorobenzene	2.0	U	2.0	1.6	ug/L			10/12/18 02:48	2
1,4-Dichlorobenzene	2.0	U	2.0	1.7	ug/L			10/12/18 02:48	2
Dichlorodifluoromethane	2.0	U	2.0	1.4	ug/L			10/12/18 02:48	2
1,1-Dichloroethane	2.0	U	2.0	0.76	ug/L			10/12/18 02:48	2

Client: Ashland LLC
Project/Site: Ashland Rensselaer

TestAmerica Job ID: 480-142992-1

Client Sample ID: MW-B1-100318
Date Collected: 10/03/18 16:00
Date Received: 10/05/18 01:15

Lab Sample ID: 480-142992-6
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	**0.77**	**J**	2.0	0.42	ug/L			10/12/18 02:48	2
1,1-Dichloroethene	2.0	U	2.0	0.58	ug/L			10/12/18 02:48	2
1,2-Dichloropropane	2.0	U	2.0	1.4	ug/L			10/12/18 02:48	2
Ethylbenzene	2.0	U	2.0	1.5	ug/L			10/12/18 02:48	2
2-Hexanone	10	U	10	2.5	ug/L			10/12/18 02:48	2
Isopropylbenzene	2.0	U	2.0	1.6	ug/L			10/12/18 02:48	2
Methyl acetate	5.0	U	5.0	2.6	ug/L			10/12/18 02:48	2
Methylcyclohexane	2.0	U	2.0	0.32	ug/L			10/12/18 02:48	2
Methylene Chloride	2.0	U	2.0	0.88	ug/L			10/12/18 02:48	2
4-Methyl-2-pentanone (MIBK)	10	U	10	4.2	ug/L			10/12/18 02:48	2
Methyl tert-butyl ether	2.0	U	2.0	0.32	ug/L			10/12/18 02:48	2
Styrene	2.0	U	2.0	1.5	ug/L			10/12/18 02:48	2
1,1,2,2-Tetrachloroethane	2.0	U	2.0	0.42	ug/L			10/12/18 02:48	2
Tetrachloroethene	2.0	U	2.0	0.72	ug/L			10/12/18 02:48	2
Toluene	2.0	U	2.0	1.0	ug/L			10/12/18 02:48	2
trans-1,2-Dichloroethene	2.0	U	2.0	1.8	ug/L			10/12/18 02:48	2
trans-1,3-Dichloropropene	2.0	U	2.0	0.74	ug/L			10/12/18 02:48	2
1,2,4-Trichlorobenzene	2.0	U	2.0	0.82	ug/L			10/12/18 02:48	2
1,1,1-Trichloroethane	2.0	U	2.0	1.6	ug/L			10/12/18 02:48	2
1,1,2-Trichloroethane	2.0	U	2.0	0.46	ug/L			10/12/18 02:48	2
Trichloroethene	2.0	U	2.0	0.92	ug/L			10/12/18 02:48	2
Trichlorofluoromethane	2.0	U	2.0	1.8	ug/L			10/12/18 02:48	2
1,1,2-Trichloro-1,2,2-trifluoroethane	2.0	U	2.0	0.62	ug/L			10/12/18 02:48	2
Vinyl chloride	**27**		2.0	1.8	ug/L			10/12/18 02:48	2
Xylenes, Total	4.0	U	4.0	1.3	ug/L			10/12/18 02:48	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*73 - 120*		*10/12/18 02:48*	*2*
Dibromofluoromethane (Surr)	*102*		*75 - 123*		*10/12/18 02:48*	*2*
1,2-Dichloroethane-d4 (Surr)	*97*		*77 - 120*		*10/12/18 02:48*	*2*
Toluene-d8 (Surr)	*99*		*80 - 120*		*10/12/18 02:48*	*2*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	750	U	750	150	ug/L			10/10/18 16:48	100
Ethene	700	U	700	150	ug/L			10/10/18 16:48	100
Methane	**10000**		400	100	ug/L			10/10/18 16:48	100

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TOC Result 1	**17**	**B**	1.0	0.43	mg/L			10/13/18 06:16	1
TOC Result 2	**16**		1.0	0.43	mg/L			10/13/18 06:16	1
Total Organic Carbon	**17**		1.0	0.43	mg/L			10/13/18 06:16	1

Client Sample ID: FB-1-100318
Date Collected: 10/03/18 14:40
Date Received: 10/05/18 01:15

Lab Sample ID: 480-142992-7
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	3.0	ug/L			10/12/18 03:16	1
Benzene	1.0	U	1.0	0.41	ug/L			10/12/18 03:16	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			10/12/18 03:16	1
Bromoform	1.0	U	1.0	0.26	ug/L			10/12/18 03:16	1
Bromomethane	1.0	U	1.0	0.69	ug/L			10/12/18 03:16	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			10/12/18 03:16	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			10/12/18 03:16	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			10/12/18 03:16	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			10/12/18 03:16	1
Chloroethane	1.0	U	1.0	0.32	ug/L			10/12/18 03:16	1
Chloroform	**3.0**		1.0	0.34	ug/L			10/12/18 03:16	1
Chloromethane	1.0	U	1.0	0.35	ug/L			10/12/18 03:16	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			10/12/18 03:16	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			10/12/18 03:16	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			10/12/18 03:16	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			10/12/18 03:16	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			10/12/18 03:16	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			10/12/18 03:16	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			10/12/18 03:16	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			10/12/18 03:16	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			10/12/18 03:16	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			10/12/18 03:16	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			10/12/18 03:16	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			10/12/18 03:16	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			10/12/18 03:16	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			10/12/18 03:16	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			10/12/18 03:16	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			10/12/18 03:16	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			10/12/18 03:16	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			10/12/18 03:16	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			10/12/18 03:16	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			10/12/18 03:16	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			10/12/18 03:16	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			10/12/18 03:16	1
Styrene	1.0	U	1.0	0.73	ug/L			10/12/18 03:16	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			10/12/18 03:16	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			10/12/18 03:16	1
Toluene	1.0	U	1.0	0.51	ug/L			10/12/18 03:16	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			10/12/18 03:16	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			10/12/18 03:16	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			10/12/18 03:16	1
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			10/12/18 03:16	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			10/12/18 03:16	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			10/12/18 03:16	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			10/12/18 03:16	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			10/12/18 03:16	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			10/12/18 03:16	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			10/12/18 03:16	1

Client Sample ID: FB-1-100318

Date Collected: 10/03/18 14:40
Date Received: 10/05/18 01:15

Lab Sample ID: 480-142992-7
Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*73 - 120*		*10/12/18 03:16*	*1*
Dibromofluoromethane (Surr)	*100*		*75 - 123*		*10/12/18 03:16*	*1*
1,2-Dichloroethane-d4 (Surr)	*96*		*77 - 120*		*10/12/18 03:16*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*10/12/18 03:16*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	7.5	U	7.5	1.5	ug/L			10/10/18 14:51	1
Ethene	7.0	U	7.0	1.5	ug/L			10/10/18 14:51	1
Methane	4.0	U	4.0	1.0	ug/L			10/10/18 14:51	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TOC Result 1	**1.0**	**B**	1.0	0.43	mg/L			10/13/18 06:46	1
TOC Result 2	**0.71**	**J**	1.0	0.43	mg/L			10/13/18 06:46	1
Total Organic Carbon	**0.79**	**J**	1.0	0.43	mg/L			10/13/18 06:46	1

Client Sample ID: MW-17-100318

Date Collected: 10/03/18 17:10
Date Received: 10/05/18 01:15

Lab Sample ID: 480-142992-8
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL		MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	~~6.1~~	~~J~~	20	UB	6.0	ug/L			10/12/18 03:43	2
Benzene	2.0	U	2.0		0.82	ug/L			10/12/18 03:43	2
Bromodichloromethane	2.0	U	2.0		0.78	ug/L			10/12/18 03:43	2
Bromoform	2.0	U	2.0		0.52	ug/L			10/12/18 03:43	2
Bromomethane	2.0	U	2.0		1.4	ug/L			10/12/18 03:43	2
2-Butanone (MEK)	20	U	20		2.6	ug/L			10/12/18 03:43	2
Carbon disulfide	2.0	U	2.0		0.38	ug/L			10/12/18 03:43	2
Carbon tetrachloride	2.0	U	2.0		0.54	ug/L			10/12/18 03:43	2
Chlorobenzene	2.0	U	2.0		1.5	ug/L			10/12/18 03:43	2
Chloroethane	2.0	U	2.0		0.64	ug/L			10/12/18 03:43	2
Chloroform	2.0	U	2.0		0.68	ug/L			10/12/18 03:43	2
Chloromethane	2.0	U	2.0		0.70	ug/L			10/12/18 03:43	2
cis-1,2-Dichloroethene	2.0	U	2.0		1.6	ug/L			10/12/18 03:43	2
cis-1,3-Dichloropropene	2.0	U	2.0		0.72	ug/L			10/12/18 03:43	2
Cyclohexane	2.0	U	2.0		0.36	ug/L			10/12/18 03:43	2
Dibromochloromethane	2.0	U	2.0		0.64	ug/L			10/12/18 03:43	2
1,2-Dibromo-3-Chloropropane	2.0	U	2.0		0.78	ug/L			10/12/18 03:43	2
1,2-Dibromoethane	2.0	U	2.0		1.5	ug/L			10/12/18 03:43	2
1,2-Dichlorobenzene	2.0	U	2.0		1.6	ug/L			10/12/18 03:43	2
1,3-Dichlorobenzene	2.0	U	2.0		1.6	ug/L			10/12/18 03:43	2
1,4-Dichlorobenzene	2.0	U	2.0		1.7	ug/L			10/12/18 03:43	2
Dichlorodifluoromethane	2.0	U	2.0		1.4	ug/L			10/12/18 03:43	2
1,1-Dichloroethane	2.0	U	2.0		0.76	ug/L			10/12/18 03:43	2
1,2-Dichloroethane	2.0	U	2.0		0.42	ug/L			10/12/18 03:43	2
1,1-Dichloroethene	2.0	U	2.0		0.58	ug/L			10/12/18 03:43	2
1,2-Dichloropropane	2.0	U	2.0		1.4	ug/L			10/12/18 03:43	2
Ethylbenzene	2.0	U	2.0		1.5	ug/L			10/12/18 03:43	2
2-Hexanone	10	U	10		2.5	ug/L			10/12/18 03:43	2

Client Sample ID: MW-17-100318

Lab Sample ID: 480-142992-8

Date Collected: 10/03/18 17:10

Matrix: Water

Date Received: 10/05/18 01:15

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropylbenzene	2.0	U	2.0	1.6	ug/L			10/12/18 03:43	2
Methyl acetate	5.0	U	5.0	2.6	ug/L			10/12/18 03:43	2
Methylcyclohexane	2.0	U	2.0	0.32	ug/L			10/12/18 03:43	2
Methylene Chloride	2.0	U	2.0	0.88	ug/L			10/12/18 03:43	2
4-Methyl-2-pentanone (MIBK)	10	U	10	4.2	ug/L			10/12/18 03:43	2
Methyl tert-butyl ether	2.0	U	2.0	0.32	ug/L			10/12/18 03:43	2
Styrene	2.0	U	2.0	1.5	ug/L			10/12/18 03:43	2
1,1,2,2-Tetrachloroethane	2.0	U	2.0	0.42	ug/L			10/12/18 03:43	2
Tetrachloroethene	2.0	U	2.0	0.72	ug/L			10/12/18 03:43	2
Toluene	2.0	U	2.0	1.0	ug/L			10/12/18 03:43	2
trans-1,2-Dichloroethene	2.0	U	2.0	1.8	ug/L			10/12/18 03:43	2
trans-1,3-Dichloropropene	2.0	U	2.0	0.74	ug/L			10/12/18 03:43	2
1,2,4-Trichlorobenzene	2.0	U	2.0	0.82	ug/L			10/12/18 03:43	2
1,1,1-Trichloroethane	2.0	U	2.0	1.6	ug/L			10/12/18 03:43	2
1,1,2-Trichloroethane	2.0	U	2.0	0.46	ug/L			10/12/18 03:43	2
Trichloroethene	2.0	U	2.0	0.92	ug/L			10/12/18 03:43	2
Trichlorofluoromethane	2.0	U	2.0	1.8	ug/L			10/12/18 03:43	2
1,1,2-Trichloro-1,2,2-trifluoroethane	2.0	U	2.0	0.62	ug/L			10/12/18 03:43	2
Vinyl chloride	2.0	U	2.0	1.8	ug/L			10/12/18 03:43	2
Xylenes, Total	4.0	U	4.0	1.3	ug/L			10/12/18 03:43	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*73 - 120*		*10/12/18 03:43*	*2*
Dibromofluoromethane (Surr)	*103*		*75 - 123*		*10/12/18 03:43*	*2*
1,2-Dichloroethane-d4 (Surr)	*98*		*77 - 120*		*10/12/18 03:43*	*2*
Toluene-d8 (Surr)	*101*		*80 - 120*		*10/12/18 03:43*	*2*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TOC Result 1	**1.9**	~~B~~ UB	1.0	0.43	mg/L			10/13/18 11:14	1
TOC Result 2	**1.8**	UB	1.0	0.43	mg/L			10/13/18 11:14	1
Total Organic Carbon	**1.8**	~~B~~ UB	1.0	0.43	mg/L			10/13/18 11:14	1

Client Sample ID: MW-21-100318

Lab Sample ID: 480-142992-9

Date Collected: 10/03/18 17:15

Matrix: Water

Date Received: 10/05/18 01:15

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	~~3.5~~ ~~J~~		10 UB	3.0	ug/L			10/12/18 04:11	1
Benzene	1.0	U	1.0	0.41	ug/L			10/12/18 04:11	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			10/12/18 04:11	1
Bromoform	1.0	U	1.0	0.26	ug/L			10/12/18 04:11	1
Bromomethane	1.0	U	1.0	0.69	ug/L			10/12/18 04:11	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			10/12/18 04:11	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			10/12/18 04:11	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			10/12/18 04:11	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			10/12/18 04:11	1
Chloroethane	1.0	U	1.0	0.32	ug/L			10/12/18 04:11	1
Chloroform	1.0	U	1.0	0.34	ug/L			10/12/18 04:11	1

Client Sample ID: MW-21-100318
Date Collected: 10/03/18 17:15
Date Received: 10/05/18 01:15

