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New York State Office of People with Developmental Disabilities

2018 PERIODIC REVIEW REPORT

FORMER GOWANDA DAY HABILITATION CENTER - SITE NO: V00463

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1.0 BACKGROUND

NYSDEC Site Number V00463, the former Gowanda Day Habilitation Center facility, is located at 4 Industrial Place, Gowanda, New York. The New York State Office of People with Developmental Disabilities (OPWDD), as the volunteer, has entered into a Voluntary Cleanup Agreement (VCA) with the New York State Department of Environmental Conservation (NYSDEC) to conduct investigations and implement remedial measures in accordance with VCA Site No. V-00463, effective August 16, 2001.

The Gowanda Day Habilitation site (the Site) consists of a 5.94-acre parcel located at 4 Industrial Place. The building, previously used by several manufacturing operations, was built in stages between 1948 and 1987 and was renovated in 1987 and 1988. New York State agencies have occupied the building since 1982 and New York State acquired the parcel in 1989. The building was most recently operated by the OPWDD, which at that time was known as the Western New York Developmental Disabilities Services Office, as a Day Habilitation Center for mental care clients. In April 2001 on-site operations ceased. Bergmann investigated the nature and extent of contamination resulting from historical underground chemical storage at the Gowanda Day Habilitation Center in 2003 Site Investigation and 2004 Supplemental Site Investigation reports. Trichloroethene (TCE) was the most commonly detected compound. TCE degradation products cis-1,2, Dichloromethane, (Cis-DCE) trans-1,2-Dichloroethene (Trans-DCE) and Vinyl Chloride (VC) were also detected.

Following Interim Remedial Measure (IRM) system installation, activation of the Groundwater Treatment System (GTS) and Soil Vapor Extraction (SVE) System occurred on May 10, 2005. An additional groundwater recovery well, designated G-3, was installed outside the building and adjacent to monitoring well MW-17 in November 2008. The GTS consists of seven (7) groundwater recovery wells (four dual-phase recovery wells and three groundwater-only recovery wells), an air compressor, a network of controller-less pneumatic pumps and an air stripper treatment system to treat recovered groundwater. The SVE System consists of a lobe blower and piping network which extract vapors and pass them through two 10,000 lb carbon filters. Once filtered, the vapors are discharged to the outdoor air. The attached Figure 1 depicts the site layout with regard to monitoring and recovery wells.

Recovered groundwater was formerly pumped to an equalization tank for settling of sediment. The groundwater was discharged to the Village of Gowanda Sewage Treatment Plant (STP) via the sanitary sewer in accordance with a Gowanda Sewer Use Permit. A Volatile Organic Compound (VOC) Groundwater Treatment Agreement between OPWDD and the Village was active until the shutdown of the system, discussed below in Section 2.2. As the system is currently shut down, water was not discharged to the sewer for the 2018 calendar year. If the system is re-activated, a new agreement will be executed between OPWDD and the Village.

In January 2008, OPWDD decommissioned the building. Bergmann winterized the GTS with the addition of heat tape and insulation to conveyance lines and the installation of an independently operated unit heater in the treatment area for the GTS and SVE (former Machine Shop). The building remains unoccupied and in a state of disrepair for the 2018 year. Numerous roof leaks and damage relative to two (2) flooding events in 2009 and 2014 have introduced excessive mold to interior spaces. The roof leaks and mold do not appear to be impacting the remedial system at this time. OPWDD and/or their agents will perform periodic inspections of the building for potential structural deficiency issues and will perform limited building envelope repairs as necessary to address any significant site safety concerns.

2.0 GROUNDWATER SAMPLING OVERVIEW AND METHODS

2.1 WELL MAINTENANCE ACTIVITIES

During the 2018 sampling events, all wells except MW-19R and MW-21 were accessible and the integrity of the wells was not compromised. MW-19R and MW-21 are paved over as first noted by Bergmann in the August 2017 Quarterly Characteristic Report. Bergmann will contact the Town of Gowanda and schedule these wells to be recovered in the second half of the 2019 calendar year. Repairs or maintenance to the network of groundwater monitoring wells or recovery wells has not been required since June 2007, with the exception of redevelopment activities performed on August 19, 2015 to clear sediment from wells after an in-situ chemical oxidation (ISCO) injection. All stand pipes and flush-mount curb boxes were found to be intact and secure. Exterior monitoring wells are secured with locking stand pipes. The monitoring wells within the building are secured with flush-mount roadway covers.

Replacement to damaged flush-mount protective roadway boxes was completed on June 27, 2007. Well rehabilitation and silt removal was conducted June 25 – 26, 2007 and August 19, 2015.

2.2 GROUNDWATER TREATMENT SYSTEM AND SOIL VAPOR EXTRACTION SYSTEM MAINTENANCE

During an October 2013 site visit, a section of piping broke away from the SVE due to system pressure. The SVE system was shut down until a repair could be made. Bergmann assessed the GTS during a January 2014 site visit and determined that two of the seven well pumps were operational. The remaining pumps appeared to be damaged. Bergmann replaced the SVE pipe section and inspected the well pumps for damage. The pumps appeared to be in poor condition and were removed from the wells. DR-1, DR-2, DR-3, DR-4 were all pulled. DR-4 was coated in a black sludge-like material and had a hole in the casing. DR-2, DR-3 and G-2 were coated in orange-brown sediment and the hose and pump effluent lines were clogged with sediment. DR-1 was also coated in orange-brown sediment.

The condition of the SVE and GTS was discussed with the NYSDEC representative and it was agreed that these systems would be inactivated to allow for groundwater level recovery during the preparation of an ISCO remedial action plan (RAP) and implementation of an ISCO treatment. Bergmann performed an ISCO remediation in May 2015 and a second round of injections in September 2015. The groundwater treatment was performed to address remaining contamination at the Site in lieu of costly repair of the SVE and GTS. The SVE and GTS equipment will remain on site in the event that re-activation is required in the future. No maintenance was conducted during the 2018 calendar year on the GTS or SVE systems.

2.3 GROUNDWATER FIELD MONITORING AND SAMPLING ACTIVITIES

Groundwater measurements and sampling activities were conducted in accordance with the October 2006 OM&M Manual. The depths to groundwater for monitoring wells are determined on a quarterly basis to track site-wide changes in the water table elevation and to allow for adjustment at recovery wells. Operation of the recovery wells was intended to establish hydraulic containment of the plume of impacted groundwater beneath the former Day Habilitation building and improve recovery and treatment of impacted groundwater. Although the system was shut down for the 2016 year and the pumps were pulled from recovery wells, hydraulic containment of the plume was achieved.

Groundwater samples were collected from the 19 of 21 site-related groundwater monitoring wells during the 2018 sampling events. Depth to groundwater measurements were obtained from 19 of the 21 monitoring wells

for the 2018 sampling events. Results are indicators of the performance of the treatment system and the continued contamination of the plume.

Groundwater samples were collected from monitoring wells after each well was gauged and purged of standing water via hand bailing. Sample parameters including turbidity, temperature, pH, oxygen, and specific conductivity were monitored using a Horiba U-53 to ensure sufficient well purging prior to sampling. Dedicated bailers were used to collect groundwater samples from recovery wells after the ISCO remediation occurred in May 2015. During past sampling events, groundwater samples were collected from the seven (7) recovery wells using dedicated bailers, as the GTS was actively pulling groundwater into the system, allowing for collection of groundwater samples similar to purging monitoring wells. As the system was shut down during the 2018 quarterly sampling events, the wells were purged and sampled using the same method as the monitoring well sampling where possible. One (1) duplicate sample and one (1) field blank sample were collected and submitted for laboratory analysis.

Groundwater samples were delivered via chain-of-custody protocol to a New York State Department of Health (NYSDOH) certified laboratory for testing using EPA Method 8260B for targeted chlorinated VOCs.

3.0 LOCAL GROUNDWATER FLOW CHARACTERIZATION

Delineation of the local water table surface and groundwater flow pattern was determined for 2018 using elevations measured from the 19 sampled, site-related monitoring wells. The current network of monitoring wells at the facility is shown on Figure 1. Groundwater characteristics were determined using depth to water measurements obtained on:

- April 10, 2018 (Q1 Sampling Event).
- May 30, 2018 (Q2 Sampling Event).
- August 22, 2018 (Q3 Sampling Event).
- November 13, 2018 (Q4 Sampling Event).

The well gauging values and groundwater elevations are provided in Table 1 of each Quarterly Report included in Appendix A – Quarterly Groundwater Characterization Reports.

The quarterly groundwater contour maps show a local flow pattern similar to the water table observed historically since 2002. The local groundwater was flowing in a northerly direction. Torrance Place is hydraulically down-gradient from the Day Habilitation Center building. The following is a summary of groundwater flow for each sampling event in the reporting period:

April 2018

The April 2018 depths to groundwater range from 4.90 ft below top of casing (btoc) at MW-3, to 12.90 ft btoc at MW-6 located at the northern property line. The average depth to groundwater at the wells measured was 9.18 ft btoc. The site-wide average depth to water table increased by approximately 0.2 ft when compared to the November 2017 sampling event (previous sampling event). This increase in the water table is inferred as seasonal.

May 2018

The May 2018 groundwater contour map shows a flow pattern similar to groundwater contours observed historically since 2002. Groundwater at the Site is flowing in a northerly direction. Torrance Place is hydraulically down-gradient from the Day Habilitation Center building. The May 2018 depths to groundwater range from 6.12 ft below top of casing (btoc) at MW-1, to 13.22 ft btoc at MW-17 located at the northern

property line. The average depth to groundwater at the wells measured was 9.49 ft btoc. The site-wide average depth to water table increased by approximately 0.31 ft when compared to the April 2018 sampling event. This increase in the water table is inferred as seasonal.

August 2018

The August 2018 groundwater contour map shows a flow pattern similar to groundwater contours observed historically since 2002. Groundwater at the Site is flowing in a northerly direction. Torrance Place is hydraulically down-gradient from the Day Habilitation Center building. The August 2018 depths to groundwater range from 6.00 ft below top of casing (btoc) at MW-2, to 13.45 ft btoc at MW-7. The average depth to groundwater at the wells measured was 9.84 ft btoc. The site-wide average depth to water table increased by approximately 0.35 ft when compared to the May 2018 sampling event. This increase in the water table is inferred as seasonal.

November 2018

The November 2018 groundwater contour map shows a flow pattern similar to groundwater contours observed historically since 2002. Groundwater at the Site is flowing in a northerly direction. Torrance Place is hydraulically down-gradient from the Day Habilitation Center building. The November 2018 depths to groundwater range from 4.90 ft below top of casing (btoc) at MW-2, to 13.00 ft btoc at MW-7. The average depth to groundwater at the wells measured was 8.83 ft btoc, which is a decrease from the average depth to water of the previous sampling event in August (9.84 ft.). The site-wide average depth to water table decreased by approximately 1.01 ft when compared to the August 2018 sampling event. This decrease in the water table is inferred as seasonal.

Groundwater Contour Maps indicating the depths to groundwater for each sampling event are presented as Figure 1 of each Groundwater Characterization Report for the report period. Copies of these reports are included in Appendix A.

4.0 LABORATORY ANALYSIS

4.1 LABORATORY ANALYSIS OF GROUNDWATER SAMPLES

Laboratory analysis was completed on groundwater samples from groundwater monitoring wells and recovery wells on site. Monitoring wells that were determined in 2008 by the NYSDEC and Bergmann personnel to be outside the area of impact by the GTS include MW-2, MW-3, MW-5, MW-8, MW-9, MW-10, MW-13, and MW-21. NYSDEC added MW-21 to the sampling plan for the 2015 sampling events. The remainder of these wells were not sampled. Sentry groundwater monitoring wells were established to monitor a separate occurrence of contaminated groundwater at the Gowanda Electronics site (NYSDEC Site 905025), immediately east of Industrial Place and east of the subject property. These wells include MW-19R, MW-20, and MW-4. Monitoring wells MW-19R and MW-20 have been inaccessible and paved over as first noted by Bergmann in the August 2017 Quarterly Characterization Report.

Samples were analyzed for volatile organic compounds (VOCs) via United States Environmental Protection Agency (US EPA) Method 8260B. Analysis was performed in accordance with the October 2006 OM&M Manual. The following chlorinated halogens (VOCs) were analyzed for:

- Trichloroethene (TCE)
- 1,1,1 Trichloroethane (TCA)
- Cis-1,2-Dichloroethene (Cis-DCE)
- Trans-1,2-Dichloroethene (Trans-DCE)
- Vinyl Chloride (VC)

For quality assurance/quality control (QA/QC) purposes, a duplicate groundwater sample was collected from monitoring well MW-1 or MW-8 during the 2018 quarterly sampling events, designated sample "MW-X." Results from samples MW-X were consistent with the sample collected from MW-1 or MW-8.

A trip blank was supplied by the laboratory for QA/QC and submitted for analysis with the groundwater samples. The trip blank sample was non-detect for chlorinated halogens VOCs. A field blank was also collected for QA/QC purposes to ensure proper cleaning of the sampling equipment. The field blank was non-detect for chlorinated halogens for each sampling event in 2018.

