

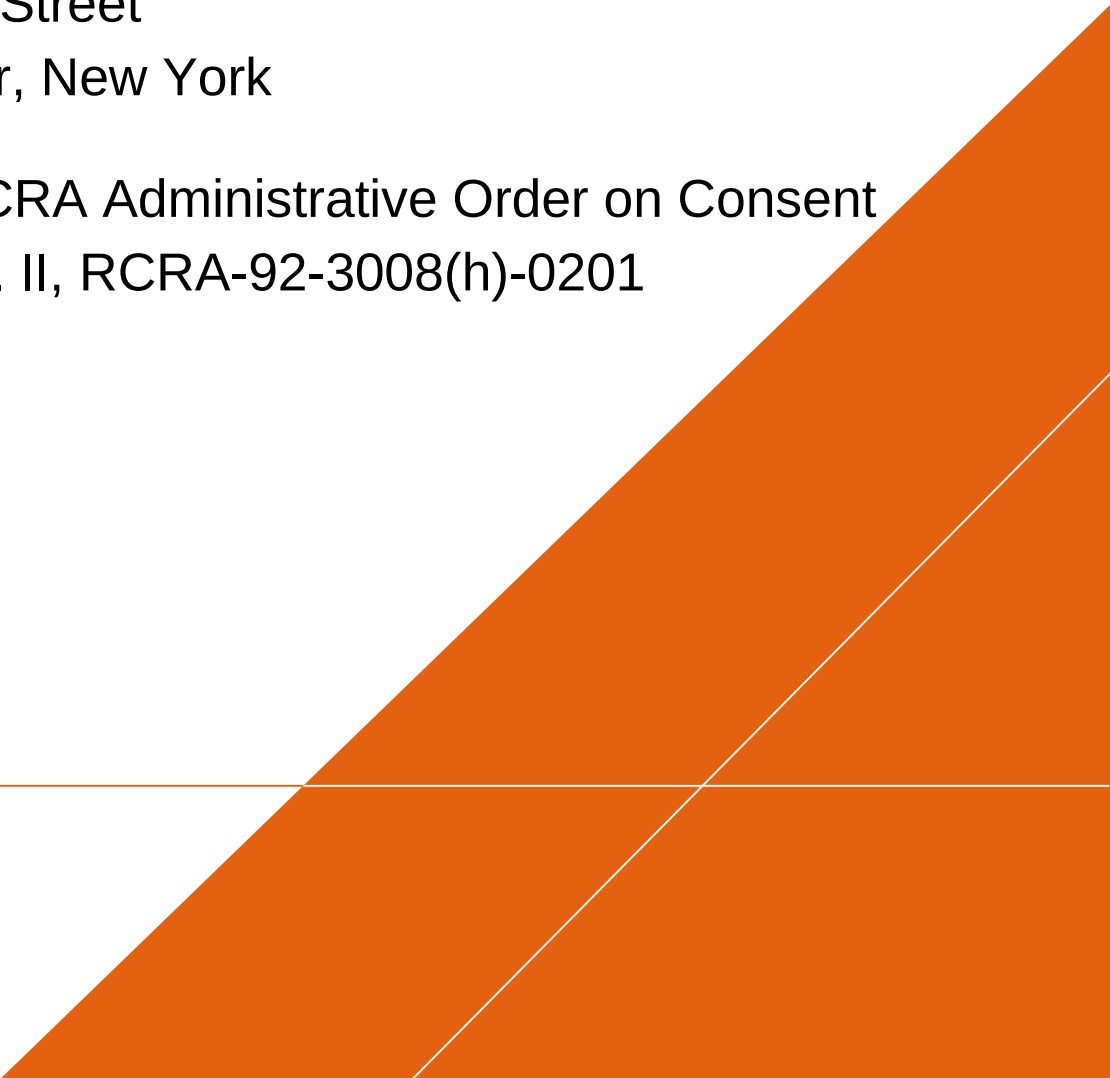
Ashland LLC

2019 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 24, 2020

A large, solid orange geometric shape, resembling a stylized triangle or a section of a larger triangle, is positioned in the bottom right corner of the page. It is composed of two overlapping triangles, creating a complex, angular form that extends from the bottom edge towards the top right corner.

**2019 CORRECTIVE
MEASURE
IMPLEMENTATION
ANNUAL PROGRESS
REPORT**



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ACRONYMS AND ABBREVIATIONS

1,1-DCE	1,1-dichloroethene
1,2-DCA	1,2-dichloroethane
2018 CMI Annual Report	2018 Corrective Measures Implementation Annual Report
2019 CMI Annual Report	2019 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
PCE	tetrachloroethene
ppm	parts per million
reporting period	January 1 through December 31, 2019
ROI	radius of influence
Site	Ashland Property located at 130 South Street in Rensselaer, New York
SMP	Site Management Plan

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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 2019 Corrective Measure Implementation Annual Progress Report (2019 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, 2019 (reporting period).

Arcadis prepared this 2019 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 an enhanced reductive dechlorination (ERD) program in upgradient source zones and along the downgradient portion of the site to address potential off-site migration of chlorinated volatile organic compounds (CVOCs) in groundwater. This is the ninth 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 ERD system performance.
- Monitor benzene, toluene, ethylbenzene, and xylenes (BTEX) concentrations 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 approximately 125 feet west of the site.
- Provide institutional and engineering controls.

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. 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). 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 in 2018 to target the highest CVOC mass flux areas and source zones identified during 2017 site characterization activities and completed an injection event at the newly installed injection wells using emulsified vegetable oil (EVO). Arcadis completed one year of post-injection performance monitoring following the injection event as described in Section 4.3. The additional field activities, including the drilling and injection event, were previously detailed in the 2018 Corrective Measures Implementation Annual Report (2018 CMI Annual Report; Arcadis 2019a) and the ERD System Optimization Well Installation Summary (Arcadis 2019b).

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This 2019 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 2019 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, and the 2018 injection event.
Section 5 – Groundwater Monitoring	Summarizes site-wide groundwater monitoring events, modifications to the program, and results for the past year.
Section 6 – Engineering and Institutional Controls	Documents implementation and inspection of engineering and institutional controls at the site.
Section 7 – 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 8 – References	Lists the references cited throughout this 2019 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 (e.g., 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 CSM and provide data to optimize the existing ERD program by evaluating potential CVOC source area extents. Data from the supplemental investigations are provided in the 2017 CMI Annual Report (Arcadis 2018a). The 2017 supplemental investigations included:

- Soil vapor screening for CVOCs using Gore™ Modules (qualitative investigation).
- Membrane interface probe with a hydraulic profiling tool (MiHPT) and vertical aquifer profiling (VAP) investigation to evaluate site aquifer permeability, CVOC distribution in source areas, and to facilitate evaluation of CVOC mass flux.
- Installation of 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 during a meeting in Albany, New York on October 18, 2017. Arcadis proposed a 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.

Arcadis presented the injection results and revised CSM to representatives of the NYSDEC, USEPA, and NYSDOH via teleconference on August 22, 2018. The elements of the revised CSM are detailed below:

- 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 the existing ERD B-line injection transect, and the southern source area is upgradient of ERD A-line injection transect. The A-line injection transect was part of the initial remedy implementation and was in operation until abandonment in 2018 (Section 4.1). A third centrally located potential source area identified during the January 2017 Gore™ Module qualitative investigation was investigated, and the results indicated relatively low CVOC concentrations unlikely to drive downgradient impacts.
- The supplemental investigation results indicated that source mass was present at deeper intervals than previously understood and that a likely CVOC mass flux zone characterized by higher relative permeability was present below the existing ERD treatment zone, which primarily treats a shallower mass flux zone.
- The limited-scale injection event at wells MW-22, MW-23, and MW-24 with a molasses and Rhodamine WT tracer solution confirmed that the deeper source and mass flux zones identified during the supplemental investigation were conducive to reagent injection to promote ERD in those intervals.
- Rhodamine WT tracer was detected in downgradient wells during post-injection monitoring, confirming that deeper CVOC source and mass flux pathways identified during the supplemental evaluation are the likely primary source of off-site impacts.

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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 to target the upgradient source areas and deeper mass flux zones identified during the site characterization activities, as well as an injection and monitoring scope into the newly expanded system to evaluate source treatment and subsequent CVOC concentration changes in site groundwater. 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 likely hydraulically connected to downgradient wells.

4 ENHANCED REDUCTIVE DECHLORINATION SUMMARY

This section discusses historical injections including: ERD injection methodology, well network, injection substrate and a summary of the 2018 remedial optimization injection event.

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. Injection wells IW-A1, IW-A5, IW-A6, and IW-A7 were abandoned in October 2018. The Northern IRZ Area injection well transect (also designated as the B-line) included injection wells IW-B1, IW-B2, IW-B3, IW-B4, and IW-B5. B-line injection wells remain active at the site. The remaining injection wells from the original injection network are constructed of 2-inch-inner-diameter wells with stainless steel screens that are 10 feet in length across the shallow 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 reducing conditions.

It was evident after the first year of molasses injection that a healthy microbial population had established and that site geology was conducive to a switch to Emulsified vegetable oil (EVO). EVO is less soluble than molasses and sorbs to soil particles in the water-bearing zone, supplying a source of dissolved organic carbon sufficient to maintain 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 as described in the 2017 Annual CMI Report (Arcadis 2018a).

4.2 Remedial Optimization and 2018 Injection Event

Following NYSDEC approval of the ERD Work Plan (Arcadis 2018b) on September 24, 2018, Arcadis installed 17 injection wells and one monitoring well to expand the existing ERD system infrastructure from October 1 to 19, 2018. The well network included eight wells in the Southern IRZ Area (IW-A08 through IW-A14 and MW-22) and ten injection wells in the Northern IRZ Area (IW-B06 through IW-B15) as shown on Figure 1. The injection wells are constructed of 4-inch-diameter wire-wrapped 20-slot stainless-steel

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screen that are 10 to 15 feet in length. The bottoms of the screens are located approximately 15 to 30 feet bgs.

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

Approximately 67,000 gallons of injection solution were injected into the new injection network shown on Figure 2, which included the 17 newly installed wells and one dual-purpose injection/monitoring well (MW-22) that was also utilized during the 2017 limited-scale injection. 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.

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

5 GROUNDWATER MONITORING

This section summarizes site-wide groundwater monitoring events, modifications to the program, and results from the reporting period.

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 2019, a few modifications were made to the monitoring program, which included additional wells and analytes as detailed below. Changes to the monitoring program were documented in the ERD Work Plan (Arcadis 2018b). Tables 3a and 3b summarize the 2019 semiannual monitoring program for IRZ performance and BTEX constituents in MW-20.

5.2 Groundwater Monitoring Activities

The two semi-annual monitoring events were performed at the site on May 7 and 8, and November 6 and 7, 2019. Post injection monitoring proposed in the ERD Work Plan (Arcadis 2018b) was also performed at the site in January, February, May, August, and November 2019. To support the post injection monitoring, additional samples were collected during the May (MW-23, MW-24, and MW-25) and November (MW-15, MW-23, MW-24, and MW-25) 2019 sampling events. MNA parameters including sulfate, nitrate, and total and dissolved manganese and iron were also collected during the November 2019 sampling event as detailed in Section 5.2.1.

Monitoring is intended to track performance of the corrective measure implementation and provide data to support injection frequency (e.g., TOC concentrations at injection wells through time). Additional data collected is summarized in Tables 3a and 3b. Groundwater monitoring results are discussed in Section 5.6.

5.2.1 Post-Injection Monitoring Activities

Performance monitoring following the 2018 injection event was completed periodically for 1 year (November 2018 through November 2019) as outlined in the ERD Work Plan (Arcadis 2018b). Post-injection performance monitoring activities included the following:

- TOC and tracer (fluorescein or Rhodamine WT as applicable) sample collection via grab sampling and low-flow sampling in four on-site monitoring wells (MW-19, MW-23, MW-24, and MW-25). Sample collection frequency was approximately: 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 were collected via grab sampling,

and tracer samples were collected via charcoal packet samplers. Charcoal packet samplers are packets of fiberglass screening filled with granular activated carbon that are placed in the water column and adsorb tracer as water flows through the packet (Aley and Beeman 2015). Charcoal packet samplers are placed in monitoring wells for a period of time before they are removed and analyzed which increases the likelihood of detecting tracer compared to a standard groundwater sample. Charcoal packet tracer results are considered qualitative indicators of groundwater flow pathways for the purposes of this investigation. Sample collection frequency was approximately: 3 days post-injection, weekly for 1 month, monthly for 3 months, and quarterly for 1 year following injection for just the tracer.

- VOC samples were collected via grab sampling and low-flow 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 were collected quarterly for 1 year following injection.
- Monitoring wells surrounding injection wells were visually inspected during the post-injection performance monitoring events to assess status of tracer distribution.

Post-injection performance monitoring tracer results are presented in Table 2. Additional post-injection performance monitoring data for this reporting period is included in Tables 4 through 9.

5.3 Laboratory Analyses

Tables 3a and 3b show the analyses required at each monitoring well. Groundwater samples collected during the May and November 2019 events and the post-injection events described above in Section 5.2. were analyzed for the following parameters:

- Volatile organic compounds (VOCs) by Method USEPA SW 846 8260C.
- Total Organic Carbon by Method USEPA SW 846 9060A.
- Ethane, ethene, and methane using USEPA SW 846 Method Robert S. Kerr (RSK-175) standard operating procedure.

Additional samples collected to evaluate site-wide geochemistry in support of the ongoing ERD remedy as described in Section 5.2 were analyzed for the following parameters:

- Nitrate by USEPA Method 300.0.
- Sulfate by USEPA Method 300.0.
- Total and dissolved iron by USEPA Method 6010C.
- Total and dissolved manganese by USEPA Method 6010C.

Samples collected to evaluate tracer distribution during the post-injection monitoring events described in Section 5.2.1 were analyzed for the Rhodamine WT and fluorescein tracer using fluorescent tracer analysis with a spectrofluorophotometer by Ozark Underground Laboratory (Aley and Beeman 2015).

5.4 Quality Assurance/Quality Control

The data packages for the semi-annual sampling events were reviewed by an Arcadis data validator. Any qualification of the data was determined using the National Functional Guidelines of January 2017 (Organic Data Review and Inorganic Data Review) and NJDEP Technical Guidance documents (April 2014).

Data verification was performed at a Level II and included review of the data package completeness, sample preservation, holding times, blank contamination (method, field and trip), laboratory control samples, matrix spike recoveries and field duplicates.

Data Usability Summary Reports were prepared for the May and November 2019 sampling events by Arcadis. The results were usable; either as reported or with minor qualification. The results for methane and ethane were analyzed beyond the required hold time and the associated results were qualified as estimated (J) during the May 2019 sampling event. During the November 2019 event, methane and nitrate were analyzed beyond the required holding time and the associated results were qualified as estimated, and nitrate at sample location IP-1 was analyzed beyond two times the holding time and was qualified as rejected (R). The data validator's comments are incorporated in Tables 6 through 9, and the Data Usability Summary Reports are included as Appendix A.

5.5 Groundwater Monitoring Methodology

Before collecting groundwater samples during the semiannual events, a comprehensive round of water level measurements was conducted across the site for comparison to historical groundwater elevations. 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, dissolved oxygen (DO), oxidation-reduction potential (ORP), temperature, turbidity, 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.

Additional samples were collected during this reporting period, as described in Section 5.2.1, to support the expansion of the existing ERD remedy. Groundwater samples were collected either as a grab sample following a 1-volume purge or using low-flow sampling techniques as detailed above. Field parameters and depth to groundwater were also collected during these post-injection sampling events. Field data for the sampling events completed during this reporting period are provided in Table 4. Groundwater monitoring field logs are included in Appendix B.

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 for all analyses except for the tracer analysis (fluorescein or Rhodamine WT), which was shipped to Ozark Underground Laboratories located in Protem, Missouri.

5.6 Groundwater Monitoring Results

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:

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

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. Monitoring wells MW-10 and MW-11, located adjacent to the CSX railroad, were not gauged because they are damaged. It is recommended that these wells plus MW-12S and MW-12D be abandoned since access is limited to these wells (due to the railroad) and they are not used for groundwater sampling. Groundwater contours for the May and November 2019 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 to evaluate organic carbon released from the carbon substrate injected to support ERD, including distribution, downgradient transportation prior to consumption, and consumption via ERD. TOC samples were collected at fourteen monitoring wells and two injection wells during the May 2019 sampling event and at thirteen monitoring wells and two injection wells during the November 2019 sampling event. TOC was also collected during the post-injection monitoring as detailed in Section 5.2.1.

Groundwater TOC and methane concentrations from the 2019 sampling events are summarized in Tables 6 and 7, respectively, and shown on Figure 5. The “at-a-glance” charts for performance monitoring wells (MW-B1, MW-A1, and MW-19), additional monitoring wells included to support expansion of the existing remedy (MW-23, MW-24, and MW-25), and select downgradient monitoring wells (MW-16, MW-18, IP-1, and IMP-3) are presented on Figures 6 through 15.

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 ERD implementation. Results from the semiannual events and the post-injection monitoring are detailed below and presented on Table 6.

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- TOC concentrations remained greater than the target at pre-existing injection wells IW-A2 and IW-B3 and monitoring well MW-24 ranging from 62 to 190 mg/L.
- TOC concentrations in MW-B1 fluctuated near the target concentration during the reporting period as they have since May 2017.
- TOC concentrations at MW-23 increased above the target concentration following the 2018 injection event. Concentrations decreased below the target in January 2019 and fluctuated near the target for the remainder of the reporting period.
- TOC concentrations at MW-25 fluctuated near background levels during the reporting period; however, concentrations increased to just below the target in November 2019.
- TOC concentrations remain below the target at MW-A1, MW-19, MW-20 ranging from 3.8 to 19 mg/L.
- Downgradient TOC results for the six off-site locations (MW-16, MW-17, MW-18, MW-21, IP-1, and IMP-3) are consistent with historical values, ranging from an estimated 0.79 to 6.8 mg/L.
- TOC at MW-13, located upgradient from treatment areas, was either not detected or detected just above reporting limits consistent with historical values.

Strong reducing and methanogenic conditions favorable for ERD were observed during the reporting period within or at the immediate downgradient of property boundary IRZs. At the end of this reporting period, methane concentrations remained elevated as shown in Table 7 and summarized below:

- A-line IRZ wells (MW-A1, MW-19, and MW-25) exhibited elevated methane concentrations indicative of strongly reducing conditions (i.e., greater than 1 mg/L).
- Concentrations increased at MW-19 following the 2017 and 2018 deeper injection events; however, the increase in methane concentrations was less than observed increases following historical shallow injections as shown on Figure 11. This indicates that MW-19 is impacted by both the shallow and deeper mass flux pathways.
- MW-25 methane concentrations increased following the 2018 remedial optimization injections and then returned to baseline conditions indicating the arrival of ERD-treated groundwater.
- B-line IRZ wells (MW-B1, MW-23, and MW-24) exhibited elevated methane concentrations indicative of reducing conditions.
- Methane concentrations were generally consistent with historical levels at downgradient monitoring locations (MW-16, MW-18, IP-1) during the reporting period. IP-1 was the only off-site downgradient monitoring well that exhibited estimated elevated methane concentrations (1.5 and 1.4 mg/L), but remain at concentrations that are considered safe and below any levels that would be a concern regarding migration to indoor air.
- pH values in all performance monitoring wells were maintained in the ranges favorable for ERD (i.e., between 5 and 9 standard units) throughout the reporting period as shown in Table 4.

These data indicate that site groundwater is strongly supportive of ongoing ERD remedy implementation.

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. Dechlorination end product concentrations (ethane and ethene) and detected VOCs in groundwater collected during this reporting period are summarized in Tables 7 and 8, respectively. Results for key CVOCs (PCE, TCE, cis-1,2-DCE, and VC) and their dechlorination end products (ethene and ethane) are also presented in the “at-a-glance” charts (Figures 6 through 15), which show concentration trends (as a function of molarity) over the full timeframe of ERD remedy implementation at the site.

Ketones such as acetone, 2-butanone, and 2-hexanone are temporary products of organic carbon substrate (e.g., EVO) fermentation. These compounds may be detected near locations where organic carbon substrate is injected; 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 was detected in MW-21 and MW-24 at least once during the reporting period. 2-butanone was also detected at least once in MW-24. 2-hexanone was not detected at any locations during the 2019 reporting period. Monitoring of these parameters will continue during the next sampling event. Subsequent sections describe results from key monitoring locations in additional detail.

5.6.3.1 Background Well

Samples collected from monitoring well MW-13 (the background location) were non-detect for all CVOC analytes during the 2019 sampling events. This is consistent with historical observations at this location.

5.6.3.2 In-Situ Reactive Zone Monitoring Wells

Monitoring wells within and immediately downgradient of the IRZs (MW-B1, MW-A1, and MW-19) are included in the monitoring program to evaluate ERD effectiveness along the property boundary. Monitoring wells MW-23, MW-24, and MW-25 were included during this reporting period to evaluate the 2018 expansion of the existing ERD remedy. Performance monitoring results for key CVOCs (PCE, TCE, cis-1,2-DCE, and VC), their dechlorination end products (ethene and ethane), and an indicator of reducing conditions (methane) are presented on Figures 6 through 15 for these wells.

These IRZ monitoring wells continue to demonstrate ERD effectiveness within and immediately downgradient of the IRZs along the property boundary as discussed below.

5.6.3.2.1 B-Line In-Situ Reactive Zone Monitoring Wells

Monitoring well MW-B1 is the primary B-line IRZ performance monitoring well. Monitoring wells MW-23 and MW-24, which served as injection wells during the 2017 limited-scale injection event, were sampled

during the semiannual and post-injection events to further evaluate the remedial optimization detailed in Section 4.2. MW-B1 represents the shallow mass flux zone detailed in Section 3 whereas MW-23 and MW-24 represent the deeper mass flux zone. B-line IRZ monitoring well results are included in Table 7 and Table 8 and summarized below.

Parent products (PCE and TCE) were not detected at these wells during the reporting period. Dechlorination daughter products (cis-1,2-DCE and VC) were not detected at MW-B1 or MW-23 except for VC slightly above reporting limits at MW-23 in November 2019. MW-24, which is on the north end of the B-line injection wells installed during the 2018 remedy optimization, exhibited decreasing cis-1,2-DCE trends and increasing VC trends during the reporting period. Dechlorination end products were detected at each of these wells during the reporting period.

CVOCs in the shallow mass flux zone have trended downward with an associated shift to dechlorination end products since the start of ERD injections; the data collected during this reporting period at MW-B1 are consistent with these trends. Total CVOC molarity at MW-B1 has been decreasing since the start of ERD injections, indicating that ERD and CVOC mass reduction is occurring at this location. Deeper mass flux zone data indicate either complete (MW-23) or ongoing (MW-24) reduction in CVOC concentrations resulting from the 2017 limited scale injection and 2018 remedial optimization. Overall, VOC data collected during the reporting period suggest that ERD continues to occur within the B-line IRZ and in the expanded areas of influence from the 2018 remedial optimization.

MW-23 and MW-24 both exhibited VOC concentrations above the TOGS Criteria at least once in 2019 as shown in Table 8.

5.6.3.2.2 A-Line In-Situ Reactive Zone Monitoring Wells

MW-A1 and MW-19 are the primary A-line IRZ performance monitoring wells. Monitoring well MW-25, which was installed during the 2018 remedial optimization, was sampled during the semiannual and post-injection events to further evaluate the remedial optimization detailed in Section 4.2. MW-25 represents the upgradient source area detailed in Section 3. MW-A1 and MW-19 represent the shallow mass flux zone detailed in Section 3. A-line IRZ monitoring well results are included in Tables 7 and 8 and summarized below.

In the shallow mass flux zone, MW-A1 and MW-19 exhibited limited parent compound detections during the reporting period. Dechlorination daughter product concentrations fluctuated at MW-19 during the reporting period; however, VC has maintained a generally increasing trend since late 2018. MW-A1 dechlorination daughter product concentrations fluctuated near historical low concentrations during the reporting period. Dechlorination end products were elevated at both wells during the reporting period.

CVOCs at these shallow mass flux zone locations have fluctuated since injections began along the property boundary; however, they have trended downward with an associated shift to dechlorination end products since deeper injections commenced in 2017. Total CVOC molarity at MW-A1 has decreased since ERD injections began, indicating that ERD and CVOC mass reduction is occurring at this location. Total molarity at MW-19 steadily decreased from October 2014 to 2016 and has fluctuated since. Parent compound total molarity fluctuations 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. Overall, VOC data collected during

the reporting period suggest that ERD continues to occur within the A-line IRZ shallow mass flux zones and in the expanded areas of influence from the 2018 remedial optimization.

In the upgradient mass flux zone, parent products were detected at MW-25; however, PCE concentrations decreased throughout the reporting period. Dechlorination daughter products did not exhibit significant trends at MW-25 during the reporting period; however, concentrations slightly increased alongside parent product decreases following the 2018 remedial optimization. Dechlorination end products were elevated at MW-25 during the reporting period, including a peak in May 2019.

Upgradient mass flux zone data from MW-25 indicates reduced CVOC concentrations in response to the 2017 limited-scale injection and 2018 remedial optimization. Parent compounds reductions likely indicate successful treatment from upgradient A-line IRZ injections due to source mass desorption, which increases dissolved mass readily available for treatment and improves ERD efficacy. Overall, VOC data collected during the reporting period suggest that ERD continues to occur within the A-line IRZ upgradient mass flux zones and in the expanded areas of influence from the 2018 remedial optimization.

MW-A1, MW-19, and MW-25 all exhibited VOC concentrations greater than the TOGS Criteria at least once in 2019 as shown in Table 8.

5.6.3.3 Crossgradient from In-Situ Reactive Zone

MW-20 and MW-15 are at the downgradient edge of the property between and cross-gradient from the two IRZ lines. Performance monitoring results are included in Table 8 and results are discussed further below.

MW-15 was sampled in November 2019 for the first time since 2009 to provide additional data on CVOC concentrations near newly installed 2018 remedial optimization infrastructure. The results showed that TCE, cis-1,2-DCE, and VC were within historical concentration ranges. PCE was not detected. Benzene and cis-1,2-DCE were detected in groundwater at MW-15 at concentrations greater than the TOGS Criteria.

MW-20 exhibited VOC groundwater concentrations above TOGS Criteria at least once in 2019 as shown in Table 8; however, concentrations were within historical ranges. Parent compounds (PCE and TCE) and dechlorination daughter product cis-1,2-DCE fluctuated within historical ranges during the reporting period at MW-20. VC was not detected during the reporting period at MW-20. The presence of cis-1,2-DCE suggests that natural degradation is likely occurring at or upgradient of this area. Dechlorination end products were not detected during the reporting period at MW-20.

BTEX concentrations have generally demonstrated decreasing trends at MW-20 since ERD treatment began. Groundwater concentrations of benzene, ethylbenzene, and total xylenes at MW-20 exceeded TOGS Criteria during the reporting period, but were within historical ranges. The variation in BTEX concentrations is likely attributed to upgradient groundwater flushing and consumption as organic carbon to accentuate ERD within this area.

5.6.3.4 Downgradient Monitoring Wells

Downgradient monitoring wells include MW-16, MW-18, IP-1, IMP-3, MW-17 and MW-21. Performance monitoring results for key CVOCs, their dechlorination end products, and an indicator of reducing conditions (methane) are presented on Figures 12 through 15 for a subset of these wells. Performance monitoring results are included in Table 8. Dechlorination daughter product concentrations at these off-site

monitoring wells generally increased after IRZ injections began but remained relatively stable with fluctuations during recent sampling events. However, dechlorination daughter product concentrations at MW-16 and IMP-3 decreased following the 2017 limited-scale injection and 2018 remedial optimization.

IMP-3, IP-1, and MW-18, located downgradient of the northern source area detailed in Section 3, exhibited VOC concentrations above the TOGS Criteria during the reporting period; however, concentrations were within historical ranges. VOC results for monitoring location IMP-3 decreased to non-detect by 2013; however, concentrations increased in 2014 and remained stable until decreases in concentrations following the 2017 limited-scale injection and 2018 remedial optimization. Groundwater samples collected from MW-17 and MW-21, located downgradient from the southern source zone on the southwestern edge of the downgradient off-site property, continue to have no CVOC detections.

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, TCE, cis-1,2-DCE, 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.

Cis-1,2-DCE and VC were reported at concentrations greater than the TOGS Criteria in the groundwater samples collected at IMP-3, IP-1, and MW-18 during the reporting period. TCE and cis-1,2-DCE concentrations exceeded the TOGS Criteria in the groundwater sample collected at MW-16 during the reporting period.

Benzene was detected at a concentration greater than the TOGS Criteria in the groundwater sample collected from IP-1 during the May 2019 sampling event. All other concentrations for benzene were either non-detect or reported at a low estimated concentration less than the TOGS Criteria for all four locations.

1,2-DCA was reported at concentrations greater than the TOGS Criteria in the groundwater samples collected at IMP-3 and MW-16 during the February and August 2019 sampling events respectively. All other concentrations for 1,2-DCA were either non-detect or reported at a low estimated concentration less than the TOGS Criteria for all four locations.

Trans-1,2-DCE was detected at a concentration greater than the TOGS Criteria in the groundwater sample collected at MW-18 during the February 2019 sampling event. All other trans-1,2-DCE concentrations were either non-detect or reported at a concentration less than the TOGS Criteria for all four locations.

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, TCE, 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.

5.6.4 Geochemistry Results

To evaluate site groundwater geochemistry, additional samples were collected from the semiannual sample list of monitoring wells as well as additional locations (MW-15, MW-23, MW-24, and MW-25)

during the November 2019 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 total and dissolved iron and manganese, sulfate, nitrate, 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 groundwater samples as the monitoring wells reach stabilization. Dissolved oxygen ranged from 0.0 to 7.10 mg/L and 0.0 to 3.63 mg/L during the May and November 2019 events, respectively.
- Dissolved manganese ranged from 0.19 to 7.2 mg/L during the November 2019 event, and typically made up most of the total manganese concentration at each location which indicates reducing conditions conducive to sustained ERD. Dissolved iron ranged from non-detect to 4.8 mg/L and total iron ranged from 1.8 mg/L to 30 mg/L. Low dissolved iron concentrations typically indicate insufficient reducing conditions for anaerobic dechlorination; however, increased dissolved manganese and depleted sulfate concentrations indicate that dissolved iron is precipitating with sulfide generating by sulfate-reducing bacteria and that reducing conditions are occurring.
- Sulfate concentrations were limited in the south source zone at MW-25 and MW-19 at 7.7 J and 14 mg/L respectively, which indicates reducing conditions conducive to continued ERD. MW-15 and MW-20, which are slightly to the north of MW-19 have slightly elevated sulfate concentrations (36 and 28 mg/L respectively) which indicates slightly reducing conditions. Northern source zone well MW-24 exhibited estimated sulfate concentrations of 9.1 mg/L which indicates conditions conducive to continued ERD. Northern source zone well MW-23 exhibited elevated sulfate concentrations (130 mg/L), which, alongside with potentially limited TOC concentrations may indicate additional carbon substrate is required to facilitate ERD.
- Methane was detected in all wells sampled in May and November 2019, with concentrations ranging from 0.0076 J to 14 mg/L and from 0.027 to 8.2 mg/L, respectively. Though a shorter list of wells were sampled, methane was detected in all that were sampled including MW-16. During November 2019, on-site wells typically exhibited methane concentrations indicative of reducing conditions, except for MW-20.

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 oxygen and nitrate depletion across the site, relatively high dissolved manganese concentrations, depleted sulfate concentrations in the IRZs, and methane detections in all sampled wells. The IRZ geochemistry data are consistent with active ERD treatment. Downgradient wells demonstrate strongly to moderately reducing conditions that are likely attributable to a combination of downgradient ERD treatment effects and ambient groundwater conditions. Geochemistry data collected during the reporting period indicate that site groundwater is strongly to moderately reducing and will support ongoing CVOC ERD treatment. 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 Tracers

Rhodamine WT and fluorescein tracers were added to the injection solution in the northern and southern injection areas during the 2018 injection event, respectively, as described in Section 4.2. Tracer was added to the injection areas as a qualitative indicator to further refine the understanding of complex flow paths across the site. Tracer results are shown in Table 2.

Fluorescein was detected consistently at MW-19, located immediately downgradient of the southern injection area, throughout the reporting period. This may indicate successful downward migration from the 2018 injections; however, concentrations are low-level and relatively consistent, with no apparent peaks, which indicates results are background conditions. Monitoring well MW-25, located between the two A-line injection transects, had low-level fluorescein detections in the first two post-injection sampling events which may indicate downward migration from injection wells. Monitoring wells MW-23 and MW-24, located in the northern source area, both exhibited high initial Rhodamine WT tracer concentrations that decreased over the reporting period which indicates gradual washout.

Off site, both Rhodamine WT and fluorescein tracers were detected in charcoal packets from MW-16 which is downgradient from the southern injection area. Similarly, both Rhodamine WT and fluorescein were detected in charcoal packets from MW-18 which is downgradient of the northern injection area. This is consistent with the understanding that deeper CVOC sources and mass flux pathways identified during the supplemental evaluation are likely the primary source of off-site impacts. The low-level detection of both tracers in multiple downgradient wells suggests complex flow paths with potential connections to multiple off-site wells from both north and south source zones.

5.6.6 Summary

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

- ERD was successful at the upgradient A-Line IRZ wells based on results at MW-25 which showed CVOC parent and daughter concentrations decreases appear and associated increase in methane and dechlorination end products. However, these trends appear to have stabilized or returned to baseline which indicates that additional treatment in the upgradient A-Line IRZ wells is necessary. Additional treatment between the A-Line IRZ transects may also be warranted based on these results.
- Successful ERD has been sustained along the property boundary and expanded to include additional CVOC source areas as a result of the 2017 limited scale injection and 2018 remedial optimization. This is evidenced by the strong reducing and methanogenic conditions favorable for ERD, limited parent compound concentrations, and continued transformation of parent compounds to dechlorination daughter and end products. Potentially stalled transition from parent to daughter compounds alongside stable or decreasing TOC concentrations at certain monitoring wells (e.g., MW-

24) may indicate the need for additional delivery of carbon substrate along the property boundary in the deeper mass flux pathway.

- A-Line IRZ monitoring wells indicate that co-located CVOC concentrations at nearby wells are related to both the shallow and deeper mass flux pathways. Recent CVOC fluctuations at MW-19 were reduced, but not eliminated, following the 2017 and 2018 deeper injections. Methane concentrations increased following historical shallow injections but increased to a lesser extent following the 2017 and 2018 deeper injections. This indicates that a remedial strategy targeting carbon substrate delivery in the shallow and deeper mass flux zones will address the primary off-site CVOC mass flux pathways.
- There is limited evidence that sustained ERD is occurring off site resulting from the 2017 and 2018 injection events. This is primarily exhibited at MW-16 and IMP-3 which had decreasing daughter product concentrations following these injection events. These decreasing, but not eliminated, daughter product concentrations indicate that treating both the shallow and deeper mass flux pathways will result in successful sustained ERD at off-site monitoring wells. Changes in downgradient groundwater will continue to be monitored closely in 2020.
- 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 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 2020 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 2018 CMI Annual Report (Arcadis 2018a), which was provided as Appendix E. Arcadis is currently considering appropriate repairs to be conducted in 2020. Appendix C 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 D.

In 2018 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. In 2019 Arcadis and their subcontractors (AFSCO Fence Supply Co., Inc. and The Davey Tree Expert Company) completed the site improvements and updated the City of Rensselaer in May 2019.

Also, in 2019, as part of a lease agreement that Ashland had with a construction crew (D.A. Collins Construction Co. Inc.) a few site improvements were completed, which included the following:

- Grading the area that runs parallel with the tracks and the former foundation on the southwest side of the site. This area was previously very uneven and difficult to work within this area.
- Grading the southwest corner of the site and replacing the fence in this area of the site following the bridge work that was being completed by D.A. Collins.
- Fixing an area that typically held water due to poor drainage, which would lead to a submerged well. Water (precipitation run off) should no longer remain stagnant in this area.

Issues identified during the annual review are summarized below:

- MW-10, MW-11, and MW-12S/D are recommended to be abandoned (upon NYSDEC approval) in 2020. These wells are not sampled, damaged, and/or are difficult to access due to railroad traffic/regulations.
- Collapsed asphalt near the culvert continues to be maintained with Type 2 crusher run gravel (see photo provided in Appendix C).
- Following the construction activities by D.A. Collins, it was observed that the outer casing of PZ-3 is slightly bent. This location is not part of the semiannual or post injection sampling plan, but a mini bailer can still be successfully deployed down the well if needed.

7 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 geochemistry within the IRZ that support continued remediation; however TOC and CVOC concentrations indicate an additional injection event may be warranted in the historical A- and B-line shallow mass flux pathways, the 2018 remedial optimization infrastructure, and potentially expanded into areas surrounding the A- and B-line IRZ transects. Based on the results presented in this report, Arcadis recommends evaluating injection strategies for implementation in the third or fourth quarters of 2020. A work plan presenting the proposed injection and post injection monitoring approach will be provided for NYSDEC approval prior to implementation.

Semiannual groundwater monitoring will be conducted in accordance with the monitoring schedules and methodology included in this 2019 CMI Annual Report.

Lastly, this report formally requests that MW-10, MW-11, MW-12S, and MW-12D be abandoned as they are damaged, not used for sampling, and/or difficult to access due to railroad traffic/regulations.

8 REFERENCES

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TABLES



Table 1a
IRZ Injection Summary (2010-2015)
2019 Corrective Measure Implementation Annual Progress Report
Ashland LLC
130 South Street, Rensselaer, New York

	Location ID	Cumulative Volume (gallons)*	Average Injection Rate (gpm)**	Cumulative Volume (gallons)*	Average Injection Rate (gpm)**	Cumulative Volume (gallons)***	Average Injection Rate (gpm)***
Molasses Injections	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

	Location ID	Cumulative Volume (gallons)***	Average Injection Rate (gpm)***	Cumulative Volume (gallons)***	Average Injection Rate (gpm)***	Cumulative Volume (gallons)***	Average Injection Rate (gpm)***
EVO Injections	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)
2019 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
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
2019 Corrective Measure Implementation Annual Progress Report
Ashland LLC
130 South Street, Rensselaer, New York

Location ID	Sample Date	Groundwater Grab Sample				Charcoal Packet Sample			
		Fluorescein		Rhodamine WT		Fluorescein		Rhodamine WT	
		Peak (nm)	Result (µg/L)	Peak (nm)	Result (µg/L)	Peak (nm)	Result (µg/L)	Peak (nm)	Result (µg/L)
Injection Solution	10/23/2018	507.8	35,900	--	--	--	--	--	--
	10/31/2018	507.5	40,000	--	--	--	--	--	--
	11/7/2018	--	--	574.6	85,300	--	--	--	--
	11/13/2018	--	--	574.6	80,900	--	--	--	--
	11/20/2018	ND	N/A	574.4	81,400	--	--	--	--
	11/27/2018	ND	N/A	574.5	134,000	--	--	--	--
MW-19	11/20/2018	508.0	1.86	572.0	0.197	--	--	--	--
	11/29/2018	507.6	3.21	573.6	0.260	--	--	--	--
	12/5/2018	507.5	1.40	572.8 *	0.169	--	--	--	--
	12/11/2018	507.6	1.30	574.2	0.156	--	--	--	--
	1/9/2019	507.4	1.74	ND	N/A	--	--	--	--
	2/19/2019	507.5	3.67	571.6 ^	0.194	--	--	--	--
	5/8/2019	507.3	3.52	ND	N/A	--	--	--	--
	8/8/2019	507.9	4.55	ND	N/A	--	--	--	--
MW-23	11/6/2019	507.7	2.56	ND	N/A	--	--	--	--
	11/20/2018	ND	N/A	573.9	792	--	--	--	--
	11/29/2018	ND	N/A	573.8	893	--	--	--	--
	12/5/2018	ND	N/A	574.1	909	--	--	--	--
	12/11/2018	ND	N/A	574.2	819	--	--	--	--
	1/9/2019	ND	N/A	574.2	484	--	--	--	--
	2/19/2019	ND	N/A	574.1	373	--	--	--	--
	5/8/2019	ND	N/A	574.1	295	--	--	--	--
MW-24	8/8/2019	ND	N/A	574.2	287	--	--	--	--
	11/6/2019	ND	N/A	574.2	434	--	--	--	--
	11/20/2018	ND	N/A	574.3	1,120	--	--	--	--
	11/29/2018	ND	N/A	574.6	1,600	--	--	--	--
	12/5/2018	ND	N/A	574.5	1,300	--	--	--	--
	12/11/2018	ND	N/A	574.5	1,120	--	--	--	--
	1/9/2019	ND	N/A	574.2	785	--	--	--	--
	2/19/2019	ND	N/A	574.6	869	--	--	--	--
	5/8/2019	ND	N/A	574.7	983	--	--	--	--
	8/8/2019	ND	N/A	574.2	452	--	--	--	--
	11/6/2019	ND	N/A	574.3	515	--	--	--	--

Table 2
Post-Injection Performance Monitoring
2019 Corrective Measure Implementation Annual Progress Report
Ashland LLC
130 South Street, Rensselaer, New York

Location ID	Sample Date	Groundwater Grab Sample				Charcoal Packet Sample			
		Fluorescein		Rhodamine WT		Fluorescein		Rhodamine WT	
		Peak (nm)	Result (µg/L)	Peak (nm)	Result (µg/L)	Peak (nm)	Result (µg/L)	Peak (nm)	Result (µg/L)
MW-25	11/20/2018	507.4	0.287	573.8	0.215	--	--	--	--
	11/29/2018	505.6 ^	0.057	ND	N/A	--	--	--	--
	12/5/2018	ND	N/A	ND	N/A	--	--	--	--
	12/11/2018	ND	N/A	ND	N/A	--	--	--	--
	1/9/2019	ND	N/A	573.8	494	--	--	--	--
	2/21/2019	ND	N/A	573.8	0.087	--	--	--	--
	5/8/2019	ND	N/A	ND	N/A	--	--	--	--
	8/7/2019	ND	N/A	ND	N/A	--	--	--	--
	11/6/2019	ND	N/A	ND	N/A	--	--	--	--
IMP-3	11/13/2018	--	--	--	--	514.9	1.30	ND	N/A
	11/20/2018	--	--	--	--	515.2	0.442	ND	N/A
	11/29/2018	--	--	--	--	514.6	0.290	ND	N/A
	12/5/2018	--	--	--	--	515.2	0.508	ND	N/A
	12/11/2018	--	--	--	--	515.0	1.83	ND	N/A
	1/9/2019	--	--	--	--	515.0 *	0.137	ND	N/A
	2/19/2019	--	--	--	--	513.2 ^	0.245	ND	N/A
	5/7/2019	--	--	--	--	ND	N/A	ND	N/A
	8/7/2019	--	--	--	--	ND	N/A	ND	N/A
IP-1	11/7/2019	--	--	--	--	ND	N/A	ND	N/A
	11/13/2018	--	--	--	--	514.6	0.655	ND	N/A
	11/20/2018	--	--	--	--	ND	N/A	ND	N/A
	11/29/2018	--	--	--	--	ND	N/A	ND	N/A
	12/5/2018	--	--	--	--	515.4 *	0.467	ND	N/A
	12/11/2018	--	--	--	--	515.4	0.734	ND	N/A
	1/9/2019	--	--	--	--	ND	N/A	ND	N/A
	2/19/2019	--	--	--	--	514.2	1.29	ND	N/A
	5/7/2019	--	--	--	--	512.8 *	1.17	ND	N/A
	8/7/2019	--	--	--	--	514.9 *	0.736	ND	N/A
	11/7/2019	--	--	--	--	514.8 *	0.942	ND	N/A

Location ID	Sample Date	Groundwater Grab Sample				Charcoal Packet Sample			
		Fluorescein		Rhodamine WT		Fluorescein		Rhodamine WT	
		Peak (nm)	Result (µg/L)	Peak (nm)	Result (µg/L)	Peak (nm)	Result (µg/L)	Peak (nm)	Result (µg/L)
MW-16	11/13/2018	--	--	--	--	514.9	0.288	ND	N/A
	11/20/2018	--	--	--	--	514.4	0.315	ND	N/A
	11/29/2018	--	--	--	--	515.2	1.42	569.6 *	1.40
	12/5/2018	--	--	--	--	515.2	1.24	568.6 *	1.25
	12/11/2018	--	--	--	--	515.4	3.01	568.0 *	1.09
	1/9/2019	--	--	--	--	514.8	2.29	569.2	7.09
	2/19/2019	--	--	--	--	514.6	0.954	568.6	3.05
	5/7/2019	--	--	--	--	514.4	0.656	568.6	3.19
	8/8/2019	--	--	--	--	ND	N/A	ND	N/A
MW-18	11/7/2019	--	--	--	--	ND	N/A	ND	N/A
	11/13/2018	--	--	--	--	515.3	1.88	ND	N/A
	11/20/2018	--	--	--	--	515.6	1.57	ND	N/A
	11/29/2018	ND	N/A	ND	N/A	-- ^a	-- ^a	-- ^a	-- ^a
	12/5/2018	--	--	--	--	513.8	1.34	ND	N/A
	12/11/2018	--	--	--	--	515.2	2.72	567.0 *	0.808
	1/9/2019	--	--	--	--	515.0	1.67	ND	N/A
	2/19/2019	--	--	--	--	514.8	0.821	ND	N/A
	5/7/2019	--	--	--	--	514.4	0.493	ND	N/A
MW-21	8/7/2019	--	--	--	--	ND	N/A	ND	N/A
	11/7/2019	--	--	--	--	ND	N/A	ND	N/A
	11/20/2018	--	--	--	--	515.0	2.18	ND	N/A
	11/29/2018	--	--	--	--	514.4	1.43	ND	N/A
	12/5/2018	--	--	--	--	513.8	0.423	567.0 *	1.02
	12/11/2018	--	--	--	--	514.8	0.307	ND	N/A
	1/9/2019	--	--	--	--	ND	N/A	ND	N/A
	2/19/2019	--	--	--	--	ND	N/A	ND	N/A
	5/7/2019	--	--	--	--	ND	N/A	ND	N/A
	8/8/2019	--	--	--	--	ND	N/A	ND	N/A
	11/7/2019	--	--	--	--	ND	N/A	ND	N/A

NOTES:

^a Charcoal packet placed on 11/20/2018 was not present during time of collection and was not analyzed.

ID = identification

N/A = Not Applicable

ND = Non dye detected

nm = nanometer

µg/L = micrograms per liter

-- = not sampled

* = A fluorescence peak is present that does not meet all the criteria for a positive dye result. However, it has been calculated as though it was the tracer dye.

^ = A fluorescence peak is present that does not meet all the criteria for this dye. However, it has been calculated as a positive dye result.

Table 3a
Sample Summary and IRZ Performance and BTEX Monitoring- May 2019
2019 Corrective Measure Implementation Annual Progress Report
Ashland LLC
130 South Street, Rensselaer, New York

Parameter Well IDs	Semi-Annual (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-23	X			X	X	X
MW-24	X			X	X	X
MW-25	X	X	X	X	X	X

NOTES:

1. Samples will be analyzed by Test America (TA) located in Buffalo, New York.
 2. Field parameters include pH, dissolved oxygen, oxidation-reduction potential, temperature, conductivity, and turbidity.
- X = indicates sample to be collected.
- TOC = total organic carbon.
- VOC = volatile organic compounds.

Table 3b
Sample Summary and IRZ Performance and BTEX Monitoring - November 2019
2019 Corrective Measure Implementation Annual Progress Report
Ashland LLC
130 South Street, Rensselaer, New York

Parameter Well IDs	Semi-Annual (2 times/year)				Nitrate EPA 300.0	Sulfate EPA 300.0	Total Iron EPA 6020	Dissolved Iron EPA 6020	Total Manganese EPA 6020	Dissolved Manganese EPA 6020	Water Level --	Field Parameters --
	VOCs	Ethane/Ethene	Methane	TOC								
IP-1	X	X	X	X	X	X	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-15	X	X	X		X	X	X	X	X	X	X	X
MW-16	X	X	X	X	X	X	X	X	X	X	X	X
MW-17	X			X							X	X
MW-18	X			X							X	X
MW-19	X	X	X	X	X	X	X	X	X	X	X	X
MW-20	X	X	X	x	X	X	X	X	X	X	X	X
MW-21	X			X							X	X
MW-23	X	X	X	X	X	X	X	X	X	X	X	X
MW-24	X	X	X	X	X	X	X	X	X	X	X	X
MW-25	X	X	X	X	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

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 (2016-2019)
2019 Corrective Measure Implementation Annual Progress Report
Ashland LLC
130 South Street, Rensselaer, New York



Well ID	Date Sampled	Conductivity (mS/cm)	pH (SU)	Temperature (°C)	Turbidity (NTUs)
IMP-3	06/30/16	1.75	7.75	17.96	3.8
	12/20/16	1.13	7.05	10.75	0.0
	05/15/17	1.71	7.37	10.60	22.8
	10/30/17	1.72	6.49	15.45	37.6
	04/09/18	0.985	7.31	10.56	30.9
	10/03/18	1.60	6.97	16.70	0.0
	02/19/19	1.58	7.29	6.60	606
	05/07/19	1.84	6.86	11.91	42.0
	08/07/19	1.68	7.31	17.47	9.9
	11/07/19	1.83	6.98	13.59	58.7
IP-1	06/28/16	1.14	5.36	16.42	13.1
	12/20/16	1.14	6.40	9.39	26.9
	05/15/17	1.00	7.30	11.03	108.0
	10/30/17	1.10	6.83	14.20	11.6
	04/09/18	0.775	7.33	9.00	102
	10/03/18	0.856	6.99	64.4	0.0
	02/19/19	1.03	7.13	5.32	973
	05/07/19	1.19	6.56	10.85	35.8
	08/07/19	0.965	7.20	18.83	8.8
	11/07/19	1.02	6.86	13.75	31.7
IW-A2	06/30/16	6.81	7.31	19.90	537
	12/21/16	3.97	6.88	9.00	363
	05/16/17	3.25	6.76	18.60	588
	10/31/17	4.16	6.80	14.25	446
	04/10/18	3.31	7.19	11.44	149
	10/04/18	3.75	6.97	15.38	101
	05/08/19	3.21	6.94	18.05	129
	11/07/19	3.76	6.71	10.89	199
IW-B3	06/30/16	2.37	7.70	19.68	187
	12/21/16	3.09	6.91	10.11	324
	05/16/17	1.43	6.31	11.95	399
	10/31/17	2.82	6.71	11.92	324
	04/10/18	2.94	7.32	8.49	153
	10/03/18	2.44	6.81	18.92	195
	05/08/19	2.04	6.74	10.97	92.5
	11/06/19	2.21	6.76	14.10	30.9
MW-13	06/28/16	0.718	7.78	15.76	0.0
	12/20/16	0.688	8.01	7.76	0.0
	05/16/17	0.459	7.40	12.87	0.0
	10/31/17	0.745	6.95	13.61	0.0
	04/10/18	0.572	7.95	6.72	17.7
	10/04/18	0.580	7.52	58.5	0.0
	05/07/19	0.877	7.32	11.08	9.19
	11/06/19	0.712	7.42	12.12	6.60
MW-15	11/06/19	1.29	7.06	12.55	32.2

Table 4
Field Parameters After Stabilization was Achieved (2016-2019)
2019 Corrective Measure Implementation Annual Progress Report
Ashland LLC
130 South Street, Rensselaer, New York



Well ID	Date Sampled	Conductivity (mS/cm)	pH (SU)	Temperature (°C)	Turbidity (NTUs)
MW-16	06/30/16	1.21	7.59	18.97	0.8
	12/20/16	1.64	7.40	11.26	0.0
	05/15/17	0.951	7.10	15.39	5.8
	10/30/17	1.11	7.20	14.36	22.9
	04/09/18	1.12	7.71	9.81	10.1
	10/03/18	1.22	7.14	16.56	0.0
	02/19/19	1.53	7.53	8.10	46.1
	05/07/19	1.87	7.13	10.22	3.77
	08/08/19	1.72	7.55	17.70	0.0
	11/07/19	1.86	7.01	12.57	2.84
MW-17	06/28/16	1.92	4.95	19.99	49.0
	12/21/16	NS	NS	NS	NS
	05/15/17	1.68	7.04	14.26	25.7
	10/30/17	1.48	6.99	17.10	20.4
	04/09/18	2.05	7.72	11.91	22.1
	10/03/18	1.65	7.06	65.0	0.0
	05/08/19	1.25	7.07	11.88	8.71
	11/06/19	1.91	7.19	16.85	53.1
MW-18	06/28/16	1.13	5.66	17.01	90.7
	12/20/16	1.23	6.66	10.40	6.0
	05/15/17	0.686	6.91	12.62	114
	10/30/17	1.19	6.82	13.50	0.0
	04/09/18	0.770	7.33	10.02	28.7
	10/03/18	0.898	6.88	60.7	0.0
	02/19/19	1.03	6.82	6.80	412
	05/07/19	1.22	6.85	12.29	11.1
	08/07/19	0.988	7.44	19.20	4.5
	11/07/19	1.27	6.87	11.08	8.45
MW-19	06/30/16	0.718	7.33	14.65	13.1
	12/20/16	1.09	6.80	7.80	19.0
	05/16/17	0.688	7.16	15.05	7.0
	10/31/17	0.836	6.62	15.36	10.4
	04/10/18	0.886	7.43	6.11	30.1
	10/04/18	0.50	7.22	17.81	36.5
	02/19/19	0.65	8.17	--	161
	05/08/19	1.52	7.59	10.52	6.13
	08/08/19	1.32	7.50	19.80	0.0
	11/06/19	1.37	7.07	13.31	0.98

Table 4
Field Parameters After Stabilization was Achieved (2016-2019)
2019 Corrective Measure Implementation Annual Progress Report
Ashland LLC
130 South Street, Rensselaer, New York



Well ID	Date Sampled	Conductivity (mS/cm)	pH (SU)	Temperature (°C)	Turbidity (NTUs)
MW-20	06/30/16	1.15	7.57	17.62	0.0
	12/21/16	1.53	7.29	8.08	1.6
	05/16/17	0.776	7.11	11.61	0.0
	10/31/17	1.21	5.84	14.97	9.92
	04/10/18	0.799	7.28	6.77	20.9
	10/04/18	1.00	6.89	62.8	0.0
	05/07/19	1.07	7.05	10.79	5.98
	11/06/19	0.983	7.01	12.53	14.8
MW-21	06/30/16	4.71	7.69	18.58	17.4
	12/20/16	1.80	6.66	9.48	11.5
	05/15/17	0.819	7.50	13.44	9.9
	10/30/17	2.02	6.98	14.14	14.6
	04/09/18	1.00	7.32	8.81	20.8
	10/03/18	2.35	6.90	15.48	0.0
	02/19/19	1.18	7.32	6.22	780
	05/07/19	1.58	6.91	10.40	10.3
	08/08/19	2.64	7.27	17.28	0.0
MW-22	11/07/19	2.17	6.74	12.51	8.48
	10/31/17	1.75	6.81	15.48	26.9
MW-23	04/10/18	3.19	6.39	7.56	73.3
	10/31/17	3.10	6.99	10.06	6.2
	04/10/18	3.19	7.30	10.47	20.8
	02/19/19	1.48	7.18	9.77	73.0
	05/08/19	1.53	7.26	10.57	7.95
	08/08/19	1.28	8.20	19.85	29.1
	11/06/19	1.37	6.82	14.69	79.0
MW-24	10/31/17	1.74	6.85	13.51	29.6
	04/10/18	1.31	7.44	10.50	24.9
	02/19/19	1.38	7.11	11.40	206
	05/08/19	2.04	7.22	13.52	52.1
	08/08/19	1.92	8.04	19.01	38.2
	11/06/19	2.14	6.85	15.01	14.7
MW-25	10/04/18	1.88	6.75	64.7	0.0
	02/21/19	2.12	6.53	8.94	309
	05/08/19	2.14	7.16	11.67	4.08
	08/07/19	2.03	7.17	20.16	0.0
	11/06/19	1.97	6.76	16.31	8.78
MW-A1	06/30/16	1.78	7.03	15.01	255
	12/20/16	1.77	6.81	7.95	10.6
	05/16/17	1.04	6.69	16.27	26.3
	10/31/17	1.50	6.31	14.82	10.5
	04/10/18	1.03	7.28	8.21	23.3
	10/04/18	1.33	6.83	16.08	0.0
	05/08/19	1.66	6.77	16.61	5.28
	11/06/19	1.75	6.65	14.04	35.2

Table 4
Field Parameters After Stabilization was Achieved (2016-2019)
2019 Corrective Measure Implementation Annual Progress Report
Ashland LLC
130 South Street, Rensselaer, New York



Well ID	Date Sampled	Conductivity (mS/cm)	pH (SU)	Temperature (°C)	Turbidity (NTUs)
MW-B1	06/28/16	2.16	7.85	16.23	30.1
	12/21/16	2.20	6.77	11.69	2.8
	05/16/17	2.09	6.68	11.75	2
	10/30/17	2.40	6.68	14.06	5.4
	04/10/18	2.71	7.32	8.41	5.9
	10/03/18	2.22	6.64	61.9	0.0
	05/07/19	2.73	6.55	10.79	38.8
	11/06/19	2.34	6.73	14.74	2.00
MW-1	12/20/16	1.63	7.39	8.86	0.0
	10/30/17	1.37	7.06	16.12	6.5
	12/20/16	0.801	6.59	8.20	1.5
	04/10/18	1.26	7.84	6.83	9.3

NOTES:

°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 (1999-2019)
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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
		5/7/2019	5.73	23.25
		11/6/2019	5.65	23.33

Table 5
Summary of Groundwater Elevation Data (1999-2019)
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Ashland LLC
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Well ID	Measuring Point Elevation (msl)	Date	DTW	Groundwater Elevation (msl)
MW-3	24.27	this	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
		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
		5/7/2019	3.64	20.63
		11/6/2019	3.68	20.59
Under ice				

Table 5
Summary of Groundwater Elevation Data (1999-2019)
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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
		5/7/2019	6.27	19.68
		11/6/2019	6.32	19.63

Table 5
Summary of Groundwater Elevation Data (1999-2019)
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Well ID	Measuring Point Elevation (msl)	Date	DTW	Groundwater Elevation (msl)
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
		5/7/2019	10.27	16.91
		11/6/2019	10.30	16.88

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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
			5/7/2019	NM	NM
			11/6/2019	NM	NM
Damaged					
Damaged					

Table 5
Summary of Groundwater Elevation Data (1999-2019)
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Well ID	Measuring Point Elevation (msl)	Date	DTW	Groundwater Elevation (msl)
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
		5/7/2019	NM	NM
		11/6/2019	NM	NM
Damaged				
Damaged				

Table 5
Summary of Groundwater Elevation Data (1999-2019)
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Ashland LLC
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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
		5/7/2019	5.77	17.35
		11/6/2019	5.81	17.31

Table 5
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Well ID	Measuring Point Elevation (msl)	Date	DTW	Groundwater Elevation (msl)
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
		5/7/2019	8.18	15.90
		11/6/2019	8.22	15.86

Table 5
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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
		5/7/2019	2.86	34.00
		11/6/2019	2.89	33.97

Table 5
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Well ID	Measuring Point Elevation (msl)	Date	DTW	Groundwater Elevation (msl)
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
		5/7/2019	6.22	27.63
		11/6/2019	6.34	27.51

Table 5
Summary of Groundwater Elevation Data (1999-2019)
2019 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-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
		5/7/2019	1.80	23.39
		11/6/2019	1.70	23.49

Table 5
Summary of Groundwater Elevation Data (1999-2019)
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Ashland LLC
130 South Street, Rensselaer, New York

Well ID	Measuring Point Elevation (msl)	Date	DTW	Groundwater Elevation (msl)
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
		5/7/2019	7.55	17.86
		11/6/2019	8.67	16.74

Table 5
Summary of Groundwater Elevation Data (1999-2019)
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Ashland LLC
130 South Street, Rensselaer, New York

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
		5/7/2019	5.93	15.85
		11/6/2019	6.06	15.72

Table 5
Summary of Groundwater Elevation Data (1999-2019)
2019 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-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
		5/7/2019	5.00	18.98
		11/6/2019	5.07	18.91

Table 5
Summary of Groundwater Elevation Data (1999-2019)
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Ashland LLC
130 South Street, Rensselaer, New York

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
		5/7/2019	2.31	23.20
		11/6/2019	2.78	22.73

Table 5
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Ashland LLC
130 South Street, Rensselaer, New York

Well ID	Measuring Point Elevation (msl)	Date	DTW	Groundwater Elevation (msl)
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
Abandoned		5/7/2019	Abandoned	

Table 5
Summary of Groundwater Elevation Data (1999-2019)
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Ashland LLC
130 South Street, Rensselaer, New York

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
		5/7/2019	4.72	23.62
MW-B1	27.53	11/6/2019	5.44	22.90
		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
		1/12/2012	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
		5/7/2019	5.36	22.17
		11/6/2019	6.22	21.31

Table 5
Summary of Groundwater Elevation Data (1999-2019)
2019 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-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
		5/7/2019	5.16	22.24
IMP-1	25.13	11/6/2019	5.12	22.43
		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
		5/7/2019	6.54	18.59
		11/6/2019	6.62	20.78



Design & Consultancy
for natural and
built assets.

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	18.82
		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
Different Lock	5/7/2019	NM	NM	
	11/6/2019	7.16	18.01	
	IMP-3	25.13	9/15/2008	8.39
4/6/2009			7.62	17.51
9/23/2009			9.70	15.43
4/15/2010			7.64	17.49
3/10/2011			5.51	19.62
8/8/2011			9.26	15.87
10/13/2011			7.33	17.80
1/25/2012			8.72	16.41
3/29/2012			8.78	16.35
7/3/2012			9.33	15.80
9/14/2012			8.71	16.42
3/21/2013			7.40	17.73
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
5/7/2019			7.73	17.40
11/6/2019			7.84	17.29

Table 5
Summary of Groundwater Elevation Data (1999-2019)
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Ashland LLC
130 South Street, Rensselaer, New York

Well ID	Measuring Point Elevation (msl)	Date	DTW	Groundwater Elevation (msl)
IP-1	25.15	4/15/2010	5.03	20.12
		3/10/2011	3.72	21.43
		8/8/2011	5.70	19.45
		10/13/2011	4.46	20.69
		1/25/2012	5.28	19.87
		3/29/2012	5.65	19.50
		7/3/2012	6.28	18.87
		9/14/2012	5.52	19.63
		3/21/2013	4.63	20.52
		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
		5/7/2019	4.51	20.64
MW-20	25.36	11/6/2019	4.90	20.25
		4/15/2010	2.67	22.69
		3/10/2011	2.05	23.31
		8/8/2011	3.04	22.32
		10/13/2011	2.16	23.20
		1/25/2012	2.66	22.70
		3/29/2012	3.10	22.26
		7/3/2012	3.42	21.94
		9/13/2012	2.77	22.59
		3/21/2013	2.15	23.21
		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
		5/7/2019	1.94	23.42
		11/6/2019	1.84	23.52

Table 5
Summary of Groundwater Elevation Data (1999-2019)
2019 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-21	27.97	4/15/2010	10.16	17.81
		3/10/2011	7.35	20.62
		8/8/2011	11.45	16.52
		10/13/2011	10.65	17.32
		1/25/2012	13.00	14.97
		3/29/2012	10.83	17.14
		7/3/2012	11.15	16.82
		9/14/2012	11.27	16.70
		3/21/2013	9.76	18.21
		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
		5/7/2019	9.93	18.04
		11/6/2019	9.92	18.05
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
		5/7/2019	0.85	29.80
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
		5/7/2019	7.29	19.40
		11/6/2019	7.49	19.20
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
		5/7/2019	6.22	19.21
		11/6/2019	6.34	19.09
MW-25	28.13	10/3/2018	4.06	24.07
		5/7/2019	2.35	25.78
		11/6/2019	2.01	26.12

Table 5
Summary of Groundwater Elevation Data (1999-2019)
2019 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)
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
Abandoned		5/7/2019	Abandoned	
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
Abandoned		5/7/2019	Abandoned	
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
		5/8/2019	5.00	24.97
		11/6/2019	4.97	25.00

Table 5
Summary of Groundwater Elevation Data (1999-2019)
2019 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)
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
		5/7/2019	3.50	21.70
		11/6/2019	3.54	21.66
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
		5/7/2019	3.45	22.07
		11/6/2019	3.51	22.01
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
		5/7/2019	3.71	21.51
		11/6/2019	4.00	21.22

Table 5
Summary of Groundwater Elevation Data (1999-2019)
2019 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)
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
		5/7/2019	3.24	21.66
		11/6/2019	3.52	21.38
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
		5/7/2019	3.62	24.40
		11/6/2019	3.81	24.21

Table 5
Summary of Groundwater Elevation Data (1999-2019)
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Ashland LLC
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
		5/7/2019	7.90	18.69
		11/6/2019	8.07	18.52
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
		5/7/2019	8.00	8.50
		11/6/2019	8.12	8.38
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	7.20
		4/22/2015	7.89	7.51
		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
		5/7/2019	8.18	7.22
		11/6/2019	8.29	7.11

Table 5
Summary of Groundwater Elevation Data (1999-2019)
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Ashland LLC
130 South Street, Rensselaer, New York

Well ID	Measuring Point Elevation (msl)	Date	DTW	Groundwater Elevation (msl)
IW-A2	32.30	11/6/2019	8.60	23.70
IW-B1	25.03	5/7/2019	4.60	20.43
IW-B2	25.99	5/7/2019	2.23	23.76
IW-B3	25.60	11/6/2019	2.25	23.35

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 (2003-2019)
2019 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	1.40 UB
	10/3/2018	1.70 UB
	11/20/2018	1.40
	11/29/2018	1.00
	12/5/2018	1.60 B
	12/11/2018	1.80
	1/9/2019	--
	2/19/2019	--
	5/7/2019	0.900 J
	8/7/2019	--
	11/6/2019	1.0
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	3.70
	10/3/2018	4.30 UB
	11/20/2018	4.30
	11/29/2018	4.10
	12/5/2018	4.30 B
	12/11/2018	4.60
	1/9/2019	--
	2/19/2019	--
	5/7/2019	3.90
	8/7/2019	--
	11/7/2019	4.4

Table 6
Summary of TOC Results (2003-2019)
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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
	5/8/2019	150
	11/6/2019	190
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
	5/8/2019	150
	11/6/2019	190
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	1.70 UB

Table 6
Summary of TOC Results (2003-2019)
2019 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	0.540 UB
	10/4/2018	1.10 UB
	5/7/2019	1.40
	11/6/2019	1.0 U
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	0.880 UB
	10/3/2018	1.20 UB
	11/20/2018	1.40
	11/29/2018	1.80
	12/5/2018	1.50 B
	12/11/2018	1.80
	1/9/2019	--
	2/19/2019	--
	5/7/2019	0.790 J
	8/8/2019	--
	11/7/2019	0.87 J

Table 6
Summary of TOC Results (2003-2019)
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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	1.60 UB
	10/3/2018	1.80 UB
	5/8/2019	2.90
	11/6/2019	3.20
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	2.60
	10/3/2018	2.80 UB
	11/20/2018	2.50
	11/29/2018	2.10
	12/5/2018	2.60 B
	12/11/2018	2.70
	1/9/2019	--
	2/19/2019	--
	5/7/2019	2.00
	8/7/2019	--
	11/7/2019	2.70

Table 6
Summary of TOC Results (2003-2019)
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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	5.70 B [5.70]
	10/4/2018	4.60 [4.60]
	11/20/2018	8.20
	11/29/2018	7.60 [7.80]
	12/5/2018	7.60
	12/11/2018	7.30
	1/9/2019	6.20
	2/19/2019	4.7 B
	5/8/2019	5.20 [5.30]
	8/8/2019	6.8
	11/6/2019	7.1 [7.0]
MW-20	10/31/2017	21.0
	4/10/2018	4.00
	11/6/2019	3.8
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	4.60
	10/3/2018	8.50
	11/20/2018	3.50
	11/29/2018	3.60
	12/5/2018	4.40 B [4.30]
	12/11/2018	4.50
	5/7/2019	2.90
	11/7/2019	6.8

Table 6
Summary of TOC Results (2003-2019)
2019 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
	4/19/2018	600
MW-23	9/15/2017	1.60 B
	4/19/2018	31.0
	11/20/2018	21.0
	11/29/2018	45.0
	12/5/2018	32.0 B
	12/11/2018	25.0
	1/9/2019	19.0
	2/19/2019	15
	5/8/2019	14.0
	8/8/2019	15
	11/6/2019	17
MW-24	9/15/2017	3.20 B [3.20 B]
	4/19/2018	28.0
	11/20/2018	13.0
	11/29/2018	46.0
	12/5/2018	81.0 B
	12/11/2018	61.0
	1/9/2019	92.0
	2/19/2019	82
	5/8/2019	89.0
	8/8/2019	170
	11/6/2019	62
MW-25	10/4/2018	5.30
	11/20/2018	6.20
	11/29/2018	7.50
	12/5/2018	7.20 B
	12/11/2018	6.30
	1/9/2019	9.00
	2/21/2019	5.2
	5/8/2019	6.00
	8/7/2019	6.00
	11/6/2019	19

Table 6
Summary of TOC Results (2003-2019)
2019 Corrective Measure Implementation Annual Progress Report
Ashland LLC
130 South Street, Rensselaer, New York

Location ID	Date Collected	Total Organic Carbon (mg/L)
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	10.0
	10/4/2018	13.0
	5/8/2019	12.0
	11/6/2019	16

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	21.0
	10/3/2018	17.0
	5/7/2019	20.0
	11/6/2019	18

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
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 (2010-2019)
2019 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	2/28/2006	12	2.5	250
	5/3/2006	13	2.7	100
	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
IP-1	2/28/2006	76	33	4,400
	5/3/2006	50	16	1,900
	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 D
	5/7/2019	2.0 J	0.49 J	1,500 J
	11/7/2019	29	3.4 J	1,400 J
IW-A2	10/31/2017	330 U	310 U	4,200
	4/10/2018	750 U	700 U	13,000
IW-B3	10/31/2017	330 U	310 U	5,500
	4/10/2018	750 U	700 U	14,000
MW-1	7/16/2003	1.4	0.33 U	47
	4/12/2007	2.5	0.33 U	3.4
	9/14/2007	0.35 U	0.33 U	0.36
	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
MW-13	7/16/2003	0.35 U	0.33 U	3.3
	4/10/2007	0.35 U	0.33 U	0.60
	4/16/2010	0.35 U	0.33 U	0.19 U
MW-15	11/6/2019	33	16	2,300
MW-16	7/15/2003	3.2	0.77	120
	8/11/2005	0.59	0.33 U	0.52
	4/12/2007	0.68	0.33 U	6.9
	9/24/2007	41	4.4	900
	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
	5/7/2019	7.5 UJ	7.0 UJ	7.6 J
	11/7/2019	7.5 U	7.0 U	27

Table 7
Summary of MNA Parameters in Groundwater (2010-2019)
2019 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-17	7/15/2003	0.35 U	0.33 U	11
	2/28/2006	0.35 U	0.33 U	6.5
	4/10/2007	0.35 U	0.33 U	15
	4/15/2010	0.35 U [0.35 U]	0.33 U [0.33 U]	5.0 [5.4]
MW-18	2/28/2006	70	8.6	1,500
	5/3/2006	19	3.4	450
	4/12/2007	40	3.5	580
	9/24/2007	43	5.1	1,100
	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
	5/7/2019	17 J	7.0 UJ	510 J
MW-19	7/16/2003	190	60	1,200
	8/11/2005	290	640	3,600
	5/10/2006	270	950	13,000
	9/18/2007	310	530	24,000
	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]	5,400 [4,900]
	10/4/2018	91 J [180 J]	120 J [210 J]	1,000 [1,300 D]
	5/8/2019	320 J [200 J]	310 J [320 J]	3,300 J [1,700 J]
	11/6/2019	300 [340]	380 J [380 J]	3,900 [4,900]
MW-20	10/31/2017	170 U	150 U	5,400
	4/10/2018	170 U	150 U	550
	11/6/2019	4.4 J	7.0 U	640
MW-21	4/16/2010	0.35 U	0.33 U	0.89
MW-22	9/15/2017	91 JF1	52 JF1	1,100
	4/19/2018	240 J	210 J	4,400
MW-23	9/15/2017	12	18	98
	4/19/2018	170 U	150 U	12,000 D
	11/6/2019	190	7.0 U	6,800
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
	11/6/2019	310	490	8,200

Table 7
Summary of MNA Parameters in Groundwater (2010-2019)
2019 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-25	10/4/2018	290	190	2,200 D
	5/8/2019	660 J	180 J	4,900 J
	11/6/2019	390	160	2,200
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
	4/19/2018	100	21 J	7,500 D
	10/4/2018	340	49 J	17,000 D
	5/8/2019	400 J	310 U	14,000 J
	11/6/2019	300	7.0 U	6,800
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
	5/7/2019	40 J	77 UJ	5,000 J
	11/6/2019	48 J	77 U	2,700
PZ-6	2/28/2006	120	5.7	1,100
	5/3/2006	14	0.33 U	1.5
	9/14/2007	85	2.4	1,200
	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 (2010-2019)
2019 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	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	IMP-3 02/19/19	IMP-3 05/07/19	IMP-3 08/07/19	IMP-3 11/07/19
Detected Volatile Organics																									
1,1,1-Trichloroethane	5	ug/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	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane	5	ug/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	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	3	ug/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	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone	--	ug/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	10 U	10 U	10 U*	10 U
2-Hexanone	50	ug/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	5.0 U	5.0 U	5.0 U	5.0 U
4-Methyl-2-pentanone	--	ug/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	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	50	ug/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	10 U	10 U	10 U	10 U
Benzene	1	ug/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	1.0 U	1.0 U	1.0 U	1.0 U
Carbon Disulfide	--	ug/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	1.0 U	1.0 U	1.0 U	1.0 U
Carbon Tetrachloride	5	ug/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	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	5	ug/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	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	5	ug/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	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	7	ug/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	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	--	ug/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	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane	5	ug/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	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	5	ug/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	1.0 U	1.0 U	1.0 U	1.0 U
Isopropylbenzene	5	ug/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	1.0 U	1.0 U	1.0 U	1.0 U
Methylcyclohexane	--	ug/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	1.0 U	1.0 U	1.0 U	1.0 U
Methylene Chloride	5	ug/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	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	5	ug/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	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	5	ug/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	2.0 U	2.0 U	2.0 U	2.0 U
Tetrachloroethene	5	ug/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	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	5	ug/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 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
1,1-Dichloroethane	5	ug/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	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	5	ug/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	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	0.6	ug/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	1.7	0.38 J	0.58 J	0.44 J
cis-1,2-Dichloroethene	5	ug/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	68	14	53	16
trans-1,2-Dichloroethene	5	ug/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	1.7	1.0 U	1.0	1.0 U
Vinyl Chloride	2	ug/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	14	1.9	7.5	2.1
Total VOCs	--	ug/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	85.4	16.28 J	62.08 J	18.54 J

NOTES:

1. All results are in micrograms per liter (ug/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. Bold values are detected.