Lab Sample ID: 480-142992-9
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	1.0	U	1.0	0.35	ug/L			10/12/18 04:11	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			10/12/18 04:11	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			10/12/18 04:11	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			10/12/18 04:11	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			10/12/18 04:11	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			10/12/18 04:11	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			10/12/18 04:11	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			10/12/18 04:11	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			10/12/18 04:11	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			10/12/18 04:11	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			10/12/18 04:11	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			10/12/18 04:11	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			10/12/18 04:11	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			10/12/18 04:11	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			10/12/18 04:11	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			10/12/18 04:11	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			10/12/18 04:11	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			10/12/18 04:11	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			10/12/18 04:11	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			10/12/18 04:11	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			10/12/18 04:11	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			10/12/18 04:11	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			10/12/18 04:11	1
Styrene	1.0	U	1.0	0.73	ug/L			10/12/18 04:11	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			10/12/18 04:11	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			10/12/18 04:11	1
Toluene	1.0	U	1.0	0.51	ug/L			10/12/18 04:11	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			10/12/18 04:11	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			10/12/18 04:11	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			10/12/18 04:11	1
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			10/12/18 04:11	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			10/12/18 04:11	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			10/12/18 04:11	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			10/12/18 04:11	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			10/12/18 04:11	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			10/12/18 04:11	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			10/12/18 04:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*73 - 120*		*10/12/18 04:11*	*1*
Dibromofluoromethane (Surr)	*104*		*75 - 123*		*10/12/18 04:11*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*77 - 120*		*10/12/18 04:11*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*10/12/18 04:11*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TOC Result 1	**8.6**	**B**	1.0	0.43	mg/L			10/13/18 11:43	1
TOC Result 2	**8.1**		1.0	0.43	mg/L			10/13/18 11:43	1
Total Organic Carbon	**8.5**	**B**	1.0	0.43	mg/L			10/13/18 11:43	1

Client: Ashland LLC
Project/Site: Ashland Rensselaer

TestAmerica Job ID: 480-142992-1

Client Sample ID: Trip Blank
Date Collected: 10/03/18 00:00
Date Received: 10/05/18 01:15

Lab Sample ID: 480-142992-10
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	7.5	J	10	3.0	ug/L			10/12/18 04:38	1
Benzene	1.0	U	1.0	0.41	ug/L			10/12/18 04:38	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			10/12/18 04:38	1
Bromoform	1.0	U	1.0	0.26	ug/L			10/12/18 04:38	1
Bromomethane	1.0	U	1.0	0.69	ug/L			10/12/18 04:38	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			10/12/18 04:38	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			10/12/18 04:38	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			10/12/18 04:38	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			10/12/18 04:38	1
Chloroethane	1.0	U	1.0	0.32	ug/L			10/12/18 04:38	1
Chloroform	1.0	U	1.0	0.34	ug/L			10/12/18 04:38	1
Chloromethane	1.0	U	1.0	0.35	ug/L			10/12/18 04:38	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			10/12/18 04:38	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			10/12/18 04:38	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			10/12/18 04:38	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			10/12/18 04:38	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			10/12/18 04:38	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			10/12/18 04:38	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			10/12/18 04:38	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			10/12/18 04:38	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			10/12/18 04:38	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			10/12/18 04:38	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			10/12/18 04:38	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			10/12/18 04:38	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			10/12/18 04:38	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			10/12/18 04:38	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			10/12/18 04:38	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			10/12/18 04:38	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			10/12/18 04:38	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			10/12/18 04:38	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			10/12/18 04:38	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			10/12/18 04:38	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			10/12/18 04:38	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			10/12/18 04:38	1
Styrene	1.0	U	1.0	0.73	ug/L			10/12/18 04:38	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			10/12/18 04:38	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			10/12/18 04:38	1
Toluene	1.0	U	1.0	0.51	ug/L			10/12/18 04:38	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			10/12/18 04:38	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			10/12/18 04:38	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			10/12/18 04:38	1
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			10/12/18 04:38	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			10/12/18 04:38	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			10/12/18 04:38	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			10/12/18 04:38	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			10/12/18 04:38	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			10/12/18 04:38	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			10/12/18 04:38	1

Client: Ashland LLC
Project/Site: Ashland Rensselaer

TestAmerica Job ID: 480-142992-1

Client Sample ID: Trip Blank
Date Collected: 10/03/18 00:00
Date Received: 10/05/18 01:15

Lab Sample ID: 480-142992-10
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	89		73 - 120		10/12/18 04:38	1
Dibromofluoromethane (Surr)	102		75 - 123		10/12/18 04:38	1
1,2-Dichloroethane-d4 (Surr)	96		77 - 120		10/12/18 04:38	1
Toluene-d8 (Surr)	98		80 - 120		10/12/18 04:38	1

APPENDIX C

Groundwater Monitoring Field Logs

Ashland - Rensselaer, NY
Groundwater Elevation Data

NT = No tubing, needs to be provided for next event

Well ID	Measuring Pt. Elevation	TD	Installed TD	DTW	DTB	Comments
IMP-1	25.13	18.73	16.0	7.12	18.45	
IMP-2	25.17	18.67	16.0			No access, need lock
IMP-3	25.13	18.32	16.0	8.14	18.36	No J-plug
MW-1	28.98	14.90	12.5	4.18	14.38	
MW-3	24.27	15.01	15.0	4.59	15.07	
MW-4	25.95	15.89	14.0	4.40	16.40	
MW-9	27.18	18.66	15.5	11.33	16.67	
MW-10	26.34	15.90	12.5	—	4.99	Obstruction?
MW-11	25.16	15.89	13.5	4.89	4.84	No J-plug, dry
MW-12D	24.08	26.45	25.5	3.52	20.43	
MW-12S	23.12	15.87	14.1	6.46	15.90	No J-plug
MW-13	36.86	22.16	20.5	2.91	22.18	
MW-14	33.85	16.79	15.0	6.63	16.74	
MW-15	25.19	15.01	27.5	1.78	5.03	
MW-16	25.41	16.40	15.0	1.88	6.70	
MW-17	21.78	18.00	18.0	6.19	7.99	
MW-18	23.98	18.00	16.0	5.97	18.05	
MW-19	25.51	17.60	17.5	2.36	14.57	
MW-20				1.14	17.82	
MW-21				10.27	14.46	
MW-A1	28.34	22.46	20.0	4.41	22.46	
MW-B1	27.53	21.56	20.0	6.51	21.65	
MW-B2	27.40	21.19	20.0	5.61	21.19	
IP-1	25.15	18.54	16.0	5.01	18.54	No J-plug
PZ-1	27.88	20.35	18.0	4.31	20.35	
PZ-2	28.34	14.91	13.5	5.31	15.38	
PZ-3	29.97	23.78	22.0	4.74	23.68	
PZ-4	25.20	9.57	NA	4.37	9.57	
PZ-5	25.52	7.44	NA	4.45	7.45	
PZ-6	25.22	8.05	NA	4.32	8.05	
PZ-7	24.90	7.95	NA	3.83	7.92	
Sump	26.82	20.10	NA	5.64	20.10	
BM-2	28.02	22.4*	NA	3.71	3.87	Across South St. from the site.
BM-4	26.59	17.7*	NA			
MH-1 (near the old treatment shed)	16.5*		NA	8.62	27.65	
MH-2 (Manhole east of MW-12S)	15.40*	15.40*	NA			Outfall at north end of culvert. Water level from stream depth added to invert elevation.

Notes:
1. Groundwater measurements collected on April __, 2009 by Delta Consultants.
2. BM = Survey benchmark above the culverted stream.
3. * = Invert of culvert elevation.
4. ** = Inches of water in stream used to estimate stream elevation at outfall.

= fill in this number with contiguous measurements

*** = Pipe invert elevation (bottom of pipe). Surface water elevation is based on depth below surface manhole cover to top of water subtracted from measurement to bottom of pipe invert, then added to the pipe invert measuring point elevation.

NT MW-24 — 5.78 26.34 NT IW-B3 — 2.49 15.45
IW-B1 — 4.26 20.01 IW-A2 — 8.89 12.11
MW-23 — 8.58 36.50

NT = No tubing NT MW-22 — 1.76 16.67

ARCADIS Design & Consultancy for natural and built assets

Groundwater Sampling Form

Project No. _____ Well ID MW-21 Sample Date 4/4/18

Project Name/Location Ashland Rivesville Weather Sunny, 30°F

Well Material X PVC ____ SS

Screen Setting (ft bTOC) _____

Casing Diameter (in.) 2

Static Water Level (ft bTOC) 10.27

Total Well Depth (ft bTOC) 14.96

Pump Intake (ft bTOC) 14.00

Water Column/ Gallons in Well 4.69 / 0.75

MP Elevation _____

Pump On/Off Time 1532 / 1621

Volumes Purged ~ 0.8 g

Purge Method: Centrifugal ____ Submersible X Other ____

Sample Method low flow

Sample Time: Label 1609 Start 1609 End 1621

Duplicate? ID? _____

Sampled by TC

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Cumul. Gallons Purged	pH	Cond. (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	Redox (mV)	Appearance	
Stabilization Req's:		200-500 mL/min	+/- 0.3		+/- 0.1 unit	+/- 3%	+/- 10%	+/- 10%	+/- 3%	+/- 10mV	Color	Odor
1532	0	cut	10.43								Clear	ND
1537	5	120	10.70		7.59	114	60.0	5.26	9.51	114	Clear	ND
1542	10		10.75		7.57	117	59.1	5.37	9.45	117	Clear	ND
1547	15		10.99		7.48	0.475	36.3	3.71	9.07	18	Clear	ND
1552	20		11.21		7.37	0.490	22.0	1.46	8.88	-56	Clear	ND
1557	25	100	11.40		7.34	1.00	21.8	0.93	8.85	-66	Clear	ND
1602	30	100	11.57		7.32	1.00	20.3	1.06	8.81	-64	Clear	ND
1607	35	100	11.64		7.32	1.00	20.8	1.06	8.81	-63	Clear	ND

Constituents to be Analyzed	Container Type	Number	Preservative
VOC	VOA	3	HCl
TOC	100 A	2	HCl
Sulfate	250 plastic	1	—
Diss Fe Mn FF	250 plastic	1	HNO3

Notes: • low water, low recharge
• Color change to cloudy during sampling

Well Casing Volumes

Gallons/Foot					
	1" = 0.04	1.5" = 0.09	2.5" = 0.26	3.5" = 0.50	6" = 1.47
	1.25" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65	

ARCADIS Design & Consultancy for natural and built assets

Groundwater Sampling Form

Project No. _____ Well ID ID-1 Sample Date 4/4/18

Project Name/Location Ashland Renessler Weather Sunny, 36°F

Well Material X PVC ___ SS

Screen Setting (ft bTOC) _____

Casing Diameter (in.) 2

Static Water Level (ft bTOC) 5.01

Total Well Depth (ft bTOC) 18.54

Pump Intake (ft bTOC) 16.54

Water Column/ Gallons in Well 13.53 / 2.17

MP Elevation _____

Pump On/Off Time 1410 / 1515

Volumes Purged ~ 3.6g

Purge Method: Centrifugal ___ Submersible X Other ___

Sample Method Low Flow

Sample Time: Label 1502 Start 1507 End 1515

Duplicate? ID? _____

Sampled by TC

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Cumul. Gallons Purged	pH	Cond. (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	Redox (mV)	Appearance	
Stabilization Req's:		200-500 mL/min	+/- 0.3		+/- 0.1 unit	+/- 3%	+/- 10%	+/- 10%	+/- 3%	+/- 10mV	Color	Odor
1410	0	0	5.37								Brown	NP
1415	5	150	5.41		7.34	0.783	193	0.00	9.70	-104	Brown	ND
1420	10	150	5.43		7.34	0.784	196	0.00	9.67	-106	Brown	ND
1425	15	↓	5.47		7.34	0.784	176	0.00	9.67	-108	Clear	ND
1430	20	↓	5.50		7.34	0.784	155	0.00	9.41	-107	Clear	ND
1435	25	↓	5.52		7.34	0.784	149	0.00	9.13	-107	Clear	ND
1440	30	↓	5.54		7.34	0.783	128	0.00	9.01	-104	Clear	ND
1445	35	↓	5.54		7.34	0.781	114	0.00	8.90	-112	Clear	ND
1450	40	↓	5.54		7.34	0.778	97.4	0.00	8.90	-114	Clear	ND
1455	45	↓	5.54		7.33	0.775	100	0.00	8.96	-115	Clear	ND
1500	50	↓	5.54		7.33	0.775	102	0.00	9.00	-115	Clear	ND

Constituents to be Analyzed	Container Type	Number	Preservative
VOC	VOA	3	HCl
TOC	VOA	2	HCl
Diss Gas	VOA	3	HCl
Sulfide	250 plastic	1	—
Diss Fe Mn FF	250 plastic	1	HNO_3

Notes: @ Carbon Trap 11 ft deployment
@ Turbidity high

Well Casing Volumes

Gallons/Foot					
	1" = 0.04	1.5" = 0.09	2.5" = 0.26	3.5" = 0.50	6" = 1.47
	1.25" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65	

ARCADIS Design & Consultancy for natural and built assets

Groundwater Sampling Form

Project No. _____ Well ID INP-3 Sample Date 4/4/18

Project Name/Location Ashland Renessler Weather Sunny, 31°F

Well Material X PVC ___ SS

Screen Setting (ft bTOC) _____

Casing Diameter (in.) 2

Static Water Level (ft bTOC) 8.14

Total Well Depth (ft bTOC) 18.36

Water Column/ Gallons in Well 10.22 / 1.64

MP Elevation _____

Pump Intake (ft bTOC) 16.36

Purge Method: Centrifugal ___ Submersible X Other ___

Sample Method low flow

Pump On/Off Time 1257 /

Volumes Purged ~ 1.3g

Sample Time: Label 1335 Start 1335 End ___

Duplicate? ID? _____

Sampled by TC

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Cumul. Gallons Purged	pH	Cond. (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	Redox (mV)	Appearance	
Stabilization Req's:		200-500 mL/min	+/- 0.3		+/- 0.1 unit	+/- 3%	+/- 10%	+/- 10%	+/- 3%	+/- 10mV	Color	Odor
1257	0	100	8.44								Clear	ND
1303	6	150	8.31		7.20	0.887	25.7	0.77	11.18	-25	Clear	ND
1307	10	|	9.67		7.20	0.878	27.3	0.42	10.34	5	Clear	ND
1313	17	|	9.77		7.26	0.856	55.2	1.03	10.14	-12	Clear	ND
1317	21	|	10.41		7.27	0.889	33.1	1.54	10.19	0	Clear	ND
1323	27	|	11.07		7.28	0.921	32.4	1.53	10.29	-5	Clear	ND
1327	31	↓	11.16		7.29	0.952	31.8	1.54	10.45	-8	Clear	ND
1333	35		11.33		7.31	0.985	30.9	1.56	10.56	-15	Clear	ND

Constituents to be Analyzed	Container Type	Number	Preservative
VOC	VOA	3	HCl
TOC	VOA	2	HCl
Diss. Gas	VOA	3	HCl
Sulfate	250 plastic	1	—
Diss Fe Mn FF	250 plastic	1	HNO_3