4.2 MONITORING WELL GROUNDWATER ANALYSIS SUMMARY

Analytical results for monitoring wells during each quarterly sampling event are summarized as follows:

April 2018

Concentrations in three (3) of the 18 monitoring well groundwater samples increased when compared to the November sampling event while concentrations in six (6) of the 18 monitoring well groundwater samples decreased. Concentrations in nine (9) groundwater samples from monitoring wells had no change. The current sampling analytical results indicate an average site-wide decrease in total VOCs of approximately 84.2% since activation of the GTS in May 2005.

May 2018

Concentrations in three (3) of the 19 monitoring well groundwater samples increased when compared to the April 2018 sampling event while concentrations in four (4) of the 19 monitoring well groundwater samples decreased. Concentrations in 12 groundwater samples from monitoring wells had no change. The current sampling analytical results indicate an average site-wide decrease in total VOCs of approximately 81.2% since activation of the GTS in May 2005.

August 2018

Concentrations in four (4) of the 19 monitoring well groundwater samples increased when compared to the May 2018 sampling event while concentrations in four (4) of the 19 monitoring well groundwater samples decreased. Concentrations in eleven (11) groundwater samples from monitoring wells had no change. The current sampling analytical results indicate an average site-wide decrease in total VOCs of approximately 78.0% since activation of the GTS in May 2005.

November 2018

Concentrations in five (5) of the 19 monitoring well groundwater samples increased when compared to the August 2018 sampling event while concentrations in three (3) of the 19 monitoring well groundwater samples decreased. Concentrations in eleven (11) groundwater samples from monitoring wells had no change. The current sampling analytical results indicate an average site-wide decrease in total VOCs of approximately 85.1% since activation of the GTS in May 2005.

Contaminant distribution maps indicating the results for each sampling event are presented as Figures 2 and 3 of each Quarterly Groundwater Characterization Report. Copies of these reports are included in Appendix A.

4.3 SENTRY WELL GROUNDWATER ANALYSIS SUMMARY

Analytical results for sentry wells during each sampling event in 2018 are summarized as follows:

April 2018

The eastern sentry wells sampled for this event were limited to MW-4 and MW-20. As previously stated in the August 2017 Report, the third eastern sentry well, MW-19R had been paved over. The August 2018 results indicate non-detect for both of these wells.

May 2018

The eastern sentry wells sampled for this event included MW-20, and MW-4. The November 2018 results indicate non-detect for these two wells.

August 2018

The eastern sentry wells sampled for this event included MW-20, and MW-4. The November 2018 results indicate non-detect for these two wells.

November 2018

The eastern sentry wells sampled for this event included MW-20, and MW-4. The November 2018 results indicate non-detect for these two wells.

The risk of migrating groundwater from the Gowanda Electronics site onto the Day Habilitation Center property was a concern that prompted the installation of sentry wells along Industrial Place. MW-19R has been impacted in the past from the Gowanda Electronics plume. The Gowanda Electronics plume of impacted groundwater does not appear to currently extend to the Day Habilitation Center property, based on consistent non-detect values at the eastern sentry wells. Conversely, impacted groundwater from the Day Habilitation Center subject property does not appear to extend off-site to the east to Industrial Place.

4.4 RECOVERY WELL GROUNDWATER ANALYSIS SUMMARY

Analytical results for recovery wells during each sampling event in 2018 are summarized as follows:

April 2018

The April 2018 analytical results indicate detection of five (5) chlorinated VOCs in recovery well samples: TCE, Cis-DCE, TRANS-DCE, VC, and TCA. Chlorinated VOCs were detected in samples from five (5) of the sampled recovery wells. Total VOCs at the 6 recovery wells for which past data is available have decreased overall since activation of the GTS in May 2002. The average reduction in VOCs for the sampling event is 54.6% relative to concentrations prior to GTS activation in 2002.

May 2018

The May 2018 analytical results indicate detection of three (3) chlorinated VOCs in recovery well samples: TCE, Cis-DCE, and TRANS-DCE. Chlorinated VOCs were detected in samples from all six (6) of the sampled recovery wells. Total VOCs at the 6 recovery wells for which past data is available have decreased overall since activation of the GTS in May 2002. The average reduction in VOCs for the current event is 37.2% relative to concentrations prior to GTS activation in 2002.

August 2018

The August 2018 analytical results indicate detection of three (3) chlorinated VOCs in recovery well samples: TCE, Cis-DCE, and TRANS-DCE. Chlorinated VOCs were detected in samples from all seven (7) of the sampled recovery wells. Total VOCs at the seven (7) recovery wells for which past data is available have decreased overall since activation of the GTS in May 2002. The average reduction in VOCs for the sampling event is 28.9% relative to concentrations prior to GTS activation in 2002.

November 2018

The November 2018 analytical results indicate detection of two (2) chlorinated VOCs in recovery well samples: TCE and Cis-DCE. Chlorinated VOCs were detected in samples from all seven (7) of the sampled recovery wells. Total VOCs at the seven (7) recovery wells for which past data is available have decreased overall since activation of the GTS in May 2002. The average reduction in VOCs for the sampling event is 47.2% relative to concentrations prior to GTS activation in 2002.

5.0 REMEDIATION SYSTEM EFFICIENCY

5.1 EXTENT OF IMPACTED GROUNDWATER

The area of highest impacted groundwater is consistent for all four (4) of the 2018 sampling events. The bulk of the contaminant mass appears to be concentrated beneath the building in the source area, in the vicinity of monitoring well MW-1 and MW-11, extending north to recovery wells DR-1 and DR-2.

The contaminant plume appears to have stabilized due to the previous operation of the GTS for over fifteen (15) years. While in operation, the GTS was successful in hydraulically containing most of the contaminant plume on the property and minimizing further migration. The GTS was not operating during the 2018 sampling events and overall sample results are similar to previous quarterly reports. It appears that residual VOCs in the plume have not migrated and are contained when compared to sample results with operation of the GTS during previous monitoring events.

The remedial program at the Site was modified by terminating the GTS and soil vapor extraction system, believed to have achieved the extent of its practical benefits in favor of ISCO treatment of the residual concentration of VOCs in Groundwater. The SVE and GTS equipment will remain on site in the event that re-activation is required in the future.

Analytical results for each sampling event in the reporting period are summarized as follows:

April 2018

Chlorinated VOCs were detected in groundwater from seven (7) of the eighteen (18) sampled monitoring wells. VOCs were not detected in groundwater from eleven (11) of the sampled monitoring wells. Groundwater samples from seven (7) monitoring wells had detectable chlorinated VOCs at concentrations above applicable Class GA Standards. The monitoring well with the highest total VOCs, MW-11 (1,160 ppb), is located in the area of historically greatest impacted groundwater. Concentrations in three (3) of the 18 monitoring well groundwater samples increased when compared to the November 2018 sampling event while concentrations in six (6) of the 18 monitoring well groundwater samples decreased. Concentrations in nine (9) groundwater samples from monitoring wells had no change. The April 2018 sampling analytical results indicate an average site-wide decrease in total VOCs of 84.2% since activation of the GTS in May 2005.

The area of highest impacted groundwater exists at the area centered between monitoring wells MW-1 and MW-11, which has historically indicated the highest levels of VOCs and is inferred as the source area of

impacted groundwater. In the area where the plume of impacted groundwater is inferred (monitoring wells MW-1, MW-6, MW-7, MW-11, MW-12, MW-14, MW-15, and MW-17) the current laboratory analysis shows a contaminant reduction in VOC concentrations by an average of 76.6% since groundwater monitoring of these wells began in 2002.

May 2018

Chlorinated VOCs were detected in groundwater from seven (7) of the 19 sampled monitoring wells. VOCs were not detected in groundwater from 12 of the sampled monitoring wells. Groundwater samples from seven (7) monitoring wells had detectable chlorinated VOCs at concentrations above applicable Class GA Standards. The monitoring well with the highest total VOCs, MW-1 (1,110 ppb), is located in the area of historically greatest impacted groundwater. Concentrations in three (3) of the 19 monitoring well groundwater samples increased when compared to the April 2018 sampling event while concentrations in four (4) of the 19 monitoring well groundwater samples decreased. Concentrations in 12 groundwater samples from monitoring wells had no change. The May 2018 sampling analytical results indicate an average site-wide decrease in total VOCs of approximately 81.2% since activation of the GTS in May 2005.

The area of highest impacted groundwater exists at the area centered between monitoring wells MW-1 and MW-11, which has historically indicated the highest levels of VOCs and is inferred as the source area of impacted groundwater. In the area where the plume of impacted groundwater is inferred (monitoring wells MW-1, MW-6, MW-7, MW-11, MW-12, MW-14, MW-15, and MW-17) the current laboratory analysis shows a contaminant reduction in VOC concentrations by an average of 65.3% since groundwater monitoring of these wells began in 2002.

August 2018

Chlorinated VOCs were detected in groundwater from eight (8) of the 19 sampled monitoring wells. VOCs were not detected in groundwater from eleven (11) of the sampled monitoring wells. Groundwater samples from eight (8) monitoring wells had detectable chlorinated VOCs at concentrations above applicable Class GA Standards. The monitoring well with the highest total VOCs, MW-1 (1,190 ppb), is located in the area of historically greatest impacted groundwater. Concentrations in four (4) of the 19 monitoring well groundwater samples increased when compared to the May 2018 sampling event while concentrations in four (4) of the 19 monitoring well groundwater samples decreased. Concentrations in eleven (11) groundwater samples from monitoring wells had no change. The August 2018 sampling analytical results indicate an average site-wide decrease in total VOCs of 78.0% since activation of the GTS in May 2005.

November 2018

Chlorinated VOCs were detected in groundwater from seven (7) of the 19 sampled monitoring wells. Analytical. VOCs were not detected in groundwater from 12 of the sampled monitoring wells. Groundwater samples from seven (7) monitoring wells had detectable chlorinated VOCs at concentrations above applicable Class GA Standards. The monitoring well with the highest total VOCs, MW-1 (1,080 ppb), is located in the area of historically greatest impacted groundwater. Concentrations in five (5) of the 19 monitoring well groundwater samples increased when compared to the August 2018 sampling event while concentrations in three (3) of the 19 monitoring well groundwater samples decreased. Concentrations in eleven (11) groundwater samples from monitoring wells had no change. The November 2018 sampling analytical results indicate an average site-wide decrease in total VOCs of 85.1% since activation of the GTS in May 2005.

5.2 GROUNDWATER ANALYTICAL RESULTS

During the reporting period, four (4) quarterly sampling events were conducted. Copies of these reports are included in Appendix A. Results for each sampling event are used to evaluate and document contamination reduction. Chart 1 shows contamination reduction since activation of the GTS and SVE Systems.

Contamination levels generally trend towards a reduction as time progresses with some fluctuations that result in slight increases and decreases in contamination levels between sample events due to rising and falling groundwater elevations and the shutdown of the GTS.

Groundwater Contour maps were also prepared for each sampling event, which allowed Bergmann to monitor the change in groundwater flow across the site. Groundwater Contour maps are included in each of the quarterly the Groundwater Characterization Reports in Appendix A.

Overall contaminant reduction is monitored at each individual sampling point and in three specific "groups" of points: site-wide, original plume area only, and recovery wells. These three (3) groups allow Bergmann to more thoroughly monitor the system's effectiveness and adjust network operation. Table 1 of this report shows the breakdown of those three (3) groups by quarter since activation of the GTS and SVE Systems.

Overall contaminant reduction at the recovery wells decreased to 47.2% (November 2018) from 60% in November 2017. Reduction at the recovery wells remained consistently between the 90-95% range since 2010 until the shutdown of the system. The GTS was turned off for the 2018 quarterly sampling events. Contaminant concentration rebound during these years may be associated with the system shutdown and associated groundwater level recovery, as well as residual contamination released in the capillary fringe to the dissolve phase in groundwater at the Site.

Overall contaminant reduction at the monitoring wells increased to 85.1% (November 2018) from 67.6% in November 2017. Reduction at the monitoring wells remained consistently between the 70% - 85% since 2010 until the shutdown of the system. The GTS was turned off for the 2018 quarterly sampling events. Contaminant concentration rebound during the year may be associated with the system shutdown and associated groundwater level recovery, as well as residual contamination released in the capillary fringe to the dissolve phase in groundwater at the Site.

The remediation system at the Gowanda Day Habilitation Center previously controlled and removed contaminants from the groundwater plume area. Contaminant levels decreased by 74.6% from May 2005 to November 2018. The ISCO groundwater treatment completed in September 2015 may have released residual contamination in the capillary fringe to the dissolve phase in groundwater at the Site. Next steps to eliminate remaining contamination at the Site have be discussed with NYSDEC. Bergmann has submitted a proposal for an additional subsurface investigation at the Site. Bergmann would like to determine if the contamination is within the groundwater or within the soils. The primary goal of this investigation is to evaluate the soil quality for VOCs in the two (2) source areas: the MW-1 area and the MW-17 area. The investigation will consist of five (5) soil borings at each location for a total of ten (10) borings. The scope of work has been agreed upon by Bergmann and DASNY but no formal contract has been received by Bergmann at the time of this PRR.

5.3 COMPLIANCE

During the 2018 reporting period, the remedial system was not in operation and therefore was not discharging water. The existing wells and monitoring well network is adequate to monitor the performance of the remediation program and to allow for the collection of groundwater quality samples.