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 (2010-2019)
2019 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	IP-1 04/15/10	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	IP-1 02/19/19	IP-1 05/07/19	IP-1 08/07/19	IP-1 11/07/19
Detected Volatile Organics																									
1,1,1-Trichloroethane	5	ug/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	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	4.0 U	1.0 U	5.0 U	5.0 U
1,1,2-trichloro-1,2,2-trifluoroethane	5	ug/L	NA	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	4.0 U	1.0 U	5.0 U	5.0 U
1,2-Dichlorobenzene	3	ug/L	NA	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	4.0 U	1.0 U	5.0 U	5.0 U
2-Butanone	- -	ug/L	20 U	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	40 U	10 U	50 U*	50 U
2-Hexanone	50	ug/L	20 U	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	20 U	5.0 U	25 U	25 U
4-Methyl-2-pentanone	- -	ug/L	20 U	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	20 U	5.0 U	25 U	25 U
Acetone	50	ug/L	50 U	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	40 U	10 U	50 U	50 U
Benzene	1	ug/L	2.0 U	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	4.0 U	1.6	5.0 U	5.0 U
Carbon Disulfide	- -	ug/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	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	4.0 U	1.0 U	5.0 U	5.0 U
Carbon Tetrachloride	5	ug/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	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	4.0 U	1.0 U	5.0 U	5.0 U
Chlorobenzene	5	ug/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	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	4.0 U	1.0 U	5.0 U	5.0 U
Chloroethane	5	ug/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	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	4.0 U	1.0 U	5.0 U	5.0 U
Chloroform	7	ug/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	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	4.0 U	1.0 U	5.0 U	5.0 U
Cyclohexane	- -	ug/L	NA	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	4.0 U	1.0 U	5.0 U	5.0 U
Dichlorodifluoromethane	5	ug/L	NA	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	4.0 U	1.0 U	5.0 U	5.0 U
Ethylbenzene	5	ug/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	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	4.0 U	1.0 U	5.0 U	5.0 U
Isopropylbenzene	5	ug/L	NA	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	4.0 U	1.0 U	5.0 U	5.0 U
Methylcyclohexane	- -	ug/L	NA	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	4.0 U	1.0 U	5.0 U	5.0 U
Methylene Chloride	5	ug/L	10 U	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	4.0 U	1.0 U	5.0 U	5.0 U
Toluene	5	ug/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	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	4.0 U	1.0 U	5.0 U	5.0 U
Xylenes (total)	5	ug/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	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	8.0 U	2.0 U	10 U	10 U
Tetrachloroethene	5	ug/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	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	4.0 U	1.0 U	5.0 U	5.0 U
Trichloroethene	5	ug/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	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	4.0 U	1.0 U	5.0 U	5.0 U
1,1-Dichloroethane	5	ug/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	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	4.0 U	1.0 U	5.0 U	5.0 U
1,1-Dichloroethene	5	ug/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	5.0 U	2.0 U	2.0 U	10 U	10 U [10 U]	10 U	0.64 J	0.49 J	0.37 J	4.0 U	1.0 U	5.0 U	5.0 U
1,2-Dichloroethane	0.6	ug/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	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	4.0 U	0.37 J	5.0 U	5.0 U
cis-1,2-Dichloroethene	5	ug/L	200	210	250	360	220	190	290	420 D	240	530 DJ	390	570	420 DJ	510	520 [530]	280	500	350 D	370 D	310	300 D	330	340
trans-1,2-Dichloroethene	5	ug/L	3.5	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	5.0	4.1	5.0 U	5.0 U
Vinyl Chloride	2	ug/L	68	83	110	240	120	160	220	260 D	190	190 J	180	150	110	110	110 [140]	63	80	68	65	83	81	66	61
Total VOCs	- -	ug/L	270	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	398	385.47 J	396	401

NOTES:

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Table 8
Summary of Volatile Organic Compounds (2010-2019)
2019 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	IW-A2 01/25/12	IW-A2 03/29/12	IW-A2 07/02/12	IW-A2 09/13/12	IW-A2 03/22/13	IW-A2 11/21/13	IW-A2 05/29/14	IW-A2 10/15/14	IW-A2 04/23/15	IW-A2 01/27/16	IW-A2 06/30/16	IW-A2 12/21/16	IW-A2 05/16/17	IW-A2 10/31/17	IW-A2 04/10/18	IW-A2 10/04/18	IW-A2 05/08/19	IW-A2 11/07/19
Detected Volatile Organics																				
1,1,1-Trichloroethane	5	ug/L	1.0 U	10 U	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	40 U
1,1,2-trichloro-1,2,2-trifluoroethane	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40 U	40 U	50 U	1.0 U	50 U	R	20 U	40 U
1,2-Dichlorobenzene	3	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40 U	40 U	50 U	0.28 J	50 U	R	20 U	40 U
2-Butanone	--	ug/L	79	890	800	710	10 U	630	100 U	5.0 UJ	5.0 UJ	240	460	400 U	500 U	10	500 U	R	200 U	400 U
2-Hexanone	50	ug/L	10 U	100 U	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	100 U	200 U
4-Methyl-2-pentanone	--	ug/L	10 U	100 U	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	100 U	200 U
Acetone	50	ug/L	25 U	290	750	2,000	25 U	350	100 U	5.0 UJ	5.0 UJ	220	850	400 U	500 U	49	500 U	R	200 U	400 U
Benzene	1	ug/L	3.3	23	22	23	18	27	11	7.3 J	11 J	6.1	23 J	50	50 U	13	50 U	R	13 J	40 U
Carbon Disulfide	--	ug/L	2.0 U	20 U	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	20 UB	40 U
Carbon Tetrachloride	5	ug/L	1.0 U	10 U	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	40 U
Chlorobenzene	5	ug/L	1.0 U	10 U	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	40 U
Chloroethane	5	ug/L	1.0 U	10 U	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	40 U
Chloroform	7	ug/L	1.0 U	10 U	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	40 U
Cyclohexane	--	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40 U	40 U	50 U	1.1	50 U	R	20 U	40 U
Dichlorodifluoromethane	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40 U	40 U	50 U	1.0 U	50 U	R	20 U	40 U
Ethylbenzene	5	ug/L	4.5	13	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	40 U
Isopropylbenzene	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40 U	40 U	50 U	3.8	50 U	R	20 U	40 U
Methylcyclohexane	--	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40 U	40 U	50 U	1.6	50 U	R	20 U	40 U
Methylene Chloride	5	ug/L	5.0 U	50 U	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	20 U	40 U
Toluene	5	ug/L	1.7	10 U	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	20 U	40 U
Xylenes (total)	5	ug/L	58	180	95	85	210	160	120	77 J	160 J	10 U	42 J	190	85 J	45	73 J	42 J	25 J	43 J
Tetrachloroethene	5	ug/L	1.0 U	10 U	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	40 U
Trichloroethene	5	ug/L	1.0 U	10 U	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	40 U
1,1-Dichloroethane	5	ug/L	1.0 U	10 U	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	40 U
1,1-Dichloroethene	5	ug/L	1.0 U	10 U	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	40 U
1,2-Dichloroethane	0.6	ug/L	1.0 U	10 U	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	40 U
cis-1,2-Dichloroethene	5	ug/L	1.0 U	10 U	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	20 U	40 U
trans-1,2-Dichloroethene	5	ug/L	1.0 U	10 U	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	40 U
Vinyl Chloride	2	ug/L	1.0 U	10 U	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	40 U
Total VOCs	--	ug/L	150	1,400	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	38 J	43 J

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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
Summary of Volatile Organic Compounds (2010-2019)
2019 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	IW-B3 01/24/12	IW-B3 03/29/12	IW-B3 07/02/12	IW-B3 09/13/12	IW-B3 03/21/13	IW-B3 11/21/13	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	IW-B3 05/08/19	IW-B3 11/06/19	MW-1 12/20/16	MW-1 10/30/17	MW-1 04/10/18
Detected Volatile Organics																							
1,1,1-Trichloroethane	5	ug/L	20 U	1.0 U	1.0 U	10 U	10 U	1.0 U	10 U	1.0 U	2.0 UJ	1.0 U	40 U	40 U	100 U	1.0 U	400 U	R	40 U	200 U	10 U	6.8	2.0 U
1,1,2-trichloro-1,2,2-trifluoroethane	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40 U	40 U	100 U	1.0 U	400 U	R	40 U	200 U	10 U	2.0 U	2.0 U
1,2-Dichlorobenzene	3	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40 U	40 U	100 U	1.0 U	400 U	R	40 U	200 U	10 U	2.0 U	2.0 U
2-Butanone	--	ug/L	1,500	220	820 D	540	100 U	130	100 U	5.0 U	10 UJ	36	3,300	400 U	1,000 U	3.6 J	4,000 U	R	400 U	2,000 U	100 U	10 U	20 U
2-Hexanone	50	ug/L	660	10 U	33	100 U	100 U	24	60	5.0 U	10 UJ	5.0 U	370	200 U	500 U	5.0 U	2,000 U	R	200 U	1,000 U	50 U	10 U	10 U
4-Methyl-2-pentanone	--	ug/L	200 U	10 U	10 U	100 U	100 U	10 U	50 U	5.0 U	10 UJ	5.0 U	200 U	200 U	500 U	5.0 U	2,000 U	R	200 U	1,000 U	50 U	10 U	10 U
Acetone	50	ug/L	500 U	230	290	410	250 U	300	120	21	10 UJ	19 J	4,000	400 U	1,000 U	22 UB	4,000 U	R	400 U	2,000 U	100 U	10 UB	20 U
Benzene	1	ug/L	20 U	1.0 U	1.0 U	10 U	10 U	1.0 U	10 U	1.0 U	2.0 UJ	1.0 U	40 U	40 U	100 U	0.22 J	400 U	R	40 U	200 U	10 U	2.0 U	2.0 U
Carbon Disulfide	--	ug/L	40 U	2.0 U	2.0 U	20 U	20 U	2.0 U	10 U	1.0 U	2.0 UJ	1.0 U	40 U	40 U	100 U	5.1	400 U	R	40 U	200 U	10 U	0.63 J	2.0 U
Carbon Tetrachloride	5	ug/L	20 U	1.0 U	1.0 U	10 U	10 U	1.0 U	10 U	1.0 U	2.0 UJ	1.0 U	40 U	40 U	100 U	1.0 U	400 U	R	40 U	200 U	10 U	2.0 U	2.0 U
Chlorobenzene	5	ug/L	20 U	1.0 U	1.0 U	10 U	10 U	1.0 U	10 U	1.0 U	2.0 UJ	1.0 U	40 U	40 U	100 U	1.0 U	400 U	R	40 U	200 U	10 U	2.0 U	2.0 U
Chloroethane	5	ug/L	20 U	1.0 U	1.0 U	10 U	10 U	5.0 U	10 U	1.0 UJ	2.0 UJ	1.0 U	40 U	40 U	100 U	1.0 U	400 U	R	40 U	200 U	10 U	2.0 U	2.0 U
Chloroform	7	ug/L	20 U	2.8	1.0 U	10 U	10 U	1.0 U	10 U	1.0 U	2.0 UJ	7.9	40 U	40 U	100 U	1.0 U	400 U	R	40 U	200 U	10 U	2.0 U	2.0 U
Cyclohexane	--	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40 U	40 U	100 U	1.0 U	400 U	R	40 U	200 U	10 U	2.0 U	2.0 U
Dichlorodifluoromethane	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40 U	40 U	100 U	1.0 U	400 U	R	40 U	200 U	10 U	2.0 U	2.0 U
Ethylbenzene	5	ug/L	20 U	1.4	1.1	10 U	10 U	1.0 U	10 U	1.0 U	2.0 UJ	1.0 U	40 U	40 U	100 U	1.2	400 U	R	40 U	200 U	10 U	2.0 U	2.0 U
Isopropylbenzene	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40 U	40 U	100 U	1.0 U	400 U	R	40 U	200 U	10 U	2.0 U	2.0 U
Methylcyclohexane	--	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40 U	40 U	100 U	1.0 U	400 U	R	40 U	200 U	10 U	2.0 U	2.0 U
Methylene Chloride	5	ug/L	100 U	5.0	5.0 U	50 U	50 U	5.0 U	19 J	1.0 U	2.0 UJ	3.1	40 U	40 U	100 U	1.0 U	400 U	R	40 U	200 U	10 U	2.0 U	2.0 U
Toluene	5	ug/L	120	53	260 D	2,000 D	690	190	240	19	2.0 UJ	1.5	40 U	40 U	100 U	36	400 U	R	40 U	200 U	10 U	2.0 U	2.0 U
Xylenes (total)	5	ug/L	40 U	2.0 U	2.0 U	20 U	20 U	2.0 U	20 U	2.0 U	4.0 UJ	2.0 U	80 U	80 U	200 U	2.4	800 U	R	80 U	400 U	20 U	4.0 U	4.0 U
Tetrachloroethene	5	ug/L	20 U	1.0 U	1.0 U	10 U	10 U	1.0 U	10 U	1.0 U	2.0 UJ	1.0 U	40 U	40 U	100 U	0.25 J	400 U	R	40 U	200 U	4.6 J	12	0.95 J
Trichloroethene	5	ug/L	20 U	1.0 U	1.0	10 U	10 U	1.0 U	10 U	1.0 UJ	2.0 UJ	1.0 U	40 U	40 U	100 U	11	400 U	R	40 U	200 U	120	180	34
1,1-Dichloroethane	5	ug/L	20 U	1.0 U	1.0 U	10 U	10 U	1.0 U	10 U	1.0 U	2.0 UJ	1.0 U	40 U	40 U	100 U	1.0 U	400 U	R	40 U	200 U	10 U	3.1	1.6 J
1,1-Dichloroethene	5	ug/L	20 U	1.0 U	1.0 U	10 U	10 U	1.0 U	10 U	1.0 U	2.0 UJ	1.0 U	40 U	40 U	100 U	1.0 U	400 U	R	40 U	200 U	10 U	17	2.1
1,2-Dichloroethane	0.6	ug/L	20 U	5.9	6.2	10 U	10 U	1.0 U	10 U	1.0 U	2.0 UJ	1.0 U	40 U	40 U	100 U	0.26 J	400 U	R	40 U	200 U	10 U	0.54 J	2.0 U
cis-1,2-Dichloroethene	5	ug/L	30	20	20	11	10 U	2.9	10 U	1.0 U	2.0 UJ	1.1	40 U	40 U	100 U	1.7	400 U	R	40 U	200 U	290	660	160
trans-1,2-Dichloroethene	5	ug/L	20 U	1.6	2.0	10 U	10 U	1.0 U	10 U	1.0 U	2.0 UJ	1.0 U	40 U	40 U	100 U	0.23 J	400 U	R	40 U	200 U	10 U	3.0	2.0 U
Vinyl Chloride	2	ug/L	20 U	8.2	6.4	10 U	10 U	2.0	10 U	1.0 U	2.0 UJ	1.0 U	40 U	40 U	100 U	0.13 J	400 U	R	40 U	200 U	10 U	9.0	7.4
Total VOCs	--	ug/L	2,300	550	1,400	3,000	690	650	440 J	40	ND	69 J	7,700	ND	ND	62 J	ND	R	NA	ND	410 J	890 J	210 J

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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VOC = volatile organic compound.

[] = Duplicate results are shown in brackets.

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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

Location ID: Date Collected:	NYSDEC TOGS 1.1.1 Water Guidance Values	Units	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	MW-13 09/13/12	MW-13 03/21/13	MW-13 11/21/13	MW-13 05/29/14	MW-13 10/15/14	MW-13 04/22/15	MW-13 01/27/16	MW-13 06/28/16	MW-13 12/20/16	MW-13 05/16/17	MW-13 10/31/17	MW-13 04/10/18	MW-13 10/04/18	MW-13 05/07/19	MW-13 11/06/19	MW-15 11/06/19
Detected Volatile Organics																									
1,1,1-Trichloroethane	5	ug/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	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane	5	ug/L	NA	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	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	3	ug/L	NA	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	1.0 U	1.0 U	1.0 U
2-Butanone	--	ug/L	10 U	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	5.0 U	10 U	10 U	10 U	10 U	5.0 U	10 U	10 U	10 U	10 U
2-Hexanone	50	ug/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	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	5.0 U
4-Methyl-2-pentanone	--	ug/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	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	5.0 U
Acetone	50	ug/L	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	16	5.0 U	5.0 U	10 U	10 U	10 U	10 U	10 UB	5.0 UB	10 U	10 U	10 U	10 U
Benzene	1	ug/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	1.0 U	1.0 U	1.0 U	5.4
Carbon Disulfide	--	ug/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	1.0 U	1.0 U	1.0 U	1.0 U
Carbon Tetrachloride	5	ug/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	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	5	ug/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	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	5	ug/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	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	7	ug/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	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	--	ug/L	NA	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	1.0 U	1.0 U	0.57 J
Dichlorodifluoromethane	5	ug/L	NA	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	1.0 U	1.0 U	1.0 U
Ethylbenzene	5	ug/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	1.0 U	1.0 U	1.0 U	1.0 U
Isopropylbenzene	5	ug/L	NA	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	1.0 U	1.0 U	1.0 U
Methylcyclohexane	--	ug/L	NA	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	1.0 U	1.0 U	0.27 J
Methylene Chloride	5	ug/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	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	5	ug/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	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	5	ug/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	2.0 U	2.0 U	2.0 U	2.0 U
Tetrachloroethene	5	ug/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	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	5	ug/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	1.0 U	1.0 U	1.0 U	4.6
1,1-Dichloroethane	5	ug/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	1.0 U	1.0 U	1.0 U	0.67 J
1,1-Dichloroethene	5	ug/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	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	0.6	ug/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	1.0 U	1.0 U	1.0 U	0.55 J
cis-1,2-Dichloroethene	5	ug/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	1.0 U	1.0 U	1.0 U	18
trans-1,2-Dichloroethene	5	ug/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	1.0 U	1.0 U	1.0 U	1.1
Vinyl Chloride	2	ug/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	1.0 U	1.0 U	1.0 U	19
Total VOCs	--	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	16	ND	ND	ND	ND	ND	ND	ND	ND	1.6 J	ND	ND	50.16

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Detected Volatile Organics																									
1,1,1-Trichloroethane	5	ug/L	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U	1.0 U	2.0 U	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	2.0 U	1.0 U	1.0 U	1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	3	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
2-Butanone	--	ug/L	10 U	10 U	50 U	50 U	10 U	10 U	20 U	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	20 U	10 U	10 U*	10 U
2-Hexanone	50	ug/L	10 U	10 U	50 U	50 U	10 UJ	10 U	20 U	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	5.0 U	5.0 U	5.0 U
4-Methyl-2-pentanone	--	ug/L	10 U	10 U	50 U	50 U	10 U	10 U	20 U	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	5.0 U	5.0 U	5.0 U
Acetone	50	ug/L	25 U	25 U	130 U	130 U	25 U	25 U	50 U	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	20 U	10 U	10 U	10 U
Benzene	1	ug/L	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U	1.0 U	2.0 U	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	2.0 U	1.0 U	1.0 U	1.0 U
Carbon Disulfide	--	ug/L	2.0 U	2.0 U	10 U	10 U	2.0 U	2.0 U	4.0 U	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	1.0 U	1.0 U	1.0 U
Carbon Tetrachloride	5	ug/L	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U	1.0 U	2.0 U	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	2.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	5	ug/L	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U	1.0 U	2.0 U	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	2.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	5	ug/L	1.0 U	1.0 U	5.0 UJ	5.0 U	1.0 U	1.0 U	2.0 U	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	2.0 U	1.0 U	1.0 U	1.0 U
Chloroform	7	ug/L	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U	1.0 U	2.0 U	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	2.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	--	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	5	ug/L	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U	1.0 U	2.0 U	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	2.0 U	1.0 U	1.0 U	1.0 U
Isopropylbenzene	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
Methylcyclohexane	--	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
Methylene Chloride	5	ug/L	5.0 U	5.0 U	25 U	25 U	5.0 U	5.0 U	10 U	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	1.1 J	1.0 U	1.0 U	1.0 U
Toluene	5	ug/L	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U	1.0 U	2.0 U	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	2.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	5	ug/L	2.0 U	2.0 U	10 U	10 U	2.0 U	2.0 U	4.0 U	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	4.0 U	2.0 U	2.0 U	2.0 U
Tetrachloroethene	5	ug/L	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U	1.0 U	2.0 U	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	2.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	5	ug/L	7.3	15	35	35	16	18	45	44	1.9	32	6.8	21 J	13	27	9.9	16	30	20	21	5.6	1.3	11	1.2
1,1-Dichloroethane	5	ug/L	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U	1.0 U	2.0 U	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	2.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	5	ug/L	1.0 U	1.1	5.0 U	5.0 U	1.1	1.3	3.8	5.0 U	1.0 U	5.0 U	1.0 U	3.3	1.0 U	8.0 U	1.0 U	0.70 J	2.4	1.1	1.2	2.0 U	1.0 U	0.46 J	1.0 U
1,2-Dichloroethane	0.6	ug/L	1.0 U	1.4	5.0 U	5.0 U	1.7	2.2	6.8	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	2.0 U	1.0 U	0.68 J	1.0 U
cis-1,2-Dichloroethene	5	ug/L	66	160	350	380	180	170 D	420 D	410	17	360	65	440	160 D	330	77	130	330	160 D	230 D	45	8.6	70	7.5
trans-1,2-Dichloroethene	5	ug/L	1.0 U	1.7	5.0 U	5.0 U	3.4	1.6	4.4	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	2.1	1.0 U	1.0 U	1.0 U
Vinyl Chloride	2	ug/L	1.0 U	2.6	11	6.2	2.1	1.0 U	11	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	2.0 U	1.0 U	1.0 U	1.0 U
Total VOCs	--	ug/L	73	180	400	420	200	190	490	470	19	400	72	490 J	170	370 J	89 J	150 J	380 J	180	260 J	53.8 J	9.9	82.14 J	8.7

NOTES:

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

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Detected Volatile Organics																								
1,1,1-Trichloroethane	5	ug/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	1.0 U	2.0 U	1.0 U	1.0 U	
1,1,2-trichloro-1,2,2-trifluoroethane	5	ug/L	NA	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	2.0 U	1.0 U	1.0 U	
1,2-Dichlorobenzene	3	ug/L	NA	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	2.0 U	1.0 U	1.0 U	
2-Butanone	--	ug/L	10 U [10 U]	10 U	10 U	10 UJ	10 U [10 U]	10 U	10 U	10 U	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	10 U	10 U	
2-Hexanone	50	ug/L	10 U [10 U]	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	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	10 U	5.0 U	5.0 U	
4-Methyl-2-pentanone	--	ug/L	10 U [10 U]	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	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	10 U	5.0 U	5.0 U	
Acetone	50	ug/L	25 U [25 U]	25 U	25 U	25 UJ	25 U [25 U]	25 U	25 U	25 U	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	10 U	10 U	
Benzene	1	ug/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	1.0 U	1.0 U		
Carbon Disulfide	--	ug/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	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U		
Carbon Tetrachloride	5	ug/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	1.0 U	1.0 U		
Chlorobenzene	5	ug/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	1.0 U	1.0 U		
Chloroethane	5	ug/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	5.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U		
Chloroform	7	ug/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	1.0 U	1.0 U		
Cyclohexane	--	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U		
Dichlorodifluoromethane	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U		
Ethylbenzene	5	ug/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	1.0 U	1.0 U		
Isopropylbenzene	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U		
Methylcyclohexane	--	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U		
Methylene Chloride	5	ug/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	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	2.0 U	1.0 U	1.0 U		
Toluene	5	ug/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	1.0 U	1.0 U		
Xylenes (total)	5	ug/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	2.0 U	2.0 U		
Tetrachloroethene	5	ug/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	1.0 U	1.0 U		
Trichloroethene	5	ug/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 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U		
1,1-Dichloroethane	5	ug/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	1.0 U	1.0 U		
1,1-Dichloroethene	5	ug/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	1.0 U	1.0 U		
1,2-Dichloroethane	0.6	ug/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	1.0 U	1.0 U		
cis-1,2-Dichloroethene	5	ug/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	1.0 U	1.0 U		
trans-1,2-Dichloroethene	5	ug/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	1.0 U	1.0 U		
Vinyl Chloride	2	ug/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	1.0 U	1.0 U		
Total VOCs	--	ug/L	ND [ND]	ND	ND	ND	ND [ND]	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.2 J	6.1 J	ND	ND		

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Detected Volatile Organics																									
1,1,1-Trichloroethane	5	ug/L	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	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	4.0 U	1.0 U	5.0 U	5.0 U
1,1,2-trichloro-1,2,2-trifluoroethane	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8.0 U	8.0 U	10 U	1.0 U	1.0 U	1.0 U	4.0 U	1.0 U	5.0 U	5.0 U
1,2-Dichlorobenzene	3	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8.0 U	8.0 U	10 U	1.0 U	1.0 U	1.0 U	4.0 U	1.0 U	5.0 U	5.0 U
2-Butanone	--	ug/L	20 U	20 U	20 U	20 U	20 U	20 U	10 U	10 U	20 U	20 U	20 U	5.0 U	10 U	80 U	80 U	100 U	5.0 U	10 U	10 U	40 U	10 U	50 U*	50 U
2-Hexanone	50	ug/L	20 U	20 U	20 U	20 U	20 UJ	20 U	10 U	10 U	20 U	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	20 U	5.0 U	25 U	25 U
4-Methyl-2-pentanone	--	ug/L	20 U	20 U	20 U	20 U	20 U	20 U	10 U	10 U	20 U	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	20 U	5.0 U	25 U	25 U
Acetone	50	ug/L	50 U	50 U	50 U	50 U	50 U	50 U	25 U	25 U	50 U	50 U	20 U	5.0 U	10 U	80 U	80 UJ	100 U	5.0 UB	3.2 J	10 U	40 U	10 U	50 U	50 U
Benzene	1	ug/L	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	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	4.0 U	0.76 J	5.0 U	5.0 U
Carbon Disulfide	--	ug/L	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	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	4.0 U	1.0 U	5.0 U	5.0 U
Carbon Tetrachloride	5	ug/L	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	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	4.0 U	1.0 U	5.0 U	5.0 U
Chlorobenzene	5	ug/L	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	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	4.0 U	1.0 U	5.0 U	5.0 U
Chloroethane	5	ug/L	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	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	4.0 U	1.0 U	5.0 U	5.0 U
Chloroform	7	ug/L	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	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	4.0 U	1.0 U	5.0 U	5.0 U
Cyclohexane	--	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8.0 U	8.0 U	10 U	1.0 U	1.0 U	1.0 U	4.0 U	1.0 U	5.0 U	5.0 U
Dichlorodifluoromethane	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8.0 U	8.0 U	10 U	1.0 U	1.0 U	1.0 U	4.0 U	1.0 U	5.0 U	5.0 U
Ethylbenzene	5	ug/L	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	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	4.0 U	1.0 U	5.0 U	5.0 U
Isopropylbenzene	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8.0 U	8.0 U	10 U	1.0 U	1.0 U	1.0 U	4.0 U	1.0 U	5.0 U	5.0 U
Methylcyclohexane	--	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8.0 U	8.0 U	10 U	1.0 U	1.0 U	1.0 U	4.0 U	1.0 U	5.0 U	5.0 U
Methylene Chloride	5	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	5.0 U	5.0 U	10 U	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	4.0 U	1.0 U	5.0 U	5.0 U
Toluene	5	ug/L	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	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	4.0 U	1.0 U	5.0 U	5.0 U
Xylenes (total)	5	ug/L	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	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	8.0 U	2.0 U	10 U	10 U
Tetrachloroethene	5	ug/L	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	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	4.0 U	1.0 U	5.0 U	5.0 U
Trichloroethene	5	ug/L	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	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	4.0 U	1.0 U	5.0 U	5.0 U
1,1-Dichloroethane	5	ug/L	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	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	4.0 U	1.0 U	5.0 U	5.0 U
1,1-Dichloroethene	5	ug/L	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	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	4.0 U	1.0 U	5.0 U	5.0 U
1,2-Dichloroethane	0.6	ug/L	3.8	3.0	2.0 U	2.0 U	2.0 U	2.0 U	1.1	1.0 U	2.0 U	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	4.0 U	1.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	5	ug/L	280	310	120	310	200	220	96	390 D	250	350	330 D	430	330 D	410	440	360	420	420 D	380 D	290	240 D	290	330
trans-1,2-Dichloroethene	5	ug/L	3.9	3.2	2.4	5.2	2.4	2.1	2.0	6.7	4.3	5.3	6.1	4.9	3.5	8.0 U	8.0 U	10 U	4.3	7.3	2.5	9.2	1.7	5.0 U	5.0 U
Vinyl Chloride	2	ug/L	49	15	30	92	2.0 U	17	28	110 D	32	79	120	170	69	110	150	100	93	71	120 D	65	61	89	74
Total VOCs	--	ug/L	340	330	150	490 J	200	240	130	510	290	440	460 J	610	400	520	590	470 J	520 J	500 J	510 J	364.2	303.46 J	379	404

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. Bold values are detected.

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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Table 8
Summary of Volatile Organic Compounds (2010-2019)
2019 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-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	MW-19 05/29/14	MW-19 10/15/14	MW-19 04/23/15	MW-19 01/27/16
Detected Volatile Organics															
1,1,1-Trichloroethane	5	ug/L	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]	25 U [25 U]	1.0 U [2.0 U]	1.0 U [1.0 U]	5.0 U [5.0 U]
1,1,2-trichloro-1,2,2-trifluoroethane	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	3	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Butanone	--	ug/L	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]	250 U [250 U]	5.0 U [10 U]	5.0 U [5.0 U]	50 U [50 U]
2-Hexanone	50	ug/L	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]	130 U [130 U]	5.0 U [10 U]	5.0 U [5.0 U]	25 U [25 U]
4-Methyl-2-pentanone	--	ug/L	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]	130 U [130 U]	5.0 U [10 U]	5.0 U [5.0 U]	25 U [25 U]
Acetone	50	ug/L	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]	250 U [250 U]	5.0 U [10 U]	5.0 U [5.0 U]	50 UJ [50 U]
Benzene	1	ug/L	12	12	8.8	5.2	6.2 [6.1]	13 [18]	14 [13]	6.3 [10 U]	9.6 [11]	25 U [25 U]	6.6 [6.2]	4.0 [4.0]	7.3 [7.8]
Carbon Disulfide	--	ug/L	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]	25 U [25 U]	1.0 U [2.0 U]	1.0 U [1.0 U]	5.0 U [5.0 U]
Carbon Tetrachloride	5	ug/L	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]	25 U [25 U]	1.0 U [2.0 U]	1.0 U [1.0 U]	5.0 U [5.0 U]
Chlorobenzene	5	ug/L	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]	25 U [25 U]	1.0 U [2.0 U]	1.0 U [1.0 U]	5.0 U [5.0 U]
Chloroethane	5	ug/L	92	110	38	37	38 [40]	77 [82]	150 J [160]	28 [29]	67 [70]	230 [240]	39 J [33 J]	34 J [33]	180 J [180]
Chloroform	7	ug/L	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]	25 U [25 U]	4.3 [4.1]	3.3 [3.5]	5.0 U [5.0 U]
Cyclohexane	--	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichlorodifluoromethane	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	5	ug/L	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]	25 U [25 U]	1.0 U [2.0 U]	1.0 U [1.0 U]	5.0 U [5.0 U]
Isopropylbenzene	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylcyclohexane	--	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylene Chloride	5	ug/L	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]	25 J [28 J]	1.3 [2.0 U]	1.0 U [1.0 U]	5.0 U [5.0 U]
Toluene	5	ug/L	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]	25 U [25 U]	2.3 [2.0 U]	1.5 [1.6]	5.0 U [5.0 U]
Xylenes (total)	5	ug/L	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]	50 U [50 U]	2.0 U [4.0 U]	2.0 U [2.0 U]	10 U [10 U]
Tetrachloroethene	5	ug/L	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]	25 U [25 U]	5.9 [5.6]	15 [15]	5.0 U [5.0 U]
Trichloroethene	5	ug/L	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]	56 [54]	10 J [9.1 J]	13 [13]	5.0 U [5.0 U]
1,1-Dichloroethane	5	ug/L	75	67	44	35	18 [19]	140 [150]	82 [73]	27 [27]	41 [40]	110 [110]	26 [23]	15 J [16]	36 [40]
1,1-Dichloroethene	5	ug/L	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]	25 U [25 U]	1.2 [2.0 U]	1.3 [1.5]	5.0 U [5.0 U]
1,2-Dichloroethane	0.6	ug/L	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]	25 U [25 U]	1.0 U [2.0 U]	1.0 U [1.0 U]	5.0 U [5.0 U]
cis-1,2-Dichloroethene	5	ug/L	530	100	370	1.1	1.0 U [1.0 U]	4.3 [6.3]	99 [89]	820 J [780]	400 J [420]	1,900 J [1,800]	490 [450]	380 [400]	66 [74]
trans-1,2-Dichloroethene	5	ug/L	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]	25 U [25 U]	5.6 [4.9]	4.3 [4.5]	5.0 U [5.0 U]
Vinyl Chloride	2	ug/L	220	160	230	3.2	1.0 U [1.0 U]	11 [16]	150 D [160 D]	250 [240]	280 J [230]	510 [510]	330 [270]	180 [170]	98 [87]
Total VOCs	--	ug/L	970	470	700	87	69 [73]	250 [280]	510 J [510]	1,200 J [1,100]	820 J [800]	2,800 J [2,700 J]	920 J [810 J]	650 J [660]	390 J [390]

NOTES:

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Detected Volatile Organics												
1,1,1-Trichloroethane	5	ug/L	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]	5.0 U [5.0 U]	10 U [10 U]	10 U	10 U [1.0 U]
1,1,2-trichloro-1,2,2-trifluoroethane	5	ug/L	2.0 U [2.0 U]	4.2	270 D [280]	12 [12]	170 D [230]	5.0 U [5.0 U]	9.0 [7.2]	10 U [10 U]	10 U	250 [230]
1,2-Dichlorobenzene	3	ug/L	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]	5.0 U [5.0 U]	10 U [10 U]	10 U	10 U [1.0 U]
2-Butanone	--	ug/L	20 U [20 U]	20 U	10 U [400 U]	5.0 U [5.0 U]	10 U [200 U]	50 U [50 U]	50 U [50 U]	100 U [100 U]	100 U*	100 U [10 U]
2-Hexanone	50	ug/L	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]	25 U [25 U]	50 U [50 U]	50 U	50 U [5.0 U]
4-Methyl-2-pentanone	--	ug/L	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]	25 U [25 U]	50 U [50 U]	50 U	50 U [5.0 U]
Acetone	50	ug/L	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]	50 U [50 U]	100 U [100 U]	100 U	100 U [10 U]
Benzene	1	ug/L	7.0 [7.7]	3.2	7.1 [40 U]	3.7 [3.7]	7.9 [10 J]	5.0 U [5.0 U]	4.2 J [4.2 J]	8.3 J [7.5 J]	6.9 J	9.3 J [10]
Carbon Disulfide	--	ug/L	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]	5.0 U [5.0 U]	10 U [10 U]	10 U	10 U [1.0 U]
Carbon Tetrachloride	5	ug/L	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]	5.0 U [5.0 U]	10 U [10 U]	10 U	10 U [1.0 U]
Chlorobenzene	5	ug/L	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]	5.0 U [5.0 U]	10 U [10 U]	10 U	10 U [1.0 U]
Chloroethane	5	ug/L	86 [95]	32	22 [40 U]	16 [17]	45 [48]	12 [11]	39 [40]	58 [47]	45	74 [70]
Chloroform	7	ug/L	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]	5.0 U [5.0 U]	10 U [10 U]	10 U	10 U [0.82 J]
Cyclohexane	--	ug/L	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]	5.0 U [5.0 U]	10 U [10 U]	10 U	10 U [0.32 J]
Dichlorodifluoromethane	5	ug/L	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]	5.0 U [5.0 U]	10 U [10 U]	10 U	10 U [1.0 U]
Ethylbenzene	5	ug/L	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]	5.0 U [5.0 U]	10 U [10 U]	10 U	10 U [1.0 U]
Isopropylbenzene	5	ug/L	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]	5.0 U [5.0 U]	10 U [10 U]	10 U	10 U [1.0 U]
Methylcyclohexane	--	ug/L	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]	5.0 U [5.0 U]	10 U [10 U]	10 U	10 U [1.0 U]
Methylene Chloride	5	ug/L	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]	5.0 U [2.2 J]	5.5 J [10 U]	10 U	10 U [1.0 U]
Toluene	5	ug/L	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]	5.0 U [5.0 U]	10 U [10 U]	10 U	10 U [1.3]
Xylenes (total)	5	ug/L	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]	10 U [10 U]	20 U [20 U]	20 U	20 U [2.0 U]
Tetrachloroethene	5	ug/L	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]	5.0 U [5.0 U]	10 U [3.6 J]	10 U	10 [10]
Trichloroethene	5	ug/L	2.0 U [2.0 U]	1.1 J	29 [33 J]	3.5 [3.7]	23 [24]	3.1 J [3.4 J]	2.3 J [5.0 U]	7.0 J [7.9 J]	10 U	49 [52]
1,1-Dichloroethane	5	ug/L	27 [30]	11	31 [37 J]	10 [10]	26 [31]	8.9 [8.7]	13 [13]	22 J [18]	16	23 [23]
1,1-Dichloroethene	5	ug/L	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]	5.0 U [5.0 U]	10 U [10 U]	10 U	10 U [1.0 U]
1,2-Dichloroethane	0.6	ug/L	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]	5.0 U [5.0 U]	10 U [10 U]	10 U	10 U [0.30 J]
cis-1,2-Dichloroethene	5	ug/L	39 [42]	120	1,700 DJ [1,700]	140 [140]	930 D [920]	170 J [150 J]	250 [250]	560 [520]	150	490 J [480 J]
trans-1,2-Dichloroethene	5	ug/L	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]	5.0 U [5.0 U]	10 U [10 U]	10 U	10 U [5.4]
Vinyl Chloride	2	ug/L	67 J [73]	120	560 D [540]	110 [110]	330 D [300]	68 [85]	120 [120]	190 [170]	170	250 [240]
Total VOCs	--	ug/L	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]	442.5 J [436.6 J]	850.8 J	387.9 J	1,155.3 J [1,123.14]

NOTES:

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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. Bold values are detected.

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 (2010-2019)
2019 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-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	MW-20 10/15/14	MW-20 04/23/15	MW-20 01/27/16	MW-20 06/30/16	MW-20 12/21/16	MW-20 05/16/17	MW-20 10/31/17	MW-20 04/10/18	MW-20 10/04/18	MW-20 05/07/19	MW-20 11/06/19
Detected Volatile Organics																				
1,1,1-Trichloroethane	5	ug/L	NA	1.0 U	10 U	1.0 U	1.0 U	2.0 U	1.0 U	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
1,1,2-trichloro-1,2,2-trifluoroethane	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40 U	1.0 U	2.0 U	25 U	1.0 U	1.0 U	2.0 U	2.0 U
1,2-Dichlorobenzene	3	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40 U	1.0 U	2.0 U	25 U	1.0 U	1.0 U	2.0 U	2.0 U
2-Butanone	--	ug/L	NA	10 U	100 U	10 U	10 U	20 U	10 U	5.0 U	5.0 U	10 U	400 U	10 U	20 U	130 U	10 U	10 U	20 U	20 U
2-Hexanone	50	ug/L	NA	10 U	100 U	10 U	10 U	20 U	5.0 U	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
4-Methyl-2-pentanone	--	ug/L	NA	10 U	100 U	10 U	10 U	20 U	5.0 U	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 UJ	10 U
Acetone	50	ug/L	NA	25 U	250 U	25 U	25 U	50 U	10 U	11	5.0 U	10 UJ	400 U	10 U	20 UB	130 U	10 U	4.6 J	20 U	20 U
Benzene	1	ug/L	470	5.1	360	100	14	330	13	310	6.6	7.1	300	0.59 J	2.0 U	410	11	1.0 U	4.6	4.1
Carbon Disulfide	--	ug/L	NA	2.0 U	20 U	2.0 U	2.0 U	4.0 U	1.0 U	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
Carbon Tetrachloride	5	ug/L	NA	1.5	10 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0	1.0 U	40 U	1.3	1.7 J	25 U	0.58 J	2.5	2.0 U	2.0 U
Chlorobenzene	5	ug/L	NA	1.0 U	10 U	1.0 U	1.0 U	2.0 U	1.0 U	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
Chloroethane	5	ug/L	NA	1.0 U	10 UJ	1.0 U	1.0 U	10 U	1.0 U	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	2.0 U	2.0 U
Chloroform	7	ug/L	NA	2.5	10 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	2.3	1.3	40 U	2.2	2.6	25 U	1.5	3.6 UB	1.3 J	1.4 J
Cyclohexane	--	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40 U	1.0 U	2.0 U	25 U	1.0 U	1.0 U	2.0 U	2.0 U
Dichlorodifluoromethane	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40 U	1.0 U	2.0 U	25 U	1.0 U	1.0 U	2.0 U	2.0 U
Ethylbenzene	5	ug/L	760	1.7	210	17	1.0 U	88	18	69	6.0	7.4	220	1.0 U	2.0 U	520 J	10	1.0 U	8.2	2.0 U
Isopropylbenzene	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40 U	1.0 U	2.0 U	50	1.2	1.0 U	2.0 U	2.0 U
Methylcyclohexane	--	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40 U	1.0 U	2.0 U	16 J	1.0 U	1.0 U	2.0 U	2.0 U
Methylene Chloride	5	ug/L	NA	5.0 U	50 U	5.0 U	5.0 U	10 U	1.0 UJ	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	2.0 U	2.0 U
Toluene	5	ug/L	2,900	1.0 U	350	4.1	1.0 U	90	1.0 U	34	1.0 U	3.3	86	1.0 U	2.0 U	190	1.1	1.0 U	2.0 U	2.0 U
Xylenes (total)	5	ug/L	7,100	8.8	1,700	77	5.4	410	6.7	250	36	45	2,400	2.0 U	4.0 U	5,200	77	2.0 U	53	4.0 U
Tetrachloroethene	5	ug/L	NA	52	10 U	32	21	2.0 U	17	2.2	54	42	40 U	58	80	25 U	55	98	58	30
Trichloroethene	5	ug/L	NA	3.1	10 U	15	15	4.6	18	1.0 UJ	6.9	5.2	40 U	4.8	6.0	25 U	13	9.3	10	9.5
1,1-Dichloroethane	5	ug/L	NA	1.0 U	10 U	1.0 U	1.0 U	2.0 U	1.0 U	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	2.0 U	2.0 U
1,1-Dichloroethene	5	ug/L	NA	1.0 U	10 U	1.0 U	1.0 U	2.0 U	1.0 U	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
1,2-Dichloroethane	0.6	ug/L	NA	1.0 U	10 U	1.0 U	1.0 U	2.0 U	1.0 U	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	2.0 U	2.0 U
cis-1,2-Dichloroethene	5	ug/L	NA	1.2	80	16	5.3	30	11	23	4.8	6.8	40 U	2.6	3.9	77	11	10	14	14
trans-1,2-Dichloroethene	5	ug/L	NA	1.0 U	10 U	1.0 U	1.0 U	2.0 U	1.0 U	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	2.0 U	2.0 U
Vinyl Chloride	2	ug/L	NA	1.0 U	20	4.7	1.0 U	12	1.7	9.1	1.0 U	1.0 U	40 U	1.0 U	2.0 U	14 J	0.96 J	1.0 U	2.0 U	2.0 U
Total VOCs	--	ug/L	11,000	76	2,700	270	61	960	85	710	120	120	3,000	69 J	96 J	6,400 J	180 J	130 J	147.8 J	59

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Detected Volatile Organics																											
1,1,1-Trichloroethane	5	ug/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	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
1,1,2-trichloro-1,2,2-trifluoroethane	5	ug/L	NA	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	1.0 U	1.0 U	1.0 U	1.0 U	
1,2-Dichlorobenzene	3	ug/L	NA	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	1.0 U	1.0 U	1.0 U	1.0 U	
2-Butanone	--	ug/L	10 U	10 U	10 U	10 UJ	10 U	10 U	10 U	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	10 U*	10 U	
2-Hexanone	50	ug/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	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	
4-Methyl-2-pentanone	--	ug/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	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	
Acetone	50	ug/L	25 U	25 U	25 U	25 UJ	25 U	25 U	25 U	25 U	25 U	25 U	10 U	5.0 U	5.0 U	10 U	10 U	10 U	10 UB	5.0 UB	4.5 J	10 UB	5.5 J	10 U	10	10 U	
Benzene	1	ug/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	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Carbon Disulfide	--	ug/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	0.21 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Carbon Tetrachloride	5	ug/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	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Chlorobenzene	5	ug/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	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Chloroethane	5	ug/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	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	1.0 U	1.0 U	
Chloroform	7	ug/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	0.91 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	
Cyclohexane	--	ug/L	NA	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	1.0 U	1.0 U	1.0 U	1.0 U	
Dichlorodifluoromethane	5	ug/L	NA	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	1.0 U	1.0 U	1.0 U	1.0 U	
Ethylbenzene	5	ug/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	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Isopropylbenzene	5	ug/L	NA	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	1.0 U	1.0 U	1.0 U	1.0 U	
Methylcyclohexane	--	ug/L	NA	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	1.0 U	1.0 U	1.0 U	1.0 U	
Methylene Chloride	5	ug/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	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Toluene	5	ug/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	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Xylenes (total)	5	ug/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	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	
Tetrachloroethene	5	ug/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	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Trichloroethene	5	ug/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	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
1,1-Dichloroethane	5	ug/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	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
1,1-Dichloroethene	5	ug/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	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
1,2-Dichloroethane	0.6	ug/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	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
cis-1,2-Dichloroethene	5	ug/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	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
trans-1,2-Dichloroethene	5	ug/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	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Vinyl Chloride	2	ug/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	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Total VOCs	--	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.91 J	ND	ND	4.7 J	3.5 J	5.5 J	ND	10	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).

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Table 8
Summary of Volatile Organic Compounds (2010-2019)
2019 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-22 09/15/17	MW-23 09/15/17	MW-23 02/19/19	MW-23 05/08/19	MW-23 08/08/19	MW-23 11/06/19	MW-24 09/15/17	MW-24 02/19/19	MW-24 05/08/19	MW-24 08/08/19	MW-24 11/06/19	MW-25 10/04/18	MW-25 02/21/19	MW-25 02/21/19	MW-25 05/08/19	MW-25 08/07/19	MW-25 11/06/19
Detected Volatile Organics																			
1,1,1-Trichloroethane	5	ug/L	23	200 U	10 U	2.0 U	2.0 U	2.0 U	100 U [100 U]	170	150	20 U	100 U	20 U	100 U	100 U	100 U	100 U	100 U
1,1,2-trichloro-1,2,2-trifluoroethane	5	ug/L	10 U	200 U	10 U	2.0 U	2.0 U	2.0 U	100 U [100 U]	100 U	100 U	20 U	100 U	20 U	100 U	100 U	100 U	100 U	100 U
1,2-Dichlorobenzene	3	ug/L	10 U	200 U	10 U	2.0 U	2.0 U	2.0 U	100 U [100 U]	100 U	100 U	20 U	100 U	20 U	100 U	100 U	100 U	100 U	100 U
2-Butanone	--	ug/L	100 U	2,000 U	100 U	20 U	20 U*	20 U	1,000 U [1,000 U]	1,000 U	1,000 U	100 J	1,000 U	200 U	1,000 U	1,000 U	1,000 U	1,000 U*	1,000 U
2-Hexanone	50	ug/L	50 U	1,000 U	50 U	10 U	10 U	10 U	500 U [500 U]	500 U	500 U	100 U	500 U	100 U	500 U	500 U	500 U	500 U	500 U
4-Methyl-2-pentanone	--	ug/L	50 U	1,000 U	50 U	10 U	10 U	10 U	500 U [500 U]	500 U	500 U	100 U	500 U	100 U	500 U	500 U	500 U	500 U	500 U
Acetone	50	ug/L	100 U	2,000 U	100 U	20 U	20 U	20 U	1,000 U [1,000 U]	1,000 U	1,000 U	100 J	1,000 U	200 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U
Benzene	1	ug/L	6.7 J	200 U	10 U	2.0 U	2.0 U	2.0 U	100 U [100 U]	100 U	100 U	20 U	100 U	20 U	100 U	100 U	100 U	100 U	100 U
Carbon Disulfide	--	ug/L	10 U	200 U	10 U	2.0 U	2.0 U	2.0 U	100 U [100 U]	100 U	100 U	20 U	100 U	20 U	100 U	100 U	100 U	100 U	100 U
Carbon Tetrachloride	5	ug/L	10 U	200 U	10 U	2.0 U	2.0 U	2.0 U	100 U [100 U]	100 U	100 U	20 U	100 U	20 U	100 U	100 U	100 U	100 U	100 U
Chlorobenzene	5	ug/L	49	200 U	10 U	2.0 U	2.0 U	2.0 U	100 U [100 U]	100 U	100 U	20 U	100 U	20 U	100 U	100 U	100 U	100 U	100 U
Chloroethane	5	ug/L	10 U	200 U	10 U	2.0 U	2.0 U	2.0 U	100 U [100 U]	100 U	100 U	24	100 U	20 U	100 U	100 U	100 U	100 U	100 U
Chloroform	7	ug/L	10 U	200 U	10 U	2.0 U	2.0 U	2.0 U	34 J [100 U]	100 U	100 U	20 U	100 U	20 U	100 U	100 U	100 U	100 U	100 U
Cyclohexane	--	ug/L	5.9 J	200 U	10 U	2.0 U	2.0 U	2.0 U	100 U [100 U]	100 U	100 U	20 U	100 U	20 U	100 U	100 U	100 U	100 U	100 U
Dichlorodifluoromethane	5	ug/L	10 U	200 U	10 U	2.0 U	2.0 U	2.0 U	100 U [100 U]	100 U	100 U	20 U	100 U	NA	100 U*	100 U*	100 U	100 U	100 U
Ethylbenzene	5	ug/L	10 U	200 U	10 U	2.0 U	2.0 U	2.0 U	100 U [100 U]	100 U	100 U	20 U	100 U	20 U	100 U	100 U	100 U	100 U	100 U
Isopropylbenzene	5	ug/L	10 U	200 U	10 U	2.0 U	2.0 U	2.0 U	100 U [100 U]	100 U	100 U	20 U	100 U	20 U	100 U	100 U	100 U	100 U	100 U
Methylcyclohexane	--	ug/L	1.6 J	200 U	10 U	2.0 U	2.0 U	2.0 U	100 U [100 U]	100 U	100 U	20 U	100 U	20 U	100 U	100 U	100 U	100 U	100 U
Methylene Chloride	5	ug/L	10 U	200 U	13	1.2 J	2.0 U	2.0 U	100 U [100 U]	100 U	100 U	20 U	100 U	20 UB	100 U	100 U	100 U	100 U	100 U
Toluene	5	ug/L	10 U	200 U	10 U	2.0 U	2.0 U	2.0 U	100 U [100 U]	100 U	100 U	20 U	100 U	20 U	100 U	100 U	100 U	100 U	100 U
Xylenes (total)	5	ug/L	7.9 J	400 U	20 U	4.0 U	4.0 U	4.0 U	200 U [200 U]	200 U	200 U	40 U	200 U	40 U	200 U	200 U	200 U	200 U	200 U
Tetrachloroethene	5	ug/L	10 U	200 U	10 U	2.0 U	2.0 U	2.0 U	100 U [100 U]	100 U	100 U	20 U	100 U	9,300 D	3,300	3,300	3,200	2,300	2,200
Trichloroethene	5	ug/L	440	5,800	10 U	2.0 U	2.0 U	2.0 U	3,100 [3,200]	100 U	100 U	20 U	100 U	220	87 J	87 J	130	84 J	91 J
1,1-Dichloroethane	5	ug/L	7.1 J	200 U	10 U	2.0 U	2.0 U	2.0 U	100 U [100 U]	230	210	340	120	17 J	100 U	100 U	100 U	100 U	100 U
1,1-Dichloroethene	5	ug/L	10 U	200 U	10 U	2.0 U	2.0 U	2.0 U	100 U [100 U]	100 U	100 U	20 U	100 U	20 U	100 U	100 U	100 U	100 U	100 U
1,2-Dichloroethane	0.6	ug/L	10 U	200 U	10 U	0.50 J	0.43 J	0.49 J	100 U [100 U]	100 U	100 U	20 U	100 U	20 U	100 U	100 U	100 U	100 U	100 U
cis-1,2-Dichloroethene	5	ug/L	790 F1	4,900	10 U	2.0 U	2.0 U	2.0 U	650 [630]	2,200	2,200	830	810	850	550	550	650	770	490
trans-1,2-Dichloroethene	5	ug/L	10 U	200 U	10 U	2.0 U	2.0 U	2.0 U	100 U [100 U]	100 U	100 U	20 U	100 U	20 U	100 U	100 U	100 U	100 U	100 U
Vinyl Chloride	2	ug/L	700 F1	260	10 U	2.0 U	2.0 U	2.6	100 U [100 U]	820	1,500	1,400	1,800	690	610	610	640	800	590
Total VOCs	--	ug/L	2,000 J	11,000	13	1.7 J	0.43 J	3.09	3,800 J [3,800]	3420	4060	2,794 J	2,730	NA	NA	4547 J	5390	3,954 J	3,371

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2019 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-A1 03/09/11	MW-A1 08/09/11	MW-A1 10/13/11	MW-A1 01/25/12	MW-A1 03/29/12	MW-A1 07/02/12	MW-A1 09/13/12	MW-A1 03/21/13	MW-A1 11/21/13	MW-A1 05/29/14	MW-A1 10/15/14	MW-A1 04/23/15	MW-A1 01/27/16	MW-A1 06/30/16	MW-A1 12/20/16	MW-A1 05/16/17	MW-A1 10/31/17	MW-A1 04/10/18	MW-A1 10/04/18	MW-A1 05/08/19	MW-A1 11/06/19	
Detected Volatile Organics																								
1,1,1-Trichloroethane	5	ug/L	5.0 U [5.0 U]	5.0 U [5.0 U]	5.0 U [5.0 U]	12	1.0 U	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	2.0 U	2.0 U	
1,1,2-trichloro-1,2,2-trifluoroethane	5	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.1	3.2	4.0 U	2.0 U	2.0 U	
1,2-Dichlorobenzene	3	ug/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	2.0 U	4.0 U	2.0 U	2.0 U	
2-Butanone	--	ug/L	50 U [50 U]	50 U [50 U]	50 U [50 U]	10 U	10 U	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	20 U	20 U	
2-Hexanone	50	ug/L	50 U [50 U]	50 U [50 U]	50 U [50 U]	10 U	10 U	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	10 U	10 U	
4-Methyl-2-pentanone	--	ug/L	50 U [50 U]	50 U [50 U]	50 U [50 U]	10 U	10 U	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	10 U	10 U	
Acetone	50	ug/L	120 U [120 U]	130 U [130 U]	130 U [130 U]	25 U	25 U	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	20 U	20 UB	
Benzene	1	ug/L	7.7 [7.2]	9.5 [9.8]	5.2 [7.7]	8.8	7.9	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	7.6	6.0	
Carbon Disulfide	--	ug/L	10 U [10 U]	10 U [10 U]	10 U [10 U]	2.0 U	2.0 U	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	2.0 U	2.0 U	
Carbon Tetrachloride	5	ug/L	5.0 U [5.0 U]	5.0 U [5.0 U]	5.0 UJ [5.0 U]	1.0 U	1.0 U	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	2.0 U	2.0 U	
Chlorobenzene	5	ug/L	5.0 U [5.0 U]	5.0 U [5.0 U]	5.0 U [5.0 U]	2.1	2.0	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	2.0 U	2.1	
Chloroethane	5	ug/L	5.0 U [5.0 U]	17 [16 J]	5.0 U [5.0 U]	13	20	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	9.3	5.0	
Chloroform	7	ug/L	5.0 U [5.0 U]	5.0 U [5.0 U]	5.0 U [5.0 U]	1.0 U	1.0 U	1.3	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	2.0 U	2.0 U	
Cyclohexane	--	ug/L	NA	NA	NA	NA	NA	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	2.0 U	0.46 J	
Dichlorodifluoromethane	5	ug/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	2.0 U	4.0 U	2.0 U	2.0 U	
Ethylbenzene	5	ug/L	5.0 U [5.0 U]	5.0 U [5.0 U]	5.0 U [5.0 U]	1.0 U	1.0 U	1.0 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	2.0 U	2.0 U	
Isopropylbenzene	5	ug/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	2.0 U	4.0 U	2.0 U	2.0 U	
Methylcyclohexane	--	ug/L	NA	NA	NA	NA	NA	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	2.0 U	2.0 U	
Methylene Chloride	5	ug/L	25 U [25 U]	25 U [25 U]	25 U [25 U]	5.0 U	5.0 U	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	2.0 U	2.0 U	
Toluene	5	ug/L	5.0 U [5.0 U]	5.0 U [5.0 U]	5.0 U [5.0 U]	1.0 U	1.0 U	1.0 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	2.0 U	2.0 U	
Xylenes (total)	5	ug/L	10 U [10 U]	10 U [10 U]	10 U [10 U]	2.0 U	2.0 U	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	4.0 U	4.0 U	
Tetrachloroethene	5	ug/L	5.0 U [5.0 U]	5.0 U [5.0 U]	5.0 U [5.0 U]	1.0 U	1.0 U	1.0 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	2.0 U	2.0 U	
Trichloroethene	5	ug/L	5.0 U [5.0 U]	5.0 U [5.0 U]	5.0 U [5.0 U]	1.0 U	1.2	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	2.0 U	2.0 U	
1,1-Dichloroethane	5	ug/L	22 [21]	19 [20]	15 [17]	17	11	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	1.8 J	1.5 J	
1,1-Dichloroethene	5	ug/L	5.0 U [5.0 U]	5.0 U [5.0 U]	5.0 U [5.0 U]	1.0 U	1.0 U	1.0 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	2.0 U	2.0 U	
1,2-Dichloroethane	0.6	ug/L	5.0 U [5.0 U]	5.0 U [5.0 U]	5.0 U [5.0 U]	1.0 U	1.0 U	1.0 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	2.0 U	2.0 U	
cis-1,2-Dichloroethene	5	ug/L	270 [260]	220 J [250 J]	200 [210]	25	36	130	150	86	7.6	5.7	6.3	27	10 U	6.7	13	24	26	330 D	4.0 U	2.8	23	
trans-1,2-Dichloroethene	5	ug/L	5.0 U [5.0 U]	5.0 U [5.0 U]	5.0 U [5.0 U]	1.0 U	1.0 U	1.5	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	2.0 U	2.0 U	
Vinyl Chloride	2	ug/L	490 [460]	310 [410]	600 J [470]	50	70	200 D	230 D	120	4.2	4.0 U	17	51	10 U	17	39	70	28	120	4.0 U	3.1	27	
Total VOCs	--	ug/L	790 [750]	580 J [710 J]	820 J [700]	130	150	370	570	230	240	22	39 J	88	ND	49 J	74 J	110	99 J	540 J	32 J	24.6 J	65.06	

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Detected Volatile Organics																								
1,1,1-Trichloroethane	5	ug/L	5.0 U	50 U	50 U	5.0 U	1.0 U	1.0 U	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	2.0 U	39
1,1,2-trichloro-1,2,2-trifluoroethane	5	ug/L	NA	NA	NA	NA	NA	NA	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	2.0 U	1.0 U
1,2-Dichlorobenzene	3	ug/L	NA	NA	NA	NA	NA	NA	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	2.0 U	1.0 U
2-Butanone	--	ug/L	430	7,800	5,100 J	520	47	10 U	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	20 U	10 U
2-Hexanone	50	ug/L	50 U	500 U	500 U	50 UJ	10 U	10 U	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	10 U	5.0 U
4-Methyl-2-pentanone	--	ug/L	50 U	500 U	500 U	50 U	10 U	10 U	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	10 U	5.0 U
Acetone	50	ug/L	120 U	1,300 U	1,300 UJ	130 U	25 U	25 U	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	20 U	10 U
Benzene	1	ug/L	5.0 UJ	50 UJ	50 U	5.0 U	1.0 U	1.0 U	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	2.0 U	1.0 U
Carbon Disulfide	--	ug/L	10 U	100 U	100 U	10 U	2.0 U	2.0 U	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	2.0 U	1.0 U
Carbon Tetrachloride	5	ug/L	5.0 U	50 U	50 U	5.0 U	1.0 U	1.0 U	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	2.0 U	1.0 U
Chlorobenzene	5	ug/L	5.0 UJ	50 U	50 U	5.0 U	1.0 U	1.0 U	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	2.0 U	1.0 U
Chloroethane	5	ug/L	5.0 U	50 U	50 U	5.0 U	1.0 U	1.0 U	1.0 U	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	2.0 U	1.0 U
Chloroform	7	ug/L	5.0 U	50 U	50 U	5.0 U	1.0 U	1.0 U	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	2.0 U	1.0 U
Cyclohexane	--	ug/L	NA	NA	NA	NA	NA	NA	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	2.0 U	1.0 U
Dichlorodifluoromethane	5	ug/L	NA	NA	NA	NA	NA	NA	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	2.0 U	1.0 U
Ethylbenzene	5	ug/L	5.0 UJ	50 UJ	50 U	5.0 U	1.0 U	1.0 U	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	2.0 U	1.0 U
Isopropylbenzene	5	ug/L	NA	NA	NA	NA	NA	NA	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	2.0 U	1.0 U
Methylcyclohexane	--	ug/L	NA	NA	NA	NA	NA	NA	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	2.0 U	1.0 U
Methylene Chloride	5	ug/L	25 U	250 U	250 U	25 U	5.0 U	5.0 U	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	2.0 U	1.0 U
Toluene	5	ug/L	5.0 UJ	50 UJ	50 U	5.0 U	2.1	2.2	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	2.0 U	1.0 U
Xylenes (total)	5	ug/L	10 UJ	100 UJ	100 U	10 U	2.0 U	2.0 U	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	4.0 U	2.0 U
Tetrachloroethene	5	ug/L	5.0 U	50 U	50 U	5.0 U	1.0 U	1.0 U	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	2.0 U	1.0 U
Trichloroethene	5	ug/L	5.0 U	50 U	50 U	5.0 U	1.0 U	1.0 U	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	1.0 U	2.0 U	5.2
1,1-Dichloroethane	5	ug/L	5.0 U	50 U	50 U	5.0 U	1.0 U	1.0 U	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	2.0 U	13
1,1-Dichloroethene	5	ug/L	5.0 U	50 U	50 U	5.0 U	1.0 U	1.0 U	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	2.0 U	1.0 U
1,2-Dichloroethane	0.6	ug/L	34	50 U	50 U	5.0 U	1.0 U	1.0 U	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	0.44 J	1.0 U
cis-1,2-Dichloroethene	5	ug/L	710	50 U	68	5.0 U	1.0 U	1.0 U	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	1.0 U	2.0 U	29
trans-1,2-Dichloroethene	5	ug/L	45	50 U	50 U	10	5.9	3.6	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	2.0 U	1.0 U
Vinyl Chloride	2	ug/L	270	50 U	50 U	5.0 U	1.0 U	1.0 U	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	1.0 U	2.0 U	25
Total VOCs	--	ug/L	1,500	7,800	5,200 J	530	55	5.8	10	1.6	ND	39 J	19	25	ND	ND	ND	11 J	5.9 J	24	43 J	ND	0.44 J	110

NOTES:

1. All results are in micrograms per liter (ug/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. Bold values are detected.

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 (2019)
2019 Corrective Measures Implementation Annual Progress Report
Ashland LLC
130 South Street, Rensselaer, New York

Sample Name	Sample Date	Units	Sulfate	Nitrate	Total Iron	Dissolved Iron	Total Manganese	Dissolved Manganese
IMP-3	10/30/2017	mg/L	510	--	--	3 J	--	0.21 J
	4/9/2018	mg/L	320	--	--	1.8	--	0.12
	10/3/2018	mg/L	--	--	--	--	--	--
	5/7/2019	mg/L	--	--	--	--	--	--
	11/7/2019	mg/L	--	--	--	--	--	--
IP-1	10/30/2017	mg/L	220	--	--	11 J	--	3.8 J
	4/9/2018	mg/L	97	--	--	15	--	5.0
	10/3/2018	mg/L	--	--	--	--	--	--
	5/7/2019	mg/L	--	--	--	--	--	--
	11/7/2019	mg/L	61	R	13	0.050 U	4.3	4.1
IW-A2	10/31/2017	mg/L	43 UB	--	--	270 J	--	4.0 J
	4/10/2018	mg/L	20 U	--	--	170	--	3.8
	10/4/2018	mg/L	--	--	--	--	--	--
	5/8/2019	mg/L	--	--	--	--	--	--
	11/7/2019	mg/L	--	--	--	--	--	--
IW-B3	10/31/2017	mg/L	20 UB	--	--	100 J	--	3.6 J
	4/10/2018	mg/L	20 U	--	--	120	--	3.9
	10/3/2018	mg/L	--	--	--	--	--	--
	5/8/2019	mg/L	--	--	--	--	--	--
	11/6/2019	mg/L	--	--	--	--	--	--
MW-1	10/30/2017	mg/L	38 UB	--	--	0.073 J	--	0.0041 J
	4/10/2018	mg/L	31	--	--	0.019 J	--	0.013
	10/3/2018	mg/L	NS	NS	NS	NS	NS	NS
	5/7/2019	mg/L	NS	NS	NS	NS	NS	NS
	11/6/2019	mg/L	NS	NS	NS	NS	NS	NS
MW-13	10/31/2017	mg/L	63 UB	--	--	0.15 J	--	0.37 J
	4/10/2018	mg/L	61	--	--	0.050 U	--	0.14
	10/4/2018	mg/L	--	--	--	--	--	--
	5/7/2019	mg/L	--	--	--	--	--	--
	11/6/2019	mg/L	--	--	--	--	--	--
MW-15	11/6/2019	mg/L	36	0.050 UB	7.9	0.050 U	2.0	2.0
MW-16	10/30/2017	mg/L	240	--	--	0.78 J	--	2.0 J
	4/9/2018	mg/L	330	--	--	0.050 U	--	0.009 UB
	10/3/2018	mg/L	--	--	--	--	--	--
	5/7/2019	mg/L	--	--	--	--	--	--
	11/7/2019	mg/L	--	--	--	--	--	--
MW-17	10/30/2017	mg/L	670	--	--	12 J	--	0.39 J
	4/9/2018	mg/L	680	--	--	5.4	--	0.53
	10/3/2018	mg/L	--	--	--	--	--	--
	5/8/2019	mg/L	--	--	--	--	--	--
	11/6/2019	mg/L	--	--	--	--	--	--
MW-18	10/30/2017	mg/L	120	--	--	3.5 J	--	3.0 J
	4/9/2018	mg/L	130	--	--	1.4	--	2.9
	10/3/2018	mg/L	--	--	--	--	--	--
	5/7/2019	mg/L	--	--	--	--	--	--
	11/7/2019	mg/L	--	--	--	--	--	--
MW-19	10/31/2017	mg/L	47 UB [48 UB]	--	--	7.0 J [7.4 J]	--	1.4 J [1.5 J]
	4/9/2018	mg/L	32 [33]	--	--	17 [16]	--	1.6 [1.5]
	10/4/2018	mg/L	--	--	--	--	--	--
	5/8/2019	mg/L	--	--	--	--	--	--
	11/6/2019	mg/L	14	0.053 UB	11	0.050 U	2.3	2.2
MW-20	10/31/2017	mg/L	22 UB	--	--	27 J	--	0.75 J
	4/10/2018	mg/L	68	--	--	1.8	--	0.044
	10/4/2018	mg/L	--	--	--	--	--	--
	5/7/2019	mg/L	--	--	--	--	--	--
	11/6/2019	mg/L	28	0.071 UBJ	1.8	0.050 U	0.19	0.17
MW-21	10/30/2017	mg/L	150	--	--	6.1 J	--	6.3 J
	4/9/2018	mg/L	92	--	--	0.050 U	--	0.32
	10/3/2018	mg/L	--	--	--	--	--	--
	5/7/2019	mg/L	--	--	--	--	--	--
	11/7/2019	mg/L	--	--	--	--	--	--
MW-22	9/15/2017	mg/L	51	0.05 UH	--	14 B	--	--
	10/31/2017	mg/L	--	--	--	23	--	8.6
	4/19/2018	mg/L	20 U	--	--	280	--	20
	10/3/2018	mg/L	NS	NS	NS	NS	NS	NS
	5/7/2019	mg/L	NS	NS	NS	NS	NS	NS
	11/6/2019	mg/L	NS	NS	NS	NS	NS	NS

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2019 Corrective Measures Implementation Annual Progress Report
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130 South Street, Rensselaer, New York

Sample Name	Sample Date	Units	Sulfate	Nitrate	Total Iron	Dissolved Iron	Total Manganese	Dissolved Manganese
MW-23	9/15/2017	mg/L	710	0.05 UH	--	1.1 B	--	--
	10/31/2017	mg/L	--	--	--	5.3 J	--	0.57 J
	4/19/2018	mg/L	190	--	--	1.5	--	1.2
	10/3/2018	mg/L	NS	NS	NS	NS	NS	NS
	5/8/2019	mg/L	--	--	--	--	--	--
MW-24	11/6/2019	mg/L	130	0.050 UB	30	0.081	1.2	1.2
	9/15/2017	mg/L	480	0.05 UH	--	0.028 JB	--	--
	10/31/2017	mg/L	--	--	--	1.6 J	--	2.2 J
	4/19/2018	mg/L	23	--	--	2.6	--	10
	10/3/2018	mg/L	NS	NS	NS	NS	NS	NS
	5/8/2019	mg/L	--	--	--	--	--	--
MW-25	11/6/2019	mg/L	9.1 J	0.057 UBJ	12	4.8	7.2	7.2
	5/8/2019	mg/L	--	--	--	--	--	--
MW-A1	11/6/2019	mg/L	7.7 J	0.050 UB	3.8	0.050 U	19	19
	10/31/2017	mg/L	10 UB	--	--	16 J	--	7.8 J
	4/19/2018	mg/L	16	--	--	19	--	7.7
	10/4/2018	mg/L	--	--	--	--	--	--
	5/8/2019	mg/L	--	--	--	--	--	--
MW-B1	11/6/2019	mg/L	--	--	--	--	--	--
	10/30/2017	mg/L	230	--	--	6.4 J	--	3.1 J
	4/9/2018	mg/L	300	--	--	20	--	4.2
	10/3/2018	mg/L	--	--	--	--	--	--
	5/7/2019	mg/L	--	--	--	--	--	--
MW-B1	11/6/2019	mg/L	--	--	--	--	--	--

Notes:

MW = Monitoring Well

mg/L = milligrams per liter

J = The concentration is an approximate value.

B = Compound was found in the blank and sample.

U = Indicates the analyte was analyzed, but not detected.

H = Sample was prepped or analyzed beyond the specific holding times.

UB = Compound considered non-detect at the listed value due to associated blank contamination.

R = Rejected Sample

-- = Not analyzed

NS = Not sampled

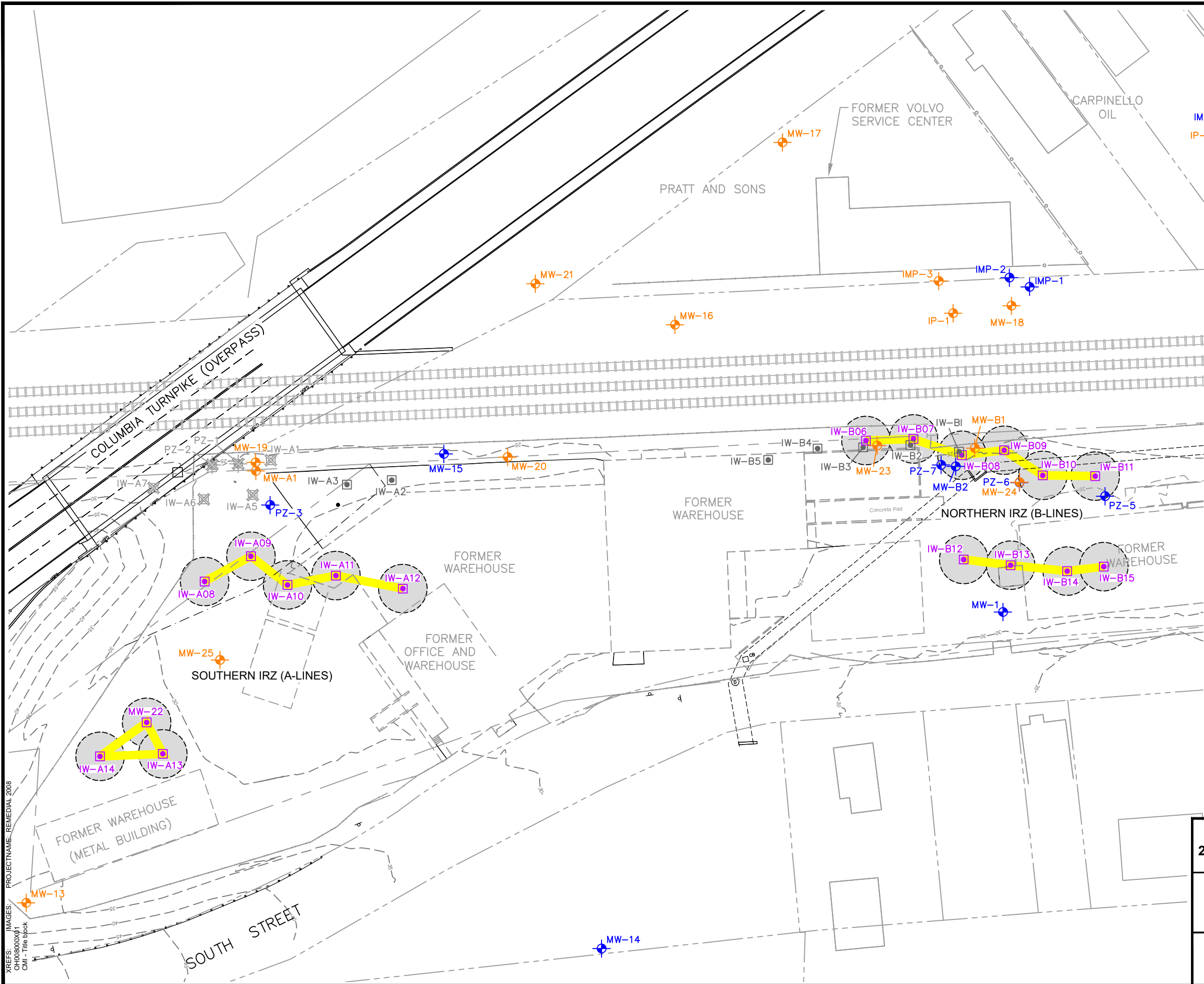
[] = Duplicate sample results.

Iron and Manganese(both dissolved and total) were analyzed using Method 6010C

FIGURES







LEGEND:

- IMP-1/MW-1/PZ-1 GROUNDWATER GAUGING WELL
- IP-1/IMP-3/MW-16 PERFORMANCE MONITORING GROUNDWATER SAMPLING LOCATIONS
- IW-A2 SHALLOW INJECTION WELL LOCATION (2010)
- IW-A14 ERD SYSTEM OPTIMIZATION INJECTION WELL (2018)
- SURFACE CONTOUR
- RAILROAD TRACK
- CULVERTED STREAM PIPE
- PROPERTY LINE
- FORMER BUILDINGS AND STRUCTURES
- WELLS ABANDONED IN 2018
- EXTENT OF IN-SITU REACTIVE ZONE (IRZ)
- LATERAL EXTENT OF INFLUENCE (30 FEET)

NOTES:

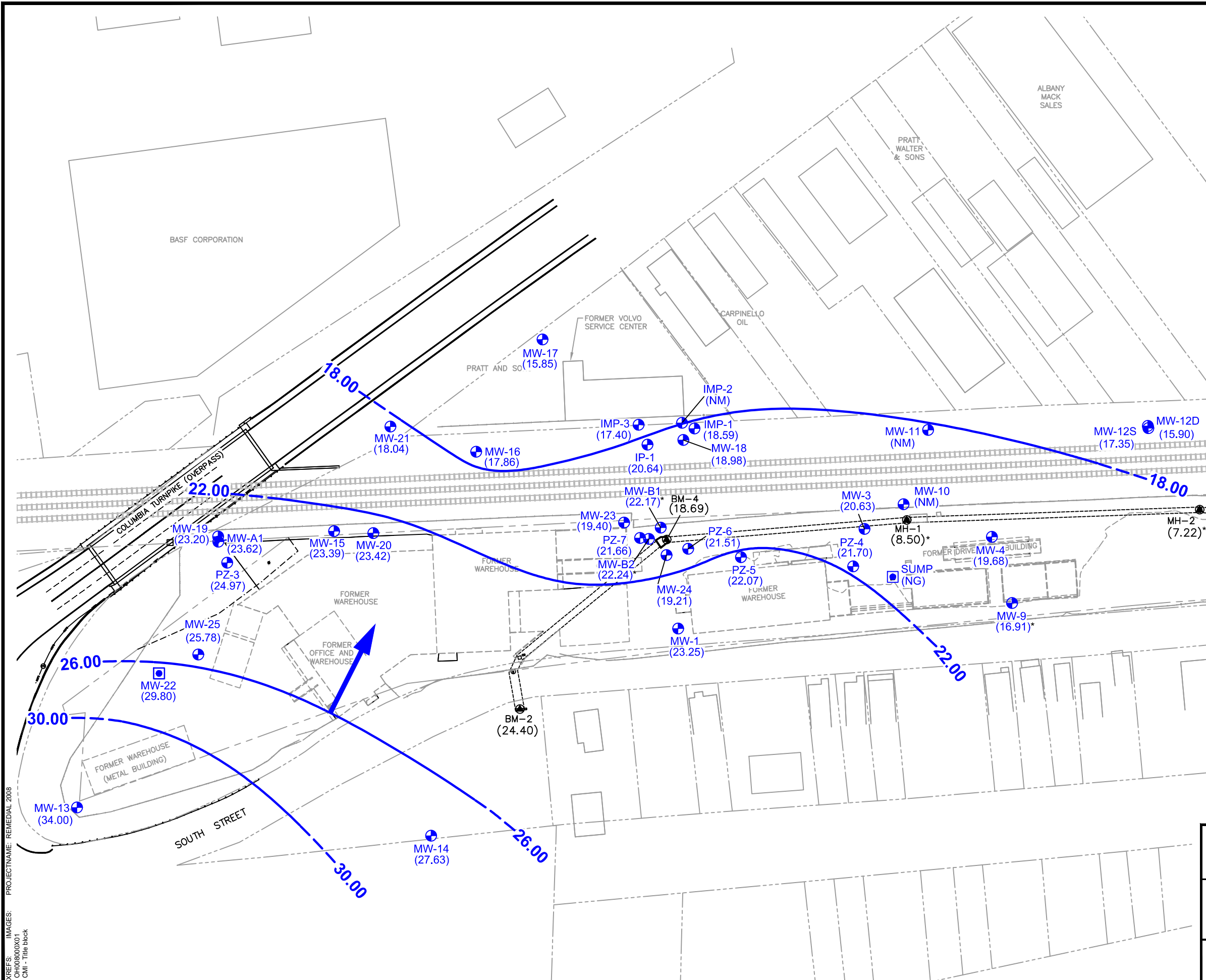
- IRZ WELLS IW-A6 AND IW-A7 WERE INSTALLED UNDER THE COLUMBIA TURNPIKE OVERPASS.
- LOCATIONS AND TOPOGRAPHY EAST OF CSX RAILROAD PROPERTY AND WEST OF AND INCLUDING SOUTH STREET, SURVEYED BY THE ASSOCIATES PE-LS, PLLC (OCTOBER 2008). TWO NEW MONITORING WELLS, MW-20 & MW-21, AND TEN NEW INJECTION WELLS, IW-A2 THROUGH IW-A7 & IW-B2 THROUGH IW-B5, WERE SURVEYED ON JULY 2, 2010 BY THE 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 THE ASSOCIATES ALONG WITH THREE DUAL-PURPOSE MONITORING AND INJECTION WELLS INSTALLED IN 2017 (MW-22 THROUGH MW-24).
- 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 THE 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.
- 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.
- SHALLOW NORTHERN IRZ (B LINE) CONSISTS OF THE FOLLOWING WELLS: IW-B1 THROUGH IW-B5.