Notes: Carbon trap 11 ft deployment

Well Casing Volumes

Gallons/Foot					
	1" = 0.04	1.5" = 0.09	2.5" = 0.26	3.5" = 0.50	6" = 1.47
	1.25" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65	

![ARCADIS logo] ARCADIS Design & Consultancy for natural and built assets

Groundwater Sampling Form

Project No. ____________ Well ID MW-01 Sample Date 4/10/18

Project Name/Location Ashland Renssalaer Weather Cloudy 30's

Well Material x PVC ____ SS

Screen Setting (ft bTOC) ____________

Casing Diameter (in.) 2

Static Water Level (ft bTOC) 6.57

Total Well Depth (ft bTOC) 21.65

Water Column/ Gallons in Well ____________

MP Elevation ____________

Pump Intake (ft bTOC) ~19.00

Purge Method: Centrifugal ____________ Submersible ____________ Other ____________

Sample Method ____________

Pump On/Off Time ____________

Volumes Purged ____________

Sample Time: Label 1117 Start ____ End ____

Duplicate? ID? ____________

Sampled by JS

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Cumul. Gallons Purged	pH	Cond. (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	Redox (mV)	Appearance	
Stabilization Req's:		200-500 mL/min	+/- 0.3		+/- 0.1 unit	+/- 3%	+/- 10%	+/- 10%	+/- 3%	+/- 10mV	Color	Odor
1045	0	200	6.34		7.77	2.69	16.2	1.68	8.04	-134	Clear	NO
1050	5		6.73		7.42	2.69	11.3	0.44	7.99	-143		
1055	10		7.54		7.35	2.70	8.8	0.00	8.10	-148		
1100	15		7.98		7.34	2.70	7.0	0.00	8.20	-150		
1105	20		8.12		7.33	2.70	6.4	0.00	8.32	-151		
1110	25		8.65		7.33	2.70	6.1	0.00	8.39	-153		
1115	30		8.79		7.32	2.71	5.9	0.00	8.41	-154		

Constituents to be Analyzed	Container Type	Number	Preservative
VOC	VOA	3	HCl
TOC	↓	2	↓
Diss Gass		3	
Sulfate	250 P	1	—
Diss Met	250 P	1	HNO$_3$

Notes: [illegible]

Well Casing Volumes

Gallons/Foot 1" = 0.04 1.25" = 0.06 1.5" = 0.09 2" = 0.16 2.5" = 0.26 3" = 0.37 3.5" = 0.50 4" = 0.65 6" = 1.47

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Groundwater Sampling Form

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Project No. _____ Well ID MW-1 Sample Date 4/10/18

Project Name/Location Ashland Rensselaer Weather 36s Cloudy

Well Material ____ PVC / X SS

Screen Setting (ft bTOC) _____

Casing Diameter (in.) 2

Static Water Level (ft bTOC) 7.18

Total Well Depth (ft bTOC) 18.36

Water Column/ Gallons in Well _____

MP Elevation _____

Pump Intake (ft bTOC) ~16

Purge Method:

Centrifugal _____

Submersible _____

Other _____

Sample Method _____

Pump On/Off Time _____

Volumes Purged _____

Sample Time: Label 0832

Start _____

End _____

Duplicate? ID? MS/MSD

Sampled by JS

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Cumul. Gallons Purged	pH	Cond. (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	Redox (mV)	Appearance	
Stabilization Req's:		200-500 mL/min	+/- 0.3		+/- 0.1 unit	+/- 3%	+/- 10%	+/- 10%	+/- 3%	+/- 10mV	Color	Odor
800		200	7.45		7.97	1.34	35.4	4.16	6.79	-26	clear	↓
805	5	↓	7.97		7.86	1.26	25.3	2.81	6.44	-23		
810	10		8.21		7.84	1.26	13.8	1.15	6.86	-22		
815	15		8.43		7.82	1.24	7.0	0.94	7.07	-21		
820	20		8.55		7.81	1.23	8.2	1.04	6.85	-22		
825	25		8.61		7.84	1.25	8.9	1.05	6.89	-22		
830	30	↓	8.79		7.84	1.26	9.3	1.12	6.93	-22	↓	↓

Constituents to be Analyzed	Container Type	Number	Preservative
VOC	VoA	3	HCl
TOC	↓	2	↓
Diss Gas	↓	3	↓
Sulfate	250 P	1	—
Diss MET	250 P	1	HNO_3

Notes:

Well Casing Volumes

Gallons/Foot					
	1" = 0.04	1.5" = 0.09	2.5" = 0.26	3.5" = 0.50	6" = 1.47
	1.25" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65	

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Groundwater Sampling Form

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Project No. _____ Well ID MW-24 Sample Date 11/10/18

Project Name/Location Renssalaer Ashland Weather 30's light snow

Well Material X PVC ____ SS Screen Setting (ft bTOC) _____ Casing Diameter (in.) 4

Static Water Level (ft bTOC) 5.78 Total Well Depth (ft bTOC) 26.34 Water Column/ Gallons in Well _____

MP Elevation _____ Pump Intake (ft bTOC) ~20' Purge Method: Sample Method _____

Pump On/Off Time _____ Volumes Purged _____ Centrifugal _____ Submersible _____ Other _____

Sample Time: Label 10:7 Start _____ End _____ Duplicate? ID? _____ Sampled by _____

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Cumul. Gallons Purged	pH	Cond. (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	Redox (mV)	Appearance	
Stabilization Req's:		200-500 mL/min	+/- 0.3		+/- 0.1 unit	+/- 3%	+/- 10%	+/- 10%	+/- 3%	+/- 10mV	Color	Odor
0945	0	200	5.79		7.57	1.19	40.4	1.88	9.14	-114	clear	yes
958	5	↓	6.04		7.41	1.24	32.8	0.00	10.10	-151	↓	↓
955	10		6.65		7.41	1.27	32.5	0.00	10.29	-172	slight pink	NO
1000	15		7.02		7.42	1.29	28.7	0.00	10.40	-194		
1005	20		7.26		7.43	1.30	26.1	0.00	10.49	-211		
1010	25		7.37		7.44	1.31	25.4	0.00	10.48	-216		
1015	30		7.49		7.44	1.31	24.9	0.00	10.50	-220	↓	↓

Constituents to be Analyzed	Container Type	Number	Preservative
VOC	VOA	3	HCl
TOC	↓	2	↓
D.O. Gases		3	
Sulfate	250P	1	—
Diss Met	250P	1	HNO3

Notes: Tubing not determined

Well Casing Volumes

Gallons/Foot 1" = 0.04 1.25" = 0.06 1.5" = 0.09 2" = 0.16 2.5" = 0.26 3" = 0.37 3.5" = 0.50 4" = 0.65 6" = 1.47

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Groundwater Sampling Form

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Project No. _____ Well ID IW-B3 Sample Date 4/10/18

Project Name/Location Ashland Rensselaer Weather 30's Cloudy

Well Material ____ PVC / X SS

Screen Setting (ft bTOC) _____

Casing Diameter (in.) 2

Static Water Level (ft bTOC) 2.49

Total Well Depth (ft bTOC) 15.45

Water Column/ Gallons in Well _____

MP Elevation _____

Pump Intake (ft bTOC) ~10'

Purge Method: Centrifugal _____ Submersible _____ Other _____

Sample Method _____

Pump On/Off Time _____

Volumes Purged _____

Sample Time: Label 1302 Start _____ End _____

Duplicate? ID? _____

Sampled by _____

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Cumul. Gallons Purged	pH	Cond. (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	Redox (mV)	Appearance	
Stabilization Req's:		200-500 mL/min	+/- 0.3		+/- 0.1 unit	+/- 3%	+/- 10%	+/- 10%	+/- 3%	+/- 10mV	Color	Odor
1230	0	200	2.34		7.49	2.96	135	1.81	9.80	-117	brown	ND
1235	5		3.66		7.34	2.95	144	0.00	8.50	-124		
1240	10		4.45		7.33	2.93	147	0.00	8.50	-125		
1245	15		5.59		7.33	2.89	148	0.00	8.38	-123		
1250	20		6.33		7.33	2.92	151	0.00	8.55	-123		
1255	25		7.52		7.33	2.93	152	0.00	8.52	-122		
1300	30		8.42		7.32	2.94	153	0.00	8.49	-122		

Constituents to be Analyzed	Container Type	Number	Preservative
VOC	VOA	3	HCl
TOC	↓	2	↓
D.O. Gases		3	
Sulfate	250 P	1	—
Diss Met	250 P	1	HNO_3

Notes: Low dedicated tubing

High turbidity sample taken since turbidity not dropping and so well doesn't go dry pumping to get the turbidity down

Well Casing Volumes

Gallons/Foot					
	1" = 0.04	1.5" = 0.09	2.5" = 0.26	3.5" = 0.50	6" = 1.47
	1.25" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65	

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Groundwater Sampling Form

Project No. _____ Well ID MW-23 Sample Date 4/10/18

Project Name/Location Ashland Rensselaer Weather 30's Cloudy

Well Material 1 PVC ____ SS

Screen Setting (ft bTOC) _____

Casing Diameter (in.) 4

Static Water Level (ft bTOC) 8.58

Total Well Depth (ft bTOC) 36.80

Water Column/ Gallons in Well _____

MP Elevation _____

Pump Intake (ft bTOC) ~20.00

Purge Method: Centrifugal _____ Submersible _____ Other _____

Sample Method _____

Pump On/Off Time _____

Volumes Purged _____

Sample Time: Label 1212 Start _____ End _____

Duplicate? ID? _____

Sampled by _____

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Cumul. Gallons Purged	pH	Cond. (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	Redox (mV)	Appearance	
Stabilization Req's:		200-500 mL/min	+/- 0.3		+/- 0.1 unit	+/- 3%	+/- 10%	+/- 10%	+/- 3%	+/- 10mV	Color	Odor
1140	0	200	8.55		7.71	3.08	19.8	2.02	9.55	-103	Clear	yes
1145	5		8.91		7.34	3.13	21.8	0.36	10.02	-149		
~~1150~~ 1150	10		9.24		7.32	3.15	22.1	0.00	10.18	-164		
1155	15		9.55		7.31	3.15	14.0	0.00	10.25	-169		
1200	20		9.84		7.31	3.17	20.4	0.00	10.37	-171		
1205	25		9.94		7.30	3.18	21.9	0.00	10.41	-173		
1210	30		10.02		7.30	3.19	20.8	0.00	10.47	-175		

Constituents to be Analyzed	Container Type	Number	Preservative
VOC	VOA	3	HCl
TOC	↓	2	↓
Diss Gases	↓	3	—
Sulfate	250 P	1	—
Diss Met	250 P	1	HNO_3

Notes: No detrimated tubing

Well Casing Volumes

Gallons/Foot					
	1" = 0.04	1.5" = 0.09	2.5" = 0.26	3.5" = 0.50	6" = 1.47
	1.25" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65	

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Groundwater Sampling Form

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Project No. _____ Well ID MW-16 Sample Date 4/11/18

Project Name/Location Ashland Rensselaer Weather 40's Sunny

Well Material _____ PVC _____ SS | Screen Setting (ft bTOC) _____ | Casing Diameter (in.) 2

Static Water Level (ft bTOC) 7.85 | Total Well Depth (ft bTOC) 16.70 | Water Column/ Gallons in Well _____

MP Elevation _____ | Pump Intake (ft bTOC) ~15.0 | Purge Method: | Sample Method LF

Pump On/Off Time _____ | Volumes Purged _____ | Centrifugal _____ Submersible _____ Other _____

Sample Time: Label 1502 Start 1502 End _____ | Duplicate? ID? _____ | Sampled by JS

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Cumul. Gallons Purged	pH	Cond. (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	Redox (mV)	Appearance	
											Color	Odor
Stabilization Req's:		200-500 mL/min	+/- 0.3		+/- 0.1 unit	+/- 3%	+/- 10%	+/- 10%	+/- 3%	+/- 10mV		
1435	5	200	7.85		7.84	1.14	19.7	0.97	9.27	136	Clear	N/A
1440	10	200	9.42		7.78	1.13	18.2	0.96	9.09	140		
1445	15	200	9.36		7.78	1.12	13.0	0.83	9.76	145		
1450	20	200	9.52		7.77	1.13	11.2	0.54	9.77	142		
1455	25	200	9.60		7.75	1.13	10.6	0.45	9.79	140		
1500	30	200	9.64		7.71	1.12	10.1	0.47	9.81	144		

Constituents to be Analyzed	Container Type	Number	Preservative
VOC	VOA	3	HCl
TOC	VOA	2	HCl
Diss Gas	VOA	3	HCl
Sulfide	250 plastic	1	—
Diss Fe, Mn FF	250 plastic	1	HNO_3

Notes: Civilian troop 13 ft deployment

Well Casing Volumes

Gallons/Foot					
	1" = 0.04	1.5" = 0.09	2.5" = 0.26	3.5" = 0.50	6" = 1.47
	1.25" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65	

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Groundwater Sampling Form

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Project No. _____ Well ID MW-17 Sample Date 3/9/18

Project Name/Location Ashland Rensselaer Weather 40's Clear

Well Material 1 PVC ____ SS

Screen Setting (ft bTOC) _____

Casing Diameter (in.) 2

Static Water Level (ft bTOC) 6.19

Total Well Depth (ft bTOC) 17.99

Pump Intake (ft bTOC) 15.99

Water Column/ Gallons in Well _____

MP Elevation _____

Pump On/Off Time _____

Volumes Purged _____

Purge Method: Centrifugal _____ Submersible _____ Other _____

Sample Method LF

Sample Time: Label 1622 Start _____ End _____

Duplicate? ID? _____

Sampled by JS

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Cumul. Gallons Purged	pH	Cond. (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	Redox (mV)	Appearance	
											Color	Odor
Stabilization Req's:		200-500 mL/min	+/- 0.3		+/- 0.1 unit	+/- 3%	+/- 10%	+/- 10%	+/- 3%	+/- 10mV		
1555	5	200	6.19		7.52	12.18	0.0	0.26	12.18	-81	orange	N/A
1600	10	200	6.84		7.78	2.23	158.4	0.00	12.04	-73	Clear	N/A
1605	15	200	7.65		7.75	2.16	54.2	0.00	11.97	-67		
1610	20	200	8.74		7.71	2.12	24.8	0.00	11.96	-65		
1615	25	200	9.02		7.71	2.09	23.7	0.00	11.93	-63		
1620	30	200	9.21		7.72	2.05	22.1	0.00	11.91	-60		

Constituents to be Analyzed	Container Type	Number	Preservative
VOC	VOA	3	HCl
TOC	VOA	2	HCl
Sulfate	250 plastic	1	—
Diss Fe, Mn FF	250 plastic	1	HNO_3