The building is currently secure, vacant, and unoccupied. Notification is given to any individual(s) entering the building so appropriate precautions and PPE can be utilized for building access. The building is posted with

signage identifying the potential hazard and limiting access to properly trained and equipped personnel. Notification of extensive mold growth within the building is given to any individual(s) entering the building, prior to entry, so appropriate precautions can be taken. Notification of broken glass within the building is given to any individual(s) entering the building prior to entry. Notification of the dead-end corridor and affected/unusable exits is given to any individual(s) entering the building, prior to entry, so appropriate precautions can be taken. Notification of exit and emergency lighting within the building is given to any individual(s) entering the building prior to entry. Notification of the ceiling debris should is given to any individual(s) entering the building, prior to entry, so appropriate precautions can be taken. Any individual(s) entering the building is provided with keys to open doors before working within the building to ensure safe emergency exit.

Any structural issues requiring immediate attention are currently being addressed by OPWDD, as well as other building envelope maintenance/security issues. Those issues not requiring immediate attention will be addressed if the building is re-occupied in the future.

5.4 FUTURE ACTIVITIES

Activities scheduled for 2019 include:

- 3rd Quarter groundwater sampling event – September 2019.
- 4th Quarter groundwater sampling event – December 2019.
- Meeting with NYSDEC, DASNY, and Bergmann to discuss future events, elimination of remaining contamination, and spill closure in July of 2019.

TABLE 1

Table 1 Percent Reductions in Total Groundwater VOCs
Gowanda Day Habilitation Center
4 Industrial Place, Gowanda, New York
VCA # V-00463-9

The Groundwater Treatment System was activated in May 2005

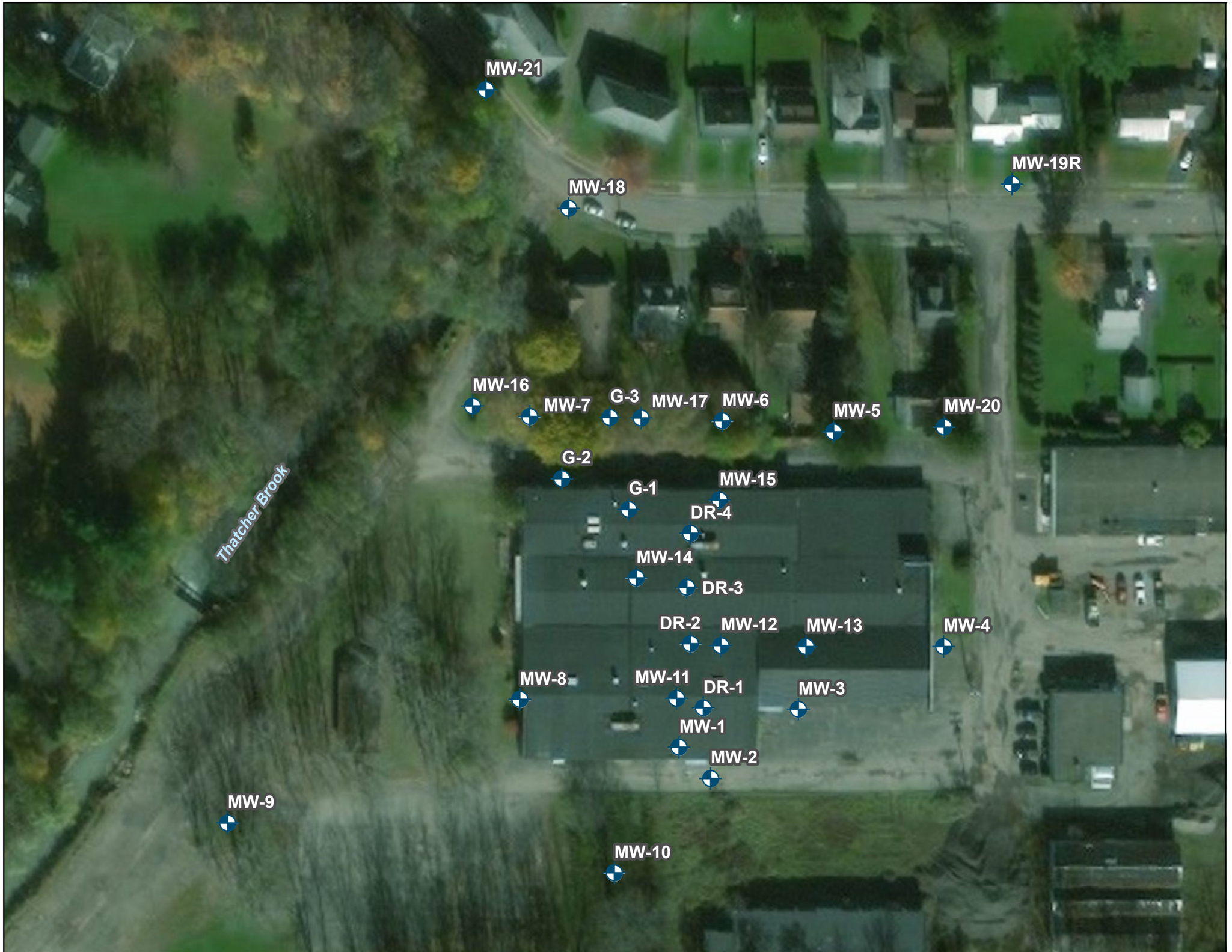
Monitoring Well	% Reduction 2002 to Nov 2018	% Reduction 2002 to Aug 2018	% Reduction 2002 to May 2018	% Reduction 2002 to April 2018	% Reduction 2002 to Nov 2017	% Reduction 2002 to Aug 2017	% Reduction 2002 to Nov 2016	% Reduction 2002 to Sep 2016	% Reduction 2002 to Jun 2016	% Reduction 2002 to Nov 2015	% Reduction 2002 to Aug 2015	% Reduction 2002 to Jun 2015	% Reduction 2002 to Mar 2015	% Reduction 2002 to Nov 2014	% Reduction 2002 to Sep 2014	% Reduction 2002 to Jun 2014	% Reduction 2002 to Mar 2014	% Reduction 2002 to Dec 2013	% Reduction 2002 to Jul 2013	% Reduction 2002 to Apr 2013	% Reduction 2002 to Dec 2012	% Reduction 2002 to Jun 2012	% Reduction 2002 to Mar 2012
MW-1†	-40.6%	-54.9%	-44.5%	51.3%	-39.90%	-57.6%	-48.0%	-9.1%	24.5%	-99.2%	-91.4%	54.4%	44.0%	60.9%	45.3%	-28.9%	-28.9%	-126.6%	-8.1%	-19.5%	-87.5%	31.3%	-15.8%
MW-2	100%	100%	100%	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled
MW-3	100%	100%	100%	100%	100%	100.0%	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled
MW-4	100%	100%	100%	100%	100%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.00%	100.0%	100.0%
MW-5	100%	100%	100%	100%	100%	100.0%	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled
MW-6	100%	-83.3%	15.4%	15.4%	-84.60%	15.4%	81.3%	70.4%	75.4%	70.4%	76.4%	78.8%	80.0%	72.9%	72.9%	76.4%	76.8%	68.0%	75.6%	77.1%	75.6%	78.6%	78.9%
MW-7	80.0%	79.3%	81.0%	81.3%	98.70%	93.6%	75.6%	86.2%	81.6%	89.1%	71.1%	87.1%	100.0%	60.0%	57.8%	93.6%	100.0%	100.0%	96.0%	100.0%	100.0%	66.3%	93.2%
MW-8	100%	100%	100%	100%	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled
MW-9	100%	100%	100%	100%	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled
MW-10	100%	100%	100%	100%	100%	100.0%	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled
MW-11	89.5%	93.9%	89.5%	75.0%	89.20%	99.1%	86.1%	90.4%	88.2%	77.2%	86.4%	90.4%	89.2%	90.3%	91.9%	90.3%	84.7%	81.1%	89.0%	87.7%	83.0%	89.3%	86.7%
MW-12	99.6%	99.8%	99.2%	99.1%	99.80%	75.0%	99.9%	99.9%	99.9%	99.8%	99.6%	99.2%	99.1%	99.0%	98.4%	98.4%	98.3%	98.6%	98.8%	98.5%	98.9%	99.3%	98.8%
MW-13	100%	100%	100%	100%	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled
MW-14	90.3%	92.9%	92.8%	91.1%	87.90%	2.3%	75.9%	68.3%	81.9%	74.3%	69.5%	83.5%	68.6%	78.4%	78.4%	82.9%	76.8%	70.2%	84.4%	77.5%	85.1%	87.4%	75.7%
MW-15	100%	99.1%	100%	100%	100%	99.0%	98.5%	96.7%	98.5%	98.6%	98.1%	98.9%	98.7%	95.6%	95.8%	99.2%	100.0%	99.1%	99.0%	100.0%	98.2%	96.4%	99.1%
MW:16*	19.9%	80.5%	19.9%	2.3%	2.80%	2.3%	72.7%	60.9%	27.7%	39.5%	74.6%	86.7%	100.0%	89.8%	81.6%	59.0%	53.1%	60.9%	77.9%	36.8%	52.6%	88.5%	67.9%
MW-17*	78.4%	73.8%	88.9%	99.5%	78*	2.3%	62.9%	54.0%	58.0%	54.5%	59.4%	Not Sampled	66.8%	61.0%	59.4%	66.5%	83.5%	58.5%	50.6%	97.4%	46.9%	53.0%	67.9%
MW-18:*	100%	100%	100%	100%	100%	100.0%	97.4%	93.4%	98.2%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	Not Sampled	100.0%	100.0%	100.0%	89.6%	98.5%
MW-19 R*	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	75.0%	99.0%	99.0%
MW-20**	100%	100%	100%	100%	100%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	99.4%	99.4%	99.4%
MW-21**	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	34.6%	-50.0%	66.5%	23.1%	23.1%	61.5%	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled
* Well installed 2003																							
** Well Installed 2004																							
Site-Wide reduction:	85.1%	78.0%	81.2%	84.2%	67.60%	62.1%	74.1%	68.7%	78.6%	66.2%	69.1%	87.7%	88.2%	85.2%	83.2%	79.8%	80.3%	67.5%	81.8%	81.2%	71.3%	82.9%	80.7%
Impacted Groundwater Plume Area Only:	74.6%	72.1%	65.3%	76.6%	51.40%	41.1%	66.5%	69.6%	76.0%	58.1%	58.6%	84.6%	80.8%	77.3%	75.0%	72.3%	73.9%	82.2%	73.2%	77.3%	62.5%	75.2%	73.1%

Plume Area = MW-1, MW-11, MW-12, MW-14, MW-15, MW-7, MW-17, MW-6
% reduction = percent reduction in total Volatile Organic Compounds (VOCs) since groundwater monitoring was initiated
†Negative values indicate an increase in total VOCs since monitoring commenced in 2002. The percent increase in total groundwater VOCs is shown below for MW-1.

Recovery Well	% Reduction 2002 to Nov 2018	% Reduction 2002 to Aug 2018	% Reduction 2002 to May 2018	% Reduction 2002 to April 2018	% Reduction 2002 to Nov 2017	% Reduction 2002 to Aug 2017	% Reduction 2002 to Nov 2016	% Reduction 2002 to Sep 2016	% Reduction 2002 to Jun 2016	% Reduction 2002 to Nov 2015	% Reduction 2002 to Aug 2015	% Reduction 2002 to Jun 2015	% Reduction 2002 to Mar 2015	% Reduction 2002 to Nov 2014	% Reduction 2002 to Sep 2014	% Reduction 2002 to Jun 2014	% Reduction 2002 to Mar 2014	% Reduction 2002 to Dec 2013	% Reduction 2002 to Jul 2013	% Reduction 2002 to Apr 2013	% Reduction 2002 to Dec 2012	% Reduction 2002 to Jun 2012	% Reduction 2002 to Mar 2012
DR-1	-128.5%	-163.3%	-130.0%	-86.6%	-243.6%	-243.6%	-7.6%	-6.4%	-58.7%	44.4%	72.1%	Not Sampled	96.2%	89.0%	90.4%	86.9%	77.0%	84.8%	99.1%	99.0%	99.5%	99.8%	91.6%
DR-2	60.7%	70.5%	76.7%	76%	63.8%	63.8%	75.1%	60.3%	60.9%	63.8%	66.0%	47.0%	52.8%	70.5%	59.2%	58.0%	62.3%	45.0%	87.2%	85.4%	99.1%	88.5%	83.9%
DR-3	52.1%	43.0%	17.8%	78%	68.5%	Not Sampled	35.7%	-1.0%	59.3%	70.5%	50.2%	45.6%	63.9%	-18.7%	-37.7%	45.6%	41.6%	19.3%	95.8%	95.1%	97.2%	92.1%	98.3%
DR-4	95.7%	94.4%	96.4%	96%	93.9%	93.9%	90.8%	88.9%	92.7%	89.1%	87.2%	91.7%	82.9%	81.8%	82.8%	88.8%	92.5%	90.8%	95.5%	97.9%	94.9%	93.1%	100.0%
G-1	62.8%	61.7%	80.1%	80%	74.1%	74.1%	57.7%	47.4%	92.7%	60.0%	100.0%	66.1%	27.3%	49.8%	47.7%	55.0%	61.3%	65.6%	87.3%	89.8%	90.3%	87.4%	88.0%
G-2	91.2%	76.0%	82.4%	84%	100.0%	Not Sampled	Not Sampled	100.0%	Not Sampled	Not Sampled	90.1%	Not Sampled	83.1%	88.0%	86.9%	81.7%	95.1%	71.4%	79.0%	87.0%	65.7%	80.4%	89.1%
G-3	96.3%	20.1%	Not Sampled	Not Sampled	Not Sampled	Not Sampled	27.3%	-0.2%	-4.2%	35.0%	8.2%	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	79.7%	NA	NA	NA	NA	NA	NA
Overall Reduction	47.2%	28.9%	37.2%	54.6%	60.4%	40.4%	46.5%	41.3%	40.4%	60.4%	67.7%	62.6%	67.7%	60.1%	54.9%	69.3%	72.8%	62.8%	90.7%	92.3%	91.1%	90.2%	91.8%