ASHLAND INC.
RENSSELAER, NEW YORK
**2019 CORRECTIVE MEASURES IMPLEMENTATION
ANNUAL PROGRESS REPORT**

**IRZ AREA
INJECTION WELL LOCATIONS**

CITY: SYRACUSE, NY GROUP: ENV/CAD DB: P. LUSTER, E. KRAHMER, R. ALLEN, P.M. KITTINGER, T.M.T.R. K. POTTER, LYRONI+OFF-REF. (RZ)
C:\Users\ladler\OneDrive\Documents\2020\300394110\1-DWG\RENS-GWM-Fig3-1-2020.dwg LAYOUT: 3 SAVED: 3/11/2020 7:48 PM ACADVER: 23.1S (LMS TECH) PAGES: 3/3 PLOTTED: 3/17/2020 12:16 PM
BY: NADIGERA, CHIDAMBARA

XREFS: IMAGES: PROJECTNAME: REMEDIAL 2008
OH090000X01
CMI - Title block



LEGEND:

- MW-1
PZ-1
GP-18
IMP-1
IP-1
- PERFORMANCE MONITORING GROUNDWATER SAMPLING LOCATIONS
- (34.00)
- GROUNDWATER ELEVATION COLLECTED ON MAY 7, 2019 (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 THE ASSOCIATES PE-LS, PLLC (OCTOBER 2008).
2. LOCATIONS AND TOPOGRAPHY EAST OF CSX RAILROAD PROPERTY AND WEST OF AND INCLUDING SOUTH STREET, SURVEYED BY THE ASSOCIATES PE-LS, PLLC (OCTOBER 2008). TWO NEW MONITORING WELLS, MW-20 & MW-21, WERE SURVEYED ON JULY 2, 2010 BY THE 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 THE 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 INC.
RENSSELAER, NEW YORK

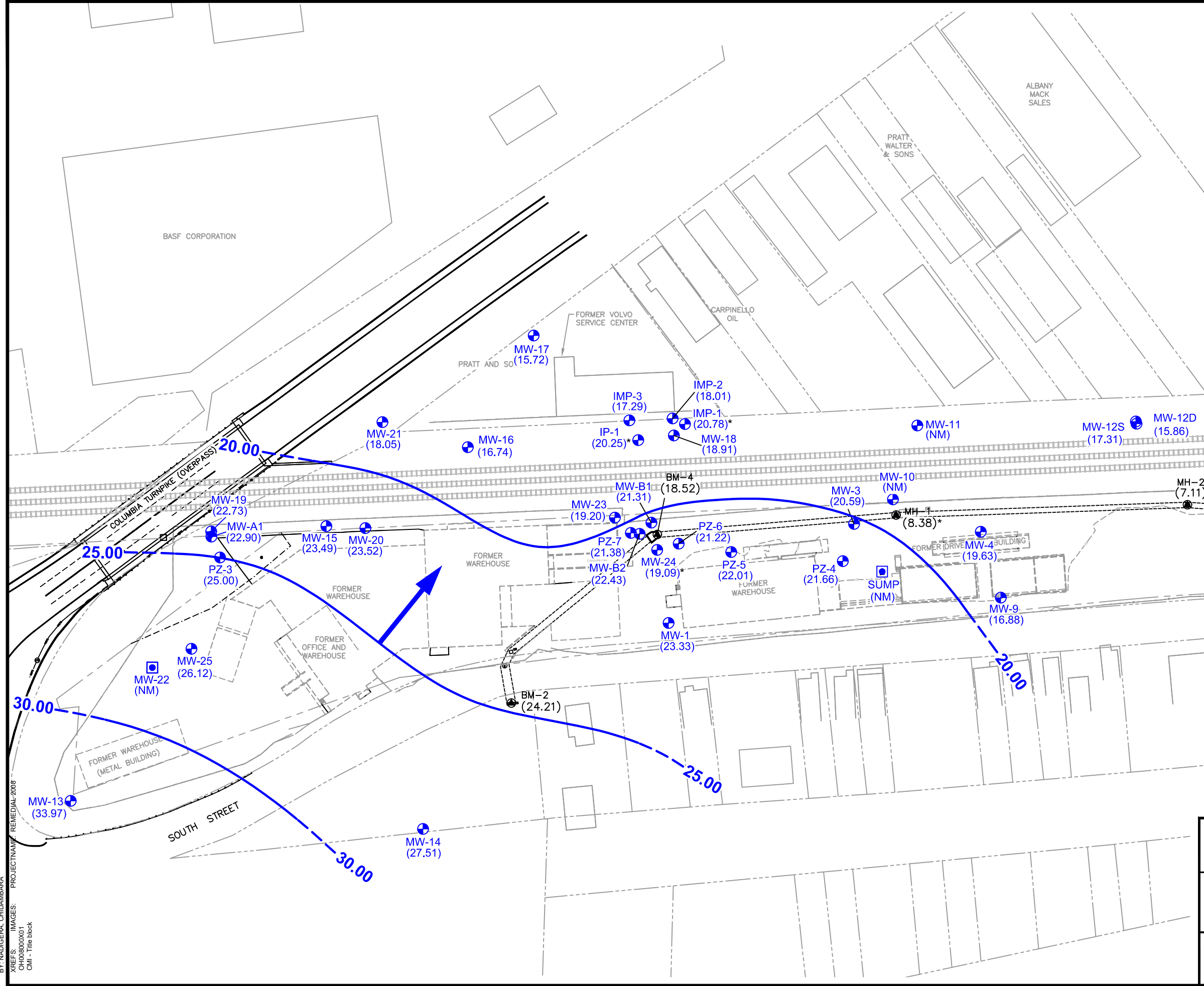
**2019 CORRECTIVE MEASURES IMPLEMENTATION
ANNUAL PROGRESS REPORT**

**GROUNDWATER ELEVATION CONTOURS
MAY 7, 2019**

ARCADIS Design & Consultancy
for natural and built assets

FIGURE
3

CITY: SYRACUSE, NY; GROUP: ENV/CAD; DB: P. LUSTER, E. KRAHMER, R. ALLEN; P.M. M. KITTINGER; T.M.T.R. K. POTTER; LYRONI+OFF-REF. (RZ)
C:\Users\lucy\OneDrive\Documents\2020\300394\110-1-DWG\GREN-GWM-Fig-1-020.dwg; LAYOUT: 4; SAVED: 3/11/2020 7:48 PM; ACADVER: 23.1S (LMS TECH); PAGES: 4; PLOTTED: 3/17/2020 12:16 PM
BY: NADIGERA, CHIDAMBARA



- LEGEND:**
- MW-1
PZ-1
GP-18
IMP-1
IP-1
 - (33.97)
 - MW-22
 - 30
 - MH-1
 - 90
 - RAILROAD TRACK
 - CULVERTED STREAM PIPE
 - PROPERTY LINE
 - FORMER BUILDINGS AND STRUCTURES
 - *
 - (NM)
 - PERFORMANCE MONITORING GROUNDWATER SAMPLING LOCATIONS
 - GROUNDWATER ELEVATION COLLECTED ON NOVEMBER 6, 2019 (FEET)
 - ERD SYSTEM OPTIMIZATION INJECTION WELL(2017)
 - GROUNDWATER ELEVATION CONTOUR LINE
 - 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
 - NOT MEASURED

- NOTES:**
- INVERT ELEVATIONS FOR THE CULVERTED STREAM THAT RUNS EAST TO NORTHEAST ON THE SITE WERE SURVEYED BY THE ASSOCIATES PE-LS, PLLC (OCTOBER 2008).
 - LOCATIONS AND TOPOGRAPHY EAST OF CSX RAILROAD PROPERTY AND WEST OF AND INCLUDING SOUTH STREET, SURVEYED BY THE ASSOCIATES PE-LS, PLLC (OCTOBER 2008). TWO NEW MONITORING WELLS, MW-20 & MW-21, WERE SURVEYED ON JULY 2, 2010 BY THE 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 THE 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.
 - MONITORING WELLS MW-22 THROUGH MW-24 LOCATIONS ARE APPROXIMATE.

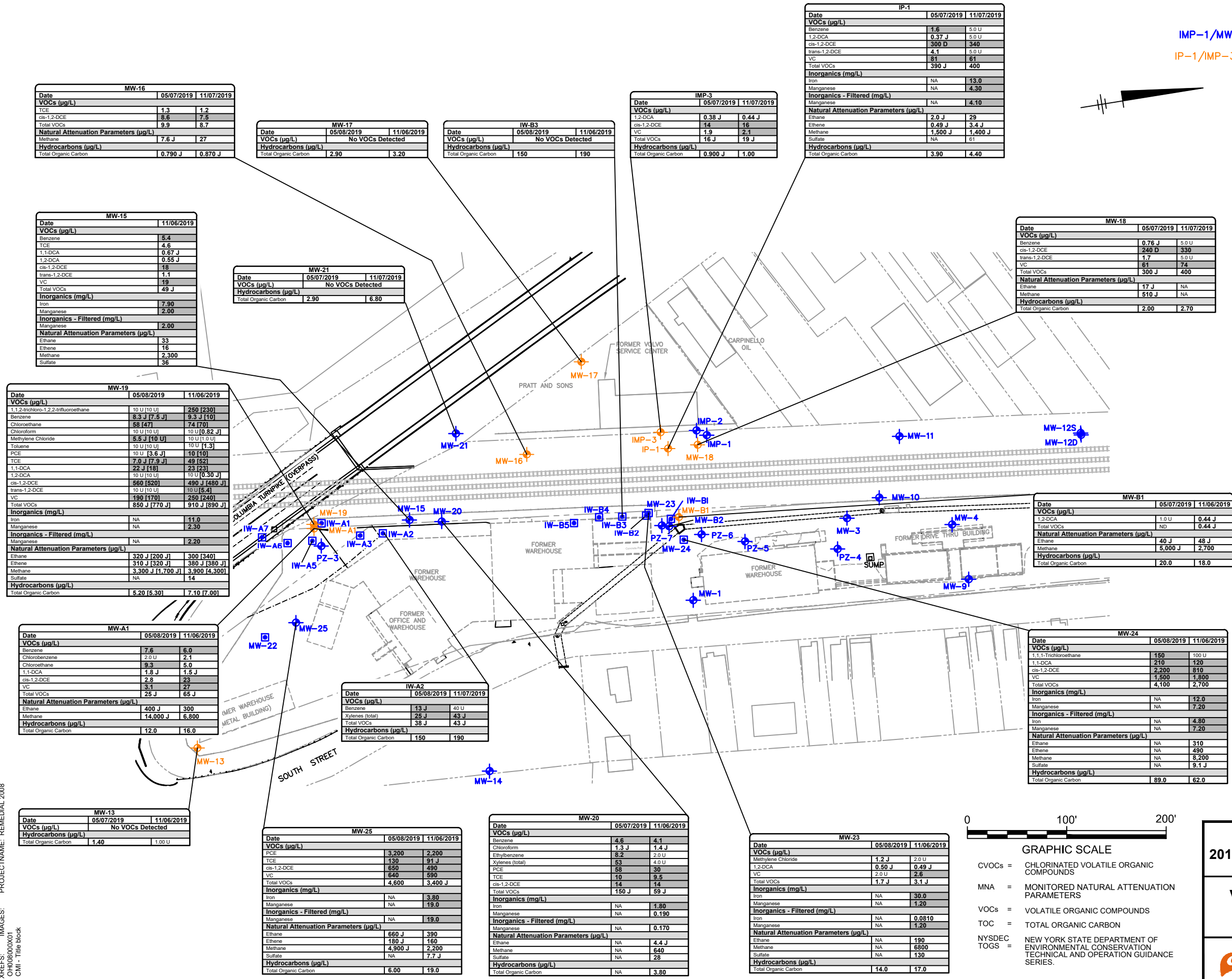
ASHLAND INC.
RENSSELAER, NEW YORK

2019 CORRECTIVE MEASURES IMPLEMENTATION
ANNUAL PROGRESS REPORT

GROUNDWATER ELEVATION CONTOURS
NOVEMBER 6, 2019

ARCADIS Design & Consultancy for natural and built assets

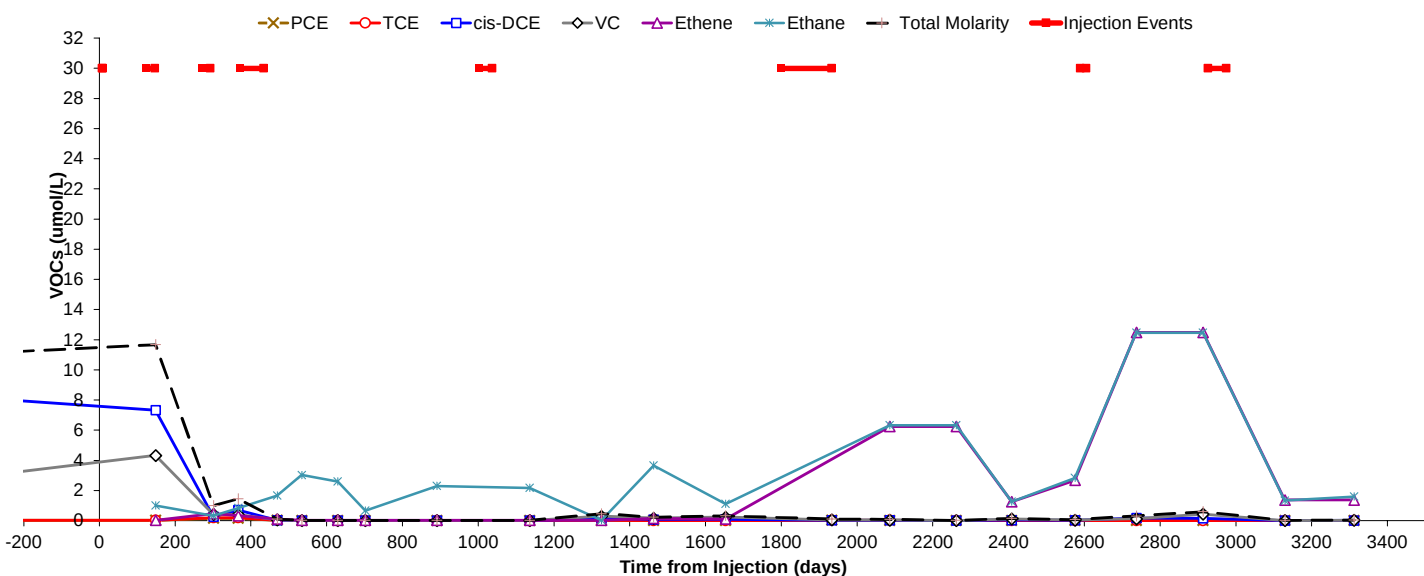
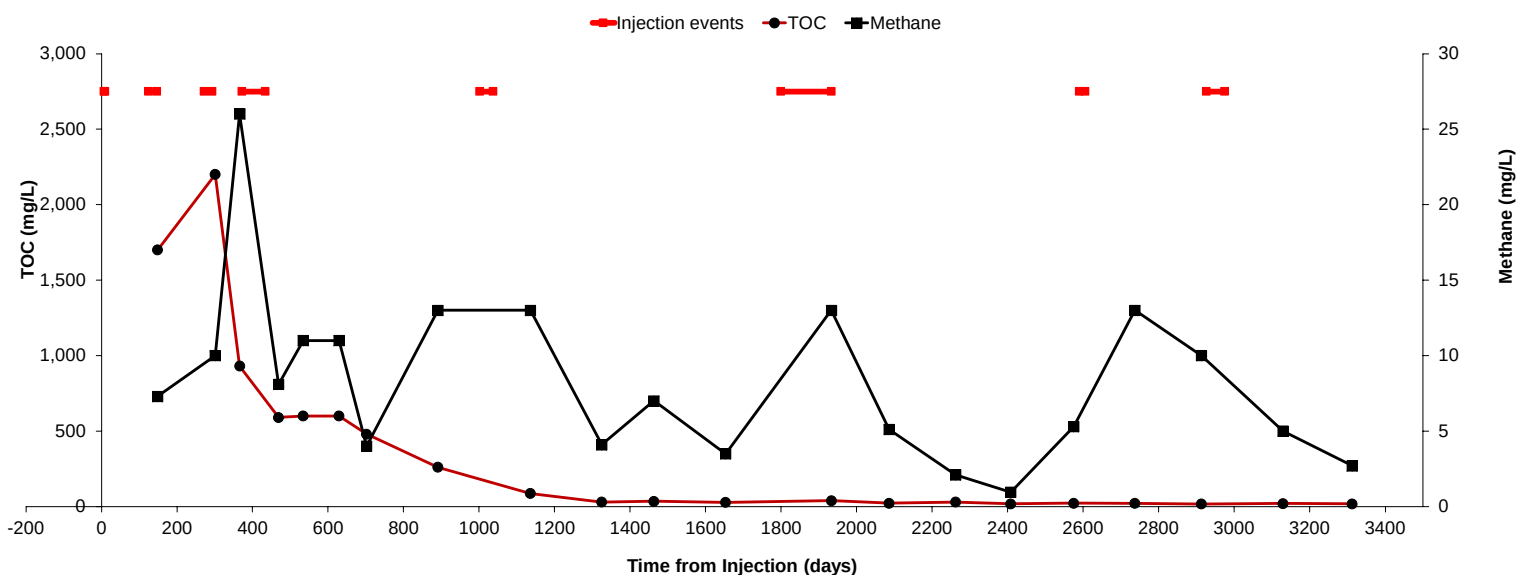
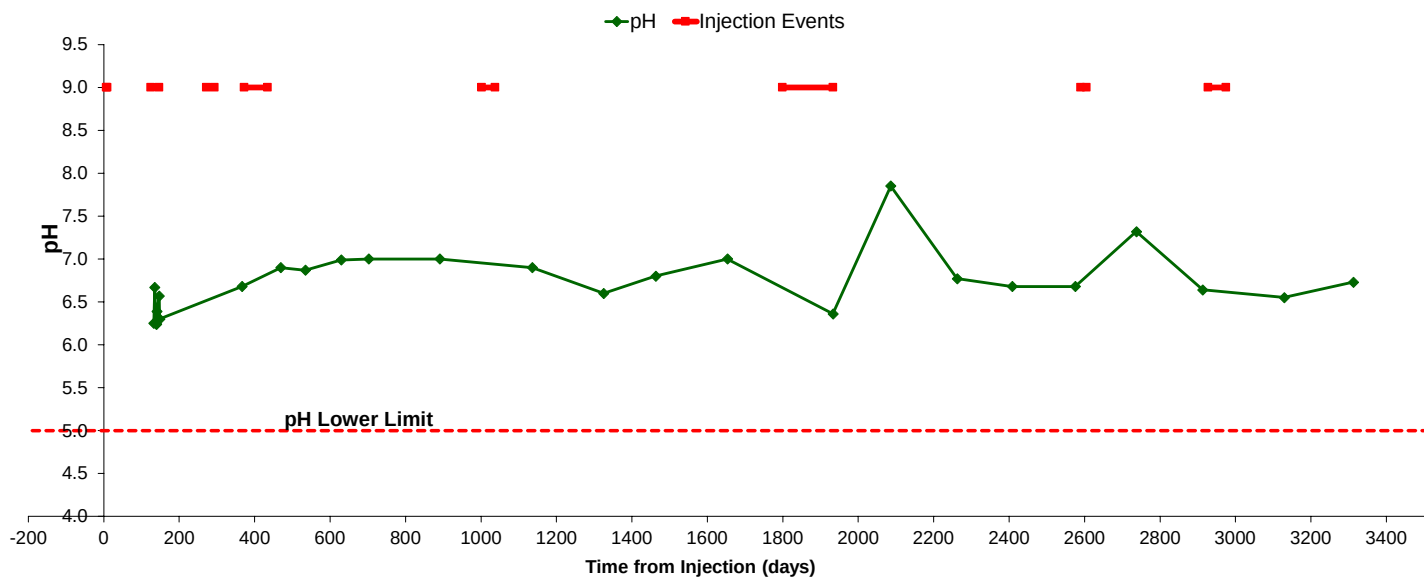
FIGURE
4



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
1,1,1-Trichloroethane	(µg/L)	5
1,1,2-Trichloroethane	(µg/L)	5
1,1,2-Dichloroethene	(µg/L)	5
trans-1,2-Dichloroethene	(µg/L)	5
Vinyl Chloride	(µg/L)	2
Iron	(mg/L)	0.3
Manganese	(mg/L)	0.3

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**2019 CORRECTIVE MEASURES IMPLEMENTATION
ANNUAL PROGRESS REPORT**

**VOCs, TOC AND MNA PARAMETERS
IN GROUNDWATER (2019)**



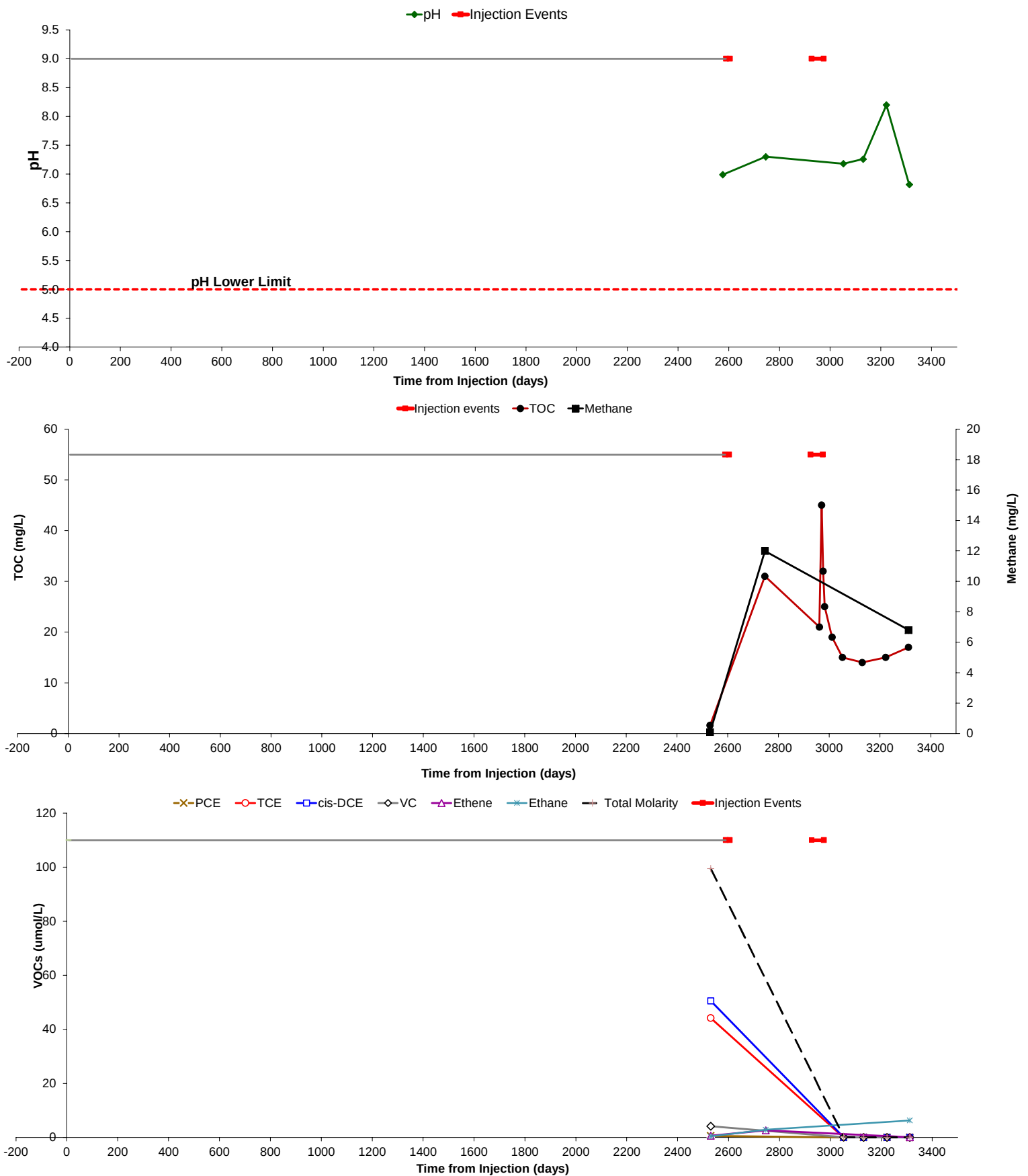
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2019 CORRECTIVE MEASURE IMPLEMENTATION
ANNUAL REPORT

MW-B1 PERFORMANCE MONITORING RESULTS



FIGURE

6



Note: Well was installed in September 2017. Gray lines indicate timeframe of historical injections completed prior to well installation and related remedial activity.

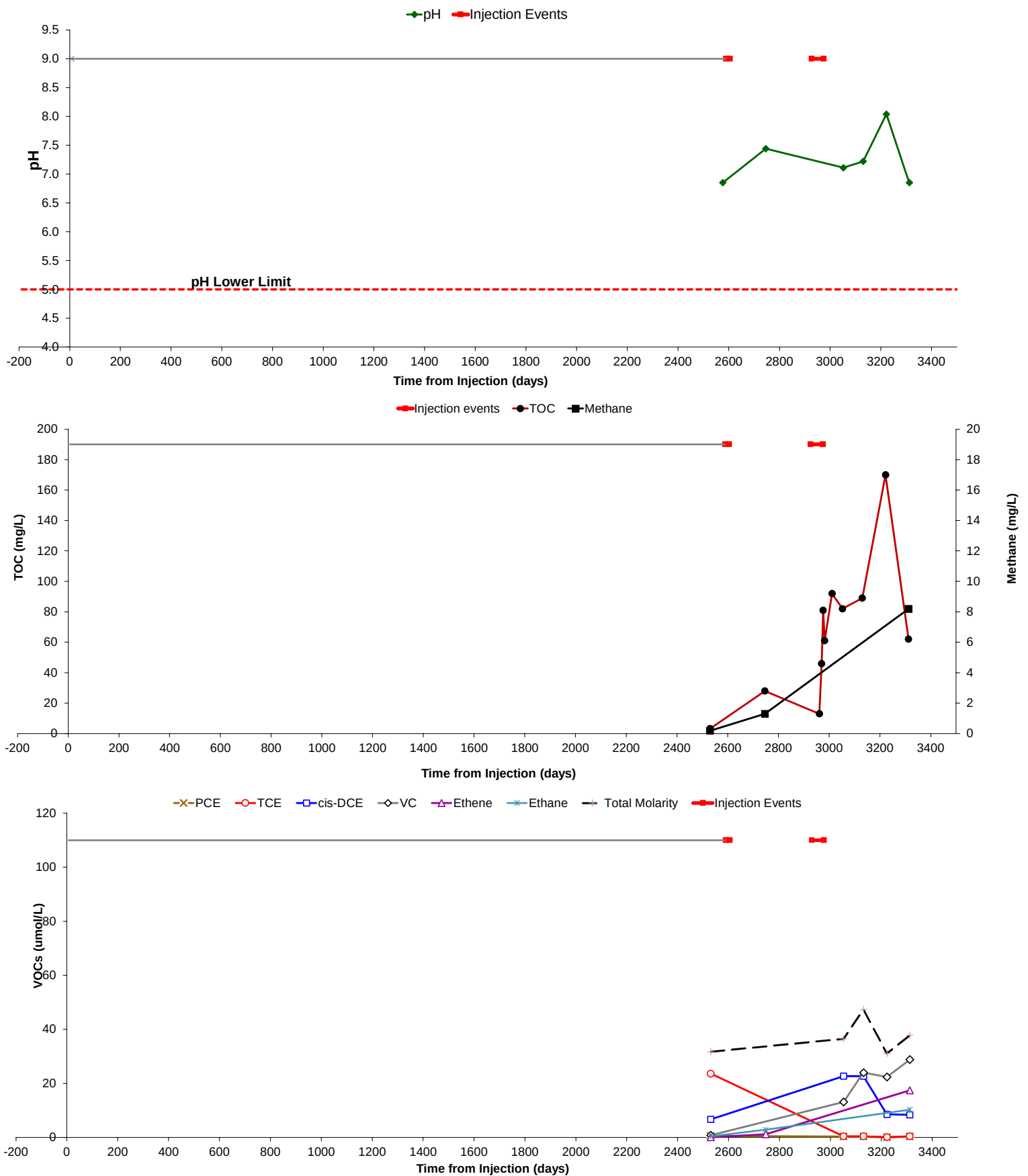
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2019 CORRECTIVE MEASURE IMPLEMENTATION
ANNUAL REPORT

MW-23 PERFORMANCE
MONITORING RESULTS



FIGURE

7



Note: Well was installed in September 2017. Gray lines indicate timeframe of historical injections completed prior to well installation and related remedial activity.

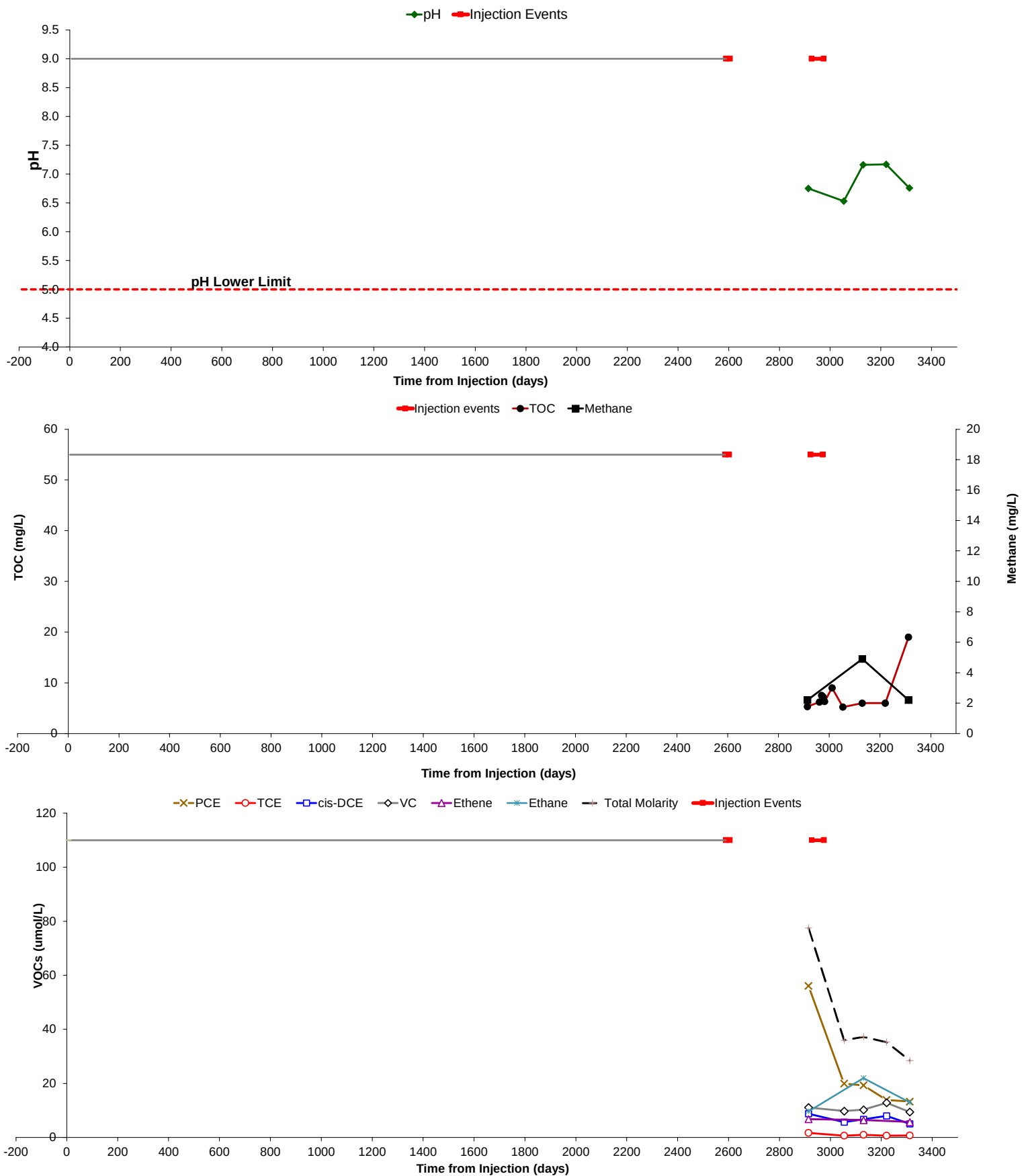
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MW-24 PERFORMANCE
MONITORING RESULTS



FIGURE

8



Note: Well was installed in October 2018. Gray lines indicate timeframe of historical injections completed prior to well installation and related remedial activity.

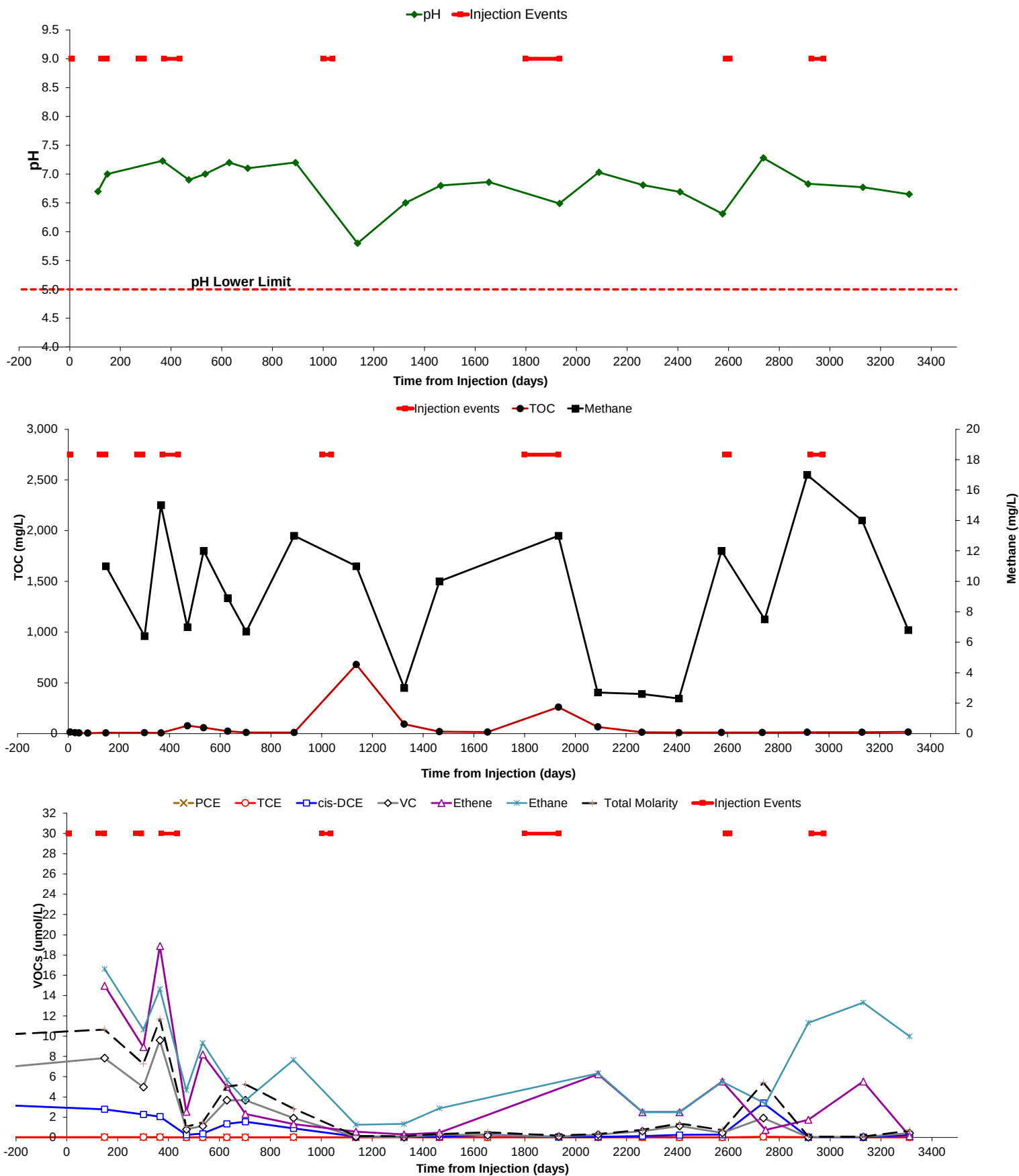
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MW-25 PERFORMANCE
MONITORING RESULTS



FIGURE

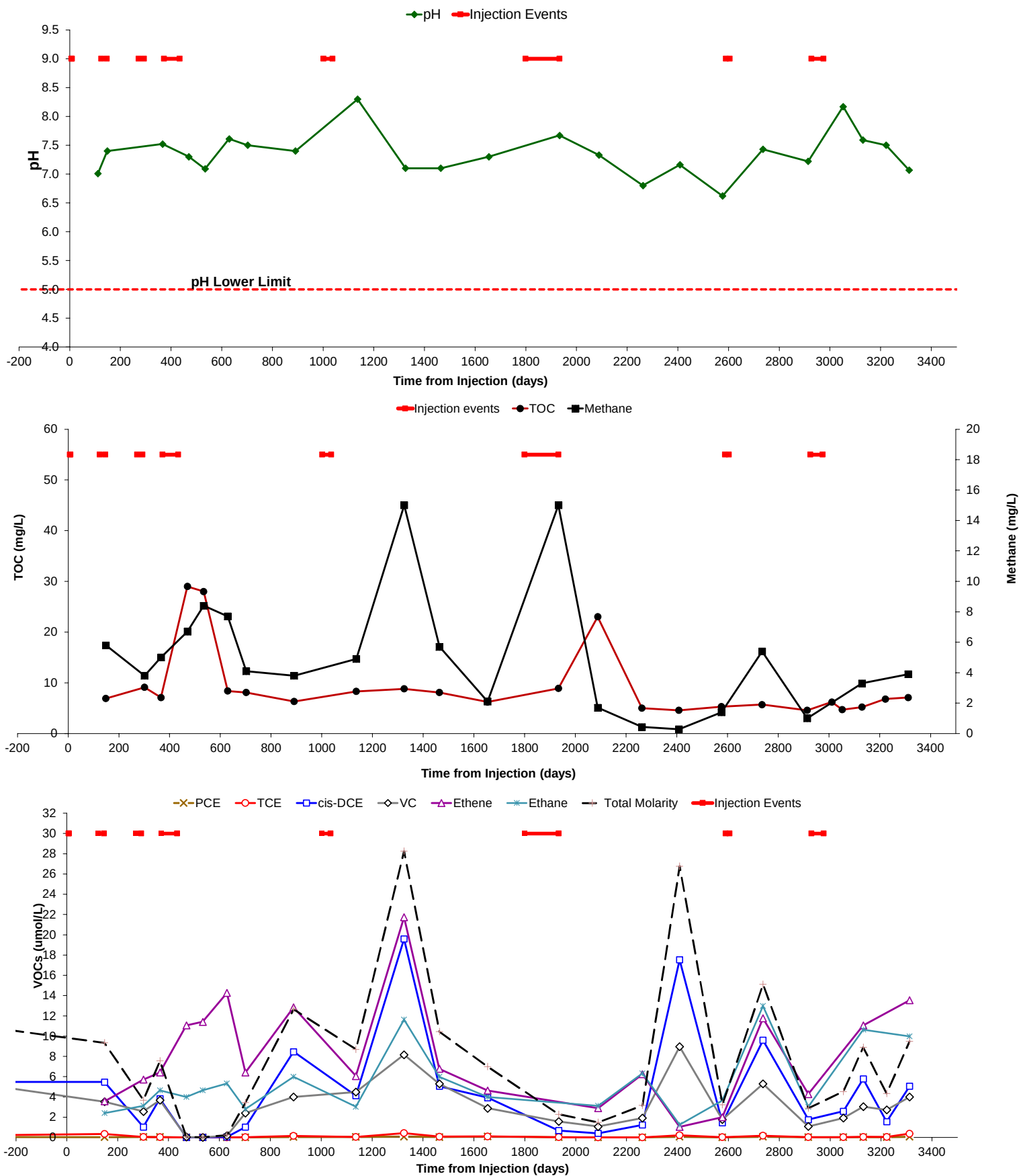
9



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MW-A1 PERFORMANCE MONITORING RESULTS





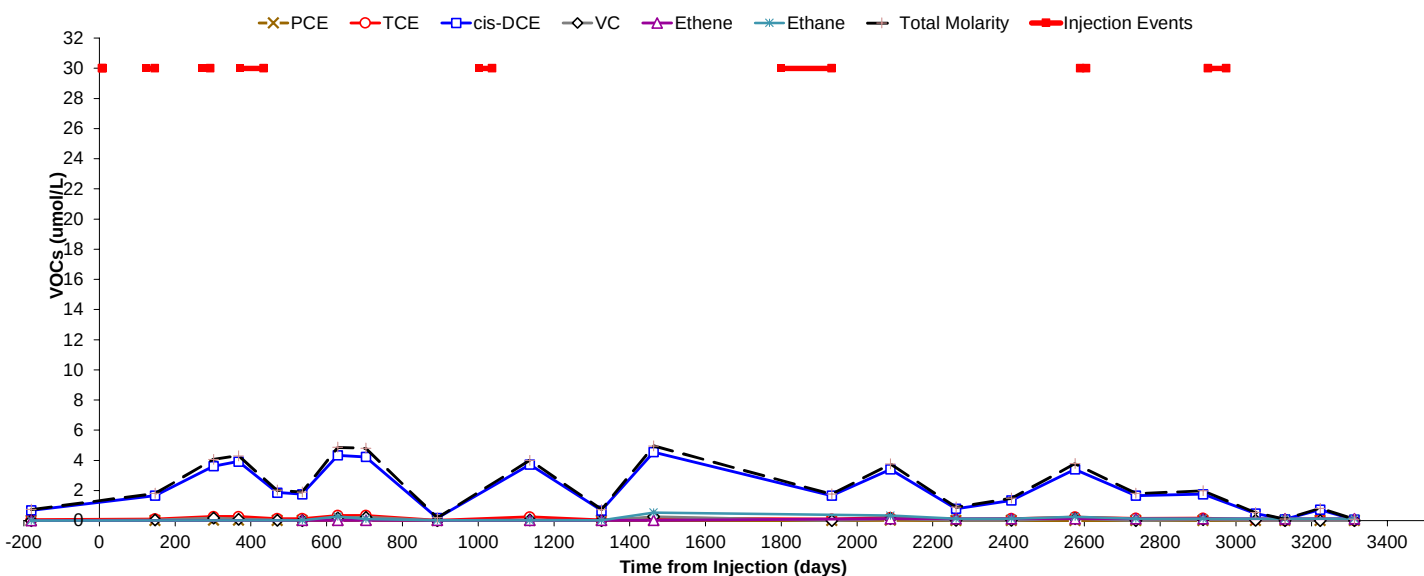
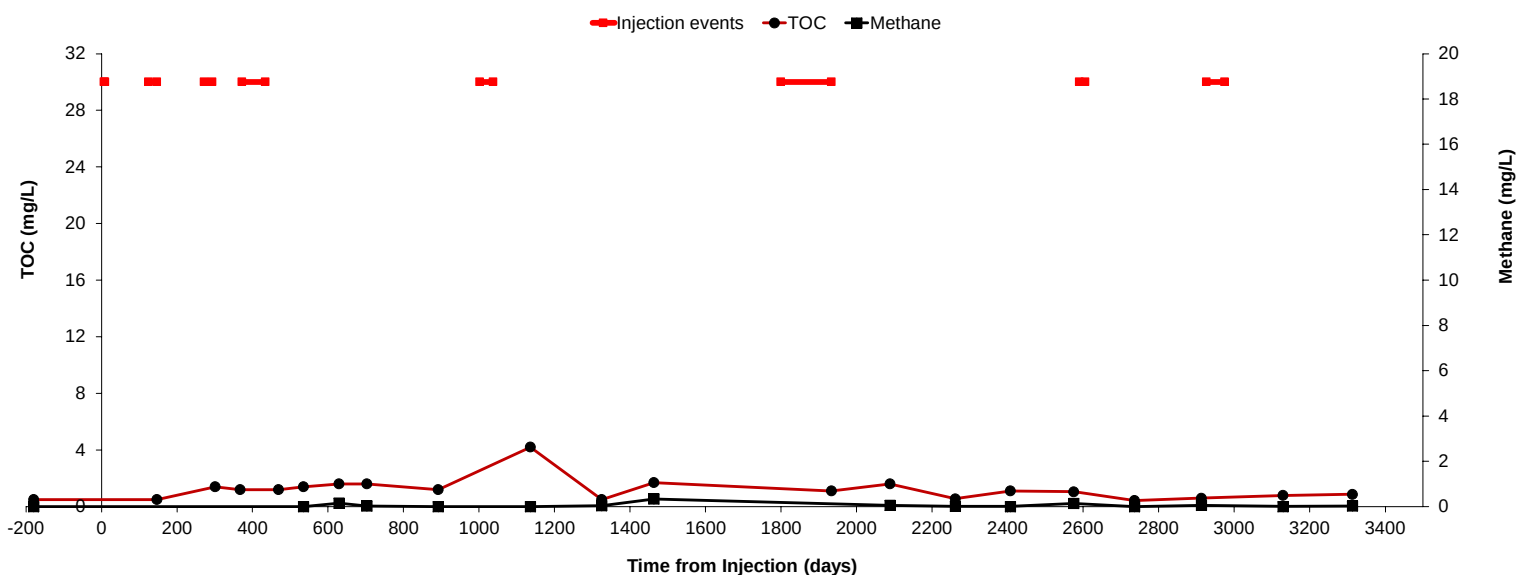
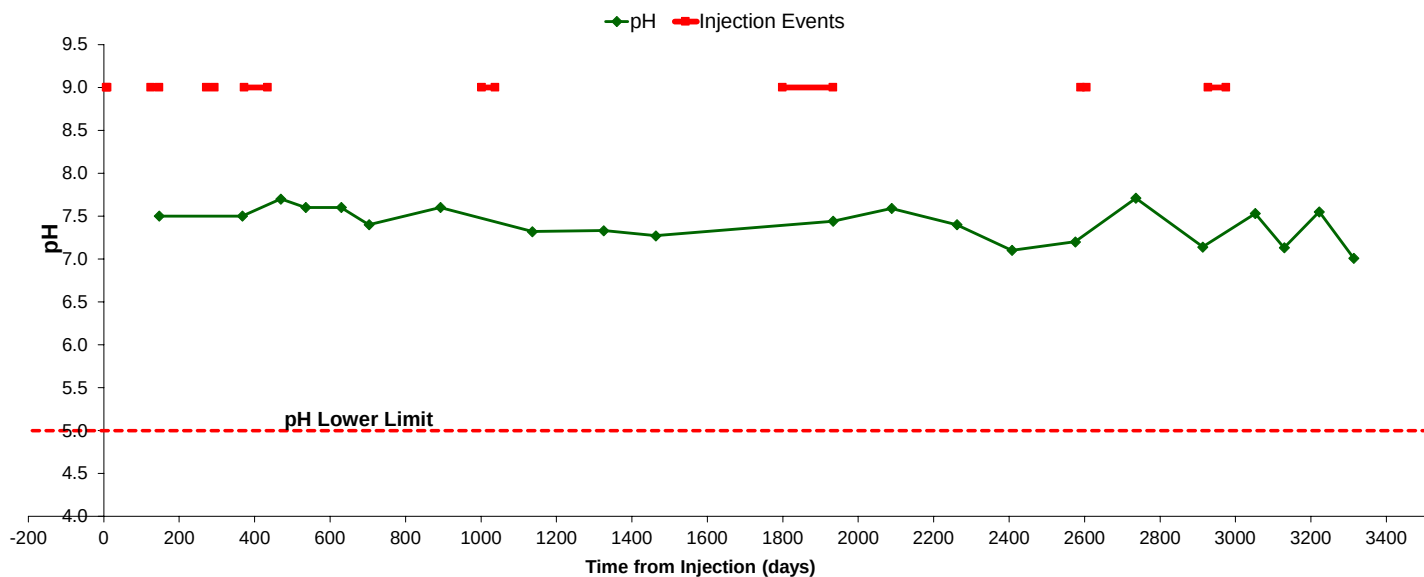
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2019 CORRECTIVE MEASURE IMPLEMENTATION
ANNUAL REPORT

**MW-19 PERFORMANCE
MONITORING RESULTS**



FIGURE

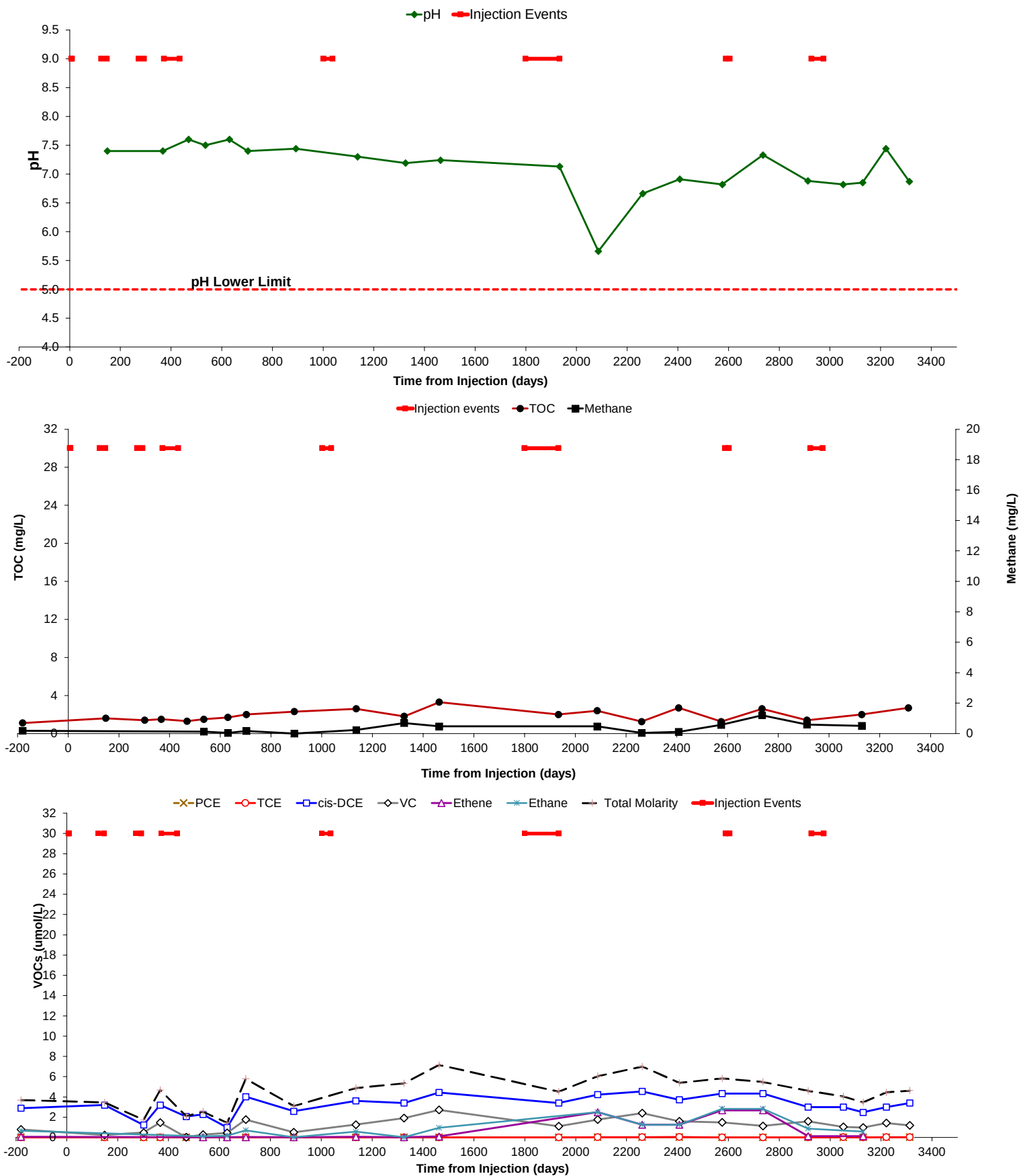
11



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2019 CORRECTIVE MEASURE IMPLEMENTATION
ANNUAL REPORT

MW-16 PERFORMANCE MONITORING RESULTS

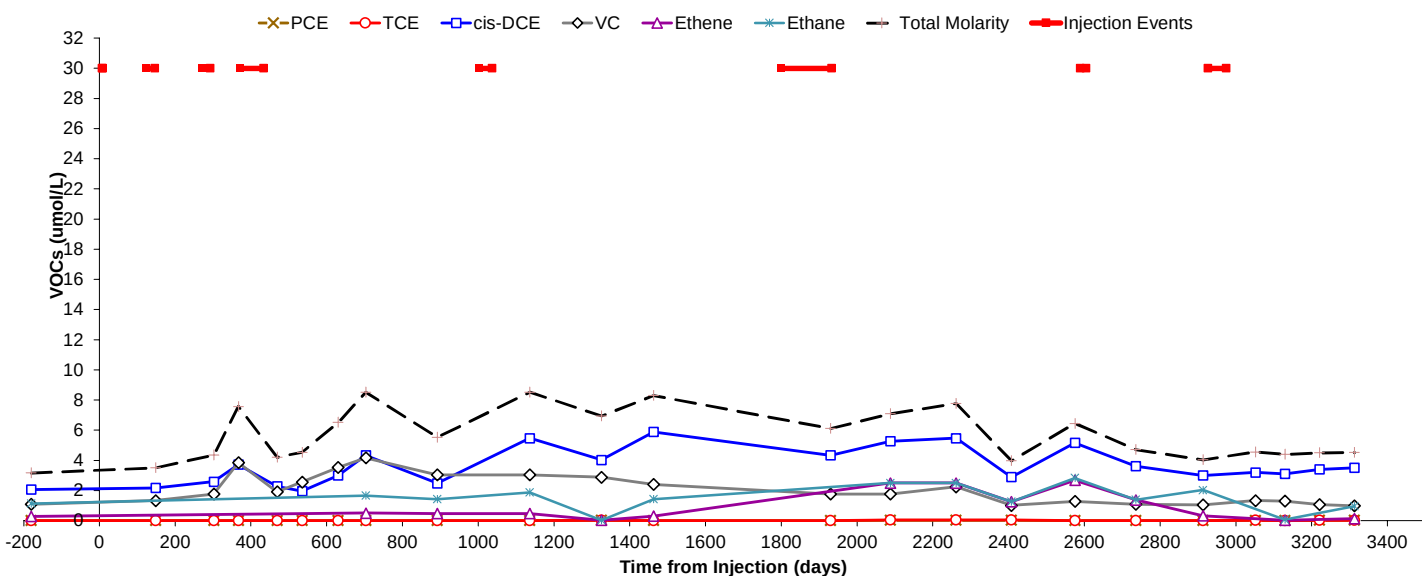
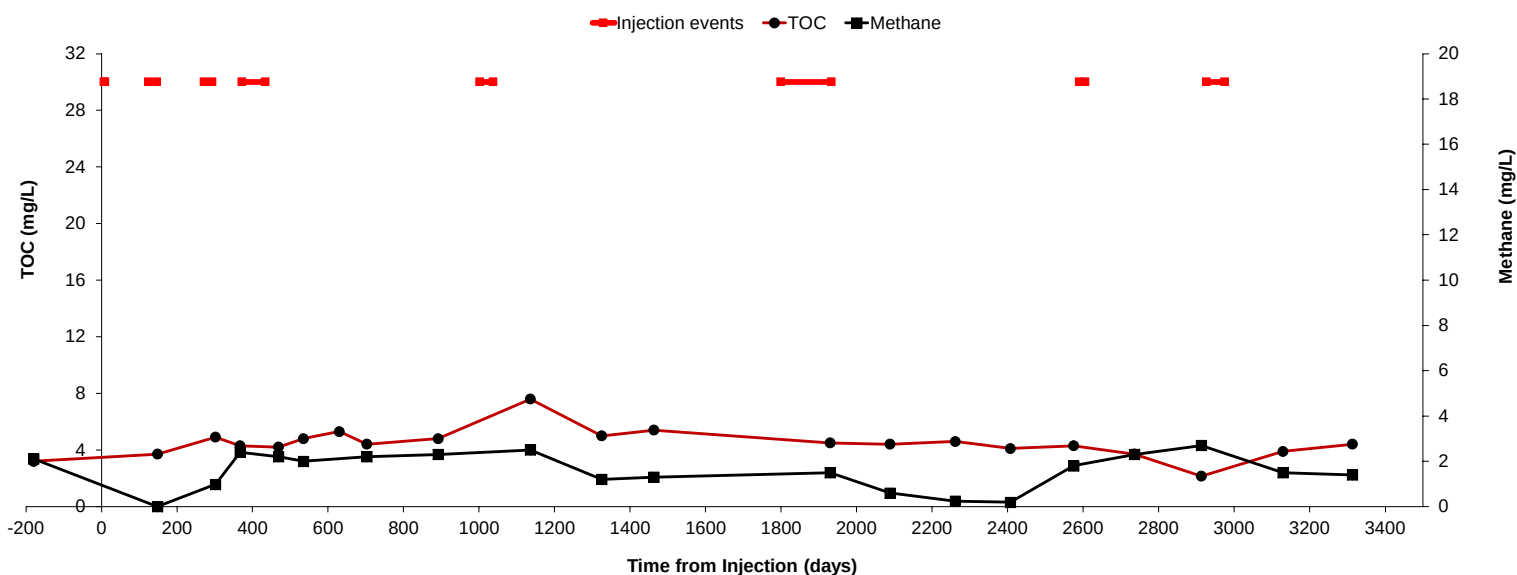
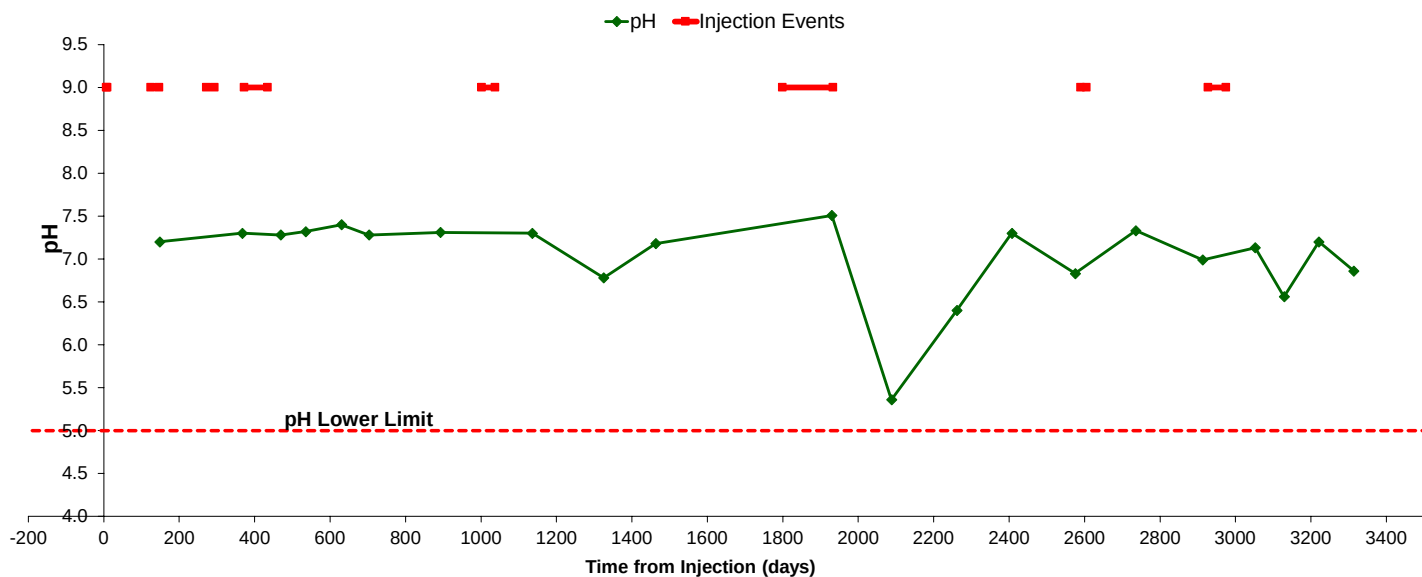




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2019 CORRECTIVE MEASURE IMPLEMENTATION
ANNUAL REPORT

MW-18 PERFORMANCE MONITORING RESULTS

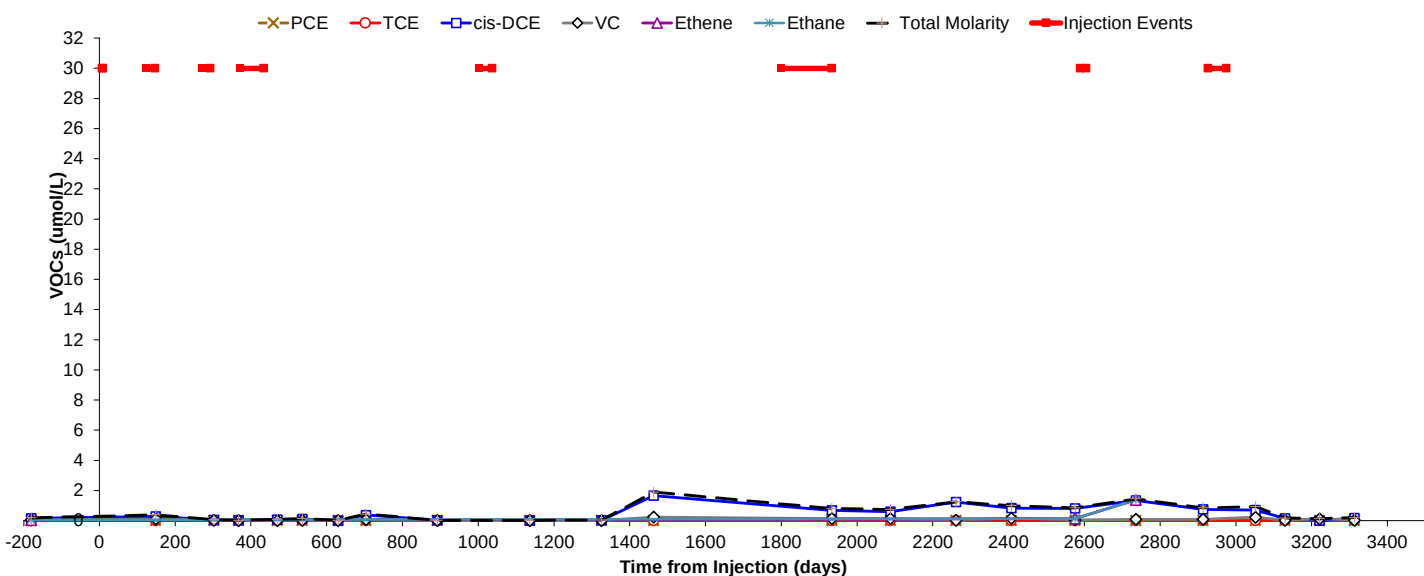
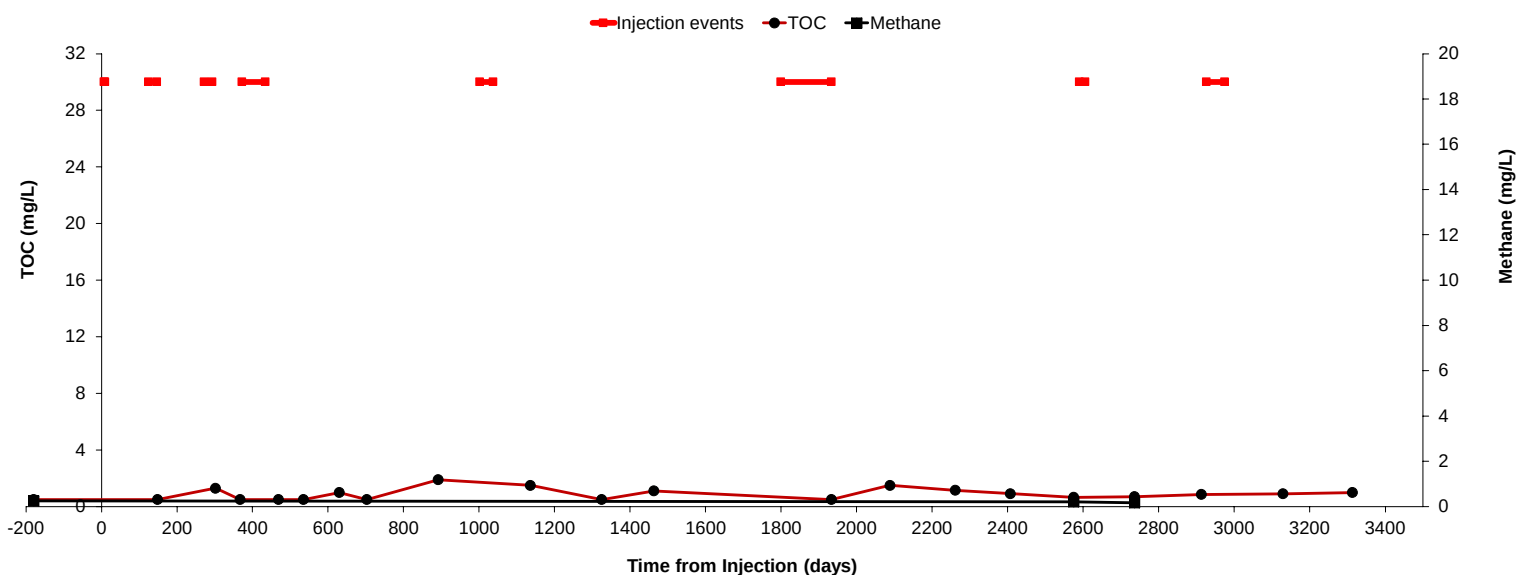
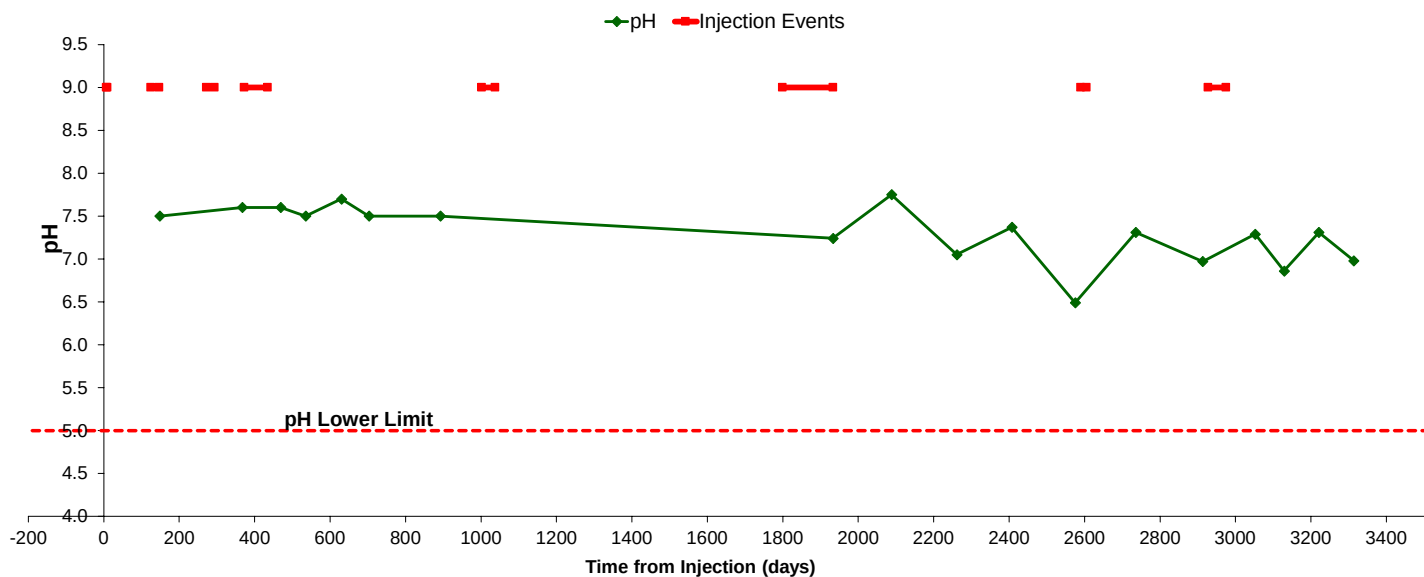




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IP-1 PERFORMANCE
MONITORING RESULTS





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2019 CORRECTIVE MEASURE IMPLEMENTATION
ANNUAL REPORT

**IMP-3 PERFORMANCE
MONITORING RESULTS**



APPENDIX A

2019 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:	480-153278-1
Analyses:	VOCs – 8260C, Dissolved Gases – RSK 175 and TOC - 9060A.
QA Reporting Level:	ARCADIS, Level II
ARCADIS Project Manager:	Ceschini, Alex

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
480-153278-1	IP-1-050719	05/07/2019	
480-153278-1	IMP-3-050719	05/07/2019	
480-153278-1	MW-B1-050719	05/07/2019	
480-153278-1	MW-13-050719	05/07/2019	
480-153278-1	MW-16-050719	05/07/2019	
480-153278-1	MW-18-050719	05/07/2019	
480-153278-1	MW-20-050719	05/07/2019	
480-153278-1	MW-21-050719	05/07/2019	
480-153278-1	IW-B3-050819	05/08/2019	
480-153278-1	IW-A2-050819	05/08/2019	
480-153278-1	MW-A1-050819	05/08/2019	
480-153278-1	MW-17-050819	05/08/2019	
480-153278-1	MW-19-050819	05/08/2019	
480-153278-1	MW-23-050819	05/08/2019	
480-153278-1	MW-24-050819	05/08/2019	
480-153278-1	MW-25-050819	05/08/2019	
480-153278-1	DUP-1-050819	05/08/2019	MW-19-050819
480-153278-1	FB-1-050719	05/07/2019	
480-153278-1	FB-2-050819	05/08/2019	
480-153278-1	Trip Blank	05/08/2019	

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". Diluted sample results were ignored for qualification if original sample results reported.

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

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

4-6. The recovery of dibromochloromethane was above the control limit in the LCS for batches 473074 and 473538. The associated field samples were non-detect for this compound; therefore, qualification of the data was not warranted.

The recovery of methyl acetate was below the control limit in the LCS for batch 473083. The associated field samples were qualified as estimated.

The recoveries of methyl acetate, MIBK and MTBE were below the control limit in the LCS for batch 473294. The associated field samples were qualified as estimated.

The recovery of 1,1 dichloroethane was above the control limit in the LCS for batch 473538. The associated field samples were non-detect for this compound; therefore, qualification of the data was not warranted.

7-9. Sample MW-19 was used as the MS/MSD for 1,2 dibromoethane, dichlorodifluoromethane, 1,2 dichloropropane, isopropyl benzene and 1,1,2,2 tetrachloroethane were above the control limit in MSD. The associated field sample results were non-detect for these compounds; therefore, qualification of the data was not warranted.

Sample MW-19 was used as the MS/MSD for 1,1 dichloroethane was above the control limit in MSD.

II. VOLATILES

The sample result for 1,1 dichloroethane was qualified as estimated.

11. Sample DUP-1-050819 was collected as a field duplicate of MW-19. The RPDs were acceptable at less than 30%.

III. Dissolved Gases RSK-175

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.

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 being reported from a secondary dilution "D". Diluted sample results were ignored for qualification if original sample results reported.

1. Holding times for methane were beyond 14 days in diluted samples IP-1-050719, MW-B1-050719, MW-16-050719, MW-18-050719, MW-A1-050819, MW-19-050819, MW-25-050819 and DUP-1-050819. The associated samples were qualified as estimated.

Holding times for ethane were beyond 14 days in diluted samples MW-A1-050819, MW-19-050819, MW-25-050819 and DUP-1-050819. The associated samples were qualified as estimated.
- 4-6. The recoveries of ethane, ethene and methane were below the control limit in the LCS for batch 473811. The associated field samples were qualified as estimated.

The recoveries of ethane and methane were above the control limit in the LCS for batch 474029. The associated field samples were qualified as estimated.
- 7-9. Sample MW-19 was used as the MS/MSD for ethene was above the control limit in MS. The sample result for ethene was qualified as estimated.
11. Sample DUP-1-050819 was collected as a field duplicate of MW-19. The RPDs were acceptable at less than 30% except for methane. The difference between parent and duplicate sample results for methane were greater than two times of the reporting limit. Hence, the methane results in this field duplicate pair qualified as estimated.

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 one 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.
- 4-6. The recoveries of TOC result 2 were below the control limit in the LCS for batch 475435. The associated field samples were qualified as estimated.
- 7-9. Samples IP-1-050719, MW-19-050819 and MW-B1-050719 were used as the MS/MSDs for TOC. The recoveries and RPDs were acceptable.
- 10. Sample DUP-1-050819 was collected as a field duplicate of MW-19. The RPDs were acceptable at less than 30%.

Sample IMP-3-050719 was used for laboratory duplicate and RPDs were acceptable.