Notes:

Well Casing Volumes

Gallons/Foot					
	1" = 0.04	1.5" = 0.09	2.5" = 0.26	3.5" = 0.50	6" = 1.47
	1.25" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65	

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Groundwater Sampling Form

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Project No. _____ Well ID NW-16 Sample Date 4/9/18

Project Name/Location Ashland Rensselaer Weather 40's Clear

Well Material X PVC ____ SS

Screen Setting (ft bTOC) _____

Casing Diameter (in.) 2

Static Water Level (ft bTOC) 5.47

Total Well Depth (ft bTOC) 18.05

Water Column/ Gallons in Well _____

MP Elevation _____

Pump Intake (ft bTOC) 16.05

Purge Method: Centrifugal _____ Submersible _____ Other _____

Sample Method LP

Pump On/Off Time _____

Volumes Purged _____

Sample Time: Label 1342 Start 1340 End 1351

Duplicate? ID? _____

Sampled by JS

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Cumul. Gallons Purged	pH	Cond. (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	Redox (mV)	Appearance	
											Color	Odor
Stabilization Req's:		200-500 mL/min	+/- 0.3		+/- 0.1 unit	+/- 3%	+/- 10%	+/- 10%	+/- 3%	+/- 10mV		
1315	5	200 mL/min	5.47		6.99	0.769	60.5	0.75	10.42	145	clear	N/A
1320	10		7.80		7.16	0.761	51.9	0.0	10.03	122		
1325	15		7.82		7.22	0.766	44.1	0.0	10.00	82		
1330	20		7.93		7.27	0.769	35.1	0.0	10.00	48		
1335	25		7.95		7.30	0.769	30.5	0.0	10.10	28		
1340	30		7.82		7.33	0.770	28.7	0.0	10.02	21		
1345	35											
1350	40											
1355	45	↓										
1400	50											

Constituents to be Analyzed	Container Type	Number	Preservative
VOC	VOA	3	HCl
TOC	VOA	2	HCl
Sulfate	250 P	1	—
Diss Met	250 P	1	HNO_3

Notes: Cowboy 1 rep 11 ft deployment

Well Casing Volumes

Gallons/Foot					
	1" = 0.04	1.5" = 0.09	2.5" = 0.26	3.5" = 0.50	6" = 1.47
	1.25" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65	

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Groundwater Sampling Form

Project No. _____ Well ID MW-20 Sample Date 4/10/18

Project Name/Location Ash Recessler Weather Sunny, 35°F

Well Material X PVC ___ SS

Screen Setting (ft bTOC) _____

Casing Diameter (in.) 2

Static Water Level (ft bTOC) 1.94

Total Well Depth (ft bTOC) 12.02

Water Column/ Gallons in Well 10.08 / 1.61

MP Elevation _____

Pump Intake (ft bTOC) 10.02

Pump On/Off Time 1342 / 1429

Volumes Purged ~2

Purge Method: Centrifugal ___ Submersible X Other ___

Sample Method low flow

Sample Time: Label 1414 Start 1414 End 1429

Duplicate? ID? _____

Sampled by TC

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Cumul. Gallons Purged	pH	Cond. (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	Redox (mV)	Appearance	
Stabilization Req's:		200-500 mL/min	+/- 0.3		+/- 0.1 unit	+/- 3%	+/- 10%	+/- 10%	+/- 3%	+/- 10mV	Color	Odor
1347	0	bail	1.60								Clear	ND
1347	5	150	2.00		7.35	0.785	50.2	0.63	7.24	-31	Clear	ND
1352	10	150	2.01		7.39	0.789	42.0	0.00	7.04	-36	Clear	ND
1357	15	150	2.05		7.35	0.790	37.8	0.00	7.00	-41	Clear	ND
1402	20	150	2.08		7.33	0.798	27.9	0.00	6.87	-47	Clear	ND
1407	25	150	2.10		7.29	0.798	21.7	0.00	6.80	-47	Clear	ND
1412	30	150	2.10		7.28	0.799	20.9	0.00	6.77	-46	Clear	ND

Constituents to be Analyzed	Container Type	Number	Preservative
VOC	VOA	3	HCl
TOC	VOA	2	HCl
Diss Fe, Mn	VOA	3	HCl
Sulfate	250 plastic	1	—
Diss Fe, Mn FF	250 plastic	1	HNO_3

Notes:

Well Casing Volumes

Gallons/Foot 1" = 0.04 1.25" = 0.06 1.5" = 0.09 2" = 0.16 2.5" = 0.26 3" = 0.37 3.5" = 0.50 4" = 0.65 6" = 1.47

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Groundwater Sampling Form

Project No. _____ Well ID IW-A2 Sample Date 4/10/18

Project Name/Location Ash Recession Weather Sunny, 35°F

Well Material ____ PVC X SS

Screen Setting (ft bTOC) _____

Casing Diameter (in.) 2

Static Water Level (ft bTOC) 8.89

Total Well Depth (ft bTOC) 23.50

Water Column/ Gallons in Well _____

MP Elevation _____

Pump Intake (ft bTOC) 23.00

Purge Method: Centrifugal ____ Submersible X Other ____

Sample Method low flow

Pump On/Off Time 1209 / 1250

Volumes Purged ~2

Sample Time: Label 1241 Start 1247 End 1250

Duplicate? ID? _____

Sampled by TC

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Cumul. Gallons Purged	pH	Cond. (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	Redox (mV)	Appearance	
Stabilization Req's:		200-500 mL/min	+/- 0.3		+/- 0.1 unit	+/- 3%	+/- 10%	+/- 10%	+/- 3%	+/- 10mV	Color	Odor
1209	0	add's	9.67								Cloudy	yes
1214	5	170	10.51		7.20	3.71	150	0.00	11.34	-171	Cloudy	yes
1219	10	170	11.16		7.18	3.45	160	0.00	11.18	-169	Cloudy	yes
1224	15	170	11.91		7.18	3.36	172	0.00	11.50	-173	Cloudy	yes
1229	20	170	12.20		7.18	3.35	141	0.00	11.53	-160	green	yes
1234	25	170	12.81		7.19	3.35	133	0.00	11.56	-158	green	yes
1239	30	170	13.25		7.19	3.31	149	0.00	11.44	-161	green	yes

Constituents to be Analyzed	Container Type	Number	Preservative
VOC	VOA	3	HCl
TOC	VOA	2	HCl
Diss Org Sulfate	VOA	3	HCl
Diss Fe Mn PF	250 plastic	1	~~HNO3~~
	250 plastic	1	HNO3

Notes:
- low recharge, low water, could not satisfy DTW requirement
- Turbidity high
- Semi-obstruction at 13.25, gave false DTB reading, obstructed tubing before maneuvered past

Well Casing Volumes

Gallons/Foot: 1" = 0.04; 1.25" = 0.06; 1.5" = 0.09; 2" = 0.16; 2.5" = 0.26; 3" = 0.37; 3.5" = 0.50; 4" = 0.65; 6" = 1.47

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Groundwater Sampling Form

Project No. _____ Well ID MW-A1 Sample Date 4/16/16

Project Name/Location Ash Recession Weather Sunny, 32°F

Well Material X PVC ____ SS

Screen Setting (ft bTOC) _____

Casing Diameter (in.) 2

Static Water Level (ft bTOC) _____

Total Well Depth (ft bTOC) _____

Water Column/ Gallons in Well _____

MP Elevation _____

Pump Intake (ft bTOC) _____

Pump On/Off Time 1115 / 1154

Volumes Purged ~ 1.2 g

Purge Method: Centrifugal _____ Submersible X Other _____

Sample Method 1oz 1/oz

Sample Time: Label 1147 Start 1147 End 1154

Duplicate? ID? _____

Sampled by TC

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Cumul. Gallons Purged	pH	Cond. (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	Redox (mV)	Appearance	
Stabilization Req's:		200-500 mL/min	+/- 0.3		+/- 0.1 unit	+/- 3%	+/- 10%	+/- 10%	+/- 3%	+/- 10mV	Color	Odor
1115	0	ud									Sediment	ND
1120	5	150			7.24	1.00	111	0.00	7.70	-84	Clear	ND
1125	10	150			7.23	1.01	87.7	0.00	7.73	-86	Clear	ND
1130	15	150			7.25	1.00	43.7	0.71	7.99	-89	Clear	ND
1135	20	150			7.27	1.02	20.2	1.47	8.21	-91	Clear	ND
1140	25	150			7.28	1.01	24.1	1.55	8.14	-92	Clear	ND
1145	30	150			7.28	1.03	23.3	1.50	8.21	-93	Clear	ND

Constituents to be Analyzed	Container Type	Number	Preservative
VOC	VOA	3	HCl
TOC	VOA	2	HCl
Sulfate	250 plastic	1	—
Diss Fe, Mn FF	250 plastic	1	HNO_3

Notes: * Could not dedicate tubing to well

Well Casing Volumes

Gallons/Foot					
	1" = 0.04	1.5" = 0.09	2.5" = 0.26	3.5" = 0.50	6" = 1.47
	1.25" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65	

ARCADIS Design & Consultancy for natural and built assets

Groundwater Sampling Form

Project No. _____ Well ID MW-19 Sample Date 4/11/18

Project Name/Location Ash Recycler Weather Snow, 30°F

Well Material X PVC ___ SS

Screen Setting (ft bTOC) _____

Casing Diameter (in.) 4

Static Water Level (ft bTOC) 2.36

Total Well Depth (ft bTOC) 17.57

Water Column/ Gallons in Well _____

MP Elevation _____

Pump Intake (ft bTOC) 15.57

Purge Method: Centrifugal ___ Submersible X Other ___

Sample Method low flow

Pump On/Off Time 0953/1039

Volumes Purged ~ 2.7

Sample Time: Label 1025 Start 1025 End 1039

Duplicate? ID? DUP BD-20180410

Sampled by TC

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Cumul. Gallons Purged	pH	Cond. (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	Redox (mV)	Appearance	
											Color	Odor
Stabilization Req's:		200-500 mL/min	+/- 0.3		+/- 0.1 unit	+/- 3%	+/- 10%	+/- 10%	+/- 3%	+/- 10mV		
0953	0	400									Cloudy	ND
0958	5	200			7.41	0.900	44.6	0.00	5.97	-108	Clear	ND
1003	10	200			7.43	0.896	43.2	0.00	5.88	-115	Clear	ND
1008	15	200			7.43	0.893	35.1	0.00	5.90	-114	Clear	ND
1013	20	200	2.00		7.43	0.891	27.4	0.00	5.90	-125	Clear	ND
1018	25	200			7.43	0.880	29.1	0.00	5.98	-129	Clear	ND
1023	30	200			7.43	0.886	30.1	0.00	6.11	-131	Clear	ND

Constituents to be Analyzed	Container Type	Number	Preservative
VOC	VOA	6	HCl
TOC	VOA	4	HCl
Diss Fe, Mn Sulfate	VOA	6	HCl
	250 plastic	2	—
Diss Fe Mn FF	250 plastic	2	HNO_3

Notes:

Well Casing Volumes

Gallons/Foot					
	1" = 0.04	1.5" = 0.09	2.5" = 0.26	3.5" = 0.50	6" = 1.47
	1.25" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65	

ARCADIS Design & Consultancy for natural and built assets

Groundwater Sampling Form

Project No. _____ Well ID MW-22 Sample Date 4/10/18

Project Name/Location Ash Recessler Weather Snow, 30°F

Well Material X PVC ____ SS Screen Setting (ft bTOC) _____ Casing Diameter (in.) 4

Static Water Level (ft bTOC) 1.76 Total Well Depth (ft bTOC) 16.67 Water Column/ Gallons in Well _____

MP Elevation _____ Pump Intake (ft bTOC) 14.67 Purge Method: Sample Method low flow

Pump On/Off Time 0901/0943 Volumes Purged ~ 1.6 Centrifugal _____ Submersible X Other _____

Sample Time: Label 0933 Start 0933 End 0943 Duplicate? ID? _____ Sampled by TC

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Cumul. Gallons Purged	pH	Cond. (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	Redox (mV)	Appearance	
Stabilization Req's:		200-500 mL/min	+/- 0.3		+/- 0.1 unit	+/- 3%	+/- 10%	+/- 10%	+/- 3%	+/- 10mV	Color	Odor
0901	0	150	2.64								L. pink	yes
0906	5	200	3.01		6.36	3.15	69.5	0.00	8.07	-92	L. pink	yes
0911	10	150	3.24		6.38	3.18	24.8	0.00	7.68	-99	Clear	yes
0916	15	150	3.37		6.39	3.15	23.3	0.00	7.71	-97	↓	↓
0921	20	150	3.95		6.38	3.18	23.1	0.00	7.70	-94		
0926	25	150	4.07		6.39	3.17	24.7	0.00	7.61	-95		
0931	30	150	4.17		6.39	3.14	23.3	0.00	7.56	-106		

Constituents to be Analyzed	Container Type	Number	Preservative
Diss Fe Mn FF	250 plastic	1	HNO3

Notes: Unable to dedicate tubing to well, need tubing for next session

Well Casing Volumes

Gallons/Foot					
	1" = 0.04	1.5" = 0.09	2.5" = 0.26	3.5" = 0.50	6" = 1.47
	1.25" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65	

ARCADIS Design & Consultancy for natural and built assets

Groundwater Sampling Form

Project No. _____ Well ID MW-13 Sample Date 4/10/18

Project Name/Location Ash Recessler Weather Cloudy, 30°F

Well Material [X] PVC [X] SS Screen Setting (ft bTOC) _____ Casing Diameter (in.) 2

Static Water Level (ft bTOC) 2.91 Total Well Depth (ft bTOC) 22.18 Water Column/ Gallons in Well _____

MP Elevation _____ Pump Intake (ft bTOC) 20.18 Purge Method: Sample Method Low Flow

Pump On/Off Time 0744 / 0841 Volumes Purged ~ 1.5 g Centrifugal _____ Submersible X Other _____

Sample Time: Label 0831 Start 0831 End 0841 Duplicate? ID? _____ Sampled by TC

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Cumul. Gallons Purged	pH	Cond. (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	Redox (mV)	Appearance	
Stabilization Req's:		200-500 mL/min	+/- 0.3		+/- 0.1 unit	+/- 3%	+/- 10%	+/- 10%	+/- 3%	+/- 10mV	Color	Odor
0749	0	150	4.05									
0754	5	150	6.14		8.00	0.606	15.3	0.00	4.77	41	Clear	N.D
0759	10	150	6.55		8.00	0.595	15.0	0.00	5.21	37	Clear	N.D
0804	15	150	7.01		8.00	0.580	16.0	0.00	5.93	25	Clear	N.D
0809	20	150	7.35		7.99	0.579	17.0	0.00	6.14	29	Clear	N.D
0814	25	150	8.41		7.95	0.577	17.0	0.00	6.41	41	Clear	N.D
0819	30	150	8.98		7.93	0.573	17.1	0.00	6.58	55	Clear	N.D
0824	35	150	9.77		7.96	0.573	17.3	0.00	6.61	55	Clear	N.D
0829	40	150	10.56		7.95	0.572	17.7	0.00	6.72	64	Clear	N.D