*Sampling of recovery wells initiated in 2005

FIGURE 1



DASNY

Gowanda Day Habilitation Center

4 Industrial Place
Gowanda, NY

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Figure 1

Monitoring and Recovery Well Locations

0 30 60 90 120
Feet

N

CHART 1

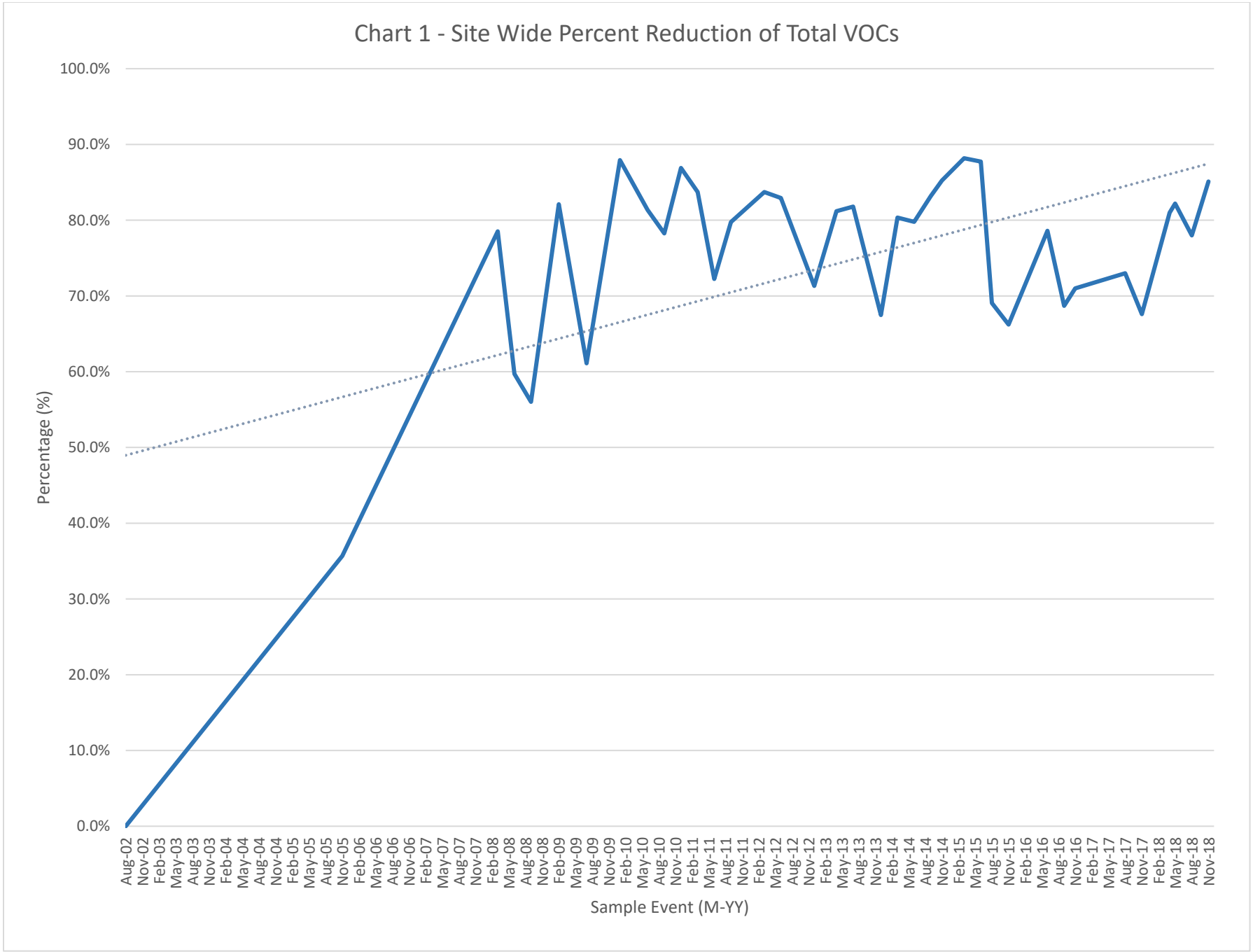
Chart 1 - Site Wide Percent Reduction of Total VOCs
100.0%
90.0%
80.0%
70.0%
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
Percentage (%)
Aug-02
Nov-02
Feb-03
May-03
Aug-03
Nov-03
Feb-04
May-04
Aug-04
Nov-04
Feb-05
May-05
Aug-05
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May-16
Aug-16
Nov-16
Feb-17
May-17
Aug-17
Nov-17
Feb-18
May-18
Aug-18
Nov-18
Sample Event (M-YY)

APPENDIX A:

QUARTERLY GROUNDWATER CHARACTERIZATION REPORTS

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APRIL 2018
GROUNDWATER CHARACTERIZATION REPORT

BERGMANN
ARCHITECTS ENGINEERS PLANNERS

New York State Office of People with Developmental Disabilities

GROUNDWATER CHARACTERIZATION REPORT – APRIL 2018

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Issued: June 2018

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1.0 INTRODUCTION

Bergmann is submitting this groundwater characterization report for the April 2018 sampling event on behalf of the Dormitory Authority of the State of New York (DASNY) and the New York State Office of People with Developmental Disabilities (OPWDD) for activities conducted at the former Gowanda Day Habilitation Center facility at 4 Industrial Place, Gowanda, NY. The OPWDD, as the volunteer, has entered into a Voluntary Cleanup Agreement (VCA) with the New York State Department of Environmental Conservation (NYSDEC) to conduct investigations and implement remedial measures in accordance with VCA Site No. V-00463-9, effective August 16, 2001.

1.1 SCOPE OF WORK

This report documents the site-wide groundwater monitoring and laboratory analytical sampling event conducted on April 10, 2018. Field measurements, sampling procedures and laboratory analysis were conducted in accordance with the October 2006 Operations, Monitoring and Maintenance (OM&M) Manual and as modified with NYSDEC approval. During this sampling event, groundwater from 18 of 21 site-related groundwater monitoring wells and six (6) of seven (7) groundwater recovery wells were sampled for laboratory analysis. Of the eight (8) monitoring wells determined by the NYSDEC and Bergmann personnel in 2008 to be outside the area of impact by the Groundwater Treatment System (GTS), four (4) were not sampled. These monitoring wells include MW-2, MW-19, MW-19R, and MW-21. Monitoring well MW-21 was added to the well sampling plan permanently by NYSDEC to monitor groundwater migration off-site.

The prior groundwater sampling event was conducted in November

2017 and included analysis of groundwater samples from 18 of 21 site-related groundwater monitoring wells and six (6) of seven (7) groundwater recovery wells. Authorization to conduct 2017 quarterly sampling was not received until the third quarter of 2017. Results of the November 2017 sampling event were summarized in a report dated February 2018.

1.2 SITE BACKGROUND

The Gowanda Day Habilitation site consists of a 5.94-acre parcel located at 4 Industrial Place. The building, previously used by several manufacturing operations, was built in stages between circa 1948 and 1987 and was renovated in 1987-1988. New York State agencies have occupied the building since 1982. New York State acquired the parcel in 1989. The building was most recently operated by the OPWDD, which at that time was known as the Western New York Developmental Disabilities Services Office, as a Day Habilitation Center for mental care clients. In April 2001, on-site operations ceased. The nature and extent of contamination at the Gowanda Day Habilitation Center was detailed as part of the 2003 Site Investigation and 2004 Supplemental Site Investigation Reports. Trichloroethene (TCE) was the most commonly detected compound. TCE degradation products cis-1,2, Dichloroethene (Cis-1,2-DCE), trans-1,2-Dichloroethene (Trans-1,2-DCE) and Vinyl Chloride (VC) were also detected.

Following Interim Remedial Measure (IRM) system installation, the Groundwater Treatment System (GTS) and the Soil Vapor Extraction System (SVES) were activated on May 10, 2005, recovering 2-5 gallons per minute (gpm) of groundwater. An additional groundwater recovery well, designated G-3, was installed outside the building and adjacent to MW-17 in November 2008. The GTS portion consists of seven (7) groundwater recovery wells (four dual phase recovery wells and three groundwater-only recovery wells), an air compressor, a network of controller-less pneumatic pumps and an air stripper treatment system to process recovered groundwater. Recovered groundwater was pumped to the equalization tank for settling of the sediment and transferred to the air stripper using a consistent flow rate. Air discharge from the air stripper was routed to the

EVE for treatment prior to discharge. Groundwater was discharged to the village of Gowanda Sewage Treatment Plant (STP).

In January 2008, the building was decommissioned. The GTS was winterized with the addition of heat tape and insulation to conveyance lines and the installation of an independently operated suspended heater in the treatment area for the GTS and SVES (former Machine Shop). Quarterly groundwater sampling with Operation and Maintenance of the remediation system has been ongoing since 2002.

During January 2014, the condition of the SVE and GTS was discussed with the NYSDEC representative and it was agreed that these systems would be inactivated to allow for groundwater level recovery during the preparation of an ISCO remedial action plan (RAP) and implementation of an ISCO treatment. Bergmann submitted an ISCO RAP for groundwater treatment to the NYSDEC to address remaining contamination at the Site in lieu of costly repair of the SVE and GTS. The SVE and GTS equipment will remain on site in the event that re-activation is required in the future. The ISCO was implemented in May 2015. An ISCO Report was prepared under separate cover.

2.0 GROUNDWATER SAMPLING OVERVIEW AND METHODS

2.1 WELL MAINTENANCE ACTIVITIES

During the April 2018 site visit, all monitoring wells were accessible and the integrity of the wells was not compromised except for MW-2, MW-19, MW-19R, MW-21, and G-3. MW-19, MW-19R, and MW-21, which are all located on Torrance Place, were still paved over, as previously reported in the August 2017 summary. G-3 was not located due to extensive vegetative growth around the well cap. Bergmann personnel will use a metal detector during the May 2018 sampling event in an attempt to locate the well. Repairs or maintenance to the network of groundwater monitoring wells or recovery wells has not been required since June 2007, with the exception of the redevelopment activities performed on August 19, 2015. All protective casings and flush-mount curb boxes were found to be intact and secure. Exterior monitoring wells are secured with locking stick-up protective casings. The monitoring wells within the building are secured with flush-mount roadway covers. Well maintenance was not performed during the April 2018 sampling event.

2.2 GROUNDWATER FIELD MONITORING AND SAMPLING ACTIVITIES

Groundwater measurements and sampling activities were conducted in accordance with the October 2006 OM&M Manual. The depths to groundwater in groundwater monitoring wells are measured on a regular basis to track site-wide changes in the water table elevation and to allow for adjustment at recovery wells. Past operation of the recovery wells was intended to establish hydraulic containment of the impacted groundwater plume beneath the former Day Habilitation building and improve recovery and treatment of impacted groundwater. Groundwater samples were collected from 18 of the 21 site-related groundwater monitoring wells for laboratory analysis on April 10, 2018. Depth to groundwater measurements were obtained from 24 wells (including recovery wells).

Groundwater samples were collected from monitoring wells after each well was gauged and purged of standing water via low-flow pumping using a Geo-pump electric peristaltic pump. Sample parameters including turbidity, temperature, pH, oxygen, salinity and conductivity were monitored using a YSI Quatro to ensure sufficient well purging prior to sampling. Groundwater samples were collected from recovery wells using dedicated bailers, to allow for an accurate representation of groundwater without collecting sediment from within the wells. A single duplicate sample and a field blank sample were collected and submitted for laboratory analysis. The duplicate

sample was not collected during this event but will be collected during the May 2018 sampling event because there was a limited number of bottles due to fractures and cracks in several bottles.

Groundwater samples were delivered via chain-of-custody protocol to ALS Environmental Services located in Rochester, NY, a NYSDOH certified laboratory, for testing using EPA Method 8260B for targeted chlorinated volatile organic compounds (VOCs) of concern. Analytical results for each individual monitoring well have been posted in Table 3 for comparative purposes from sampling events completed 2002 – 2018.

3.0 LOCAL GROUNDWATER FLOW CHARACTERIZATION

The Site water table potentiometric surface pattern and groundwater flow direction was determined for April 2018 using elevations measured at each well. Groundwater elevations and well reference elevations were calculated using depth to water values obtained on April 10, 2018. The well gauging values and groundwater elevations are provided in Table 1 – Groundwater Elevations and Field Measurements - April 2018.

The April 2018 groundwater contour map shows a flow pattern similar to groundwater contours observed historically since 2002. Groundwater at the Site is flowing in a northerly direction. Torrance Place is hydraulically down-gradient from the Day Habilitation Center building. The April 2018 depths to groundwater range from 4.90 ft below top of casing (btoc) at MW-3, to 12.90 ft btoc at MW-6 located at the northern property line. The average depth to groundwater at the wells measured was 9.18 ft btoc.