IV. GENRAL CHEMISTRY

VALIDATION PERFORMED BY: Dilip Kumar

SIGNATURE:



DATE: May 19, 2019

PEER REVIEW BY: Dennis Capria

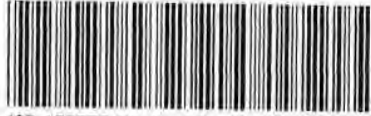
DATE: May 23, 2019

**CHAIN OF CUSTODY/
CORRECTED SAMPLE ANALYSIS DATA SHEET**

Albany
#224

690/6621

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

Client Contact		Project Manager: Bill Golla		Site Contact: K. Bidwell		Date: 5/8/19		COC No:	
Company Name: ARCADIS		Tel/Fax:		Lab Contact:		Carrier:		1 of 2 COCs	
Address: 855 RTE 146 STE 210		Analysis Turnaround Time		 480-153278 Chain of Custody		Sampler: ES/CP For Lab Use Only: Walk-in Client: ☐ Lab Sampling: ☐ Job / SDG No.:		Sample Specific Notes:	
City/State/Zip: Clifton Park, NY 12065		☒ CALENDAR DAYS ☐ WORKING DAYS TAT if different from Below Standard							
Phone: (518) 250-7300		☐ 2 weeks ☐ 1 week ☐ 2 days ☐ 1 day							
Fax:									
Project Name: Ashland Bn.									
Site: Rensselaer, NY									
P.O.# NYNJ8000, NY10									

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
IP-1-050719	5/7/19	1655	G	W	8			3	2	3
IMP-3-050719		1755			5			3	2	
MW-B1-050719		1735			8			3	2	3
MW-13-050719		1525			5			3	2	
MW-16-050719		1845			8			3	2	3
MW-18-050719		1550			8			3	2	3
MW-20-050719		2035			3			3		
MW-21-050719	↓	2000			5			3	2	
IW-B3-050819	5/8/19	1010			5			3	2	
IW-A2-050819	↓	1305			5			3	2	
MW-A1-050819	↓	1130			8			3	2	3
MW-17-050819	↓	0850			5			3	2	

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.: **2.4 #1**

Cooler Temp. (°C): Obs'd: Corr'd: Therm ID No.:

Relinquished by: Emmanuel Sosa	Company: ARCADIS	Date/Time: 5/8/19 1615	Received by: Kal Jade	Company: TA	Date/Time: 5/8/19 1615
Relinquished by: Kal Jade	Company: TA	Date/Time: 7/8/19 1800	Received by: Emmanuel	Company:	Date/Time: 05/07/19 0530
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:6/13/2019

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-153278-1

Client Sample ID: IP-1-050719

Lab Sample ID: 480-153278-1

Date Collected: 05/07/19 16:55

Matrix: Water

Date Received: 05/09/19 05:30

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			05/16/19 12:14	1
Benzene	1.6		1.0	0.41	ug/L			05/16/19 12:14	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			05/16/19 12:14	1
Bromoform	1.0	U	1.0	0.26	ug/L			05/16/19 12:14	1
Bromomethane	1.0	U	1.0	0.69	ug/L			05/16/19 12:14	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			05/16/19 12:14	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			05/16/19 12:14	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			05/16/19 12:14	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			05/16/19 12:14	1
Chloroethane	1.0	U	1.0	0.32	ug/L			05/16/19 12:14	1
Chloroform	1.0	U	1.0	0.34	ug/L			05/16/19 12:14	1
Chloromethane	1.0	U	1.0	0.35	ug/L			05/16/19 12:14	1
cis-1,2-Dichloroethene	340	E	1.0	0.81	ug/L			05/16/19 12:14	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			05/16/19 12:14	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			05/16/19 12:14	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			05/16/19 12:14	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			05/16/19 12:14	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			05/16/19 12:14	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			05/16/19 12:14	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			05/16/19 12:14	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			05/16/19 12:14	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			05/16/19 12:14	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			05/16/19 12:14	1
1,2-Dichloroethane	0.37	J	1.0	0.21	ug/L			05/16/19 12:14	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			05/16/19 12:14	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			05/16/19 12:14	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			05/16/19 12:14	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			05/16/19 12:14	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			05/16/19 12:14	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			05/16/19 12:14	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			05/16/19 12:14	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			05/16/19 12:14	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			05/16/19 12:14	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			05/16/19 12:14	1
Styrene	1.0	U	1.0	0.73	ug/L			05/16/19 12:14	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			05/16/19 12:14	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			05/16/19 12:14	1
Toluene	1.0	U	1.0	0.51	ug/L			05/16/19 12:14	1
trans-1,2-Dichloroethene	4.1		1.0	0.90	ug/L			05/16/19 12:14	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			05/16/19 12:14	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			05/16/19 12:14	1
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			05/16/19 12:14	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			05/16/19 12:14	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			05/16/19 12:14	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			05/16/19 12:14	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			05/16/19 12:14	1
Vinyl chloride	81		1.0	0.90	ug/L			05/16/19 12:14	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			05/16/19 12:14	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-153278-1

Client Sample ID: IP-1-050719

Lab Sample ID: 480-153278-1

Date Collected: 05/07/19 16:55

Matrix: Water

Date Received: 05/09/19 05:30

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		73 - 120		05/16/19 12:14	1
Dibromofluoromethane (Surr)	97		75 - 123		05/16/19 12:14	1
1,2-Dichloroethane-d4 (Surr)	95		77 - 120		05/16/19 12:14	1
Toluene-d8 (Surr)	96		80 - 120		05/16/19 12:14	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.0	U	5.0	15	ug/L			05/16/19 22:38	5
Benzene	5.0	U	5.0	2.1	ug/L			05/16/19 22:38	5
Bromodichloromethane	5.0	U	5.0	2.0	ug/L			05/16/19 22:38	5
Bromoform	5.0	U	5.0	1.3	ug/L			05/16/19 22:38	5
Bromomethane	5.0	U	5.0	3.5	ug/L			05/16/19 22:38	5
2-Butanone (MEK)	5.0	U	5.0	6.6	ug/L			05/16/19 22:38	5
Carbon disulfide	5.0	U	5.0	0.95	ug/L			05/16/19 22:38	5
Carbon tetrachloride	5.0	U	5.0	1.4	ug/L			05/16/19 22:38	5
Chlorobenzene	5.0	U	5.0	3.8	ug/L			05/16/19 22:38	5
Chloroethane	5.0	U	5.0	1.6	ug/L			05/16/19 22:38	5
Chloroform	5.0	U	5.0	1.7	ug/L			05/16/19 22:38	5
Chloromethane	5.0	U	5.0	1.8	ug/L			05/16/19 22:38	5
cis-1,2-Dichloroethene	300		5.0	4.1	ug/L			05/16/19 22:38	5
cis-1,3-Dichloropropene	5.0	U	5.0	1.8	ug/L			05/16/19 22:38	5
Cyclohexane	5.0	U	5.0	0.90	ug/L			05/16/19 22:38	5
Dibromochloromethane	5.0	U	5.0	1.6	ug/L			05/16/19 22:38	5
1,2-Dibromo-3-Chloropropane	5.0	U	5.0	2.0	ug/L			05/16/19 22:38	5
1,2-Dibromoethane	5.0	U	5.0	3.7	ug/L			05/16/19 22:38	5
1,2-Dichlorobenzene	5.0	U	5.0	4.0	ug/L			05/16/19 22:38	5
1,3-Dichlorobenzene	5.0	U	5.0	3.9	ug/L			05/16/19 22:38	5
1,4-Dichlorobenzene	5.0	U	5.0	4.2	ug/L			05/16/19 22:38	5
Dichlorodifluoromethane	5.0	U	5.0	3.4	ug/L			05/16/19 22:38	5
1,1-Dichloroethane	5.0	U	5.0	1.9	ug/L			05/16/19 22:38	5
1,2-Dichloroethane	5.0	U	5.0	1.1	ug/L			05/16/19 22:38	5
1,1-Dichloroethene	5.0	U	5.0	1.5	ug/L			05/16/19 22:38	5
1,2-Dichloropropane	5.0	U	5.0	3.6	ug/L			05/16/19 22:38	5
Ethylbenzene	5.0	U	5.0	3.7	ug/L			05/16/19 22:38	5
2-Hexanone	25	U	25	6.2	ug/L			05/16/19 22:38	5
Isopropylbenzene	5.0	U	5.0	4.0	ug/L			05/16/19 22:38	5
Methyl acetate	13	U*	13	6.5	ug/L			05/16/19 22:38	5
Methyleyclohexane	5.0	U	5.0	0.80	ug/L			05/16/19 22:38	5
Methylene-Chloride	5.0	U	5.0	2.2	ug/L			05/16/19 22:38	5
4-Methyl-2-pentanone (MIBK)	25	U*	25	11	ug/L			05/16/19 22:38	5
Methyl-tert-butyl ether	5.0	U*	5.0	0.80	ug/L			05/16/19 22:38	5
Styrene	5.0	U	5.0	3.7	ug/L			05/16/19 22:38	5
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1.1	ug/L			05/16/19 22:38	5
Tetrachloroethene	5.0	U	5.0	1.8	ug/L			05/16/19 22:38	5
Toluene	5.0	U	5.0	2.6	ug/L			05/16/19 22:38	5
trans-1,2-Dichloroethene	5.0	U	5.0	4.5	ug/L			05/16/19 22:38	5
trans-1,3-Dichloropropene	5.0	U	5.0	1.9	ug/L			05/16/19 22:38	5
1,2,4-Trichlorobenzene	5.0	U	5.0	2.1	ug/L			05/16/19 22:38	5
1,1,1-Trichloroethane	5.0	U	5.0	4.1	ug/L			05/16/19 22:38	5
1,1,2-Trichloroethane	5.0	U	5.0	1.2	ug/L			05/16/19 22:38	5

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-153278-1

Client Sample ID: IP-1-050719

Lab Sample ID: 480-153278-1

Date Collected: 05/07/19 16:55

Matrix: Water

Date Received: 05/09/19 05:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	5.0	U	5.0	2.3	ug/L			05/16/19 22:38	5
Trichlorofluoromethane	5.0	U	5.0	4.4	ug/L			05/16/19 22:38	5
1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U	5.0	1.6	ug/L			05/16/19 22:38	5
Vinyl chloride	64		5.0	4.5	ug/L			05/16/19 22:38	5
Xylenes, Total	40	U	40	3.3	ug/L			05/16/19 22:38	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		73 - 120		05/16/19 22:38	5
Dibromofluoromethane (Surr)	93		75 - 123		05/16/19 22:38	5
1,2-Dichloroethane-d4 (Surr)	92		77 - 120		05/16/19 22:38	5
Toluene-d8 (Surr)	100		80 - 120		05/16/19 22:38	5

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	2.0	J	0.44	0.088	ug/L			05/21/19 01:37	1
Ethane	47	J H	170	33	ug/L			06/03/19 18:49	22
Ethene	0.49	J	0.41	0.088	ug/L			05/21/19 01:37	1
Ethene	150	U H	150	33	ug/L			06/03/19 18:49	22
Methane	33	E J	0.24	0.059	ug/L			05/21/19 01:37	4
Methane	1500	H J	88	22	ug/L			06/03/19 18:49	22

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TOC Result 1	3.9		1.0	0.43	mg/L			05/25/19 18:10	1
TOC Result 2	3.8	* J	1.0	0.43	mg/L			05/25/19 18:10	1
Total Organic Carbon	3.9		1.0	0.43	mg/L			05/25/19 18:10	1

Client Sample ID: IMP-3-050719

Lab Sample ID: 480-153278-2

Date Collected: 05/07/19 17:55

Matrix: Water

Date Received: 05/09/19 05:30

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			05/16/19 12:37	1
Benzene	1.0	U	1.0	0.41	ug/L			05/16/19 12:37	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			05/16/19 12:37	1
Bromoform	1.0	U	1.0	0.26	ug/L			05/16/19 12:37	1
Bromomethane	1.0	U	1.0	0.69	ug/L			05/16/19 12:37	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			05/16/19 12:37	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			05/16/19 12:37	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			05/16/19 12:37	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			05/16/19 12:37	1
Chloroethane	1.0	U	1.0	0.32	ug/L			05/16/19 12:37	1
Chloroform	1.0	U	1.0	0.34	ug/L			05/16/19 12:37	1
Chloromethane	1.0	U	1.0	0.35	ug/L			05/16/19 12:37	1
cis-1,2-Dichloroethene	14		1.0	0.81	ug/L			05/16/19 12:37	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			05/16/19 12:37	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			05/16/19 12:37	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			05/16/19 12:37	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			05/16/19 12:37	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			05/16/19 12:37	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-153278-1

Client Sample ID: IMP-3-050719

Lab Sample ID: 480-153278-2

Date Collected: 05/07/19 17:55

Matrix: Water

Date Received: 05/09/19 05:30

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			05/16/19 12:37	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			05/16/19 12:37	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			05/16/19 12:37	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			05/16/19 12:37	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			05/16/19 12:37	1
1,2-Dichloroethane	0.38	J	1.0	0.21	ug/L			05/16/19 12:37	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			05/16/19 12:37	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			05/16/19 12:37	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			05/16/19 12:37	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			05/16/19 12:37	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			05/16/19 12:37	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			05/16/19 12:37	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			05/16/19 12:37	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			05/16/19 12:37	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			05/16/19 12:37	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			05/16/19 12:37	1
Styrene	1.0	U	1.0	0.73	ug/L			05/16/19 12:37	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			05/16/19 12:37	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			05/16/19 12:37	1
Toluene	1.0	U	1.0	0.51	ug/L			05/16/19 12:37	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			05/16/19 12:37	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			05/16/19 12:37	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			05/16/19 12:37	1
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			05/16/19 12:37	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			05/16/19 12:37	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			05/16/19 12:37	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			05/16/19 12:37	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			05/16/19 12:37	1
Vinyl chloride	1.9		1.0	0.90	ug/L			05/16/19 12:37	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			05/16/19 12:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		73 - 120		05/16/19 12:37	1
Dibromofluoromethane (Surr)	96		75 - 123		05/16/19 12:37	1
1,2-Dichloroethane-d4 (Surr)	98		77 - 120		05/16/19 12:37	1
Toluene-d8 (Surr)	97		80 - 120		05/16/19 12:37	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TOC Result 1	0.98	J	1.0	0.43	mg/L			05/25/19 19:04	1
TOC Result 2	0.85	J	1.0	0.43	mg/L			05/25/19 19:04	1
Total Organic Carbon	0.90	J	1.0	0.43	mg/L			05/25/19 19:04	1

Client Sample ID: MW-B1-050719

Lab Sample ID: 480-153278-3

Date Collected: 05/07/19 17:35

Matrix: Water

Date Received: 05/09/19 05:30

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			05/16/19 13:00	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-153278-1

Client Sample ID: MW-B1-050719

Lab Sample ID: 480-153278-3

Date Collected: 05/07/19 17:35

Matrix: Water

Date Received: 05/09/19 05:30

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			05/16/19 13:00	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			05/16/19 13:00	1
Bromoform	1.0	U	1.0	0.26	ug/L			05/16/19 13:00	1
Bromomethane	1.0	U	1.0	0.69	ug/L			05/16/19 13:00	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			05/16/19 13:00	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			05/16/19 13:00	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			05/16/19 13:00	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			05/16/19 13:00	1
Chloroethane	1.0	U	1.0	0.32	ug/L			05/16/19 13:00	1
Chloroform	1.0	U	1.0	0.34	ug/L			05/16/19 13:00	1
Chloromethane	1.0	U	1.0	0.35	ug/L			05/16/19 13:00	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			05/16/19 13:00	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			05/16/19 13:00	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			05/16/19 13:00	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			05/16/19 13:00	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			05/16/19 13:00	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			05/16/19 13:00	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			05/16/19 13:00	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			05/16/19 13:00	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			05/16/19 13:00	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			05/16/19 13:00	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			05/16/19 13:00	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			05/16/19 13:00	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			05/16/19 13:00	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			05/16/19 13:00	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			05/16/19 13:00	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			05/16/19 13:00	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			05/16/19 13:00	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			05/16/19 13:00	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			05/16/19 13:00	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			05/16/19 13:00	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			05/16/19 13:00	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			05/16/19 13:00	1
Styrene	1.0	U	1.0	0.73	ug/L			05/16/19 13:00	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			05/16/19 13:00	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			05/16/19 13:00	1
Toluene	1.0	U	1.0	0.51	ug/L			05/16/19 13:00	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			05/16/19 13:00	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			05/16/19 13:00	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			05/16/19 13:00	1
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			05/16/19 13:00	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			05/16/19 13:00	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			05/16/19 13:00	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			05/16/19 13:00	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			05/16/19 13:00	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			05/16/19 13:00	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			05/16/19 13:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		73 - 120		05/16/19 13:00	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-153278-1

Client Sample ID: MW-B1-050719

Lab Sample ID: 480-153278-3

Date Collected: 05/07/19 17:35

Matrix: Water

Date Received: 05/09/19 05:30

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	97		75 - 123		05/16/19 13:00	1
1,2-Dichloroethane-d4 (Surr)	97		77 - 120		05/16/19 13:00	1
Toluene-d8 (Surr)	97		80 - 120		05/16/19 13:00	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	40	J	83	17	ug/L			05/21/19 01:56	11
Ethane	73	J H	330	66	ug/L			06/03/19 19:07	44
Ethene	77	U	77	17	ug/L			05/21/19 01:56	11
Ethene	340	U H	340	66	ug/L			06/03/19 19:07	44
Methane	3500	E	44	11	ug/L			05/21/19 01:56	11
Methane	5000	H J	180	44	ug/L			06/03/19 19:07	44

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TOC Result 1	20		1.0	0.43	mg/L			05/25/19 22:38	1
TOC Result 2	20	J	1.0	0.43	mg/L			05/25/19 22:38	1
Total Organic Carbon	20		1.0	0.43	mg/L			05/25/19 22:38	1

Client Sample ID: MW-13-050719

Lab Sample ID: 480-153278-4

Date Collected: 05/07/19 15:25

Matrix: Water

Date Received: 05/09/19 05:30

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			05/16/19 13:23	1
Benzene	1.0	U	1.0	0.41	ug/L			05/16/19 13:23	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			05/16/19 13:23	1
Bromoform	1.0	U	1.0	0.26	ug/L			05/16/19 13:23	1
Bromomethane	1.0	U	1.0	0.69	ug/L			05/16/19 13:23	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			05/16/19 13:23	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			05/16/19 13:23	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			05/16/19 13:23	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			05/16/19 13:23	1
Chloroethane	1.0	U	1.0	0.32	ug/L			05/16/19 13:23	1
Chloroform	1.0	U	1.0	0.34	ug/L			05/16/19 13:23	1
Chloromethane	1.0	U	1.0	0.35	ug/L			05/16/19 13:23	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			05/16/19 13:23	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			05/16/19 13:23	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			05/16/19 13:23	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			05/16/19 13:23	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			05/16/19 13:23	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			05/16/19 13:23	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			05/16/19 13:23	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			05/16/19 13:23	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			05/16/19 13:23	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			05/16/19 13:23	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			05/16/19 13:23	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			05/16/19 13:23	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			05/16/19 13:23	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-153278-1

Client Sample ID: MW-13-050719

Lab Sample ID: 480-153278-4

Date Collected: 05/07/19 15:25

Matrix: Water

Date Received: 05/09/19 05:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			05/16/19 13:23	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			05/16/19 13:23	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			05/16/19 13:23	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			05/16/19 13:23	1
Methyl acetate	2.5	U*	2.5	1.3	ug/L			05/16/19 13:23	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			05/16/19 13:23	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			05/16/19 13:23	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			05/16/19 13:23	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			05/16/19 13:23	1
Styrene	1.0	U	1.0	0.73	ug/L			05/16/19 13:23	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			05/16/19 13:23	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			05/16/19 13:23	1
Toluene	1.0	U	1.0	0.51	ug/L			05/16/19 13:23	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			05/16/19 13:23	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			05/16/19 13:23	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			05/16/19 13:23	1
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			05/16/19 13:23	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			05/16/19 13:23	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			05/16/19 13:23	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			05/16/19 13:23	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			05/16/19 13:23	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			05/16/19 13:23	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			05/16/19 13:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		73 - 120		05/16/19 13:23	1
Dibromofluoromethane (Surr)	98		75 - 123		05/16/19 13:23	1
1,2-Dichloroethane-d4 (Surr)	94		77 - 120		05/16/19 13:23	1
Toluene-d8 (Surr)	99		80 - 120		05/16/19 13:23	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TOC Result 1	1.3		1.0	0.43	mg/L			06/02/19 00:23	1
TOC Result 1	1.3	H	1.0	0.43	mg/L			06/05/19 01:18	1
TOC Result 2	1.4	B*	1.0	0.43	mg/L			06/02/19 00:23	1
TOC Result 2	1.3	H	1.0	0.43	mg/L			06/05/19 01:18	1
Total Organic Carbon	1.4		1.0	0.43	mg/L			06/02/19 00:23	1
Total Organic Carbon	1.4	H	1.0	0.43	mg/L			06/05/19 01:18	1

Client Sample ID: MW-16-050719

Lab Sample ID: 480-153278-5

Date Collected: 05/07/19 18:45

Matrix: Water

Date Received: 05/09/19 05:30

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			05/16/19 13:46	1
Benzene	1.0	U	1.0	0.41	ug/L			05/16/19 13:46	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			05/16/19 13:46	1
Bromoform	1.0	U	1.0	0.26	ug/L			05/16/19 13:46	1
Bromomethane	1.0	U	1.0	0.69	ug/L			05/16/19 13:46	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-153278-1

Client Sample ID: MW-16-050719

Lab Sample ID: 480-153278-5

Date Collected: 05/07/19 18:45

Matrix: Water

Date Received: 05/09/19 05:30

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			05/16/19 13:46	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			05/16/19 13:46	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			05/16/19 13:46	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			05/16/19 13:46	1
Chloroethane	1.0	U	1.0	0.32	ug/L			05/16/19 13:46	1
Chloroform	1.0	U	1.0	0.34	ug/L			05/16/19 13:46	1
Chloromethane	1.0	U	1.0	0.35	ug/L			05/16/19 13:46	1
cis-1,2-Dichloroethene	8.6		1.0	0.81	ug/L			05/16/19 13:46	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			05/16/19 13:46	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			05/16/19 13:46	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			05/16/19 13:46	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			05/16/19 13:46	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			05/16/19 13:46	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			05/16/19 13:46	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			05/16/19 13:46	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			05/16/19 13:46	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			05/16/19 13:46	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			05/16/19 13:46	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			05/16/19 13:46	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			05/16/19 13:46	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			05/16/19 13:46	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			05/16/19 13:46	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			05/16/19 13:46	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			05/16/19 13:46	1
Methyl acetate	2.5	U JJ	2.5	1.3	ug/L			05/16/19 13:46	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			05/16/19 13:46	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			05/16/19 13:46	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			05/16/19 13:46	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			05/16/19 13:46	1
Styrene	1.0	U	1.0	0.73	ug/L			05/16/19 13:46	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			05/16/19 13:46	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			05/16/19 13:46	1
Toluene	1.0	U	1.0	0.51	ug/L			05/16/19 13:46	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			05/16/19 13:46	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			05/16/19 13:46	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			05/16/19 13:46	1
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			05/16/19 13:46	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			05/16/19 13:46	1
Trichloroethene	1.3		1.0	0.46	ug/L			05/16/19 13:46	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			05/16/19 13:46	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			05/16/19 13:46	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			05/16/19 13:46	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			05/16/19 13:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		73 - 120		05/16/19 13:46	1
Dibromofluoromethane (Surr)	102		75 - 123		05/16/19 13:46	1
1,2-Dichloroethane-d4 (Surr)	98		77 - 120		05/16/19 13:46	1
Toluene-d8 (Surr)	98		80 - 120		05/16/19 13:46	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-153278-1

Client Sample ID: MW-16-050719

Lab Sample ID: 480-153278-5

Date Collected: 05/07/19 18:45

Matrix: Water

Date Received: 05/09/19 05:30

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	7.5	U ⁺ UJ	7.5	1.5	ug/L			05/21/19 02:14	1
Ethane	7.5	U⁺ H	7.5	1.5	ug/L			06/03/19 19:26	4
Ethene	7.0	U ⁺ UJ	7.0	1.5	ug/L			05/21/19 02:14	1
Ethene	7.0	U⁺ H	7.0	1.5	ug/L			06/03/19 19:26	4
Methane	7.6	U ⁺ J	4.0	1.0	ug/L			05/21/19 02:14	1
Methane	13	H	4.0	1.0	ug/L			06/03/19 19:26	4

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TOC Result 1	0.82	J	1.0	0.43	mg/L			05/26/19 00:53	1
TOC Result 2	0.81	U ⁺ J	1.0	0.43	mg/L			05/26/19 00:53	1
Total Organic Carbon	0.79	J	1.0	0.43	mg/L			05/26/19 00:53	1

Client Sample ID: MW-18-050719

Lab Sample ID: 480-153278-6

Date Collected: 05/07/19 15:50

Matrix: Water

Date Received: 05/09/19 05:30

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			05/16/19 14:09	1
Benzene	0.76	J	1.0	0.41	ug/L			05/16/19 14:09	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			05/16/19 14:09	1
Bromoform	1.0	U	1.0	0.26	ug/L			05/16/19 14:09	1
Bromomethane	1.0	U	1.0	0.69	ug/L			05/16/19 14:09	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			05/16/19 14:09	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			05/16/19 14:09	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			05/16/19 14:09	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			05/16/19 14:09	1
Chloroethane	1.0	U	1.0	0.32	ug/L			05/16/19 14:09	1
Chloroform	1.0	U	1.0	0.34	ug/L			05/16/19 14:09	1
Chloromethane	1.0	U	1.0	0.35	ug/L			05/16/19 14:09	1
cis-1,2-Dichloroethene	240	E	1.0	0.81	ug/L			05/16/19 14:09	4
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			05/16/19 14:09	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			05/16/19 14:09	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			05/16/19 14:09	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			05/16/19 14:09	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			05/16/19 14:09	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			05/16/19 14:09	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			05/16/19 14:09	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			05/16/19 14:09	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			05/16/19 14:09	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			05/16/19 14:09	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			05/16/19 14:09	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			05/16/19 14:09	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			05/16/19 14:09	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			05/16/19 14:09	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			05/16/19 14:09	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			05/16/19 14:09	1
Methyl acetate	2.5	U ⁺ UJ	2.5	1.3	ug/L			05/16/19 14:09	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			05/16/19 14:09	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-153278-1

Client Sample ID: MW-18-050719

Lab Sample ID: 480-153278-6

Date Collected: 05/07/19 15:50

Matrix: Water

Date Received: 05/09/19 05:30

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			05/16/19 14:09	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			05/16/19 14:09	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			05/16/19 14:09	1
Styrene	1.0	U	1.0	0.73	ug/L			05/16/19 14:09	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			05/16/19 14:09	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			05/16/19 14:09	1
Toluene	1.0	U	1.0	0.51	ug/L			05/16/19 14:09	1
trans-1,2-Dichloroethene	1.7		1.0	0.90	ug/L			05/16/19 14:09	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			05/16/19 14:09	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			05/16/19 14:09	1
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			05/16/19 14:09	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			05/16/19 14:09	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			05/16/19 14:09	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			05/16/19 14:09	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			05/16/19 14:09	1
Vinyl chloride	61		1.0	0.90	ug/L			05/16/19 14:09	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			05/16/19 14:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		73 - 120		05/16/19 14:09	1
Dibromofluoromethane (Surr)	96		75 - 123		05/16/19 14:09	1
1,2-Dichloroethane-d4 (Surr)	94		77 - 120		05/16/19 14:09	1
Toluene-d8 (Surr)	97		80 - 120		05/16/19 14:09	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.0	U	5.0	1.5	ug/L			05/16/19 23:01	5
Benzene	5.0	U	5.0	2.1	ug/L			05/16/19 23:01	5
Bromodichloromethane	5.0	U	5.0	2.0	ug/L			05/16/19 23:01	5
Bromoform	5.0	U	5.0	1.3	ug/L			05/16/19 23:01	5
Bromomethane	5.0	U	5.0	3.5	ug/L			05/16/19 23:01	5
2-Butanone (MEK)	5.0	U	5.0	6.6	ug/L			05/16/19 23:01	5
Carbon disulfide	5.0	U	5.0	0.95	ug/L			05/16/19 23:01	5
Carbon tetrachloride	5.0	U	5.0	1.4	ug/L			05/16/19 23:01	5
Chlorobenzene	5.0	U	5.0	3.8	ug/L			05/16/19 23:01	5
Chloroethane	5.0	U	5.0	1.6	ug/L			05/16/19 23:01	5
Chloroform	5.0	U	5.0	1.7	ug/L			05/16/19 23:01	5
Chloromethane	5.0	U	5.0	1.8	ug/L			05/16/19 23:01	5
cis-1,2-Dichloroethene	240		5.0	4.1	ug/L			05/16/19 23:01	5
cis-1,3-Dichloropropene	5.0	U	5.0	1.8	ug/L			05/16/19 23:01	5
Cyclohexane	5.0	U	5.0	0.90	ug/L			05/16/19 23:01	5
Dibromochloromethane	5.0	U	5.0	1.6	ug/L			05/16/19 23:01	5
1,2-Dibromo-3-Chloropropane	5.0	U	5.0	2.0	ug/L			05/16/19 23:01	5
1,2-Dibromoethane	5.0	U	5.0	3.7	ug/L			05/16/19 23:01	5
1,2-Dichlorobenzene	5.0	U	5.0	4.0	ug/L			05/16/19 23:01	5
1,3-Dichlorobenzene	5.0	U	5.0	3.9	ug/L			05/16/19 23:01	5
1,4-Dichlorobenzene	5.0	U	5.0	4.2	ug/L			05/16/19 23:01	5
Dichlorodifluoromethane	5.0	U	5.0	3.4	ug/L			05/16/19 23:01	5
1,1-Dichloroethane	5.0	U	5.0	1.9	ug/L			05/16/19 23:01	5
1,2-Dichloroethane	5.0	U	5.0	1.1	ug/L			05/16/19 23:01	5

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-153278-1

Client Sample ID: MW-18-050719

Lab Sample ID: 480-153278-6

Date Collected: 05/07/19 15:50

Matrix: Water

Date Received: 05/09/19 05:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	5.0	U	5.0	1.5	ug/L			05/16/19 23:01	5
1,2-Dichloropropane	5.0	U	5.0	3.6	ug/L			05/16/19 23:01	5
Ethylbenzene	5.0	U	5.0	3.7	ug/L			05/16/19 23:01	5
2-Hexanone	25	U	25	6.2	ug/L			05/16/19 23:01	5
Isopropylbenzene	5.0	U	5.0	4.0	ug/L			05/16/19 23:01	5
Methyl acetate	13	U	13	6.5	ug/L			05/16/19 23:01	5
Methylcyclohexane	5.0	U	5.0	0.80	ug/L			05/16/19 23:01	5
Methylene Chloride	5.0	U	5.0	2.2	ug/L			05/16/19 23:01	5
4-Methyl-2-pentanone (MIBK)	25	U	25	11	ug/L			05/16/19 23:01	5
Methyl-tert-butyl-ether	5.0	U	5.0	0.80	ug/L			05/16/19 23:01	5
Styrene	5.0	U	5.0	3.7	ug/L			05/16/19 23:01	5
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1.1	ug/L			05/16/19 23:01	5
Tetrachloroethene	5.0	U	5.0	1.8	ug/L			05/16/19 23:01	5
Toluene	5.0	U	5.0	2.6	ug/L			05/16/19 23:01	5
trans-1,2-Dichloroethene	5.0	U	5.0	4.5	ug/L			05/16/19 23:01	5
trans-1,3-Dichloropropene	5.0	U	5.0	1.9	ug/L			05/16/19 23:01	5
1,2,4-Trichlorobenzene	5.0	U	5.0	2.1	ug/L			05/16/19 23:01	5
1,1,1-Trichloroethane	5.0	U	5.0	4.1	ug/L			05/16/19 23:01	5
1,1,2-Trichloroethane	5.0	U	5.0	1.2	ug/L			05/16/19 23:01	5
Trichloroethene	5.0	U	5.0	2.3	ug/L			05/16/19 23:01	5
Trichlorofluoromethane	5.0	U	5.0	4.4	ug/L			05/16/19 23:01	5
1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U	5.0	1.6	ug/L			05/16/19 23:01	5
Vinyl chloride	48		5.0	4.5	ug/L			05/16/19 23:01	5
Xylenes, Total	40	U	40	3.3	ug/L			05/16/19 23:01	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		73 - 120		05/16/19 23:01	5
Dibromofluoromethane (Surr)	98		75 - 123		05/16/19 23:01	5
1,2-Dichloroethane-d4 (Surr)	94		77 - 120		05/16/19 23:01	5
Toluene-d8 (Surr)	103		80 - 120		05/16/19 23:01	5

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	17	J	7.5	1.5	ug/L			05/21/19 02:33	1
Ethane	32	J H	83	17	ug/L			06/03/19 19:45	11
Ethene	7.0	U J	7.0	1.5	ug/L			05/21/19 02:33	1
Ethene	77	U H	77	17	ug/L			06/03/19 19:45	11
Methane	270	E	4.0	1.0	ug/L			05/21/19 02:33	4
Methane	510	H J	44	11	ug/L			06/03/19 19:45	11

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TOC Result 1	2.0		1.0	0.43	mg/L			05/26/19 01:19	1
TOC Result 2	1.9	J	1.0	0.43	mg/L			05/26/19 01:19	1
Total Organic Carbon	2.0		1.0	0.43	mg/L			05/26/19 01:19	1

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-153278-1

Client Sample ID: MW-20-050719

Lab Sample ID: 480-153278-7

Date Collected: 05/07/19 20:35

Matrix: Water

Date Received: 05/09/19 05:30

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			05/16/19 23:25	2
Benzene	4.6		2.0	0.82	ug/L			05/16/19 23:25	2
Bromodichloromethane	2.0	U	2.0	0.78	ug/L			05/16/19 23:25	2
Bromoform	2.0	U	2.0	0.52	ug/L			05/16/19 23:25	2
Bromomethane	2.0	U	2.0	1.4	ug/L			05/16/19 23:25	2
2-Butanone (MEK)	20	U	20	2.6	ug/L			05/16/19 23:25	2
Carbon disulfide	2.0	U	2.0	0.38	ug/L			05/16/19 23:25	2
Carbon tetrachloride	2.0	U	2.0	0.54	ug/L			05/16/19 23:25	2
Chlorobenzene	2.0	U	2.0	1.5	ug/L			05/16/19 23:25	2
Chloroethane	2.0	U	2.0	0.64	ug/L			05/16/19 23:25	2
Chloroform	1.3	J	2.0	0.68	ug/L			05/16/19 23:25	2
Chloromethane	2.0	U	2.0	0.70	ug/L			05/16/19 23:25	2
cis-1,2-Dichloroethene	14		2.0	1.6	ug/L			05/16/19 23:25	2
cis-1,3-Dichloropropene	2.0	U	2.0	0.72	ug/L			05/16/19 23:25	2
Cyclohexane	2.0	U	2.0	0.36	ug/L			05/16/19 23:25	2
Dibromochloromethane	2.0	U	2.0	0.64	ug/L			05/16/19 23:25	2
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.78	ug/L			05/16/19 23:25	2
1,2-Dibromoethane	2.0	U	2.0	1.5	ug/L			05/16/19 23:25	2
1,2-Dichlorobenzene	2.0	U	2.0	1.6	ug/L			05/16/19 23:25	2
1,3-Dichlorobenzene	2.0	U	2.0	1.6	ug/L			05/16/19 23:25	2
1,4-Dichlorobenzene	2.0	U	2.0	1.7	ug/L			05/16/19 23:25	2
Dichlorodifluoromethane	2.0	U	2.0	1.4	ug/L			05/16/19 23:25	2
1,1-Dichloroethane	2.0	U	2.0	0.76	ug/L			05/16/19 23:25	2
1,2-Dichloroethane	2.0	U	2.0	0.42	ug/L			05/16/19 23:25	2
1,1-Dichloroethene	2.0	U	2.0	0.58	ug/L			05/16/19 23:25	2
1,2-Dichloropropane	2.0	U	2.0	1.4	ug/L			05/16/19 23:25	2
Ethylbenzene	8.2		2.0	1.5	ug/L			05/16/19 23:25	2
2-Hexanone	10	U	10	2.5	ug/L			05/16/19 23:25	2
Isopropylbenzene	2.0	U	2.0	1.6	ug/L			05/16/19 23:25	2
Methyl acetate	5.0	U ^u JJ	5.0	2.6	ug/L			05/16/19 23:25	2
Methylcyclohexane	2.0	U	2.0	0.32	ug/L			05/16/19 23:25	2
Methylene Chloride	2.0	U	2.0	0.88	ug/L			05/16/19 23:25	2
4-Methyl-2-pentanone (MIBK)	10	U ^u JJ	10	4.2	ug/L			05/16/19 23:25	2
Methyl tert-butyl ether	2.0	U ^u JJ	2.0	0.32	ug/L			05/16/19 23:25	2
Styrene	2.0	U	2.0	1.5	ug/L			05/16/19 23:25	2
1,1,2,2-Tetrachloroethane	2.0	U	2.0	0.42	ug/L			05/16/19 23:25	2
Tetrachloroethene	58		2.0	0.72	ug/L			05/16/19 23:25	2
Toluene	2.0	U	2.0	1.0	ug/L			05/16/19 23:25	2
trans-1,2-Dichloroethene	2.0	U	2.0	1.8	ug/L			05/16/19 23:25	2
trans-1,3-Dichloropropene	2.0	U	2.0	0.74	ug/L			05/16/19 23:25	2
1,2,4-Trichlorobenzene	2.0	U	2.0	0.82	ug/L			05/16/19 23:25	2
1,1,1-Trichloroethane	2.0	U	2.0	1.6	ug/L			05/16/19 23:25	2
1,1,2-Trichloroethane	2.0	U	2.0	0.46	ug/L			05/16/19 23:25	2
Trichloroethene	10		2.0	0.92	ug/L			05/16/19 23:25	2
Trichlorofluoromethane	2.0	U	2.0	1.8	ug/L			05/16/19 23:25	2
1,1,2-Trichloro-1,2,2-trifluoroethane	2.0	U	2.0	0.62	ug/L			05/16/19 23:25	2
Vinyl chloride	2.0	U	2.0	1.8	ug/L			05/16/19 23:25	2
Xylenes, Total	53		4.0	1.3	ug/L			05/16/19 23:25	2

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-153278-1

Client Sample ID: MW-20-050719

Lab Sample ID: 480-153278-7

Date Collected: 05/07/19 20:35

Matrix: Water

Date Received: 05/09/19 05:30

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		73 - 120		05/16/19 23:25	2
Dibromofluoromethane (Surr)	90		75 - 123		05/16/19 23:25	2
1,2-Dichloroethane-d4 (Surr)	87		77 - 120		05/16/19 23:25	2
Toluene-d8 (Surr)	97		80 - 120		05/16/19 23:25	2

Client Sample ID: MW-21-050719

Lab Sample ID: 480-153278-8

Date Collected: 05/07/19 20:00

Matrix: Water

Date Received: 05/09/19 05:30

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			05/16/19 14:55	1
Benzene	1.0	U	1.0	0.41	ug/L			05/16/19 14:55	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			05/16/19 14:55	1
Bromoform	1.0	U	1.0	0.26	ug/L			05/16/19 14:55	1
Bromomethane	1.0	U	1.0	0.69	ug/L			05/16/19 14:55	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			05/16/19 14:55	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			05/16/19 14:55	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			05/16/19 14:55	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			05/16/19 14:55	1
Chloroethane	1.0	U	1.0	0.32	ug/L			05/16/19 14:55	1
Chloroform	1.0	U	1.0	0.34	ug/L			05/16/19 14:55	1
Chloromethane	1.0	U	1.0	0.35	ug/L			05/16/19 14:55	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			05/16/19 14:55	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			05/16/19 14:55	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			05/16/19 14:55	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			05/16/19 14:55	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			05/16/19 14:55	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			05/16/19 14:55	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			05/16/19 14:55	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			05/16/19 14:55	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			05/16/19 14:55	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			05/16/19 14:55	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			05/16/19 14:55	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			05/16/19 14:55	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			05/16/19 14:55	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			05/16/19 14:55	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			05/16/19 14:55	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			05/16/19 14:55	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			05/16/19 14:55	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			05/16/19 14:55	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			05/16/19 14:55	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			05/16/19 14:55	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			05/16/19 14:55	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			05/16/19 14:55	1
Styrene	1.0	U	1.0	0.73	ug/L			05/16/19 14:55	1
1,1,1,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			05/16/19 14:55	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			05/16/19 14:55	1
Toluene	1.0	U	1.0	0.51	ug/L			05/16/19 14:55	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			05/16/19 14:55	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-153278-1

Client Sample ID: MW-21-050719

Lab Sample ID: 480-153278-8

Date Collected: 05/07/19 20:00

Matrix: Water

Date Received: 05/09/19 05:30

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			05/16/19 14:55	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			05/16/19 14:55	1
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			05/16/19 14:55	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			05/16/19 14:55	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			05/16/19 14:55	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			05/16/19 14:55	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			05/16/19 14:55	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			05/16/19 14:55	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			05/16/19 14:55	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		73 - 120					05/16/19 14:55	1
Dibromofluoromethane (Surr)	103		75 - 123					05/16/19 14:55	1
1,2-Dichloroethane-d4 (Surr)	101		77 - 120					05/16/19 14:55	1
Toluene-d8 (Surr)	99		80 - 120					05/16/19 14:55	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TOC Result 1	2.9		1.0	0.43	mg/L			05/26/19 01:45	1
TOC Result 2	2.8	J	1.0	0.43	mg/L			05/26/19 01:45	1
Total Organic Carbon	2.9		1.0	0.43	mg/L			05/26/19 01:45	1

Client Sample ID: IW-B3-050819

Lab Sample ID: 480-153278-9

Date Collected: 05/08/19 10:10

Matrix: Water

Date Received: 05/09/19 05:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	400	U	400	120	ug/L			05/16/19 06:14	40
Benzene	40	U	40	16	ug/L			05/16/19 06:14	40
Bromodichloromethane	40	U	40	16	ug/L			05/16/19 06:14	40
Bromoform	40	U	40	10	ug/L			05/16/19 06:14	40
Bromomethane	40	U	40	28	ug/L			05/16/19 06:14	40
2-Butanone (MEK)	400	U	400	53	ug/L			05/16/19 06:14	40
Carbon disulfide	40	U	40	7.6	ug/L			05/16/19 06:14	40
Carbon tetrachloride	40	U	40	11	ug/L			05/16/19 06:14	40
Chlorobenzene	40	U	40	30	ug/L			05/16/19 06:14	40
Chloroethane	40	U	40	13	ug/L			05/16/19 06:14	40
Chloroform	40	U	40	14	ug/L			05/16/19 06:14	40
Chloromethane	40	U	40	14	ug/L			05/16/19 06:14	40
cis-1,2-Dichloroethene	40	U	40	32	ug/L			05/16/19 06:14	40
cis-1,3-Dichloropropene	40	U	40	14	ug/L			05/16/19 06:14	40
Cyclohexane	40	U	40	7.2	ug/L			05/16/19 06:14	40
Dibromochloromethane	40	U	40	13	ug/L			05/16/19 06:14	40
1,2-Dibromo-3-Chloropropane	40	U	40	16	ug/L			05/16/19 06:14	40
1,2-Dibromoethane	40	U	40	29	ug/L			05/16/19 06:14	40
1,2-Dichlorobenzene	40	U	40	32	ug/L			05/16/19 06:14	40
1,3-Dichlorobenzene	40	U	40	31	ug/L			05/16/19 06:14	40
1,4-Dichlorobenzene	40	U	40	34	ug/L			05/16/19 06:14	40
Dichlorodifluoromethane	40	U	40	27	ug/L			05/16/19 06:14	40

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-153278-1

Client Sample ID: IW-B3-050819

Lab Sample ID: 480-153278-9

Date Collected: 05/08/19 10:10

Matrix: Water

Date Received: 05/09/19 05:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	40	U	40	15	ug/L			05/16/19 06:14	40
1,2-Dichloroethane	40	U	40	8.4	ug/L			05/16/19 06:14	40
1,1-Dichloroethene	40	U	40	12	ug/L			05/16/19 06:14	40
1,2-Dichloropropane	40	U	40	29	ug/L			05/16/19 06:14	40
Ethylbenzene	40	U	40	30	ug/L			05/16/19 06:14	40
2-Hexanone	200	U	200	50	ug/L			05/16/19 06:14	40
Isopropylbenzene	40	U	40	32	ug/L			05/16/19 06:14	40
Methyl acetate	100	UJ	100	52	ug/L			05/16/19 06:14	40
Methylcyclohexane	40	U	40	6.4	ug/L			05/16/19 06:14	40
Methylene Chloride	40	U	40	18	ug/L			05/16/19 06:14	40
4-Methyl-2-pentanone (MIBK)	200	U	200	84	ug/L			05/16/19 06:14	40
Methyl tert-butyl ether	40	U	40	6.4	ug/L			05/16/19 06:14	40
Styrene	40	U	40	29	ug/L			05/16/19 06:14	40
1,1,2,2-Tetrachloroethane	40	U	40	8.4	ug/L			05/16/19 06:14	40
Tetrachloroethene	40	U	40	14	ug/L			05/16/19 06:14	40
Toluene	40	U	40	20	ug/L			05/16/19 06:14	40
trans-1,2-Dichloroethene	40	U	40	36	ug/L			05/16/19 06:14	40
trans-1,3-Dichloropropene	40	U	40	15	ug/L			05/16/19 06:14	40
1,2,4-Trichlorobenzene	40	U	40	16	ug/L			05/16/19 06:14	40
1,1,1-Trichloroethane	40	U	40	33	ug/L			05/16/19 06:14	40
1,1,2-Trichloroethane	40	U	40	9.2	ug/L			05/16/19 06:14	40
Trichloroethene	40	U	40	18	ug/L			05/16/19 06:14	40
Trichlorofluoromethane	40	U	40	35	ug/L			05/16/19 06:14	40
1,1,2-Trichloro-1,2,2-trifluoroethane	40	U	40	12	ug/L			05/16/19 06:14	40
Vinyl chloride	40	U	40	36	ug/L			05/16/19 06:14	40
Xylenes, Total	80	U	80	26	ug/L			05/16/19 06:14	40

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	107		73 - 120		05/16/19 06:14	40
Dibromofluoromethane (Surr)	119		75 - 123		05/16/19 06:14	40
1,2-Dichloroethane-d4 (Surr)	117		77 - 120		05/16/19 06:14	40
Toluene-d8 (Surr)	110		80 - 120		05/16/19 06:14	40

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TOC Result 1	150		2.0	0.87	mg/L			06/05/19 01:46	2
TOC Result 2	140		2.0	0.87	mg/L			06/05/19 01:46	2
Total Organic Carbon	150		2.0	0.87	mg/L			06/05/19 01:46	2

Client Sample ID: IW-A2-050819

Lab Sample ID: 480-153278-10

Date Collected: 05/08/19 13:05

Matrix: Water

Date Received: 05/09/19 05:30

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			05/18/19 02:09	20
Benzene	13	J	20	8.2	ug/L			05/18/19 02:09	20
Bromodichloromethane	20	U	20	7.8	ug/L			05/18/19 02:09	20
Bromoform	20	U	20	5.2	ug/L			05/18/19 02:09	20
Bromomethane	20	U	20	14	ug/L			05/18/19 02:09	20

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-153278-1

Client Sample ID: IW-A2-050819

Lab Sample ID: 480-153278-10

Date Collected: 05/08/19 13:05

Matrix: Water

Date Received: 05/09/19 05:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Butanone (MEK)	200	U	200	26	ug/L			05/18/19 02:09	20
Carbon disulfide	3.9	J B UB	20	3.8	ug/L			05/18/19 02:09	20
Carbon tetrachloride	20	U	20	5.4	ug/L			05/18/19 02:09	20
Chlorobenzene	20	U	20	15	ug/L			05/18/19 02:09	20
Chloroethane	20	U	20	6.4	ug/L			05/18/19 02:09	20
Chloroform	20	U	20	6.8	ug/L			05/18/19 02:09	20
Chloromethane	20	U	20	7.0	ug/L			05/18/19 02:09	20
cis-1,2-Dichloroethene	20	U	20	16	ug/L			05/18/19 02:09	20
cis-1,3-Dichloropropene	20	U	20	7.2	ug/L			05/18/19 02:09	20
Cyclohexane	20	U	20	3.6	ug/L			05/18/19 02:09	20
Dibromochloromethane	20	U	20	6.4	ug/L			05/18/19 02:09	20
1,2-Dibromo-3-Chloropropane	20	U	20	7.8	ug/L			05/18/19 02:09	20
1,2-Dibromoethane	20	U	20	15	ug/L			05/18/19 02:09	20
1,2-Dichlorobenzene	20	U	20	16	ug/L			05/18/19 02:09	20
1,3-Dichlorobenzene	20	U	20	16	ug/L			05/18/19 02:09	20
1,4-Dichlorobenzene	20	U	20	17	ug/L			05/18/19 02:09	20
Dichlorodifluoromethane	20	U	20	14	ug/L			05/18/19 02:09	20
1,1-Dichloroethane	20	U	20	7.6	ug/L			05/18/19 02:09	20
1,2-Dichloroethane	20	U	20	4.2	ug/L			05/18/19 02:09	20
1,1-Dichloroethene	20	U	20	5.8	ug/L			05/18/19 02:09	20
1,2-Dichloropropane	20	U	20	14	ug/L			05/18/19 02:09	20
Ethylbenzene	20	U	20	15	ug/L			05/18/19 02:09	20
2-Hexanone	100	U	100	25	ug/L			05/18/19 02:09	20
Isopropylbenzene	20	U	20	16	ug/L			05/18/19 02:09	20
Methyl acetate	50	U	50	26	ug/L			05/18/19 02:09	20
Methylcyclohexane	20	U	20	3.2	ug/L			05/18/19 02:09	20
Methylene Chloride	20	U	20	8.8	ug/L			05/18/19 02:09	20
4-Methyl-2-pentanone (MIBK)	100	U	100	42	ug/L			05/18/19 02:09	20
Methyl tert-butyl ether	20	U	20	3.2	ug/L			05/18/19 02:09	20
Styrene	20	U	20	15	ug/L			05/18/19 02:09	20
1,1,2,2-Tetrachloroethane	20	U	20	4.2	ug/L			05/18/19 02:09	20
Tetrachloroethene	20	U	20	7.2	ug/L			05/18/19 02:09	20
Toluene	20	U	20	10	ug/L			05/18/19 02:09	20
trans-1,2-Dichloroethene	20	U	20	18	ug/L			05/18/19 02:09	20
trans-1,3-Dichloropropene	20	U	20	7.4	ug/L			05/18/19 02:09	20
1,2,4-Trichlorobenzene	20	U	20	8.2	ug/L			05/18/19 02:09	20
1,1,1-Trichloroethane	20	U	20	16	ug/L			05/18/19 02:09	20
1,1,2-Trichloroethane	20	U	20	4.6	ug/L			05/18/19 02:09	20
Trichloroethene	20	U	20	9.2	ug/L			05/18/19 02:09	20
Trichlorofluoromethane	20	U	20	18	ug/L			05/18/19 02:09	20
1,1,2-Trichloro-1,2,2-trifluoroethane	20	U	20	6.2	ug/L			05/18/19 02:09	20
Vinyl chloride	20	U	20	18	ug/L			05/18/19 02:09	20
Xylenes, Total	25	J	40	13	ug/L			05/18/19 02:09	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		73 - 120		05/18/19 02:09	20
Dibromofluoromethane (Surr)	105		75 - 123		05/18/19 02:09	20
1,2-Dichloroethane-d4 (Surr)	103		77 - 120		05/18/19 02:09	20
Toluene-d8 (Surr)	97		80 - 120		05/18/19 02:09	20

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-153278-1

Client Sample ID: IW-A2-050819

Lab Sample ID: 480-153278-10

Date Collected: 05/08/19 13:05

Matrix: Water

Date Received: 05/09/19 05:30

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TOC Result 1	150		2.0	0.87	mg/L			06/05/19 02:14	2
TOC Result 2	150		2.0	0.87	mg/L			06/05/19 02:14	2
Total Organic Carbon	150		2.0	0.87	mg/L			06/05/19 02:14	2

Client Sample ID: MW-A1-050819

Lab Sample ID: 480-153278-11

Date Collected: 05/08/19 11:30

Matrix: Water

Date Received: 05/09/19 05:30

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			05/18/19 02:36	2
Benzene	7.6		2.0	0.82	ug/L			05/18/19 02:36	2
Bromodichloromethane	2.0	U	2.0	0.78	ug/L			05/18/19 02:36	2
Bromoform	2.0	U	2.0	0.52	ug/L			05/18/19 02:36	2
Bromomethane	2.0	U	2.0	1.4	ug/L			05/18/19 02:36	2
2-Butanone (MEK)	20	U	20	2.6	ug/L			05/18/19 02:36	2
Carbon disulfide	2.0	U	2.0	0.38	ug/L			05/18/19 02:36	2
Carbon tetrachloride	2.0	U	2.0	0.54	ug/L			05/18/19 02:36	2
Chlorobenzene	2.0	U	2.0	1.5	ug/L			05/18/19 02:36	2
Chloroethane	9.3		2.0	0.64	ug/L			05/18/19 02:36	2
Chloroform	2.0	U	2.0	0.68	ug/L			05/18/19 02:36	2
Chloromethane	2.0	U	2.0	0.70	ug/L			05/18/19 02:36	2
cis-1,2-Dichloroethene	2.8		2.0	1.6	ug/L			05/18/19 02:36	2
cis-1,3-Dichloropropene	2.0	U	2.0	0.72	ug/L			05/18/19 02:36	2
Cyclohexane	2.0	U	2.0	0.36	ug/L			05/18/19 02:36	2
Dibromochloromethane	2.0	U	2.0	0.64	ug/L			05/18/19 02:36	2
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.78	ug/L			05/18/19 02:36	2
1,2-Dibromoethane	2.0	U	2.0	1.5	ug/L			05/18/19 02:36	2
1,2-Dichlorobenzene	2.0	U	2.0	1.6	ug/L			05/18/19 02:36	2
1,3-Dichlorobenzene	2.0	U	2.0	1.6	ug/L			05/18/19 02:36	2
1,4-Dichlorobenzene	2.0	U	2.0	1.7	ug/L			05/18/19 02:36	2
Dichlorodifluoromethane	2.0	U	2.0	1.4	ug/L			05/18/19 02:36	2
1,1-Dichloroethane	1.8	J	2.0	0.76	ug/L			05/18/19 02:36	2
1,2-Dichloroethane	2.0	U	2.0	0.42	ug/L			05/18/19 02:36	2
1,1-Dichloroethene	2.0	U	2.0	0.58	ug/L			05/18/19 02:36	2
1,2-Dichloropropane	2.0	U	2.0	1.4	ug/L			05/18/19 02:36	2
Ethylbenzene	2.0	U	2.0	1.5	ug/L			05/18/19 02:36	2
2-Hexanone	10	U	10	2.5	ug/L			05/18/19 02:36	2
Isopropylbenzene	2.0	U	2.0	1.6	ug/L			05/18/19 02:36	2
Methyl acetate	5.0	U	5.0	2.6	ug/L			05/18/19 02:36	2
Methylcyclohexane	2.0	U	2.0	0.32	ug/L			05/18/19 02:36	2
Methylene Chloride	2.0	U	2.0	0.88	ug/L			05/18/19 02:36	2
4-Methyl-2-pentanone (MIBK)	10	U	10	4.2	ug/L			05/18/19 02:36	2
Methyl tert-butyl ether	2.0	U	2.0	0.32	ug/L			05/18/19 02:36	2
Styrene	2.0	U	2.0	1.5	ug/L			05/18/19 02:36	2
1,1,2,2-Tetrachloroethane	2.0	U	2.0	0.42	ug/L			05/18/19 02:36	2
Tetrachloroethene	2.0	U	2.0	0.72	ug/L			05/18/19 02:36	2
Toluene	2.0	U	2.0	1.0	ug/L			05/18/19 02:36	2
trans-1,2-Dichloroethene	2.0	U	2.0	1.8	ug/L			05/18/19 02:36	2
trans-1,3-Dichloropropene	2.0	U	2.0	0.74	ug/L			05/18/19 02:36	2

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-153278-1

Client Sample ID: MW-A1-050819

Lab Sample ID: 480-153278-11

Date Collected: 05/08/19 11:30

Matrix: Water

Date Received: 05/09/19 05:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	2.0	U	2.0	0.82	ug/L			05/18/19 02:36	2
1,1,1-Trichloroethane	2.0	U	2.0	1.6	ug/L			05/18/19 02:36	2
1,1,2-Trichloroethane	2.0	U	2.0	0.46	ug/L			05/18/19 02:36	2
Trichloroethene	2.0	U	2.0	0.92	ug/L			05/18/19 02:36	2
Trichlorofluoromethane	2.0	U	2.0	1.8	ug/L			05/18/19 02:36	2
1,1,2-Trichloro-1,2,2-trifluoroethane	2.0	U	2.0	0.62	ug/L			05/18/19 02:36	2
Vinyl chloride	3.1		2.0	1.8	ug/L			05/18/19 02:36	2
Xylenes, Total	4.0	U	4.0	1.3	ug/L			05/18/19 02:36	2

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		73 - 120		05/18/19 02:36	2
Dibromofluoromethane (Surr)	108		75 - 123		05/18/19 02:36	2
1,2-Dichloroethane-d4 (Surr)	106		77 - 120		05/18/19 02:36	2
Toluene-d8 (Surr)	102		80 - 120		05/18/19 02:36	2

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethene	310	U	310	66	ug/L			05/21/19 22:49	44

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	400	J-H J	1700	330	ug/L			06/03/19 20:04	220
Methane	14000	H J	880	220	ug/L			06/03/19 20:04	220

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TOC Result 1	12		1.0	0.43	mg/L			06/05/19 02:41	1
TOC Result 2	12		1.0	0.43	mg/L			06/05/19 02:41	1
Total Organic Carbon	12		1.0	0.43	mg/L			06/05/19 02:41	1

Client Sample ID: MW-17-050819

Lab Sample ID: 480-153278-12

Date Collected: 05/08/19 08:50

Matrix: Water

Date Received: 05/09/19 05:30

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			05/18/19 03:02	1
Benzene	1.0	U	1.0	0.41	ug/L			05/18/19 03:02	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			05/18/19 03:02	1
Bromoform	1.0	U	1.0	0.26	ug/L			05/18/19 03:02	1
Bromomethane	1.0	U	1.0	0.69	ug/L			05/18/19 03:02	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			05/18/19 03:02	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			05/18/19 03:02	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			05/18/19 03:02	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			05/18/19 03:02	1
Chloroethane	1.0	U	1.0	0.32	ug/L			05/18/19 03:02	1
Chloroform	1.0	U	1.0	0.34	ug/L			05/18/19 03:02	1
Chloromethane	1.0	U	1.0	0.35	ug/L			05/18/19 03:02	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			05/18/19 03:02	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			05/18/19 03:02	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			05/18/19 03:02	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-153278-1

Client Sample ID: MW-17-050819

Lab Sample ID: 480-153278-12

Date Collected: 05/08/19 08:50

Matrix: Water

Date Received: 05/09/19 05:30

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			05/18/19 03:02	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			05/18/19 03:02	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			05/18/19 03:02	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			05/18/19 03:02	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			05/18/19 03:02	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			05/18/19 03:02	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			05/18/19 03:02	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			05/18/19 03:02	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			05/18/19 03:02	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			05/18/19 03:02	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			05/18/19 03:02	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			05/18/19 03:02	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			05/18/19 03:02	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			05/18/19 03:02	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			05/18/19 03:02	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			05/18/19 03:02	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			05/18/19 03:02	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			05/18/19 03:02	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			05/18/19 03:02	1
Styrene	1.0	U	1.0	0.73	ug/L			05/18/19 03:02	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			05/18/19 03:02	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			05/18/19 03:02	1
Toluene	1.0	U	1.0	0.51	ug/L			05/18/19 03:02	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			05/18/19 03:02	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			05/18/19 03:02	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			05/18/19 03:02	1
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			05/18/19 03:02	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			05/18/19 03:02	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			05/18/19 03:02	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			05/18/19 03:02	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			05/18/19 03:02	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			05/18/19 03:02	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			05/18/19 03:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		73 - 120		05/18/19 03:02	1
Dibromofluoromethane (Surr)	111		75 - 123		05/18/19 03:02	1
1,2-Dichloroethane-d4 (Surr)	96		77 - 120		05/18/19 03:02	1
Toluene-d8 (Surr)	95		80 - 120		05/18/19 03:02	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TOC Result 1	2.9		1.0	0.43	mg/L			06/05/19 06:20	1
TOC Result 2	2.9		1.0	0.43	mg/L			06/05/19 06:20	1
Total Organic Carbon	2.9		1.0	0.43	mg/L			06/05/19 06:20	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-153278-1

Client Sample ID: MW-19-050819

Lab Sample ID: 480-153278-13

Date Collected: 05/08/19 12:20

Matrix: Water

Date Received: 05/09/19 05:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	100	U	100	30	ug/L			05/18/19 13:08	10
Benzene	8.3	J	10	4.1	ug/L			05/18/19 13:08	10
Bromodichloromethane	10	U	10	3.9	ug/L			05/18/19 13:08	10
Bromoform	10	U	10	2.6	ug/L			05/18/19 13:08	10
Bromomethane	10	U	10	6.9	ug/L			05/18/19 13:08	10
2-Butanone (MEK)	100	U	100	13	ug/L			05/18/19 13:08	10
Carbon disulfide	10	U	10	1.9	ug/L			05/18/19 13:08	10
Carbon tetrachloride	10	U	10	2.7	ug/L			05/18/19 13:08	10
Chlorobenzene	10	U	10	7.5	ug/L			05/18/19 13:08	10
Chloroethane	58		10	3.2	ug/L			05/18/19 13:08	10
Chloroform	10	U	10	3.4	ug/L			05/18/19 13:08	10
Chloromethane	10	U	10	3.5	ug/L			05/18/19 13:08	10
cis-1,2-Dichloroethene	560		10	8.1	ug/L			05/18/19 13:08	10
cis-1,3-Dichloropropene	10	U	10	3.6	ug/L			05/18/19 13:08	10
Cyclohexane	10	U	10	1.8	ug/L			05/18/19 13:08	10
Dibromochloromethane	10	U [Ⓢ]	10	3.2	ug/L			05/18/19 13:08	10
1,2-Dibromo-3-Chloropropane	10	U	10	3.9	ug/L			05/18/19 13:08	10
1,2-Dibromoethane	10	U F1	10	7.3	ug/L			05/18/19 13:08	10
1,2-Dichlorobenzene	10	U	10	7.9	ug/L			05/18/19 13:08	10
1,3-Dichlorobenzene	10	U	10	7.8	ug/L			05/18/19 13:08	10
1,4-Dichlorobenzene	10	U	10	8.4	ug/L			05/18/19 13:08	10
Dichlorodifluoromethane	10	U F1	10	6.8	ug/L			05/18/19 13:08	10
1,1-Dichloroethane	22	F1 [Ⓢ] J	10	3.8	ug/L			05/18/19 13:08	10
1,2-Dichloroethane	10	U	10	2.1	ug/L			05/18/19 13:08	10
1,1-Dichloroethene	10	U	10	2.9	ug/L			05/18/19 13:08	10
1,2-Dichloropropane	10	U F1	10	7.2	ug/L			05/18/19 13:08	10
Ethylbenzene	10	U	10	7.4	ug/L			05/18/19 13:08	10
2-Hexanone	50	U	50	12	ug/L			05/18/19 13:08	10
Isopropylbenzene	10	U F1	10	7.9	ug/L			05/18/19 13:08	10
Methyl acetate	25	U	25	13	ug/L			05/18/19 13:08	10
Methylcyclohexane	10	U	10	1.6	ug/L			05/18/19 13:08	10
Methylene Chloride	5.5	J	10	4.4	ug/L			05/18/19 13:08	10
4-Methyl-2-pentanone (MIBK)	50	U	50	21	ug/L			05/18/19 13:08	10
Methyl tert-butyl ether	10	U	10	1.6	ug/L			05/18/19 13:08	10
Styrene	10	U	10	7.3	ug/L			05/18/19 13:08	10
1,1,2,2-Tetrachloroethane	10	U F1	10	2.1	ug/L			05/18/19 13:08	10
Tetrachloroethene	10	U	10	3.6	ug/L			05/18/19 13:08	10
Toluene	10	U	10	5.1	ug/L			05/18/19 13:08	10
trans-1,2-Dichloroethene	10	U	10	9.0	ug/L			05/18/19 13:08	10
trans-1,3-Dichloropropene	10	U	10	3.7	ug/L			05/18/19 13:08	10
1,2,4-Trichlorobenzene	10	U	10	4.1	ug/L			05/18/19 13:08	10
1,1,1-Trichloroethane	10	U	10	8.2	ug/L			05/18/19 13:08	10
1,1,2-Trichloroethane	10	U	10	2.3	ug/L			05/18/19 13:08	10
Trichloroethene	7.0	J	10	4.6	ug/L			05/18/19 13:08	10
Trichlorofluoromethane	10	U	10	8.8	ug/L			05/18/19 13:08	10
1,1,2-Trichloro-1,2,2-trifluoroethane	10	U	10	3.1	ug/L			05/18/19 13:08	10
Vinyl chloride	190		10	9.0	ug/L			05/18/19 13:08	10
Xylenes, Total	20	U	20	6.6	ug/L			05/18/19 13:08	10

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-153278-1

Client Sample ID: MW-19-050819

Lab Sample ID: 480-153278-13

Date Collected: 05/08/19 12:20

Matrix: Water

Date Received: 05/09/19 05:30

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	108		73 - 120		05/18/19 13:08	10
Dibromofluoromethane (Surr)	116		75 - 123		05/18/19 13:08	10
1,2-Dichloroethane-d4 (Surr)	117		77 - 120		05/18/19 13:08	10
Toluene-d8 (Surr)	112		80 - 120		05/18/19 13:08	10

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethene	310	F4 J	77	17	ug/L			05/21/19 19:03	11

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	320	J-H J	330	66	ug/L			06/03/19 17:52	44
Methane	3300	H J	180	44	ug/L			06/03/19 17:52	44

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TOC Result 1	5.1		1.0	0.43	mg/L			06/05/19 04:57	1
TOC Result 2	5.2		1.0	0.43	mg/L			06/05/19 04:57	1
Total Organic Carbon	5.2		1.0	0.43	mg/L			06/05/19 04:57	1

Client Sample ID: MW-23-050819

Lab Sample ID: 480-153278-14

Date Collected: 05/08/19 08:50

Matrix: Water

Date Received: 05/09/19 05:30

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			05/18/19 13:33	2
Benzene	2.0	U	2.0	0.82	ug/L			05/18/19 13:33	2
Bromodichloromethane	2.0	U	2.0	0.78	ug/L			05/18/19 13:33	2
Bromoform	2.0	U	2.0	0.52	ug/L			05/18/19 13:33	2
Bromomethane	2.0	U	2.0	1.4	ug/L			05/18/19 13:33	2
2-Butanone (MEK)	20	U	20	2.6	ug/L			05/18/19 13:33	2
Carbon disulfide	2.0	U	2.0	0.38	ug/L			05/18/19 13:33	2
Carbon tetrachloride	2.0	U	2.0	0.54	ug/L			05/18/19 13:33	2
Chlorobenzene	2.0	U	2.0	1.5	ug/L			05/18/19 13:33	2
Chloroethane	2.0	U	2.0	0.64	ug/L			05/18/19 13:33	2
Chloroform	2.0	U	2.0	0.68	ug/L			05/18/19 13:33	2
Chloromethane	2.0	U	2.0	0.70	ug/L			05/18/19 13:33	2
cis-1,2-Dichloroethene	2.0	U	2.0	1.6	ug/L			05/18/19 13:33	2
cis-1,3-Dichloropropene	2.0	U	2.0	0.72	ug/L			05/18/19 13:33	2
Cyclohexane	2.0	U	2.0	0.36	ug/L			05/18/19 13:33	2
Dibromochloromethane	2.0	U	2.0	0.64	ug/L			05/18/19 13:33	2
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.78	ug/L			05/18/19 13:33	2
1,2-Dibromoethane	2.0	U	2.0	1.5	ug/L			05/18/19 13:33	2
1,2-Dichlorobenzene	2.0	U	2.0	1.6	ug/L			05/18/19 13:33	2
1,3-Dichlorobenzene	2.0	U	2.0	1.6	ug/L			05/18/19 13:33	2
1,4-Dichlorobenzene	2.0	U	2.0	1.7	ug/L			05/18/19 13:33	2
Dichlorodifluoromethane	2.0	U	2.0	1.4	ug/L			05/18/19 13:33	2
1,1-Dichloroethane	2.0	U	2.0	0.76	ug/L			05/18/19 13:33	2
1,2-Dichloroethane	0.50	J	2.0	0.42	ug/L			05/18/19 13:33	2
1,1-Dichloroethene	2.0	U	2.0	0.58	ug/L			05/18/19 13:33	2

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-153278-1

Client Sample ID: MW-23-050819

Lab Sample ID: 480-153278-14

Date Collected: 05/08/19 08:50

Matrix: Water

Date Received: 05/09/19 05:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloropropane	2.0	U	2.0	1.4	ug/L			05/18/19 13:33	2
Ethylbenzene	2.0	U	2.0	1.5	ug/L			05/18/19 13:33	2
2-Hexanone	10	U	10	2.5	ug/L			05/18/19 13:33	2
Isopropylbenzene	2.0	U	2.0	1.6	ug/L			05/18/19 13:33	2
Methyl acetate	5.0	U	5.0	2.6	ug/L			05/18/19 13:33	2
Methylcyclohexane	2.0	U	2.0	0.32	ug/L			05/18/19 13:33	2
Methylene Chloride	1.2	J	2.0	0.88	ug/L			05/18/19 13:33	2
4-Methyl-2-pentanone (MIBK)	10	U	10	4.2	ug/L			05/18/19 13:33	2
Methyl tert-butyl ether	2.0	U	2.0	0.32	ug/L			05/18/19 13:33	2
Styrene	2.0	U	2.0	1.5	ug/L			05/18/19 13:33	2
1,1,2,2-Tetrachloroethane	2.0	U	2.0	0.42	ug/L			05/18/19 13:33	2
Tetrachloroethene	2.0	U	2.0	0.72	ug/L			05/18/19 13:33	2
Toluene	2.0	U	2.0	1.0	ug/L			05/18/19 13:33	2
trans-1,2-Dichloroethene	2.0	U	2.0	1.8	ug/L			05/18/19 13:33	2
trans-1,3-Dichloropropene	2.0	U	2.0	0.74	ug/L			05/18/19 13:33	2
1,2,4-Trichlorobenzene	2.0	U	2.0	0.82	ug/L			05/18/19 13:33	2
1,1,1-Trichloroethane	2.0	U	2.0	1.6	ug/L			05/18/19 13:33	2
1,1,2-Trichloroethane	2.0	U	2.0	0.46	ug/L			05/18/19 13:33	2
Trichloroethene	2.0	U	2.0	0.92	ug/L			05/18/19 13:33	2
Trichlorofluoromethane	2.0	U	2.0	1.8	ug/L			05/18/19 13:33	2
1,1,2-Trichloro-1,2,2-trifluoroethane	2.0	U	2.0	0.62	ug/L			05/18/19 13:33	2
Vinyl chloride	2.0	U	2.0	1.8	ug/L			05/18/19 13:33	2
Xylenes, Total	4.0	U	4.0	1.3	ug/L			05/18/19 13:33	2

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		73 - 120		05/18/19 13:33	2
Dibromofluoromethane (Surr)	116		75 - 123		05/18/19 13:33	2
1,2-Dichloroethane-d4 (Surr)	113		77 - 120		05/18/19 13:33	2
Toluene-d8 (Surr)	110		80 - 120		05/18/19 13:33	2

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TOC Result 1	13		1.0	0.43	mg/L			06/05/19 06:48	1
TOC Result 2	13		1.0	0.43	mg/L			06/05/19 06:48	1
Total Organic Carbon	14		1.0	0.43	mg/L			06/05/19 06:48	1

Client Sample ID: MW-24-050819

Lab Sample ID: 480-153278-15

Date Collected: 05/08/19 10:00

Matrix: Water

Date Received: 05/09/19 05:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	1000	U	1000	300	ug/L			05/18/19 04:22	100
Benzene	100	U	100	41	ug/L			05/18/19 04:22	100
Bromodichloromethane	100	U	100	39	ug/L			05/18/19 04:22	100
Bromoform	100	U	100	26	ug/L			05/18/19 04:22	100
Bromomethane	100	U	100	69	ug/L			05/18/19 04:22	100
2-Butanone (MEK)	1000	U	1000	130	ug/L			05/18/19 04:22	100
Carbon disulfide	100	U	100	19	ug/L			05/18/19 04:22	100
Carbon tetrachloride	100	U	100	27	ug/L			05/18/19 04:22	100

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-153278-1

Client Sample ID: MW-24-050819

Lab Sample ID: 480-153278-15

Date Collected: 05/08/19 10:00

Matrix: Water

Date Received: 05/09/19 05:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	100	U	100	75	ug/L			05/18/19 04:22	100
Chloroethane	100	U	100	32	ug/L			05/18/19 04:22	100
Chloroform	100	U	100	34	ug/L			05/18/19 04:22	100
Chloromethane	100	U	100	35	ug/L			05/18/19 04:22	100
cis-1,2-Dichloroethene	2200		100	81	ug/L			05/18/19 04:22	100
cis-1,3-Dichloropropene	100	U	100	36	ug/L			05/18/19 04:22	100
Cyclohexane	100	U	100	18	ug/L			05/18/19 04:22	100
Dibromochloromethane	100	U	100	32	ug/L			05/18/19 04:22	100
1,2-Dibromo-3-Chloropropane	100	U	100	39	ug/L			05/18/19 04:22	100
1,2-Dibromoethane	100	U	100	73	ug/L			05/18/19 04:22	100
1,2-Dichlorobenzene	100	U	100	79	ug/L			05/18/19 04:22	100
1,3-Dichlorobenzene	100	U	100	78	ug/L			05/18/19 04:22	100
1,4-Dichlorobenzene	100	U	100	84	ug/L			05/18/19 04:22	100
Dichlorodifluoromethane	100	U	100	68	ug/L			05/18/19 04:22	100
1,1-Dichloroethane	210		100	38	ug/L			05/18/19 04:22	100
1,2-Dichloroethane	100	U	100	21	ug/L			05/18/19 04:22	100
1,1-Dichloroethene	100	U	100	29	ug/L			05/18/19 04:22	100
1,2-Dichloropropane	100	U	100	72	ug/L			05/18/19 04:22	100
Ethylbenzene	100	U	100	74	ug/L			05/18/19 04:22	100
2-Hexanone	500	U	500	120	ug/L			05/18/19 04:22	100
Isopropylbenzene	100	U	100	79	ug/L			05/18/19 04:22	100
Methyl acetate	250	U	250	130	ug/L			05/18/19 04:22	100
Methylcyclohexane	100	U	100	16	ug/L			05/18/19 04:22	100
Methylene Chloride	100	U	100	44	ug/L			05/18/19 04:22	100
4-Methyl-2-pentanone (MIBK)	500	U	500	210	ug/L			05/18/19 04:22	100
Methyl tert-butyl ether	100	U	100	16	ug/L			05/18/19 04:22	100
Styrene	100	U	100	73	ug/L			05/18/19 04:22	100
1,1,2,2-Tetrachloroethane	100	U	100	21	ug/L			05/18/19 04:22	100
Tetrachloroethene	100	U	100	36	ug/L			05/18/19 04:22	100
Toluene	100	U	100	51	ug/L			05/18/19 04:22	100
trans-1,2-Dichloroethene	100	U	100	90	ug/L			05/18/19 04:22	100
trans-1,3-Dichloropropene	100	U	100	37	ug/L			05/18/19 04:22	100
1,2,4-Trichlorobenzene	100	U	100	41	ug/L			05/18/19 04:22	100
1,1,1-Trichloroethane	150		100	82	ug/L			05/18/19 04:22	100
1,1,2-Trichloroethane	100	U	100	23	ug/L			05/18/19 04:22	100
Trichloroethene	100	U	100	46	ug/L			05/18/19 04:22	100
Trichlorofluoromethane	100	U	100	88	ug/L			05/18/19 04:22	100
1,1,2-Trichloro-1,2,2-trifluoroethane	100	U	100	31	ug/L			05/18/19 04:22	100
Vinyl chloride	1500		100	90	ug/L			05/18/19 04:22	100
Xylenes, Total	200	U	200	66	ug/L			05/18/19 04:22	100

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		73 - 120		05/18/19 04:22	100
Dibromofluoromethane (Surr)	102		75 - 123		05/18/19 04:22	100
1,2-Dichloroethane-d4 (Surr)	98		77 - 120		05/18/19 04:22	100
Toluene-d8 (Surr)	90		80 - 120		05/18/19 04:22	100

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TOC Result 1	91		1.0	0.43	mg/L			06/05/19 07:16	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-153278-1

Client Sample ID: MW-24-050819

Lab Sample ID: 480-153278-15

Date Collected: 05/08/19 10:00

Matrix: Water

Date Received: 05/09/19 05:30

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TOC Result 2	88		1.0	0.43	mg/L			06/05/19 07:16	1
Total Organic Carbon	89		1.0	0.43	mg/L			06/05/19 07:16	1

Client Sample ID: MW-25-050819

Lab Sample ID: 480-153278-16

Date Collected: 05/08/19 11:20

Matrix: Water

Date Received: 05/09/19 05:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	1000	U	1000	300	ug/L			05/18/19 04:48	100
Benzene	100	U	100	41	ug/L			05/18/19 04:48	100
Bromodichloromethane	100	U	100	39	ug/L			05/18/19 04:48	100
Bromoform	100	U	100	26	ug/L			05/18/19 04:48	100
Bromomethane	100	U	100	69	ug/L			05/18/19 04:48	100
2-Butanone (MEK)	1000	U	1000	130	ug/L			05/18/19 04:48	100
Carbon disulfide	100	U	100	19	ug/L			05/18/19 04:48	100
Carbon tetrachloride	100	U	100	27	ug/L			05/18/19 04:48	100
Chlorobenzene	100	U	100	75	ug/L			05/18/19 04:48	100
Chloroethane	100	U	100	32	ug/L			05/18/19 04:48	100
Chloroform	100	U	100	34	ug/L			05/18/19 04:48	100
Chloromethane	100	U	100	35	ug/L			05/18/19 04:48	100
cis-1,2-Dichloroethene	650		100	81	ug/L			05/18/19 04:48	100
cis-1,3-Dichloropropene	100	U	100	36	ug/L			05/18/19 04:48	100
Cyclohexane	100	U	100	18	ug/L			05/18/19 04:48	100
Dibromochloromethane	100	U	100	32	ug/L			05/18/19 04:48	100
1,2-Dibromo-3-Chloropropane	100	U	100	39	ug/L			05/18/19 04:48	100
1,2-Dibromoethane	100	U	100	73	ug/L			05/18/19 04:48	100
1,2-Dichlorobenzene	100	U	100	79	ug/L			05/18/19 04:48	100
1,3-Dichlorobenzene	100	U	100	78	ug/L			05/18/19 04:48	100
1,4-Dichlorobenzene	100	U	100	84	ug/L			05/18/19 04:48	100
Dichlorodifluoromethane	100	U	100	68	ug/L			05/18/19 04:48	100
1,1-Dichloroethane	100	U	100	38	ug/L			05/18/19 04:48	100
1,2-Dichloroethane	100	U	100	21	ug/L			05/18/19 04:48	100
1,1-Dichloroethene	100	U	100	29	ug/L			05/18/19 04:48	100
1,2-Dichloropropane	100	U	100	72	ug/L			05/18/19 04:48	100
Ethylbenzene	100	U	100	74	ug/L			05/18/19 04:48	100
2-Hexanone	500	U	500	120	ug/L			05/18/19 04:48	100
Isopropylbenzene	100	U	100	79	ug/L			05/18/19 04:48	100
Methyl acetate	250	U	250	130	ug/L			05/18/19 04:48	100
Methylcyclohexane	100	U	100	16	ug/L			05/18/19 04:48	100
Methylene Chloride	100	U	100	44	ug/L			05/18/19 04:48	100
4-Methyl-2-pentanone (MIBK)	500	U	500	210	ug/L			05/18/19 04:48	100
Methyl tert-butyl ether	100	U	100	16	ug/L			05/18/19 04:48	100
Styrene	100	U	100	73	ug/L			05/18/19 04:48	100
1,1,2,2-Tetrachloroethane	100	U	100	21	ug/L			05/18/19 04:48	100
Tetrachloroethene	3200		100	36	ug/L			05/18/19 04:48	100
Toluene	100	U	100	51	ug/L			05/18/19 04:48	100
trans-1,2-Dichloroethene	100	U	100	90	ug/L			05/18/19 04:48	100
trans-1,3-Dichloropropene	100	U	100	37	ug/L			05/18/19 04:48	100
1,2,4-Trichlorobenzene	100	U	100	41	ug/L			05/18/19 04:48	100

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-153278-1

Client Sample ID: MW-25-050819

Lab Sample ID: 480-153278-16

Date Collected: 05/08/19 11:20

Matrix: Water

Date Received: 05/09/19 05:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	100	U	100	82	ug/L			05/18/19 04:48	100
1,1,2-Trichloroethane	100	U	100	23	ug/L			05/18/19 04:48	100
Trichloroethene	130		100	46	ug/L			05/18/19 04:48	100
Trichlorofluoromethane	100	U	100	88	ug/L			05/18/19 04:48	100
1,1,2-Trichloro-1,2,2-trifluoroethane	100	U	100	31	ug/L			05/18/19 04:48	100
Vinyl chloride	640		100	90	ug/L			05/18/19 04:48	100
Xylenes, Total	200	U	200	66	ug/L			05/18/19 04:48	100

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		73 - 120		05/18/19 04:48	100
Dibromofluoromethane (Surr)	107		75 - 123		05/18/19 04:48	100
1,2-Dichloroethane-d4 (Surr)	107		77 - 120		05/18/19 04:48	100
Toluene-d8 (Surr)	93		80 - 120		05/18/19 04:48	100

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethene	180	J	7.0	1.5	ug/L			05/21/19 23:08	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	660	H J	660	130	ug/L			06/03/19 20:23	88
Methane	4900	H J	350	88	ug/L			06/03/19 20:23	88

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TOC Result 1	6.0		1.0	0.43	mg/L			06/05/19 07:43	1
TOC Result 2	5.9		1.0	0.43	mg/L			06/05/19 07:43	1
Total Organic Carbon	6.0		1.0	0.43	mg/L			06/05/19 07:43	1

Client Sample ID: DUP-1-050819

Lab Sample ID: 480-153278-17

Date Collected: 05/08/19 00:00

Matrix: Water

Date Received: 05/09/19 05:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	100	U	100	30	ug/L			05/18/19 05:14	10
Benzene	7.5	J	10	4.1	ug/L			05/18/19 05:14	10
Bromodichloromethane	10	U	10	3.9	ug/L			05/18/19 05:14	10
Bromoform	10	U	10	2.6	ug/L			05/18/19 05:14	10
Bromomethane	10	U	10	6.9	ug/L			05/18/19 05:14	10
2-Butanone (MEK)	100	U	100	13	ug/L			05/18/19 05:14	10
Carbon disulfide	10	U	10	1.9	ug/L			05/18/19 05:14	10
Carbon tetrachloride	10	U	10	2.7	ug/L			05/18/19 05:14	10
Chlorobenzene	10	U	10	7.5	ug/L			05/18/19 05:14	10
Chloroethane	47		10	3.2	ug/L			05/18/19 05:14	10
Chloroform	10	U	10	3.4	ug/L			05/18/19 05:14	10
Chloromethane	10	U	10	3.5	ug/L			05/18/19 05:14	10
cis-1,2-Dichloroethene	520		10	8.1	ug/L			05/18/19 05:14	10
cis-1,3-Dichloropropene	10	U	10	3.6	ug/L			05/18/19 05:14	10
Cyclohexane	10	U	10	1.8	ug/L			05/18/19 05:14	10
Dibromochloromethane	10	U	10	3.2	ug/L			05/18/19 05:14	10

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-153278-1

Client Sample ID: DUP-1-050819

Lab Sample ID: 480-153278-17

Date Collected: 05/08/19 00:00

Matrix: Water

Date Received: 05/09/19 05:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	10	U	10	3.9	ug/L			05/18/19 05:14	10
1,2-Dibromoethane	10	U	10	7.3	ug/L			05/18/19 05:14	10
1,2-Dichlorobenzene	10	U	10	7.9	ug/L			05/18/19 05:14	10
1,3-Dichlorobenzene	10	U	10	7.8	ug/L			05/18/19 05:14	10
1,4-Dichlorobenzene	10	U	10	8.4	ug/L			05/18/19 05:14	10
Dichlorodifluoromethane	10	U	10	6.8	ug/L			05/18/19 05:14	10
1,1-Dichloroethane	18	J	10	3.8	ug/L			05/18/19 05:14	10
1,2-Dichloroethane	10	U	10	2.1	ug/L			05/18/19 05:14	10
1,1-Dichloroethene	10	U	10	2.9	ug/L			05/18/19 05:14	10
1,2-Dichloropropane	10	U	10	7.2	ug/L			05/18/19 05:14	10
Ethylbenzene	10	U	10	7.4	ug/L			05/18/19 05:14	10
2-Hexanone	50	U	50	12	ug/L			05/18/19 05:14	10
Isopropylbenzene	10	U	10	7.9	ug/L			05/18/19 05:14	10
Methyl acetate	25	U	25	13	ug/L			05/18/19 05:14	10
Methylcyclohexane	10	U	10	1.6	ug/L			05/18/19 05:14	10
Methylene Chloride	10	U	10	4.4	ug/L			05/18/19 05:14	10
4-Methyl-2-pentanone (MIBK)	50	U	50	21	ug/L			05/18/19 05:14	10
Methyl tert-butyl ether	10	U	10	1.6	ug/L			05/18/19 05:14	10
Styrene	10	U	10	7.3	ug/L			05/18/19 05:14	10
1,1,2,2-Tetrachloroethane	10	U	10	2.1	ug/L			05/18/19 05:14	10
Tetrachloroethene	3.6	J	10	3.6	ug/L			05/18/19 05:14	10
Toluene	10	U	10	5.1	ug/L			05/18/19 05:14	10
trans-1,2-Dichloroethene	10	U	10	9.0	ug/L			05/18/19 05:14	10
trans-1,3-Dichloropropene	10	U	10	3.7	ug/L			05/18/19 05:14	10
1,2,4-Trichlorobenzene	10	U	10	4.1	ug/L			05/18/19 05:14	10
1,1,1-Trichloroethane	10	U	10	8.2	ug/L			05/18/19 05:14	10
1,1,2-Trichloroethane	10	U	10	2.3	ug/L			05/18/19 05:14	10
Trichloroethene	7.9	J	10	4.6	ug/L			05/18/19 05:14	10
Trichlorofluoromethane	10	U	10	8.8	ug/L			05/18/19 05:14	10
1,1,2-Trichloro-1,2,2-trifluoroethane	10	U	10	3.1	ug/L			05/18/19 05:14	10
Vinyl chloride	170		10	9.0	ug/L			05/18/19 05:14	10
Xylenes, Total	20	U	20	6.6	ug/L			05/18/19 05:14	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	80		73 - 120		05/18/19 05:14	10
Dibromofluoromethane (Surr)	109		75 - 123		05/18/19 05:14	10
1,2-Dichloroethane-d4 (Surr)	109		77 - 120		05/18/19 05:14	10
Toluene-d8 (Surr)	85		80 - 120		05/18/19 05:14	10