Constituents to be Analyzed	Container Type	Number	Preservative
VOC	VOA	3	HCl
TOC	VOA	2	HCl
Sulfide	250 Plastic	1	—
Diss FeMn FF	250 Plastic	1	HNO_3

Notes: Low recharge, could not meet IHW requirement

Well Casing Volumes

Gallons/Foot					
	1" = 0.04	1.5" = 0.09	2.5" = 0.26	3.5" = 0.50	6" = 1.47
	1.25" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65	

Ashland - Rensselaer, NY
Groundwater Elevation Data

Date/ Time: 10/3/12
Weather Cloudy 60°F
Field Staff ES / JS

Well ID	Measuring Pt. Elevation	TD	Installed TD	DTW	DTB	Comments
IMP-1	25.13	18.73	16.0	4.55	18.26	Soft
IMP-2	25.17	18.67	16.0	5.95	18.67	Hard
IMP-3	25.13	18.32	16.0	6.83	18.30	Soft
MW-1	28.98	14.90	12.5	5.08	14.95	Hard
MW-3	24.27	15.01	15.0	3.29	14.99	Hard
MW-4	25.95	15.89	14.0	3.79	15.88	Hard
MW-9	27.18	18.66	15.5	10.40	18.63	Hard
MW-10	26.34	15.90	12.5	DAMAGED	--	
MW-11	25.16	15.89	13.5	DAMAGED	--	
MW-12D	24.08	26.45	25.5	7.68	26.42	leaning over - looks to be hit by vehicle & Soft
MW-12S	23.12	15.87	14.1	5.69	15.87	Hard - J plug installed
MW-13	36.86	22.16	20.5	2.36	22.16	Soft
MW-14	33.85	16.79	15.0	4.78	16.77	Hard
MW-15	25.19	15.01	27.5	1.65	14.97	Hard
MW-16	25.41	16.40	15.0	7.01	16.70	Hard
MW-17	21.78	18.00	18.0	5.77	18.0	Hard
MW-18	23.98	18.00	16.0	4.11	18.0	Hard
MW-19	25.51	17.60	17.5	1.87	17.66	Soft
MW-20				1.64	11.98	Hard
MW-21				10.03	14.97	Hard
MW-22		16.07	17.0	1.35	16.56	Hard
MW-23		30.70	31.0	7.76	30.61	Soft
MW-24		26.34	27.0	5.68	26.30	Soft
MW-A1	28.34	22.46	20.0	4.64	22.39	Soft
MW-B1	27.53	21.56	20.0	5.27	21.50	Soft
MW-B2	27.40	21.19	20.0	4.81	21.16	Soft
IP-1	25.15	18.54	16.0	4.00	18.30	Hard
PZ-1	27.88	20.35	18.0	4.03	20.33	Hard
PZ-2	28.34	14.91	13.5	~~5.30~~ 5.30	14.84	Hard
PZ-3	29.97	23.78	22.0	4.07	23.78	Soft
PZ-4	25.20	9.57	NA	4.00	9.51	Hard
PZ-5	25.52	7.44	NA	3.23	7.23	Hard
PZ-6	25.22	8.05	NA	6.24	8.02	Hard
PZ-7	24.90	7.95	NA	2.75	7.88	Hard
Sump	26.82	20.10	NA	7.68	20.46	
BM-2	28.02	22.4*	NA	3.70	3.80	Across South St. from the site.
BM-4	26.59	17.7*	NA	8.00	8.10	
MH-1 (near the old treatment shed)	16.5*		NA	7.81	9.27	
MH-2 (Manhole east of MW-12S)	15.40*	15.40*	NA	7.73	8.42	Outfall at north end of culvert. Water level from stream depth added to invert elevation.

Notes:
1. Groundwater measurements collected on April __, 2009 by Delta Consultants.
2. BM = Survey benchmark above the culverted stream.
3. * = Invert of culvert elevation.
4. ** = Inches of water in stream used to estimate stream elevation at outfall.
   = fill in this number with contiguous measurements
*** = Pipe invert elevation (bottom of pipe). Surface water elevation is based on depth below surface manhole cover to top of water subtracted from measurement to bottom of pipe invert, then added to the pipe invert measuring point elevation.

MW-25 DTW: 4.06 DTB: 21.25 Hard Bottom
↳ *Not finished

Site: Ashland - Rensselaer **GROUNDWATER SAMPLING LOG** Event

Sampling Personnel: Jessica Steigerwald
Client / Job Number: Ashland - Rensselaer
Weather: Cloudy 59°F

Well ID: TP-1
Date: 10/3/2018
Time In: 0945 Time Out: 1025

Well Information

Depth to Water:	(feet)	4.00	(from MP)
Total Depth:	(feet)	18.50	(from MP)
Length of Water Column:	(feet)	14.50	
Volume of Water in Well:	(gal)	2.36	
Intake depth for tubing:	(feet)	~13.50	

Well Type:	Flushmount ☐		Stick-Up	☒
Well Material:	Stainless Steel ☐		PVC	☒
Well Locked:	Yes ☒		No	☐
Measuring Point Marked:	Yes ☒		No	☐
Well Diameter:	1"	(2")	Other:	

Purging Information

Purging Method:	Bailer	☐	Peristaltic	☒	Monsoon ☐	Other:
Tubing/Bailer Material:	Steel	☐	Polyethylene	☒	Teflon ☐	Other:
Sampling Method:	Bailer VOC	☒	Peristaltic TOC/RSK	☒	Monsoon ☐	Other:

Pump Start Time: 9:45
Pump Stop Time: 10:24
Water-Quality Meter Type: Horiba U-52
Total Volume Removed: 3 (gal)
Did well go dry: Yes ☐ No ☐

Conversion Factors

gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469

1 gal = 3.785 L =3785 ml = 0.1337 cubic feet

Unit Stability

pH	DO / Turb	Cond. /Temp	ORP
∀ 0.1	∀ 10%	∀ 3.0%	∀ 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Time	9:46	9:51	9:56	10:01	10:06	10:11	10:16		
Volume Purged (Gal)	0	0.5	0.9	1.3	1.6	2.0	2.5		
Rate (mL/min)	379	303	303	227	303	303	379		
Depth to Water (ft.)	4.56	4.56	4.47	4.60	4.63	4.66	4.68		
pH	7.23	7.01	6.98	7.00	6.99	6.99	6.99		
Temp. (C)	63.2	63.8	64.2	64.2	64.3	64.4	64.4		
Conductivity (mS/cm)	0.868	0.857	0.866	0.864	0.862	0.858	0.856		
Dissolved Oxygen (mg/L)	0.44	0.16	0.00	0.00	0.00	0.00	0.00		
ORP (mV)	-169	-166	-171	-176	-179	-179	-181		
Turbidity (NTU)	60.4	20.3	0.0	0.0	0.0	0.0	0.0		
Notes:									

Sampling Information

Analyses	#	n	Laboratory
VOC	3		Test America
TOC	2		↓
RSK	3		
Color: clear			
Odor: None			
Appearance: clear			
Sample ID: TP-1-100318 Sample Time: ~~1020~~ 1020			
MS/MSD: Yes ☐	No ☒		
Duplicate: Yes ☐	No ☒		
Duplicate ID: —	Dup. Time: —		
Chain of Custody Signed By:			

Problems / Observations

Probe - 21292 ; meter - 19926

light brown, no odor, transparent

Sample ID = TP-1-100318

Site Ashland Rep. | Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: ES
Client / Job Number: ~~Ford~~ Ashland
Weather: Cloudy 59°F
Well ID: IMP-3
Date: 10/3/18
Time In: 0915 Time Out: 1035

Well Information

Depth to Water:	(feet)	6.83	(from MP)
Total Depth:	(feet)	18.03	(from MP)
Length of Water Column:	(feet)	11.20	
Volume of Water in Well:	(gal)	1.82	
Intake depth for tubing:	(feet)	~13.0	

Well Type:		Flushmount	☐	Stick-Up	☑
Well Material:		Stainless Steel	☐	PVC	☑
Well Locked:		Yes	☑	No	☐
Measuring Point Marked:		Yes	☑	No	☐
Well Diameter:	1"	2" (circled)		Other:	

Purging Information

Purging Method:	Bailer	☐	Peristaltic	☑	Monsoon	☐	Other:
Tubing/Bailer Material:	Steel	☐	Polyethylene	☑	Teflon	☐	Other:
Sampling Method:	Bailer VOCs	☑	Peristaltic TOCs [redacted]	☑	Monsoon	☐	Other:

Pump Start Time: 0945
Pump Stop Time: 1030
Water-Quality Meter Type: Horiba U-52
Total Volume Removed: (gal) ~3.0
Did well go dry: Yes ☐ No ☑

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L =3785 ml = 0.1337 cubic feet				

Unit Stability			
pH	DO / Turb	Cond. /Temp	ORP
∀ 0.1	∀ 10%	∀ 3.0%	∀ 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Time	0950	0955	1000	1005	1010	1015	1020		
Volume Purged (Gal)	0	0.5	1.0	1.5	2.0	2.5	3.0		
Rate (mL/min)									
Depth to Water (ft.)	7.54	7.84	7.97	8.23	8.48	8.73	9.02		
pH	7.11	7.13	7.06	7.01	6.99	6.99	6.97		
Temp. (C)	16.53	16.81	16.86	16.86	16.79	16.72	16.70		
Conductivity (mS/cm)	1.61	1.60	1.60	1.61	1.61	1.61	1.60		
Dissolved Oxygen (mg/L)	2.71	1.38	1.03	0.76	0.66	0.61	0.57		
ORP (mV)	-127	-136	-131	-123	-120	-121	-119		
Turbidity (NTU)	0.0	0	0	0	0	0	0		
Notes:									

Sampling Information

Analyses	#	n	Laboratory
VOCs	3		Test America
TOCs	2		↓
[redacted]	[redacted]		
Color: No Color			
Odor: No Odor			
Appearance: Clear			
Sample ID: IMP-3-100318	Sample Time: 1025		
MS/MSD: Yes ☐	No ☑		
Duplicate: Yes ☐	No ☑		
Duplicate ID: —	Dup. Time: —		
Chain of Custody Signed By: ES			

Problems / Observations

Initial:
No Color, No Odor, Clear

Horiba # 29724 / 21191

Site: Ashland Ren. | Event:

GROUNDWATER SAMPLING LOG

Sampling Personnel: ES
Client / Job Number: Ashland Ren
Weather: Partly Cloudy 57°F

Well ID: IW-A2
Date: 10/4/18
Time In: 0745 Time Out: 0850

Well Information

Depth to Water:	(feet)	8.66	(from MP)
Total Depth:	(feet)	23.85	(from MP)
Length of Water Column:	(feet)	15.19	
Volume of Water in Well:	(gal)	2.47	
Intake depth for tubing:	(feet)	~18	

Well Type:	Flushmount ☐		Stick-Up ☑	
Well Material:	Stainless Steel ☑		PVC ☐	
Well Locked:	Yes ☑		No ☐	
Measuring Point Marked:	Yes ☑		No ☐	
Well Diameter:	1"	2"	Other:	

Purging Information

Purging Method:	Bailer ☐	Peristaltic ☑	Monsoon ☐	Other:		
Tubing/Bailer Material:	Steel ☐	Polyethylene ☑	Teflon ☐	Other:		
Sampling Method:	Bailer ☑ VOCs	Peristaltic ☑ TOCs	Monsoon ☐	Other:		
Pump Start Time:	0755					
Pump Stop Time:	0850	Water-Quality Meter Type:	Horiba U-52			
Total Volume Removed:	(gal) ~2.0	Did well go dry:	Yes ☐	No ☑		

Conversion Factors

gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469

1 gal = 3.785 L =3785 ml = 0.1337 cubic feet

Unit Stability

pH	DO / Turb	Cond. /Temp	ORP
∀ 0.1	∀ 10%	∀ 3.0%	∀ 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Time	0815	0820	0825	0830	0835	0840	0845		
Volume Purged (Gal)	0	0.3	0.6	1.0	1.3	1.6	2.0		
Rate (mL/min)									
Depth to Water (ft.)	10.05	10.85	12.47	13.78	14.92	15.52	16.10		
pH	7.01	7.03	7.04	7.06	7.00	6.98	6.97		
Temp. (C)	16.16	16.01	16.00	15.34	15.38	15.37	15.38		
Conductivity (mS/cm)	3.81	3.76	3.75	3.75	3.76	3.75	3.75		
Dissolved Oxygen (mg/L)	2.93	1.63	1.51	1.20	0.73	0.69	0.64		
ORP (mV)	-206	-175	-188	-187	-194	-194	-193		
Turbidity (NTU)	121	85.1	73.4	87.1	100	101	101		
Notes:									

Sampling Information

Analyses	#	n	Laboratory
VOCs	3		Test America
TOCs	2		↓

Color: Tan / Yellow
Odor: EVO odor
Appearance: Slightly Cloudy w/ suspended solids
Sample ID: IW-A2-100418 Sample Time: 0850
MS/MSD: Yes ☐ No ☑
Duplicate: Yes ☐ No ☑
Duplicate ID: — Dup. Time: —
Chain of Custody Signed By: ES

Problems / Observations

Initial Yellow/tan w/ black suspended solids, Slightly Cloudy

* False Bottom @ 13.65 ft

* Bailer doesn't fit in screen @ 13'
VOCs collected @ 1140 w/ peri pump

Horiba #: 29741 / 21191

Site | Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: ES | **Well ID:** IW-B3
Client / Job Number: Ashland Rensselaer | **Date:** 10/3/18
Weather: Cloudy 63°F | **Time In:** 1505 **Time Out:** 1605

Well Information

Depth to Water:	(feet)	2.15	(from MP)
Total Depth:	(feet)	15.41	(from MP)
Length of Water Column:	(feet)	13.26	
Volume of Water in Well:	(gal)	2.16	
Intake depth for tubing:	(feet)	~10 ft	

Well Type:		Flushmount ☐		Stick-Up ☑	
Well Material:		Stainless Steel ☑		PVC ☐	
Well Locked:		Yes ☐		No ☑	
Measuring Point Marked:		Yes ☐		No ☑	
Well Diameter:	1"	2" (circled)	Other:		