The site-wide average depth to water table increased by approximately 0.2 ft when compared to the November 2017 sampling event. This increase in the water table is inferred as seasonal.

Measured depth to water at all gauged monitoring and recovery wells is presented Table 1 and April 2018 Groundwater Contours are presented on Figure 1 – April 2018 Groundwater Contour Map.

4.0 LABORATORY ANALYSIS

4.1 LABORATORY ANALYSIS ON GROUNDWATER SAMPLES

Laboratory analysis was completed on the groundwater samples from 18 monitoring wells and six (6) recovery wells collected April 10, 2018. Samples were analyzed for VOCs via EPA Method 8260B. Analysis was performed in accordance with the October 2006 OM&M Manual. The following halogenated VOCs were analyzed for:

- Trichloroethene (TCE)
- 1,1,1 Trichloroethane (TCA)
- Cis-1,2-Dichloroethene (Cis-DCE)
- Trans-1,2-Dichloroethene (Trans-DCE)
- Vinyl Chloride (VC)

4.2 MONITORING WELL GROUNDWATER ANALYSIS SUMMARY

The April 2018 analytical results indicate three (3) chlorinated VOCs in monitoring well samples: TCE, Cis-DCE, and Trans-DCE. Chlorinated VOCs were detected in groundwater from seven (7) of the 18 sampled monitoring wells. Analytical results are summarized in Table 2 – April 2018 Analytical Results Summary, which compares detected VOCs and applicable NYSDEC Class GA Standards for each analyte. The complete laboratory analytical reporting package is provided in Appendix A – Laboratory Analytical Results Report April 2018 Sampling Event. Table 3 – Historic Groundwater Analysis Results Summary includes the historical total VOC concentrations at each well since sampling of the monitoring wells began in 2002.

VOCs were not detected in groundwater from eleven (11) of the sampled monitoring.

Groundwater samples from seven (7) monitoring wells had detectable chlorinated VOCs at concentrations above applicable Class GA Standards. The monitoring well with the highest total VOCs, MW-11 (1,160 ppb), is located in the area of historically greatest impacted groundwater.

Concentrations in three (3) of the 18 monitoring well groundwater samples increased when compared to the November sampling event while concentrations in six (6) of the 18 monitoring well groundwater samples decreased. Concentrations in nine (9) groundwater samples from monitoring wells had no change. The current sampling analytical results indicate an average site-wide decrease in total VOCs of approximately 84.2% since activation of the GTS in May 2005.

The area of highest impacted groundwater exists at the area centered between monitoring wells MW-1 and MW-11, which has historically indicated the highest levels of VOCs and is inferred as the source area of impacted groundwater. In the area where the plume of impacted groundwater is inferred (monitoring wells MW-1, MW-6, MW-7, MW-11, MW-12, MW-14, MW-15, and MW-17) the current laboratory analysis shows a contaminant reduction in VOC concentrations by an average of approximately 76.6% since groundwater monitoring of these wells began in 2002.

Monitoring well MW-1 decreased in targeted chlorinated VOCs relative to the prior sampling event. The total VOC concentration at monitoring well MW-1 for the April 2018 sampling event was 374 parts per billion (ppb), a decrease from the November 2017 value of 1,003 ppb. Since activation of the GTS, detected VOCs at MW-1 have decreased by about 51%.

Monitoring well MW-11 increased in targeted chlorinated VOCs relative to the prior sampling event. The total VOC concentration at MW-11 for the April 2018 sampling event is 1,160 ppb, an increase from the April 2018 value of 470 ppb. Since activation of the GTS, detected VOCs at MW-11 have decreased by 75%.

Monitoring well MW-12 increased in targeted chlorinated VOCs relative to the prior sampling event. The total VOC concentration at MW-12 for the April 2018 sampling event is 113 ppb, an increase from the November 2017 value of 31 ppb. MW-12 is nearest to recovery well DR-2, in close proximity to the center of the building. Since activation of the GTS in May 2005, detected VOCs at MW-12 have decreased by about 99%.

Monitoring well MW-14 decreased in targeted chlorinated VOCs relative to the prior sampling event. The total VOC concentration at MW-14 for the April 2018 sampling event is 28 ppb, a decrease from the November 2017 value of 38 ppb. MW-14 is nearest to recovery well DR-3. Since activation of the GTS in May 2005 detected VOCs at MW-14 have decreased by about 91.1%.

Monitoring well MW-15 remained the same in targeted chlorinated VOCs relative to the prior sampling event. The total VOC concentration at MW-15 for the April 2018 sampling event was Not Detected (ND), which was no change from the November 2017 sampling event. MW-15 is nearest to recovery well DR-4. Since activation of the GTS the detected VOCs at MW-15 have remained unchanged at non-detect levels.

Six (6) groundwater monitoring wells are located along the subject property's north perimeter, down-gradient from the area of impacted groundwater. The north perimeter monitoring wells consist of wells MW-5, MW-6, MW-7, MW-16, MW-17 and MW-21. The current analytical results exhibit an increase in targeted VOCs at the sampled monitoring wells along the north perimeter.

Monitoring wells MW-18, MW-19R and MW-21 are located off-site along Torrance Place. These three wells are considered to be beyond the radius of influence for the Day Habilitation groundwater treatment system. The current results indicate non-detect levels for MW-18. Monitoring well MW-21 was added to the sampling list at the request of the NYSDEC beginning with the June 2015 sampling event. It was first noted that during the August 2017 sampling event, wells MW-19R and MW-21 were not sampled because they were inaccessible. It was observed that the wells were likely paved over by a recent re-sealing operation. The wells were still inaccessible during the April 2018 sampling event.

Laboratory analytical results are included in Appendix A. Monitoring well locations and distribution of analytical results are shown on Figure 2 – April 2018 Distribution of Groundwater Analytical Results: Monitoring Wells.

4.3 SENTRY WELL GROUNDWATER ANALYSIS SUMMARY

Sentry groundwater monitoring wells monitor a separate occurrence of contaminated groundwater at the Gowanda Electronics site (NYSDEC Site 905025), immediately east of Industrial Place and east of the Day Habilitation Center property. The eastern sentry well sampled for this event was only MW-4. The current results indicate non-detect levels for this eastern sentry well.

The Gowanda Electronics impacted groundwater plume may be migrating to an area near Industrial Place and has intermittently impacted MW-19R. The Gowanda Electronics impacted groundwater plume does not appear to extend to the Day Habilitation Center property, based on consistent non-detect values at the eastern sentry wells. Conversely, impacted groundwater from the Day Habilitation Center does not appear to extend off-site to the east toward Industrial Place. According to Mr. Chris Sanson, an Environmental Scientist for Groundwater & Environmental Services, Inc. (GES), an ISCO injection application was implemented for the Gowanda Electronics site in March 2014.

Laboratory analytical results are included in Appendix A. Sentry well locations and analytical results are shown on Figure 2.

4.4 RECOVERY WELL GROUNDWATER ANALYSIS SUMMARY

During the April 2018 sampling event, six (6) of the seven (7) recovery wells were sampled. The G-3 well could not be located and is assumed to be overgrown with vegetation. Bergmann personnel will bring appropriate equipment to attempt to locate G-3 during the May 2018 sampling event.

The April 2018 analytical results indicate detection of five (5) chlorinated VOCs in recovery well samples: TCE, Cis-DCE, TRANS, VC, and TCA. Chlorinated VOCs were detected in samples from five (5) of the sampled recovery wells. Total VOCs at the 6 recovery wells for which past data is available have decreased overall since activation of the GTS in May 2005. The average reduction in VOCs for the current sampling event is about 55% relative to concentrations prior to GTS activation in 2005. Relative percent reductions in total VOCs for all monitoring wells and recovery wells are shown on Table 4 – Percent Reductions in Total Groundwater VOCs.

Recovery well DR-1 decreased in targeted chlorinated VOCs relative to the prior sampling event. The total VOC concentration at DR-1 for the April 2018 sampling event is 1,070 ppb, a decrease from the November 2017 value of 1,540 ppb. The current sampling event indicates an increase in VOCs at DR-1 of 86.6% since activation of the GTS. Recovery well DR-1 is located closest to MW-1 in an area of historically highest concentrations.

Recovery well DR-2 decreased in targeted chlorinated VOCs relative to the prior sampling event. The total VOC concentration at DR-2 for the April 2018 sampling event is 130 ppb, a decrease from the November 2017 value of 181 ppb. The current sampling event indicates a decrease in VOCs at DR-2 of about 76% since activation of the GTS.

Recovery well DR-3 decreased in targeted chlorinated VOCs relative to the prior sampling event. The total VOC concentration at DR-2 for the April 2018 sampling event is 34 ppb, a decrease from the November 2017 value of 48 ppb. The current sampling event indicates a decrease in VOCs at DR-3 of about 78% since activation of the GTS.

Recovery well DR-4 decreased in targeted chlorinated VOCs relative to the prior sampling event. The total VOC concentration at DR-4 for the April 2018 sampling event is 31.6 ppb, a decrease from the November 2017 value of 46 ppb. The current sampling event indicates a decrease in VOCs at DR-4 of about 96% since activation of the GTS.

Recovery well G-1 decreased in targeted chlorinated VOCs relative to the prior sampling event. The total VOC concentration at G-1 for the April 2018 sampling event was 22 ppb, a decrease from the November 2017 value of 70 ppb. The current sampling event indicates a decrease in VOCs at G-1 of 80% since activation of the GTS.

Recover well G-2 increased in targeted chlorinated VOCs relative to the prior sampling event. The total VOC concentration at G-2 for the April 2018 sampling event was 46 ppb, an increase from the November 2017 value of 8.5 ppb. The current sampling event indicates a decrease in VOCs at G-2 of 84% since activation of the GTS.

Laboratory analytical results are included in Appendix A. Recovery well locations and analytical results are shown on Figure 3 – April 2018 Distribution of Groundwater Analytical Results: Recovery Wells.

4.5 QUALITY ASSURANCE AND QUALITY CONTROL SAMPLES

For quality assurance purposes a duplicate groundwater sample is typically collected from monitoring well MW-11, designated sample "MW-X". A duplicate groundwater sample was not taken during the April 2018 sampling event because there was a limited number of bottles due to fractures and cracks in several bottles. A duplicate sample will be taken during the next sampling event (May 2018).

A trip blank was supplied by the laboratory for the April 2018 sampling event. An equipment blank was collected to ensure proper cleaning of the sampling equipment. The equipment blank, designated as EB, was non-detect for chlorinated halogens.

Laboratory analytical results are included in Appendix A.

5.0 REMEDIATION SYSTEM EFFICIENCY

5.1 IMPACT OF THE GTS RECOVERY WELLS

Groundwater control charts for the six (6) sampled recovery wells and the nearest relative monitoring well were created to illustrate the impact of the GTS on recovery wells at the Day Habilitation Center. Chart 1 presents a summary of the sampled groundwater recovery wells. Since activation of the GTS in May 2005, all six (6) sampled groundwater recovery wells have demonstrated a general decrease in VOC concentration.

The current sampling event results represent a decrease of total VOCs at five (5) recovery wells (DR-1, DR-2, DR-3, DR-4 and G-1) when compared to the November 2017 sampling event.

Chart 2 displays the relationship between monitoring wells MW-1, MW-11 and recovery well DR-1. The current total VOCs at MW-1 (374 ppb) show a decrease from the November 2017 sampling event (1,003 ppb). The current total VOCs at MW-11 (1,160 ppb) shows an increase from the November 2017 sampling event (470 ppb). The current total VOCs at DR-1 (1,070 ppb) show a decrease from the November 2017 sampling event (1,540 ppb).

Chart 3 compares laboratory results between recovery well DR-2 and MW-12. These wells are located north of the wells outlined in Chart 1 and represent the northern limit of the highest concentration within the impacted area. The current total VOCs at MW-12 (113 ppb) show an increase from the November 2017 sampling event (31 ppb). The current total VOCs at recovery well DR-2 (130 ppb) show a decrease from the November 2017 sampling event (181 ppb).

Chart 4 compares the relationship between wells DR-3 and MW-14 which are located in the central portion of the Gowanda Day Habilitation building. The current total VOCs at MW-14 (28 ppb) show a decrease from the November 2017 sampling event (38 ppb). The current total VOCs at recovery well DR-3 (34 ppb) show a decrease from the November 2017 sampling event (48 ppb).

Chart 5 compares laboratory results between recovery well DR-4 and MW-15. These wells are located at the center-north portion of the building. The current total VOCs at MW-15 (ND) show no change from the November 2017 sampling event. The current total VOCs at recovery well DR-4 (31.6 ppb) show a decrease from the November 2017 sampling event (46 ppb).

Chart 6 compares laboratory results between recovery well G-1 and monitoring well MW-17. The recovery well is located in the northern portion of the building and MW-17 is located along the northern property line. The current total VOCs at recovery well MW-17 (5.1) show a decrease from the November 2017 sampling event (222). The current total VOCs at recovery well G-1 (22 ppb) show a decrease from the November 2017 sampling event (70 ppb).