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethene	320	J	7.0	1.5	ug/L			05/21/19 23:27	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	200	J-H J	660	130	ug/L			06/03/19 20:42	88
Methane	1700	H J	350	88	ug/L			06/03/19 20:42	88

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-153278-1

Client Sample ID: DUP-1-050819

Lab Sample ID: 480-153278-17

Date Collected: 05/08/19 00:00

Matrix: Water

Date Received: 05/09/19 05:30

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TOC Result 1	5.3		1.0	0.43	mg/L			06/05/19 08:11	1
TOC Result 2	5.3		1.0	0.43	mg/L			06/05/19 08:11	1
Total Organic Carbon	5.3		1.0	0.43	mg/L			06/05/19 08:11	1

Client Sample ID: FB-1-050719

Lab Sample ID: 480-153278-18

Date Collected: 05/07/19 17:30

Matrix: Water

Date Received: 05/09/19 05:30

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			05/18/19 05:41	1
Benzene	1.0	U	1.0	0.41	ug/L			05/18/19 05:41	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			05/18/19 05:41	1
Bromoform	1.0	U	1.0	0.26	ug/L			05/18/19 05:41	1
Bromomethane	1.0	U	1.0	0.69	ug/L			05/18/19 05:41	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			05/18/19 05:41	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			05/18/19 05:41	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			05/18/19 05:41	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			05/18/19 05:41	1
Chloroethane	1.0	U	1.0	0.32	ug/L			05/18/19 05:41	1
Chloroform	1.0	U	1.0	0.34	ug/L			05/18/19 05:41	1
Chloromethane	1.0	U	1.0	0.35	ug/L			05/18/19 05:41	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			05/18/19 05:41	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			05/18/19 05:41	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			05/18/19 05:41	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			05/18/19 05:41	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			05/18/19 05:41	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			05/18/19 05:41	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			05/18/19 05:41	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			05/18/19 05:41	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			05/18/19 05:41	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			05/18/19 05:41	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			05/18/19 05:41	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			05/18/19 05:41	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			05/18/19 05:41	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			05/18/19 05:41	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			05/18/19 05:41	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			05/18/19 05:41	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			05/18/19 05:41	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			05/18/19 05:41	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			05/18/19 05:41	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			05/18/19 05:41	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			05/18/19 05:41	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			05/18/19 05:41	1
Styrene	1.0	U	1.0	0.73	ug/L			05/18/19 05:41	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			05/18/19 05:41	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			05/18/19 05:41	1
Toluene	1.0	U	1.0	0.51	ug/L			05/18/19 05:41	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			05/18/19 05:41	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			05/18/19 05:41	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-153278-1

Client Sample ID: FB-1-050719

Lab Sample ID: 480-153278-18

Date Collected: 05/07/19 17:30

Matrix: Water

Date Received: 05/09/19 05:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			05/18/19 05:41	1
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			05/18/19 05:41	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			05/18/19 05:41	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			05/18/19 05:41	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			05/18/19 05:41	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			05/18/19 05:41	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			05/18/19 05:41	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			05/18/19 05:41	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	86		73 - 120					05/18/19 05:41	1
Dibromofluoromethane (Surr)	101		75 - 123					05/18/19 05:41	1
1,2-Dichloroethane-d4 (Surr)	99		77 - 120					05/18/19 05:41	1
Toluene-d8 (Surr)	87		80 - 120					05/18/19 05:41	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			05/21/19 23:46	1
Ethene	7.0	U	7.0	1.5	ug/L			05/21/19 23:46	1
Methane	4.0	U *	4.0	1.0	ug/L			05/21/19 23:46	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			06/02/19 10:54	1
TOC Result 2	1.0	U	1.0	0.43	mg/L			06/02/19 10:54	1
Total Organic Carbon	1.0	U	1.0	0.43	mg/L			06/02/19 10:54	1

Client Sample ID: FB-2-050819

Lab Sample ID: 480-153278-19

Date Collected: 05/08/19 10:15

Matrix: Water

Date Received: 05/09/19 05:30

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			05/18/19 06:07	1
Benzene	1.0	U	1.0	0.41	ug/L			05/18/19 06:07	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			05/18/19 06:07	1
Bromoform	1.0	U	1.0	0.26	ug/L			05/18/19 06:07	1
Bromomethane	1.0	U	1.0	0.69	ug/L			05/18/19 06:07	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			05/18/19 06:07	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			05/18/19 06:07	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			05/18/19 06:07	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			05/18/19 06:07	1
Chloroethane	1.0	U	1.0	0.32	ug/L			05/18/19 06:07	1
Chloroform	1.0	U	1.0	0.34	ug/L			05/18/19 06:07	1
Chloromethane	1.0	U	1.0	0.35	ug/L			05/18/19 06:07	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			05/18/19 06:07	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			05/18/19 06:07	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			05/18/19 06:07	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			05/18/19 06:07	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			05/18/19 06:07	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			05/18/19 06:07	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-153278-1

Client Sample ID: FB-2-050819

Lab Sample ID: 480-153278-19

Date Collected: 05/08/19 10:15

Matrix: Water

Date Received: 05/09/19 05:30

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			05/18/19 06:07	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			05/18/19 06:07	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			05/18/19 06:07	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			05/18/19 06:07	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			05/18/19 06:07	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			05/18/19 06:07	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			05/18/19 06:07	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			05/18/19 06:07	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			05/18/19 06:07	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			05/18/19 06:07	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			05/18/19 06:07	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			05/18/19 06:07	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			05/18/19 06:07	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			05/18/19 06:07	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			05/18/19 06:07	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			05/18/19 06:07	1
Styrene	1.0	U	1.0	0.73	ug/L			05/18/19 06:07	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			05/18/19 06:07	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			05/18/19 06:07	1
Toluene	1.0	U	1.0	0.51	ug/L			05/18/19 06:07	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			05/18/19 06:07	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			05/18/19 06:07	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			05/18/19 06:07	1
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			05/18/19 06:07	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			05/18/19 06:07	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			05/18/19 06:07	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			05/18/19 06:07	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			05/18/19 06:07	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			05/18/19 06:07	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			05/18/19 06:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		73 - 120		05/18/19 06:07	1
Dibromofluoromethane (Surr)	111		75 - 123		05/18/19 06:07	1
1,2-Dichloroethane-d4 (Surr)	108		77 - 120		05/18/19 06:07	1
Toluene-d8 (Surr)	96		80 - 120		05/18/19 06:07	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			05/22/19 00:05	1
Ethene	7.0	U	7.0	1.5	ug/L			05/22/19 00:05	1
Methane	4.0	U	4.0	1.0	ug/L			05/22/19 00:05	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			06/02/19 11:20	1
TOC Result 2	1.0	U	1.0	0.43	mg/L			06/02/19 11:20	1
Total Organic Carbon	1.0	U	1.0	0.43	mg/L			06/02/19 11:20	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-153278-1

Client Sample ID: Trip Blank

Lab Sample ID: 480-153278-20

Date Collected: 05/08/19 00:00

Matrix: Water

Date Received: 05/09/19 05:30

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			05/18/19 06:33	1
Benzene	1.0	U	1.0	0.41	ug/L			05/18/19 06:33	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			05/18/19 06:33	1
Bromoform	1.0	U	1.0	0.26	ug/L			05/18/19 06:33	1
Bromomethane	1.0	U	1.0	0.69	ug/L			05/18/19 06:33	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			05/18/19 06:33	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			05/18/19 06:33	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			05/18/19 06:33	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			05/18/19 06:33	1
Chloroethane	1.0	U	1.0	0.32	ug/L			05/18/19 06:33	1
Chloroform	1.0	U	1.0	0.34	ug/L			05/18/19 06:33	1
Chloromethane	1.0	U	1.0	0.35	ug/L			05/18/19 06:33	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			05/18/19 06:33	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			05/18/19 06:33	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			05/18/19 06:33	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			05/18/19 06:33	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			05/18/19 06:33	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			05/18/19 06:33	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			05/18/19 06:33	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			05/18/19 06:33	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			05/18/19 06:33	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			05/18/19 06:33	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			05/18/19 06:33	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			05/18/19 06:33	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			05/18/19 06:33	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			05/18/19 06:33	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			05/18/19 06:33	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			05/18/19 06:33	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			05/18/19 06:33	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			05/18/19 06:33	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			05/18/19 06:33	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			05/18/19 06:33	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			05/18/19 06:33	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			05/18/19 06:33	1
Styrene	1.0	U	1.0	0.73	ug/L			05/18/19 06:33	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			05/18/19 06:33	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			05/18/19 06:33	1
Toluene	1.0	U	1.0	0.51	ug/L			05/18/19 06:33	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			05/18/19 06:33	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			05/18/19 06:33	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			05/18/19 06:33	1
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			05/18/19 06:33	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			05/18/19 06:33	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			05/18/19 06:33	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			05/18/19 06:33	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			05/18/19 06:33	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			05/18/19 06:33	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			05/18/19 06:33	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-153278-1

Client Sample ID: Trip Blank

Lab Sample ID: 480-153278-20

Date Collected: 05/08/19 00:00

Matrix: Water

Date Received: 05/09/19 05:30

<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
4-Bromofluorobenzene (Surr)	112		73 - 120		05/18/19 06:33	1
Dibromofluoromethane (Surr)	112		75 - 123		05/18/19 06:33	1
1,2-Dichloroethane-d4 (Surr)	106		77 - 120		05/18/19 06:33	1
Toluene-d8 (Surr)	133	X	80 - 120		05/18/19 06:33	1

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:	480-162368-1
Analyses:	VOCs – 8260C, Dissolved Gases – RSK 175, Metals – 6010C, Anions – SM 300.0, Nitrogen (Nitrate and Nitrite) – SM 353.2 and TOC - 9060A
QA Reporting Level:	ARCADIS, Level II
ARCADIS Project Manager:	Shannon Lloyd

Environmental
Project:
Ashland
Rensselaer

Project Number:
30039411.00402

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	Lab Sample ID	Sample Date	Parent Sample
480-162368-1	MW-13-110619	480-162368-1	11/06/19	
480-162368-1	MW-25-110619	480-162368-2	11/06/19	
480-162368-1	MW-17-110619	480-162368-3	11/06/19	
480-162368-1	MW-20-110619	480-162368-4	11/06/19	
480-162368-1	MW-15-110619	480-162368-5	11/06/19	
480-162368-1	MW-A1-110619	480-162368-6	11/06/19	
480-162368-1	FB-1-110619	480-162368-7	11/06/19	
480-162368-1	TRIP BLANK	480-162368-8	11/06/19	
480-162368-1	DUP-1-110619	480-162368-9	11/06/19	MW-19-110619
480-162368-1	MW-19-110619	480-162368-10	11/06/19	
480-162368-1	MW-23-110619	480-162368-11	11/06/19	
480-162368-1	MW-24-110619	480-162368-12	11/06/19	
480-162368-1	MW-B1-110619	480-162368-13	11/06/19	
480-162368-1	IW-B3-110619	480-162368-14	11/06/19	

I. GENERAL INFORMATION

ITEMS REVIEWED	REPORTED / REVIEWED		EXCEPTIONS NOTED		GENERAL COMMENTS NOTED		ITEM NOT REQUIRED
	NO	YES	NO	YES	NO	YES	
1. Chain of Custody		X	X		X		
2. Sampling dates and times		X	X		X		
3. Sample type on COC		X	X		X		
4. Field QC samples		X	X		X		
5. Case Narrative		X	X		X		
6. Laboratory Report Checklist		X	X		X		
7. Laboratory Exception Reports		X	X		X		
8. TRRP Format		X	X		X		
9. Sample Receipt Condition		X	X		X		

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

“Exceptions Noted” = If an exception was noted in the accompanying exception report (ER) this will be checked in the affirmative.

“General Comments Noted” = If there are other comments associated with Data Quality (not necessarily noted in the ER) this will be checked in the affirmative.

The analytical report was complete without exceptions or notations.

II.VOLATILES

	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. Matrix spike duplicate (MSD) %R		X	X		
9. MS/MSD RPD		X		X	
10. Surrogate Recoveries		X		X	
11. Field Duplicate Comparison		X		X	

VOCs - volatile organic compounds

%R - percent recovery

RPD - relative percent difference

MSD- Matrix Spike Duplicate

"Exceptions Noted" = If an exception was noted in the accompanying exception report (ER) this will be checked in the affirmative.

"General Comments Noted" = If there are other comments associated with Data Quality (not necessarily noted in the ER) this will be checked in the affirmative

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

- 3B. The compound acetone was detected above MDL in field blank. The field sample result for acetone in sample location MW-A1-110619 was less than the reporting limit and blank action limit. Hence the field sample result for acetone in sample location MW-A1-110619 is qualified as estimated (UB) at reporting limit.

All other associated field sample results were not detected. Hence no qualification is warranted.

- 7-9. The MS/MSD analysis was performed on sample MW-19-110619 and DUP-1-110619. The MS/MSD recovery and RPD were within the laboratory control limit for sample location MW-19-110619. The recovery of compound cis-1,2-Dichloroethene were less than the control limit in the MSD for sample location DUP-1-110619. The associated detected field sample results in sample locations DUP-1-110619 and MW-19-110619 were qualified as estimated (J).

11. Sample DUP-1-110619 was collected as field duplicate sample of MW-19-110619. The RPDs were acceptable at less than 30%.

III. DISSOLVED GASES

	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. Matrix spike duplicate (MSD) %R		X	X		
9. MS/MSD RPD		X		X	
10. Field Duplicate Comparison		X		X	

VOCs - volatile organic compounds

%R - percent recovery

RPD - relative percent difference

MSD- Matrix Spike Duplicate

"Exceptions Noted" = If an exception was noted in the accompanying exception report (ER) this will be checked in the affirmative.

"General Comments Noted" = If there are other comments associated with Data Quality (not necessarily noted in the ER) this will be checked in the affirmative

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

- 7-9. The MS/MSD analysis was performed on sample MW-19-110619. The MS/MSD recovery for compound ethene was greater than the control limit. The associated detected field sample results in sample locations MW-19-110619 was qualified as estimated (J). The MS/MSD recoveries exhibited acceptable RPDs.
10. Sample DUP-1-110619 was collected as field duplicate sample of MW-19-110619. The RPDs were acceptable at less than 30%.

IV. METALS

	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	
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. Matrix spike duplicate (MSD) %R		X		X	
9. MS/MSD RPD		X		X	
10. Field Duplicate Comparison	X				X

VOCs - volatile organic compounds

%R - percent recovery

RPD - relative percent difference

MSD- Matrix Spike Duplicate

"Exceptions Noted" = If an exception was noted in the accompanying exception report (ER) this will be checked in the affirmative.

"General Comments Noted" = If there are other comments associated with Data Quality (not necessarily noted in the ER) this will be checked in the affirmative

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

- 7-9. The MS/MSD analysis was performed on sample MW-19-110619. The MS/MSD recoveries and RPDs were within the laboratory control limit.

V. GENERAL CHEMISTRY

	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. Matrix spike duplicate (MSD) %R		X		X	
9. MS/MSD RPD		X		X	
10. Laboratory duplicate analysis (RPD)		X		X	
11. Field Duplicate Comparison	X				X

s - volatile organic compounds

%R - percent recovery

RPD - relative percent difference

MSD- Matrix Spike Duplicate

"Exceptions Noted" = If an exception was noted in the accompanying exception report (ER) this will be checked in the affirmative.

"General Comments Noted" = If there are other comments associated with Data Quality (not necessarily noted in the ER) this will be checked in the affirmative

COMMENTS: Performance was acceptable.

1. The nitrite analysis was performed beyond the holding time for sample location MW-20-110619 and MW-24-110619. The detected sample results were qualified as estimated (J).
- 3A. The analyte Nitrate Nitrite was detected above MDL in method blank. The associated field sample results were qualified as estimated (UB) at reporting limit and detected concentrations as applicable.
- 7-9. The MS/MSD analysis was performed on sample MW-20-110619 for sulfate analysis. The MS/MSD recoveries and RPD were within the laboratory control limit.

The MS/MSD analysis was performed on sample MW-19-110619 for nitrite, nitrate-nitrite and total organic carbon analysis. The MS/MSD recoveries and RPD were within the laboratory control limit.
7. The MS analysis was performed on sample MW-25-110619 and MW-24-110619 for nitrate-nitrite and total organic carbon analysis. The MS recoveries were within the laboratory control limit.
10. The laboratory duplicate analysis was performed on sample MW-25-110619 and MW-B1-110619 for nitrate-nitrite and total organic carbon analysis. The RPDs were within the laboratory control limit.
11. Sample DUP-1-110619 was collected as field duplicate sample of MW-19-110619. The RPDs were acceptable at less than 30%.

DATA VALIDATION QUALIFICATION SUMMARY

Qualifier Definitions:

J – Result is considered to be estimated at the value reported.

UJ – Result is considered not detected but estimated due to QC deficiencies.

UB – Result is considered not detected but estimated due to QC deficiencies.

Explanation/Notes:

Sample ID	Parameter	Result	Units	Qualifier	Reason
MW-25-110619	Nitrate Nitrite as N	0.050	mg/L	UB	Blank interference
	Nitrite as N	0.050	mg/L	UB	Blank interference
	Nitrate as N	0.050	mg/L	UB	Blank interference
MW-20-110619	Nitrate Nitrite as N	0.071	mg/L	UBJ	Holding time and blank interference
	Nitrite as N	0.050	mg/L	UBJ	Holding time and blank interference
	Nitrate as N	0.050	mg/L	UBJ	Holding time and blank interference
MW-15-110619	Nitrate Nitrite as N	0.050	mg/L	UB	Blank interference
	Nitrite as N	0.050	mg/L	UB	Blank interference
	Nitrate as N	0.050	mg/L	UB	Blank interference
MW-A1-110619	Acetone	20	µg/L	UB	Blank interference
DUP-1-110619	cis-1,2-Dichloroethene	480	µg/L	J	Low MSD %Recovery
	Ethene	380	µg/L	J	High MS/MSD %Recovery
MW-19-110619	cis-1,2-Dichloroethene	490	µg/L	J	Low MSD %Recovery
	Ethene	380	µg/L	J	High MS/MSD %Recovery
	Nitrate Nitrite as N	0.053	mg/L	UB	Blank interference
	Nitrite as N	0.050	mg/L	UB	Blank interference
	Nitrate as N	0.050	mg/L	UB	Blank interference
MW-23-110619	Nitrate Nitrite as N	0.050	mg/L	UB	Blank interference
	Nitrite as N	0.050	mg/L	UB	Blank interference
	Nitrate as N	0.050	mg/L	UB	Blank interference
MW-20-110619	Nitrate Nitrite as N	0.057	mg/L	UBJ	Holding time and blank interference
	Nitrite as N	0.072	mg/L	UBJ	Holding time and blank interference
	Nitrate as N	0.050	mg/L	UBJ	Holding time and blank interference

VALIDATION PERFORMED BY: Hrishikesh Upadhyaya

SIGNATURE:



DATE: December 20, 2019

PEER REVIEW BY: Dennis Capria

DATE: December 20, 2019

**CHAIN OF CUSTODY/
CORRECTED SAMPLE ANALYSIS DATA SHEET**

Albany
#224

Chain of Custody Record

363007 eurofins

Environment Testing
TestAmerica

(Address)

Regulatory Program: DW NPDES RCRA Other

TAL-8210

Client Contact		Project Manager: Joe Zaso		Site Contact: K. Bidwell		Date: 11/6/19		COC No.	
Company Name: ARCADIS		Tel/Email:		Lab Contact:		Carrier:		1 of 2 COCs	
Address: 855 RTE 146 STE 210		Analysis Turnaround Time							
City/State/Zip: Clifton Park, NY 12065		X CALENDAR DAYS WORKING DAYS							
Phone: (518) 250-7300		TAT if different from Below: Standard							
Project Name: Ashland Ren.		2 weeks							
City: Rensselaer, NY		1 week							
COC #		2 days							
		1 day							

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Performs MS/MSD (Y/N)	8260C	9060A	RSK 175	6010C - Fe/Mn	6010C - D32, Fe/Mn	300.0 280	353.2 Nitrate/N	Sample Specific Notes
MW-13-110619	11/6/19	0940	G	W	5			✓	✓						
MW-25-110619		1030			9			✓	✓	✓	✓	✓	✓		Direct Bill to
MW-17-110619		1125			5			✓	✓						IAN McCarty
MW-20-110619		1220			11			✓	✓	✓	✓	✓	✓		@ Ashland
MW-15-110619		1310			9			✓	✓	✓	✓	✓	✓		
MW-A1-110619		1410			8			✓	✓						
B-1-110619		1430	↓		11			✓	✓	✓	✓	✓	✓		11/11/19 EB
Tip Blank		—	—		3			✓							
DUP-1-110619		—	G		11			✓	✓	✓	✓	✓	✓		11/11/19 EB
MW-19-110619		1525	↓		33	Y		✓	✓	✓	✓	✓	✓		MS/MSD VOC, TOC,
MW-23-110619		1230	↓		11			✓	✓	✓	✓	✓	✓		RSK only
MW-24-110619		0950	↓		11			✓	✓	✓	✓	✓	✓		11/11/19 EB

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

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

Sample Hazard Identification: any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample (if the elements Section if the lab is to dispose of the sample)

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

Return to Client ☐ Dispose by Lab ☒ Archive for standard Months

Special Instructions/QC Requirements & Comments: # 3, 2, 2, 8

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.	Cooler Temp. (°C): Obs'd	Con'd	Therm ID No.
Quished by: Emmanuel Sosa	Company: ARCADIS	Date/Time: 11-6-19 1430	Received by: Karl Zacher	Company: Eurofins
Quished by: Karl Zacher	Company: Eurofins	Date/Time: 11-6-19 1700	Received by: Cwalle	Company: TAB
Quished by:	Company:	Date/Time:	Received in Laboratory by:	Company:

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12/16/2019 (Rev. 1)

15 14 13 12 11 10 9 8 7 6 5 4 3 2 1

#224

TAL-#210

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Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-162368-1

Client Sample ID: MW-13-110619

Lab Sample ID: 480-162368-1

Date Collected: 11/06/19 09:40

Matrix: Water

Date Received: 11/07/19 08:00

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			11/11/19 15:27	1
Benzene	1.0	U	1.0	0.41	ug/L			11/11/19 15:27	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			11/11/19 15:27	1
Bromoform	1.0	U	1.0	0.26	ug/L			11/11/19 15:27	1
Bromomethane	1.0	U	1.0	0.69	ug/L			11/11/19 15:27	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			11/11/19 15:27	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			11/11/19 15:27	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			11/11/19 15:27	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			11/11/19 15:27	1
Chloroethane	1.0	U	1.0	0.32	ug/L			11/11/19 15:27	1
Chloroform	1.0	U	1.0	0.34	ug/L			11/11/19 15:27	1
Chloromethane	1.0	U	1.0	0.35	ug/L			11/11/19 15:27	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			11/11/19 15:27	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			11/11/19 15:27	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			11/11/19 15:27	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			11/11/19 15:27	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			11/11/19 15:27	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			11/11/19 15:27	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			11/11/19 15:27	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			11/11/19 15:27	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			11/11/19 15:27	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			11/11/19 15:27	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			11/11/19 15:27	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			11/11/19 15:27	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			11/11/19 15:27	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			11/11/19 15:27	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			11/11/19 15:27	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			11/11/19 15:27	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			11/11/19 15:27	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			11/11/19 15:27	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			11/11/19 15:27	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			11/11/19 15:27	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			11/11/19 15:27	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			11/11/19 15:27	1
Styrene	1.0	U	1.0	0.73	ug/L			11/11/19 15:27	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			11/11/19 15:27	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			11/11/19 15:27	1
Toluene	1.0	U	1.0	0.51	ug/L			11/11/19 15:27	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			11/11/19 15:27	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			11/11/19 15:27	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			11/11/19 15:27	1
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			11/11/19 15:27	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			11/11/19 15:27	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			11/11/19 15:27	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			11/11/19 15:27	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			11/11/19 15:27	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			11/11/19 15:27	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			11/11/19 15:27	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-162368-1

Client Sample ID: MW-13-110619

Lab Sample ID: 480-162368-1

Date Collected: 11/06/19 09:40

Matrix: Water

Date Received: 11/07/19 08:00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		73 - 120		11/11/19 15:27	1
Dibromofluoromethane (Surr)	111		75 - 123		11/11/19 15:27	1
1,2-Dichloroethane-d4 (Surr)	105		77 - 120		11/11/19 15:27	1
Toluene-d8 (Surr)	93		80 - 120		11/11/19 15:27	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TOC Result 1	0.46	J	1.0	0.43	mg/L			11/14/19 02:51	1
TOC Result 2	0.52	J	1.0	0.43	mg/L			11/14/19 02:51	1
Total Organic Carbon	1.0	U	1.0	0.43	mg/L			11/14/19 02:51	1

Client Sample ID: MW-25-110619

Lab Sample ID: 480-162368-2

Date Collected: 11/06/19 10:30

Matrix: Water

Date Received: 11/07/19 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	1000	U	1000	300	ug/L			11/11/19 15:51	100
Benzene	100	U	100	41	ug/L			11/11/19 15:51	100
Bromodichloromethane	100	U	100	39	ug/L			11/11/19 15:51	100
Bromoform	100	U	100	26	ug/L			11/11/19 15:51	100
Bromomethane	100	U	100	69	ug/L			11/11/19 15:51	100
2-Butanone (MEK)	1000	U	1000	130	ug/L			11/11/19 15:51	100
Carbon disulfide	100	U	100	19	ug/L			11/11/19 15:51	100
Carbon tetrachloride	100	U	100	27	ug/L			11/11/19 15:51	100
Chlorobenzene	100	U	100	75	ug/L			11/11/19 15:51	100
Chloroethane	100	U	100	32	ug/L			11/11/19 15:51	100
Chloroform	100	U	100	34	ug/L			11/11/19 15:51	100
Chloromethane	100	U	100	35	ug/L			11/11/19 15:51	100
cis-1,2-Dichloroethene	490		100	81	ug/L			11/11/19 15:51	100
cis-1,3-Dichloropropene	100	U	100	36	ug/L			11/11/19 15:51	100
Cyclohexane	100	U	100	18	ug/L			11/11/19 15:51	100
Dibromochloromethane	100	U	100	32	ug/L			11/11/19 15:51	100
1,2-Dibromo-3-Chloropropane	100	U	100	39	ug/L			11/11/19 15:51	100
1,2-Dibromoethane	100	U	100	73	ug/L			11/11/19 15:51	100
1,2-Dichlorobenzene	100	U	100	79	ug/L			11/11/19 15:51	100
1,3-Dichlorobenzene	100	U	100	78	ug/L			11/11/19 15:51	100
1,4-Dichlorobenzene	100	U	100	84	ug/L			11/11/19 15:51	100
Dichlorodifluoromethane	100	U	100	68	ug/L			11/11/19 15:51	100
1,1-Dichloroethane	100	U	100	38	ug/L			11/11/19 15:51	100
1,2-Dichloroethane	100	U	100	21	ug/L			11/11/19 15:51	100
1,1-Dichloroethene	100	U	100	29	ug/L			11/11/19 15:51	100
1,2-Dichloropropane	100	U	100	72	ug/L			11/11/19 15:51	100
Ethylbenzene	100	U	100	74	ug/L			11/11/19 15:51	100
2-Hexanone	500	U	500	120	ug/L			11/11/19 15:51	100
Isopropylbenzene	100	U	100	79	ug/L			11/11/19 15:51	100
Methyl acetate	250	U	250	130	ug/L			11/11/19 15:51	100
Methylcyclohexane	100	U	100	16	ug/L			11/11/19 15:51	100
Methylene Chloride	100	U	100	44	ug/L			11/11/19 15:51	100
4-Methyl-2-pentanone (MIBK)	500	U	500	210	ug/L			11/11/19 15:51	100
Methyl tert-butyl ether	100	U	100	16	ug/L			11/11/19 15:51	100

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-162368-1

Client Sample ID: MW-25-110619

Lab Sample ID: 480-162368-2

Date Collected: 11/06/19 10:30

Matrix: Water

Date Received: 11/07/19 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	100	U	100	73	ug/L			11/11/19 15:51	100
1,1,2,2-Tetrachloroethane	100	U	100	21	ug/L			11/11/19 15:51	100
Tetrachloroethene	2200		100	36	ug/L			11/11/19 15:51	100
Toluene	100	U	100	51	ug/L			11/11/19 15:51	100
trans-1,2-Dichloroethene	100	U	100	90	ug/L			11/11/19 15:51	100
trans-1,3-Dichloropropene	100	U	100	37	ug/L			11/11/19 15:51	100
1,2,4-Trichlorobenzene	100	U	100	41	ug/L			11/11/19 15:51	100
1,1,1-Trichloroethane	100	U	100	82	ug/L			11/11/19 15:51	100
1,1,2-Trichloroethane	100	U	100	23	ug/L			11/11/19 15:51	100
Trichloroethene	91	J	100	46	ug/L			11/11/19 15:51	100
Trichlorofluoromethane	100	U	100	88	ug/L			11/11/19 15:51	100
1,1,2-Trichloro-1,2,2-trifluoroethane	100	U	100	31	ug/L			11/11/19 15:51	100
Vinyl chloride	590		100	90	ug/L			11/11/19 15:51	100
Xylenes, Total	200	U	200	66	ug/L			11/11/19 15:51	100

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		73 - 120		11/11/19 15:51	100
Dibromofluoromethane (Surr)	109		75 - 123		11/11/19 15:51	100
1,2-Dichloroethane-d4 (Surr)	103		77 - 120		11/11/19 15:51	100
Toluene-d8 (Surr)	91		80 - 120		11/11/19 15:51	100

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	390		7.5	1.5	ug/L			11/14/19 16:38	1
Ethene	160		7.0	1.5	ug/L			11/14/19 16:38	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	2200		88	22	ug/L			11/14/19 23:30	22

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	3.8		0.050	0.019	mg/L		11/11/19 10:18	11/12/19 01:59	1
Manganese	19		0.0030	0.00040	mg/L		11/11/19 10:18	11/12/19 01:59	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		11/13/19 10:58	11/13/19 19:11	1
Manganese	19		0.0030	0.00040	mg/L		11/13/19 10:58	11/13/19 19:11	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	7.7	J	20	3.5	mg/L			11/20/19 19:36	10
Nitrate Nitrite as N	0.045	J-B	0.050	0.020	mg/L			11/08/19 10:28	1
Nitrite as N	0.050	U	0.050	0.020	mg/L			11/08/19 10:28	1
Nitrate as N	0.045	J	0.050	0.020	mg/L			11/08/19 10:28	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-162368-1

Client Sample ID: MW-17-110619

Lab Sample ID: 480-162368-3

Date Collected: 11/06/19 11:25

Matrix: Water

Date Received: 11/07/19 08:00

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			11/11/19 16:15	1
Benzene	1.0	U	1.0	0.41	ug/L			11/11/19 16:15	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			11/11/19 16:15	1
Bromoform	1.0	U	1.0	0.26	ug/L			11/11/19 16:15	1
Bromomethane	1.0	U	1.0	0.69	ug/L			11/11/19 16:15	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			11/11/19 16:15	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			11/11/19 16:15	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			11/11/19 16:15	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			11/11/19 16:15	1
Chloroethane	1.0	U	1.0	0.32	ug/L			11/11/19 16:15	1
Chloroform	1.0	U	1.0	0.34	ug/L			11/11/19 16:15	1
Chloromethane	1.0	U	1.0	0.35	ug/L			11/11/19 16:15	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			11/11/19 16:15	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			11/11/19 16:15	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			11/11/19 16:15	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			11/11/19 16:15	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			11/11/19 16:15	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			11/11/19 16:15	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			11/11/19 16:15	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			11/11/19 16:15	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			11/11/19 16:15	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			11/11/19 16:15	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			11/11/19 16:15	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			11/11/19 16:15	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			11/11/19 16:15	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			11/11/19 16:15	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			11/11/19 16:15	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			11/11/19 16:15	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			11/11/19 16:15	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			11/11/19 16:15	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			11/11/19 16:15	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			11/11/19 16:15	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			11/11/19 16:15	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			11/11/19 16:15	1
Styrene	1.0	U	1.0	0.73	ug/L			11/11/19 16:15	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			11/11/19 16:15	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			11/11/19 16:15	1
Toluene	1.0	U	1.0	0.51	ug/L			11/11/19 16:15	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			11/11/19 16:15	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			11/11/19 16:15	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			11/11/19 16:15	1
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			11/11/19 16:15	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			11/11/19 16:15	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			11/11/19 16:15	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			11/11/19 16:15	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			11/11/19 16:15	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			11/11/19 16:15	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			11/11/19 16:15	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-162368-1

Client Sample ID: MW-17-110619

Lab Sample ID: 480-162368-3

Date Collected: 11/06/19 11:25

Matrix: Water

Date Received: 11/07/19 08:00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		73 - 120		11/11/19 16:15	1
Dibromofluoromethane (Surr)	105		75 - 123		11/11/19 16:15	1
1,2-Dichloroethane-d4 (Surr)	106		77 - 120		11/11/19 16:15	1
Toluene-d8 (Surr)	91		80 - 120		11/11/19 16:15	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TOC Result 1	3.1		1.0	0.43	mg/L			11/14/19 03:19	1
TOC Result 2	3.2		1.0	0.43	mg/L			11/14/19 03:19	1
Total Organic Carbon	3.2		1.0	0.43	mg/L			11/14/19 03:19	1

Client Sample ID: MW-20-110619

Lab Sample ID: 480-162368-4

Date Collected: 11/06/19 12:20

Matrix: Water

Date Received: 11/07/19 08:00

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			11/11/19 16:39	2
Benzene	4.1		2.0	0.82	ug/L			11/11/19 16:39	2
Bromodichloromethane	2.0	U	2.0	0.78	ug/L			11/11/19 16:39	2
Bromoform	2.0	U	2.0	0.52	ug/L			11/11/19 16:39	2
Bromomethane	2.0	U	2.0	1.4	ug/L			11/11/19 16:39	2
2-Butanone (MEK)	20	U	20	2.6	ug/L			11/11/19 16:39	2
Carbon disulfide	2.0	U	2.0	0.38	ug/L			11/11/19 16:39	2
Carbon tetrachloride	2.0	U	2.0	0.54	ug/L			11/11/19 16:39	2
Chlorobenzene	2.0	U	2.0	1.5	ug/L			11/11/19 16:39	2
Chloroethane	2.0	U	2.0	0.64	ug/L			11/11/19 16:39	2
Chloroform	1.4	J	2.0	0.68	ug/L			11/11/19 16:39	2
Chloromethane	2.0	U	2.0	0.70	ug/L			11/11/19 16:39	2
cis-1,2-Dichloroethene	14		2.0	1.6	ug/L			11/11/19 16:39	2
cis-1,3-Dichloropropene	2.0	U	2.0	0.72	ug/L			11/11/19 16:39	2
Cyclohexane	2.0	U	2.0	0.36	ug/L			11/11/19 16:39	2
Dibromochloromethane	2.0	U	2.0	0.64	ug/L			11/11/19 16:39	2
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.78	ug/L			11/11/19 16:39	2
1,2-Dibromoethane	2.0	U	2.0	1.5	ug/L			11/11/19 16:39	2
1,2-Dichlorobenzene	2.0	U	2.0	1.6	ug/L			11/11/19 16:39	2
1,3-Dichlorobenzene	2.0	U	2.0	1.6	ug/L			11/11/19 16:39	2
1,4-Dichlorobenzene	2.0	U	2.0	1.7	ug/L			11/11/19 16:39	2
Dichlorodifluoromethane	2.0	U	2.0	1.4	ug/L			11/11/19 16:39	2
1,1-Dichloroethane	2.0	U	2.0	0.76	ug/L			11/11/19 16:39	2
1,2-Dichloroethane	2.0	U	2.0	0.42	ug/L			11/11/19 16:39	2
1,1-Dichloroethene	2.0	U	2.0	0.58	ug/L			11/11/19 16:39	2
1,2-Dichloropropane	2.0	U	2.0	1.4	ug/L			11/11/19 16:39	2
Ethylbenzene	2.0	U	2.0	1.5	ug/L			11/11/19 16:39	2
2-Hexanone	10	U	10	2.5	ug/L			11/11/19 16:39	2
Isopropylbenzene	2.0	U	2.0	1.6	ug/L			11/11/19 16:39	2
Methyl acetate	5.0	U	5.0	2.6	ug/L			11/11/19 16:39	2
Methylcyclohexane	2.0	U	2.0	0.32	ug/L			11/11/19 16:39	2
Methylene Chloride	2.0	U	2.0	0.88	ug/L			11/11/19 16:39	2
4-Methyl-2-pentanone (MIBK)	10	U	10	4.2	ug/L			11/11/19 16:39	2
Methyl tert-butyl ether	2.0	U	2.0	0.32	ug/L			11/11/19 16:39	2

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-162368-1

Client Sample ID: MW-20-110619

Lab Sample ID: 480-162368-4

Date Collected: 11/06/19 12:20

Matrix: Water

Date Received: 11/07/19 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	2.0	U	2.0	1.5	ug/L			11/11/19 16:39	2
1,1,2,2-Tetrachloroethane	2.0	U	2.0	0.42	ug/L			11/11/19 16:39	2
Tetrachloroethene	30		2.0	0.72	ug/L			11/11/19 16:39	2
Toluene	2.0	U	2.0	1.0	ug/L			11/11/19 16:39	2
trans-1,2-Dichloroethene	2.0	U	2.0	1.8	ug/L			11/11/19 16:39	2
trans-1,3-Dichloropropene	2.0	U	2.0	0.74	ug/L			11/11/19 16:39	2
1,2,4-Trichlorobenzene	2.0	U	2.0	0.82	ug/L			11/11/19 16:39	2
1,1,1-Trichloroethane	2.0	U	2.0	1.6	ug/L			11/11/19 16:39	2
1,1,2-Trichloroethane	2.0	U	2.0	0.46	ug/L			11/11/19 16:39	2
Trichloroethene	9.5		2.0	0.92	ug/L			11/11/19 16:39	2
Trichlorofluoromethane	2.0	U	2.0	1.8	ug/L			11/11/19 16:39	2
1,1,2-Trichloro-1,2,2-trifluoroethane	2.0	U	2.0	0.62	ug/L			11/11/19 16:39	2
Vinyl chloride	2.0	U	2.0	1.8	ug/L			11/11/19 16:39	2
Xylenes, Total	4.0	U	4.0	1.3	ug/L			11/11/19 16:39	2

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		73 - 120		11/11/19 16:39	2
Dibromofluoromethane (Surr)	110		75 - 123		11/11/19 16:39	2
1,2-Dichloroethane-d4 (Surr)	104		77 - 120		11/11/19 16:39	2
Toluene-d8 (Surr)	95		80 - 120		11/11/19 16:39	2

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	4.4	J	7.5	1.5	ug/L			11/14/19 16:57	1
Ethene	7.0	U	7.0	1.5	ug/L			11/14/19 16:57	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	640		44	11	ug/L			11/14/19 23:48	11

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	1.8		0.050	0.019	mg/L		11/11/19 10:18	11/12/19 02:03	1
Manganese	0.19		0.0030	0.00040	mg/L		11/11/19 10:18	11/12/19 02:03	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		11/13/19 10:58	11/13/19 19:30	1
Manganese	0.17		0.0030	0.00040	mg/L		11/13/19 10:58	11/13/19 19:30	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	28		10	1.7	mg/L			11/20/19 19:44	5
Nitrate Nitrite as N	0.071	B UB J	0.050	0.020	mg/L			11/08/19 10:33	1
Nitrite as N	0.026	J-H 0.050 UB J	0.050	0.020	mg/L			11/08/19 13:22	1
TOC Result 1	3.6		1.0	0.43	mg/L			11/14/19 05:39	1
TOC Result 2	3.9		1.0	0.43	mg/L			11/14/19 05:39	1
Total Organic Carbon	3.8		1.0	0.43	mg/L			11/14/19 05:39	1
Nitrate as N	0.045	J-H 0.050 UB J	0.050	0.020	mg/L			11/08/19 13:22	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-162368-1

Client Sample ID: MW-15-110619

Lab Sample ID: 480-162368-5

Date Collected: 11/06/19 13:10

Matrix: Water

Date Received: 11/07/19 08:00

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			11/12/19 13:37	1
Benzene	5.4		1.0	0.41	ug/L			11/12/19 13:37	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			11/12/19 13:37	1
Bromoform	1.0	U	1.0	0.26	ug/L			11/12/19 13:37	1
Bromomethane	1.0	U	1.0	0.69	ug/L			11/12/19 13:37	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			11/12/19 13:37	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			11/12/19 13:37	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			11/12/19 13:37	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			11/12/19 13:37	1
Chloroethane	1.0	U	1.0	0.32	ug/L			11/12/19 13:37	1
Chloroform	1.0	U	1.0	0.34	ug/L			11/12/19 13:37	1
Chloromethane	1.0	U	1.0	0.35	ug/L			11/12/19 13:37	1
cis-1,2-Dichloroethene	18		1.0	0.81	ug/L			11/12/19 13:37	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			11/12/19 13:37	1
Cyclohexane	0.57 J		1.0	0.18	ug/L			11/12/19 13:37	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			11/12/19 13:37	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			11/12/19 13:37	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			11/12/19 13:37	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			11/12/19 13:37	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			11/12/19 13:37	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			11/12/19 13:37	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			11/12/19 13:37	1
1,1-Dichloroethane	0.67 J		1.0	0.38	ug/L			11/12/19 13:37	1
1,2-Dichloroethane	0.55 J		1.0	0.21	ug/L			11/12/19 13:37	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			11/12/19 13:37	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			11/12/19 13:37	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			11/12/19 13:37	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			11/12/19 13:37	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			11/12/19 13:37	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			11/12/19 13:37	1
Methylcyclohexane	0.27 J		1.0	0.16	ug/L			11/12/19 13:37	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			11/12/19 13:37	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			11/12/19 13:37	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			11/12/19 13:37	1
Styrene	1.0	U	1.0	0.73	ug/L			11/12/19 13:37	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			11/12/19 13:37	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			11/12/19 13:37	1
Toluene	1.0	U	1.0	0.51	ug/L			11/12/19 13:37	1
trans-1,2-Dichloroethene	1.1		1.0	0.90	ug/L			11/12/19 13:37	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			11/12/19 13:37	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			11/12/19 13:37	1
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			11/12/19 13:37	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			11/12/19 13:37	1
Trichloroethene	4.6		1.0	0.46	ug/L			11/12/19 13:37	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			11/12/19 13:37	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			11/12/19 13:37	1
Vinyl chloride	19		1.0	0.90	ug/L			11/12/19 13:37	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			11/12/19 13:37	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-162368-1

Client Sample ID: MW-15-110619

Lab Sample ID: 480-162368-5

Date Collected: 11/06/19 13:10

Matrix: Water

Date Received: 11/07/19 08:00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		73 - 120		11/12/19 13:37	1
Dibromofluoromethane (Surr)	104		75 - 123		11/12/19 13:37	1
1,2-Dichloroethane-d4 (Surr)	102		77 - 120		11/12/19 13:37	1
Toluene-d8 (Surr)	92		80 - 120		11/12/19 13:37	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	33		7.5	1.5	ug/L	-		11/14/19 17:15	1
Ethene	16		7.0	1.5	ug/L	-		11/14/19 17:15	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	2300		88	22	ug/L	-		11/15/19 00:07	22

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	7.9		0.050	0.019	mg/L	-	11/11/19 10:18	11/12/19 02:18	1
Manganese	2.0		0.0030	0.00040	mg/L	-	11/11/19 10:18	11/12/19 02:18	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	-	11/13/19 10:58	11/13/19 19:26	1
Manganese	2.0		0.0030	0.00040	mg/L	-	11/13/19 10:58	11/13/19 19:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	36		10	1.7	mg/L	-		11/20/19 20:25	5
Nitrate Nitrite as N	0.045	J-B 0.050 UB	0.050	0.020	mg/L	-		11/08/19 10:32	1
Nitrite as N	0.050	U 0.050 UB	0.050	0.020	mg/L	-		11/08/19 10:32	1
Nitrate as N	0.045	J 0.050 UB	0.050	0.020	mg/L	-		11/08/19 10:32	1

Client Sample ID: MW-A1-110619

Lab Sample ID: 480-162368-6

Date Collected: 11/06/19 14:10

Matrix: Water

Date Received: 11/07/19 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	7.9	J 20 UB	20	6.0	ug/L	-		11/11/19 17:27	2
Benzene	6.0		2.0	0.82	ug/L	-		11/11/19 17:27	2
Bromodichloromethane	2.0	U	2.0	0.78	ug/L	-		11/11/19 17:27	2
Bromoform	2.0	U	2.0	0.52	ug/L	-		11/11/19 17:27	2
Bromomethane	2.0	U	2.0	1.4	ug/L	-		11/11/19 17:27	2
2-Butanone (MEK)	20	U	20	2.6	ug/L	-		11/11/19 17:27	2
Carbon disulfide	2.0	U	2.0	0.38	ug/L	-		11/11/19 17:27	2
Carbon tetrachloride	2.0	U	2.0	0.54	ug/L	-		11/11/19 17:27	2
Chlorobenzene	2.1		2.0	1.5	ug/L	-		11/11/19 17:27	2
Chloroethane	5.0		2.0	0.64	ug/L	-		11/11/19 17:27	2
Chloroform	2.0	U	2.0	0.68	ug/L	-		11/11/19 17:27	2
Chloromethane	2.0	U	2.0	0.70	ug/L	-		11/11/19 17:27	2
cis-1,2-Dichloroethene	23		2.0	1.6	ug/L	-		11/11/19 17:27	2
cis-1,3-Dichloropropene	2.0	U	2.0	0.72	ug/L	-		11/11/19 17:27	2
Cyclohexane	0.46	J	2.0	0.36	ug/L	-		11/11/19 17:27	2

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-162368-1

Client Sample ID: MW-A1-110619

Lab Sample ID: 480-162368-6

Date Collected: 11/06/19 14:10

Matrix: Water

Date Received: 11/07/19 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromochloromethane	2.0	U	2.0	0.64	ug/L			11/11/19 17:27	2
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.78	ug/L			11/11/19 17:27	2
1,2-Dibromoethane	2.0	U	2.0	1.5	ug/L			11/11/19 17:27	2
1,2-Dichlorobenzene	2.0	U	2.0	1.6	ug/L			11/11/19 17:27	2
1,3-Dichlorobenzene	2.0	U	2.0	1.6	ug/L			11/11/19 17:27	2
1,4-Dichlorobenzene	2.0	U	2.0	1.7	ug/L			11/11/19 17:27	2
Dichlorodifluoromethane	2.0	U	2.0	1.4	ug/L			11/11/19 17:27	2
1,1-Dichloroethane	1.5	J	2.0	0.76	ug/L			11/11/19 17:27	2
1,2-Dichloroethane	2.0	U	2.0	0.42	ug/L			11/11/19 17:27	2
1,1-Dichloroethene	2.0	U	2.0	0.58	ug/L			11/11/19 17:27	2
1,2-Dichloropropane	2.0	U	2.0	1.4	ug/L			11/11/19 17:27	2
Ethylbenzene	2.0	U	2.0	1.5	ug/L			11/11/19 17:27	2
2-Hexanone	10	U	10	2.5	ug/L			11/11/19 17:27	2
Isopropylbenzene	2.0	U	2.0	1.6	ug/L			11/11/19 17:27	2
Methyl acetate	5.0	U	5.0	2.6	ug/L			11/11/19 17:27	2
Methylcyclohexane	2.0	U	2.0	0.32	ug/L			11/11/19 17:27	2
Methylene Chloride	2.0	U	2.0	0.88	ug/L			11/11/19 17:27	2
4-Methyl-2-pentanone (MIBK)	10	U	10	4.2	ug/L			11/11/19 17:27	2
Methyl tert-butyl ether	2.0	U	2.0	0.32	ug/L			11/11/19 17:27	2
Styrene	2.0	U	2.0	1.5	ug/L			11/11/19 17:27	2
1,1,2,2-Tetrachloroethane	2.0	U	2.0	0.42	ug/L			11/11/19 17:27	2
Tetrachloroethene	2.0	U	2.0	0.72	ug/L			11/11/19 17:27	2
Toluene	2.0	U	2.0	1.0	ug/L			11/11/19 17:27	2
trans-1,2-Dichloroethene	2.0	U	2.0	1.8	ug/L			11/11/19 17:27	2
trans-1,3-Dichloropropene	2.0	U	2.0	0.74	ug/L			11/11/19 17:27	2
1,2,4-Trichlorobenzene	2.0	U	2.0	0.82	ug/L			11/11/19 17:27	2
1,1,1-Trichloroethane	2.0	U	2.0	1.6	ug/L			11/11/19 17:27	2
1,1,2-Trichloroethane	2.0	U	2.0	0.46	ug/L			11/11/19 17:27	2
Trichloroethene	2.0	U	2.0	0.92	ug/L			11/11/19 17:27	2
Trichlorofluoromethane	2.0	U	2.0	1.8	ug/L			11/11/19 17:27	2
1,1,2-Trichloro-1,2,2-trifluoroethane	2.0	U	2.0	0.62	ug/L			11/11/19 17:27	2
Vinyl chloride	27		2.0	1.8	ug/L			11/11/19 17:27	2
Xylenes, Total	4.0	U	4.0	1.3	ug/L			11/11/19 17:27	2

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		73 - 120		11/11/19 17:27	2
Dibromofluoromethane (Surr)	110		75 - 123		11/11/19 17:27	2
1,2-Dichloroethane-d4 (Surr)	104		77 - 120		11/11/19 17:27	2
Toluene-d8 (Surr)	91		80 - 120		11/11/19 17:27	2

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	300		7.5	1.5	ug/L			11/14/19 17:34	1
Ethene	7.0	U	7.0	1.5	ug/L			11/14/19 17:34	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	6800		180	44	ug/L			11/15/19 00:26	44

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-162368-1

Client Sample ID: MW-A1-110619

Lab Sample ID: 480-162368-6

Date Collected: 11/06/19 14:10

Matrix: Water

Date Received: 11/07/19 08:00

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TOC Result 1	15		1.0	0.43	mg/L			11/14/19 07:34	1
TOC Result 2	16		1.0	0.43	mg/L			11/14/19 07:34	1
Total Organic Carbon	16		1.0	0.43	mg/L			11/14/19 07:34	1

Client Sample ID: FB-1-110619

Lab Sample ID: 480-162368-7

Date Collected: 11/06/19 14:30

Matrix: Water

Date Received: 11/07/19 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	3.8	J	10	3.0	ug/L			11/11/19 17:52	1
Benzene	1.0	U	1.0	0.41	ug/L			11/11/19 17:52	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			11/11/19 17:52	1
Bromoform	1.0	U	1.0	0.26	ug/L			11/11/19 17:52	1
Bromomethane	1.0	U	1.0	0.69	ug/L			11/11/19 17:52	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			11/11/19 17:52	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			11/11/19 17:52	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			11/11/19 17:52	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			11/11/19 17:52	1
Chloroethane	1.0	U	1.0	0.32	ug/L			11/11/19 17:52	1
Chloroform	1.0	U	1.0	0.34	ug/L			11/11/19 17:52	1
Chloromethane	1.0	U	1.0	0.35	ug/L			11/11/19 17:52	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			11/11/19 17:52	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			11/11/19 17:52	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			11/11/19 17:52	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			11/11/19 17:52	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			11/11/19 17:52	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			11/11/19 17:52	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			11/11/19 17:52	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			11/11/19 17:52	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			11/11/19 17:52	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			11/11/19 17:52	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			11/11/19 17:52	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			11/11/19 17:52	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			11/11/19 17:52	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			11/11/19 17:52	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			11/11/19 17:52	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			11/11/19 17:52	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			11/11/19 17:52	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			11/11/19 17:52	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			11/11/19 17:52	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			11/11/19 17:52	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			11/11/19 17:52	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			11/11/19 17:52	1
Styrene	1.0	U	1.0	0.73	ug/L			11/11/19 17:52	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			11/11/19 17:52	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			11/11/19 17:52	1
Toluene	1.0	U	1.0	0.51	ug/L			11/11/19 17:52	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			11/11/19 17:52	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			11/11/19 17:52	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-162368-1

Client Sample ID: FB-1-110619

Lab Sample ID: 480-162368-7

Date Collected: 11/06/19 14:30

Matrix: Water

Date Received: 11/07/19 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			11/11/19 17:52	1
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			11/11/19 17:52	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			11/11/19 17:52	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			11/11/19 17:52	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			11/11/19 17:52	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			11/11/19 17:52	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			11/11/19 17:52	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			11/11/19 17:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		73 - 120		11/11/19 17:52	1
Dibromofluoromethane (Surr)	111		75 - 123		11/11/19 17:52	1
1,2-Dichloroethane-d4 (Surr)	107		77 - 120		11/11/19 17:52	1
Toluene-d8 (Surr)	93		80 - 120		11/11/19 17:52	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			11/14/19 17:53	1
Ethene	7.0	U	7.0	1.5	ug/L			11/14/19 17:53	1
Methane	4.0	U	4.0	1.0	ug/L			11/14/19 17:53	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			11/14/19 08:01	1
TOC Result 2	1.0	U	1.0	0.43	mg/L			11/14/19 08:01	1
Total Organic Carbon	1.0	U	1.0	0.43	mg/L			11/14/19 08:01	1

Client Sample ID: TRIP BLANK

Lab Sample ID: 480-162368-8

Date Collected: 11/06/19 00:00

Matrix: Water

Date Received: 11/07/19 08:00

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			11/11/19 18:15	1
Benzene	1.0	U	1.0	0.41	ug/L			11/11/19 18:15	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			11/11/19 18:15	1
Bromoform	1.0	U	1.0	0.26	ug/L			11/11/19 18:15	1
Bromomethane	1.0	U	1.0	0.69	ug/L			11/11/19 18:15	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			11/11/19 18:15	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			11/11/19 18:15	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			11/11/19 18:15	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			11/11/19 18:15	1
Chloroethane	1.0	U	1.0	0.32	ug/L			11/11/19 18:15	1
Chloroform	1.0	U	1.0	0.34	ug/L			11/11/19 18:15	1
Chloromethane	1.0	U	1.0	0.35	ug/L			11/11/19 18:15	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			11/11/19 18:15	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			11/11/19 18:15	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			11/11/19 18:15	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			11/11/19 18:15	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			11/11/19 18:15	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			11/11/19 18:15	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-162368-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 480-162368-8

Date Collected: 11/06/19 00:00

Matrix: Water

Date Received: 11/07/19 08:00

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			11/11/19 18:15	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			11/11/19 18:15	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			11/11/19 18:15	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			11/11/19 18:15	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			11/11/19 18:15	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			11/11/19 18:15	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			11/11/19 18:15	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			11/11/19 18:15	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			11/11/19 18:15	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			11/11/19 18:15	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			11/11/19 18:15	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			11/11/19 18:15	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			11/11/19 18:15	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			11/11/19 18:15	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			11/11/19 18:15	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			11/11/19 18:15	1
Styrene	1.0	U	1.0	0.73	ug/L			11/11/19 18:15	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			11/11/19 18:15	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			11/11/19 18:15	1
Toluene	1.0	U	1.0	0.51	ug/L			11/11/19 18:15	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			11/11/19 18:15	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			11/11/19 18:15	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			11/11/19 18:15	1
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			11/11/19 18:15	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			11/11/19 18:15	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			11/11/19 18:15	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			11/11/19 18:15	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			11/11/19 18:15	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			11/11/19 18:15	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			11/11/19 18:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		73 - 120		11/11/19 18:15	1
Dibromofluoromethane (Surr)	108		75 - 123		11/11/19 18:15	1
1,2-Dichloroethane-d4 (Surr)	102		77 - 120		11/11/19 18:15	1
Toluene-d8 (Surr)	92		80 - 120		11/11/19 18:15	1

Client Sample ID: DUP-1-110619

Lab Sample ID: 480-162368-9

Date Collected: 11/06/19 00:00

Matrix: Water

Date Received: 11/07/19 08:00

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			11/11/19 18:39	1
Benzene	10		1.0	0.41	ug/L			11/11/19 18:39	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			11/11/19 18:39	1
Bromoform	1.0	U	1.0	0.26	ug/L			11/11/19 18:39	1
Bromomethane	1.0	U	1.0	0.69	ug/L			11/11/19 18:39	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			11/11/19 18:39	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			11/11/19 18:39	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-162368-1

Client Sample ID: DUP-1-110619

Lab Sample ID: 480-162368-9

Date Collected: 11/06/19 00:00

Matrix: Water

Date Received: 11/07/19 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			11/11/19 18:39	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			11/11/19 18:39	1
Chloroethane	70		1.0	0.32	ug/L			11/11/19 18:39	1
Chloroform	0.82	J	1.0	0.34	ug/L			11/11/19 18:39	1
Chloromethane	1.0	U	1.0	0.35	ug/L			11/11/19 18:39	1
cis-1,2-Dichloroethene	500	E	1.0	0.81	ug/L			11/11/19 18:39	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			11/11/19 18:39	1
Cyclohexane	0.32	J	1.0	0.18	ug/L			11/11/19 18:39	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			11/11/19 18:39	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			11/11/19 18:39	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			11/11/19 18:39	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			11/11/19 18:39	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			11/11/19 18:39	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			11/11/19 18:39	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			11/11/19 18:39	1
1,1-Dichloroethane	23		1.0	0.38	ug/L			11/11/19 18:39	1
1,2-Dichloroethane	0.30	J	1.0	0.21	ug/L			11/11/19 18:39	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			11/11/19 18:39	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			11/11/19 18:39	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			11/11/19 18:39	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			11/11/19 18:39	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			11/11/19 18:39	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			11/11/19 18:39	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			11/11/19 18:39	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			11/11/19 18:39	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			11/11/19 18:39	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			11/11/19 18:39	1
Styrene	1.0	U	1.0	0.73	ug/L			11/11/19 18:39	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			11/11/19 18:39	1
Tetrachloroethene	10		1.0	0.36	ug/L			11/11/19 18:39	1
Toluene	1.3		1.0	0.51	ug/L			11/11/19 18:39	1
trans-1,2-Dichloroethene	5.4		1.0	0.90	ug/L			11/11/19 18:39	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			11/11/19 18:39	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			11/11/19 18:39	1
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			11/11/19 18:39	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			11/11/19 18:39	1
Trichloroethene	52		1.0	0.46	ug/L			11/11/19 18:39	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			11/11/19 18:39	1
1,1,2-Trichloro-1,2,2-trifluoroethane	260	E	1.0	0.31	ug/L			11/11/19 18:39	1
Vinyl chloride	260	E	1.0	0.90	ug/L			11/11/19 18:39	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			11/11/19 18:39	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		73 - 120					11/11/19 18:39	1
Dibromofluoromethane (Surr)	109		75 - 123					11/11/19 18:39	1
1,2-Dichloroethane-d4 (Surr)	104		77 - 120					11/11/19 18:39	1
Toluene-d8 (Surr)	92		80 - 120					11/11/19 18:39	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-162368-1

Client Sample ID: DUP-1-110619

Lab Sample ID: 480-162368-9

Date Collected: 11/06/19 00:00

Matrix: Water

Date Received: 11/07/19 08:00

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			11/12/19 14:01	10
Benzene	9.8	J	10	4.1	ug/L			11/12/19 14:01	10
Bromodichloromethane	10	U	10	3.9	ug/L			11/12/19 14:01	10
Bromoform	10	U	10	2.6	ug/L			11/12/19 14:01	10
Bromomethane	10	U	10	6.9	ug/L			11/12/19 14:01	10
2-Butanone (MEK)	100	U	100	13	ug/L			11/12/19 14:01	10
Carbon disulfide	10	U	10	1.9	ug/L			11/12/19 14:01	10
Carbon tetrachloride	10	U	10	2.7	ug/L			11/12/19 14:01	10
Chlorobenzene	10	U	10	7.5	ug/L			11/12/19 14:01	10
Chloroethane	75		10	3.2	ug/L			11/12/19 14:01	10
Chloroform	10	U	10	3.4	ug/L			11/12/19 14:01	10
Chloromethane	10	U	10	3.5	ug/L			11/12/19 14:01	10
cis-1,2-Dichloroethene	480	F1 J	10	8.1	ug/L			11/12/19 14:01	10
cis-1,3-Dichloropropene	10	U	10	3.6	ug/L			11/12/19 14:01	10
Cyclohexane	10	U	10	1.8	ug/L			11/12/19 14:01	10
Dibromochloromethane	10	U	10	3.2	ug/L			11/12/19 14:01	10
1,2-Dibromo-3-Chloropropane	10	U	10	3.9	ug/L			11/12/19 14:01	10
1,2-Dibromoethane	10	U	10	7.3	ug/L			11/12/19 14:01	10
1,2-Dichlorobenzene	10	U	10	7.9	ug/L			11/12/19 14:01	10
1,3-Dichlorobenzene	10	U	10	7.8	ug/L			11/12/19 14:01	10
1,4-Dichlorobenzene	10	U	10	8.4	ug/L			11/12/19 14:01	10
Dichlorodifluoromethane	10	U	10	6.8	ug/L			11/12/19 14:01	10
1,1-Dichloroethane	23		10	3.8	ug/L			11/12/19 14:01	10
1,2-Dichloroethane	10	U	10	2.1	ug/L			11/12/19 14:01	10
1,1-Dichloroethene	10	U	10	2.9	ug/L			11/12/19 14:01	10
1,2-Dichloropropane	10	U	10	7.2	ug/L			11/12/19 14:01	10
Ethylbenzene	10	U	10	7.4	ug/L			11/12/19 14:01	10
2-Hexanone	50	U	50	12	ug/L			11/12/19 14:01	10
Isopropylbenzene	10	U	10	7.9	ug/L			11/12/19 14:01	10
Methyl acetate	25	U	25	13	ug/L			11/12/19 14:01	10
Methylcyclohexane	10	U	10	1.6	ug/L			11/12/19 14:01	10
Methylene Chloride	10	U	10	4.4	ug/L			11/12/19 14:01	10
4-Methyl-2-pentanone (MIBK)	50	U	50	21	ug/L			11/12/19 14:01	10
Methyl tert-butyl ether	10	U	10	1.6	ug/L			11/12/19 14:01	10
Styrene	10	U	10	7.3	ug/L			11/12/19 14:01	10
1,1,2,2-Tetrachloroethane	10	U	10	2.1	ug/L			11/12/19 14:01	10
Tetrachloroethene	9.8	J	10	3.6	ug/L			11/12/19 14:01	10
Toluene	10	U	10	5.1	ug/L			11/12/19 14:01	10
trans-1,2-Dichloroethene	10	U	10	9.0	ug/L			11/12/19 14:01	10
trans-1,3-Dichloropropene	10	U	10	3.7	ug/L			11/12/19 14:01	10
1,2,4-Trichlorobenzene	10	U	10	4.1	ug/L			11/12/19 14:01	10
1,1,1-Trichloroethane	10	U	10	8.2	ug/L			11/12/19 14:01	10
1,1,2-Trichloroethane	10	U	10	2.3	ug/L			11/12/19 14:01	10
Trichloroethene	50		10	4.6	ug/L			11/12/19 14:01	10
Trichlorofluoromethane	10	U	10	8.8	ug/L			11/12/19 14:01	10
1,1,2-Trichloro-1,2,2-trifluoroethane	230		10	3.1	ug/L			11/12/19 14:01	10
Vinyl chloride	240		10	9.0	ug/L			11/12/19 14:01	10
Xylenes, Total	20	U	20	6.6	ug/L			11/12/19 14:01	10

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-162368-1

Client Sample ID: DUP-1-110619

Lab Sample ID: 480-162368-9

Date Collected: 11/06/19 00:00

Matrix: Water

Date Received: 11/07/19 08:00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		73 - 120		11/12/19 14:01	10
Dibromofluoromethane (Surr)	108		75 - 123		11/12/19 14:01	10
1,2-Dichloroethane-d4 (Surr)	104		77 - 120		11/12/19 14:01	10
Toluene-d8 (Surr)	92		80 - 120		11/12/19 14:01	10

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	340		170	33	ug/L			11/14/19 18:56	22
Ethene	380	J	150	33	ug/L			11/14/19 18:56	22
Methane	4300		88	22	ug/L			11/14/19 18:56	22

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TOC Result 1	6.7		1.0	0.43	mg/L			11/14/19 08:30	1
TOC Result 2	7.1		1.0	0.43	mg/L			11/14/19 08:30	1
Total Organic Carbon	7.0		1.0	0.43	mg/L			11/14/19 08:30	1

Client Sample ID: MW-19-110619

Lab Sample ID: 480-162368-10

Date Collected: 11/06/19 15:25

Matrix: Water

Date Received: 11/07/19 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	100	U	100	30	ug/L			11/11/19 19:04	10
Benzene	9.3	J	10	4.1	ug/L			11/11/19 19:04	10
Bromodichloromethane	10	U	10	3.9	ug/L			11/11/19 19:04	10
Bromoform	10	U	10	2.6	ug/L			11/11/19 19:04	10
Bromomethane	10	U	10	6.9	ug/L			11/11/19 19:04	10
2-Butanone (MEK)	100	U	100	13	ug/L			11/11/19 19:04	10
Carbon disulfide	10	U	10	1.9	ug/L			11/11/19 19:04	10
Carbon tetrachloride	10	U	10	2.7	ug/L			11/11/19 19:04	10
Chlorobenzene	10	U	10	7.5	ug/L			11/11/19 19:04	10
Chloroethane	74		10	3.2	ug/L			11/11/19 19:04	10
Chloroform	10	U	10	3.4	ug/L			11/11/19 19:04	10
Chloromethane	10	U	10	3.5	ug/L			11/11/19 19:04	10
cis-1,2-Dichloroethene	490	J	10	8.1	ug/L			11/11/19 19:04	10
cis-1,3-Dichloropropene	10	U	10	3.6	ug/L			11/11/19 19:04	10
Cyclohexane	10	U	10	1.8	ug/L			11/11/19 19:04	10
Dibromochloromethane	10	U	10	3.2	ug/L			11/11/19 19:04	10
1,2-Dibromo-3-Chloropropane	10	U	10	3.9	ug/L			11/11/19 19:04	10
1,2-Dibromoethane	10	U	10	7.3	ug/L			11/11/19 19:04	10
1,2-Dichlorobenzene	10	U	10	7.9	ug/L			11/11/19 19:04	10
1,3-Dichlorobenzene	10	U	10	7.8	ug/L			11/11/19 19:04	10
1,4-Dichlorobenzene	10	U	10	8.4	ug/L			11/11/19 19:04	10
Dichlorodifluoromethane	10	U	10	6.8	ug/L			11/11/19 19:04	10
1,1-Dichloroethane	23		10	3.8	ug/L			11/11/19 19:04	10
1,2-Dichloroethane	10	U	10	2.1	ug/L			11/11/19 19:04	10
1,1-Dichloroethene	10	U	10	2.9	ug/L			11/11/19 19:04	10
1,2-Dichloropropane	10	U	10	7.2	ug/L			11/11/19 19:04	10
Ethylbenzene	10	U	10	7.4	ug/L			11/11/19 19:04	10
2-Hexanone	50	U	50	12	ug/L			11/11/19 19:04	10

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-162368-1

Client Sample ID: MW-19-110619

Lab Sample ID: 480-162368-10

Date Collected: 11/06/19 15:25

Matrix: Water

Date Received: 11/07/19 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropylbenzene	10	U	10	7.9	ug/L			11/11/19 19:04	10
Methyl acetate	25	U	25	13	ug/L			11/11/19 19:04	10
Methylcyclohexane	10	U	10	1.6	ug/L			11/11/19 19:04	10
Methylene Chloride	10	U	10	4.4	ug/L			11/11/19 19:04	10
4-Methyl-2-pentanone (MIBK)	50	U	50	21	ug/L			11/11/19 19:04	10
Methyl tert-butyl ether	10	U	10	1.6	ug/L			11/11/19 19:04	10
Styrene	10	U	10	7.3	ug/L			11/11/19 19:04	10
1,1,2,2-Tetrachloroethane	10	U	10	2.1	ug/L			11/11/19 19:04	10
Tetrachloroethene	10		10	3.6	ug/L			11/11/19 19:04	10
Toluene	10	U	10	5.1	ug/L			11/11/19 19:04	10
trans-1,2-Dichloroethene	10	U	10	9.0	ug/L			11/11/19 19:04	10
trans-1,3-Dichloropropene	10	U	10	3.7	ug/L			11/11/19 19:04	10
1,2,4-Trichlorobenzene	10	U	10	4.1	ug/L			11/11/19 19:04	10
1,1,1-Trichloroethane	10	U	10	8.2	ug/L			11/11/19 19:04	10
1,1,2-Trichloroethane	10	U	10	2.3	ug/L			11/11/19 19:04	10
Trichloroethene	49		10	4.6	ug/L			11/11/19 19:04	10
Trichlorofluoromethane	10	U	10	8.8	ug/L			11/11/19 19:04	10
1,1,2-Trichloro-1,2,2-trifluoroethane	250		10	3.1	ug/L			11/11/19 19:04	10
Vinyl chloride	250		10	9.0	ug/L			11/11/19 19:04	10
Xylenes, Total	20	U	20	6.6	ug/L			11/11/19 19:04	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		73 - 120		11/11/19 19:04	10
Dibromofluoromethane (Surr)	104		75 - 123		11/11/19 19:04	10
1,2-Dichloroethane-d4 (Surr)	100		77 - 120		11/11/19 19:04	10
Toluene-d8 (Surr)	89		80 - 120		11/11/19 19:04	10

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	300		83	17	ug/L			11/14/19 15:22	11
Ethene	380	F1 J	77	17	ug/L			11/14/19 15:22	11
Methane	3900		44	11	ug/L			11/14/19 15:22	11

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	11		0.050	0.019	mg/L		11/11/19 10:18	11/12/19 02:29	1
Manganese	2.3		0.0030	0.00040	mg/L		11/11/19 10:18	11/12/19 02:29	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		11/13/19 10:58	11/13/19 19:41	1
Manganese	2.2		0.0030	0.00040	mg/L		11/13/19 10:58	11/13/19 19:41	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	14		10	1.7	mg/L			11/20/19 20:33	5
Nitrate Nitrite as N	0.053	B UB	0.050	0.020	mg/L			11/08/19 10:39	1
Nitrite as N	0.025	J 0.050 UB	0.050	0.020	mg/L			11/08/19 13:24	1
TOC Result 1	6.8		1.0	0.43	mg/L			11/14/19 06:07	1
TOC Result 2	7.1		1.0	0.43	mg/L			11/14/19 06:07	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-162368-1

Client Sample ID: MW-19-110619

Lab Sample ID: 480-162368-10

Date Collected: 11/06/19 15:25

Matrix: Water

Date Received: 11/07/19 08:00

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	7.1		1.0	0.43	mg/L			11/14/19 06:07	1
Nitrate as N	0.028	J 0.050 UB	0.050	0.020	mg/L			11/08/19 13:24	1

Client Sample ID: MW-23-110619

Lab Sample ID: 480-162368-11

Date Collected: 11/06/19 12:30

Matrix: Water

Date Received: 11/07/19 08:00

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			11/11/19 19:28	2
Benzene	2.0	U	2.0	0.82	ug/L			11/11/19 19:28	2
Bromodichloromethane	2.0	U	2.0	0.78	ug/L			11/11/19 19:28	2
Bromoform	2.0	U	2.0	0.52	ug/L			11/11/19 19:28	2
Bromomethane	2.0	U	2.0	1.4	ug/L			11/11/19 19:28	2
2-Butanone (MEK)	20	U	20	2.6	ug/L			11/11/19 19:28	2
Carbon disulfide	2.0	U	2.0	0.38	ug/L			11/11/19 19:28	2
Carbon tetrachloride	2.0	U	2.0	0.54	ug/L			11/11/19 19:28	2
Chlorobenzene	2.0	U	2.0	1.5	ug/L			11/11/19 19:28	2
Chloroethane	2.0	U	2.0	0.64	ug/L			11/11/19 19:28	2
Chloroform	2.0	U	2.0	0.68	ug/L			11/11/19 19:28	2
Chloromethane	2.0	U	2.0	0.70	ug/L			11/11/19 19:28	2
cis-1,2-Dichloroethene	2.0	U	2.0	1.6	ug/L			11/11/19 19:28	2
cis-1,3-Dichloropropene	2.0	U	2.0	0.72	ug/L			11/11/19 19:28	2
Cyclohexane	2.0	U	2.0	0.36	ug/L			11/11/19 19:28	2
Dibromochloromethane	2.0	U	2.0	0.64	ug/L			11/11/19 19:28	2
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.78	ug/L			11/11/19 19:28	2
1,2-Dibromoethane	2.0	U	2.0	1.5	ug/L			11/11/19 19:28	2
1,2-Dichlorobenzene	2.0	U	2.0	1.6	ug/L			11/11/19 19:28	2
1,3-Dichlorobenzene	2.0	U	2.0	1.6	ug/L			11/11/19 19:28	2
1,4-Dichlorobenzene	2.0	U	2.0	1.7	ug/L			11/11/19 19:28	2
Dichlorodifluoromethane	2.0	U	2.0	1.4	ug/L			11/11/19 19:28	2
1,1-Dichloroethane	2.0	U	2.0	0.76	ug/L			11/11/19 19:28	2
1,2-Dichloroethane	0.49	J	2.0	0.42	ug/L			11/11/19 19:28	2
1,1-Dichloroethene	2.0	U	2.0	0.58	ug/L			11/11/19 19:28	2
1,2-Dichloropropane	2.0	U	2.0	1.4	ug/L			11/11/19 19:28	2
Ethylbenzene	2.0	U	2.0	1.5	ug/L			11/11/19 19:28	2
2-Hexanone	10	U	10	2.5	ug/L			11/11/19 19:28	2
Isopropylbenzene	2.0	U	2.0	1.6	ug/L			11/11/19 19:28	2
Methyl acetate	5.0	U	5.0	2.6	ug/L			11/11/19 19:28	2
Methylcyclohexane	2.0	U	2.0	0.32	ug/L			11/11/19 19:28	2
Methylene Chloride	2.0	U	2.0	0.88	ug/L			11/11/19 19:28	2
4-Methyl-2-pentanone (MIBK)	10	U	10	4.2	ug/L			11/11/19 19:28	2
Methyl tert-butyl ether	2.0	U	2.0	0.32	ug/L			11/11/19 19:28	2
Styrene	2.0	U	2.0	1.5	ug/L			11/11/19 19:28	2
1,1,2,2-Tetrachloroethane	2.0	U	2.0	0.42	ug/L			11/11/19 19:28	2
Tetrachloroethene	2.0	U	2.0	0.72	ug/L			11/11/19 19:28	2
Toluene	2.0	U	2.0	1.0	ug/L			11/11/19 19:28	2
trans-1,2-Dichloroethene	2.0	U	2.0	1.8	ug/L			11/11/19 19:28	2
trans-1,3-Dichloropropene	2.0	U	2.0	0.74	ug/L			11/11/19 19:28	2
1,2,4-Trichlorobenzene	2.0	U	2.0	0.82	ug/L			11/11/19 19:28	2

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-162368-1

Client Sample ID: MW-23-110619

Lab Sample ID: 480-162368-11

Date Collected: 11/06/19 12:30

Matrix: Water

Date Received: 11/07/19 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	2.0	U	2.0	1.6	ug/L			11/11/19 19:28	2
1,1,2-Trichloroethane	2.0	U	2.0	0.46	ug/L			11/11/19 19:28	2
Trichloroethene	2.0	U	2.0	0.92	ug/L			11/11/19 19:28	2
Trichlorofluoromethane	2.0	U	2.0	1.8	ug/L			11/11/19 19:28	2
1,1,2-Trichloro-1,2,2-trifluoroethane	2.0	U	2.0	0.62	ug/L			11/11/19 19:28	2
Vinyl chloride	2.6		2.0	1.8	ug/L			11/11/19 19:28	2
Xylenes, Total	4.0	U	4.0	1.3	ug/L			11/11/19 19:28	2

Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		73 - 120					11/11/19 19:28	2
Dibromofluoromethane (Surr)	107		75 - 123					11/11/19 19:28	2
1,2-Dichloroethane-d4 (Surr)	102		77 - 120					11/11/19 19:28	2
Toluene-d8 (Surr)	90		80 - 120					11/11/19 19:28	2

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	190		7.5	1.5	ug/L			11/14/19 19:15	1
Ethene	7.0	U	7.0	1.5	ug/L			11/14/19 19:15	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	6800		88	22	ug/L			11/15/19 00:45	22

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	30		0.050	0.019	mg/L		11/11/19 10:18	11/12/19 02:47	1
Manganese	1.2		0.0030	0.00040	mg/L		11/11/19 10:18	11/12/19 02:47	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.081		0.050	0.019	mg/L		11/13/19 10:58	11/14/19 12:03	1
Manganese	1.2		0.0030	0.00040	mg/L		11/13/19 10:58	11/13/19 19:52	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	130		10	1.7	mg/L			11/20/19 20:41	5
Nitrate Nitrite as N	0.046	J-B	0.050 UB	0.020	mg/L			11/08/19 10:42	1
Nitrite as N	0.050	U	0.050 UB	0.020	mg/L			11/08/19 10:42	1
TOC Result 1	17		1.0	0.43	mg/L			11/14/19 08:59	1
TOC Result 2	17		1.0	0.43	mg/L			11/14/19 08:59	1
Total Organic Carbon	17		1.0	0.43	mg/L			11/14/19 08:59	1
Nitrate as N	0.046	J	0.050 UB	0.020	mg/L			11/08/19 10:42	1