Purging Information

Purging Method:	Bailer	☐	Peristaltic	☑	Monsoon ☐	Other:	
Tubing/Bailer Material:	Steel	☐	Polyethylene	☑	Teflon ☐	Other:	
Sampling Method:	Bailer VOCs	☑	Peristaltic TOCs	☑	Monsoon ☐	Other:	

Pump Start Time: 1515
Pump Stop Time: 1605
Water-Quality Meter Type: Horiba U-52
Total Volume Removed: (gal) ~1.75 Did well go dry: Yes ☐ No ☑

Conversion Factors

gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469

1 gal = 3.785 L =3785 ml = 0.1337 cubic feet

Unit Stability

pH	DO / Turb	Cond. /Temp	ORP
∀ 0.1	∀ 10%	∀ 3.0%	∀ 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Time	1520	1525	1530	1535	1540	1545	1550	1555	
Volume Purged (Gal)	0	0.25	0.50	0.75	1.0	1.25	1.50	1.75	
Rate (mL/min)									
Depth to Water (ft.)	3.15	4.06	5.40	6.30	7.08	7.88	8.44	8.88	
pH	6.89	6.87	6.85	6.85	6.84	6.81	6.80	6.81	
Temp. (C)	18.84	19.50	19.42	19.38	19.06	19.05	18.98	18.92	
Conductivity (mS/cm)	2.59	2.51	2.48	2.47	2.46	2.45	2.45	2.44	
Dissolved Oxygen (mg/L)	1.97	0.88	0.66	0.59	0.55	0.52	0.51	0.49	
ORP (mV)	-192	-184	-181	-180	-179	-177	-176	-173	
Turbidity (NTU)	119	122	127	151	156	198	191	195	
Notes:									

Sampling Information

Analyses	#	n	Laboratory
TOCs	2		Test America
VOCs	3		↓

Color: Tan / Yellow
Odor: Slight odor
Appearance: Slightly Cloudy
Sample ID: IW-B3 100318 Sample Time: 1600
MS/MSD: Yes ☐ No ☑
Duplicate: Yes ☐ No ☑
Duplicate ID: — Dup. Time: —
Chain of Custody Signed By: ES

Problems / Observations

Initial:
Slight yellow Tint, Slight EVO odor, Slightly cloudy w/ some suspended solids → Black

Horiba # 29724 / 21191

Site | Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: ES | **Well ID:** MW-A1
Client / Job Number: Ashland Rea | **Date:** 10/9/18
Weather: Partly Cloudy 61°F | **Time In:** 0915 **Time Out:** 0955

Well Information

Depth to Water:	(feet)	4.70	(from MP)
Total Depth:	(feet)	22.39	(from MP)
Length of Water Column:	(feet)	17.69	
Volume of Water in Well:	(gal)	2.88	
Intake depth for tubing:	(feet)	~15	

Well Type:	Flushmount ☐		Stick-Up ☑	
Well Material:	Stainless Steel ☐		PVC ☑	
Well Locked:	Yes ☑		No ☐	
Measuring Point Marked:	Yes ☑		No ☐	
Well Diameter:	1"	(2)	Other:	

Purging Information

Purging Method:	Bailer ☐	Peristaltic ☑	Monsoon ☐	Other:		
Tubing/Bailer Material:	Steel ☐	Polyethylene ☑	Teflon ☐	Other:		
Sampling Method:	Bailer ☑ VOCs	Peristaltic ☑ TOCs/RSK	Monsoon ☐	Other:		
Pump Start Time:	0915					
Pump Stop Time:	0955	Water-Quality Meter Type:	Horiba U-52			
Total Volume Removed:	(gal) ~2.5	Did well go dry:	Yes ☐	No ☑		

Conversion Factors

gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469

1 gal = 3.785 L =3785 ml = 0.1337 cubic feet

Unit Stability

pH	DO / Turb	Cond. /Temp	ORP
∀ 0.1	∀ 10%	∀ 3.0%	∀ 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Time	0920	0925	0930	0935	0940	0945	0950		
Volume Purged (Gal)	0	0.4	0.8	1.2	1.6	2.0	2.4		
Rate (mL/min)									
Depth to Water (ft.)	5.36	5.75	5.96	6.11	6.22	6.31	6.40		
pH	6.83	6.82	6.82	6.83	6.85	6.83	6.83		
Temp. (C)	15.87	15.99	16.01	16.08	16.09	16.08	16.08		
Conductivity (mS/cm)	1.23	1.26	1.30	1.30	1.32	1.33	1.33		
Dissolved Oxygen (mg/L)	2.17	~~0.88~~	0.76	0.66	0.62	0.59	0.57		
ORP (mV)	-74	-99	-104	-110	-114	-115	-115		
Turbidity (NTU)	0	6	0	0	0	0	0		
Notes:									

Sampling Information

Analyses	#	n	Laboratory
VOCs	3		Test America
TOCs	2		↓
RSK	3		↓

Color: No Color
Odor: Slight Odor
Appearance: Clear w/ black suspended solids
Sample ID: MW-A1 Sample Time: 0950
MS/MSD: Yes ☐ No ☑
Duplicate: Yes ☐ No ☑
Duplicate ID: — Dup. Time: —
Chain of Custody Signed By: ES

Problems / Observations

Initial: No Color, Slight Odor
Clear w/ black suspended solids

Horiba # 29741 / 21191

Site: Ashland - Rensselaer

Event:

GROUNDWATER SAMPLING LOG

Sampling Personnel: Jessica Stegenwald
Client / Job Number: Ashland
Weather: Cloudy 63

Well ID: MW-131
Date: 10/3/18
Time In: 3:05 **Time Out:** 1605

Well Information

Depth to Water:	(feet)	5.27	(from MP)
Total Depth:	(feet)	21.50	(from MP)
Length of Water Column:	(feet)	16.23	
Volume of Water in Well:	(gal)	2.65	
Intake depth for tubing:	(feet)	~11.5	

Well Type:	Flushmount	☐	Stick-Up	☒	
Well Material:	Stainless Steel	☐	PVC	☒	
Well Locked:	Yes	☒	No	☐	
Measuring Point Marked:	Yes	☐	No	☐	
Well Diameter:	1"	(2")	Other:		

Purging Information

Purging Method:	Bailer	☐	Peristaltic	☒	Monsoon ☐	Other:	
Tubing/Bailer Material:	Steel	☐	Polyethylene	☒	Teflon ☐	Other:	
Sampling Method:	Bailer VOC	☒	Peristaltic TOC/RSK	☒	Monsoon ☐	Other:	

Pump Start Time: 3:20 1520
Pump Stop Time: 1605
Water-Quality Meter Type: Horiba U-52
Total Volume Removed: 24 (gal)
Did well go dry: Yes ☐ No ☐

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L =3785 ml = 0.1337 cubic feet				

Unit Stability			
pH	DO / Turb	Cond. /Temp	ORP
∀ 0.1	∀ 10%	∀ 3.0%	∀ 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Time	1522	1527	1532	1537	1542	1547	1552		
Volume Purged (Gal)	0	0.5	1.0	1.5	1.9	2.5	3.0		
Rate (mL/min)	—	379	379	379	303	454	379		
Depth to Water (ft.)	6.45	7.73	[illegible]	8.91	9.30	9.44	9.6		
pH	6.82	6.68	6.67	6.66	6.66	6.66	6.64		
Temp. (C)	63.5	62.1	62.2	62.2	62.1	62.0	61.9		
Conductivity (mS/cm)	2.24	2.23	2.17	2.17	2.19	2.20	2.22		
Dissolved Oxygen (mg/L)	4.08	0.00	0.00	0.00	0.00	0.00	0.00		
ORP (mV)	-137	-147	-151	-155	-157	-159	-159		
Turbidity (NTU)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Notes:	DTW for 1532 = 8.51'								

Sampling Information

Analyses	#	n	Laboratory
VOC	3		Test America
TOC	2		↓
RSK	3		↓

Color: light yellow
Odor: Sulfur (slight)
Appearance: transparent
Sample ID: MW131-100318 Sample Time: 1600
MS/MSD: Yes ☐ No ☒
Duplicate: Yes ☐ No ☒
Duplicate ID: - Dup. Time:
Chain of Custody Signed By:

Problems / Observations

Sulfer smell at start of pumping
light yellow, transparent

Prose - 21292 ; meter 19926

Site: Ashland - Rensselaer

Event:

GROUNDWATER SAMPLING LOG

Sampling Personnel: Jessica Steigerwald
Client / Job Number: Ashland
Weather: Sunny 62°F

Well ID: MW-13
Date: 10/4/18
Time In: 0920 Time Out: 1020

Well Information

Depth to Water:	(feet)	2.30	(from MP)
Total Depth:	(feet)	22.14	(from MP)
Length of Water Column:	(feet)	19.84	
Volume of Water in Well:	(gal)	3.23	
Intake depth for tubing:	(feet)	17.14	

Well Type:		Flushmount	☐	Stick-Up	☒
Well Material:		Stainless Steel	☐	PVC	☒
Well Locked:	(was locked)	Yes	☒	No	☐
Measuring Point Marked:		Yes	☐	No	☒
Well Diameter:	1"	2"		Other:	

Purging Information

Purging Method:	Bailer	☐	Peristaltic	☒	Monsoon	☐	Other:
Tubing/Bailer Material:	Steel	☐	Polyethylene	☒	Teflon	☐	Other:
Sampling Method:	Bailer (VOC)	☒	Peristaltic (TOC/TRPH)	☒	Monsoon	☐	Other:

Pump Start Time: 0932
Pump Stop Time: 1010
Water-Quality Meter Type: Horiba U-52
Total Volume Removed: ~3.5 (gal)
Did well go dry: Yes ☐ No ☐

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L =3785 ml = 0.1337 cubic feet				

Unit Stability			
pH	DO / Turb	Cond. /Temp	ORP
∀ 0.1	∀ 10%	∀ 3.0%	∀ 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Time	0933	0938	0943	0948	0953	0958	1003	1008	
Volume Purged (Gal)	0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	
Rate (mL/min)		380	380	380	380	380	380	380	
Depth to Water (ft.)	4.2	6.18	7.65	9.18	10.07	10.63	11.0	11.40	
pH	7.60	7.42	7.38	7.52	7.57	7.52	7.53	7.52	
Temp. (C)	59.7	58.4	58.6	58.3	58.5	58.6	58.6	58.5	
Conductivity (mS/cm)	0.597	0.593	0.589	0.582	0.578	0.581	0.581	0.580	
Dissolved Oxygen (mg/L)	3.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ORP (mV)	-69	-119	-117	-114	-107	-98	-95	-95	
Turbidity (NTU)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Notes:									

Sampling Information

Analyses	#	n	Laboratory
VOC	3		Test America
TOC	2		" " "

Color: clear
Odor: none
Appearance: clear
Sample ID: MW-13-100418 Sample Time: ~~1005~~ 1010
MS/MSD: Yes ☐ No ☒
Duplicate: Yes ☐ No ☒
Duplicate ID: Dup. Time:
Chain of Custody Signed By:

Problems / Observations

Probe - 21292; meter - 19926

water was clear, no odor noticed

Site: Ashland Ren. | Event:

GROUNDWATER SAMPLING LOG

Sampling Personnel: ES
Well ID: MW-16
Client / Job Number: Ashland
Date: 10/3/18
Weather: Cloudy 60 °F
Time In: 1045 Time Out:

Well Information

Depth to Water:	(feet)	7.01	(from MP)
Total Depth:	(feet)	16.70	(from MP)
Length of Water Column:	(feet)	9.69	
Volume of Water in Well:	(gal)	1.57	
Intake depth for tubing:	(feet)	~14	

Well Type:		Flushmount	☐	Stick-Up	☑
Well Material:		Stainless Steel	☐	PVC	☑
Well Locked:		Yes	☑	No	☐
Measuring Point Marked:		Yes	☑	No	☐
Well Diameter:	1"	2"		Other:	

Purging Information

Purging Method:	Bailer	☐	Peristaltic	☑	Monsoon ☐	Other:	
Tubing/Bailer Material:	Steel	☐	Polyethylene	☑	Teflon ☐	Other:	
Sampling Method:	Bailer VOCs	☑	Peristaltic TOC, RSK	☑	Monsoon ☐	Other:	

Pump Start Time: 1050
Pump Stop Time:
Water-Quality Meter Type: Horiba U-52
Total Volume Removed: (gal) ~1.75
Did well go dry: Yes ☐ No ☑

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L =3785 ml = 0.1337 cubic feet				

Unit Stability			
pH	DO / Turb	Cond. /Temp	ORP
∀ 0.1	∀ 10%	∀ 3.0%	∀ 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Time	1055	1100	1105	1110	1115	1120	1125	1130	
Volume Purged (Gal)	0	0.25	0.50	0.75	1.0	1.25	1.50	1.75	
Rate (mL/min)									
Depth to Water (ft.)	7.93	9.82	10.42	11.18	11.58	11.95	12.14	12.23	
pH	7.06	7.04	7.05	7.09	7.17	7.14	7.14	7.14	
Temp. (C)	16.68	16.94	16.85	16.67	16.40	16.51	16.59	16.56	
Conductivity (mS/cm)	0.881	0.892	0.941	0.998	1.25	1.19	1.21	1.22	
Dissolved Oxygen (mg/L)	2.40	0.71	0.69	0.71	0.64	0.67	0.68	0.63	
ORP (mV)	62	29	3	-27	-46	-44	-42	-39	
Turbidity (NTU)	0	0	0	0	0	0	0	0	
Notes:									

Sampling Information

Analyses	#	n	Laboratory
VOCs	3		Test America
TOCs	2		↓
RSK	3		

Color: No Color
Odor: No Odor
Appearance: Clear
Sample ID: MW-16-100318 Sample Time: 1135
MS/MSD: Yes ☐ No ☑
Duplicate: Yes ☐ No ☑
Duplicate ID: — Dup. Time: —
Chain of Custody Signed By: ES

Problems / Observations

Initial:
Clear, No Odor, No Color

Horiba # 29724 | 21191

Site: Ashland - Rensselaer

Event:

GROUNDWATER SAMPLING LOG

Sampling Personnel: Jessica Stegenwald
Client / Job Number: Ashland
Weather: Cloudy 63°F

Well ID: MW-17
Date: 10/3/18
Time In: 1633 **Time Out:**

Well Information

Depth to Water:	(feet)	5.77	(from MP)
Total Depth:	(feet)	18.0	(from MP)
Length of Water Column:	(feet)	12.23	
Volume of Water in Well:	(gal)	1.99	
Intake depth for tubing:	(feet)	~~Max~~ 14.0	

Well Type:	Flushmount	☒	Stick-Up	☐	
Well Material:	Stainless Steel	☐	PVC	☒	
Well Locked:	Yes	☐	No	☒	
Measuring Point Marked:	Yes	☐	No	☒	
Well Diameter:	1"	(2")	Other:		