Chart 7 compares laboratory results between recovery well G-2 and MW-7 which are located at the northeastern portion of the building. This area is at the apparent western perimeter of the area of impacted groundwater. Recovery well G-2 was not sampled during the August 2017 or November 2016 sampling events, as the well was dry during these events. During the April 2018 sampling event, G-2 was sampled and had a total VOC of 46 ppb. The April 2018 total VOCs of MW-7 (ND) showed a decrease from the November 2017 sampling event (5.8 ppb).

Chart 8 compares laboratory results between recovery well G-3 which is located at the northeastern portion of the building and MW-17 which is located along the northern property boundary. This area is at the western perimeter of the apparent area of impacted groundwater. The current total VOCs at monitoring well MW-17 (5.1) showed a decrease from the November 2017 sampling event (222). The current total VOCs at recovery well G-3 were not calculated due to recovery well G-3 not being sampled during the April 2018 sampling event.

Groundwater sampling results from monitoring wells along the western and eastern perimeters have consistently been non-detect.

5.2 EXTENT OF IMPACTED GROUNDWATER

The area of highest impacted groundwater is consistent with prior sampling events. The bulk of the contaminant mass appears to be concentrated beneath the building in the source area, in the vicinity of monitoring well MW-1 and MW-11, extending north to recovery well DR-2. Concentration of VOCs in the source area have been reduced as a result of cleanup activities.

When operating, the GTS maintained an area of hydraulic containment for recovery wells within the source area of impacted groundwater. The GTS was successful in hydraulically containing most of the contaminant plume on the property and minimizing further migration. The GTS was not operating during this monitoring period and overall sample results are similar to previous quarterly sampling results. Therefore, residual VOCs in the plume have not migrated and appear to be stabilized when compared to sample results with operation of the GTS during previous monitoring events.

VOCs were not sampled at MW-19R and MW-21 during the November 2017 and April 2018 sampling events due to the fact that they were both paved over and inaccessible.

The redevelopment of wells was performed in fall 2015 to remove sediment from wells at the Site after the ISCO injections. Overall reduction of contaminants in the majority of the monitoring and recovery wells has occurred at the Site when compared to the past ten (10) years of sampling. A meeting with Bergmann, DASNY, and NYSDEC is to be scheduled in June 2018 determine next steps for further contaminant reduction and eventual spill closure.

5.3 FUTURE GROUNDWATER MONITORING AND ANALYSIS ACTIVITIES

The condition of the SVE and GTS was discussed with the NYSDEC representative and it was agreed upon that these systems would be inactivated to allow for groundwater level recovery during the implementation of an ISCO groundwater treatment and subsequent sampling events. Bergmann performed an ISCO RAP in May (round 1) and September (round 2) 2015 to address remaining residual contamination at the Site in lieu of costly repair of the SVE and GTS. The SVE and GTS equipment remains on site in the event that re-activation is required in the future; however, system components may need repair and/or replacement. Three (3) routine quarterly monitoring events will be completed to fulfill the NYSDEC requirements for post ISCO groundwater treatment.

The next site-wide groundwater sampling and laboratory analysis event is scheduled for May 2018. This sampling event will include sampling and laboratory analysis for the limited number of wells as determined by Bergmann correspondence with the NYSDEC. Future sampling and analytical events will be conducted to track the effects of the ISCO injections on impacted groundwater and to evaluate seasonal changes in water table elevations. In addition, the evaluation of groundwater flow pattern and movement of residual impacted groundwater at the site will be monitored and recorded during future sampling events.

TABLES

Table 1 Groundwater Elevations and Field Measurements April 2018
Gowanda Day Habilitation Center
4 Industrial Place, Gowanda, New York
VCA # V-00463-9

	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10
Casing Elevation*	778.23	NA	778.38	778.43	778.61	781.10	780.94	781.33	782.61	780.02
Depth to Groundwater (btoc)	5.60	NA	4.90	7.10	10.20	12.90	12.50	9.09	7.90	9.02
Groundwater Elevation	772.63	NA	773.48	771.33	768.41	768.20	768.44	772.24	774.71	771.00
Well Diameter	2"	NA	2"	2"	2"	2"	2"	2"	2"	2"
Product Thickness	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND
Well Depth (btoc)	16.02	NA	16.30	15.78	13.95	22.88	21.80	17.65	20.96	19.42
Bottom of Well Elevation	762.21	NA	762.08	762.65	764.66	758.22	759.14	763.68	761.65	760.60
Thickness of Water Column	10.42	NA	11.40	8.68	3.75	9.98	9.30	8.56	13.06	10.40
Minimum Purge Volume (gal)	1.7	NA	1.9	1.4	0.6	1.6	1.5	1.4	2.1	1.7
3 Volumes	5.1	NA	5.6	4.2	1.8	4.9	4.5	4.2	6.4	5.1
Actual volume purged	5.1	NA	NS	4.2	1.4	4.9	4.5	NS	NS	NS
Comments	Flush = -0.29'	Not Located.	Flush = -0.23'	Flush = -0.34'	Flush = -0.24'	Stickup=2.17'	Stickup=2.17'	Stickup=2.84'	Stickup=2.05'	Stickup=2.56'

	MW-11	MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	MW-18	MW-19R	MW-20	MW-21
Casing Elevation	778.58	778.50	778.39	778.43	778.38	780.43	779.85	776.39	NA	778.04	NA
Depth to Groundwater (btoc)	5.79	6.47	6.78	10.41	10.18	12.00	12.70	8.50	NA	9.30	NA
Groundwater Elevation	772.79	772.03	771.61	768.02	768.20	768.43	767.15	767.89	NA	768.74	NA
Well Diameter	2"	2"	2"	2"	2"	2"	2"	2"	NA	2"	NA
Product Thickness	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA
Well Depth (btoc)	15.48	17.38	17.40	18.15	19.80	23.26	25.18	25.0	NA	14.75	NA
Bottom of Well Elevation	763.10	761.12	760.99	760.28	758.58	757.17	754.67	751.39	NA	763.29	NA
Thickness of Water Column	9.69	10.91	10.62	7.74	9.62	11.26	NA	16.50	NA	5.45	NA
Minimum Purge Volume (gal)	1.6	1.8	1.7	1.3	1.6	1.8	NS	2.7	NA	0.9	NA
3 Volumes	4.7	5.3	5.2	3.8	4.7	5.5	NS	8.1	NA	2.7	NA
Actual volume purged	4.7	5.3	NS	3.8	4.7	5.5	NS	8.1	NA	2.7	NA
Comments	Flush = -0.23'	Flush = -0.35'	Flush = -0.48'	Flush = -0.39'	Flush = -0.38	Stickup=2.26'	Stickup=1.18'	Flush =-0.26'	Paved Over	Flush=-0.43'	Paved Over.

	DR-1	DR-2	DR-3	DR-4	G-1	G-2	G-3
Casing Elevation	779.66	779.93	779.78	779.64	779.83	779.72	NS
Depth to Groundwater (btoc)	6.94	6.70	11.30	11.22	11.32	11.43	NS
Groundwater Elevation	772.72	773.23	768.48	768.42	768.51	NA	NS
Well Diameter	4"	4"	4"	4"	4"	4"	4"
Product Thickness	ND	ND	ND	ND	ND	ND	ND
Well Depth (btoc)	18.06	18.06	20.45	19.69	22.98	20.72	NS
Bottom of Well Elevation	761.6	761.87	759.33	759.95	756.85	759	NS
Thickness of Water Column	11.12	11.36	9.15	8.47	11.66	9.17	NS
Minimum Purge Volume (gal)	7.26	7.42	5.97	5.53	7.61	5.98	NS
3 Volumes	21.78	22.25	17.92	16.59	22.84	17.94	NS
Actual volume purged	21.78	22.25	NS	16.59	22.84	17.94	NS
Comments	Stickup=0.85'	Stickup=1.06'	Stickup=0.95'	Stickup=0.84'	Stickup=1.03'	Stickup=0.86'	NA

NOTES

btoc = Below top of casing (inner riser) All measurements are in feet, referenced to Mean Sea Level
NS = Not Sampled
ND = No floating product encountered
Minimum purge volume = 3 X well volume, 0.163 gallon per foot in a 2" diameter well. 0.653 gallon per foot in a 4" diameter well.
Monitoring well MW-19 was removed and the area restored on July 23, 2003 immediately after the well was developed, purged of 3 volumes and sampled.
The borehole for MW-19 was backfilled with a cement-bentonite grout after the PVC screening and casing was successfully removed.
Wells MW-19R, MW-20 and MW-21 were installed in October 2004, MW-19R and MW-21 have been paved over.

Table 2 April 2018 Analytical Results Summary
Gowanda Day Habilitation Center
4 Industrial Place, Gowanda, New York
VCA # V-00463-9

Monitoring Well MW-1 Sample Date: 04/10/2018
Sampling Events

Analyte in ppb	Nov 2017	April 2018	NYS Guidance Value
TCE	**850**	**290**	5.0
CIS	**140**	**84**	5.0
TRANS	**13**	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	1,003	374	

Monitoring Well MW-2 Sample Date: NS
Sampling Events

Analyte in ppb	Nov 2017	April 2018	NYS Guidance Value
TCE	NS	NS	5.0
CIS	NS	NS	5.0
TRANS	NS	NS	5.0
VC	NS	NS	2.0
TCA	NS	NS	5.0
Total VOCs	NS	NS	

Monitoring Well MW-3 Sample Date: 04/10/2018
Sampling Events

Analyte in ppb	Nov 2017	April 2018	NYS Guidance Value
TCE	ND	ND	5.0
CIS	ND	ND	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	ND	ND	

Monitoring Well MW-4 Sample Date: 04/10/2018
Sampling Events

Analyte in ppb	Nov 2017	April 2018	NYS Guidance Value
TCE	ND	ND	5.0
CIS	ND	ND	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	ND	ND	

Monitoring Well MW-5 Sample Date: 04/10/2018
Sampling Events

Analyte in ppb	Nov 2017	April 2018	NYS Guidance Value
TCE	ND	ND	5.0
CIS	ND	ND	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	ND	ND	

Monitoring Well MW-6 Sample Date: 04/10/2018
Sampling Events

Analyte in ppb	Nov 2017	April 2018	NYS Guidance Value
TCE	ND	ND	5.0
CIS	**100**	**76**	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	100	76	

ND = Non-detect
NS = Not Sampled. No analysis performed during this sampling event.
Results expressed as parts per billion (ppb).
Bold results exceed NYSDEC TOGS 1.1.1 Class GA, June 1998 re-issue (MTBE = April 2000 Addendum Guidance Value)

Table 2 April 2018 Analytical Results Summary
Gowanda Day Habilitation Center
4 Industrial Place, Gowanda, New York
VCA # V-00463-9

Monitoring Well MW-7 Sample Date: 04/10/2018
Sampling Events

Analyte in ppb	Nov 2017	April 2018	NYS Guidance Value
TCE	ND	ND	5.0
CIS	**5.8**	ND	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	5.8	ND	

Monitoring Well MW-10 Sample Date: 04/10/2018
Sampling Events

Analyte in ppb	Nov 2017	April 2018	NYS Guidance Value
TCE	ND	ND	5.0
CIS	ND	ND	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	ND	ND	

Monitoring Well MW-8 Sample Date: 04/10/2018
Sampling Events

Analyte in ppb	Nov 2017	April 2018	NYS Guidance Value
TCE	ND	ND	5.0
CIS	ND	ND	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	ND	ND	

Monitoring Well MW-11 Sample Date: 04/10/2018
Sampling Events

Analyte in ppb	Nov 2017	April 2018	NYS Guidance Value
TCE	**270**	**900**	5.0
CIS	**200**	**260**	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	470	1,160	

Monitoring Well MW-9 Sample Date: 04/10/2018
Sampling Events

Analyte in ppb	Nov 2017	April 2018	NYS Guidance Value
TCE	ND	ND	5.0
CIS	ND	ND	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	ND	ND	

Monitoring Well MW-12 Sample Date: 04/10/2018
Sampling Events

Analyte in ppb	Nov 2017	April 2018	NYS Guidance Value
TCE	**15**	**14**	5.0
CIS	**16**	**99**	5.0
TRANS	ND	ND	5.0
VC	ND	**8.9**	2.0
TCA	ND	ND	5.0
Total VOCs	31	121.9	

ND = Non-detect
NS = Not Sampled. No analysis performed during this sampling event.
Results expressed as parts per billion (ppb).
Bold results exceed NYSDEC TOGS 1.1.1 Class GA, June 1998 re-issue (MTBE = April 2000 Addendum Guidance Value)

Table 2 April 2018 Analytical Results Summary
Gowanda Day Habilitation Center
4 Industrial Place, Gowanda, New York
VCA # V-00463-9

Monitoring Well MW-13 Sample Date: 04/10/2018
Sampling Events

Analyte in ppb	Nov 2017	April 2018	NYS Guidance Value
TCE	ND	ND	5.0
CIS	ND	ND	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	ND	ND	

Monitoring Well MW-14 Sample Date: 04/10/2018
Sampling Events

Analyte in ppb	Nov 2017	April 2018	NYS Guidance Value
TCE	**27**	**18**	5.0
CIS	**11**	**10**	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	38	28	

Monitoring Well MW-15 Sample Date: 04/10/2018
Sampling Events

Analyte in ppb	Nov 2017	April 2018	NYS Guidance Value
TCE	ND	ND	5.0
CIS	ND	ND	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	ND	ND	