Client Sample ID: MW-24-110619

Lab Sample ID: 480-162368-12

Date Collected: 11/06/19 09:50

Matrix: Water

Date Received: 11/07/19 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	1000	U	1000	300	ug/L			11/11/19 19:52	100
Benzene	100	U	100	41	ug/L			11/11/19 19:52	100

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-162368-1

Client Sample ID: MW-24-110619

Lab Sample ID: 480-162368-12

Date Collected: 11/06/19 09:50

Matrix: Water

Date Received: 11/07/19 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	100	U	100	39	ug/L			11/11/19 19:52	100
Bromoform	100	U	100	26	ug/L			11/11/19 19:52	100
Bromomethane	100	U	100	69	ug/L			11/11/19 19:52	100
2-Butanone (MEK)	1000	U	1000	130	ug/L			11/11/19 19:52	100
Carbon disulfide	100	U	100	19	ug/L			11/11/19 19:52	100
Carbon tetrachloride	100	U	100	27	ug/L			11/11/19 19:52	100
Chlorobenzene	100	U	100	75	ug/L			11/11/19 19:52	100
Chloroethane	100	U	100	32	ug/L			11/11/19 19:52	100
Chloroform	100	U	100	34	ug/L			11/11/19 19:52	100
Chloromethane	100	U	100	35	ug/L			11/11/19 19:52	100
cis-1,2-Dichloroethene	810		100	81	ug/L			11/11/19 19:52	100
cis-1,3-Dichloropropene	100	U	100	36	ug/L			11/11/19 19:52	100
Cyclohexane	100	U	100	18	ug/L			11/11/19 19:52	100
Dibromochloromethane	100	U	100	32	ug/L			11/11/19 19:52	100
1,2-Dibromo-3-Chloropropane	100	U	100	39	ug/L			11/11/19 19:52	100
1,2-Dibromoethane	100	U	100	73	ug/L			11/11/19 19:52	100
1,2-Dichlorobenzene	100	U	100	79	ug/L			11/11/19 19:52	100
1,3-Dichlorobenzene	100	U	100	78	ug/L			11/11/19 19:52	100
1,4-Dichlorobenzene	100	U	100	84	ug/L			11/11/19 19:52	100
Dichlorodifluoromethane	100	U	100	68	ug/L			11/11/19 19:52	100
1,1-Dichloroethane	120		100	38	ug/L			11/11/19 19:52	100
1,2-Dichloroethane	100	U	100	21	ug/L			11/11/19 19:52	100
1,1-Dichloroethene	100	U	100	29	ug/L			11/11/19 19:52	100
1,2-Dichloropropane	100	U	100	72	ug/L			11/11/19 19:52	100
Ethylbenzene	100	U	100	74	ug/L			11/11/19 19:52	100
2-Hexanone	500	U	500	120	ug/L			11/11/19 19:52	100
Isopropylbenzene	100	U	100	79	ug/L			11/11/19 19:52	100
Methyl acetate	250	U	250	130	ug/L			11/11/19 19:52	100
Methylcyclohexane	100	U	100	16	ug/L			11/11/19 19:52	100
Methylene Chloride	100	U	100	44	ug/L			11/11/19 19:52	100
4-Methyl-2-pentanone (MIBK)	500	U	500	210	ug/L			11/11/19 19:52	100
Methyl tert-butyl ether	100	U	100	16	ug/L			11/11/19 19:52	100
Styrene	100	U	100	73	ug/L			11/11/19 19:52	100
1,1,2,2-Tetrachloroethane	100	U	100	21	ug/L			11/11/19 19:52	100
Tetrachloroethene	100	U	100	36	ug/L			11/11/19 19:52	100
Toluene	100	U	100	51	ug/L			11/11/19 19:52	100
trans-1,2-Dichloroethene	100	U	100	90	ug/L			11/11/19 19:52	100
trans-1,3-Dichloropropene	100	U	100	37	ug/L			11/11/19 19:52	100
1,2,4-Trichlorobenzene	100	U	100	41	ug/L			11/11/19 19:52	100
1,1,1-Trichloroethane	100	U	100	82	ug/L			11/11/19 19:52	100
1,1,2-Trichloroethane	100	U	100	23	ug/L			11/11/19 19:52	100
Trichloroethene	100	U	100	46	ug/L			11/11/19 19:52	100
Trichlorofluoromethane	100	U	100	88	ug/L			11/11/19 19:52	100
1,1,2-Trichloro-1,2,2-trifluoroethane	100	U	100	31	ug/L			11/11/19 19:52	100
Vinyl chloride	1800		100	90	ug/L			11/11/19 19:52	100
Xylenes, Total	200	U	200	66	ug/L			11/11/19 19:52	100

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		73 - 120		11/11/19 19:52	100
Dibromofluoromethane (Surr)	105		75 - 123		11/11/19 19:52	100

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-162368-1

Client Sample ID: MW-24-110619

Lab Sample ID: 480-162368-12

Date Collected: 11/06/19 09:50

Matrix: Water

Date Received: 11/07/19 08:00

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		77 - 120		11/11/19 19:52	100
Toluene-d8 (Surr)	92		80 - 120		11/11/19 19:52	100

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	310		170	33	ug/L			11/14/19 19:34	22
Ethene	490		150	33	ug/L			11/14/19 19:34	22

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	8200		880	220	ug/L			11/15/19 01:04	220

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	12		0.050	0.019	mg/L		11/11/19 10:18	11/12/19 03:01	1
Manganese	7.2		0.0030	0.00040	mg/L		11/11/19 10:18	11/12/19 03:01	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	4.8	^	0.050	0.019	mg/L		11/13/19 10:58	11/13/19 19:56	1
Manganese	7.2		0.0030	0.00040	mg/L		11/13/19 10:58	11/13/19 19:56	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	9.1	J	20	3.5	mg/L			11/20/19 20:49	10
Nitrate Nitrite as N	0.057	H-B UB J	0.050	0.020	mg/L			11/08/19 10:27	1
Nitrite as N	0.072	H UB J	0.050	0.020	mg/L			11/08/19 13:21	1
TOC Result 1	59		1.0	0.43	mg/L			11/14/19 10:24	1
TOC Result 2	62		1.0	0.43	mg/L			11/14/19 10:24	1
Total Organic Carbon	62		1.0	0.43	mg/L			11/14/19 10:24	1
Nitrate as N	0.050	U-H 0.050 UB J	0.050	0.020	mg/L			11/08/19 13:21	1

Client Sample ID: MW-B1-110619

Lab Sample ID: 480-162368-13

Date Collected: 11/06/19 14:10

Matrix: Water

Date Received: 11/07/19 08:00

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			11/11/19 20:16	2
Benzene	2.0	U	2.0	0.82	ug/L			11/11/19 20:16	2
Bromodichloromethane	2.0	U	2.0	0.78	ug/L			11/11/19 20:16	2
Bromoform	2.0	U	2.0	0.52	ug/L			11/11/19 20:16	2
Bromomethane	2.0	U	2.0	1.4	ug/L			11/11/19 20:16	2
2-Butanone (MEK)	20	U	20	2.6	ug/L			11/11/19 20:16	2
Carbon disulfide	2.0	U	2.0	0.38	ug/L			11/11/19 20:16	2
Carbon tetrachloride	2.0	U	2.0	0.54	ug/L			11/11/19 20:16	2
Chlorobenzene	2.0	U	2.0	1.5	ug/L			11/11/19 20:16	2
Chloroethane	2.0	U	2.0	0.64	ug/L			11/11/19 20:16	2
Chloroform	2.0	U	2.0	0.68	ug/L			11/11/19 20:16	2
Chloromethane	2.0	U	2.0	0.70	ug/L			11/11/19 20:16	2
cis-1,2-Dichloroethene	2.0	U	2.0	1.6	ug/L			11/11/19 20:16	2

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-162368-1

Client Sample ID: MW-B1-110619

Lab Sample ID: 480-162368-13

Date Collected: 11/06/19 14:10

Matrix: Water

Date Received: 11/07/19 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	2.0	U	2.0	0.72	ug/L			11/11/19 20:16	2
Cyclohexane	2.0	U	2.0	0.36	ug/L			11/11/19 20:16	2
Dibromochloromethane	2.0	U	2.0	0.64	ug/L			11/11/19 20:16	2
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.78	ug/L			11/11/19 20:16	2
1,2-Dibromoethane	2.0	U	2.0	1.5	ug/L			11/11/19 20:16	2
1,2-Dichlorobenzene	2.0	U	2.0	1.6	ug/L			11/11/19 20:16	2
1,3-Dichlorobenzene	2.0	U	2.0	1.6	ug/L			11/11/19 20:16	2
1,4-Dichlorobenzene	2.0	U	2.0	1.7	ug/L			11/11/19 20:16	2
Dichlorodifluoromethane	2.0	U	2.0	1.4	ug/L			11/11/19 20:16	2
1,1-Dichloroethane	2.0	U	2.0	0.76	ug/L			11/11/19 20:16	2
1,2-Dichloroethane	0.44	J	2.0	0.42	ug/L			11/11/19 20:16	2
1,1-Dichloroethene	2.0	U	2.0	0.58	ug/L			11/11/19 20:16	2
1,2-Dichloropropane	2.0	U	2.0	1.4	ug/L			11/11/19 20:16	2
Ethylbenzene	2.0	U	2.0	1.5	ug/L			11/11/19 20:16	2
2-Hexanone	10	U	10	2.5	ug/L			11/11/19 20:16	2
Isopropylbenzene	2.0	U	2.0	1.6	ug/L			11/11/19 20:16	2
Methyl acetate	5.0	U	5.0	2.6	ug/L			11/11/19 20:16	2
Methylcyclohexane	2.0	U	2.0	0.32	ug/L			11/11/19 20:16	2
Methylene Chloride	2.0	U	2.0	0.88	ug/L			11/11/19 20:16	2
4-Methyl-2-pentanone (MIBK)	10	U	10	4.2	ug/L			11/11/19 20:16	2
Methyl tert-butyl ether	2.0	U	2.0	0.32	ug/L			11/11/19 20:16	2
Styrene	2.0	U	2.0	1.5	ug/L			11/11/19 20:16	2
1,1,2,2-Tetrachloroethane	2.0	U	2.0	0.42	ug/L			11/11/19 20:16	2
Tetrachloroethene	2.0	U	2.0	0.72	ug/L			11/11/19 20:16	2
Toluene	2.0	U	2.0	1.0	ug/L			11/11/19 20:16	2
trans-1,2-Dichloroethene	2.0	U	2.0	1.8	ug/L			11/11/19 20:16	2
trans-1,3-Dichloropropene	2.0	U	2.0	0.74	ug/L			11/11/19 20:16	2
1,2,4-Trichlorobenzene	2.0	U	2.0	0.82	ug/L			11/11/19 20:16	2
1,1,1-Trichloroethane	2.0	U	2.0	1.6	ug/L			11/11/19 20:16	2
1,1,2-Trichloroethane	2.0	U	2.0	0.46	ug/L			11/11/19 20:16	2
Trichloroethene	2.0	U	2.0	0.92	ug/L			11/11/19 20:16	2
Trichlorofluoromethane	2.0	U	2.0	1.8	ug/L			11/11/19 20:16	2
1,1,2-Trichloro-1,2,2-trifluoroethane	2.0	U	2.0	0.62	ug/L			11/11/19 20:16	2
Vinyl chloride	2.0	U	2.0	1.8	ug/L			11/11/19 20:16	2
Xylenes, Total	4.0	U	4.0	1.3	ug/L			11/11/19 20:16	2

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		73 - 120		11/11/19 20:16	2
Dibromofluoromethane (Surr)	107		75 - 123		11/11/19 20:16	2
1,2-Dichloroethane-d4 (Surr)	105		77 - 120		11/11/19 20:16	2
Toluene-d8 (Surr)	91		80 - 120		11/11/19 20:16	2

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	48	J	83	17	ug/L			11/14/19 19:53	11
Ethene	77	U	77	17	ug/L			11/14/19 19:53	11
Methane	2700		44	11	ug/L			11/14/19 19:53	11

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-162368-1

Client Sample ID: MW-B1-110619

Lab Sample ID: 480-162368-13

Date Collected: 11/06/19 14:10

Matrix: Water

Date Received: 11/07/19 08:00

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TOC Result 1	17		1.0	0.43	mg/L			11/14/19 11:21	1
TOC Result 2	18		1.0	0.43	mg/L			11/14/19 11:21	1
Total Organic Carbon	18		1.0	0.43	mg/L			11/14/19 11:21	1

Client Sample ID: IW-B3-110619

Lab Sample ID: 480-162368-14

Date Collected: 11/06/19 11:35

Matrix: Water

Date Received: 11/07/19 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	2000	U	2000	600	ug/L			11/11/19 20:40	200
Benzene	200	U	200	82	ug/L			11/11/19 20:40	200
Bromodichloromethane	200	U	200	78	ug/L			11/11/19 20:40	200
Bromoform	200	U	200	52	ug/L			11/11/19 20:40	200
Bromomethane	200	U	200	140	ug/L			11/11/19 20:40	200
2-Butanone (MEK)	2000	U	2000	260	ug/L			11/11/19 20:40	200
Carbon disulfide	200	U	200	38	ug/L			11/11/19 20:40	200
Carbon tetrachloride	200	U	200	54	ug/L			11/11/19 20:40	200
Chlorobenzene	200	U	200	150	ug/L			11/11/19 20:40	200
Chloroethane	200	U	200	64	ug/L			11/11/19 20:40	200
Chloroform	200	U	200	68	ug/L			11/11/19 20:40	200
Chloromethane	200	U	200	70	ug/L			11/11/19 20:40	200
cis-1,2-Dichloroethene	200	U	200	160	ug/L			11/11/19 20:40	200
cis-1,3-Dichloropropene	200	U	200	72	ug/L			11/11/19 20:40	200
Cyclohexane	200	U	200	36	ug/L			11/11/19 20:40	200
Dibromochloromethane	200	U	200	64	ug/L			11/11/19 20:40	200
1,2-Dibromo-3-Chloropropane	200	U	200	78	ug/L			11/11/19 20:40	200
1,2-Dibromoethane	200	U	200	150	ug/L			11/11/19 20:40	200
1,2-Dichlorobenzene	200	U	200	160	ug/L			11/11/19 20:40	200
1,3-Dichlorobenzene	200	U	200	160	ug/L			11/11/19 20:40	200
1,4-Dichlorobenzene	200	U	200	170	ug/L			11/11/19 20:40	200
Dichlorodifluoromethane	200	U	200	140	ug/L			11/11/19 20:40	200
1,1-Dichloroethane	200	U	200	76	ug/L			11/11/19 20:40	200
1,2-Dichloroethane	200	U	200	42	ug/L			11/11/19 20:40	200
1,1-Dichloroethene	200	U	200	58	ug/L			11/11/19 20:40	200
1,2-Dichloropropane	200	U	200	140	ug/L			11/11/19 20:40	200
Ethylbenzene	200	U	200	150	ug/L			11/11/19 20:40	200
2-Hexanone	1000	U	1000	250	ug/L			11/11/19 20:40	200
Isopropylbenzene	200	U	200	160	ug/L			11/11/19 20:40	200
Methyl acetate	500	U	500	260	ug/L			11/11/19 20:40	200
Methylcyclohexane	200	U	200	32	ug/L			11/11/19 20:40	200
Methylene Chloride	200	U	200	88	ug/L			11/11/19 20:40	200
4-Methyl-2-pentanone (MIBK)	1000	U	1000	420	ug/L			11/11/19 20:40	200
Methyl tert-butyl ether	200	U	200	32	ug/L			11/11/19 20:40	200
Styrene	200	U	200	150	ug/L			11/11/19 20:40	200
1,1,2,2-Tetrachloroethane	200	U	200	42	ug/L			11/11/19 20:40	200
Tetrachloroethene	200	U	200	72	ug/L			11/11/19 20:40	200
Toluene	200	U	200	100	ug/L			11/11/19 20:40	200
trans-1,2-Dichloroethene	200	U	200	180	ug/L			11/11/19 20:40	200
trans-1,3-Dichloropropene	200	U	200	74	ug/L			11/11/19 20:40	200

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-162368-1

Client Sample ID: IW-B3-110619

Lab Sample ID: 480-162368-14

Date Collected: 11/06/19 11:35

Matrix: Water

Date Received: 11/07/19 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	200	U	200	82	ug/L			11/11/19 20:40	200
1,1,1-Trichloroethane	200	U	200	160	ug/L			11/11/19 20:40	200
1,1,2-Trichloroethane	200	U	200	46	ug/L			11/11/19 20:40	200
Trichloroethene	200	U	200	92	ug/L			11/11/19 20:40	200
Trichlorofluoromethane	200	U	200	180	ug/L			11/11/19 20:40	200
1,1,2-Trichloro-1,2,2-trifluoroethane	200	U	200	62	ug/L			11/11/19 20:40	200
Vinyl chloride	200	U	200	180	ug/L			11/11/19 20:40	200
Xylenes, Total	400	U	400	130	ug/L			11/11/19 20:40	200

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		73 - 120		11/11/19 20:40	200
Dibromofluoromethane (Surr)	107		75 - 123		11/11/19 20:40	200
1,2-Dichloroethane-d4 (Surr)	103		77 - 120		11/11/19 20:40	200
Toluene-d8 (Surr)	91		80 - 120		11/11/19 20:40	200

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TOC Result 1	180		4.0	1.7	mg/L			11/14/19 12:17	4
TOC Result 2	190		4.0	1.7	mg/L			11/14/19 12:17	4
Total Organic Carbon	190		4.0	1.7	mg/L			11/14/19 12:17	4

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:	480-162367-1
Analyses:	VOCs – 8260C, Dissolved Gases – RSK 175, Metals – 6010C, Anions – SM 300.0, Nitrogen (Nitrate and Nitrite) – SM 353.2 and TOC - 9060A
QA Reporting Level:	ARCADIS, Level II
ARCADIS Project Manager:	Shannon Lloyd

Environmental
Project:
Ashland
Rensselaer

Project Number:
30039411.00402

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	Lab Sample ID	Sample Date	Parent Sample
480-162367-1	MW-18-110719	480-162367-1	11/07/19	
480-162367-1	MW-16-110719	480-162367-2	11/07/19	
480-162367-1	IP-1-110719	480-162367-3	11/07/19	
480-162367-1	IMP-3-110719	480-162367-4	11/07/19	
480-162367-1	MW-21-110719	480-162367-5	11/07/19	
480-162367-1	FB-2-110719	480-162367-6	11/07/19	
480-162367-1	TRIP BLANK	480-162367-7	11/07/19	
480-162367-1	IW-A2-110719	480-162367-8	11/07/19	
480-162367-1	MW-25-110719	480-162367-9	11/07/19	

I. GENERAL INFORMATION

ITEMS REVIEWED	REPORTED / REVIEWED		EXCEPTIONS NOTED		GENERAL COMMENTS NOTED		ITEM NOT REQUIRED
	NO	YES	NO	YES	NO	YES	
1. Chain of Custody		X	X		X		
2. Sampling dates and times		X	X		X		
3. Sample type on COC		X	X		X		
4. Field QC samples		X	X		X		
5. Case Narrative		X	X		X		
6. Laboratory Report Checklist		X	X		X		
7. Laboratory Exception Reports		X	X		X		
8. TRRP Format		X	X		X		
9. Sample Receipt Condition		X	X		X		

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

“Exceptions Noted” = If an exception was noted in the accompanying exception report (ER) this will be checked in the affirmative.

“General Comments Noted” = If there are other comments associated with Data Quality (not necessarily noted in the ER) this will be checked in the affirmative.

The analytical report was complete without exceptions or notations.

II.VOLATILES

	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. Matrix spike duplicate (MSD) %R	X				X
9. MS/MSD RPD	X				X
10. Surrogate Recoveries		X		X	
11. Field Duplicate Comparison	X				X

VOCs - volatile organic compounds

%R - percent recovery

RPD - relative percent difference

MSD- Matrix Spike Duplicate

"Exceptions Noted" = If an exception was noted in the accompanying exception report (ER) this will be checked in the affirmative.

"General Comments Noted" = If there are other comments associated with Data Quality (not necessarily noted in the ER) this will be checked in the affirmative

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

- 3B. The compound acetone was detected above MDL in field blank. The compound acetone in associated field sample results were not detected. Hence no qualification is warranted.

III. DISSOLVED GASES

	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. Matrix spike duplicate (MSD) %R	X				X
9. MS/MSD RPD	X				X
10. Field Duplicate Comparison	X				X

VOCs - volatile organic compounds

%R - percent recovery

RPD - relative percent difference

MSD- Matrix Spike Duplicate

"Exceptions Noted" = If an exception was noted in the accompanying exception report (ER) this will be checked in the affirmative.

"General Comments Noted" = If there are other comments associated with Data Quality (not necessarily noted in the ER) this will be checked in the affirmative

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

1. The dissolved gases analysis was performed beyond the holding time for sample location IP-1-110719 for the analyte methane. The detected sample results were qualified as estimated (J).

IV. METALS

	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	
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. Matrix spike duplicate (MSD) %R	X				X
9. MS/MSD RPD	X				X
10. Field Duplicate Comparison	X				X

VOCs - volatile organic compounds

%R - percent recovery

RPD - relative percent difference

MSD- Matrix Spike Duplicate

"Exceptions Noted" = If an exception was noted in the accompanying exception report (ER) this will be checked in the affirmative.

"General Comments Noted" = If there are other comments associated with Data Quality (not necessarily noted in the ER) this will be checked in the affirmative

COMMENTS: Performance was acceptable.

V. GENERAL CHEMISTRY

	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. Matrix spike duplicate (MSD) %R	X				X
9. MS/MSD RPD	X				X
10. Laboratory duplicate analysis (RPD)		X		X	
11. Field Duplicate Comparison	X				X

s - volatile organic compounds

%R - percent recovery

RPD - relative percent difference

MSD- Matrix Spike Duplicate

"Exceptions Noted" = If an exception was noted in the accompanying exception report (ER) this will be checked in the affirmative.

"General Comments Noted" = If there are other comments associated with Data Quality (not necessarily noted in the ER) this will be checked in the affirmative

COMMENTS: Performance was acceptable.

7. The MS analysis was performed on sample IP-1-110719 for total organic carbon analysis. The MS recoveries were within the laboratory control limit.

10. The laboratory duplicate analysis was performed on sample IMP-3-110719 for total organic carbon analysis. The RPDs were within the laboratory control limit.

DATA VALIDATION QUALIFICATION SUMMARY

Qualifier Definitions:

J – Result is considered to be estimated at the value reported.

R – Result is considered not detected but estimated due to QC deficiencies.

Explanation/Notes:

Sample ID	Parameter	Result	Units	Qualifier	Reason
IP-1-110719	Methane	1400	µg/L	J	Holding time
	Nitrate Nitrite as N	0.050 U	mg/L	R	Holding time
	Nitrite as N	0.050 U	mg/L	R	Holding time
	Nitrate as N	0.050 U	mg/L	R	Holding time

VALIDATION PERFORMED BY: Hrishikesh Upadhyaya

SIGNATURE:



DATE: December 20, 2019

PEER REVIEW BY: Dennis Capria

DATE: December 20, 2019

**CHAIN OF CUSTODY/
CORRECTED SAMPLE ANALYSIS DATA SHEET**

Albany #224

Chain of Custody Record

363010



Environment TestAmerica

Address: _____ Regulatory Program: ☐ DW ☐ NIDES ☐ RCRA ☐ Other: _____ TAL-82

Client Contact	Project Manager: <u>Joe Zaso</u>	Site Contact: <u>K. Bedwell</u>	Date: <u>11/7/19</u>	COC No. _____
Company Name: <u>ARCADIS</u>	Tel/Email: _____	Lab Contact: _____	Carrier: _____	1 of 1 COCs
Address: <u>855 RTE 196 STE 210</u>	Analysis Turnaround Time		Sampler: <u>ES/KS</u>	
City/State/Zip: <u>Clifton Park, NY 12065</u>	☒ CALENDAR DAYS ☐ WORKING DAYS		For Lab Use Only:	
Phone: <u>(518) 250-7300</u>	TAT if different from Below: <u>Standard</u>		Walk-in Client	
Project Name: <u>Ashland Pen</u>	2 weeks		Lab Sampling	
Location: <u>Pennsylvania, NY</u>	1 week			
Q# _____	2 days			
	1 day			



Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filled Sample (Y/N)	Perform MS/MSD (Y/N)	Other
MW-18-110719	11/7/19	0910	G	W	8	✓	✓	
MW-16-110719		0930			11	✓	✓	11/5/19
IP-1-110719		0955			11	✓	✓	
IMP-3-110719		1040			5	✓	✓	
MW-21-110719		1050			5	✓	✓	
CB-2-110719		1030	↓		11	✓	✓	ES 11/7/19
Trip Blank		-	-		3	✓		
IW-A2-110719	↓	1225	G	↓	5	✓	✓	
MW-25-110719	11/7/19	1125	↓	W	2	✓		

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

Special Instructions/QC Requirements & Comments: Direct Bill to Ashland PM: Ian McCary

Custody Seals Intact: ☐ Yes ☐ No Custody Seal No. _____ Cooler Temp (°C): _____ Obs'd: _____ Cor'd: _____ Therm ID No.: #1 2.5

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

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-162367-1

Client Sample ID: MW-18-110719

Lab Sample ID: 480-162367-1

Date Collected: 11/07/19 09:10

Matrix: Water

Date Received: 11/08/19 08:00

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			11/11/19 14:39	5
Benzene	5.0	U	5.0	2.1	ug/L			11/11/19 14:39	5
Bromodichloromethane	5.0	U	5.0	2.0	ug/L			11/11/19 14:39	5
Bromoform	5.0	U	5.0	1.3	ug/L			11/11/19 14:39	5
Bromomethane	5.0	U	5.0	3.5	ug/L			11/11/19 14:39	5
2-Butanone (MEK)	50	U	50	6.6	ug/L			11/11/19 14:39	5
Carbon disulfide	5.0	U	5.0	0.95	ug/L			11/11/19 14:39	5
Carbon tetrachloride	5.0	U	5.0	1.4	ug/L			11/11/19 14:39	5
Chlorobenzene	5.0	U	5.0	3.8	ug/L			11/11/19 14:39	5
Chloroethane	5.0	U	5.0	1.6	ug/L			11/11/19 14:39	5
Chloroform	5.0	U	5.0	1.7	ug/L			11/11/19 14:39	5
Chloromethane	5.0	U	5.0	1.8	ug/L			11/11/19 14:39	5
cis-1,2-Dichloroethene	330		5.0	4.1	ug/L			11/11/19 14:39	5
cis-1,3-Dichloropropene	5.0	U	5.0	1.8	ug/L			11/11/19 14:39	5
Cyclohexane	5.0	U	5.0	0.90	ug/L			11/11/19 14:39	5
Dibromochloromethane	5.0	U	5.0	1.6	ug/L			11/11/19 14:39	5
1,2-Dibromo-3-Chloropropane	5.0	U	5.0	2.0	ug/L			11/11/19 14:39	5
1,2-Dibromoethane	5.0	U	5.0	3.7	ug/L			11/11/19 14:39	5
1,2-Dichlorobenzene	5.0	U	5.0	4.0	ug/L			11/11/19 14:39	5
1,3-Dichlorobenzene	5.0	U	5.0	3.9	ug/L			11/11/19 14:39	5
1,4-Dichlorobenzene	5.0	U	5.0	4.2	ug/L			11/11/19 14:39	5
Dichlorodifluoromethane	5.0	U	5.0	3.4	ug/L			11/11/19 14:39	5
1,1-Dichloroethane	5.0	U	5.0	1.9	ug/L			11/11/19 14:39	5
1,2-Dichloroethane	5.0	U	5.0	1.1	ug/L			11/11/19 14:39	5
1,1-Dichloroethene	5.0	U	5.0	1.5	ug/L			11/11/19 14:39	5
1,2-Dichloropropane	5.0	U	5.0	3.6	ug/L			11/11/19 14:39	5
Ethylbenzene	5.0	U	5.0	3.7	ug/L			11/11/19 14:39	5
2-Hexanone	25	U	25	6.2	ug/L			11/11/19 14:39	5
Isopropylbenzene	5.0	U	5.0	4.0	ug/L			11/11/19 14:39	5
Methyl acetate	13	U	13	6.5	ug/L			11/11/19 14:39	5
Methylcyclohexane	5.0	U	5.0	0.80	ug/L			11/11/19 14:39	5
Methylene Chloride	5.0	U	5.0	2.2	ug/L			11/11/19 14:39	5
4-Methyl-2-pentanone (MIBK)	25	U	25	11	ug/L			11/11/19 14:39	5
Methyl tert-butyl ether	5.0	U	5.0	0.80	ug/L			11/11/19 14:39	5
Styrene	5.0	U	5.0	3.7	ug/L			11/11/19 14:39	5
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1.1	ug/L			11/11/19 14:39	5
Tetrachloroethene	5.0	U	5.0	1.8	ug/L			11/11/19 14:39	5
Toluene	5.0	U	5.0	2.6	ug/L			11/11/19 14:39	5
trans-1,2-Dichloroethene	5.0	U	5.0	4.5	ug/L			11/11/19 14:39	5
trans-1,3-Dichloropropene	5.0	U	5.0	1.9	ug/L			11/11/19 14:39	5
1,2,4-Trichlorobenzene	5.0	U	5.0	2.1	ug/L			11/11/19 14:39	5
1,1,1-Trichloroethane	5.0	U	5.0	4.1	ug/L			11/11/19 14:39	5
1,1,2-Trichloroethane	5.0	U	5.0	1.2	ug/L			11/11/19 14:39	5
Trichloroethene	5.0	U	5.0	2.3	ug/L			11/11/19 14:39	5
Trichlorofluoromethane	5.0	U	5.0	4.4	ug/L			11/11/19 14:39	5
1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U	5.0	1.6	ug/L			11/11/19 14:39	5
Vinyl chloride	74		5.0	4.5	ug/L			11/11/19 14:39	5
Xylenes, Total	10	U	10	3.3	ug/L			11/11/19 14:39	5

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-162367-1

Client Sample ID: MW-18-110719

Lab Sample ID: 480-162367-1

Date Collected: 11/07/19 09:10

Matrix: Water

Date Received: 11/08/19 08:00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		73 - 120		11/11/19 14:39	5
Dibromofluoromethane (Surr)	102		75 - 123		11/11/19 14:39	5
1,2-Dichloroethane-d4 (Surr)	100		77 - 120		11/11/19 14:39	5
Toluene-d8 (Surr)	90		80 - 120		11/11/19 14:39	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TOC Result 1	2.5		1.0	0.43	mg/L			11/13/19 21:14	1
TOC Result 2	2.5		1.0	0.43	mg/L			11/13/19 21:14	1
Total Organic Carbon	2.7		1.0	0.43	mg/L			11/13/19 21:14	1

Client Sample ID: MW-16-110719

Lab Sample ID: 480-162367-2

Date Collected: 11/07/19 09:30

Matrix: Water

Date Received: 11/08/19 08:00

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			11/11/19 15:03	1
Benzene	1.0	U	1.0	0.41	ug/L			11/11/19 15:03	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			11/11/19 15:03	1
Bromoform	1.0	U	1.0	0.26	ug/L			11/11/19 15:03	1
Bromomethane	1.0	U	1.0	0.69	ug/L			11/11/19 15:03	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			11/11/19 15:03	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			11/11/19 15:03	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			11/11/19 15:03	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			11/11/19 15:03	1
Chloroethane	1.0	U	1.0	0.32	ug/L			11/11/19 15:03	1
Chloroform	1.0	U	1.0	0.34	ug/L			11/11/19 15:03	1
Chloromethane	1.0	U	1.0	0.35	ug/L			11/11/19 15:03	1
cis-1,2-Dichloroethene	7.5		1.0	0.81	ug/L			11/11/19 15:03	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			11/11/19 15:03	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			11/11/19 15:03	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			11/11/19 15:03	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			11/11/19 15:03	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			11/11/19 15:03	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			11/11/19 15:03	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			11/11/19 15:03	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			11/11/19 15:03	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			11/11/19 15:03	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			11/11/19 15:03	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			11/11/19 15:03	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			11/11/19 15:03	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			11/11/19 15:03	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			11/11/19 15:03	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			11/11/19 15:03	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			11/11/19 15:03	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			11/11/19 15:03	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			11/11/19 15:03	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			11/11/19 15:03	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			11/11/19 15:03	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			11/11/19 15:03	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-162367-1

Client Sample ID: MW-16-110719

Lab Sample ID: 480-162367-2

Date Collected: 11/07/19 09:30

Matrix: Water

Date Received: 11/08/19 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	1.0	U	1.0	0.73	ug/L			11/11/19 15:03	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			11/11/19 15:03	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			11/11/19 15:03	1
Toluene	1.0	U	1.0	0.51	ug/L			11/11/19 15:03	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			11/11/19 15:03	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			11/11/19 15:03	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			11/11/19 15:03	1
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			11/11/19 15:03	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			11/11/19 15:03	1
Trichloroethene	1.2		1.0	0.46	ug/L			11/11/19 15:03	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			11/11/19 15:03	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			11/11/19 15:03	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			11/11/19 15:03	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			11/11/19 15:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		73 - 120		11/11/19 15:03	1
Dibromofluoromethane (Surr)	108		75 - 123		11/11/19 15:03	1
1,2-Dichloroethane-d4 (Surr)	104		77 - 120		11/11/19 15:03	1
Toluene-d8 (Surr)	91		80 - 120		11/11/19 15:03	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			11/21/19 14:52	1
Ethene	7.0	U	7.0	1.5	ug/L			11/21/19 14:52	1
Methane	27		4.0	1.0	ug/L			11/21/19 14:52	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TOC Result 1	0.90	J	1.0	0.43	mg/L			11/13/19 21:42	1
TOC Result 2	0.81	J	1.0	0.43	mg/L			11/13/19 21:42	1
Total Organic Carbon	0.87	J	1.0	0.43	mg/L			11/13/19 21:42	1

Client Sample ID: IP-1-110719

Lab Sample ID: 480-162367-3

Date Collected: 11/07/19 09:55

Matrix: Water

Date Received: 11/08/19 08:00

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			11/12/19 03:29	5
Benzene	5.0	U	5.0	2.1	ug/L			11/12/19 03:29	5
Bromodichloromethane	5.0	U	5.0	2.0	ug/L			11/12/19 03:29	5
Bromoform	5.0	U	5.0	1.3	ug/L			11/12/19 03:29	5
Bromomethane	5.0	U	5.0	3.5	ug/L			11/12/19 03:29	5
2-Butanone (MEK)	50	U	50	6.6	ug/L			11/12/19 03:29	5
Carbon disulfide	5.0	U	5.0	0.95	ug/L			11/12/19 03:29	5
Carbon tetrachloride	5.0	U	5.0	1.4	ug/L			11/12/19 03:29	5
Chlorobenzene	5.0	U	5.0	3.8	ug/L			11/12/19 03:29	5
Chloroethane	5.0	U	5.0	1.6	ug/L			11/12/19 03:29	5
Chloroform	5.0	U	5.0	1.7	ug/L			11/12/19 03:29	5
Chloromethane	5.0	U	5.0	1.8	ug/L			11/12/19 03:29	5

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-162367-1

Client Sample ID: IP-1-110719

Lab Sample ID: 480-162367-3

Date Collected: 11/07/19 09:55

Matrix: Water

Date Received: 11/08/19 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	340		5.0	4.1	ug/L			11/12/19 03:29	5
cis-1,3-Dichloropropene	5.0	U	5.0	1.8	ug/L			11/12/19 03:29	5
Cyclohexane	5.0	U	5.0	0.90	ug/L			11/12/19 03:29	5
Dibromochloromethane	5.0	U	5.0	1.6	ug/L			11/12/19 03:29	5
1,2-Dibromo-3-Chloropropane	5.0	U	5.0	2.0	ug/L			11/12/19 03:29	5
1,2-Dibromoethane	5.0	U	5.0	3.7	ug/L			11/12/19 03:29	5
1,2-Dichlorobenzene	5.0	U	5.0	4.0	ug/L			11/12/19 03:29	5
1,3-Dichlorobenzene	5.0	U	5.0	3.9	ug/L			11/12/19 03:29	5
1,4-Dichlorobenzene	5.0	U	5.0	4.2	ug/L			11/12/19 03:29	5
Dichlorodifluoromethane	5.0	U	5.0	3.4	ug/L			11/12/19 03:29	5
1,1-Dichloroethane	5.0	U	5.0	1.9	ug/L			11/12/19 03:29	5
1,2-Dichloroethane	5.0	U	5.0	1.1	ug/L			11/12/19 03:29	5
1,1-Dichloroethene	5.0	U	5.0	1.5	ug/L			11/12/19 03:29	5
1,2-Dichloropropane	5.0	U	5.0	3.6	ug/L			11/12/19 03:29	5
Ethylbenzene	5.0	U	5.0	3.7	ug/L			11/12/19 03:29	5
2-Hexanone	25	U	25	6.2	ug/L			11/12/19 03:29	5
Isopropylbenzene	5.0	U	5.0	4.0	ug/L			11/12/19 03:29	5
Methyl acetate	13	U	13	6.5	ug/L			11/12/19 03:29	5
Methylcyclohexane	5.0	U	5.0	0.80	ug/L			11/12/19 03:29	5
Methylene Chloride	5.0	U	5.0	2.2	ug/L			11/12/19 03:29	5
4-Methyl-2-pentanone (MIBK)	25	U	25	11	ug/L			11/12/19 03:29	5
Methyl tert-butyl ether	5.0	U	5.0	0.80	ug/L			11/12/19 03:29	5
Styrene	5.0	U	5.0	3.7	ug/L			11/12/19 03:29	5
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1.1	ug/L			11/12/19 03:29	5
Tetrachloroethene	5.0	U	5.0	1.8	ug/L			11/12/19 03:29	5
Toluene	5.0	U	5.0	2.6	ug/L			11/12/19 03:29	5
trans-1,2-Dichloroethene	5.0	U	5.0	4.5	ug/L			11/12/19 03:29	5
trans-1,3-Dichloropropene	5.0	U	5.0	1.9	ug/L			11/12/19 03:29	5
1,2,4-Trichlorobenzene	5.0	U	5.0	2.1	ug/L			11/12/19 03:29	5
1,1,1-Trichloroethane	5.0	U	5.0	4.1	ug/L			11/12/19 03:29	5
1,1,2-Trichloroethane	5.0	U	5.0	1.2	ug/L			11/12/19 03:29	5
Trichloroethene	5.0	U	5.0	2.3	ug/L			11/12/19 03:29	5
Trichlorofluoromethane	5.0	U	5.0	4.4	ug/L			11/12/19 03:29	5
1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U	5.0	1.6	ug/L			11/12/19 03:29	5
Vinyl chloride	61		5.0	4.5	ug/L			11/12/19 03:29	5
Xylenes, Total	10	U	10	3.3	ug/L			11/12/19 03:29	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		73 - 120		11/12/19 03:29	5
Dibromofluoromethane (Surr)	108		75 - 123		11/12/19 03:29	5
1,2-Dichloroethane-d4 (Surr)	106		77 - 120		11/12/19 03:29	5
Toluene-d8 (Surr)	93		80 - 120		11/12/19 03:29	5

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	29		7.5	1.5	ug/L			11/21/19 15:11	1
Ethene	3.4	J	7.0	1.5	ug/L			11/21/19 15:11	1
Methane	790	E	4.0	1.0	ug/L			11/21/19 15:11	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-162367-1

Client Sample ID: IP-1-110719

Lab Sample ID: 480-162367-3

Date Collected: 11/07/19 09:55

Matrix: Water

Date Received: 11/08/19 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	1400	H J	44	11	ug/L			11/22/19 21:07	11

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	13		0.050	0.019	mg/L		11/11/19 10:20	11/14/19 01:33	1
Manganese	4.3		0.0030	0.00040	mg/L		11/11/19 10:20	11/14/19 01:33	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.050	U A	0.050	0.019	mg/L		11/13/19 10:58	11/13/19 19:07	1
Manganese	4.1		0.0030	0.00040	mg/L		11/13/19 10:58	11/13/19 19:07	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	61		10	1.7	mg/L			11/20/19 19:28	5
Nitrate Nitrite as N	0.050 U H	R	0.050	0.020	mg/L			11/11/19 16:52	1
Nitrite as N	0.050 U H	R	0.050	0.020	mg/L			11/11/19 16:52	1
TOC Result 1	4.3		1.0	0.43	mg/L			11/13/19 23:07	1
TOC Result 2	4.3		1.0	0.43	mg/L			11/13/19 23:07	1
Total Organic Carbon	4.4		1.0	0.43	mg/L			11/13/19 23:07	1
Nitrate as N	0.050 U H	R	0.050	0.020	mg/L			11/11/19 16:52	1

Client Sample ID: IMP-3-110719

Lab Sample ID: 480-162367-4

Date Collected: 11/07/19 10:40

Matrix: Water

Date Received: 11/08/19 08:00

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			11/12/19 03:53	1
Benzene	1.0	U	1.0	0.41	ug/L			11/12/19 03:53	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			11/12/19 03:53	1
Bromoform	1.0	U	1.0	0.26	ug/L			11/12/19 03:53	1
Bromomethane	1.0	U	1.0	0.69	ug/L			11/12/19 03:53	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			11/12/19 03:53	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			11/12/19 03:53	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			11/12/19 03:53	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			11/12/19 03:53	1
Chloroethane	1.0	U	1.0	0.32	ug/L			11/12/19 03:53	1
Chloroform	1.0	U	1.0	0.34	ug/L			11/12/19 03:53	1
Chloromethane	1.0	U	1.0	0.35	ug/L			11/12/19 03:53	1
cis-1,2-Dichloroethene	16		1.0	0.81	ug/L			11/12/19 03:53	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			11/12/19 03:53	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			11/12/19 03:53	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			11/12/19 03:53	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			11/12/19 03:53	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			11/12/19 03:53	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			11/12/19 03:53	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			11/12/19 03:53	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			11/12/19 03:53	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			11/12/19 03:53	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			11/12/19 03:53	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-162367-1

Client Sample ID: IMP-3-110719

Lab Sample ID: 480-162367-4

Date Collected: 11/07/19 10:40

Matrix: Water

Date Received: 11/08/19 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	0.44	J	1.0	0.21	ug/L			11/12/19 03:53	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			11/12/19 03:53	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			11/12/19 03:53	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			11/12/19 03:53	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			11/12/19 03:53	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			11/12/19 03:53	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			11/12/19 03:53	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			11/12/19 03:53	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			11/12/19 03:53	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			11/12/19 03:53	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			11/12/19 03:53	1
Styrene	1.0	U	1.0	0.73	ug/L			11/12/19 03:53	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			11/12/19 03:53	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			11/12/19 03:53	1
Toluene	1.0	U	1.0	0.51	ug/L			11/12/19 03:53	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			11/12/19 03:53	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			11/12/19 03:53	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			11/12/19 03:53	1
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			11/12/19 03:53	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			11/12/19 03:53	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			11/12/19 03:53	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			11/12/19 03:53	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			11/12/19 03:53	1
Vinyl chloride	2.1		1.0	0.90	ug/L			11/12/19 03:53	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			11/12/19 03:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		73 - 120		11/12/19 03:53	1
Dibromofluoromethane (Surr)	115		75 - 123		11/12/19 03:53	1
1,2-Dichloroethane-d4 (Surr)	113		77 - 120		11/12/19 03:53	1
Toluene-d8 (Surr)	95		80 - 120		11/12/19 03:53	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TOC Result 1	1.2		1.0	0.43	mg/L			11/14/19 00:02	1
TOC Result 2	0.94	J	1.0	0.43	mg/L			11/14/19 00:02	1
Total Organic Carbon	1.0		1.0	0.43	mg/L			11/14/19 00:02	1

Client Sample ID: MW-21-110719

Lab Sample ID: 480-162367-5

Date Collected: 11/07/19 10:50

Matrix: Water

Date Received: 11/08/19 08:00

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			11/12/19 04:17	1
Benzene	1.0	U	1.0	0.41	ug/L			11/12/19 04:17	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			11/12/19 04:17	1
Bromoform	1.0	U	1.0	0.26	ug/L			11/12/19 04:17	1
Bromomethane	1.0	U	1.0	0.69	ug/L			11/12/19 04:17	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			11/12/19 04:17	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-162367-1

Client Sample ID: MW-21-110719

Lab Sample ID: 480-162367-5

Date Collected: 11/07/19 10:50

Matrix: Water

Date Received: 11/08/19 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon disulfide	1.0	U	1.0	0.19	ug/L			11/12/19 04:17	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			11/12/19 04:17	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			11/12/19 04:17	1
Chloroethane	1.0	U	1.0	0.32	ug/L			11/12/19 04:17	1
Chloroform	1.0	U	1.0	0.34	ug/L			11/12/19 04:17	1
Chloromethane	1.0	U	1.0	0.35	ug/L			11/12/19 04:17	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			11/12/19 04:17	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			11/12/19 04:17	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			11/12/19 04:17	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			11/12/19 04:17	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			11/12/19 04:17	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			11/12/19 04:17	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			11/12/19 04:17	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			11/12/19 04:17	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			11/12/19 04:17	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			11/12/19 04:17	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			11/12/19 04:17	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			11/12/19 04:17	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			11/12/19 04:17	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			11/12/19 04:17	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			11/12/19 04:17	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			11/12/19 04:17	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			11/12/19 04:17	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			11/12/19 04:17	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			11/12/19 04:17	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			11/12/19 04:17	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			11/12/19 04:17	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			11/12/19 04:17	1
Styrene	1.0	U	1.0	0.73	ug/L			11/12/19 04:17	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			11/12/19 04:17	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			11/12/19 04:17	1
Toluene	1.0	U	1.0	0.51	ug/L			11/12/19 04:17	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			11/12/19 04:17	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			11/12/19 04:17	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			11/12/19 04:17	1
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			11/12/19 04:17	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			11/12/19 04:17	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			11/12/19 04:17	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			11/12/19 04:17	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			11/12/19 04:17	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			11/12/19 04:17	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			11/12/19 04:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		73 - 120		11/12/19 04:17	1
Dibromofluoromethane (Surr)	110		75 - 123		11/12/19 04:17	1
1,2-Dichloroethane-d4 (Surr)	107		77 - 120		11/12/19 04:17	1
Toluene-d8 (Surr)	95		80 - 120		11/12/19 04:17	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-162367-1

Client Sample ID: MW-21-110719

Lab Sample ID: 480-162367-5

Date Collected: 11/07/19 10:50

Matrix: Water

Date Received: 11/08/19 08:00

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TOC Result 1	6.7		1.0	0.43	mg/L			11/14/19 00:58	1
TOC Result 2	6.7		1.0	0.43	mg/L			11/14/19 00:58	1
Total Organic Carbon	6.8		1.0	0.43	mg/L			11/14/19 00:58	1

Client Sample ID: FB-2-110719

Lab Sample ID: 480-162367-6

Date Collected: 11/07/19 10:30

Matrix: Water

Date Received: 11/08/19 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	3.5	J	10	3.0	ug/L			11/12/19 04:40	1
Benzene	1.0	U	1.0	0.41	ug/L			11/12/19 04:40	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			11/12/19 04:40	1
Bromoform	1.0	U	1.0	0.26	ug/L			11/12/19 04:40	1
Bromomethane	1.0	U	1.0	0.69	ug/L			11/12/19 04:40	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			11/12/19 04:40	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			11/12/19 04:40	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			11/12/19 04:40	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			11/12/19 04:40	1
Chloroethane	1.0	U	1.0	0.32	ug/L			11/12/19 04:40	1
Chloroform	1.0	U	1.0	0.34	ug/L			11/12/19 04:40	1
Chloromethane	1.0	U	1.0	0.35	ug/L			11/12/19 04:40	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			11/12/19 04:40	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			11/12/19 04:40	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			11/12/19 04:40	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			11/12/19 04:40	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			11/12/19 04:40	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			11/12/19 04:40	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			11/12/19 04:40	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			11/12/19 04:40	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			11/12/19 04:40	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			11/12/19 04:40	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			11/12/19 04:40	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			11/12/19 04:40	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			11/12/19 04:40	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			11/12/19 04:40	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			11/12/19 04:40	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			11/12/19 04:40	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			11/12/19 04:40	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			11/12/19 04:40	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			11/12/19 04:40	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			11/12/19 04:40	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			11/12/19 04:40	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			11/12/19 04:40	1
Styrene	1.0	U	1.0	0.73	ug/L			11/12/19 04:40	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			11/12/19 04:40	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			11/12/19 04:40	1
Toluene	1.0	U	1.0	0.51	ug/L			11/12/19 04:40	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			11/12/19 04:40	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			11/12/19 04:40	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-162367-1

Client Sample ID: FB-2-110719

Lab Sample ID: 480-162367-6

Date Collected: 11/07/19 10:30

Matrix: Water

Date Received: 11/08/19 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			11/12/19 04:40	1
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			11/12/19 04:40	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			11/12/19 04:40	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			11/12/19 04:40	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			11/12/19 04:40	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			11/12/19 04:40	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			11/12/19 04:40	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			11/12/19 04:40	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		73 - 120					11/12/19 04:40	1
Dibromofluoromethane (Surr)	109		75 - 123					11/12/19 04:40	1
1,2-Dichloroethane-d4 (Surr)	105		77 - 120					11/12/19 04:40	1
Toluene-d8 (Surr)	91		80 - 120					11/12/19 04:40	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			11/21/19 15:49	1
Ethene	7.0	U	7.0	1.5	ug/L			11/21/19 15:49	1
Methane	4.0	U	4.0	1.0	ug/L			11/21/19 15:49	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			11/14/19 01:26	1
TOC Result 2	1.0	U	1.0	0.43	mg/L			11/14/19 01:26	1
Total Organic Carbon	1.0	U	1.0	0.43	mg/L			11/14/19 01:26	1

Client Sample ID: TRIP BLANK

Lab Sample ID: 480-162367-7

Date Collected: 11/07/19 00:00

Matrix: Water

Date Received: 11/08/19 08:00

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			11/12/19 05:04	1
Benzene	1.0	U	1.0	0.41	ug/L			11/12/19 05:04	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			11/12/19 05:04	1
Bromoform	1.0	U	1.0	0.26	ug/L			11/12/19 05:04	1
Bromomethane	1.0	U	1.0	0.69	ug/L			11/12/19 05:04	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			11/12/19 05:04	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			11/12/19 05:04	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			11/12/19 05:04	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			11/12/19 05:04	1
Chloroethane	1.0	U	1.0	0.32	ug/L			11/12/19 05:04	1
Chloroform	1.0	U	1.0	0.34	ug/L			11/12/19 05:04	1
Chloromethane	1.0	U	1.0	0.35	ug/L			11/12/19 05:04	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			11/12/19 05:04	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			11/12/19 05:04	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			11/12/19 05:04	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			11/12/19 05:04	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			11/12/19 05:04	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			11/12/19 05:04	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-162367-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 480-162367-7

Date Collected: 11/07/19 00:00

Matrix: Water

Date Received: 11/08/19 08:00

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			11/12/19 05:04	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			11/12/19 05:04	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			11/12/19 05:04	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			11/12/19 05:04	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			11/12/19 05:04	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			11/12/19 05:04	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			11/12/19 05:04	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			11/12/19 05:04	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			11/12/19 05:04	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			11/12/19 05:04	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			11/12/19 05:04	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			11/12/19 05:04	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			11/12/19 05:04	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			11/12/19 05:04	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			11/12/19 05:04	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			11/12/19 05:04	1
Styrene	1.0	U	1.0	0.73	ug/L			11/12/19 05:04	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			11/12/19 05:04	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			11/12/19 05:04	1
Toluene	1.0	U	1.0	0.51	ug/L			11/12/19 05:04	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			11/12/19 05:04	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			11/12/19 05:04	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			11/12/19 05:04	1
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			11/12/19 05:04	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			11/12/19 05:04	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			11/12/19 05:04	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			11/12/19 05:04	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			11/12/19 05:04	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			11/12/19 05:04	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			11/12/19 05:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		73 - 120		11/12/19 05:04	1
Dibromofluoromethane (Surr)	113		75 - 123		11/12/19 05:04	1
1,2-Dichloroethane-d4 (Surr)	108		77 - 120		11/12/19 05:04	1
Toluene-d8 (Surr)	94		80 - 120		11/12/19 05:04	1

Client Sample ID: IW-A2-110719

Lab Sample ID: 480-162367-8

Date Collected: 11/07/19 12:25

Matrix: Water

Date Received: 11/08/19 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	400	U	400	120	ug/L			11/12/19 05:28	40
Benzene	40	U	40	16	ug/L			11/12/19 05:28	40
Bromodichloromethane	40	U	40	16	ug/L			11/12/19 05:28	40
Bromoform	40	U	40	10	ug/L			11/12/19 05:28	40
Bromomethane	40	U	40	28	ug/L			11/12/19 05:28	40
2-Butanone (MEK)	400	U	400	53	ug/L			11/12/19 05:28	40
Carbon disulfide	40	U	40	7.6	ug/L			11/12/19 05:28	40

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-162367-1

Client Sample ID: IW-A2-110719

Lab Sample ID: 480-162367-8

Date Collected: 11/07/19 12:25

Matrix: Water

Date Received: 11/08/19 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	40	U	40	11	ug/L			11/12/19 05:28	40
Chlorobenzene	40	U	40	30	ug/L			11/12/19 05:28	40
Chloroethane	40	U	40	13	ug/L			11/12/19 05:28	40
Chloroform	40	U	40	14	ug/L			11/12/19 05:28	40
Chloromethane	40	U	40	14	ug/L			11/12/19 05:28	40
cis-1,2-Dichloroethene	40	U	40	32	ug/L			11/12/19 05:28	40
cis-1,3-Dichloropropene	40	U	40	14	ug/L			11/12/19 05:28	40
Cyclohexane	40	U	40	7.2	ug/L			11/12/19 05:28	40
Dibromochloromethane	40	U	40	13	ug/L			11/12/19 05:28	40
1,2-Dibromo-3-Chloropropane	40	U	40	16	ug/L			11/12/19 05:28	40
1,2-Dibromoethane	40	U	40	29	ug/L			11/12/19 05:28	40
1,2-Dichlorobenzene	40	U	40	32	ug/L			11/12/19 05:28	40
1,3-Dichlorobenzene	40	U	40	31	ug/L			11/12/19 05:28	40
1,4-Dichlorobenzene	40	U	40	34	ug/L			11/12/19 05:28	40
Dichlorodifluoromethane	40	U	40	27	ug/L			11/12/19 05:28	40
1,1-Dichloroethane	40	U	40	15	ug/L			11/12/19 05:28	40
1,2-Dichloroethane	40	U	40	8.4	ug/L			11/12/19 05:28	40
1,1-Dichloroethene	40	U	40	12	ug/L			11/12/19 05:28	40
1,2-Dichloropropane	40	U	40	29	ug/L			11/12/19 05:28	40
Ethylbenzene	40	U	40	30	ug/L			11/12/19 05:28	40
2-Hexanone	200	U	200	50	ug/L			11/12/19 05:28	40
Isopropylbenzene	40	U	40	32	ug/L			11/12/19 05:28	40
Methyl acetate	100	U	100	52	ug/L			11/12/19 05:28	40
Methylcyclohexane	40	U	40	6.4	ug/L			11/12/19 05:28	40
Methylene Chloride	40	U	40	18	ug/L			11/12/19 05:28	40
4-Methyl-2-pentanone (MIBK)	200	U	200	84	ug/L			11/12/19 05:28	40
Methyl tert-butyl ether	40	U	40	6.4	ug/L			11/12/19 05:28	40
Styrene	40	U	40	29	ug/L			11/12/19 05:28	40
1,1,2,2-Tetrachloroethane	40	U	40	8.4	ug/L			11/12/19 05:28	40
Tetrachloroethene	40	U	40	14	ug/L			11/12/19 05:28	40
Toluene	40	U	40	20	ug/L			11/12/19 05:28	40
trans-1,2-Dichloroethene	40	U	40	36	ug/L			11/12/19 05:28	40
trans-1,3-Dichloropropene	40	U	40	15	ug/L			11/12/19 05:28	40
1,2,4-Trichlorobenzene	40	U	40	16	ug/L			11/12/19 05:28	40
1,1,1-Trichloroethane	40	U	40	33	ug/L			11/12/19 05:28	40
1,1,2-Trichloroethane	40	U	40	9.2	ug/L			11/12/19 05:28	40
Trichloroethene	40	U	40	18	ug/L			11/12/19 05:28	40
Trichlorofluoromethane	40	U	40	35	ug/L			11/12/19 05:28	40
1,1,2-Trichloro-1,2,2-trifluoroethane	40	U	40	12	ug/L			11/12/19 05:28	40
Vinyl chloride	40	U	40	36	ug/L			11/12/19 05:28	40
Xylenes, Total	43	J	80	26	ug/L			11/12/19 05:28	40

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		73 - 120		11/12/19 05:28	40
Dibromofluoromethane (Surr)	111		75 - 123		11/12/19 05:28	40
1,2-Dichloroethane-d4 (Surr)	107		77 - 120		11/12/19 05:28	40
Toluene-d8 (Surr)	93		80 - 120		11/12/19 05:28	40

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: Ashland LLC
Project/Site: Ashland Rensselaer

Job ID: 480-162367-1

Client Sample ID: IW-A2-110719

Lab Sample ID: 480-162367-8

Date Collected: 11/07/19 12:25

Matrix: Water

Date Received: 11/08/19 08:00

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TOC Result 1	180		4.0	1.7	mg/L			11/14/19 01:55	4
TOC Result 2	200		4.0	1.7	mg/L			11/14/19 01:55	4
Total Organic Carbon	190		4.0	1.7	mg/L			11/14/19 01:55	4

Client Sample ID: MW-25-110719

Lab Sample ID: 480-162367-9

Date Collected: 11/07/19 11:25

Matrix: Water

Date Received: 11/08/19 08:00

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TOC Result 1	18		1.0	0.43	mg/L			11/14/19 02:23	1
TOC Result 2	19		1.0	0.43	mg/L			11/14/19 02:23	1
Total Organic Carbon	19		1.0	0.43	mg/L			11/14/19 02:23	1

APPENDIX B

Groundwater Monitoring Field Logs





ARCADIS

Water Level Measurement Form

Page 1 of 1

Project Name: Ashland Rensselaer

Date: 1/9/19

Project Number: OH009018.RRTM.00402

Weather: Cloudy

Field Personnel: ES

gallon/foot

Well Casing Volumes			
1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47

Well ID	Time	DTW	Observations
MW-B1	1533	5.01	Tan/Yellow, Odor Present (Eos?), Slightly Cloudy w/SS
MW-B2	1528	4.84	Red/Orange, Odor Present, Cloudy w/SS
IW-B1	1525	4.19	Pink/Red, Odor Present, Slightly Cloudy w/SS
IW-B2	1520	1.52	Gray/Black, Slight Odor (Eos?), Cloudy
P2-3			
P2-3	1538	5.15	Slightly Tan/Yellow, Slight Odor (Eos?), Clear, some SS
P2-6	1510	3.04	Slightly Tan, No Odor, Clear, some SS
P2-7	1515	2.68	↓, Slight Odor, ↓, ↓
MW-19	1310	2.32	Slightly Tan, Odor Present, Slightly Cloudy
MW-25	1225	2.06	Tan/Orange, Slight Odor, Slightly Cloudy

Notes:

SS = suspended solids

ARCADIS

Water Sampling Log

Project Ashland Rensselaer Project No. OH009019.RRTM Page 1 of 1
 Site Location Rensselaer, NY Date 1/9/2019
 Site/Well No. 145-18 Replicate No. NA
 Weather Cloudy/Rain 39°F Sampling Time: Begin 0910 End —

Evacuation Data

Measuring Point Top of PVC
 Sounded Well Depth (ft bmp) 17.96
 Depth to Water (ft bmp) 4.27
 Depth to Packer (ft bmp) —
 Water Column in Well (ft) 13.69
 Casing Diameter (in) 2
 Gallons in Well (gal) 2.19
 Gallons Pumped/Bailed —
 Prior to Sampling (gal) —
 Sample Pump Intake —
 Setting (ft bmp) —
 Pressure (psi) —
 Pumping Rate (ml/min) —
 Evacuation Method —
 Sampling Method Endless
 Purge Time Begin — End —

Field Parameters

Color Tan / Yellow
 Odor No Odor
 Appearance Slightly Cloudy

	1V	2V	3V
pH (s.u.)	6.97	—	—
Conductivity (mS/cm)	1.18	—	—
Temperature (°C)	7.55	—	—
DO (mg/L)	1.37	—	—
Turbidity (NTU)	107	—	—
Time	0910	—	—
DTW (ft bmp)	4.27	—	—
ORP	28	—	—

Remarks:

Water Quality Meter: Hanna U-52
 Initial Purge: Carbon trap install: 12/11/18 @ 1735; collected: 1/9 @ 0910

Constituents Sampled:

See COC

Sampling Personnel:

ES

Well Casing Volumes

Gal./Ft. 1^{1/4"} = 0.06 2" = 0.16 3" = 0.37 4" = 0.65
 1^{1/2"} = 0.09 2-1/2" = 0.26 3-1/2" = 0.50 6" = 1.47

* Carbon trap placed
 1/9 @ 0915

bmp below measuring point mS/cm Millisiemens per centimeter VOC Volatile Organic Compounds
 °C Degrees Celsius s.u. Standard units umhos/cm Micromhos per centimeter
 feet N/A Nephelometric Turbidity Units
 gpm Gallons per minute N/A Not Applicable
 mg/L Milligrams per liter COC Chain of Custody

ARCADIS

Water Sampling Log

Project Ashland Rensselaer Project No. OH009019.RRTM Page 1 of 1
 Site Location Rensselaer, NY Date 1/9/2019
 Site/Well No. IP-1 Replicate No. N/A
 Weather Rain/Cloudy 39°F Sampling Time: Begin 0935 End —

Evacuation Data

Field Parameters

Measuring Point Top of PVC
 Sounded Well Depth (ft bmp) 18.44
 Depth to Water (ft bmp) 4.02
 Depth to Packer (ft bmp) —
 Water Column in Well (ft) 14.42
 Casing Diameter (in) 2
 Gallons in Well (gal) 2.30
 Gallons Pumped/Bailed
 Prior to Sampling (gal) Φ
 Sample Pump Intake —
 Setting (ft bmp) —
 Pressure (psi) —
 Pumping Rate (ml/min) —
 Evacuation Method —
 Sampling Method Bailer
 Purge Time Begin — End —

Color Orange / Tan
 Odor Slight Odor
 Appearance Cloudy

	1	1V	2V	3V
pH (s.u.)	—	7.05	—	—
Conductivity (mS/cm)	—	1.18 1.18	—	—
Temperature (°C)	—	7.36	—	—
DO (mg/L)	—	1.81	—	—
Turbidity (NTU)	—	79.6	—	—
Time	—	0935	—	—
DTW (ft bmp)	—	4.02	—	—
ORP	—	-79	—	—

Remarks: Water Quality Meter: Horiba U-52
Initial Purge:
Carbon trap install: 12/16 @ 1235; collected: 1/9 @ 0935

Constituents Sampled: See COC Sampling Personnel: ES

Well Casing Volumes
 Gal/Ft 1^{1/4}" = 0.08 2" = 0.18 3" = 0.37 4" = 0.85
 1^{1/2}" = 0.09 2-1/2" = 0.28 3-1/2" = 0.60 6" = 1.47

* Carbon trap placed
 1/9 @ ~~0935~~ 0940

bmp below measuring point mS/cm Millisiemens per centimeter VOC Volatile Organic Compounds
 °C Degrees Celsius s.u. Standard units umhos/cm Micromhos per centimeter
 feet feet NTU Nephelometric Turbidity Units
 gpm Gallons per minute N/A Not Applicable
 mg/L Milligrams per liter COC Chain of Custody

ARCADIS

Water Sampling Log

Project Ashland Rensselaer Project No. OH009019.RRTM Page 1 of 1
 Site Location Rensselaer, NY Date 1/9/2019
 Site/Well No. 11P-3 Replicate No. N/A
 Weather Cloudy/Rain 39°F Sampling Time: Begin 0950 End —

Evacuation Data

Field Parameters

Measuring Point Top of PVC
 Sounded Well Depth (ft bmp) 18.34
 Depth to Water (ft bmp) 6.82
 Depth to Packer (ft bmp) —
 Water Column in Well (ft) 11.52
 Casing Diameter (in) 2
 Gallons in Well (gal) 1.84
 Gallons Pumped/Bailed
 Prior to Sampling (gal) 0
 Sample Pump Intake —
 Setting (ft bmp) —
 Pressure (psi) —
 Pumping Rate (ml/min) —
 Evacuation Method —
 Sampling Method bauler
 Purge Time Begin — End —

Color Tan / Orange
 Odor Slight Odor
 Appearance Slightly Cloudy

	1V	2V	3V
pH (s.u.)	7.23	—	—
Conductivity (mS/cm)	1.70	—	—
Temperature (°C)	8.88	—	—
DO (mg/L)	2.84	—	—
Turbidity (NTU)	204	—	—
Time	0950	—	—
DTW (ft bmp)	6.82	—	—
ORP	13-68	—	—

Remarks:

Water Quality Meter: Horiba U-57

Initial Purge:

Carbon trap install: 12/11 @ 1205; collected 1/9 @ 0950

Constituents Sampled:

See COC

Sampling Personnel:

ES

Well Casing Volumes

Gal/Ft. 1" = 0.06 2" = 0.16 3" = 0.37 4" = 0.65
 1 1/2" = 0.99 2 1/2" = 0.26 3 1/2" = 0.50 6" = 1.47

* Carbon trap placed 1/9 @ 0950 0955

bmp below measuring point mS/cm Milliemens per centimeter VOC Volatile Organic Compounds
 °C Degrees Celsius s.u. Standard units umhos/cm Micromhos per centimeter
 feet NTU Nephelometric Turbidity Units
 gpm Gallons per minute N/A Not Applicable
 mg/L Milligrams per liter COC Chain of Custody

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Water Sampling Log

Project Ashland Rensselaer Project No. OH0090 19.RRTM Page 1 of 1
 Site Location Rensselaer, NY Date 1/9/2019
 Site/Well No. MW-16 Replicate No. N/A
 Weather Cloudy / Rain 3:00P Sampling Time: Begin 1010 End —

Evacuation Data

Field Parameters

Measuring Point Top of PVC
 Sounded Well Depth (ft bmp) 16.65
 Depth to Water (ft bmp) 7.13
 Depth to Packer (ft bmp) —
 Water Column in Well (ft) 9.52
 Casing Diameter (in) 2
 Gallons in Well (gal) 1.52
 Gallons Pumped/Bailed —
 Prior to Sampling (gal) —
 Sample Pump Intake —
 Setting (ft bmp) —
 Pressure (psi) —
 Pumping Rate (ml/min) —
 Evacuation Method —
 Sampling Method bauler
 Purge Time Begin — End —

Color None
 Odor None
 Appearance clear
 pH (s.u.) 7.41
 Conductivity (mS/cm) 1.70
 Temperature (°C) 8.74
 DO (mg/L) 2.80
 Turbidity (NTU) 21.1
 Time 1010
 DTW (ft bmp) 7.13
 ORP -24

Remarks: Water Quality Meter: Horiba U-52
 Initial Purge: Carbon trap install: 12/11 @ 1344; collected 1/9 @ 1010

Constituents Sampled: See COC Sampling Personnel: ES

Well Casing Volumes
 Gal./Ft. 1 1/4" = 0.06 2" = 0.16 3" = 0.37 4" = 0.55
 1 1/2" = 0.09 2 1/2" = 0.26 3 1/2" = 0.50 6" = 1.47
 * Carbon trap placed 1/9 @ 1015

bmp below measuring point mS/cm Millisiemens per centimeter VOC Volatile Organic Compounds
 °C Degrees Celsius s.u. Standard units umhos/cm Micromhos per centimeter
 ft feet NTU Nephelometric Turbidity Units
 gpm Gallons per minute N/A Not Applicable
 mg/L Milligrams per liter COC Chain of Custody

ARCADIS

Water Sampling Log

Project Ashland Rensselaer Project No. OH009019.RRTM Page 1 of 1
 Site Location Rensselaer, NY Date 1/9/2019
 Site/Well No. 16-21 Replicate No. NA
 Weather Cloudy / Rain 39°F Sampling Time: Begin 1025 End —

Evacuation Data

Field Parameters

Measuring Point Top of PVC
 Sounded Well Depth (ft bmp) 14.90
 Depth to Water (ft bmp) 8.29
 Depth to Packer (ft bmp) —
 Water Column in Well (ft) 6.61
 Casing Diameter (in) 2
 Gallons in Well (gal) 1.05
 Gallons Pumped/Bailed
 Prior to Sampling (gal) 0
 Sample Pump Intake
 Setting (ft bmp) —
 Pressure (psi) —
 Pumping Rate (ml/min) —
 Evacuation Method —
 Sampling Method enter
 Purge Time Begin — End —

Color None
 Odor None
 Appearance Clear
 pH (s.u.) 7.50
 Conductivity (mS/cm) 1.03
 Temperature (°C) 8.71
 DO (mg/L) 7.10
 Turbidity (NTU) 17.8
 Time 1025
 DTW (ft bmp) 8.29
 ORP 19

Remarks: Water Quality Meter: Horiba 16-52
Initial Purge:
Carbon trap installed: 12/11 @ 1345; collected: 1/9 @ 1025

Constituents Sampled: See COC Sampling Personnel: ES

Well Casing Volumes
 Gal./Ft. 1 1/4" = 0.06 2" = 0.16 3" = 0.37 4" = 0.65
 1 1/2" = 0.09 2 1/2" = 0.26 3 1/2" = 0.50 6" = 1.47
* Carbon trap placed 1/9 @ 1030

bmp below measuring point mS/cm Millisiemens per centimeter VOC Volatile Organic Compounds
 °C Degrees Celsius s.u. Standard units umhos/cm Micromhos per centimeter
 feet NTU Nephelometric Turbidity Units
 gpm Gallons per minute N/A Not Applicable
 mg/L Milligrams per liter COC Chain of Custody

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Water Sampling Log

Project Ashland Rensselaer

Project No. OH009019.RRTM

Page 1 of 1

Site Location Rensselaer, NY

Date 1st 01/9/2019

Site/Well No. MW-23

Replicate No. N/A

Weather Cloudy 39°F

Sampling Time: Begin 1055 End 1100

Evacuation Data

Field Parameters

Measuring Point Top of PVC

Sounded Well Depth (ft bmp) 30.55

Depth to Water (ft bmp) 6.62

Depth to Packer (ft bmp) —

Water Column in Well (ft) 23.93

Casing Diameter (in) 4

Gallons in Well (gal) 15.55

Gallons Pumped/Bailed

Prior to Sampling (gal) 15.75

Sample Pump Intake

Setting (ft bmp) —

Pressure (psi) —

Pumping Rate (ml/min) —

Evacuation Method Whole pump

Sampling Method bailed

Purge Time Begin 1140 End 1149

Color Brown/Black

Odor Fermenting

Appearance Cloudy

	1V	2V	3V
pH (s.u.)	7.05	—	—
Conductivity (mS/cm)	1.76	—	—
Temperature (°C)	10.02	—	—
DO (mg/L)	1.95	—	—
Turbidity (NTU)	165	—	—
Time	1150	—	—
DTW (ft bmp)	21.86	—	—
ORP	-117	—	—

Remarks:

Water Quality Meter: Hanna U-52

Initial Purge: Brown/Black, fermenting odor, Cloudy

Constituents Sampled: See COC

Sampling Personnel: JES

Well Casing Volumes

Gal./Ft.	1 1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1 1/2" = 0.09	2 1/2" = 0.26	3 1/2" = 0.50	6" = 1.47

bmp	below measuring point	mS/cm	Millisiemens per centimeter	VOC	Volatile Organic Compounds
°C	Degrees Celsius	s.u.	Standard units	umhos/cm	Micromhos per centimeter
ft	feet	NTU	Nephelometric Turbidity Units		
gpm	Gallons per minute	N/A	Not Applicable		
mg/L	Milligrams per liter	COC	Chain of Custody		

ARCADIS

Water Sampling Log

Project Ashland RensselaerProject No. OH000019.RRTMPage 1 of 1Site Location Rensselaer, NYDate 1/9/2019Site/Well No. MW-24Replicate No. N/AWeather Cloudy 39°FSampling Time: Begin 1220 End 1225

Evacuation Data

Field Parameters

Measuring Point Top of PVC

Sounded Well Depth (ft bmp) 26.29

Depth to Water (ft bmp) 5.62

Depth to Packer (ft bmp) —

Water Column in Well (ft) 20.67

Casing Diameter (in) 4

Gallons in Well (gal) 13.43

Gallons Pumped/Bailed

Prior to Sampling (gal) 13.50

Sample Pump Intake —

Setting (ft bmp) —

Pressure (psi) —

Pumping Rate (ml/min) —

Evacuation Method whale pump

Sampling Method bauler

Purge Time Begin 1210 End 1216

Color Black / Brown

Odor Fermenting

Appearance Cloudy

	1V	2V	3V
pH (s.u.)	6.98	—	—
Conductivity (mS/cm)	1.93	—	—
Temperature (°C)	11.74	—	—
DO (mg/L)	1.44	—	—
Turbidity (NTU)	240	—	—
Time	1216	—	—
DTW (ft bmp)	21.10	—	—
ORP	-96	—	—

Remarks:

Water Quality Meter: Hanta H-52Initial Purge: Red-Brown / Black, fermenting odor, cloudyConstituents Sampled: See COCSampling Personnel: ES

Well Casing Volumes

Gal./Ft.	1" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47

bmp	below measuring point	mS/cm	Milli Siemens per centimeter	VOC	Volatile Organic Compounds
°C	Degrees Celsius	s.u.	Standard units	umhos/cm	Micromhos per centimeter
ft	feet	NTU	Nephelometric Turbidity Units		
gpm	Gallons per minute	N/A	Not Applicable		
mg/L	Milligrams per liter	COC	Chain of Custody		

ARCADIS

Water Sampling Log

Project Ashland Rensselaer Project No. OH000019.RRTM Page 1 of 1
 Site Location Rensselaer, NY Date 1/9/2019
 Site/Well No. HA-25 Replicate No. N/A
 Weather Cloudy 37°F Sampling Time: Begin 1245 End 1250

Evacuation Data

Field Parameters

Measuring Point Top of PVC
 Sounded Well Depth (ft bmp) 20.82
 Depth to Water (ft bmp) 2.06
 Depth to Pecker (ft bmp) —
 Water Column in Well (ft) 18.76
 Casing Diameter (in) 2
 Gallons in Well (gal) 3.00
 Gallons Pumped/Bailed
 Prior to Sampling (gal) 3.00
 Sample Pump Intake
 Setting (ft bmp) —
 Pressure (psi) —
 Pumping Rate (ml/min) —
 Evacuation Method bauler
 Sampling Method bauler
 Purge Time Begin 1235 End 1240

Color Tan/orange
 Odor Slight odor
 Appearance Cloudy

	1V	2V	3V
pH (s.u.)	7.01	—	—
Conductivity (mS/cm)	1.82	—	—
Temperature (°C)	10.27	—	—
DO (mg/L)	7.63	—	—
Turbidity (NTU)	891	—	—
Time	1240	—	—
DTW (ft bmp)	9.52	—	—
ORP	-10	—	—

Remarks:

Water Quality Meter: Hanna U-52Initial Purge: Tan/orange, Slight Odor, Slightly Cloudy

Constituents Sampled:

See COC

Sampling Personnel:

ES

Well Casing Volumes

Gal/Ft	1" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1 1/2" = 0.09	2 1/2" = 0.26	3 1/2" = 0.60	6" = 1.47

bmp	below measuring point	mS/cm	Millisiemens per centimeter	VOC	Volatile Organic Compounds
°C	Degrees Celsius	s.u.	Standard units	umhos/cm	Micromhos per centimeter
ft	feet	NTU	Nephelometric Turbidity Units		
gpm	Gallons per minute	N/A	Not Applicable		
mg/L	Miligrams per liter	COC	Chain of Custody		

ARCADIS

Water Sampling Log

Project Ashland Rensselaer Project No. OH009019.RRTM Page 1 of 1
 Site Location Rensselaer, NY Date 1/9/2019
 Site/Well No. MW-17 Replicate No. DAP-010919
 Weather Cloudy 39°F Sampling Time: Begin 1320 End 1325

Evacuation Data

Field Parameters

Measuring Point Top of PVC
 Sounded Well Depth (ft bmp) 17.61
 Depth to Water (ft bmp) 2.32
 Depth to Packer (ft bmp)
 Water Column in Well (ft) 15.29
 Casing Diameter (in) 4
 Gallons in Well (gal) 9.93
 Gallons Pumped/Buffed
 Prior to Sampling (gal) 10
 Sample Pump Intake
 Setting (ft bmp)
 Pressure (psi)
 Pumping Rate (ml/min)
 Evacuation Method Whale pump
 Sampling Method bauler
 Purge Time Begin 1310 End 1318

Color Slightly Tan
 Odor Odor Present
 Appearance Slightly Cloudy

	1	1V	2V	3V
pH (s.u.)	-	7.37	-	-
Conductivity (mS/cm)	-	1.31	-	-
Temperature (°C)	-	7.64	-	-
DO (mg/L)	-	9.86	-	-
Turbidity (NTU)	-	207	-	-
Time	-	1318	-	-
DTW (ft bmp)	-	8.73	-	-
ORP	-	-111	-	-

Remarks: Water Quality Meter: Horiba U-52
Initial Purge: Slightly Tan, Odor Present, Slightly Cloudy

Constituents Sampled: See COC Sampling Personnel: ES

Well Casing Volumes

Gal./Ft.	1" = 0.08	2" = 0.16	3" = 0.37	4" = 0.65
1 1/2" = 0.09		2 1/2" = 0.26	3 1/2" = 0.50	6" = 1.47

bmp	below measuring point	mS/cm	MilliSiemens per centimeter	VOC	Volatile Organic Compounds
°C	Degrees Celsius	s.u.	Standard units	umhos/cm	Micromhos per centimeter
ft	feet	NTU	Nephelometric Turbidity Units		
gpm	Gallons per minute	N/A	Not Applicable		
mg/L	Miligrams per liter	COC	Chain of Custody		

ARCADIS

Water Sampling Log

Project Ashland Rensselaer Project No. OH009019.RRTM Page 1 of 1
 Site Location Rensselaer, NY Date 2/19/17
 Site/Well No. MW-18 Replicate No. NA
 Weather Sunny, 20° Sampling Time: Begin 0855 End 0900