Purging Information

Purging Method:	Bailer	☐	Peristaltic	☒	Monsoon ☐	Other:
Tubing/Bailer Material:	Steel	☐	Polyethylene	☒	Teflon ☐	Other:
Sampling Method:	Bailer VOC	☒	Peristaltic TOC	☒	Monsoon ☐	Other:

Pump Start Time: 1635
Pump Stop Time: 1610
Water-Quality Meter Type: Horiba U-52
Total Volume Removed: ~3.5 (gal)
Did well go dry: Yes ☐ No ☐

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L =3785 ml = 0.1337 cubic feet				

Unit Stability			
pH	DO / Turb	Cond. /Temp	ORP
∀ 0.1	∀ 10%	∀ 3.0%	∀ 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Time	1636	1641	1646	1651	1656	1701	1706		
Volume Purged (Gal)	0	1.0	1.5	1.9	2.4	2.9	3.3		
Rate (mL/min)		759	379	303	379	379	303		
Depth to Water (ft.)	7.20	8.75	9.30	9.84	10.45	10.57	10.65		
pH	7.3	7.22	7.11	7.08	7.06	7.05	7.06		
Temp. (C)	66.9	66.7	65.7	65.6	65.1	65.2	65.0		
Conductivity (mS/cm)	1.58	1.34	1.64	1.57	1.65	1.61	1.65		
Dissolved Oxygen (mg/L)	0.10	0.00	0.00	0.00	0.00	0.00	0.00		
ORP (mV)	-184	-191	-175	-176	-170	-169	-168		
Turbidity (NTU)	20.4	9.0	4.4	1.5	0.0	0.0	0.0		
Notes:									

Sampling Information

Analyses	#	n	Laboratory
VOC	3		Test America
TOC	2		↓

Color: clear (TOC) / brown (VOC)
Odor: none
Appearance: some TSS in VOC sample
Sample ID: MW-17-100318 Sample Time: 1610
MS/MSD: Yes ☐ No ☒
Duplicate: Yes ☐ No ☒
Duplicate ID: Dup. Time:
Chain of Custody Signed By:

Problems / Observations

clear, no odor, ~~brown~~ translucent
Probe - 19926; meter - 21292

* VOC sample w/ bailer had some suspended solids possibly from stirring up sediment at bottom of well

Site: Ashland - Renselaer

Event:

GROUNDWATER SAMPLING LOG

Sampling Personnel: Jessica Steigerwald
Client / Job Number: Ashland
Weather: Cloudy 59 °F

Well ID: MW-18
Date: 10/3/18
Time In: 10:50 Time Out: 12:00

Well Information

Depth to Water:	(feet)	4.11	(from MP)
Total Depth:	(feet)	18.0	(from MP)
Length of Water Column:	(feet)	15.89	
Volume of Water in Well:	(gal)	2.59	
Intake depth for tubing:	(feet)	13.5	

Well Type:	Flushmount	☐		Stick-Up	☒
Well Material:	Stainless Steel	☐		PVC	☒
Well Locked:	Yes	☒		No	☐
Measuring Point Marked:	Yes	☒		No	☐
Well Diameter:	1"		2"	Other:	

Purging Information

Purging Method:	Bailer	☐	Peristaltic	☒	Monsoon	☐	Other:
Tubing/Bailer Material:	Steel	☐	Polyethylene	☒	Teflon	☐	Other:
Sampling Method:	Bailer VOC	☒	Peristaltic TOC/RSK	☒	Monsoon	☐	Other:

Pump Start Time: 10:50 / 11:33
Pump Stop Time: 11:00 /
Water-Quality Meter Type: Horiba U-52
Total Volume Removed: ~3 (gal)
Did well go dry: Yes ☐ No ☐

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L =3785 ml = 0.1337 cubic feet				

Unit Stability			
pH	DO / Turb	Cond. /Temp	ORP
∀ 0.1	∀ 10%	∀ 3.0%	∀ 10 mV

Parameter:	1	2	3 11:34	4 11:39	5 11:44	6 11:49	7 11:54	8 11:59	9
Time	10:51	10:56	~~11:01~~	~~11:06~~	~~11:11~~	~~11:16~~			
Volume Purged (Gal)	0	0.5	1.1	1.5	1.9	2.3			
Rate (mL/min)		379	303	303	303	303			
Depth to Water (ft.)	5.68	6.72	5.69	7.00	7.5	8.2			
pH	7.71	7.02	6.41	6.87	6.93	6.88			
Temp. (C)	60.7	61.1	61.4	60.7	60.7	60.7			
Conductivity (mS/cm)	0.871	0.862	0.959	0.910	0.899	0.898			
Dissolved Oxygen (mg/L)	0.00	0.00	1.51	0.00	0.00	0.00			
ORP (mV)	-98	-109	-40	-117	-120	-120			
Turbidity (NTU)	0.0	0.0	0.0	0.0	0.0	0.0			
Notes:									

Sampling Information

Analyses	#	n	Laboratory
VOC	3		Test America
TOC	2		↓
RSK	3		↓
Color: Clear			
Odor: none			
Appearance: transparent			
Sample ID: MW-18-100318 Sample Time: 1150			
MS/MSD: Yes ☐ No ☒			
Duplicate: Yes ☐ No ☒			
Duplicate ID		Dup. Time:	
Chain of Custody Signed By:			

Problems / Observations

Screen length = 9'
Probe - 21262 ; meter - 19926

clear, no odor, transparent

Site | Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: ES | **Well ID:** MW-19
Client / Job Number: Ashland Rem | **Date:** 10/4/18
Weather: Cloudy 65°F | **Time In:** 1025 **Time Out:** 1130

Well Information

Depth to Water:	(feet)	2.26	(from MP)
Total Depth:	(feet)	17.66	(from MP)
Length of Water Column:	(feet)	15.40	
Volume of Water in Well:	(gal)	2.51	
Intake depth for tubing:	(feet)	~10	

Well Type:	Flushmount	☑	Stick-Up	☐	
Well Material:	Stainless Steel	☐	PVC	☑	
Well Locked:	Yes	☐	No	☑	
Measuring Point Marked:	Yes	☑	No	☐	
Well Diameter:	1"	2"	Other:	4"	

Purging Information

Purging Method:	Bailer	☐	Peristaltic	☑	Monsoon	☐	Other:
Tubing/Bailer Material:	Steel	☐	Polyethylene	☑	Teflon	☐	Other:
Sampling Method:	Bailer	☑	Peristaltic	☑	Monsoon	☐	Other:

Pump Start Time: 1025
Pump Stop Time: 1130 | Water-Quality Meter Type: Horiba U-52
Total Volume Removed: (gal) ~4.0 | Did well go dry: Yes ☐ No ☑

Conversion Factors

gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469

1 gal = 3.785 L =3785 ml = 0.1337 cubic feet

Unit Stability

pH	DO / Turb	Cond. /Temp	ORP
∀ 0.1	∀ 10%	∀ 3.0%	∀ 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Time	1030	1035	1040	1045	1050	1055	1100	1105	1110
Volume Purged (Gal)	0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0
Rate (mL/min)									
Depth to Water (ft.)	2.46	2.72	2.85	2.91	2.98	3.04	3.06	3.13	3.21
pH	7.38	7.43	7.37	7.37	7.30	7.27	7.28	7.25	7.22
Temp. (C)	17.84	17.79	17.78	17.78	17.78	17.80	17.79	17.78	17.81
Conductivity (mS/cm)	0.401	0.399	0.429	0.444	0.505	0.539	0.532	0.543	0.5
Dissolved Oxygen (mg/L)	4.58	3.20	2.87	2.69	2.38	2.17	2.08	1.87	1.63
ORP (mV)	-62	-47	-57	-69	-82	-89	-92	-94	-99
Turbidity (NTU)	86.8	76.4	65.7	55.4	47.2	42.8	39.3	37.9	36.5
Notes:									

Sampling Information

Analyses	#	n	Laboratory
VOCs	3		Test America
TOCs	2		↓
RSK	3		↓

Color: No Color
Odor: Slight Odor
Appearance: Slightly Cloudy
Sample ID: MW-19-100418 Sample Time: 1115
MS/MSD: Yes ☑ No ☐
Duplicate: Yes ☑ No ☐
Duplicate ID DUP-1-100418 Dup. Time:
Chain of Custody Signed By: ES

Problems / Observations

Initial: No Color Odor Present
Slightly cloudy, suspended solids

Horiba # 29741 / 21191

Site: Ashland - Rensselaer

Event:

GROUNDWATER SAMPLING LOG

Sampling Personnel: Jessica Steigerwald
Well ID: MW-20
Client / Job Number: Ashland
Date: 10/4/18
Weather: Sunny 57°F
Time In: 7:40 Time Out: 0840

Well Information

Depth to Water:	1.67	(feet) (from MP)
Total Depth:	11.97	(feet) (from MP)
Length of Water Column:	10.30	(feet)
Volume of Water in Well:	1.68	(gal)
Intake depth for tubing:	~8	(feet)

Well Type:	Flushmount	☒	Stick-Up	☐
Well Material:	Stainless Steel	☐	PVC	☒
Well Locked:	Yes	☐	No	☒
Measuring Point Marked:	Yes	☐	No	☒
Well Diameter:	1"	(2")	Other:	

Purging Information

Purging Method:	Bailer	☐	Peristaltic	☒	Monsoon ☐	Other:
Tubing/Bailer Material:	Steel	☐	Polyethylene	☒	Teflon ☐	Other:
Sampling Method:	Bailer VOC	☒	Peristaltic	☐	Monsoon ☐	Other:

Pump Start Time: 0756
Pump Stop Time: 0827
Water-Quality Meter Type: Horiba U-52
Total Volume Removed: 3.5 (gal)
Did well go dry: Yes ☐ No ☒

Conversion Factors

gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469

1 gal = 3.785 L = 3785 ml = 0.1337 cubic feet

Unit Stability

pH	DO / Turb	Cond. /Temp	ORP
∀ 0.1	∀ 10%	∀ 3.0%	∀ 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Time	0757	0802	0807	0812	0817	0822	0827		
Volume Purged (Gal)	0	0.9	1.8	2.7	2.6	3	3.4		
Rate (mL/min)		680	680	379	230	303	303		
Depth to Water (ft.)	1.67	1.90	1.86	1.83	1.87	1.88	1.87		
pH	6.54	6.84	6.87	6.87	6.88	6.88	6.89		
Temp. (C)	61.9	62.7	62.7	62.8	62.8	62.8	62.8		
Conductivity (mS/cm)	1.11	1.06	1.03	1.02	1.01	1.00	1.00		
Dissolved Oxygen (mg/L)	3.12	0.00	0.00	0.00	0.00	0.00	0.00		
ORP (mV)	73	-60	-94	-104	-105	-108	-111		
Turbidity (NTU)	~~3rd 2026~~	0.6	0.0	0.0	0.0	0.0	0.0		
Notes:									

Sampling Information

Analyses	#	n	Laboratory
VOC	3		Test America

Color: clear
Odor: none
Appearance: clear
Sample ID: MW-20-100418 Sample Time: 0830
MS/MSD: Yes ☐ No ☒
Duplicate: Yes ☐ No ☒
Duplicate ID: Dup. Time:
Chain of Custody Signed By:

Problems / Observations

Probe - 21292; meter - 19926
Water was clear, no odor initially

Site | Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: ES
Well ID: MW-21
Client / Job Number: Ashland Res.
Date: 10/3/18
Weather: Cloudy 64°F
Time In: 1635 Time Out: 1715

Well Information

Depth to Water:	(feet)	10.03	(from MP)
Total Depth:	(feet)	14.97	(from MP)
Length of Water Column:	(feet)	4.94	
Volume of Water in Well:	(gal)	0.80	
Intake depth for tubing:	(feet)	~13	

Well Type:	Flushmount ☐		Stick-Up ☑		
Well Material:	Stainless Steel ☐		PVC ☑		
Well Locked:	Yes ☑		No ☐		
Measuring Point Marked:	Yes ☑		No ☐		
Well Diameter:	1"	2" (circled)	Other:		

Purging Information

Purging Method:	Bailer ☐		Peristaltic ☑		Monsoon ☐		Other:
Tubing/Bailer Material:	Steel ☐		Polyethylene ☑		Teflon ☐		Other:
Sampling Method:	Bailer ☑ VOCs		Peristaltic ☑ TOCs		Monsoon ☐		Other:
Pump Start Time:	1635						
Pump Stop Time:	1715		Water-Quality Meter Type:		Horiba U-52		
Total Volume Removed:	(gal)	~1.50	Did well go dry:	Yes ☐	No ☑		

Conversion Factors

gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469

1 gal = 3.785 L = 3785 ml = 0.1337 cubic feet

Unit Stability

pH	DO / Turb	Cond. /Temp	ORP
∀ 0.1	∀ 10%	∀ 3.0%	∀ 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Time	1640	1645	1650	1655	1700	1705	1710		
Volume Purged (Gal)	0	0.25	0.50	0.75	1.0	1.25	1.50		
Rate (mL/min)									
Depth to Water (ft.)	10.66	11.22	11.52	12.05	12.43	12.89	13.28		
pH	6.97	6.91	6.90	6.91	6.89	6.89	6.90		
Temp. (C)	15.58	15.24	15.03	15.46	15.51	15.55	15.48		
Conductivity (mS/cm)	2.21	2.23	2.30	2.44	2.39	2.36	2.35		
Dissolved Oxygen (mg/L)	1.98	0.72	0.60	0.62	0.50	0.48	0.47		
ORP (mV)	-83	-159	-184	-182	-173	-171	-169		
Turbidity (NTU)	0	0	0	0	0	0	0		
Notes:									

Sampling Information

Analyses	#	n	Laboratory
VOCs	3		Test America
TOCs	2		↓

Color: Tan
Odor: Slight Odor
Appearance: Slightly Cloudy
Sample ID: MW-21-100318 Sample Time: 1715
MS/MSD: Yes ☐ No ☑
Duplicate: Yes ☐ No ☑
Duplicate ID: — Dup. Time: —
Chain of Custody Signed By: ES

Problems / Observations

Initial:

No Color, Slight Odor, Clear

* Tubing lowered due to dropping water table

Horiba #: 29724 / 21191

Site: Ashland - Rensselaer

Event:

GROUNDWATER SAMPLING LOG

Sampling Personnel: Jessica Steigerwald
Client / Job Number: Ashland Client
Weather: Cloudy 66°F

Well ID: MW-25
Date: 10/4/18
Time In: 1030 **Time Out:**

Well Information

Depth to Water:	(feet)	3.58	(from MP)
Total Depth:	(feet)	21.50	(from MP)
Length of Water Column:	(feet)	17.92	
Volume of Water in Well:	(gal)	2.92	
Intake depth for tubing:	(feet)	16.50	