Monitoring Well MW-16 Sample Date: 04/10/2018
Sampling Events

Analyte in ppb	Nov 2017	April 2018	NYS Guidance Value
TCE	ND	ND	5.0
CIS	**32**	**43**	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	32	43	

Monitoring Well MW-17 Sample Date: 04/10/2018
Sampling Events

Analyte in ppb	Nov 2017	April 2018	NYS Guidance Value
TCE	**42**	**5.1**	5.0
CIS	**180**	ND	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	222	5.1	

Monitoring Well MW-18 Sample Date: 04/10/2018
Sampling Events

Analyte in ppb	Nov 2017	April 2018	NYS Guidance Value
TCE	ND	ND	5.0
CIS	**6.3**	ND	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	6.3	ND	

ND = Non-detect
NS = Not Sampled. No analysis performed during this sampling event.
Results expressed as parts per billion (ppb).
Bold results exceed NYSDEC TOGS 1.1.1 Class GA, June 1998 re-issue (MTBE = April 2000 Addendum Guidance Value)

Table 2 April 2018 Analytical Results Summary
Gowanda Day Habilitation Center
4 Industrial Place, Gowanda, New York
VCA # V-00463-9

Monitoring Well MW-19R Sample Date: NS
Sampling Events

Analyte in ppb	Nov 201	April 2018	NYS Guidance Value
TCE	NS	NS	5.0
CIS	NS	NS	5.0
TRANS	NS	NS	5.0
VC	NS	NS	2.0
TCA	NS	NS	5.0
Total VOCs	NS	NS	

Monitoring Well MW-20 Sample Date: 04/10/2018
Sampling Events

Analyte in ppb	Nov 2017	April 2018	NYS Guidance Value
TCE	ND	ND	5.0
CIS	ND	ND	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	ND	ND	

Monitoring Well MW-21 Sample Date: NS
Sampling Events

Analyte in ppb	Nov 2017	April 2018	NYS Guidance Value
TCE	NS	NS	5.0
CIS	NS	NS	5.0
TRANS	NS	NS	5.0
VC	NS	NS	2.0
TCA	NS	NS	5.0
Total VOCs	NS	NS	

ND = Non-detect
NS = Not Sampled. No analysis performed during this sampling event.
Results expressed as parts per billion (ppb).
Bold results exceed NYSDEC TOGS 1.1.1 Class GA, June 1998 re-issue (MTBE = April 2000 Addendum Guidance Value)

Table 2 April 2018 Analytical Results Summary
Gowanda Day Habilitation Center
4 Industrial Place, Gowanda, New York
VCA # V-00463-9

Recovery Well DR-1 Sample Date: 04/10/2018
Sampling Events

Analyte in ppb	Nov 2017	April 2018	NYS Guidance Value
TCE	**1200**	**880**	5.0
CIS	**190**	**190**	5.0
TRANS	**50**	ND	5.0
VC	**50**	ND	2.0
TCA	**50**	ND	5.0
Total VOCs	1540	1070	

Recovery Well DR-2 Sample Date: 04/10/2018
Sampling Events

Analyte in ppb	Nov 2017	April 2018	NYS Guidance Value
TCE	**31**	**31**	5.0
CIS	**150**	**99**	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	181	130	

Recovery Well DR-3 Sample Date: 04/10/2018
Sampling Events

Analyte in ppb	Nov 2017	April 2018	NYS Guidance Value
TCE	**30**	**23**	5.0
CIS	**18**	**11**	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	48	34	

Recovery Well DR-4 Sample Date: 04/10/2018
Sampling Events

Analyte in ppb	Nov 2017	April 2018	NYS Guidance Value
TCE	**34**	**24**	5.0
CIS	**12**	**7.6**	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	46	31.6	

Recovery Well G-1 Sample Date: 04/10/2018
Sampling Events

Analyte in ppb	Nov 2017	April 2018	NYS Guidance Value
TCE	ND	ND	5.0
CIS	**70**	**22**	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	70.0	22	

Recovery Well G-2 Sample Date: 04/10/2018
Sampling Events

Analyte in ppb	Nov 2018	April 2018	NYS Guidance Value
TCE	NS	**8.0**	5.0
CIS	**8.5**	**38**	5.0
TRANS	NS	ND	5.0
VC	NS	ND	2.0
TCA	NS	ND	5.0
Total VOCs	8.5	46.0	

ND = Non-detect
NS = Not Sampled. No analysis performed during this sampling event.
Results expressed as parts per billion (ppb).
Bold results exceed NYSDEC TOGS 1.1.1 Class GA, June 1998 re-issue (MTBE = April 2000 Addendum Guidance Value)

Table 2 April 2018 Analytical Results Summary
Gowanda Day Habilitation Center
4 Industrial Place, Gowanda, New York
VCA # V-00463-9

Recovery Well G-3 Sample Date: NS
Sampling Events

Analyte in ppb	Nov 2017	April 2018	NYS Guidance Value
TCE	NS	NS	5.0
CIS	NS	NS	5.0
TRANS	NS	NS	5.0
VC	NS	NS	2.0
TCA	NS	NS	5.0
Total VOCs	NS	NS	

Duplicate Blank Sample Date: NS
Sampling Events

Analyte in ppb	April 2018	NYS Guidance Value
TCE	NS	5.0
CIS	NS	5.0
TRANS	NS	5.0
VC	NS	2.0
TCA	NS	5.0
Total VOCs	NS	

Equipment Blank Sample Date: 04/10/2018
Sampling Events

Analyte in ppb	Nov 2017	April 2018	NYS Guidance Value
TCE	ND	ND	5.0
CIS	ND	ND	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	ND	ND	

ND = Non-detect
NS = Not Sampled. No analysis performed during this sampling event.
Results expressed as parts per billion (ppb).
Bold results exceed NYSDEC TOGS 1.1.1 Class GA, June 1998 re-issue (MTBE = April 2000 Addendum Guidance Value)

Table 3 Historic Groundwater Analysis Results Summary
Gowanda Day Habilitation Center
4 Industrial Place, Gowanda, New York
VCA # V-00463-9

MONITORING WELLS

Monitoring Well Number	Total VOCs April 2018 (ppb)	Total VOCs Nov 2017 (ppb)	Total VOCs Aug 2017 (ppb)	Total VOCs Nov 2016 (ppb)	Total VOCs Sep 2016 (ppb)	Total VOCs Jun 2016 (ppb)	Total VOCs Nov 2015 (ppb)	Total VOCs Aug 2015 (ppb)	Total VOCs Jun 2015 (ppb)	Total VOCs Mar 2015 (ppb)	Total VOCs Nov 2014 (ppb)	Total VOCs Sep 2014 (ppb)	Total VOCs Jun 2014 (ppb)	Total VOCs Mar 2014 (ppb)	Total VOCs Dec 2013 (ppb)	Total VOCs Jul 2013 (ppb)	Total VOCs Apr 2013 (ppb)	Total VOCs Dec 2012 (ppb)	Total VOCs Jun 2012 (ppb)	Total VOCs Mar 2012 (ppb)	Total VOCs Sep 2011 (ppb)	Total VOCs Jun 2011 (ppb)	Total VOCs Mar 2011 (ppb)	Total VOCs Dec 2010 (ppb)	Total VOCs Sep 2010 (ppb)	Total VOCs Jun 2010 (ppb)
MW-1	374	1013	1,210	1,467	838	580	1,530	1,470	350	430	300	420	990	990	1,740	830	910	1,440	528	889	442	1,318.1	583	564	649	778
MW-2	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-3	ND	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-5	ND	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-6	76	100	91	87	120	100	120	96	86	81	110	110	96	94	130	99	93	99	86.7	85.7	101	79	73.2	81.8	107	96
MW-7	ND	5.8	29	110	62	83	49	130	58	ND	180	190	29	ND	ND	18	ND	ND	151.56	30.5	209.16	70.9	22.3	58.2	160.5	114.46
MW-8	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-9	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-10	ND	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-11	1,160	470	525	646	445	550	1,060	630	444	500	451	375	450	710	880	510	570	790	498	617	508.7	722	623	588	630.7	765
MW-12	113	31	40	7.1	7.8	15.8	28.8	52	97	120	126	136	200	212	173	149.3	186.6	142	86.5	148.22	92.8	162.9	90.82	90.4	100	159.8
MW-13	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-14	28	38	22.1	76	100	57	81	96	52	99	68	68	54	73	94	49	71	47	39.7	76.6	77.3	104.98	31.9	24.33	38.93	65.22
MW-15	ND	ND	7.4	11	23.8	11	9.9	14	8.1	9.8	32	31	6.1	ND	6.8	7	ND	12.9	26.26	6.25	32.46	16.18	6.92	16.85	62	22.93
MW-16	43	32	36	14	20	37	31	13	6.8	ND	5.2	9.4	21	24	20	8.4	24	18	4.36	12.2	6.07	23.1	28.9	7.21	2.53	ND
MW-17	5.1	222	396	375	465	425	460	410	NS	336	394	410	339	167	420	400	21.3	430	381	260.1	449	225.2	26.7	48.1	312.3	232.1
MW-18	ND	6.3	ND	10	26	6.9	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND	ND	ND	16.6	2.33	28.7	13.9	6.43	17.9	40.77	27.5
MW-19R	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.5	ND	ND	ND	ND	ND	ND	2.67	ND
MW-20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-21	NS	NS	NS	17	39	8.7	20	20	10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-X (DUP)	NS	490	DWS	1,705	879	550	1,720	410	360	407	300	400	870	990	1,850	540	186.8	1,450	521	913	457	1,022.2	Sample loss*	588	611	264
EB	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

RECOVERY WELLS

Recovery Well Number	Total VOCs April 2018 (ppb)	Total VOCs Nov 2017 (ppb)	Total VOCs Aug 2017 (ppb)	Total VOCs Nov 2016 (ppb)	Total VOCs Sep 2016 (ppb)	Total VOCs Jun 2016 (ppb)	Total VOCs Nov 2015 (ppb)	Total VOCs Aug 2015 (ppb)	Total VOCs Jun 2015 (ppb)	Total VOCs Mar 2015 (ppb)	Total VOCs Nov 2014 (ppb)	Total VOCs Sep 2014 (ppb)	Total VOCs Jun 2014 (ppb)	Total VOCs Mar 2014 (ppb)	Total VOCs Dec 2013 (ppb)	Total VOCs Jul 2013 (ppb)	Total VOCs Apr 2013 (ppb)	Total VOCs Dec 2012 (ppb)	Total VOCs Jun 2012 (ppb)	Total VOCs Mar 2012 (ppb)	Total VOCs Sep 2011 (ppb)	Total VOCs Jun 2011 (ppb)	Total VOCs Mar 2011 (ppb)	Total VOCs Dec 2010 (ppb)	Total VOCs Sep 2010 (ppb)	Total VOCs Jun 2010 (ppb)
DR-1	1,070	1540	1,970	617	610	910	319	160	NS	21.7	63	55	75	132	87	73	82	43	29.38	673	166.5	154.5	250.1	355.5	442.5	60.3
DR-2	130	181	199	137	218	215	199	187	291	259	162	224	231	207	302	256	293	19	229.9	305.3	206.1	240.93	267.75	152.3	213.52	255.2
DR-3	34	48	NS	98	154	62	45	76	83	55	181	210	83	89	123	62	73	42	116.96	24.9	74.3	67.7	25.3	30.1	38.1	79.7
DR-4	31.6	46	52	79	95	63	94	110	71	147	156	148	96	64	68	79	37	90	122.6	ND	191.03	128.4	101.4	71.7	230.58	155.04
G-1	22	70	73.5	85	105.6	59.7	80.3	ND	68	146	101	105	90	78	96.2	69.1	55.8	52.6	68.55	65.58	67.52	55.81	67.02	48.8	30.5	108.3
G-2	46	8.5	NS	NS	ND	NS	NS	28	NS	48	34	37	52	14	68	81	50	132.2	75.3	41.9	29.8	65.6	47.2	51.8	6.02	8.37
G-3	NS	NS	NS	293	404	420	262	370	NS	NS	NS	NS	NS	82	NS	11	25	41.6	147.3	44.2	296.2	224.7	209.8	159.3	233.2	277.8

NS= This well not included in this sampling event.
ND = Not Detected, results less than Method Detection Limit.
Impacted north property line wells: MW-5, MW-6, MW-7, MW-16, MW-17, MW-21
All compounds are measured in parts per billion (ppb).
VOC - Volatile Organic Compounds.
DUP - Duplicate Sample
EB - Equipment/Field Blank Sample
* - Sample was broken in transit and not able to be analyzed
DWS- Different Well Sampled than previosuly tested.