Evacuation Data

Measuring Point Top of PVC
 Sounded Well Depth (ft bmp) 18.01
 Depth to Water (ft bmp) 4.86
 Depth to Packer (ft bmp) -----
 Water Column in Well (ft) 13.15
 Casing Diameter (in) 2
 Gallons in Well (gal) 2.1
 Gallons Pumped/Bailed
 Prior to Sampling (gal) 2.1
 Sample Pump Intake
 Setting (ft bmp) ---
 Pressure (psi) ---
 Pumping Rate (ml/min) ---
 Evacuation Method bailler
 Sampling Method bailler
 Purge Time Begin 0845 End ---

Field Parameters

Color slight yellow
 Odor none
 Appearance cloudy
 pH (s.u.) 6.82
 Conductivity (mS/cm) 1.03
 Temperature (°C) 6.80
 DO (mg/L) 14.88
 Turbidity (NTU) 412
 Time 0855
 DTW (ft bmp) ---
 ORP -122

Remarks: Water Quality Meter: Hor. 13
 Initial Purge: slight yellow, no odor, cloudy
Carbon trap install: 1/9 @ 0915; collected: 2/19 @ 0825

Constituents Sampled: See COC Sampling Personnel: JS

Well Casing Volumes
 Gal./Ft. 1 1/4" = 0.06 2" = 0.16 3" = 0.37 4" = 0.65
 1 1/2" = 0.09 2 1/2" = 0.26 3 1/2" = 0.50 6" = 1.47
Carbon trap placed 2/19 @ 0900

bmp below measuring point mS/cm Milisiemens per centimeter VOC Volatile Organic Compounds
 °C Degrees Celsius s.u. Standard units umhos/cm Micromhos per centimeter
 " feet NTU Nephelometric Turbidity Units
 ,pm Gallons per minute N/A Not Applicable
 mg/L Miligrams per liter COC Chain of Custody

ARCADIS

Water Sampling Log

Project Ashland Rensselaer Project No. OH009019.RRTM Page 1 of 1
 Site Location Rensselaer, NY Date 2/17/19
 Site/Well No. IP-1 Replicate No. NA
 Weather clear 19° Sampling Time: Begin 0920 End 0925

Evacuation Data

Measuring Point Top of PVC
 Sounded Well Depth (ft bmp) 18.45
 Depth to Water (ft bmp) 4.70
 Depth to Packer (ft bmp) -----
 Water Column in Well (ft) 13.75
 Casing Diameter (in) 2
 Gallons in Well (gal) 2.2
 Gallons Pumped/Bailed
 Prior to Sampling (gal) 2.2
 Sample Pump Intake
 Setting (ft bmp) ---
 Pressure (psi) ---
 Pumping Rate (ml/min) ---
 Evacuation Method bailer
 Sampling Method bailer
 Purge Time Begin 0915 End 0920

Field Parameters

Color pale yellow/brown
 Odor none
 Appearance cloudy

	I	1V	2V	3V
pH (s.u.)	--	<u>7.13</u>	--	--
Conductivity (mS/cm)	--	<u>1.03</u>	--	--
Temperature (°C)	--	<u>5.32</u>	--	--
DO (mg/L)	--	<u>15.57</u>	--	--
Turbidity (NTU)	--	<u>9.73</u>	--	--
Time	--	<u>0920</u>	--	--
DTW (ft bmp)	--	<u>---</u>	--	--
ORP	--	<u>-216</u>	--	--

Remarks: Water Quality Meter: Horiba: VOC (3)
 Initial Purge: Orange, no odor, cloudy
Carbon trap install: 1/9 @ 0940; collected: 2/19 @ 0910

Constituents Sampled: See COC Sampling Personnel: JS

Well Casing Volumes
 Gal./Ft. 1^{1/4}" = 0.06 2" = 0.16 3" = 0.37 4" = 0.65
 1^{1/2}" = 0.09 2-1/2" = 0.26 3-1/2" = 0.50 6" = 1.47
Carbon trap placed 2/19 @ 0927

bmp	below measuring point	mS/cm	Milisiemens per centimeter	VOC	Volatile Organic Compounds
°C	Degrees Celsius	s.u.	Standard units	umhos/cm	Micromhos per centimeter
'	feet	NTU	Nephelometric Turbidity Units		
,pm	Gallons per minute	N/A	Not Applicable		
mg/L	Miligrams per liter	COC	Chain of Custody		

ARCADIS

Water Sampling Log

Project Ashland Rensselaer Project No. OH009019.RRTM Page 1 of 1
 Site Location Rensselaer, NY Date 2/19/19
 Site/Well No. IAP-3 Replicate No. NA
 Weather Sunny 70° Sampling Time: Begin 1000 End 1005

Evacuation Data

Measuring Point Top of PVC
 Sounded Well Depth (ft bmp) 18.33
 Depth to Water (ft bmp) 7.55
 Depth to Packer (ft bmp) -----
 Water Column in Well (ft) 10.78
 Casing Diameter (in) 2
 Gallons in Well (gal) 1.7
 Gallons Pumped/Bailed
 Prior to Sampling (gal) 1.7
 Sample Pump Intake
 Setting (ft bmp) ---
 Pressure (psi) ---
 Pumping Rate (ml/min) ---
 Evacuation Method bailed
 Sampling Method bailed
 Purge Time Begin 0948 End 0955

Field Parameters

Color Pale yellow/brown
 Odor none
 Appearance cloudy

	1	1V	2V	3V
pH (s.u.)	--	7.29	--	--
Conductivity (mS/cm)	--	1.58	--	--
Temperature (°C)	--	6.60	--	--
DO (mg/L)	--	14.91	--	--
Turbidity (NTU)	--	606	--	--
Time	--	1000	--	--
DTW (ft bmp)	--	---	--	--
ORP	--	-181	--	--

Remarks: Water Quality Meter: Haniba ; VOC
 Initial Purge: orange / yellow, no odor, cloudy
Carbon trap install: 1/9 @ 0955 ; collected: 2/19 @ 0940

Constituents Sampled: See COC Sampling Personnel: JS

Well Casing Volumes
 Gal./Ft. 1^{1/4}" = 0.06 2" = 0.16 3" = 0.37 4" = 0.65
 1^{1/2}" = 0.09 2-1/2" = 0.26 3-1/2" = 0.50 6" = 1.47
Carbon trap placed 2/19 @ 1005

bmp below measuring point mS/cm Milisiemens per centimeter VOC Volatile Organic Compounds
 °C Degrees Celsius s.u. Standard units umhos/cm Micromhos per centimeter
 ft feet NTU Nephelometric Turbidity Units
 gpm Gallons per minute N/A Not Applicable
 mg/L Miligrams per liter COC Chain of Custody

ARCADIS

Water Sampling Log

Project Ashland Rensselaer Project No. OH009019.RRTM Page 1 of 1
 Site Location Rensselaer, NY Date 2/19/19
 Site/Well No. MW-16 Replicate No. NA
 Weather Sunny 16°F Sampling Time: Begin 1020 End 1025

Evacuation Data

Measuring Point Top of PVC
 Sounded Well Depth (ft bmp) 16.93
 Depth to Water (ft bmp) 7.24
 Depth to Packer (ft bmp) -----
 Water Column in Well (ft) 9.69
 Casing Diameter (in) 2
 Gallons in Well (gal) 1.55
 Gallons Pumped/Bailed
 Prior to Sampling (gal) 1.6
 Sample Pump Intake
 Setting (ft bmp) ---
 Pressure (psi) ---
 Pumping Rate (ml/min) ---
 Evacuation Method Bailer
 Sampling Method bailer
 Purge Time Begin 1017 End 1022

Field Parameters

Color none
 Odor none
 Appearance clear w/ some SS

	I	1V	2V	3V
pH (s.u.)	--	7.53	--	--
Conductivity (mS/cm)	--	1.55	--	--
Temperature (°C)	--	8.10	--	--
DO (mg/L)	--	13.98	--	--
Turbidity (NTU)	--	46.1	--	--
Time	--	1020	--	--
DTW (ft bmp)	--	---	--	--
ORP	--	-98	--	--

Remarks: Water Quality Meter: Haniba
 Initial Purge: no color, no odor, clear
Carbon trap install: 1/9 @ 1015; collected: 2/19 @ 1010

Constituents Sampled: See COC Sampling Personnel: SS

Well Casing Volumes
 Gal./Ft. 1^{1/4}" = 0.06 2" = 0.16 3" = 0.37 4" = 0.65
 1^{1/2}" = 0.09 2-1/2" = 0.26 3-1/2" = 0.50 6" = 1.47
*Carbon trap placed 2/19 @ 1026

bmp below measuring point mS/cm Millisiemens per centimeter VOC Volatile Organic Compounds
 °C Degrees Celsius s.u. Standard units umhos/cm Micromhos per centimeter
 " feet NTU Nephelometric Turbidity Units
 gpm Gallons per minute N/A Not Applicable
 mg/L Milligrams per liter COC Chain of Custody

ARCADIS

Water Sampling Log

Project Ashland Rensselaer Project No. OH009019.RRTM Page 1 of 1
 Site Location Rensselaer, NY Date 2/19/19
 Site/Well No. MW-21 Replicate No. NA
 Weather Sunny 18°F Sampling Time: Begin 1100 End 1105

Evacuation Data

Measuring Point Top of PVC
 Sounded Well Depth (ft bmp) 14.90
 Depth to Water (ft bmp) 9.45
 Depth to Packer (ft bmp) -----
 Water Column in Well (ft) 5.45
 Casing Diameter (in) 2
 Gallons in Well (gal) 0.87
 Gallons Pumped/Bailed
 Prior to Sampling (gal) 0.9
 Sample Pump Intake
 Setting (ft bmp) ---
 Pressure (psi) ---
 Pumping Rate (ml/min) ---
 Evacuation Method bauler
 Sampling Method bauler
 Purge Time Begin 1053 End 1058

Field Parameters

Color pale yellow
 Odor none
 Appearance slightly

	I	1V	2V	3V
pH (s.u.)	--	7.32	--	--
Conductivity (mS/cm)	--	1.12	--	--
Temperature (°C)	--	6.22	--	--
DO (mg/L)	--	13.49	--	--
Turbidity (NTU)	--	780	--	--
Time	--	1105	--	--
DTW (ft bmp)	--	---	--	--
ORP	--	-100	--	--

Remarks: Water Quality Meter: Haniba
 Initial Purge: yellow/green, no odor, clear
Carbon trap install: 1/9 @ 1030; collected: 2/19 @ 1041

Constituents Sampled: See COC Sampling Personnel: JS

Well Casing Volumes
 Gal./Ft. 1^{1/4}" = 0.06 2" = 0.16 3" = 0.37 4" = 0.65
 1^{1/2}" = 0.09 2-1/2" = 0.26 3-1/2" = 0.50 6" = 1.47
*Carbon trap placed 2/19 @ 1105

bmp below measuring point mS/cm Millisiemens per centimeter VOC Volatile Organic Compounds
 °C Degrees Celsius s.u. Standard units umhos/cm Micromhos per centimeter
 " feet NTU Nephelometric Turbidity Units
 gpm Gallons per minute N/A Not Applicable
 mg/L Miligrams per liter COC Chain of Custody

ARCADIS

Water Sampling Log

Project Ashland Rensselaer Project No. OH009019.RRTM Page 1 of 1
 Site Location Rensselaer, NY Date 2/19/19
 Site/Well No. MW-3324 Replicate No. NA
 Weather sun 26 Sampling Time: Begin 1230 End 1246

Evacuation Data

Measuring Point Top of PVC
 Sounded Well Depth (ft bmp) 26.30
 Depth to Water (ft bmp) 6.37
 Depth to Packer (ft bmp) -----
 Water Column in Well (ft) 19.93
 Casing Diameter (in) 4
 Gallons in Well (gal) 12.95
 Gallons Pumped/Bailed
 Prior to Sampling (gal) 13
 Sample Pump Intake
 Setting (ft bmp) ---
 Pressure (psi) ---
 Pumping Rate (ml/min) ---
 Evacuation Method whale pump
 Sampling Method exiter
 Purge Time Begin 1221 End 1229

Field Parameters

Color black
 Odor fermented
 Appearance cloudy w/ SS

	I	1V	2V	3V
pH (s.u.)	--	7.11	--	--
Conductivity (mS/cm)	--	1.38	--	--
Temperature (°C)	--	11.40	--	--
DO (mg/L)	--	7.84	--	--
Turbidity (NTU)	--	206	--	--
Time	--	1230	--	--
DTW (ft bmp)	--	---	--	--
ORP	--	-205	--	--

Remarks:

Water Quality Meter: Haniba
 Initial Purge: black, fermented exiter, cloudy

Constituents Sampled:

See COC

Sampling Personnel:

JS

Well Casing Volumes

Gal./Ft.	1 1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1 1/2" = 0.09	2 1/2" = 0.26	3 1/2" = 0.50	6" = 1.47

bmp	below measuring point	mS/cm	Milisiemens per centimeter	VOC	Volatile Organic Compounds
°C	Degrees Celsius	s.u.	Standard units	umhos/cm	Micromhos per centimeter
ft	feet	NTU	Nephelometric Turbidity Units		
gpm	Gallons per minute	N/A	Not Applicable		
mg/L	Miligrams per liter	COC	Chain of Custody		

ARCADIS

Water Sampling Log

Project Ashland Rensselaer Project No. OH009019.RRTM Page 1 of 1
 Site Location Rensselaer, NY Date 2/19/19
 Site/Well No. MW-2423 Replicate No. NA
 Weather Sunny 27°F Sampling Time: Begin 1325 End 1335

Evacuation Data

Measuring Point Top of PVC
 Sounded Well Depth (ft bmp) 30.52
 Depth to Water (ft bmp) 7.45
 Depth to Packer (ft bmp) -----
 Water Column in Well (ft) 23.07
 Casing Diameter (in) 4
 Gallons in Well (gal) 15.0
 Gallons Pumped/Bailed
 Prior to Sampling (gal) 15
 Sample Pump Intake
 Setting (ft bmp) ---
 Pressure (psi) ---
 Pumping Rate (ml/min) ---
 Evacuation Method Whale pump
 Sampling Method boiler
 Purge Time Begin 1315 End 1323

Field Parameters

Color clear
 Odor fermented
 Appearance black & brown SS
 pH (s.u.) 7.12
 Conductivity (mS/cm) 1.48
 Temperature (°C) 9.77
 DO (mg/L) 11.13
 Turbidity (NTU) 73.0
 Time 1325
 DTW (ft bmp) ---
 ORP -231

Remarks: Water Quality Meter: Auriba; VOC, TOC
 Initial Purge: black fermented smell, brown SS visible

Constituents Sampled: See COC Sampling Personnel: JS

Well Casing Volumes

Gal./Ft.	1 1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1 1/2" = 0.09	2 1/2" = 0.26	3 1/2" = 0.50	6" = 1.47

bmp	below measuring point	mS/cm	Milisiemens per centimeter	VOC	Volatile Organic Compounds
°C	Degrees Celsius	s.u.	Standard units	umhos/cm	Micromhos per centimeter
ft	feet	NTU	Nephelometric Turbidity Units		
gpm	Gallons per minute	N/A	Not Applicable		
mg/L	Miligrams per liter	COC	Chain of Custody		

ARCADIS

Water Sampling Log

Project Ashland Rensselaer Project No. OH009019.RRTM Page 1 of 1
 Site Location Rensselaer, NY Date 2/19/19
 Site/Well No. MW-251 19 Replicate No. MS/MSD; Dup-021919
 Weather Sunny 17° Sampling Time: Begin 1520 End 1545

Evacuation Data

Measuring Point Top of PVC
 Sounded Well Depth (ft bmp) 17.45
 Depth to Water (ft bmp) 2.19
 Depth to Packer (ft bmp) -----
 Water Column in Well (ft) 15.26
 Casing Diameter (in) 4
 Gallons in Well (gal) 9.9
 Gallons Pumped/Bailed
 Prior to Sampling (gal) 10
 Sample Pump Intake
 Setting (ft bmp) —
 Pressure (psi) —
 Pumping Rate (ml/min) —
 Evacuation Method bailed
 Sampling Method bailed
 Purge Time Begin 3:15 End 1:20

Field Parameters

Color same as initial
 Odor —
 Appearance —
 pH (s.u.) 8.17
 Conductivity (mS/cm) 0.645
 Temperature (°C) 4
 DO (mg/L) 5.50
 Turbidity (NTU) 161
 Time 1530
 DTW (ft bmp) —
 ORP -28

Remarks: Water Quality Meter: Hanna
 Initial Purge: yellow green / no odor / cloudy
disappears

Constituents Sampled: See COC Sampling Personnel: JS

Well Casing Volumes

Gal./Ft. 1^{1/4}" = 0.06 2" = 0.16 3" = 0.37 4" = 0.65
 1^{1/2}" = 0.09 2-1/2" = 0.26 3-1/2" = 0.50 6" = 1.47

bmp below measuring point mS/cm Milisiemens per centimeter VOC Volatile Organic Compounds
 °C Degrees Celsius s.u. Standard units umhos/cm Micromhos per centimeter
 ft feet NTU Nephelometric Turbidity Units
 gpm Gallons per minute N/A Not Applicable
 mg/L Milligrams per liter COC Chain of Custody



ARCADIS

Water Level Measurement Form

Page 1 of 1Project Name: Ashland RensselaerDate: 2/19/19Project Number: OH009018.RRTM.00402Weather: Sunny 20°FField Personnel: Jessie Steigerwald

Well Casing Volumes

gallon/foot

1-1/4" = 0.06

2" = 0.16

3" = 0.37

4" = 0.65

1-1/2" = 0.09

2-1/2" = 0.26

3-1/2" = 0.50

6" = 1.47

Well ID	Time	DTW	Observations
IW-B1	1430	4.80	Pink, no odor
MW-B2	1440	5.30	Pink, no odor
MW-B1	1435	5.51	Clear, fermented odor, black SS
PZ-7	1442	3.35	Yellow/orange, no odor, SS
PZ-3	1610	5.25	Yellow/green, no odor, SS
PZ-6	1650	3.95	Yellow/orange, no odor, SS
IW-B2	1645	2.14	Black, fermented odor
MW-19	1515	2.19	Yellow/green, no odor, cloudy
MW-25	1600	2.45	Yellow, no odor, SS

Notes:

SS = suspended solids

ARCADIS

Water Sampling Log

Project Ashland Rensselaer Project No. OH009019.RRTM Page 1 of 1
 Site Location Rensselaer, NY Date 2/21/2019
 Site/Well No. MW-25 Replicate No. 10A
 Weather Sunny 43°F Sampling Time: Begin 1400 End 1605

Evacuation Data

Measuring Point Top of PVC
 Sounded Well Depth (ft bmp) 20.79
 Depth to Water (ft bmp) 2.45
 Depth to Packer (ft bmp) -----
 Water Column in Well (ft) 18.34
 Casing Diameter (in) 4 2
 Gallons in Well (gal) 2.4
 Gallons Pumped/Bailed
 Prior to Sampling (gal) 3
 Sample Pump Intake
 Setting (ft bmp) ---
 Pressure (psi) ---
 Pumping Rate (ml/min) ---
 Evacuation Method bailer
 Sampling Method bailer
 Purge Time Begin 550 End 1600

Field Parameters

Color yellow / orange
 Odor none
 Appearance slightly cloudy

	I	1V	2V	3V
pH (s.u.)	--	6.53	--	--
Conductivity (mS/cm)	--	2.12	--	--
Temperature (°C)	--	8.94	--	--
DO (mg/L)	--	8.24	--	--
Turbidity (NTU)	--	309	--	--
Time	--	1600	--	--
DTW (ft bmp)	--	---	--	--
ORP	--	-49	--	--

Remarks: Water Quality Meter: Horiba U-52
Initial Purge: yellow no odor - some SS
Dye visible

Constituents Sampled: See COC Sampling Personnel: JS

Well Casing Volumes

Gal./Ft.	1 1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1 1/2" = 0.09	2 1/2" = 0.26	3 1/2" = 0.50	6" = 1.47

bmp	below measuring point	mS/cm	Milisiemens per centimeter	VOC	Volatile Organic Compounds
°C	Degrees Celsius	s.u.	Standard units	umhos/cm	Micromhos per centimeter
ft	feet	NTU	Nephelometric Turbidity Units		
gpm	Gallons per minute	N/A	Not Applicable		
mg/L	Miligrams per liter	COC	Chain of Custody		

Ashland - Rensselaer, NY
Groundwater Elevation Data

5/07/2019

* SS = suspended solids

Well ID	Measuring Pt. Elevation	TD	Installed TD	DTW	DTB	Comments
IMP-1	25.13	18.73	16.0	6.54	18.70	Hard / 0
IMP-2	25.17	18.67	16.0			Disrupt 10'
IMP-3	25.13	18.32	16.0	7.73	18.33	Hard / 0
MW-1	28.98	14.90	12.5	5.73	14.94	Hard / 0
MW-3	24.27	15.01	15.0	3.64	15.01	Hard / 0
MW-4	25.95	15.89	14.0	6.37	15.88	Hard / 0
MW-9	27.18	18.66	15.5	4.75 0.27	18.58	Hard / 1.4
MW-10	26.34	15.90	12.5			Damaged
MW-11	25.16	15.89	13.5	4.75		2.75
MW-12D	24.08	26.45	25.5	8.18	26.38	Hard / 0
MW-12S	23.12	15.87	14.1	5.77	15.86	Hard / 0
MW-13	36.86	22.16	20.5	2.56	22.13	Hard / 0
MW-14	33.85	16.79	15.0	6.22	16.75	Hard / 0
MW-15	25.19	15.01	27.5	1.50	14.98	Hard / 0
MW-16	25.41	16.40	15.0	4.55	16.44	Hard / 0
MW-17	21.78	18.00	18.0	5.43	17.96	Hard / 0
MW-18	23.98	18.00	16.0	5.7	17.93	Hard / 0
MW-19	25.51	17.60	17.5	2.31	17.46	Hard / 0
MW-20				1.94	11.95	Hard / 0
MW-21				4.93	14.91	Hard / 0
MW-A1	28.34	22.46	20.0	4.72	22.42	SOFT / 0
MW-B1	27.53	21.56	20.0	5.96	21.50	SOFT / 0
MW-B2	27.40	21.19	20.0	5.16	21.15	Hard / 0
IP-1	25.15	18.54	16.0	4.51	18.46	Hard / 0
PZ-1	27.88	20.35	18.0			Abandoned
PZ-2	28.34	14.91	13.5			Abandoned
PZ-3	29.97	23.78	22.0	5.0	23.75	SOFT / 0.4
PZ-4	25.20	9.57	NA	3.50	9.65	Hard / 20.5
PZ-5	25.52	7.44	NA	3.45	7.40	Hard / 0
PZ-6	25.22	8.05	NA	3.71	8.02	Hard / 0
PZ-7	24.90	7.95	NA	3.24	7.93	Hard / 0
Sump	26.82	20.10	NA			Abandoned
BM-2	28.02	22.4*	NA	3.62	3.71	Across South St. from the site.
BM-4	26.59	17.7*	NA	7.90	8.01	
MH-1 (near the old treatment shed)	16.5*		NA	8.0	8.48	0
MH-2 (Manhole east of MW-12S)	15.40*	15.40*	NA	8.18	8.55	Outfall at north end of culvert. Water level from stream depth added to invert elevation. 0

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-22 _____ 0.85 16.55 Hard

MW-23 _____ 7.29 30.56 SOFT / 0

MW-24 _____ 6.22 26.32 SOFT / 1.24

MW-25 _____ 2.35 20.81 Hard / 38.4

Water Level Measurement Form

Page 1 of 1

Project Name: Ashland LLC

Date: 05/07/19

Project Number: _____

Weather: 62°F; cloudy

Field Personnel: ES/CP

gallon/foot

Well Casing Volumes

$$1 - \frac{1}{4}^n = 0.06$$
$$2'' = 0.16$$
$$3^n = 0.37$$
$$4'' = 0.65$$
$$1\frac{1}{2}'' = 0.09$$
$$2^{-1/2} = 0.26$$
$$3\frac{1}{2}'' = 0.50$$
$$6'' = 1.47$$
[illegible]

Notes:

Site **Ashland Run**
Event

GROUNDWATER SAMPLING LOG

Sam. lin. Personnel: **ES**
 Client / Job Number:
 Weather: **Rain 62°F**

Well ID: **IP-1**
 Date: **5/7/19**
 Time In: **1605** Time Out: **1700**

Well Information

Depth to Water:	feet	4.51	from MP
Total Depth:	feet	18.46	from MP
Length of Water Column:	feet	13.95	
Volume of Water in Well:	gal	2.23	
Intake depth for tubing:	feet	11.6'	

Well Type:	Flushmount ☐	Stick-Up ☒
Well Material:	Stainless Steel ☐	PVC ☒
Well Locked:	Yes ☒	No ☐
Measuring Point Marked:	Yes ☒	No ☐
Well Diameter:	1" ☒	Other: ☐

Purging Information

Purging Method:	Bailer ☐	Peristaltic ☒	Monsoon ☐	Other: ☐
Tubing/Bailer Material:	Steel ☐	Polyethylene ☒	Teflon ☐	Other: ☐
Sampling Method:	Bailer ☒	Peristaltic ☒	Monsoon ☐	Other: ☐

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

Pump Start Time: **1605**

Pump Stop Time: **1700**

Total Volume Removed: (gal) **~2.0**

Water-Quality Meter Type: **Hanna U-53**

Did well go dry: Yes ☐ No ☒

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	1610	1615	1620	1625	1630	1635	1640	1645	1650
Volume Purged (Gal)	0	0.25	0.50	0.75	1.00	1.25	1.50	1.75	2.00
Rate (mL/min)									
Depth to Water (ft.)	4.77	4.93	4.98	5.00	5.04	5.07	5.10	5.13	5.17
pH	6.75	6.74	6.71	6.69	6.65	6.62	6.60	6.58	6.56
Temp. (C)	11.28	11.25	11.20	11.11	11.02	10.95	10.78	10.85	10.85
Conductivity (mS/cm)	1.20	1.20	1.20	1.20	1.20	1.20	1.19	1.19	1.19
Dissolved Oxygen (mg/L)	3.14	3.10	3.06	3.02	2.99	2.83	2.79	2.72	2.65
ORP (mV)	-121	-126	-127	-128	-128	-129	-128	-128	-127
Turbidity (NTU)	111	93.9	85.5	73.0	55.8	44.2	36.2	38.2	35.8
Notes:									

Sampling Information

Analyses	#	n	Laboratory
VOCs	3		TA
TOCs	2		
RSK	3		

Color: **Slightly Tan**

Odor: **Slight Odor**

Appearance: **Clear**

Sample ID: **IP-1-050719** Sample Time: **1655**

MS/MSD: Yes ☐ No ☒

Duplicate: Yes ☐ No ☒

Duplicate ID: _____ Dup. Time: _____

Chain of Custody Signed By: **ES**

Problems / Observations

Initial: Slightly Tan, Slight Odor, Clear

VOCs collected w/ Bailer

Carbon Trap Collected @ 1250 5/7/19

" " Deployed @ 1700 "

GROUNDWATER SAMPLING LOG

Sam. In: Personnel: ES

Well ID: IMP-3

Client / Job Number:

Date: 5/7/19

Weather: Rain 63°F

Time In: 1705

Time Out: 1800

Well Information

Depth to Water: feet 7.73 from MP
 Total Depth: feet 18.33 from MP
 Length of Water Column: feet 10.60
 Volume of Water in Well: gal 1.69
 Intake depth for tubing: feet ~16'

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 ☒ Peristaltic ☒ Monsoon ☐ Other:

Pump Start Time: 1705

Pump Stop Time: 1800

Water-Quality Meter Type: HANNA U-53

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	1710	1715	1720	1725	1730	1735	1740	1745	1750
Volume Purged (Gal)	0	0.25	0.50	0.75	1.00	1.25	1.50	1.75	2.00
Rate (mL/min)									
Depth to Water (ft.)	8.04	8.28	8.44	8.60	8.80	8.92	9.04	9.10	9.15
pH	6.79	6.79	6.79	6.80	6.82	6.82	6.83	6.85	6.86
Temp. (C)	12.02	11.91	11.94	11.86	11.93	12.02	11.96	11.89	11.91
Conductivity (mS/cm)	1.82	1.82	1.83	1.81	1.81	1.81	1.84	1.84	1.84
Dissolved Oxygen (mL/L)	0.98	0.85	0.70	0.63	0.58	0.57	0.57	0.57	0.57
ORP (mV)	-90	-90	-91	-91	-92	-91	-91	-91	-92
Turbidity (NTU)	98.3	95.6	84.3	73.5	65.6	59.1	43.6	44.5	42.0
Notes:									

Sampling Information

Analyses	#	n	Laboratory
VOCs	3		TA
TOCs	2		✓
Color:	Tan Slightly Tan		
Odor:	No Odor		
Appearance:	Slightly cloudy Clear		
Sample ID:	IMP-3-0507		
Sample Time:	1755		
MS/MSD:	Yes ☐	No ☒	
Duplicate:	Yes ☐	No ☒	
Duplicate ID	—		
Dup. Time:	—		
Chain of Custody Signed By:	ES		

Problems / Observations

Initial: Tan, No Odor, Slightly Cloudy

VOCs collected w/ Bailer

Carbon Trap Collected @ 1254 on 5/7/19
 " " Deployed @ 1800 on 5/7/19

GROUNDWATER SAMPLING LOG

Sampling Personnel: CP
 Client / Job Number: Ashland
 Weather: 57°F, Sunny

Well ID: IW-A2
 Date: 05/08/19
 Time In: 11:50 Time Out:

Well Information

Depth to Water: feet 8.02 from MP
 Total Depth: feet 23.85 from MP
 Length of Water Column: feet 15.83
 Volume of Water in Well: gal 2.58
 Intake depth for tubing: feet ~12

Well Type: Flush mount ☐ 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 ☐ Bladder ☐ Peristaltic ☒
 Tubing/Bailer Material: Steel ☐ Polyethylene ☒ Teflon ☐
 Sampling Method: Bailer ☒ Peristaltic ☒ Bladder ☐

Pump Start Time: 12:11

Pump Stop Time: 13:26

Water-Quality Meter Type: HANNA-53

Total Volume Removed: (gal) ~2.0

Did well go dry: 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	1220	1225	1230	1235	1240	1245	1250	12:55	1300
Volume Purged (Gal)	0	0.25	0.50	0.75	1.0	1.25	1.50	1.75	2.0
Rate (mL/min)									
Depth to Water (ft.)	9.98	11.37	12.61	13.51	14.26	15.37	13.97	12.57	13.57
pH	6.98	6.98	6.98	6.98	6.96	6.95	6.94	6.95	6.97
Temp. (C)	19.81	16.62	18.41	18.62	18.56	17.48	17.95	17.94	18.05
Conductivity (mS/cm)	3.18	16.62	3.21	3.16	3.16	3.23	3.23	3.23	3.21
Dissolved Oxygen (mg/L)	4.52	4.97	3.94	3.79	3.80	3.96	3.89	3.90	3.20
ORP (mV)	-226	-245	-250	-256	-257	-259	-260	-261	-262
Turbidity (NTU)	0.00	66.8	137	198	171	109	89.5	100	129
Notes:									

Sampling Information

Analyses	#	n	Laboratory
TCL VOCs	3		Test America
TCL VOCs TOCS	2		↓
Total Cyanide			
Color: Slightly orange			
Odor: present			
Appearance: Slightly orange w/ ss			
Sample ID: IW-A2-050819	Sample Time: 1305		
MS/MSD: Yes ☐ No ☒			
Duplicate: Yes ☐ No ☒			
Duplicate ID: _____	Dup. Time: _____		
Chain of Custody Signed By:			

Problems / Observations

Initial:

- slightly orange w/ ss / odor present
- ss were black
- Purge bucket has brown color + visible film
- * False bottom @ 13.57
- Filled VOCs w/ peristaltic couldn't get bailer down.

GROUNDWATER SAMPLING LOG

Sampling Personnel: CP

Well ID: TW-83

Client / Job Number: Ashland

Date: 05/02/19

Weather: 54°F, sunny

Time In: 0920

Time Out: 1030

Well Information

Depth to Water: 2.08 feet from MP

Total Depth: 15.35 feet from MP

Length of Water Column: feet 13.27

Volume of Water in Well: gal 2.16

Intake depth for tubing: feet ~10

Well Type: Flush mount ☐ 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 ☒ Bladder ☐ Peristaltic ☒Tubing/Bailer Material: Steel ☐ Polyethylene ☒ Teflon ☐Sampling Method: Bailer ☒ Peristaltic ☒ Bladder ☐

Pump Start Time: 0930

Pump Stop Time: 1009

Water-Quality Meter Type: Horiba U-53

Total Volume Removed: (gal) 21.50

Did well go dry: 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	0935	0940	0945	0950	0955	1000	1005		
Volume Purged (Gal)	0	0.25	0.50	0.75	1.0	1.25	1.50		
Rate (mL/min)									
Depth to Water (ft.)	2.99	3.50	4.17	5.17	5.58	5.94	6.29		
pH	6.78	6.78	6.76	6.75	6.75	6.74	6.74		
Temp. (C)	10.65	10.89	11.02	10.96	10.87	11.11	10.97		
Conductivity (mS/cm)	2.10	2.05	2.04	2.03	2.03	2.02	2.04		
Dissolved Oxygen (mg/L)	8.20	5.81	5.62	5.58	5.58	5.45	5.48		
ORP (mV)	-205	-219	-226	-229	-231	-232	-234		
Turbidity (NTU)	101.8	83.5	89.6	89.3	91.8	91.0	92.5		
Notes:									

Sampling Information

Analyses	#	n	Laboratory
TCL VOCs	3		Test America
TCL SVOCs TOCs	2		↓
Total Cyanide			
Color:	Slightly yellow w/ SS		
Odor:	present		
Appearance:	Black SS		
Sample ID:	IW-BS-05081		Sample Time: 1010
MS/MSD:	Yes ☐	No ☒	
Duplicate:	Yes ☐	No ☒	
Duplicate ID	Dup. Time:		
Chain of Custody Signed By:			

Problems / Observations

Initial:

- clear w/ SS / odor present / no color
 - SS were black
 - visible film in purge bucket
- VOCs Sampled w/ Bailer

GROUNDWATER SAMPLING LOG

Sampling Personnel: CP

Well ID: MW-A1

Client / Job Number: Ashland

Date: 05/08/19

Weather: 57°F, sunny

Time In: 1030

Time Out: 1150

Well Information

Depth to Water: 5.60 feet from MP

Total Depth: 22.40 feet from MP

Length of Water Column: 16.80 feet

Volume of Water in Well: 2.73 gal

Intake depth for tubing: 2.13 feet

Well Type: Flush mount ☐ 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 ☐ Bladder ☐ Peristaltic ☒Tubing/Bailer Material: Steel ☐ Polyethylene ☒ Teflon ☐Sampling Method: Bailer ☒ Peristaltic ☒ Bladder ☐

Pump Start Time: 1040

Pump Stop Time: 1130

Water-Quality Meter Type: Horiba 53

Total Volume Removed: (gal) ~2.0

Did well go dry: 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	1045	1050	1055	1100	1105	1110	1115	1120	1125
Volume Purged (Gal)	0	0.25	0.50	0.75	1.0	1.25	1.50	1.75	2.0
Rate (mL/min)									
Depth to Water (ft.)	5.60	7.30	5.87	5.90	6.30	6.30	6.60	6.10	6.15
pH	6.90	6.84	6.81	6.79	6.78	6.78	6.77	6.78	6.77
Temp. (C)	16.67	16.20	16.05	16.08	16.18	16.20	16.24	16.40	16.61
Conductivity (mS/cm)	1.50	1.58	1.63	1.65	1.67	1.67	1.67	1.67	1.66
Dissolved Oxygen (mg/L)	5.76	5.19	4.88	4.66	4.46	4.44	4.40	4.32	4.20
ORP (mV)	-177	-175	-163	-177	-179	-180	-180	-182	-182
Turbidity (NTU)	0.00	10.1	8.70	7.37	3.83	2.26	2.04	7.57	5.28
Notes:									

Sampling Information

Problems / Observations

Analyses	#	n	Laboratory
TCL VOCs	3		Test America
TCL SVOCs	2		
Total Cyanide	3		
Color:	clear / no color		
Odor:	present		
Appearance:	clear w/ black ss		
Sample ID:	IW-A1-050819		
MS/MSD:	Yes ☐	No ☒	
Duplicate:	Yes ☐	No ☒	
Duplicate ID	—		
Dup. Time:	—		
Chain of Custody Signed By:			

Initial:

- clear w/ ss / odor present / no color
- suspended solids were black

Ashland

2017 GW Sampling

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: CP

Well ID: MW-B1

Client / Job Number:

Date: 5/07/18

Weather: 87°F, 20% Rain

Time In: 1600

Time Out:

Well Information

Depth to Water: 7.20 feet from MP
 Total Depth: 21.58 feet from MP
 Length of Water Column: 14.38 feet
 Volume of Water in Well: 2.30 gal
 Intake depth for tubing: 19.5 feet

Well Type: Flush mount ☐ 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 ☐ Bladder ☒ Peristaltic ☐
 Tubing/Bailer Material: Steel ☐ Polyethylene ☒ Teflon ☐
 Sampling Method: Bailer ☒ Peristaltic ☒ Bladder ☐

Pump Start Time: 1645

Pump Stop Time: 1735

Water-Quality Meter Type: Horiba U-50

Total Volume Removed: (gal) ~2.0

Did well go dry: 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	1650	1655	1700	1705	1710	1715	1720	1725	1730
Volume Purged (Gal)	0.00	0.25	0.50	0.75	1.0	1.25	1.50	1.75	2.0
Rate (mL/min)									
Depth to Water (ft.)	7.20	7.64	7.81	7.99	8.19	8.29	8.35	8.34	8.37
pH	6.62	6.65	6.60	6.59	6.58	6.58	6.59	6.58	6.55
Temp. (C)	11.56	11.37	11.35	11.31	11.21	10.93	10.78	10.78	10.79
Conductivity (mS/cm)	2.72	2.72	2.71	2.71	2.71	2.72	2.72	2.73	2.73
Dissolved Oxygen (mg/L)	5.7	5.58	5.47	5.37	5.34	5.38	5.39	5.35	5.31
ORP (mV)	-154	-167	-171	-174	-178	-181	-184	-185	-187
Turbidity (NTU)	32.3	30.2	29.7	31.2	33.7	37.4	39.9	38.2	38.9
Notes:									

Sampling Information

Analyses	#	n	Laboratory
TCL VOCs	3		TA
TC TOCs	2		
Total Organic RSK	3		
Color:	Slightly Yellow		
Odor:	odor present		
Appearance:	Clear		
Sample ID: MW-B1-050718	Sample Time: 1735		
MS/MSD:	Yes ☐	No ☒	
Duplicate:	Yes ☐	No ☒	
Duplicate ID	Dup. Time:		
Chain of Custody Signed By:	ES		

Problems / Observations

slightly yellow / ss / odor present
 VOCs sampled w/ Bailer

Ashland

2017 GW Sampling

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: CF +

Client / Job Number:

Weather: cloudy; rainWell ID: MW-13Date: 05/07/19Time In: 14:20 Time Out: 16:00

Well Information

Depth to Water: 2.90 feet (from MP)

Total Depth: 22.14 feet (from MP)

Length of Water Column: 19.24 feet

Volume of Water in Well: 3.07 gal

Intake depth for tubing: ~20' feet

Well Type: Flush mount ☐ 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 ☐ Bladder ☒ Peristaltic ☐

Tubing/Bailer Material: Steel ☐ Polyethylene ☒ Teflon ☐

Sampling Method: Bailer ☒ Peristaltic ☒ Bladder ☐

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				

Pump Start Time: 2:35 14:35Pump Stop Time: 15:23Water-Quality Meter Type: Horiba U-53

Total Volume Removed: (gal)

Did well go dry: No

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	1440	1445	1450	1455	1500	1505	1510	1515	1520
Volume Purged (Gal)	0.00	0.25	0.50	0.75	1.00	1.25	1.50	1.75	2.00
Rate (mL/min)									
Depth to Water (ft.)	5.33	5.82	6.08	6.65	7.08	7.35	8.00	8.30	8.90
pH	7.25	7.31	7.33	7.34	7.32	7.32	7.33	7.33	7.32
Temp. (C)	11.30	11.18	11.22	11.24	11.16	11.16	11.19	11.12	11.08
Conductivity (mS/cm)	0.877	0.875	0.876	0.879	0.882	0.879	0.878	0.878	0.877
Dissolved Oxygen (mg/L)	8.45	7.08	6.82	6.33	6.38	6.26	6.21	6.20	6.45
ORP (mV)	-83	-110	-118	-127	-131	-134	-137	-138	-139
Turbidity (NTU)	4.47	6.91	6.68	7.30	7.42	7.84	8.46	8.50	9.19
Notes:									

Sampling Information

Analyses	#	n	Laboratory
TCL VOCs	3		TA
TCL VOCs TOCs	2		TA
Total Oxygen			
Color:	None		
Odor:	None		
Appearance:	Clear		
Sample ID: <u>MW-13-050719</u>	Sample Time: <u>1525</u>		
MS/MSD:	Yes ☐	No ☒	
Duplicate:	Yes ☐	No ☒	
Duplicate ID	Dup. Time:		
Chain of Custody Signed By:	<u>ES</u>		

Problems / Observations

clear / no odor / No Color

VOCs sampled w/ Bailer

Sampling Personnel: ES Well ID: MW-16
 Client / Job Number: _____ Date: 5/7/19
 Weather: Rain / Cloudy 63°F Time In: 1805 Time Out: 1850

Well Information

Depth to Water:	feet	<u>7.55</u>	from MP
Total Depth:	feet	<u>16.69</u>	from MP
Length of Water Column:	feet	<u>9.09</u>	
Volume of Water in Well:	gal	<u>1.45</u>	
Intake depth for tubing:	feet	<u>~15'</u>	

Well Type:	Flushmount ☐	Stick-Up ☒
Well Material:	Stainless Steel ☐	PVC ☒
Well Locked:	Yes ☒	No ☐
Measuring Point Marked:	Yes ☒	No ☐
Well Diameter:	1" ☒	Other: _____

Purging Information

Purging Method:	Bailer ☐	Peristaltic ☒	Monsoon ☐	Other: _____
Tubing/Bailer Material:	Steel ☐	Polyethylene ☒	Teflon ☐	Other: _____
Sampling Method:	Bailer ☒	Peristaltic ☒	Monsoon ☐	Other: _____

Pump Start Time: 1805
 Pump Stop Time: 1850 Water-Quality Meter Type: Hanna U-53
 Total Volume Removed: (gal) ~1.50 Did well go dry: Yes ☐ No ☒

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				

pH	DO / Turb	Cond. / Temp	ORP
✓ 0.1	✓ 10%	✓ 3.0%	✓ 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Time	<u>1810</u>	<u>1815</u>	<u>1820</u>	<u>1825</u>	<u>1830</u>	<u>1835</u>	<u>1840</u>		
Volume Purged (Gal)	<u>0</u>	<u>0.25</u>	<u>0.50</u>	<u>0.75</u>	<u>1.00</u>	<u>1.25</u>	<u>1.50</u>		
Rate (mL/min)									
Depth to Water (ft.)	<u>8.95</u>	<u>9.96</u>	<u>10.60</u>	<u>11.12</u>	<u>11.61</u>	<u>11.96</u>	<u>12.10</u>		
pH	<u>7.21</u>	<u>7.16</u>	<u>7.12</u>	<u>7.11</u>	<u>7.11</u>	<u>7.13</u>	<u>7.13</u>		
Temp. (C)	<u>10.38</u>	<u>10.26</u>	<u>10.19</u>	<u>10.17</u>	<u>10.21</u>	<u>10.26</u>	<u>10.22</u>		
Conductivity (mS/cm)	<u>1.86</u>	<u>1.86</u>	<u>1.86</u>	<u>1.86</u>	<u>1.87</u>	<u>1.87</u>	<u>1.87</u>		
Dissolved Oxygen (mg/L)	<u>1.06</u>	<u>0.57</u>	<u>0.51</u>	<u>0.50</u>	<u>0.57</u>	<u>0.61</u>	<u>0.66</u>		
ORP (mV)	<u>-27</u>	<u>-22</u>	<u>-24</u>	<u>-44</u>	<u>-46</u>	<u>-47</u>	<u>-49</u>		
Turbidity (NTU)	<u>4.75</u>	<u>6.00</u>	<u>5.12</u>	<u>4.27</u>	<u>3.89</u>	<u>3.56</u>	<u>3.77</u>		
Notes:									

Sampling Information

Analyses	#	n	Laboratory
<u>VOCs</u>	<u>3</u>		<u>TA</u>
<u>TOCs</u>	<u>2</u>		
<u>RSB</u>	<u>3</u>		

Color: None
 Odor: None
 Appearance: Clear
 Sample ID: MW-16-050719 Sample Time: 1845
 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

VOCs Sampled w/ Bailer

Carbon Trap Collected @ 1300 on 5/7/19
" " Deployed @ 1850 on 5/7/19

Ashland

2017 GW Sampling

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: OPWell ID: MW-17Client / Job Number: AshlandDate: 05/18/19Weather: SunnyTime In: 0730Time Out: 0908

Well Information

Depth to Water: 6.08 feet from MP
 Total Depth: 17.96 feet from MP
 Length of Water Column: 11.78 feet
 Volume of Water in Well: 1.90 gal
 Intake depth for tubing: 116' feet

Well Type: Flush mount ☒ 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 ☐ Bladder ☐ Peristaltic ☒
 Tubing/Bailer Material: Steel ☐ Polyethylene ☒ Teflon ☐
 Sampling Method: Bailer ☒ Peristaltic ☒ Bladder ☐

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				

Pump Start Time: 0745Pump Stop Time: 0843Water-Quality Meter Type: Hanna HI-53Total Volume Removed: (gal) ~2.0Did well go dry: No

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	0800	0805	0810	0815	0820	0825	0830	0835	0840
Volume Purged (Gal)	0	0.25	0.50	0.75	1.0	1.25	1.50	1.75	2.0
Rate (mL/min)									
Depth to Water (ft.)	7.67	6.84	8.65	9.04	9.27	9.40	9.73	9.90	9.95
pH	6.75	6.89	6.96	7.00	7.04	7.05	7.06	7.07	7.07
Temp. (C)	11.46	11.62	11.65	11.72	11.78	11.80	11.84	11.87	11.88
Conductivity (mS/cm)	0.237	0.605	0.693	0.823	0.973	1.01	1.13	1.21	1.25
Dissolved Oxygen (mg/L)	6.92	6.27	6.16	6.02	5.88	5.85	5.76	5.70	5.68
ORP (mV)	40	8	-10	-31	-60	-68	-86	-98	-103
Turbidity (NTU)	0.00	34.3	34.8	21.9	11.6	11.3	8.87	7.69	8.71
Notes:									

Sampling Information

Analyses	#	n	Laboratory
TCL VOCs	3		TA
TEL-SVOCs <u>TOCs</u>	2		↓
Total Cyanide			
Color: <u>None</u>			
Odor: <u>None</u>			
Appearance: <u>Clear</u>			
Sample ID: <u>MW-17-05081</u>	Sample Time: <u>0850</u>		
MS/MSD: Yes ☐ No ☒			
Duplicate: Yes ☐ No ☒			
Duplicate ID: <u>—</u>	Dup. Time: <u>—</u>		
Chain of Custody Signed By: <u>ES</u>			

Initial: Problems / Observations

clear with ss / no odor / no color
 VOCs collected w/ bailer

Sampling Personnel: *ES*Well ID: *MW-18*

Client / Job Number:

Date: *+500 5/7/19*Weather: *Cloudy 1 Rain 62°F*Time In: *1500*Time Out: *1600*

Well Information

Depth to Water: feet *4.9* from MP
 Total Depth: feet *12.98* from MP
 Length of Water Column: feet *13.04*
 Volume of Water in Well: gal *2.08*
 Intake depth for tubing: feet *~16'*

Well Type: Flushmount ☐ Stick-Up ☒
 Well Material: Stainless Steel ☐ PVC ☒
 Well Locked: Yes ☒ No ☐
 Measuring Point Marked: Yes ☒ No ☐
 Well Diameter: 1" ☒ Other:

Purging Information

Purging Method: Bailer ☐ Peristaltic ☒ Monsoon ☐ Other:
 Tubing/Bailer Material: Steel ☐ Polyethylene ☒ Teflon ☐ Other:
 Sampling Method: Bailer ☒ Peristaltic ☒ Monsoon ☐ Other:

Pump Start Time: *1510*Pump Stop Time: *1555*Water-Quality Meter Type: *Hanna U-53*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	<i>1515</i>	<i>1520</i>	<i>1525</i>	<i>1530</i>	<i>1535</i>	<i>1540</i>	<i>1545</i>		
Volume Purged (Gal)	<i>0</i>	<i>0.25</i>	<i>0.50</i>	<i>0.75</i>	<i>1.00</i>	<i>1.25</i>	<i>1.50</i>		
Rate (mL/min)									
Depth to Water (ft.)	<i>5.85</i>	<i>6.62</i>	<i>6.98</i>	<i>7.20</i>	<i>7.35</i>	<i>7.55</i>	<i>7.70</i>		
pH	<i>6.87</i>	<i>6.87</i>	<i>6.86</i>	<i>6.85</i>	<i>6.85</i>	<i>6.85</i>	<i>6.85</i>		
Temp. (C)	<i>12.22</i>	<i>12.21</i>	<i>12.21</i>	<i>12.15</i>	<i>12.24</i>	<i>12.25</i>	<i>12.29</i>		
Conductivity (mS/cm)	<i>1.22</i>	<i>1.22</i>	<i>1.22</i>	<i>1.22</i>	<i>1.23</i>	<i>1.22</i>	<i>1.22</i>		
Dissolved Oxygen (mg/L)	<i>2.66</i>	<i>1.53</i>	<i>1.06</i>	<i>0.88</i>	<i>0.79</i>	<i>0.70</i>	<i>0.65</i>		
ORP (mV)	<i>-100</i>	<i>-100</i>	<i>-101</i>	<i>-101</i>	<i>-101</i>	<i>-101</i>	<i>-100</i>		
Turbidity (NTU)	<i>18.1</i>	<i>17.7</i>	<i>16.0</i>	<i>13.8</i>	<i>12.1</i>	<i>11.2</i>	<i>11.1</i>		
Notes:									

Sampling Information

Analyses	#	n	Laboratory
<i>VOCs</i>	<i>3</i>		<i>TA</i>
<i>TOCs</i>	<i>2</i>		
<i>ESK</i>	<i>3</i>		
Color:	<i>None</i>		
Odor:	<i>Slight Sulfur Odor</i>		
Appearance:	<i>Clear</i>		
Sample ID: <i>MW-18-050</i>	Sample Time: <i>1550</i>		
MS/MSD: Yes ☐ No ☒			
Duplicate: Yes ☐ No ☒			
Duplicate ID: <i>—</i>	Dup. Time: <i>—</i>		
Chain of Custody Signed By: <i>ES</i>			

Problems / Observations

Initial: *Clear, Sulfur Odor, No Color*
VOCs Collected w/ Bailer

Carbon Trap Collected @ 1240 5/7/19
" " Deployed @ 1600 5/7/19

Site Ashland Rn Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: ESWell ID: MW-19

Client / Job Number:

Date: 5/8/19Weather: Sunny 58°FTime In: 1140 Time Out: 1235

Well Information

Depth to Water: feet 2.98 from MP
 Total Depth: feet 17.46 from MP
 Length of Water Column: feet 14.48
 Volume of Water in Well: gal 9.45
 Intake depth for tubing: feet ~15.5'

Well Type: Flush mount ☒ 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 ☐ Bladder ☒ Peristaltic ☐
 Tubing/Bailer Material: Steel ☐ Polyethylene ☒ Teflon ☐
 Sampling Method: Bailer ☒ Peristaltic ☒ Bladder ☐

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

Pump Start Time: 1140Pump Stop Time: 1235Water-Quality Meter Type: Horiba U-30Total Volume Removed: (gal) ~1.50Did well go dry: No

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	<u>1145</u>	<u>1150</u>	<u>1155</u>	<u>1200</u>	<u>1205</u>	<u>1210</u>	<u>1215</u>		
Volume Purged (Gal)	<u>0</u>	<u>0.25</u>	<u>0.50</u>	<u>0.75</u>	<u>1.00</u>	<u>1.25</u>	<u>1.50</u>		
Rate (mL/min)									
Depth to Water (ft.)	<u>3.19</u>	<u>3.24</u>	<u>3.24</u>	<u>3.24</u>	<u>3.24</u>	<u>3.24</u>	<u>3.24</u>		
pH	<u>7.61</u>	<u>7.59</u>	<u>7.58</u>	<u>7.59</u>	<u>7.59</u>	<u>7.59</u>	<u>7.59</u>		
Temp. (C)	<u>12.83</u>	<u>11.54</u>	<u>10.95</u>	<u>10.72</u>	<u>10.61</u>	<u>10.49</u>	<u>10.52</u>		
Conductivity (mS/cm)	<u>1.45</u>	<u>1.49</u>	<u>1.51</u>	<u>1.51</u>	<u>1.51</u>	<u>1.51</u>	<u>1.52</u>		
Dissolved Oxygen (mg/L)	<u>2.74</u>	<u>1.12</u>	<u>0.96</u>	<u>0.91</u>	<u>0.90</u>	<u>0.90</u>	<u>0.90</u>		
ORP (mV)	<u>-157</u>	<u>-174</u>	<u>-178</u>	<u>-184</u>	<u>-187</u>	<u>-188</u>	<u>-190</u>		
Turbidity (NTU)	<u>4.01</u>	<u>7.15</u>	<u>6.42</u>	<u>6.37</u>	<u>6.03</u>	<u>6.16</u>	<u>6.13</u>		
Notes:									

Sampling Information

Analyses	#	n	Laboratory
TCL VOCs	<u>1</u>	<u>2</u>	<u>TA</u>
TOC TOC	<u>1</u>	<u>2</u>	<u>TA</u>
RSF RSF	<u>1</u>	<u>2</u>	<u>TA</u>
Color:	<u>None</u>		
Odor:	<u>None</u>		
Appearance:	<u>Clear</u>		
Sample ID:	<u>MW-19-050819</u>		
Sample Time:	<u>1220</u>		
MS/MSD:	Yes ☒	No ☐	
Duplicate:	Yes ☒	No ☐	
Duplicate ID:	<u>DUP-1-050819</u>		
Dup. Time:	<u>1220</u>		
Chain of Custody Signed By:	<u>ES</u>		

Problems / Observations

Initial: Clear, odor Present, No Color
 VOCs sampled w/ Bailer

* MS/MSD + DUP collected here
 FL/Rhodamine also sampled @ 1220

Ashland

2017 GW Sampling

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: *CP*Client / Job Number: *Ashland LLC*Weather: *62°F, Cloudy*Well ID: *MW-20*Date: *05/04/19*Time In: *1940* Time Out:

Well Information

Depth to Water: *2.10* feet from MP
 Total Depth: *11.47* feet from MP
 Length of Water Column: *9.87* feet
 Volume of Water in Well: *1.57* gal
 Intake depth for tubing: *~9.5'* feet

Well Type: Flush mount ☒ 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 ☐ Bladder ☒ Peristaltic ☐
 Tubing/Bailer Material: Steel ☐ Polyethylene ☒ Teflon ☐
 Sampling Method: Bailer ☒ Peristaltic ☐ Bladder ☐

Pump Start Time: *1950*Pump Stop Time: *2030*Water-Quality Meter Type: *Horiba U-53*Total Volume Removed: (gal) *~2.50'*Did well go dry: *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	<i>1950</i>	<i>1955</i>	<i>2000</i>	<i>2005</i>	<i>2010</i>	<i>2015</i>	<i>2020</i>	<i>2025</i>	<i>2030</i>
Volume Purged (Gal)	<i>0.00</i>	<i>0.25</i>	<i>0.50</i>	<i>1.0</i>	<i>1.25</i>	<i>1.50</i>	<i>1.75</i>	<i>2.0</i>	<i>2.50</i>
Rate (mL/min)									
Depth to Water (ft.)	<i>2.50</i>	<i>2.45</i>	<i>2.55</i>	<i>2.06</i>	<i>2.04</i>	<i>2.06</i>	<i>2.07</i>	<i>2.07</i>	<i>2.07</i>
pH	<i>6.68</i>	<i>6.73</i>	<i>6.87</i>	<i>6.82</i>	<i>6.92</i>	<i>6.88</i>	<i>6.94</i>	<i>7.04</i>	<i>7.05</i>
Temp. (C)	<i>10.24</i>	<i>10.06</i>	<i>10.31</i>	<i>10.46</i>	<i>10.56</i>	<i>10.67</i>	<i>10.74</i>	<i>10.79</i>	<i>10.79</i>
Conductivity (mS/cm)	<i>1.06</i>	<i>1.06</i>	<i>1.05</i>	<i>1.07</i>	<i>1.08</i>	<i>1.09</i>	<i>1.08</i>	<i>1.07</i>	<i>1.07</i>
Dissolved Oxygen (mg/L)	<i>7.97</i>	<i>7.85</i>	<i>7.61</i>	<i>7.52</i>	<i>7.40</i>	<i>7.34</i>	<i>7.23</i>	<i>7.15</i>	<i>7.10</i>
ORP (mV)	<i>-82</i>	<i>-120</i>	<i>-144</i>	<i>-154</i>	<i>-162</i>	<i>-165</i>	<i>-172</i>	<i>-176</i>	<i>-179</i>
Turbidity (NTU)	<i>27.8</i>	<i>36.8</i>	<i>48.4</i>	<i>24.9</i>	<i>14.1</i>	<i>8.13</i>	<i>6.12</i>	<i>6.77</i>	<i>5.98</i>
Notes:									

Sampling Information

Analyses	#	n	Laboratory
TCL VOCs	<i>3</i>		<i>TA</i>
TCL SVOCs			
Total Cyanide			
Color: <i>None</i>			
Odor: <i>None</i>			
Appearance: <i>Clear</i>			
Sample ID: <i>MW-20-050719</i>	Sample Time: <i>2035</i>		
MS/MSD: Yes ☐ No ☒			
Duplicate: Yes ☐ No ☒			
Duplicate ID: <i>—</i>	Dup. Time: <i>—</i>		
Chain of Custody Signed By: <i>ES</i>			

Problems / Observations

No odor present / clear
VOCs Sampled w/ Bailer

Sam. Lin. Personnel: ES Well ID: MW-21
 Client / Job Number: _____ Date: 5/7/19
 Weather: Cloudy 63°F Time In: 1905 Time Out: 2005

Well Information

Depth to Water: 7.93 feet from MP
 Total Depth: 14.91 feet from MP
 Length of Water Column: 4.98 feet
 Volume of Water in Well: 0.79 gal
 Intake depth for tubing: ~13' feet

Well Type: Flushmount ☐ Stick-Up ☒
 Well Material: Stainless Steel ☐ PVC ☒
 Well Locked: Yes ☒ No ☐
 Measuring Point Marked: Yes ☒ No ☐
 Well Diameter: 1" ☒ Other: _____

Purging Information

Purging Method: Bailer ☐ Peristaltic ☒ Monsoon ☐ Other: _____
 Tubing/Bailer Material: Steel ☐ Polyethylene ☒ Teflon ☐ Other: _____
 Sampling Method: Bailer ☒ Peristaltic ☒ Monsoon ☐ Other: _____

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

Pump Start Time: 1905
 Pump Stop Time: 2005 Water-Quality Meter Type: Horiba U-53
 Total Volume Removed: (gal) ~2.25 Did well go dry: Yes ☐ No ☒

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	10
Time	<u>1910</u>	<u>1915</u>	<u>1920</u>	<u>1925</u>	<u>1930</u>	<u>1935</u>	<u>1940</u>	<u>1945</u>	<u>1950</u>	<u>1955</u>
Volume Purged (Gal)	<u>0</u>	<u>0.25</u>	<u>0.50</u>	<u>0.75</u>	<u>1.00</u>	<u>1.25</u>	<u>1.50</u>	<u>1.75</u>	<u>2.00</u>	<u>2.25</u>
Rate (mL/min)										
Depth to Water (ft.)	<u>10.20</u>	<u>10.37</u>	<u>10.50</u>	<u>10.65</u>	<u>10.79</u>	<u>10.95</u>	<u>11.05</u>	<u>11.22</u>	<u>11.34</u>	<u>11.50</u>
pH	<u>7.01</u>	<u>6.99</u>	<u>6.94</u>	<u>6.99</u>	<u>6.97</u>	<u>6.95</u>	<u>6.94</u>	<u>6.93</u>	<u>6.92</u>	<u>6.91</u>
Temp. (C)	<u>10.84</u>	<u>10.83</u>	<u>10.76</u>	<u>10.61</u>	<u>10.46</u>	<u>10.31</u>	<u>10.36</u>	<u>10.28</u>	<u>10.38</u>	<u>10.40</u>
Conductivity (mS/cm)	<u>1.72</u>	<u>2.22</u>	<u>1.79</u>	<u>1.63</u>	<u>1.86</u>	<u>1.56</u>	<u>1.56</u>	<u>1.57</u>	<u>1.58</u>	<u>1.58</u>
Dissolved Oxygen (mg/L)	<u>2.77</u>	<u>1.16</u>	<u>1.24</u>	<u>1.89</u>	<u>1.86</u>	<u>1.67</u>	<u>1.55</u>	<u>1.38</u>	<u>1.58</u>	<u>1.13</u>
ORP (mV)	<u>4</u>	<u>-8</u>	<u>-66</u>	<u>-60</u>	<u>-53</u>	<u>-50</u>	<u>-52</u>	<u>-57</u>	<u>-60</u>	<u>-65</u>
Turbidity (NTU)	<u>133</u>	<u>315</u>	<u>63.6</u>	<u>46.2</u>	<u>31.3</u>	<u>21.2</u>	<u>19.6</u>	<u>13.7</u>	<u>11.9</u>	<u>10.3</u>

Notes:

Sampling Information

Analyses	#	n	Laboratory
<u>VOCs</u>	<u>3</u>		<u>TA</u>
<u>TOCs</u>	<u>2</u>		<u>↓</u>
Color:			
Odor:			
Appearance:			
Sample ID: <u>MW-21-050719</u> Sample Time: <u>2000</u>			
MS/MSD: Yes ☐ No ☒			
Duplicate: Yes ☐ No ☒			
Duplicate ID: _____ Dup. Time: _____			
Chain of Custody Signed By: <u>ES</u>			

Problems / Observations

Initial: Clear, No Odor, No Color
VOCs Sampled w/ Bailer

Carbon Trap Collected @ 1305 on 5/7/19
" " Deployed @ 2005 on 5/7/19

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel:

ES

Well ID:

MW-23

Client / Job Number:

Date:

5/8/19

Weather:

Sunny 50°F

Time In:

0805

Time Out:

0855

Well Information

Depth to Water:	feet	7.23	from MP
Total Depth:	feet	30.56	from MP
Length of Water Column:	feet	23.33	
Volume of Water in Well:	gal	15.23	
Intake depth for tubing:	feet	~27'	

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:	

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				

Pump Start Time:

0805

Pump Stop Time:

0855

Water-Quality Meter Type:

Horiba U-53

Total Volume Removed:

(gal)

~1.50

Did well go dry:

Yes ☐No ☒

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	0.25	0.50	0.75	1.00	1.25	1.50		
Rate (mL/min)									
Depth to Water (ft.)	7.79	8.17	8.39	8.59	8.78	8.91	9.01		
pH	7.14	7.23	7.25	7.25	7.26	7.26	7.26		
Temp. (C)	10.28	10.23	10.25	10.29	10.39	10.51	10.57		
Conductivity (mS/cm)	1.59	1.56	1.55	1.54	1.54	1.54	1.53		
Dissolved Oxygen mg/L	3.27	1.28	1.01	0.89	0.83	0.79	0.77		
ORP (mV)	-81	-123	-135	-141	-144	-147	-149		
Turbidity (NTU)	49.1	5.66	8.40	8.32	8.50	8.39	7.95		
Notes:									

Sampling Information

Analyses	#	n	Laboratory
VOCs	3		TA
TOCs	2		TA
FL/Rhodamine	1		OZARK
Color:	Slightly Tan		
Odor:	Molasses Odor		
Appearance:	Clear		
Sample ID:	MW-23-052019		Sample Time: 0850
MS/MSD:	Yes ☐	No ☒	
Duplicate:	Yes ☐	No ☒	
Duplicate ID			Dup. Time:
Chain of Custody Signed By:	ES		

Problems / Observations

Initial: Slightly Tan, Molasses Odor,
Clear w/ SS

VOCs Sampled w/ Bailer

Site: Ashland Res Event: _____

GROUNDWATER SAMPLING LOG

Sampling Personnel: ES Well ID: MW-24

Client / Job Number: _____ Date: 5/8/19

Weather: Sunny 53°F Time In: 0900 Time Out: 1005

Well Information

Depth to Water: feet 6.29 from MP

Total Depth: feet 26.32 from MP

Length of Water Column: feet 20.03

Volume of Water in Well: gal 13.07

Intake depth for tubing: feet ~23'

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: 0900

Pump Stop Time: 1005 Water-Quality Meter Type: Hanba V-53

Total Volume Removed: (gal) 12.50 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	<u>0905</u>	<u>0910</u>	<u>0915</u>	<u>0920</u>	<u>0925</u>	<u>0930</u>	<u>0935</u>	<u>0940</u>	<u>0945</u>
Volume Purged (Gal)	<u>0</u>	<u>0.25</u>	<u>0.50</u>	<u>0.75</u>	<u>1.00</u>	<u>1.25</u>	<u>1.50</u>	<u>1.75</u>	<u>2.00</u>
Rate (mL/min)									
Depth to Water (ft.)	<u>6.68</u>	<u>6.90</u>	<u>7.14</u>	<u>7.35</u>	<u>7.55</u>	<u>7.70</u>	<u>7.86</u>	<u>7.97</u>	<u>8.10</u>
pH	<u>7.22</u>	<u>7.22</u>	<u>7.22</u>	<u>7.23</u>	<u>7.23</u>	<u>7.23</u>	<u>7.23</u>	<u>7.22</u>	<u>7.22</u>
Temp. (C)	<u>12.33</u>	<u>12.38</u>	<u>12.49</u>	<u>12.59</u>	<u>12.73</u>	<u>12.89</u>	<u>13.10</u>	<u>13.26</u>	<u>13.38</u>
Conductivity (mS/cm)	<u>1.97</u>	<u>1.97</u>	<u>1.97</u>	<u>1.98</u>	<u>1.98</u>	<u>1.99</u>	<u>2.00</u>	<u>2.01</u>	<u>2.02</u>
Dissolved Oxygen (mg/L)	<u>3.46</u>	<u>1.44</u>	<u>1.63</u>	<u>1.88</u>	<u>2.06</u>	<u>2.13</u>	<u>2.19</u>	<u>2.21</u>	<u>2.22</u>
ORP (mV)	<u>-128</u>	<u>-149</u>	<u>-168</u>	<u>-189</u>	<u>-212</u>	<u>-230</u>	<u>-247</u>	<u>-256</u>	<u>-265</u>
Turbidity (NTU)	<u>52.7</u>	<u>53.0</u>	<u>52.5</u>	<u>52.0</u>	<u>51.7</u>	<u>52.4</u>	<u>52.7</u>	<u>52.1</u>	<u>52.6</u>
Notes:									

Sampling Information

Analyses	#	n	Laboratory
<u>VOCs</u>	<u>3</u>		<u>TA</u>
<u>TOLs</u>	<u>2</u>		<u>TA</u>
<u>FL/Rhodamine</u>	<u>1</u>		<u>OZARC</u>

Color: Red / Brown

Odor: Molasses

Appearance: Clear

Sample ID: MW-24-050019 Sample Time: 1000

MS/MSD: Yes ☐ No ☒

Duplicate: Yes ☐ No ☒

Duplicate ID: _____ Dup. Time: _____

Chain of Custody Signed By: ES

Problems / Observations

Initial: Red/Brown Tint, Molasses Odor, Slightly Cloudy

VOCs Sampled w/ Bailer

Site Ashland Ren Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: ESWell ID: MW-24

Client / Job Number:

Date: 5/8/19Weather: Sunny 53°FTime In: 0900 Time Out: 1005

Well Information

Depth to Water: feet 6.29 from MP
 Total Depth: feet 26.32 from MP
 Length of Water Column: feet 20.03
 Volume of Water in Well: gal 13.07
 Intake depth for tubing: feet ~23'

Well Type: Flush mount ☒ 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 ☐ Bladder ☒ Peristaltic ☐
 Tubing/Bailer Material: Steel ☐ Polyethylene ☒ Teflon ☐
 Sampling Method: Bailer ☒ Peristaltic ☒ Bladder ☐

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				

Pump Start Time: 0900Pump Stop Time: 1005Water-Quality Meter Type: Horiba U-53Total Volume Removed: (gal) ~2.50Did well go dry: No

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	<u>0950</u>	<u>0955</u>							
Volume Purged (Gal)	<u>2.25</u>	<u>2.50</u>							
Rate (mL/min)									
Depth to Water (ft.)	<u>9.21</u>	<u>9.29</u>							
pH	<u>7.22</u>	<u>7.22</u>							
Temp. (C)	<u>13.45</u>	<u>13.52</u>							
Conductivity (mS/cm)	<u>2.03</u>	<u>2.09</u>							
Dissolved Oxygen (mg/L)	<u>2.22</u>	<u>2.22</u>							
ORP (mV)	<u>-272</u>	<u>-275</u>							
Turbidity (NTU)	<u>52.2</u>	<u>52.1</u>							
Notes:									

Sampling Information

Analyses	#	n	Laboratory
TCL VOCs	<u>2</u>		<u>TA</u>
TCL SVOCs <u>TOCs</u>	<u>2</u>		<u>TA</u>
Total Cyanide <u>FL/PL/ML</u>	<u>1</u>		<u>OZARK</u>
Color:	<u>Red / Brown</u>		
Odor:	<u>Molasses</u>		
Appearance:	<u>Clear</u>		
Sample ID:	<u>MW-24-050019</u>		
Sample Time:	<u>1000</u>		
MS/MSD:	Yes ☐	No ☒	
Duplicate:	Yes ☐	No ☒	
Duplicate ID	<u>—</u>		
Dup. Time:	<u>—</u>		
Chain of Custody Signed By:	<u>ES</u>		

Problems / Observations

VOCs Sampled w/ Bailer

Site Ashland Pen Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: ESWell ID: MW-25

Client / Job Number:

Date: 5/8/19Weather: Sunny 53°FTime In: 1035 Time Out: 1125

Well Information

Depth to Water: feet 2.35 from MP
 Total Depth: feet 20.81 from MP
 Length of Water Column: feet 18.51
 Volume of Water in Well: gal 2.96
 Intake depth for tubing: feet ~18'

Well Type: Flush mount ☒ 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 ☐ Bladder ☒ Peristaltic ☐
 Tubing/Bailer Material: Steel ☐ Polyethylene ☒ Teflon ☐
 Sampling Method: Bailer ☒ Peristaltic ☒ Bladder ☐

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				

Pump Start Time: 1040Pump Stop Time: 1125Water-Quality Meter Type: Horiba U53Total Volume Removed: (gal) ~1.50Did well go dry: No

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	<u>1045</u>	<u>1050</u>	<u>1055</u>	<u>1100</u>	<u>1105</u>	<u>1110</u>	<u>1115</u>		
Volume Purged (Gal)	<u>0</u>	<u>0.25</u>	<u>0.50</u>	<u>0.75</u>	<u>1.00</u>	<u>1.25</u>	<u>1.50</u>		
Rate (mL/min)									
Depth to Water (ft.)	<u>2.40</u>	<u>2.48</u>	<u>2.48</u>	<u>2.55</u>	<u>2.85</u>	<u>2.89</u>	<u>2.94</u>		
pH	<u>7.23</u>	<u>7.19</u>	<u>7.18</u>	<u>7.18</u>	<u>7.17</u>	<u>7.16</u>	<u>7.16</u>		
Temp. (C)	<u>13.07</u>	<u>12.58</u>	<u>12.67</u>	<u>12.34</u>	<u>11.76</u>	<u>11.77</u>	<u>11.67</u>		
Conductivity (mS/cm)	<u>2.09</u>	<u>2.11</u>	<u>2.11</u>	<u>2.12</u>	<u>2.14</u>	<u>2.14</u>	<u>2.14</u>		
Dissolved Oxygen (mg/L)	<u>2.08</u>	<u>0.76</u>	<u>0.62</u>	<u>0.57</u>	<u>0.50</u>	<u>0.49</u>	<u>0.49</u>		
ORP (mV)	<u>-102</u>	<u>-99</u>	<u>-99</u>	<u>-99</u>	<u>-99</u>	<u>-100</u>	<u>-100</u>		
Turbidity (NTU)	<u>33.1</u>	<u>9.01</u>	<u>6.03</u>	<u>6.42</u>	<u>3.84</u>	<u>4.38</u>	<u>4.08</u>		
Notes:									

Sampling Information

Analyses	#	n	Laboratory
TCL VOCs	<u>3</u>		<u>TA</u>
TOC <u>TOC</u>	<u>2</u>		<u>↓</u>
Total Cyanide <u>RSK</u>	<u>3</u>		
Color:	<u>None</u>		
Odor:	<u>None</u>		
Appearance:	<u>Clear</u>		
Sample ID: <u>MW-25-050819</u>	Sample Time: <u>1120</u>		
MS/MSD: Yes ☐ No ☒			
Duplicate: Yes ☐ No ☒			
Duplicate ID: <u>—</u>	Dup. Time: <u>—</u>		
Chain of Custody Signed By: <u>ES</u>			

Problems / Observations

Initial: Clear, No odor, No Color

VOCs sampled w/ Bailer

*FL/Rhodamine also sampled
↳ OZARK labs

Sampling Personnel: K. Stilson
 Client / Job Number: 30018228/014009019. PRM
 Weather: 84°F Sunny

Well ID: IMP-3

Date: 8/7/19

Time In: 1100

Time Out: 1225

Well Information

Depth to Water: (feet) 9.08 (from MP)
 Total Depth: (feet) 19.29 (from MP)
 Length of Water Column: (feet) 9.21
 Volume of Water in Well: (gal) 1.50 $3\text{ ft} = 4.5$
 Intake depth for tubing: (feet) 16.0'

Well Type: Flushmount ☐ Stick-Up ☒
 Well Material: Stainless Steel ☐ PVC ☒
 Well Locked: Yes ☒ No ☐
 Measuring Point Marked: Yes ☒ No ☐
 Well Diameter: 1" ☒ Other:

Purging Information

Purging Method: Bailer ☐ Peristaltic ☒ Monsoon ☐ Other:
 Tubing/Bailer Material: Steel ☐ Polyethylene ☒ Teflon ☐ Other:
 Sampling Method: Bailer ☒ Peristaltic ☐ Monsoon ☐ Other:

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				

Pump Start Time: 1130

Pump Stop Time: 1202

Water-Quality Meter Type: Hanna U52

Total Volume Removed: 1.5 (gal)

Did well go dry: Yes ☐ No ☒

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	1135	1140	1145	1150	1155	1200			
Volume Purged (Gal)	0.26	0.50	0.78	1.04	1.3	1.56			
Rate (mL/min)	200	200	200	200	200	200			
Depth to Water (ft.)	9.10	9.12	9.15	9.15	9.16	9.16			
pH	7.78	7.70	7.60	7.41	7.36	7.31			
Temp. (C)	25.78	17.38	17.22	17.47	17.49	17.47			
Conductivity (mS/cm)	1.47	1.65	1.64	1.66	1.67	1.68			
Dissolved Oxygen (mg/L)	2.33	0.81	0.62	0.60	0.67	0.60			
ORP (mV)	-22	+71	-60	-55	-56	-56			
Turbidity (NTU)	25.8	10.9	39.0	13.5	10.3	9.9			
Notes:									

Sampling Information

Analyses	#	n	Laboratory
VOC	3		TA
Color:	clear / none		
Odor:	none		
Appearance:	none / clear		
Sample ID:	IMP-3-0807-019		
Sample Time:	1210		
MS/MSD:	Yes ☐	No ☒	
Duplicate:	Yes ☐	No ☒	
Duplicate ID:	—		
Dup. Time:	—		
Chain of Custody Signed By:	K. Stilson		

Problems / Observations

Carbon ^{TRP} Collected @ 1110 on 8/7/19
 Carbon Trap Deployed @ 1220 on 8/7/19
 IMP-3-0807-019
 Initial clear no odor
 VOC collected w/ bailer

Sampling Personnel: A. Stilson
 Client / Job Number: 30018228/014009019, RTM
 Weather: 6 °F Windy

Well ID: MW-18
 Date: 8/7/19
 Time In: 1255 Time Out: 1340

Well Information

Depth to Water: 6.54 feet from MP
 Total Depth: 17.96 feet from MP
 Length of Water Column: 11.42 feet
 Volume of Water in Well: 1.86 gal SV 5.58
 Intake depth for tubing: 15.9 feet

Well Type: Flushmount ☐ Stick-Up ☒
 Well Material: Stainless Steel ☐ PVC ☒
 Well Locked: Yes ☒ No ☐
 Measuring Point Marked: Yes ☒ No ☐
 Well Diameter: 1" Other:

Purging Information

Purging Method: Bailer ☐ Peristaltic ☒ Monsoon ☐ Other:
 Tubing/Bailer Material: Steel ☐ Polyethylene ☒ Teflon ☐ Other:
 Sampling Method: Bailer ☒ Peristaltic ☐ Monsoon ☐ Other:

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

Pump Start Time: 1305
 Pump Stop Time: 1340 Water-Quality Meter Type: Hanna HI9142
 Total Volume Removed: 1.5 (gal) Did well go dry: Yes ☐ No ☒

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	1310	1315	1320	1325	1330	1335			
Volume Purged (Gal)	0.28	0.50	0.78	1.04	1.3	1.56			
Rate (mL/min)	200	200	200	200	200	200			
Depth to Water (ft.)	6.54	7.5	6.66	6.68	6.68	6.69			
pH	7.64	7.53	7.49	7.46	7.44	7.44			
Temp. (C)	24.39	20.94	19.99	19.92	19.93	19.20			
Conductivity (mS/cm)	0.940	0.940	0.984	0.990	0.989	0.988			
Dissolved Oxygen (m/L)	1.39	0.91	0.63	0.58	0.57	0.55			
ORP (mV)	-20	-40	-48	-50	-52	-52			
Turbidity (NTU)	0.8	0.0	0.0	3.1	3.8	4.5			
Notes:									

Sampling Information

Analyses	#	n	Laboratory
VOCs	3		TA
Color:	clear		
Odor:	slight odor		
Appearance:	clear none		
Sample ID: MW-18-0	Sample Time: 1337		
MS/MSD:	Yes ☐	No ☒	
Duplicate:	Yes ☐	No ☒	
Duplicate ID	Dup. Time:		
Chain of Custody Signed By:	A. Stilson		

Problems / Observations

Carbon Trap Collected @ 1300 8/7/2019
 Carbon Trap deployed @ 1340 8/7/19
 MW-18-08072019

VOC collected w/ bailer
 Initial: clear, slight odor.