Well Type:	Flushmount	☒	Stick-Up	☐	
Well Material:	Stainless Steel	☐	PVC	☒	
Well Locked:	Yes	☐	No	☒	
Measuring Point Marked:	Yes	☒	No	☐	
Well Diameter:	1"	2"	Other:		

Purging Information

Purging Method:	Bailer	☐	Peristaltic	☒	Monsoon ☐	Other:
Tubing/Bailer Material:	Steel	☐	Polyethylene	☒	Teflon ☐	Other:
Sampling Method:	Bailer (VOC)	☒	Peristaltic (TOC/RSK)	☒	Monsoon ☐	Other:

Pump Start Time: 1041
Pump Stop Time: 1129
Water-Quality Meter Type: Horiba U-52
Total Volume Removed: 4.5 (gal)
Did well go dry: Yes ☐ No ☐

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L = 3785 ml = 0.1337 cubic feet				

Unit Stability			
pH	DO / Turb	Cond. /Temp	ORP
∀ 0.1	∀ 10%	∀ 3.0%	∀ 10 mV

Parameter:	1	2	3	4	5	6	7	8	9	
Time	1042	1047	1052	1057	1102	1107	1112	1117	1122	1127
Volume Purged (Gal)	0	0.5	1.0	1.6	2.2	2.7	3.1	3.6	4.0	4.4
Rate (mL/min)	~~5~~ 4.3	380	380	450	450	380	380	380	303	303
Depth to Water (ft.)	~~5.3~~	5.3	5.71	5.70	5.64	6.09	6.24	6.24	6.18	6.24
pH	6.70	6.67	6.72	6.76	6.78	6.77	6.79	6.78	6.76	6.75
Temp. (C)	65.9	65.5	65.0	65.0	64.9	64.6	64.6	64.5	64.7	64.7
Conductivity (mS/cm)	1.90	1.91	1.91	1.91	1.91	1.91	1.90	1.89	1.89	1.88
Dissolved Oxygen (mg/L)	0.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ORP (mV)	-17	-42	-48	-50	-47	-45	-45	-44	-43	-43
Turbidity (NTU)	92.5	35.2	21.4	31.0	60.9	20.0	16.3	8.3	0.2	0.0
Notes:										

Sampling Information

Analyses	#	n	Laboratory
VOC	3		Test America
TOC	2		↓
RSK	3		

Color: Clear
Odor: none
Appearance: clear
Sample ID: MW-25-100418 Sample Time: 1128
MS/MSD: Yes ☐ No ☒
Duplicate: Yes ☐ No ☒
Duplicate ID: Dup. Time:
Chain of Custody Signed By:

Problems / Observations

Note: Josh had depth = 21 ft, likely going to remove 6 in PVC when finishing well.

Probe - 21292 ; meter 19926

Water was clear, no oder initially

APPENDIX D

Well Abandonment Logs

ARCADIS

Well Abandonment Log

Site Name/Location	Ashland Ren			Recorded by	ES
Project/No.	OH009018.RRTM	Well ID	IW-A5	Date	10/16/18
Total Depth (ft)	20.09	Construction Material	Black Iron	Casing Diameter (in)	2"
Start Time	0800	End Time		Well Volume (gallon)	
Method:					
Overdrill (ft)		Grout/Chips		Bags of Material	
Contractor	NJ Hnagle	Driller	Tom	Helper	Avery

Well Casing Volume Conversion Factor

gallon/foot	1" = 0.04	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
		1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

Time	Notes
0800	Tom/Avery pull pro-casing w/ rig
	and cut iron riser pipe w/ angle grinder

NR = Not Recorded

TSD = Total Sound Depth

bgs = below ground surface
PID = Photo Ionization Detector
ppm = part per million

ARCADIS

Well Abandonment Log

Site Name/Location	Ashland Rec			Recorded by	ES
Project/No.	OH005018. RRTM	Well ID	PZ-1	Date	10/16/18
Total Depth (ft)	5.02/20.28	Construction Material	PVC	Casing Diameter (in)	2"
Start Time	0820	End Time		Well Volume (gallon)	2.48
Method:					
Overdrill (ft)		Grout/Chips		Bags of Material	
Contractor	Nothnagle	Driller	Tom	Helper	Avery

Well Casing Volume Conversion Factor

gallon/foot	1" = 0.04	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
		1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

Time	Notes
	Casing destroyed 2 ft below grade and grouted

NR = Not Recorded

TSD = Total Sound Depth

bgs = below ground surface

PID = Photo Ionization Detector

ppm = part per million

ARCADIS

Well Abandonment Log

Site Name/Location	Ashland Rem			Recorded by	ES
Project/No.	OH009018.RRTM	Well ID	PZ-2	Date	10/16/18
Total Depth (ft)	5.23/14.71	Construction Material	PVC	Casing Diameter (in)	2"
Start Time		End Time		Well Volume (gallon)	1.95
Method:					
Overdrill (ft)		Grout/Chips		Bags of Material	
Contractor	Nathagle	Driller	Tom	Helper	Avery

Well Casing Volume Conversion Factor

gallon/foot	1" = 0.04	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
		1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

Time	Notes
	Casing destroyed 2 ft below grade and grouted

NR = Not Recorded

TSD = Total Sound Depth

bgs = below ground surface

PID = Photo Ionization Detector

ppm = part per million

ARCADIS

Well Abandonment Log

Site Name/Location	Ashland Ren.			Recorded by	ES
Project/No.	OH009018.RRTM	Well ID	IN-A6	Date	10/16/18
Total Depth (ft)	3.57 / 15.23	Construction Material	Black Iron	Casing Diameter (in)	2"
Start Time		End Time		Well Volume (gallon)	1.90
Method:					
Overdrill (ft)		Grout/Chips		Bags of Material	
Contractor	Nothnagle	Driller	Tom	Helper	Avery

Well Casing Volume Conversion Factor

gallon/foot	1" = 0.04	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
		1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

Time	Notes
	Casing cut w/ angle grinder ~2 ft below grade then grouted

NR = Not Recorded

TSD = Total Sound Depth

bgs = below ground surface

PID = Photo Ionization Detector

ppm = part per million

ARCADIS

Well Abandonment Log

Site Name/Location	Ashland Rem.			Recorded by	ES
Project/No.	OH 009018. RRTM	Well ID	IW-A1	Date	10/16/18
Total Depth (ft)	2.29/19.47	Construction Material	Black Iron	Casing Diameter (in)	2"
Start Time		End Time		Well Volume (gallon)	2.80
Method:					
Overdrill (ft)		Grout/Chips		Bags of Material	
Contractor	Nothnagle	Driller	Tom	Helper	Avery

Well Casing Volume Conversion Factor

gallon/foot	1" = 0.04	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
		1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

Time	Notes
	Casing destroyed 2 ft Below grade (cut w/ angle grinder) then grouted

NR = Not Recorded

TSD = Total Sound Depth

bgs = below ground surface

PID = Photo Ionization Detector

ppm = part per million

ARCADIS

Well Abandonment Log

Site Name/Location	Ashland Rail.			Recorded by	ES
Project/No.	OH009018. RRTM	Well ID	IW-A7	Date	10/16/18
Total Depth (ft)	7.19 / 19.10	Construction Material	Black Iron	Casing Diameter (in)	2"
Start Time	1000	End Time		Well Volume (gallon)	1.94
Method: Overdrill (ft)		Grout/Chips		Bags of Material	
Contractor	Nothnagle	Driller	Tom	Helper	Avery

Well Casing Volume Conversion Factor

gallon/foot	1" = 0.04	1-¼" = 0.06 1-½" = 0.09	2" = 0.16 2-½" = 0.26	3" = 0.37 3-½" = 0.50	4" = 0.65 6" = 1.47

Time	Notes
	Pro Casing and rising cut at grade and grouted (unable to reach well w/ rig)

NR = Not Recorded

TSD = Total Sound Depth

bgs = below ground surface
PID = Photo Ionization Detector
ppm = part per million

APPENDIX E

2018 Annual Site Inspection and Photo Log

Site-wide Inspection Form
Ashland Rensselaer Site
Rensselaer, New York

Semiannual Inspection Checklist/Weather Event Inspection

Month October

Year 2018

1. Check integrity of the asphalt surfaces and building footers – document any changes with photos and comments below.
Add specific comments/date/initials:

Cracks in asphalt w/ vegitation	10/4/18	JMS
Standing water visible on asphalt in SW corner, Josh noted water bubbling up through asphalt	10/3/18	JMS
Asphalt caving in at culvert	10/4/18	JMS

2. Check condition of perimeter fence – document any changes with photos and comments below.
Comments/date/initials:

Fence on west side of site needs gravel to fill hole under it.	10/4/18	JMS
Same issue in SW corner.		

3. Check current site usage (if changed) – document any changes with photos and comments below.
Comments/date/initials:

** Possible excavation work under bridge on SW corner in next few weeks.	10/4/18	JMS

4. Check monitoring well conditions on and offsite – document any changes with photos and comments below.
Comments/date/initials:

MW-12D had dent in casing where it looked like it had been hit (Web has photo)	10/3/18	JMS

5. Check that site records are up to date (HASP/CAMP, Environmental Easement, Annual CMI Reports) – document any changes with photos and comments below. Comments/date/initials:

HASP is up to date	2018	KB
2017 CMI annual Report Submitted	5/2018	↓
SMP + EE in draft	2018	↓

ARCADIS Design & Consultancy for natural and built assets

2018 Site Inspection: Former Ashland Facility- Rensselaer

Project: Former Ashland Facility - Rensselaer	Location: Rensselaer, NY	Project No. OH009000.NY42.

Onsite looking south toward newly installed wells. Minor cracks in asphalt and vegetation growing through asphalt visible in center of photo.

Offsite looking southwest through south entrance gate. Minor cracks in asphalt.

ARCADIS Design & Consultancy for natural and built assets	2018 Site Inspection: Former Ashland Facility- Rensselaer	
Project: Former Ashland Facility - Rensselaer	**Location: Rensselaer, NY**	**Project No.** OH009000.NY42.

South entrance looking northeast. Fence appears in good condition.

Sump on north side of property near PZ-4 filled in.

ARCADIS Design & Consultancy for natural and built assets	2018 Site Inspection: Former Ashland Facility- Rensselaer	
Project: Former Ashland Facility - Rensselaer	**Location: Rensselaer, NY**	**Project No.** OH009000.NY42.

North side of property looking southeast toward north gate. Minor cracks in asphalt visible.

North side of property looking north. Minor cracks in asphalt visible.

ARCADIS Design & Consultancy for natural and built assets	2018 Site Inspection: Former Ashland Facility- Rensselaer	
Project: Former Ashland Facility - Rensselaer	**Location: Rensselaer, NY**	**Project No.** OH009000.NY42.

Manhole next to RW-1, filled in.

Cave in at culvert area near MW-B2 was filled in with gravel. Photo taken looking west.

ARCADIS Design & Consultancy for natural and built assets

2018 Site Inspection: Former Ashland Facility- Rensselaer

Project: Former Ashland Facility - Rensselaer	Location: Rensselaer, NY	Project No. OH009000.NY42.

Cave in at culvert area near MW-B2 was filled in with gravel. Photo taken looking east.

Offsite well MW-12D. Standpipe damaged Monitoring well is not part of the sampling program.

APPENDIX F

Institutional and Engineering Controls Certification Form

Enclosure 2
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Site Management Periodic Review Report Notice
Institutional and Engineering Controls Certification Form

Site Details **Box 1**

Site No. 442038

Site Name Former Ashland Distribution Facility

Site Address: 130 South Street Zip Code: 12144
City/Town: Rensselaer
County: Rensselaer
Site Acreage: 4.8

Reporting Period: January 1, 2018 to December 31, 2018

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

Box 2

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

Deed restrictions (Environmental Easement) have not been executed yet pending approval between NYSDEC and Ashland LLC. Therefore, a corrective action work plan is not required at this time.

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

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

Shannon Lloyd
Remediation Project Manager-Ashland LLC

Signature of Owner, Remedial Party or Designated Representative

4/3/2019
Date

SITE NO. 442038 **Box 3**

Description of Institutional Controls

(Note: These ICs remain draft until the Site Management Plan and Environmental Easement are finalized)

- The property may be used for commercial or industrial use (residential use is prohibited);
- All ECs must be operated and maintained as specified in this SMP;
- All ECs must be inspected at a frequency and in a manner defined in the SMP;
- The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or Rensselaer County Department of Health to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department;
- Groundwater and other environmental or public health monitoring must be performed as defined in this SMP;
- Data and information pertinent to site management must be reported at the frequency and in a manner as defined in this SMP;
- All future activities that will disturb remaining contaminated material must be conducted in accordance with this SMP;
- Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in this SMP;
- Groundwater monitoring must be performed semiannually as defined in this SMP until monitoring indicates the remedy has achieved the remedial action objectives identified in the CMI Work Plan;
- Soil vapor monitoring must be performed if groundwater concentrations increase from current levels in any area downgradient of the site;
- Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical component of the remedy shall be performed as defined in this SMP;
- Inspection of the perimeter fence will be conducted annually and maintained as needed;
- Inspection of the asphalt and concrete surfaces that cover portions of the site will be completed annually and maintained as needed;
- Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restriction identified by the Environmental Easement.
- The potential for vapor intrusion must be evaluated for any building developed in the area within the IC boundaries and any potential impacts that are identified must be monitored or mitigated; and
- Vegetable gardens and farming on the site are prohibited.

Description of Engineering Controls

Box 4

(Note: These ECs remain draft until the Site Management Plan and Environmental Easement are finalized)

- Cover

Exposure to remaining contamination at the site is prevented by a cover system placed over the site. This cover system is comprised of asphalt pavement, concrete-covered sidewalks and driveways, and concrete building slabs in the southern portion of the site.

- Perimeter Fencing

A seven feet tall chain link fence with three access gates (two double gates on South Street and single man-size gate under the Columbia Turnpike Bridge near the south west corner is maintained to prevent access to onsite soils and unsafe areas of the site.

Box 5

Periodic Review Report (PRR) Certification Statements

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

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

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

YES	NO
☒	☐

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

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

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

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

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

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

YES	NO
☒	☐

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

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

Shannon Lloyd
Remediation Project Manager - Ashland LLC

Signature of Owner, Remedial Party or Designated Representative

4/3/2019
Date

IC CERTIFICATIONS
SITE NO.

Box 6

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

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

I Shannon Lloyd (print name) at 5200 Blazer Parkway, Dublin, Ohio 43017 (print business address),

am certifying as Owner (Owner or Remedial Party)

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

Shannon Lloyd
Remediation Project Manager Ashland LLC

4/3/2019

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