Sampling Personnel: K. Sullivan
 Client / Job Number: 30018228/011009019. RTM
 Weather: 8:00 sunny

Well ID: MW-21
 Date: 8/18/19
 Time In: 1045 Time Out: 1140

Well Information

Depth to Water: 10.66 feet from MP
 Total Depth: 14.93 feet from MP
 Length of Water Column: 4.27 feet
 Volume of Water in Well: 0.69 gal
 Intake depth for tubing: 12.9 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 ☒ Peristaltic ☐ Monsoon ☐ Other: ☐

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

Pump Start Time: 1100
 Pump Stop Time: 1130 Water-Quality Meter Type: H20 Ver 1152
 Total Volume Removed: 1.5 (gal) Did well go dry: Yes ☐ No ☒

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	<u>1105</u>	<u>1110</u>	<u>1115</u>	<u>1120</u>	<u>1125</u>	<u>1130</u>			
Volume Purged (Gal)	<u>0.26</u>	<u>0.52</u>	<u>0.78</u>	<u>1.04</u>	<u>1.3</u>	<u>1.56</u>			
Rate (mL/min)	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>			
Depth to Water (ft.)	<u>10.93</u>	<u>10.99</u>	<u>11.00</u>	<u>11.01</u>	<u>11.02</u>	<u>11.02</u>			
pH	<u>7.36</u>	<u>7.30</u>	<u>7.26</u>	<u>7.20</u>	<u>7.29</u>	<u>7.27</u>			
Temp. (C)	<u>20.46</u>	<u>18.58</u>	<u>17.40</u>	<u>17.51</u>	<u>17.37</u>	<u>17.38</u>			
Conductivity (mS/cm)	<u>2.67</u>	<u>2.72</u>	<u>2.70</u>	<u>2.68</u>	<u>2.66</u>	<u>2.64</u>			
Dissolved Oxygen (mg/L)	<u>1.93</u>	<u>0.90</u>	<u>0.26</u>	<u>0.10</u>	<u>0.09</u>	<u>0.08</u>			
ORP (mV)	<u>-86</u>	<u>-85</u>	<u>-87</u>	<u>-90</u>	<u>-94</u>	<u>-97</u>			
Turbidity (NTU)	<u>34.4</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>			
Notes:									

Sampling Information

Analyses	#	n	Laboratory
<u>VOCs</u>	<u>3</u>		<u>TA</u>
Color:	<u>clear</u>		
Odor:	<u>none</u>		
Appearance:	<u>clear</u>		
Sample ID:	<u>MW-21-000224</u>		
Sample Time:	<u>1135</u>		
MS/MSD:	Yes ☐	No ☒	
Duplicate:	Yes ☐	No ☒	
Duplicate ID:	<u>—</u>		
Dup. Time:	<u>—</u>		
Chain of Custody Signed By:	<u>KS</u>		

Problems / Observations

Carbon trap collected @ 1048 on 8/18/19
Carbon trap deployed @ 1135 on 8/18/19

Initial: clear no odor no color
VOC sampled with bailer

Sampling Personnel: K. Stinson Well ID: MW-16
 Client / Job Number: 3001E228/01-009019-PRM Date: 8/8/2019
 Weather: 80°F Sunny Time In: 0845 Time Out: 1040

Well Information

Depth to Water: 8.20 feet (from MP)
 Total Depth: 14.59 feet (from MP)
 Length of Water Column: 8.33 feet
 Volume of Water in Well: 1.35 gal
 Intake depth for tubing: 14.5 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 ☒ Peristaltic ☐ Monsoon ☐ Other: ☐
 Pump Start Time: 1000
 Pump Stop Time: 1031 Water-Quality Meter Type: Koriba 452
 Total Volume Removed: 1.5 (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	<u>1005</u>	<u>1010</u>	<u>1015</u>	<u>1020</u>	<u>1025</u>	<u>1030</u>			
Volume Purged (Gal)	<u>0.26</u>	<u>0.52</u>	<u>0.78</u>	<u>1.04</u>	<u>1.3</u>	<u>1.56</u>			
Rate (mL/min)	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>			
Depth to Water (ft.)	<u>8.87</u>	<u>8.92</u>	<u>8.95</u>	<u>8.96</u>	<u>8.97</u>	<u>8.98</u>			
pH	<u>7.27</u>	<u>7.45</u>	<u>7.50</u>	<u>7.53</u>	<u>7.55</u>	<u>7.55</u>			
Temp. (C)	<u>18.44</u>	<u>17.74</u>	<u>17.92</u>	<u>17.79</u>	<u>17.74</u>	<u>17.70</u>			
Conductivity (mS/cm)	<u>1.80</u>	<u>1.72</u>	<u>1.72</u>	<u>1.71</u>	<u>1.72</u>	<u>1.72</u>			
Dissolved Oxygen (mg/L)	<u>0.78</u>	<u>0.15</u>	<u>0.17</u>	<u>0.15</u>	<u>0.14</u>	<u>0.14</u>			
ORP (mV)	<u>39</u>	<u>-29</u>	<u>-42</u>	<u>-49</u>	<u>-52</u>	<u>-59</u>			
Turbidity (NTU)	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>			
Notes:									

Sampling Information

Analyses	#	n	Laboratory
<u>VOC</u>	<u>3</u>		<u>TA</u>
Color: <u>None</u>			
Odor: <u>None</u>			
Appearance: <u>CL</u>			
Sample ID: <u>MW-16-08</u>			Sample Time: <u>1035</u>
MS/MSD: Yes ☐ No ☒			
Duplicate: Yes ☐ No ☒			
Duplicate ID: <u>—</u>			Dup. Time: <u>—</u>
Chain of Custody Signed By: <u>K. Stinson</u>			

Problems / Observations

Carbon trap collected @ 0950 on 8/8/19
 Carbon trap deployed @ 1030 on 8/8/19

Initial clear, no odor, no color
 VOC sampled w/ bailer.

Sampling Personnel: A. Silberman Well ID: IP-1
 Client / Job Number: 30012210 Date: 8/7/19
 Weather: 77°F Time In: 9:45 Time Out: 1:00

Well Information

Depth to Water: (feet) 5.60 from MP
 Total Depth: (feet) 18.42 from MP
 Length of Water Column: (feet) 12.82
 Volume of Water in Well: (gal) 2.08 $3V = 6.26$
 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 ☒ Peristaltic ☒ Monsoon ☐ Other:
 Pump Start Time: 10:10
 Pump Stop Time: 10:42 Water-Quality Meter Type: Hanna U52
 Total Volume Removed: 1.5 (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	1015	1020	1025	1030	1035	1040			
Volume Purged (Gal)	0.26	0.52	0.78	1.04	1.3	1.56			
Rate (mL/min)	200	200	200	200	200	200			
Depth to Water (ft.)	5.87	5.96	5.99	6.01	6.03	6.05			
pH	7.15	7.30	7.31	7.25	7.21	7.20			
Temp. (C)	18.96	18.45	18.38	18.43	18.79	18.83			
Conductivity (mS/cm)	1.06	0.988	0.972	0.966	0.964	0.965			
Dissolved Oxygen (mg/L)	1.71	0.85	0.53	0.48	0.50	0.42			
ORP (mV)	-62	-84	-110	-112	-113	-115			
Turbidity (NTU)	38.6	32.3	22.1	17.7	10.5	8.8			
Notes:	Collect VOC w/ bailer.								

Sampling Information

Analyses	#	n	Laboratory
VOCs	3		TA
Color: <u>slight tan</u>			
Odor: <u>neutral</u>			
Appearance: <u>clear</u>			
Sample ID: <u>IP-1-080201</u>			Sample Time: <u>10:30</u>
MS/MSD: Yes ☐ No ☒			
Duplicate: Yes ☐ No ☒			
Duplicate ID: <u> </u>			Dup. Time: <u> </u>
Chain of Custody Signed By: <u>K. Silberman</u>			

Problems / Observations

Carbon trap collected @ 1000
 8/7/2019
 Deploy: @ 1055 8/7/2019
 Initial: Slight tan, clear, no odor
 VOC collected w/ bailer

Sampling Personnel: K. Stilson Well ID: MW-25-02072019
 Client / Job Number: 3001822810140091019.PRM Date: 8/17/19
 Weather: 79°F Cloudy Time In: 1810 Time Out: 1525 1720

Well Information

Depth to Water: 2.49 feet from MP
 Total Depth: 20.79 feet from MP
 Length of Water Column: 10.3 feet
 Volume of Water in Well: 2.78 gal
 Intake depth for tubing: 16' 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 ☒ Peristaltic ☒ Monsoon ☐ Other:
 Pump Start Time: 1615
 Pump Stop Time: 1710 Water-Quality Meter Type: Hanabusa
 Total Volume Removed: 2.15 (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	<u>1620</u>	<u>1625</u>	<u>1630</u>	<u>1635</u>	<u>1640</u>	<u>1645</u>			
Volume Purged (Gal)	<u>0.26</u>	<u>0.50</u>	<u>0.78</u>	<u>1.04</u>	<u>1.3</u>	<u>1.56</u>			
Rate (mL/min)	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>			
Depth to Water (ft.)	<u>2.53</u>	<u>2.55</u>	<u>2.57</u>	<u>2.60</u>	<u>2.61</u>	<u>2.62</u>			
pH	<u>7.24</u>	<u>7.22</u>	<u>7.21</u>	<u>7.19</u>	<u>7.19</u>	<u>7.17</u>			
Temp. (C)	<u>20.16</u>	<u>20.26</u>	<u>20.23</u>	<u>20.20</u>	<u>20.18</u>	<u>20.16</u>			
Conductivity (mS/cm)	<u>1.96</u>	<u>1.99</u>	<u>1.99</u>	<u>2.01</u>	<u>2.03</u>	<u>2.03</u>			
Dissolved Oxygen (mg/L)	<u>8.79</u>	<u>7.70</u>	<u>7.67</u>	<u>7.63</u>	<u>7.60</u>	<u>7.57</u>			
ORP (mV)	<u>-27</u>	<u>-33</u>	<u>-32</u>	<u>-32</u>	<u>-31</u>	<u>-31</u>			
Turbidity (NTU)	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>			
Notes:									

Sampling Information

Analyses	#	n	Laboratory
<u>VOC</u>	<u>3</u>		<u>TA</u>
<u>TOC</u>	<u>2</u>		<u>TA</u>
Color:	<u>clear</u>		
Odor:	<u>none</u>		
Appearance:	<u>none / clear</u>		
Sample ID:	<u>MW-25-02072019</u>		
MS/MSD:	Yes ☐	No ☒	
Duplicate:	Yes ☐	No ☒	
Duplicate ID	<u>—</u>		
Chain of Custody Signed By:	<u>KS</u>		

Problems / Observations

Initial: Clear no odor no color.
 Water in curb box. Empty before opening well.
 VOC sampled w/ bailer
 FL/Rhodamine also sampled for OZARK Lab

Sampling Personnel: K. Stinson
 Client / Job Number: 30018228/014009019. PRTM
 Weather: 50°F Cloudy Rain

Well ID: MW-23
 Date: 8/8/2019
 Time In: 1445 Time Out: 1535

Well Information

Depth to Water: 7.95 feet from MP
 Total Depth: 30.50 feet from MP
 Length of Water Column: 22.55 feet
 Volume of Water in Well: 14.72 gal
 Intake depth for tubing: 29.5 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: 1.5"

Purging Information

Purging Method: Bailer ☐ Peristaltic ☒ Monsoon ☐ Other:
 Tubing/Bailer Material: Steel ☐ Polyethylene ☒ Teflon ☐ Other:
 Sampling Method: Bailer ☒ Peristaltic ☒ Monsoon ☐ Other:

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				

Pump Start Time: 1450
 Pump Stop Time: 1530 Water-Quality Meter Type: Hanna U52
 Total Volume Removed: 26.5 (gal) Did well go dry: Yes ☐ No ☒

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	<u>1455</u>	<u>1500</u>	<u>1505</u>	<u>1510</u>	<u>1515</u>	<u>1520</u>			
Volume Purged (Gal)	<u>0.26</u>	<u>0.52</u>	<u>0.78</u>	<u>1.04</u>	<u>1.3</u>	<u>1.56</u>			
Rate (mL/min)	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>			
Depth to Water (ft.)	<u>7.98</u>	<u>8.06</u>	<u>8.10</u>	<u>8.14</u>	<u>8.19</u>	<u>8.22</u>			
pH	<u>8.00</u>	<u>8.17</u>	<u>8.19</u>	<u>8.20</u>	<u>8.20</u>	<u>8.20</u>			
Temp. (C)	<u>20.24</u>	<u>20.01</u>	<u>19.97</u>	<u>19.88</u>	<u>19.86</u>	<u>19.85</u>			
Conductivity (mS/cm)	<u>1.32</u>	<u>1.30</u>	<u>1.29</u>	<u>1.29</u>	<u>1.28</u>	<u>1.28</u>			
Dissolved Oxygen (mg/L)	<u>2.27</u>	<u>2.56</u>	<u>2.22</u>	<u>2.01</u>	<u>1.98</u>	<u>1.97</u>			
ORP (mV)	<u>98</u>	<u>-101</u>	<u>-103</u>	<u>-104</u>	<u>-105</u>	<u>-105</u>			
Turbidity (NTU)	<u>60.7</u>	<u>40.3</u>	<u>39.1</u>	<u>30.2</u>	<u>29.7</u>	<u>29.1</u>			
Notes:									

Sampling Information

Analyses	#	n	Laboratory
VOC	<u>3</u>		<u>TA</u>
TRC	<u>2</u>		<u>L</u>
Color:	<u>Tan</u>		
Odor:	<u>Slight odor</u>		
Appearance:	<u>Cloudy</u>		
Sample ID:	<u>MW-23-000000</u>		
MS/MSD:	Yes ☐	No ☒	
Duplicate:	Yes ☐	No ☒	
Duplicate ID	<u>—</u>		
Chain of Custody Signed By:	<u>KS</u>		

Problems / Observations

Initial Tan, slight odor cloudy

VOC sampled w/ bailer
FL/Rhd sampled. Ozark lab

Sampling Personnel: K. Stilson
 Client / Job Number: 30012281014009019. RTM
 Weather: 80°F Cloudy / Rain

Well ID: MW-24
 Date: 8/19
 Time In: 1335 Time Out: 1940

Well Information

Depth to Water: 0.60 feet from MP
 Total Depth: 26.25 feet from MP
 Length of Water Column: 19.65 feet
 Volume of Water in Well: 12.83 gal
 Intake depth for tubing: 24.0 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: 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: 1400
 Pump Stop Time: 1444 Water-Quality Meter Type: Hanna U52
 Total Volume Removed: 1.5 (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	1405	1410	1415	1420	1425	1430			
Volume Purged (Gal)	0.26	0.52	0.78	1.04	1.3	1.56			
Rate (mL/min)	200	200	200	200	200	200			
Depth to Water (ft.)	6.87	6.93	6.98	7.01	7.03	7.04			
pH	9.99	8.02	8.03	8.04	8.04	8.04			
Temp. (C)	19.23	19.17	19.08	19.05	19.04	19.01			
Conductivity (mS/cm)	1.83	1.87	1.90	1.90	1.91	1.92			
Dissolved Oxygen (m/L)	2.02	1.91	1.87	1.63	1.61	1.59			
ORP (mV)	-133	-121	-116	-111	-108	-107			
Turbidity (NTU)	62.3	57.3	49.9	40.3	39.8	38.2			
Notes:									

Sampling Information

Analyses	#	n	Laboratory
TOC	2		TA
VOC	3		L
Color: <u>Tan</u>			
Odor: <u>Slight odor</u>			
Appearance: <u>Tan slight cloudy</u>			
Sample ID: <u>MW-24-08820</u>			Sample Time: <u>1435</u>
MS/MSD: Yes ☐ No ☒			
Duplicate: Yes ☐ No ☒			
Duplicate ID: <u>—</u>			Dup. Time: <u>—</u>
Chain of Custody Signed By: <u>KS</u>			

Problems / Observations

Initial tan slight odor cloudy

VOC sampled w/ bailer
 FL/Rhd sampled, Ozark Lab

Sampling Personnel: A. Smith Well ID: MW-19
 Client / Job Number: 30018228/014009019.PRM Date: 8/8/19
 Weather: BSF Rain Time In: 1220 Time Out: 1330

Well Information

Depth to Water: 2.53 feet from MP
 Total Depth: 17.42 feet from MP
 Length of Water Column: 14.93 feet
 Volume of Water in Well: 9.04 gal
 Intake depth for tubing: 15.5 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: 4" ft

Purging Information

Purging Method: Bailor ☐ Peristaltic ☒ Monsoon ☐ Other:
 Tubing/Bailor Material: Steel ☐ Polyethylene ☒ Teflon ☐ Other:
 Sampling Method: Bailor ☒ Peristaltic ☒ Monsoon ☐ Other:

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

Pump Start Time: 1225
 Pump Stop Time: 1320 Water-Quality Meter Type: HANNA USA
 Total Volume Removed: ~15 (gal) Did well go dry: Yes ☐ No ☒

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	<u>1230</u>	<u>1235</u>	<u>1240</u>	<u>1245</u>	<u>1250</u>	<u>1255</u>			
Volume Purged (Gal)	<u>0.26</u>	<u>0.52</u>	<u>0.78</u>	<u>1.04</u>	<u>1.3</u>	<u>1.56</u>			
Rate (mL/min)	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>			
Depth to Water (ft.)	<u>2.63</u>	<u>2.89</u>	<u>2.49</u>	<u>3.04</u>	<u>3.17</u>	<u>3.09</u>			
pH	<u>7.54</u>	<u>7.53</u>	<u>7.42</u>	<u>7.51</u>	<u>7.53</u>	<u>7.50</u>			
Temp. (C)	<u>20.31</u>	<u>19.68</u>	<u>19.81</u>	<u>19.80</u>	<u>19.80</u>	<u>19.80</u>			
Conductivity (mS/cm)	<u>1.34</u>	<u>1.32</u>	<u>1.31</u>	<u>1.32</u>	<u>1.32</u>	<u>1.32</u>			
Dissolved Oxygen (mg/L)	<u>1.00</u>	<u>0.56</u>	<u>0.51</u>	<u>0.35</u>	<u>0.33</u>	<u>0.33</u>			
ORP (mV)	<u>-131</u>	<u>-133</u>	<u>-133</u>	<u>-135</u>	<u>-135</u>	<u>-136</u>			
Turbidity (NTU)	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>			
Notes:									

Sampling Information

Analyses	#	n	Laboratory
<u>VOC</u>	<u>3</u>		<u>TA</u>
<u>TOC</u>	<u>2</u>		<u>L</u>
Color:	<u>clear</u>		
Odor:	<u>none</u>		
Appearance:	<u>none</u>		
Sample ID: <u>MW-19-0</u>	Sample Time: <u>1300</u>		
MS/MSD: Yes ☒ No ☐			
Duplicate: Yes ☒ No ☐			
Duplicate ID <u>DUP-1-0</u>	Dup. Time: <u>1300</u>		
Chain of Custody Signed By: <u>AS</u>			

Problems / Observations

Initial clear no odor no color
VO C sampled with bailer

MS/MSD + DUP collected here
FL/Rhadanne also sampled @ 1300



ARCADIS

Water Level Measurement Form

Page 1 of 1Project Name: Ashland RensselaerDate: 8/7-8/2019Project Number: OH009018.RRTM.00402Weather: 85°F Rain/Partly CloudyField Personnel: K Silcox

Well Casing Volumes

gallon/foot

1-1/4" = 0.06

2" = 0.16

3" = 0.37

4" = 0.65

1-1/2" = 0.09

2-1/2" = 0.26

3-1/2" = 0.50

6" = 1.47

Well ID	Time	DTW	Observations
MW-B1	1535	6.47	Slight tan color, slight odor
MW-B2	1536	5.05	Slight tan color, slight odor
1W-B1	1841	2.69	Red strong odor
1W-B2	1832	1.53	Clear color No odor strong Red+Black staining
PZ-6	1835	3.96	clear no odor
PZ-7	1830	3.30	Clear, odor no color
MW-19	1220	2.53	Clear no odor no color
MW-25	1610	2.49	Clear no odor no color
PZ-3	1840	5.65	Clear no odor no color

Notes:

11/6/19 - 11/7/19
ES/KS

Ashland - Rensselaer, NY
Groundwater Elevation Data

Well ID	Measuring Pt Elevation	TD	Installed TD	DTW	DTB	Comments
IMP-1	25.13	18.73	16.0	6.42	18.42	
IMP-2	25.17	18.67	16.0	5.76	18.64	
IMP-3	25.13	18.32	16.0	3.84	18.32	
MW-1	28.98	14.90	12.5	5.85	14.94	
MW-3	24.27	15.01	15.0	3.68	14.98	
MW-4	25.95	15.89	14.0	6.32	15.85	
MW-9	27.18	18.66	15.5	10.30	18.60	
MW-10	26.34	15.90	12.5			
MW-11	25.16	15.89	13.5	Blockage 4.00		damaged
MW-12D	24.08	26.45	25.5	8.25	26.36	damaged
MW-12S	23.12	15.87	14.1	5.81	15.85	
MW-13	36.86	22.16	20.5	2.89	22.13	
MW-14	33.85	16.79	15.0	6.34	16.73	
MW-15	25.19	15.01	27.5	1.70	15.02	
MW-16	25.41	16.40	15.0	8.67	16.69	
MW-17	21.78	18.00	18.0	6.06	17.75	
MW-18	23.98	18.00	16.0	5.07	17.95	
MW-19	25.51	17.60	17.5	2.78	17.44	
MW-20				1.84	1.98	
MW-21				9.92	14.94	
MW-A1	28.34	22.46	20.0	5.44	22.40	
MW-B1	27.53	21.56	20.0	6.22	21.59	
MW-B2	27.40	21.19	20.0	5.12	21.15	
IP-1	25.15	18.54	16.0	4.90	18.49	
PZ-1	27.88	20.35	18.0	4.70	20.49	abandoned
PZ-2	28.34	14.91	13.5			abandoned
PZ-3	29.97	23.78	22.0	4.97	23.77	
PZ-4	25.20	9.57	NA	3.54	9.55	
PZ-5	25.52	7.44	NA	3.51	7.41	
PZ-6	25.22	8.05	NA	4.00	8.00	
PZ-7	24.90	7.95	NA	3.52	7.91	
Sump	26.82	20.10	NA			Filled in/abandoned
BM-2	28.02	22.4*	NA	3.81	3.70	Across South St. from the site.
BM-4	26.59	17.7*	NA	8.07	8.01	
MH-1 (near the old treatment shed)	16.5*		NA	8.12	8.47	
MH-2 (Manhole east of MW-12S)	15.40*	15.40*	NA	8.29	8.56	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.



ARCADIS Water Level Measurement Form

Page 1 of 1

Project Name:

Ashland Ren.

Date:

11/6/19 - 11/7/19

Project Number:

Weather:

Sunny 34°F

Field Personnel:

ES/KS

gallon/foot

Well Casing Volumes

1-1/4" = 0.06

2" = 0.16

3" = 0.37

4" = 0.85

1-1/2" = 0.09

2-1/2" = 0.26

3-1/2" = 0.50

6" = 1.47

Well ID	Time	DTW	DTB	Observation
<u>IW-B3</u>	<u>0740</u>	<u>2.25</u>	<u>15.44</u>	
<u>MW-23</u>	<u>0742</u>	<u>7.49</u>	<u>30.59</u>	
<u>MW-B1</u>	<u>0745</u>	<u>6.22</u>	<u>21.59</u>	
<u>MW-24</u>	<u>0749</u>	<u>6.34</u>	<u>26.32</u>	
<u>MW-13</u>	<u>0758</u>	<u>2.48</u>	<u>22.18</u>	
<u>MW-25</u>	<u>0802</u>	<u>2.01</u>	<u>20.84</u>	
<u>MW-20</u>	<u>0809</u>	<u>1.84</u>	<u>11.98</u>	
<u>MW-15</u>	<u>0813</u>	<u>1.70</u>	<u>15.02</u>	
<u>MW-19</u>	<u>0819</u>	<u>3.02</u>	<u>17.44</u>	
<u>MW-17</u>	<u>0835</u>	<u>6.06</u>	<u>17.75</u>	
<u>MW-A1</u>	<u>0850</u>	<u>5.44</u>	<u>22.40</u>	
<u>IW-A2</u>	<u>0853</u>	<u>8.60</u>	<u>23.83</u>	
<u>MW-18</u>	<u>0800</u>	<u>5.07</u>	<u>17.95</u>	
<u>IP-1</u>	<u>0803</u>	<u>4.90</u>	<u>18.49</u>	
<u>IMP-3</u>	<u>0807</u>	<u>7.84</u>	<u>18.32</u>	
<u>MW-16</u>	<u>0812</u>	<u>8.67</u>	<u>16.69</u>	
<u>MW-21</u>	<u>0815</u>	<u>9.92</u>	<u>14.99</u>	
<u>IMP-2</u>	<u>0824</u>	<u>7.16</u>	<u>18.69</u>	

Notes:

ARCADIS

Water Level Measurement Form

Page 1 of 1

Project Name:

Ashland Run

Date:

11/7/19

Project Number:

Weather:

Cloudy 46° F

Field Personnel:

ES

Well Casing Volumes

gallon/foot

1-1/2" = 0.06

2" = 0.10

3" = 0.37

4" = 0.65

1-1/2" = 0.09

2-1/2" = 0.20

3-1/2" = 0.50

6" = 1.47

Well ID	Time	DTW	DTB	Observation
MW-B1	1152	5.35	21.59	Tan Tint, Slight Odor, Clear
MW-B2	1149	5.12	—	Orange Tint, No Odor, Slightly Cloudy, SS
IW-B2	1159	2.15	—	Black Tint, Odor Present, Cloudy, SS
P2-3	1142	4.97	—	Yellow Tint, Slight Odor, Slightly Cloudy, SS
P2-6	1204	4.00	—	Clear, No Color, Slight Odor
P2-7	1156	3.52	—	Tan Tint, No Odor, Slightly Cloudy, SS
MW-19	1140	2.78	17.44	No Color, Slight Odor, Clear
MW-25	1130	1.84	20.84	Yellow Tint, Slight Odor, Some SS

Notes:

SS = Suspended Solids

Sampling Personnel: ES Well ID: MW-A1
 Client / Job Number: _____ Date: 11/6/19
 Weather: Sunny 48°F Time In: 1330 Time Out: 1420

Well Information

Depth to Water: (feet) 5.44 (from MP)
 Total Depth: (feet) 22.40 (from MP)
 Length of Water Column: (feet) 16.96
 Volume of Water in Well: (gal) 2.76
 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: Bailor ☐ Peristaltic ☒ Monsoon ☐ Other: _____
 Tubing/Bailer Material: Steel ☐ Polyethylene ☒ Teflon ☐ Other: _____
 Sampling Method: Bailor ☐ Peristaltic ☒ Monsoon ☐ Other: _____

Pump Start Time: 1330

Pump Stop Time: 1420

Water-Quality Meter Type: Horiba U53

Total Volume Removed: (gal) ~1.8'

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	1.489
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	1335	1340	1345	1350	1355	1400	1405		
Volume Purged (Gal)	0	0.3	0.6	0.9	1.2	1.5	1.8		
Rate (mL/min)	250	250	250	250	250	250	250		
Depth to Water (ft.)	5.96	6.13	6.20	6.29	6.36	6.41	6.48		
pH	6.80	6.79	6.77	6.74	6.70	6.67	6.65		
Temp. (C)	14.25	14.17	14.13	14.02	14.04	14.03	14.04		
Conductivity (mS/cm)	1.68	1.69	1.69	1.72	1.73	1.74	1.75		
Dissolved Oxygen (mg/L)	1.48	0.97	0.76	0.66	0.67	0.69	0.67		
ORP (mV)	-69	-70	-70	-71	-71	-71	-71		
Turbidity (NTU)	25.1	25.8	35.2	31.0	34.8	34.3	35.2		
Notes:									

Sampling Information

Analyses	#	n	Laboratory
VOCs	3		TA
DOCs	2		↓
RSK	3		↓
Color:	None		
Odor:	Slight odor		
Appearance:	Clear		
Sample ID:	MV-A1-110619		Sample Time: 1410
MS/MSD:	Yes ☐	No ☒	
Duplicate:	Yes ☐	No ☒	
Duplicate ID	_____		Dup. Time: _____
Chain of Custody Signed By:	ES		

Problems / Observations

@ collection: No Color, Odor Present, Clear

* VOCs Collected w/ Bailer

Ashland Rensselaer, NY

GWS

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: Kim Stilson
 Client / Job Number: Ashland 30018076
 Weather: 46-54°F Sunny

Well ID: MW-B1
 Date: 4/6/19
 Time In: 1305 Time Out: 1420

Well Information

Depth to Water: (feet) 6.22 (from MP)
 Total Depth: (feet) 26.59 (from MP)
 Length of Water Column: (feet) 15.37
 Volume of Water in Well: (gal) 2.50
 Intake depth for tubing: (feet) ~19 ft

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: (VOC) Bailer ☒ Peristaltic ☒ Monsoon ☐ Other:

Pump Start Time: 1325

Pump Stop Time: 1420

Water-Quality Meter Type: Horiba

Total Volume Removed: (gal) 2.08

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	1330	1335	1340	1345	1350	1355	1400	1405	
Volume Purged (Gal)	0.26	0.52	0.78	1.04	1.30	1.56	1.82	2.08	
Rate (mL/min)	200	200	200	200	200	200	200	200	
Depth to Water (ft.)	6.53	6.56	6.58	6.60	6.60	6.61	6.61	6.62	
pH	6.74	6.75	6.75	6.74	6.74	6.73	6.73	6.73	
Temp. (C)	15.06	14.83	14.87	14.67	15.15	14.63	14.73	14.74	
Conductivity (mS/cm)	2.36	2.35	2.35	2.34	2.32	2.36	2.35	2.34	
Dissolved Oxygen (mg/L)	1.94	0.84	0.44	0.27	0.07	0.02	0.00	0.00	
ORP (mV)	-16	-23	-26	-27	-31	-32	-32	-32	
Turbidity (NTU)	0.00	1.08	1.44	1.58	1.83	2.00	2.01	2.00	
Notes:									

Sampling Information

Analyses	#	n	Laboratory
VOC 8260C	3		Test America/Environ
TBC 9060	2		1
Rsk 12550P	3		
Color: slight tan			
Odor: slight odor			
Appearance: clear			
Sample ID: MW-B1-110619	Sample Time: 1410		
MS/MSD: Yes ☐ No ☒			
Duplicate: Yes ☐ No ☒			
Duplicate ID: —	Dup. Time: —		
Chain of Custody Signed By: ES			

Problems / Observations

Initial slight yellow / SS / slight odor

Final

VOC sampled w/ bailer

Ashland Rensselaer, NY

4R 6W5

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel:

K. Stikson

Well ID:

JW-A2

Client / Job Number:

Ashland 30018076

Date:

11/7/19

Weather:

45°F Rain

Time In:

1130

Time Out:

1245

Well Information

Depth to Water:	(feet) 8.53	(from MP)
Total Depth:	(feet) 23.93	(from MP)
Length of Water Column:	(feet) 15.40	
Volume of Water in Well	(gal) 2.5	
Intake depth for tubing	(feet) ~ 21 ft	

Well Type

Flushmount ☐Stake-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	(VOC) Bailer ☒	Peristaltic ☒	Monsoon ☐	Other

Conversion Factors

gal / ft of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.499

1 gal = 3.785 L = 3785 ml = 0.1337 cubic feet

Pump Start Time:

1140

Pump Stop Time:

1235

Water-Quality Meter Type:

Horiba

Total Volume Removed:

(gal)

2.08

Did well go dry:

Yes ☐No ☒

Unit Stability

DO / Turb	Cond. / Temp	ORP
± 10%	± 5.0%	± 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Time	1145	1150	1155	11200	1205	1210	1215	1220	
Volume Purged (Gal)	2.46	0.52	0.78	1.04	1.30	1.56	1.82	2.08	
Rate (ml/min)	200	200	200	200	200	200	200	200	
Depth to Water (ft)	9.18	10.63	11.89	12.43	13.63	14.01	14.63	14.92	
pH	6.65	6.65	6.66	6.71	6.73	6.72	6.72	6.71	
Temp. (C)	10.64	10.63	10.63	10.63	11.23	10.92	10.91	10.89	
Conductivity (mS/cm)	3.92	3.90	3.88	3.82	3.79	3.77	3.77	3.76	
Dissolved Oxygen (mg/L)	1.17	1.11	0.59	0.34	0.26	0.19	0.18	0.17	
ORP (mV)	105	-111	114	-128	-132	-133	-133	-133	
Turbidity (NTU)	103	119	126	160	178	197	198	199	
Notes:									

Sampling Information

Analyses	#	n	Laboratory
VOC	3		TestAmerica
TOC	2		I
Color: slight brown/orange tint ss black			
Odor: slight odor			
Appearance: cloudy w/ fine inclusions			
Sample ID: JW-A2-10719			Sample Time: 1225
MS/MSD: Yes ☐		No ☒	
Duplicate: Yes ☐		No ☒	
Duplicate ID: _____		Dup. Time: _____	
Chain of Custody Signed By: ES			

Problems / Observations

Initial slight orange tint
black ss odor present

false bottom 13.59'
- Filled VOCs w/ peristaltic couldn't
get bailer down well.

Ashland Rensselaer, NY

Site

GWS

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: Kim Stilson
 Client / Job Number: Ashland 30018076
 Weather: 46°F Sunny

Well ID: IW-B3
 Date: 11/6/19
 Time In: 1020 Time Out: 1150

Well Information

Depth to Water: (feet) 2.25 (from MP)
 Total Depth: (feet) 15.3544 (from MP)
 Length of Water Column: (feet) 13.19
 Volume of Water in Well: (gal) 2.184
 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:

Purging Information

Purging Method: Baller ☒ Peristaltic ☐ Monsoon ☐ Other:
 Tubing/Baller Material: Steel ☐ Polyethylene ☒ Teflon ☐ Other:
 Sampling Method: (VOC) Baller ☒ Peristaltic ☒ Monsoon ☐ Other:
 Pump Start Time: 1040-1055
 Pump Stop Time: 1145 Water-Quality Meter Type: Horiba
 Total Volume Removed: (gal) 1.82 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	1100	1105	1110	1115	1120	1125	1130		
Volume Purged (Gal)	0.26	0.52	0.78	1.04	1.30	1.56	1.82		
Rate (mL/min)	200	200	200	200	200	200	200		
Depth to Water (ft.)	2.80	2.92	3.01	3.75	3.92	4.19	4.61		
pH	6.79	6.78	6.77	6.77	6.76	6.77	6.76		
Temp. (C)	14.59	15.19	14.29	14.19	14.16	14.12	14.10		
Conductivity (mS/cm)	2.22	2.18	2.22	2.23	2.24	2.21	2.21		
Dissolved Oxygen (mg/L)	1.62	0.82	0.56	0.42	0.41	0.39	0.37		
ORP (mV)	16.4	-125	-130	-133	-136	-136	-136		
Turbidity (NTU)	38.0	38.2	37.4	31.5	33.2	32.4	30.9		
Notes:									

Sampling Information

Analyses	#	n	Laboratory
TCL VOCs	3		Test America Enviro
TOCs	2		
Color:			
Odor:			
Appearance:			
Sample ID: IW-B3-110619	Sample Time: 1135		
MS/MSD: Yes ☐ No ☒			
Duplicate: Yes ☐ No ☒			
Duplicate ID: —	Dup. Time: —		
Chain of Custody Signed By: ES			

Problems / Observations

Initial: Clear w/SS slight odor
 ss - black

Final: slight yellow color, black ss
 odor present
 film in purge bucket
 VOC sampled w/ bailer

Site

Event

Ashland Res.

GROUNDWATER SAMPLING LOG

Sampling Personnel: Ron ES

Well ID: AP-1

Client / Job Number:

Date: 11/7/19

Weather: Cloudy 96°F

Time In: 0915

Time Out: 1005

Well Information

Depth to Water: (feet) 4.90 (from MP)
 Total Depth: (feet) 18.49 (from MP)
 Length of Water Column: (feet) 13.59
 Volume of Water in Well: (gal) 2.21
 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" ☒ Other: ☐

Purging Information

Purging Method: Bailor ☐ Peristaltic ☒ Monsoon ☐ Other: ☐
 Tubing/Bailor Material: Steel ☐ Polyethylene ☒ Teflon ☐ Other: ☐
 Sampling Method: Bailor ☐ Peristaltic ☒ Monsoon ☐ Other: ☐

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.04	0.163	0.653	1.469
1 gal = 3.785 L = 3785 ml = 0.1337 cubic feet				

Pump Start Time: 0915

Pump Stop Time: 1005

Water-Quality Meter Type: Horiba U53

Total Volume Removed: (gal) ~1.8

Did well go dry: Yes ☐ No ☒

Unit Stability			
pH	DO / Temp	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	0.3	0.6	0.9	1.2	1.5	1.8		
Rate (mL/min)	250	250	250	250	250	250	250		
Depth to Water (ft.)	5.19	5.32	5.37	5.40	5.42	5.44	5.46		
pH	6.88	6.87	6.87	6.87	6.87	6.87	6.86		
Temp. (C)	13.40	13.36	13.60	13.69	13.74	13.75	13.75		
Conductivity (mS/cm)	1.02	1.02	1.01	1.02	1.02	1.02	1.02		
Dissolved Oxygen (mg/L)	3.51	3.58	3.63	3.51	3.55	3.54	3.63		
ORP (mV)	-79	-80	-83	-87	-91	-93	-94		
Turbidity (NTU)	59.5	59.3	53.0	41.0	34.0	33.6	31.7		
Notes:									

Sampling Information

Analyses	#	n	Laboratory
VOCs, TOC, BSK	8		TA
Nitrite / Nitrate / Sulfate			
Piss Folm, Fe / Mn	2		
Color: None			
Odor: None			
Appearance: Clear			
Sample ID: AP-1-110719			Sample Time: 0955
MS/MSD: Yes ☐ No ☒			
Duplicate: Yes ☐ No ☒			
Duplicate ID: —			Dup. Time: —
Chain of Custody Signed By: ES			

Problems / Observations

@ Collection: No Color, No Odor, Clear

* VOCs Collected w/ Bailor

* Carbon trap collected 11/7/19 @ 0825 (OZARK)

Sampling Personnel: ES Well ID: IMP-3
 Client / Job Number: _____ Date: 11/7/19
 Weather: Cloudy 46°F Time In: 1005 Time Out: 1045

Well Information

Depth to Water: (feet) 7.84 (from MP)
 Total Depth: (feet) 18.32 (from MP)
 Length of Water Column: (feet) 10.48
 Volume of Water in Well: (gal) 1.70
 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" ☐ Other: _____

Purging Information

Purging Method: Bailer ☐ Peristaltic ☒ Monsoon ☐ Other: _____
 Tubing/Bailer Material: Steel ☐ Polyethylene ☒ Teflon ☐ Other: _____
 Sampling Method: Bailer ☐ Peristaltic ☒ Monsoon ☐ Other: _____

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

Pump Start Time: 1005
 Pump Stop Time: 1045 Water-Quality Meter Type: Horiβ US3
 Total Volume Removed: (gal) ~1.50 Did well go dry: Yes ☐ No ☒

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	<u>1005</u>	<u>1010</u>	<u>1015</u>	<u>1020</u>	<u>1025</u>	<u>1030</u>	<u>1035</u>		
Volume Purged (Gal)	<u>0</u>	<u>0.25</u>	<u>0.50</u>	<u>0.75</u>	<u>1.00</u>	<u>1.25</u>	<u>1.50</u>		
Rate (mL/min)	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>		
Depth to Water (ft.)	<u>8.19</u>	<u>8.46</u>	<u>8.74</u>	<u>8.90</u>	<u>9.09</u>	<u>9.15</u>	<u>9.23</u>		
pH	<u>7.07</u>	<u>7.06</u>	<u>7.04</u>	<u>7.01</u>	<u>6.98</u>	<u>6.99</u>	<u>6.98</u>		
Temp. (C)	<u>13.46</u>	<u>13.71</u>	<u>13.79</u>	<u>13.58</u>	<u>13.65</u>	<u>13.66</u>	<u>13.59</u>		
Conductivity (mS/cm)	<u>1.84</u>	<u>1.83</u>	<u>1.83</u>	<u>1.83</u>	<u>1.83</u>	<u>1.83</u>	<u>1.83</u>		
Dissolved Oxygen (mg/L)	<u>1.04</u>	<u>0.67</u>	<u>0.68</u>	<u>0.55</u>	<u>0.48</u>	<u>0.49</u>	<u>0.45</u>		
ORP (mV)	<u>-61</u>	<u>-63</u>	<u>-53</u>	<u>-40</u>	<u>-35</u>	<u>-35</u>	<u>-34</u>		
Turbidity (NTU)	<u>25.3</u>	<u>30.2</u>	<u>65.9</u>	<u>66.4</u>	<u>62.3</u>	<u>60.8</u>	<u>58.7</u>		
Notes:									

Sampling Information

Analyses	#	n	Laboratory
<u>VOCs</u>	<u>3</u>		<u>TA</u>
<u>TOCs</u>	<u>2</u>		<u>TA</u>
Color: <u>Slightly Tan</u>			
Odor: <u>None</u>			
Appearance: <u>Clear</u>			
Sample ID: <u>IMP-3-11071</u> Sample Time: <u>1040</u>			
MS/MSD: Yes ☐ No ☒			
Duplicate: Yes ☐ No ☒			
Duplicate ID: _____ Dup. Time: _____			
Chain of Custody Signed By: <u>ES</u>			

Problems / Observations

@ Collection: Slightly Tan, No Odor, Clear
 * VOCs Collected w/ Bailer
 * Carbon Trap Collected 11/7/19 @ 0820

Ashland Ren.

GROUNDWATER SAMPLING LOG

Sampling Personnel: ESWell ID: MW-13

Client / Job Number:

Date: 11/6/19Weather: Sunny 35°FTime In: 0900Time Out: 0945

Well Information

Depth to Water: (feet) 2.48 (from MP)
 Total Depth: (feet) 22.18 (from MP)
 Length of Water Column: (feet) 20.50 19.70
 Volume of Water in Well: (gal) 3.21
 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 ☒ Peristaltic ☒ Monsoon ☐ Other:

Pump Start Time: 0900Pump Stop Time: 0945Water-Quality Meter Type: Hanna US3Total Volume Removed: (gal) ~1,80Did 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	<u>0905</u>	<u>0910</u>	<u>0915</u>	<u>0920</u>	<u>0925</u>	<u>0930</u>	<u>0935</u>		
Volume Purged (Gal)	<u>0</u>	<u>0.30</u>	<u>0.60</u>	<u>0.90</u>	<u>1.20</u>	<u>1.50</u>	<u>1.80</u>		
Rate (mL/min)	<u>250</u>	<u>250</u>	<u>250</u>	<u>250</u>	<u>250</u>	<u>250</u>	<u>250</u>		
Depth to Water (ft.)	<u>3.36</u>	<u>5.26</u>	<u>6.10</u>	<u>6.70</u>	<u>7.11</u>	<u>7.86</u>	<u>8.12</u>		
pH	<u>7.53</u>	<u>7.58</u>	<u>7.52</u>	<u>7.48</u>	<u>7.45</u>	<u>7.43</u>	<u>7.42</u>		
Temp. (C)	<u>11.34</u>	<u>11.70</u>	<u>11.84</u>	<u>11.96</u>	<u>12.02</u>	<u>12.08</u>	<u>12.12</u>		
Conductivity (mS/cm)	<u>0.701</u>	<u>0.691</u>	<u>0.694</u>	<u>0.698</u>	<u>0.701</u>	<u>0.709</u>	<u>0.712</u>		
Dissolved Oxygen (mg/L)	<u>3.45</u>	<u>3.26</u>	<u>2.76</u>	<u>2.48</u>	<u>2.08</u>	<u>1.89</u>	<u>1.83</u>		
ORP (mV)	<u>118</u>	<u>101</u>	<u>74</u>	<u>61</u>	<u>55</u>	<u>52</u>	<u>54</u>		
Turbidity (NTU)	<u>0.59</u>	<u>1.60</u>	<u>3.30</u>	<u>3.79</u>	<u>4.21</u>	<u>5.43</u>	<u>6.60</u>		
Notes:									

Sampling Information

Analyses	#	n	Laboratory
<u>VOCs</u>	<u>3</u>		<u>TA</u>
<u>TOCs</u>	<u>2</u>		<u>TA</u>
Color: <u>None</u>			
Odor: <u>None</u>			
Appearance: <u>Clear</u>			
Sample ID: <u>MW-13-110619</u>			Sample Time: <u>0940</u>
MS/MSD: Yes ☐ No ☒			
Duplicate: Yes ☐ No ☒			
Duplicate ID: _____			Dup. Time: _____
Chain of Custody Signed By: _____			

Problems / Observations

@ Sample: No Color, No Odor, Clear

* VOCs Collected w/ Bailer

Sampling Personnel: ES Well ID: MW-15
 Client / Job Number: _____ Date: 11/6/19
 Weather: Sunny 48°F Time In: 1230 Time Out: 1320

Well Information

Depth to Water: (feet) 1.70 (from MP)
 Total Depth: (feet) 15.02 (from MP)
 Length of Water Column: (feet) 13.32
 Volume of Water in Well: (gal) 2.17
 Intake depth for tubing: (feet) ~11'

Well Type: Flushmount ☒ Stick-Up ☐
 Well Material: Stainless Steel ☐ PVC ☒
 Well Locked: Yes ☒ No ☐
 Measuring Point Marked: Yes ☒ No ☐
 Well Diameter: 1" ☒ Other: _____

Purging Information

Purging Method: Bailer ☐ Peristaltic ☒ Monsoon ☐ Other: _____
 Tubing/Bailer Material: Steel ☐ Polyethylene ☒ Teflon ☐ Other: _____
 Sampling Method: Bailer ☐ Peristaltic ☒ Monsoon ☐ Other: _____

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				

Pump Start Time: 1230
 Pump Stop Time: 1320 Water-Quality Meter Type: Hoib US3

Unit Stability			
pH	DO / Turb	Cond. / Temp	ORP
✓ 0.1	✓ 10%	✓ 3.0%	✓ 10 mV

Total Volume Removed: (gal) ~1.80 Did well go dry: Yes ☐ No ☒

Parameter:	1	2	3	4	5	6	7	8	9
Time	1235	1240	1245	1250	1255	1300	1305		
Volume Purged (Gal)	0	0.3	0.6	0.9	1.2	1.5	1.8		
Rate (mL/min)	250	250	250	250	250	250	250		
Depth to Water (ft.)	2.20	2.23	2.24	2.26	2.26	2.26	2.26		
pH	7.07	7.07	7.06	7.06	7.05	7.05	7.06		
Temp. (C)	12.65	12.42	12.52	12.56	12.48	12.50	12.55		
Conductivity (mS/cm)	1.29	1.29	1.29	1.29	1.29	1.29	1.29		
Dissolved Oxygen (mg/L)	1.80	1.49	1.26	1.13	1.02	0.99	0.94		
ORP (mV)	-87	-88	-89	-91	-90	-92	-93		
Turbidity (NTU)	17.0	25.3	27.1	29.7	30.5	30.8	32.2		
Notes:									

Sampling Information

Analyses	#	n	Laboratory
VOCs, RSK	6		TA
Fe/Mn Diss, Fe/Mn	2		↓
Nitrate, Nitrite, Sulfate	1		↓
Color:	Slightly Tan		
Odor:	Odor Present		
Appearance:	Clear		
Sample ID: <u>MW-15-1106R</u>	Sample Time: <u>1310</u>		
MS/MSD:	Yes ☐	No ☒	
Duplicate:	Yes ☐	No ☒	
Duplicate ID	Dup. Time:		
Chain of Custody Signed By:	<u>ES</u>		

Problems / Observations

Collection: No Color, Odor Present, Clear

*VOCs Sampled w/ Bailer

Ashland Rensselaer, NY

GWS

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel:

Client / Job Number:

Weather:

Well ID:

Date:

Time In:

Time Out:

Well Information

Depth to Water: (feet) 8.67 (from MP)
 Total Depth: (feet) 16.69 (from MP)
 Length of Water Column: (feet) 8.02
 Volume of Water in Well: (gal) 1.30
 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: Bailor ☐ Peristaltic ☒ Monsoon ☐ Other:
 Tubing/Bailor Material: Steel ☐ Polyethylene ☒ Teflon ☐ Other:
 Sampling Method (VOC) Bailor ☒ Peristaltic ☒ Monsoon ☐ Other:
 Pump Start Time: 0840
 Pump Stop Time: 0940 Water-Quality Meter Type: Horiba
 Total Volume Removed: (gal) 2.68 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	0845	0850	0855	0900	0905	0910	0915	0920	0925
Volume Purged (Gal)	0.26	0.52	0.78	1.04	1.30	1.56	1.82	2.08	2.34
Rate (mL/min)	200	200	200	200	200	200	200	200	200
Depth to Water (ft.)	9.20	9.73	10.01	10.17	10.39	10.79	10.90	10.92	10.94
pH	6.35	6.83	6.88	6.95	7.02	7.02	7.01	7.01	7.01
Temp. (C)	12.77	13.17	13.25	12.76	12.78	12.63	12.80	12.58	12.57
Conductivity (mS/cm)	1.72	1.71	1.72	1.77	1.81	1.83	1.85	1.86	1.86
Dissolved Oxygen (mg/L)	6.94	5.09	4.12	3.33	2.93	1.07	0.06	0.02	0.00
ORP (mV)	155	40	7	-22	-54	-60	-64	-64	-64
Turbidity (NTU)	5.44	4.40	5.14	3.01	2.85	8.81	2.78	2.75	2.84
Notes:									

Sampling Information

Analyses	#	n	Laboratory
VOC	3		T&A America
DOC	2		
RSC 175 SOP	3		
Color: clear			
Odor: no odor			
Appearance: no color			
Sample ID: MW-16-110719			Sample Time: 0930
MS/MSD: Yes ☐ No ☒			
Duplicate: Yes ☐ No ☒			
Duplicate ID: —			Dup. Time: —
Chain of Custody Signed By: GS			

Problems / Observations

Initial: Clear, no odor, no color
 VOC sampled w/ bailer

* Carbon Trap Collected 11/7/19 @ 0830

Sampling Personnel: ES Well ID: MW-17
 Client / Job Number: _____ Date: 11/6/19
 Weather: Sunny 46°F Time In: 1045 Time Out: 1130

Well Information

Depth to Water: (feet) 6.06 (from MP)
 Total Depth: (feet) 17.75 (from MP)
 Length of Water Column: (feet) 11.69
 Volume of Water in Well: (gal) 1.90
 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 ☐ Peristaltic ☒ Monsoon ☐ Other: _____

Pump Start Time: 1045

Pump Stop Time: 1130

Water-Quality Meter Type: Horiba US3

Total Volume Removed: (gal) N

Did well go dry: Yes ☐ No ☒

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.853	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	<u>1050</u>	<u>1055</u>	<u>1100</u>	<u>1105</u>	<u>1110</u>	<u>1115</u>	<u>1120</u>		
Volume Purged (Gal)	<u>0</u>	<u>0.30</u>	<u>0.60</u>	<u>0.90</u>	<u>1.20</u>	<u>1.50</u>	<u>1.80</u>		
Rate (mL/min)	<u>250</u>	<u>250</u>	<u>250</u>	<u>250</u>	<u>250</u>	<u>250</u>	<u>250</u>		
Depth to Water (ft.)	<u>6.74</u>	<u>7.53</u>	<u>7.88</u>	<u>8.10</u>	<u>8.31</u>	<u>8.49</u>	<u>8.62</u>		
pH	<u>7.24</u>	<u>7.23</u>	<u>7.23</u>	<u>7.23</u>	<u>7.21</u>	<u>7.20</u>	<u>7.19</u>		
Temp. (C)	<u>16.78</u>	<u>16.84</u>	<u>16.93</u>	<u>16.94</u>	<u>16.88</u>	<u>16.83</u>	<u>16.85</u>		
Conductivity (mS/cm)	<u>2.10</u>	<u>2.06</u>	<u>2.05</u>	<u>2.03</u>	<u>1.98</u>	<u>1.94</u>	<u>1.91</u>		
Dissolved Oxygen (mg/L)	<u>2.13</u>	<u>2.83</u>	<u>2.56</u>	<u>2.59</u>	<u>2.63</u>	<u>2.75</u>	<u>2.83</u>		
ORP (mV)	<u>-143</u>	<u>-154</u>	<u>-163</u>	<u>-166</u>	<u>-168</u>	<u>-169</u>	<u>-169</u>		
Turbidity (NTU)	<u>70.6</u>	<u>50.4</u>	<u>67.3</u>	<u>61.1</u>	<u>57.8</u>	<u>55.8</u>	<u>53.1</u>		
Notes:									

Sampling Information

Analyses	#	n	Laboratory
<u>VOCs</u>	<u>3</u>		<u>TA</u>
<u>TOCs</u>	<u>2</u>		<u>TA</u>
Color: <u>Abn Black / Brown</u>			
Odor: <u>Odor Present - Molasses?</u>			
Appearance: <u>Slightly Cloudy</u>			
Sample ID: <u>MW-17-110619</u>			Sample Time: <u>1125</u>
MS/MSD: Yes ☐ No ☒			
Duplicate: Yes ☐ No ☒			
Duplicate ID: _____			Dup. Time: _____
Chain of Custody Signed By: <u>ES</u>			

Problems / Observations

Collection: Slightly Brown, odor present, slightly cloudy

* VOCs collected w/ Bailer

Initial

Site Ashland Pen

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: ESWell ID: MW-18

Client / Job Number:

Date: 11/7/19Weather: Cloudy 46°FTime In: 0830Time Out: 0915

Well Information

Depth to Water:	(feet)	<u>5.07</u>	(from MP)
Total Depth:	(feet)	<u>17.95</u>	(from MP)
Length of Water Column:	(feet)	<u>12.88</u>	
Volume of Water in Well:	(gal)	<u>2.09</u>	
Intake depth for tubing:	(feet)	<u>~13'</u>	

Well Type:	Flushmount	☐	Stick-Up	☒
Well Material:	Stainless Steel	☐	PVC	☒
Well Locked:	Yes	☒	No	☐
Measuring Point Marked:	Yes	☒	No	☐
Well Diameter:	1"	☒	Other:	

Purging Information

Purging Method:	Bailer	☐	Peristaltic	☒	Monsoon	☐	Other:	
Tubing/Bailer Material:	Steel	☐	Polyethylene	☒	Teflon	☐	Other:	
Sampling Method:	Bailer	☐	Peristaltic	☒	Monsoon	☐	Other:	

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				

Pump Start Time: 0830Pump Stop Time: 0915Water-Quality Meter Type: Hanna U53

Unit Stability			
pH	DO / Turb	Cond. / Temp	ORP
✓ 0.1	✓ 10%	✓ 3.0%	✓ 10 mV

Total Volume Removed: (gal) ~1.50Did well go dry: Yes ☐ No ☒

Parameter:	1	2	3	4	5	6	7	8	9
Time	<u>0835</u>	<u>0840</u>	<u>0845</u>	<u>0850</u>	<u>0855</u>	<u>0900</u>	<u>0905</u>		
Volume Purged (Gal)	<u>0</u>	<u>0.25</u>	<u>0.50</u>	<u>0.75</u>	<u>1.00</u>	<u>1.25</u>	<u>1.50</u>		
Rate (mL/min)	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>		
Depth to Water (ft.)	<u>6.40</u>	<u>7.04</u>	<u>7.69</u>				<u>8.34</u>		
pH	<u>6.77</u>	<u>6.82</u>	<u>6.82</u>	<u>6.84</u>	<u>6.88</u>	<u>6.88</u>	<u>6.87</u>		
Temp. (C)	<u>10.63</u>	<u>10.89</u>	<u>11.01</u>	<u>11.13</u>	<u>11.15</u>	<u>11.03</u>	<u>11.08</u>		
Conductivity (mS/cm)	<u>1.36</u>	<u>1.34</u>	<u>1.27</u>	<u>1.25</u>	<u>1.26</u>	<u>1.26</u>	<u>1.27</u>		
Dissolved Oxygen (mg/L)	<u>3.01</u>	<u>0.91</u>	<u>0.74</u>	<u>0.61</u>	<u>1.15</u>	<u>1.08</u>	<u>1.10</u>		
ORP (mV)	<u>3</u>	<u>-21</u>	<u>-26</u>	<u>-29</u>	<u>-34</u>	<u>-36</u>	<u>-39</u>		
Turbidity (NTU)	<u>2.72</u>	<u>2.43</u>	<u>5.14</u>	<u>14.1</u>	<u>6.69</u>	<u>7.56</u>	<u>8.45</u>		
Notes:									

Sampling Information

Analyses	#	n	Laboratory
<u>VOCs</u>	<u>3</u>		<u>TA</u>
<u>TOL</u>	<u>2</u>		<u>↓</u>
<u>RK</u>	<u>2</u>		<u>↓</u>
Color:	<u>None</u>		
Odor:	<u>None</u>		
Appearance:	<u>Clear</u>		
Sample ID:	<u>MW-18-110719</u>		
Sample Time:	<u>0910</u>		
MS/MSD:	Yes ☐	No ☒	
Duplicate:	Yes ☐	No ☒	
Duplicate ID			
Dup. Time:			
Chain of Custody Signed By:	<u>ES</u>		

Problems / Observations

@ Sample Collection: Clear, No Odor, No Color

* VOCs Collected w/ Bailer

* Carbon Trap Collected 11/7/19 @ 0830 (OZARK)

Ashland Rensselaer, NY

GWS

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: Kim Shilsm

Well ID: MW-19

Client / Job Number: Ashland 30018076

Date: 11/6/19

Weather: 45°F Sunny

Time In: 1430

Time Out: 1630

Well Information

Depth to Water: (feet) 3.02 (from MP)
 Total Depth: (feet) 17.44 (from MP)
 Length of Water Column: (feet) 14.42
 Volume of Water in Well: (gal) 2.35
 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" Other: 4"

Purging Information

Purging Method: Bailor ☐ Peristaltic ☒ Monsoon ☐ Other:
 Tubing/Bailor Material: Steel ☐ Polyethylene ☒ Teflon ☐ Other:
 Sampling Method: (WCL) Bailor ☒ Peristaltic ☒ Monsoon ☐ Other:

Pump Start Time: 245 (1445)

Pump Stop Time: 1415

Water-Quality Meter Type: Horiba

Total Volume Removed: (gal) 1.82 = sample volume 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	1450	1455	1500	1505	1510	1515	1520		
Volume Purged (Gal)	0.26	0.52	0.78	1.04	1.30	1.56	1.82		
Rate (mL/min)	200	200	200	200	200	200	200		
Depth to Water (ft.)	3.14	3.25	3.30	3.34	3.39	3.41	3.42		
pH	7.12	7.11	7.09	7.08	7.07	7.07	7.01		
Temp. (C)	13.29	13.21	13.13	13.29	13.29	13.30	13.31		
Conductivity (mS/cm)	1.37	1.36	1.36	1.36	1.36	1.36	1.37		
Dissolved Oxygen (mg/L)	4.04	1.84	0.70	0.33	0.20	0.20	0.20		
ORP (mV)	-81	-86	-91	-94	-95	-96	-96		
Turbidity (NTU)	0.57	1.15	1.34	0.98	1.00	0.99	0.98		
Notes:									

Sampling Information

Analyses	#	n	Laboratory
VOC, TOC, RSK	8		TestAmerica
Fe/Mn Dss/Fe/Mn	2		L
Nitrate, Nitrite, Sulfate	1		
Color: clear			
Odor: none			
Appearance: clear			
Sample ID: MW-19-110619	Sample Time: 1525		
MS/MSD: Yes ☒ No ☐	MS-1-110619/MSD 1-110619		
Duplicate: Yes ☒ No ☐	DUP-1-110619		
Duplicate ID: DUP-1-110619	Dup. Time: _____		
Chain of Custody Signed By: ES			

Problems / Observations

Initial: clear, no odor, no color

* O2ock FL/Rhodamine collected also
 * DUP/MS/MSD collected here
 * Only for VOCs, TOCs, RSK
 VOCs collected by bailer

Sampling Personnel: ES

Well ID: MU-20

Client / Job Number:

Date: 11/6/19

Weather: Sunny 48°F

Time In: 1140

Time Out: 1225

Well Information

Depth to Water: (feet) 1.84 (from MP)

Total Depth: (feet) 11.98 (from MP)

Length of Water Column: (feet) 10.14

Volume of Water in Well: (gal) 1.65

Intake depth for tubing: (feet) ~9'

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 ☐ Peristaltic ☒ Monsoon ☐ Other:

Pump Start Time: 1140

Pump Stop Time: 1225

Water-Quality Meter Type: Horiba V53

Total Volume Removed: (gal) ~1.80

Did well go dry: Yes ☐ No ☒

Conversion Factors				
gal / ft. of water	1" ID	<u>2" ID</u>	3" ID	6" ID
	0.041	0.163	0.653	1.489
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	<u>11.45</u>	<u>1150</u>	<u>1155</u>	<u>1200</u>	<u>1205</u>	<u>1210</u>	<u>1215</u>		
Volume Purged (Gal)	<u>0</u>	<u>0.3</u>	<u>0.6</u>	<u>0.9</u>	<u>1.2</u>	<u>1.5</u>	<u>1.8</u>		
Rate (mL/min)	<u>250</u>	<u>250</u>	<u>250</u>	<u>250</u>	<u>250</u>	<u>250</u>	<u>250</u>		
Depth to Water (ft.)	<u>1.91</u>	<u>1.91</u>	<u>1.91</u>	<u>1.91</u>	<u>1.91</u>	<u>1.91</u>	<u>1.91</u>		
pH	<u>7.03</u>	<u>7.01</u>	<u>7.00</u>	<u>7.00</u>	<u>7.01</u>	<u>7.01</u>	<u>7.01</u>		
Temp. (C)	<u>12.89</u>	<u>12.62</u>	<u>12.45</u>	<u>12.68</u>	<u>12.59</u>	<u>12.55</u>	<u>12.53</u>		
Conductivity (mS/cm)	<u>0.979</u>	<u>0.978</u>	<u>0.976</u>	<u>0.967</u>	<u>0.977</u>	<u>0.980</u>	<u>0.983</u>		
Dissolved Oxygen (mg/L)	<u>2.98</u>	<u>1.25</u>	<u>0.88</u>	<u>0.76</u>	<u>0.87</u>	<u>0.84</u>	<u>0.80</u>		
ORP (mV)	<u>-9</u>	<u>-13</u>	<u>-15</u>	<u>-19</u>	<u>-23</u>	<u>-25</u>	<u>-29</u>		
Turbidity (NTU)	<u>14.7</u>	<u>12.1</u>	<u>11.8</u>	<u>13.1</u>	<u>15.1</u>	<u>15.9</u>	<u>14.8</u>		
Notes:									

Sampling Information

Analyses	#	n	Laboratory
<u>VOCs, TOCs, RSK</u>	<u>8</u>		<u>TA</u>
<u>Fe/Mn Diss/KMn</u>	<u>2</u>		<u>↓</u>
<u>Nitrate, Nitrite, Sulfate</u>	<u>1</u>		
Color:	<u>None</u>		
Odor:	<u>None</u>		
Appearance:	<u>clear</u>		
Sample ID: <u>MU-20-110619</u>	Sample Time: <u>1220</u>		
MS/MSD: Yes ☐ No ☒			
Duplicate: Yes ☐ No ☒			
Duplicate ID: _____	Dup. Time: _____		
Chain of Custody Signed By: <u>ES</u>			

Problems / Observations

Ⓐ collection: No Color, No odor, clear

* VOCs Sampled w/ Bailer

Ashland Rensselaer, NY

GWS

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: K. Wilson

Well ID: MW-21

Client / Job Number: Ashland 30018076

Date: 11/12/19

Weather: 40°F cloudy

Time In: 10:05

Time Out: 11:05

Well Information

Depth to Water: (feet) 9.92 (from MP)
 Total Depth: (feet) 14.99 (from MP)
 Length of Water Column: (feet) 5.07
 Volume of Water in Well: (gal) 0.83
 Intake depth for tubing: (feet) ~12 ft

Well Type: Flushmount ☐ Stick-Up ☒
 Well Material: Stainless Steel ☐ PVC ☒
 Well Locked: Yes ☒ No ☐
 Measuring Point Marked: Yes ☒ No ☐
 Well Diameter: 1" ☒ Other: 2"

Purging Information

Purging Method: Bailer ☐ Peristaltic ☒ Monsoon ☐ Other:
 Tubing/Bailer Material: Steel ☐ Polyethylene ☒ Teflon ☐ Other:
 Sampling Method: (VOC) Bailer ☒ Peristaltic ☒ Monsoon ☐ Other:

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				

Pump Start Time: 10:15
 Pump Stop Time: 10:25/11:00
 Water-Quality Meter Type: Horiba
 Total Volume Removed: (gal) ~1.0 gal
 Did well go dry: Yes ☐ No ☒

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	10:20	10:25	10:30	10:35	10:40	10:45			
Volume Purged (Gal)	0.13	0.26	0.39	0.52	0.65	0.78			
Rate (mL/min)	100	100	100	100	100	100			
Depth to Water (ft.)	10.03	10.18	10.24	10.36	10.43	10.49			
pH	6.83	6.77	6.76	6.75	6.75	6.74			
Temp. (C)	12.17	12.39	12.52	12.52	12.51	12.51			
Conductivity (mS/cm)	2.15	2.15	2.16	2.17	2.17	2.17			
Dissolved Oxygen (mg/L)	7.03	2.89	2.35	1.71	1.70	1.68			
ORP (mV)	42	45	44	35	34	34			
Turbidity (NTU)	12.6	11.4	10.4	8.56	8.50	8.48			
Notes:									

Sampling Information

Analyses	#	n	Laboratory
VOC	3		TestAmerica
TDC	2		
Color:	clear / none		
Odor:	none		
Appearance:	clear		
Sample ID:	MW-21-11071		
Sample Time:	10:40		
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
 Voc sampled w/ bailer

Carbon trap collected @ 10:10

Ashland Rensselaer, NY

GWS

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: King, H

Well ID: MW-23

Client / Job Number: Ashland 30018076

Date: 11/6/19

Weather: 46°F Sunny

Time In: 1150

Time Out: 1255

Well Information

Depth to Water:	(feet) 7.49	(from MP)
Total Depth:	(feet) 30.59	(from MP)
Length of Water Column:	(feet) 23.1	
Volume of Water in Well:	(gal) 15.0	
Intake depth for tubing:	(feet) ~29	

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:	1150			
Pump Stop Time:	1250			
Water-Quality Meter Type:	Horiba			
Total Volume Removed:	(gal) 1.82			
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	1155	1200	1205	1210	1215	1220	1225	1230	1235
Volume Purged (Gal)	0.26	0.52	0.78	1.04	1.30	1.56	1.82		
Rate (mL/min)	200	200	200	200	200	200	200		
Depth to Water (ft.)	7.87	7.98	8.12	8.34	8.52	8.58	8.65		
pH	6.88	6.85	6.84	6.85	6.82	6.82	6.82		
Temp. (C)	17.21	14.85	14.90	14.97	14.64	14.63	14.69		
Conductivity (mS/cm)	1.31	1.38	1.38	1.38	1.37	1.37	1.37		
Dissolved Oxygen (mg/L)	0.56	0.20	0.10	0.07	0.07	0.00	0.00		
ORP (mV)	-66	-70	-72	-73	-55	-63	-64		
Turbidity (NTU)	88.0	85.0	83.5	80.0	79.3	79.0	79.0		
Notes:									

Sampling Information

Problems / Observations

Analyses	#	n	Laboratory
VOC	3		TRA America
TOC, RSK	3		
Nitrate, Nitrite, Sulfate	3		Fe/Mn Diss Fe Mn Tot 12
Color: light red tint			
Odor: odor present			
Appearance: cloudy some black ss			
Sample ID: MW-23-110619			Sample Time: 1230
MS/MSD: Yes ☐		No ☒	
Duplicate: Yes ☐		No ☒	
Duplicate ID: —		Dup. Time: —	
Chain of Custody Signed By: ES			

Initial slight tint, slight odor molasses ss / black

* O2 ~ 5 FL/Rhodamine collected also

VOC sampled w/ Bailer

Ashland Rensselaer, NY

GWS

Site

Event

GROUNDWATER SAMPLING LOG

Sampling Personnel:

Kim Stilsen

Well ID: MW-24

Client / Job Number:

Ashland 30018076

Date: 11/6/2019

Weather:

Partly cloudy 45°F

Time In: 0850

Time Out: 1005

Well Information

Depth to Water: (feet) 6.34 (from MP)
 Total Depth: (feet) 26.32 (from MP)
 Length of Water Column: (feet) 19.98
 Volume of Water in Well: (gal) 13.04
 Intake depth for tubing: (feet) ~23

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: (VOC) Bailer ☒ Peristaltic ☒ Monsoon ☐ Other:

Pump Start Time:

0900

Pump Stop Time:

0915/1005

Water-Quality Meter Type:

Horiba

Total Volume Removed:

(gal) 2.34

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	0905	0910	0915	0920	0925	0930	0935	0940	0945
Volume Purged (Gal)	0.26	0.52	0.78	1.04	1.30	1.56	1.80	2.08	2.34
Rate (mL/min)	200	200	200	200	200	200	200	200	200
Depth to Water (ft.)	6.81	7.10	7.33	7.59	7.82	7.96	7.97	7.98	8.00
pH	6.70	6.79	6.80	6.82	6.83	6.83	6.84	6.84	6.85
Temp. (C)	13.54	14.78	14.82	15.13	14.79	14.83	15.01	15.03	15.01
Conductivity (mS/cm)	2.24	2.19	2.17	2.16	2.16	2.16	2.14	2.14	2.14
Dissolved Oxygen (mg/L)	2.59	1.04	1.13	0.88	0.63	0.57	0.56	0.55	0.54
ORP (mV)	-88	-107	-114	-119	-121	-123	-129	-129	-130
Turbidity (NTU)	13.0	13.1	15.7	15.5	15.6	15.6	14.9	14.9	14.7
Notes:									

Sampling Information

Analyses	#	n	Laboratory
VOCTOL, RSK	8		TestAmerica
Film Diss Film	2		
Nitrate, Nitrite, Sulfate	1		
Color: Red/Brown sediment particles			
Odor: molasses odor			
Appearance: cloudy			
Sample ID: MW-24-11061			Sample Time: 0950
MS/MSD: Yes ☐ No ☒			
Duplicate: Yes ☐ No ☒			
Duplicate ID: _____			Dup. Time: _____
Chain of Custody Signed By: ES			

Problems / Observations

Initial: Red/Brown tint, molasses odor
slight cloudy

Final Red/Brown tint, floating sediment
molasses odor, slight cloudy

VOC sampled w/ bailer
* Ozark fl Rhodamine collected also

Sampling Personnel: ES Well ID: MW-25

Client / Job Number: _____ Date: 11/6/19

Weather: Sunny 35°F Time In: 0950 Time Out: 1035

Well Information

Depth to Water: (feet) 2.01 (from MP)

Total Depth: (feet) 20.84 (from MP)

Length of Water Column: (feet) 18.83

Volume of Water in Well: (gal) 3.06

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: Bailor ☐ Peristaltic ☒ Monsoon ☐ Other: _____

Tubing/Bailor Material: Steel ☐ Polyethylene ☒ Teflon ☐ Other: _____

Sampling Method: Bailor ☐ Peristaltic ☒ Monsoon ☐ Other: _____

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

Pump Start Time: 0950

Pump Stop Time: 1035 Water-Quality Meter Type: Horiba U53

Total Volume Removed: (gal) ~1,80 Did well go dry: Yes ☐ No ☒

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	<u>0955</u>	<u>1000</u>	<u>1005</u>	<u>1010</u>	<u>1015</u>	<u>1020</u>	<u>1025</u>		
Volume Purged (Gal)	<u>0</u>	<u>0.30</u>	<u>0.60</u>	<u>0.90</u>	<u>1.20</u>	<u>1.50</u>	<u>1.80</u>		
Rate (mL/min)	<u>250</u>	<u>250</u>	<u>250</u>	<u>250</u>	<u>250</u>	<u>250</u>	<u>250</u>		
Depth to Water (ft.)	<u>2.11</u>	<u>2.29</u>	<u>2.34</u>	<u>2.35</u>	<u>2.37</u>	<u>2.40</u>	<u>2.42</u>		
pH	<u>6.72</u>	<u>6.74</u>	<u>6.75</u>	<u>6.75</u>	<u>6.76</u>	<u>6.76</u>	<u>6.76</u>		
Temp. (C)	<u>15.83</u>	<u>16.04</u>	<u>16.10</u>	<u>16.12</u>	<u>16.19</u>	<u>16.24</u>	<u>16.31</u>		
Conductivity (mS/cm)	<u>1.96</u>	<u>1.97</u>	<u>1.97</u>	<u>1.97</u>	<u>1.97</u>	<u>1.97</u>	<u>1.97</u>		
Dissolved Oxygen (mg/L)	<u>1.39</u>	<u>0.92</u>	<u>0.76</u>	<u>0.73</u>	<u>0.72</u>	<u>0.72</u>	<u>0.71</u>		
ORP (mV)	<u>-52</u>	<u>-60</u>	<u>-65</u>	<u>-68</u>	<u>-68</u>	<u>-70</u>	<u>-70</u>		
Turbidity (NTU)	<u>53.6</u>	<u>35.8</u>	<u>15.4</u>	<u>10.4</u>	<u>9.79</u>	<u>9.43</u>	<u>8.78</u>		
Notes:									

Sampling Information

Analyses	#	n	Laboratory
VOCs			Test America
RSK			
Nitrite/Nitrate, Fe/Mn Diss, Fe/Mn, Sulfate			
Color:	None		
Odor:	Molasses odor		
Appearance:	Clear		
Sample ID:	MW-25-110619	Sample Time:	1030
MS/MSD:	Yes ☐	No ☒	
Duplicate:	Yes ☐	No ☒	
Duplicate ID		Dup. Time:	
Chain of Custody Signed By:			

Problems / Observations

@ Collection: No Color, Molasses Odor, Clear

* VOCs Collected w/ Bailor

* Ozark ~~Water~~ collected here @ 1030 (FL/Rhodamine)

* 11/7/19 ES purges 2 gal w/ Bailer
↳ collects TOX sample @ 1125

APPENDIX C

2019 Annual Site Inspection and Photo Log



Site-wide Inspection Form
Ashland Rensselaer Site
Rensselaer, New York

Semiannual Inspection Checklist/Weather Event Inspection

Month November
Year 2019

1. Check integrity of the asphalt surfaces and building footers – document any changes with photos and comments below.
Add specific comments/date/initials:

- Some cracks observed in asphalt @ South End	11/7/19	ES
- Asphalt near culvert cavity in → filled in 11/7/19 @ 1205	11/7/19	ES

2. Check condition of perimeter fence – document any changes with photos and comments below.
Comments/date/initials:

- Construction Company reinstalled single door fence.	11/7/19	ES
- SW corner and along West fence → some gaps along bottom	11/7/19	ES

3. Check current site usage (if changed) – document any changes with photos and comments below.
Comments/date/initials:

- Previously constructed access road by construction company still present	11/7/19	ES
- Construction Company using South End for access and equipment storage (temporarily)	11/7/19	ES

4. Check monitoring well conditions on and offsite – document any changes with photos and comments below.
Comments/date/initials:

* PZ-3 bent over → possibly hit	11/7/19	ES
* MW-12D has dent in Pto-Casing	11/7/19	ES
* IW-A09 → near by curb cut to allow prevent water from pooling	11/7/19	ES

- 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 up to date	11/7/19	ES
↳ expires (9/19/2020)		

Project: Former Ashland Facility - Rensselaer

Location: Rensselaer, NY

Project No.
30039411



Onsite looking southwest towards Columbia Turnpike Overpass. Very minor cracks and vegetation observed at the southern end of the former foundation.



Collapsed asphalt near culvert (and well MW-B2) continues to be maintained with Type 2 crusher run gravel.

Project: Former Ashland Facility - Rensselaer

Location: Rensselaer, NY

Project No.
30039411



Photo taken looking south under the eastern portion of the Columbia Turnpike Overpass. Due to construction on the overpass this vegetated area was flattened out and vegetation was removed. The perimeter fence and gate in this area are in good condition.



Photo looking north along the eastern boundary of railroad tracks. The uneven area running north-south parallel with the railroad track was smoothed out by D.A Collins and their construction equipment. The perimeter fence in this area are in good condition.

Project: Former Ashland Facility - Rensselaer

Location: Rensselaer, NY

Project No.
30039411



Photo taken offsite looking north along South Street. Pictured are both gates along South Street. Improvements onsite include brush removal and fence improvements.



Photo taken onsite looking north along South Street. Improvements onsite include brush removal and fence improvements.

Project: Former Ashland Facility - Rensselaer

Location: Rensselaer, NY

Project No.
30039411



Photo looking north onsite adjacent to the southern gate. Vegetation removal of the southern portion of the site. Very minor cracks in the asphalt were observed.



Following construction activities, it was observed that the outer casing of PZ-3 was slightly bent. This well is not part of the semiannual sampling.

Project: Former Ashland Facility - Rensselaer**Location: Rensselaer, NY****Project No.**
30039411

Photo of onsite well IW-A09 looking west to Columbia Turnpike Overpass. Gravel was pushed back to expose IW-A09 and a stormwater drain. The curb pictured adjacent to the stormwater drain was cut in order to allow storm water to drain to prevent water from pooling in the area.

APPENDIX D

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, 2019 to December 31, 2019

- | | 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.



Signature of Owner, Remedial Party or Designated Representative

Ian McCary
Remediation Project Manager-Ashland LLC

3/25/2020
Date

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.

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 complete.

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.

Ian McCary

Remediation Project Manager - Ashland LLC

3/25/2020

Signature of Owner, Remedial Party or Designated Representative

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 Ian McCary at 500 Hercules Road, Bldg 8145, Wilmington, DE 19808,
print name print business address

am certifying as Owner (Owner or Remedial Party)

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



Ian McCary

Remediation Project Manager - Ashland LLC

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

3/25/2020
Date

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