Table 4 Percent Reductions in Total Groundwater VOCs
Gowanda Day Habilitation Center
4 Industrial Place, Gowanda, New York
VCA # V-00463-9

The Groundwater Treatment System was activated in May 2005

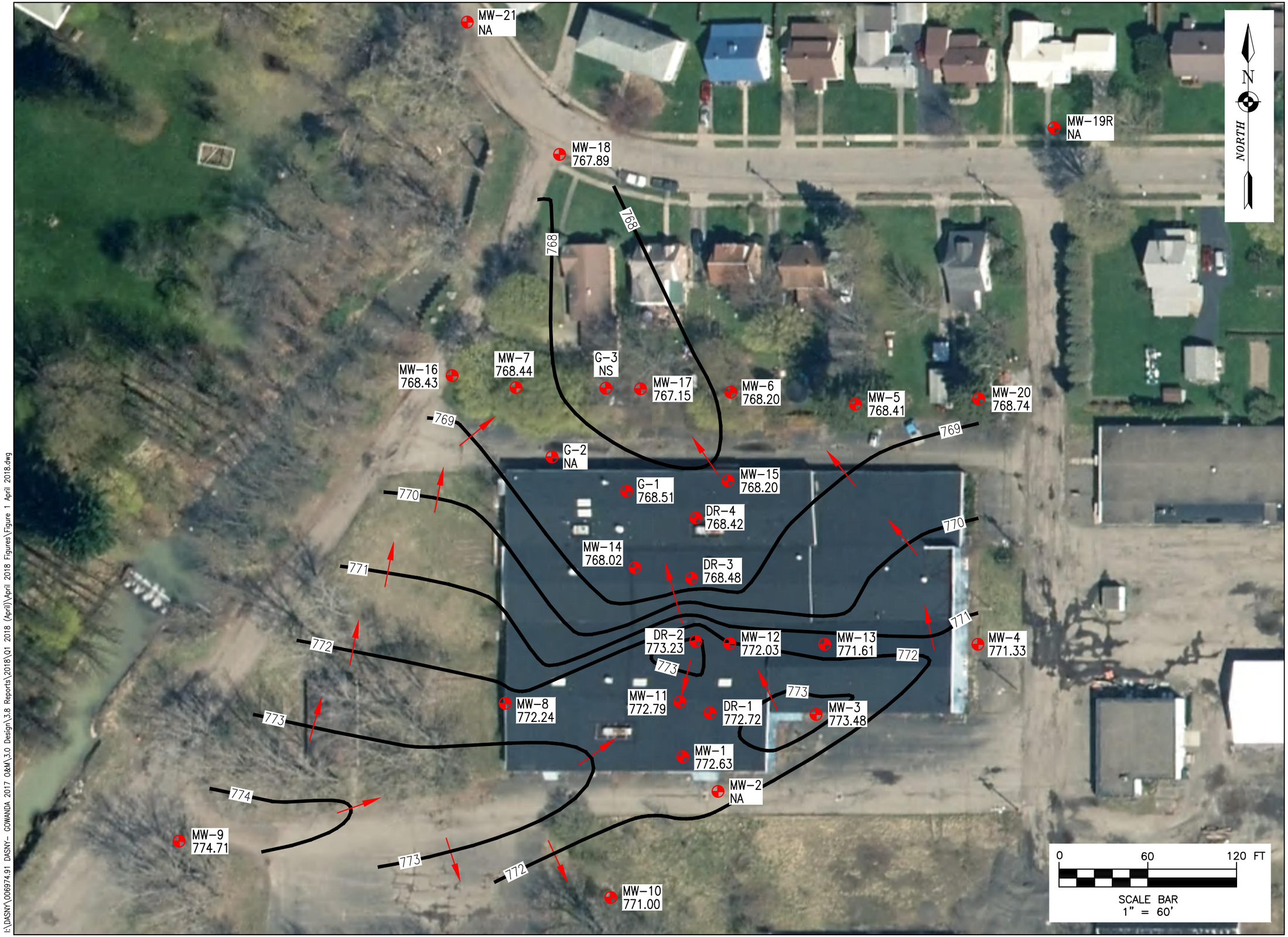
Monitoring Well	% Reduction 2002 to April 2018	% Reduction 2002 to Nov 2017	% Reduction 2002 to Aug 2017	% Reduction 2002 to Nov 2016	% Reduction 2002 to Sep 2016	% Reduction 2002 to Jun 2016	% Reduction 2002 to Nov 2015	% Reduction 2002 to Aug 2015	% Reduction 2002 to Jun 2015	% Reduction 2002 to Mar 2015	% Reduction 2002 to Nov 2014	% Reduction 2002 to Sep 2014	% Reduction 2002 to Jun 2014	% Reduction 2002 to Mar 2014	% Reduction 2002 to Dec 2013	% Reduction 2002 to Jul 2013	% Reduction 2002 to Apr 2013	% Reduction 2002 to Dec 2012	% Reduction 2002 to Jun 2012	% Reduction 2002 to Mar 2012	% Reduction 2002 to Sep 2011	% Reduction 2002 to Jun 2011	% Reduction 2002 to Mar 2011
MW-1†	51.3%	-39.90%	-57.6%		-9.1%	24.5%	-99.2%	-91.4%	54.4%	44.0%	60.9%	45.3%	-28.9%	-28.9%	-126.6%	-8.1%	-19.5%	-87.5%	31.3%	-15.8%	42.4%	-71.6%	24.1%
MW-2	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled
MW-3	100%	100%	100.0%	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled
MW-4	100%	100%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.00%	100.0%	100.0%	97.4%	97.4%	97.4%
MW-5	100%	100%	100.0%	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled
MW-6	15.4%	-84.60%	15.4%	81.3%	70.4%	75.4%	70.4%	76.4%	78.8%	80.0%	72.9%	72.9%	76.4%	76.8%	68.0%	75.6%	77.1%	75.6%	78.6%	78.9%	75.1%	80.5%	82.0%
MW-7	81.3%	98.70%	93.6%	75.6%	86.2%	81.6%	89.1%	71.1%	87.1%	100.0%	60.0%	57.8%	93.6%	100.0%	100.0%	96.0%	100.0%	100.0%	66.3%	93.2%	53.5%	84.2%	95.0%
MW-8	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled
MW-9	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled
MW-10	100%	100%	100.0%	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled
MW-11	75.0%	89.20%	99.1%	86.1%	90.4%	88.2%	77.2%	86.4%	90.4%	89.2%	90.3%	91.9%	90.3%	84.7%	81.1%	89.0%	87.7%	83.0%	89.3%	86.7%	89.1%	84.5%	86.6%
MW-12	99.1%	99.80%	75.0%	99.9%	99.9%	99.9%	99.8%	99.6%	99.2%	99.1%	99.0%	98.4%	98.4%	98.3%	98.6%	98.8%	98.5%	98.9%	99.3%	98.8%	99.3%	98.7%	99.3%
MW-13	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled
MW-14	91.1%	87.90%	2.3%	75.9%	68.3%	81.9%	74.3%	69.5%	83.5%	68.6%	78.4%	78.4%	82.9%	76.8%	70.2%	84.4%	77.5%	85.1%	87.4%	75.7%	75.5%	66.7%	89.9%
MW-15	100%	100%	99.0%	98.5%	96.7%	98.5%	98.6%	98.1%	98.9%	98.7%	95.6%	95.8%	99.2%	100.0%	99.1%	99.0%	100.0%	98.2%	96.4%	99.1%	95.6%	97.8%	99.1%
MW:16*	2.3%	2.80%	2.3%	72.7%	60.9%	27.7%	39.5%	74.6%	86.7%	100.0%	89.8%	81.6%	59.0%	53.1%	60.9%	77.9%	36.8%	52.6%	88.5%	67.9%	84.0%	39.2%	23.9%
MW-17*	99.5%	78*	2.3%	62.9%	54.0%	58.0%	54.5%	59.4%	Not Sampled	66.8%	61.0%	59.4%	66.5%	83.5%	58.5%	50.6%	97.4%	46.9%	53.0%	67.9%	44.6%	72.2%	96.7%
MW-18:*	100%	100%	100.0%	97.4%	93.4%	98.2%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	Not Sampled	100.0%	100.0%	100.0%	89.6%	98.5%	81.9%	91.3%	96.0%
MW-19 R*	Not Sampled	Not Sampled	Not Sampled	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	75.0%	99.0%	99.0%	99.0%	99.0%	99.0%
MW-20**	100%	1	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	99.4%	99.4%	99.4%	99.4%	99.4%	99.4%
MW-21**	Not Sampled	Not Sampled	Not Sampled	34.6%	-50.0%	66.5%	23.1%	23.1%	61.5%	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled
* Well installed 2003																							
** Well Installed 2004																							
Site-Wide reduction:	81.0%	67.60%	62.1%	83.5%	68.7%	78.6%	66.2%	69.1%	87.7%	88.2%	85.2%	83.2%	79.8%	80.3%	67.5%	81.8%	81.2%	71.3%	82.9%	80.7%	79.7%	72.2%	83.7%
Impacted Groundwater Plume Area Only:	51.40%	41.1%	82.9%	69.6%	76.0%	58.1%	58.6%	84.6%	80.8%	77.3%	75.0%	72.3%	73.9%	82.2%	73.2%	77.3%	62.5%	75.2%	73.1%	71.9%	64.1%	84.1%	

Plume Area = MW-1, MW-11, MW-12, MW-14, MW-15, MW-7, MW-17, MW-6
% reduction = percent reduction in total Volatile Organic Compounds (VOCs) since groundwater monitoring was initiated
†Negative values indicate an increase in total VOCs since monitoring commenced in 2002. The percent increase in total groundwater VOCs is shown below for MW-1.

Recovery Well	% Reduction 2002 to April 2018	% Reduction 2002 to Nov 2017	% Reduction 2002 to Aug 2017	% Reduction 2002 to Nov 2016	% Reduction 2002 to Sep 2016	% Reduction 2002 to Jun 2016	% Reduction 2002 to Nov 2015	% Reduction 2002 to Aug 2015	% Reduction 2002 to Jun 2015	% Reduction 2002 to Mar 2015	% Reduction 2002 to Nov 2014	% Reduction 2002 to Sep 2014	% Reduction 2002 to Jun 2014	% Reduction 2002 to Mar 2014	% Reduction 2002 to Dec 2013	% Reduction 2002 to Jul 2013	% Reduction 2002 to Apr 2013	% Reduction 2002 to Dec 2012	% Reduction 2002 to Jun 2012	% Reduction 2002 to Mar 2012	% Reduction 2002 to Sep 2011	% Reduction 2002 to Jun 2011	% Reduction 2002 to Mar 2011
DR-1	-86.6%	-243.6%	-243.6%	-7.6%	-6.4%	-58.7%	44.4%	72.1%	Not Sampled	96.2%	89.0%	90.4%	86.9%	77.0%	84.8%	99.1%	99.0%	99.5%	99.8%	91.6%	97.9%	98.1%	96.9%
DR-2	76%	63.8%	63.8%	75.1%	60.3%	60.9%	63.8%	66.0%	47.0%	52.8%	70.5%	59.2%	58.0%	62.3%	45.0%	87.2%	85.4%	99.1%	88.5%	83.9%	89.7%	88.0%	86.6%
DR-3	78%	68.5%	Not Sampled	35.7%	-1.0%	59.3%	70.5%	50.2%	45.6%	63.9%	-18.7%	-37.7%	45.6%	41.6%	19.3%	95.8%	95.1%	97.2%	92.1%	98.3%	95.0%	95.4%	98.3%
DR-4	96%	93.9%	93.9%	90.8%	88.9%	92.7%	89.1%	87.2%	91.7%	82.9%	81.8%	82.8%	88.8%	92.5%	90.8%	95.5%	97.9%	94.9%	93.1%	100.0%	89.2%	92.7%	94.3%
G-1	80%	74.1%	74.1%	57.7%	47.4%	92.7%	60.0%	100.0%	66.1%	27.3%	49.8%	47.7%	55.0%	61.3%	65.6%	87.3%	89.8%	90.3%	87.4%	88.0%	87.6%	89.8%	87.7%
G-2	84%	100.0%	Not Sampled	Not Sampled	100.0%	Not Sampled	Not Sampled	90.1%	Not Sampled	83.1%	88.0%	86.9%	81.7%	95.1%	71.4%	79.0%	87.0%	65.7%	80.4%	89.1%	92.3%	83.0%	87.7%
G-3	Not Sampled	Not Sampled	Not Sampled	27.3%	-0.2%	-4.2%	35.0%	8.2%	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	79.7%	NA	NA	NA	NA	NA	NA	NA	NA	NA
Overall Reduction	54.6%	60.4%	40.4%	46.5%	41.3%	40.4%	60.4%	67.7%	62.6%	67.7%	60.1%	54.9%	69.3%	72.8%	62.8%	90.7%	92.3%	91.1%	90.2%	91.8%	91.9%	91.1%	91.9%

*Sampling of recovery wells initiated in 2005

FIGURES



I:\DASNY\006974.91 DASNY- GOWANDA 2017 O&M\3.0 Design\3.8 Reports\2018\01 2018 (April)\April 2018 Figures\Figure 1 April 2018.dwg

DASNY
Gowanda Day Habilitation Center

4 Industrial Place
Gowanda, New York

BERGMANN
ARCHITECTS ENGINEERS PLANNERS

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REVISIONS

NO.	DATE	DESCRIPTION	REV.	CK'D

Project Manager: S. DEMEO	Checked By: S. DEMEO
Designed By:	Drawn By: C. WOOD
Date Issued: 06/01/2018	Scale: 1" = 60'
Project Number: 6974.91	

APRIL 2018
WATER LEVEL
CONTOUR MAP

Drawing Number:

FIGURE 1

DASNY

Gowanda Day Habilitation Center

4 Industrial Place
Gowanda, NY

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Figure 2

April 2018 Distribution of Groundwater Analytical Results: Monitoring Wells

0 25 50 75 100
Feet

N

DASNY

Gowanda Day Habilitation Center

4 Industrial Place
Gowanda, NY

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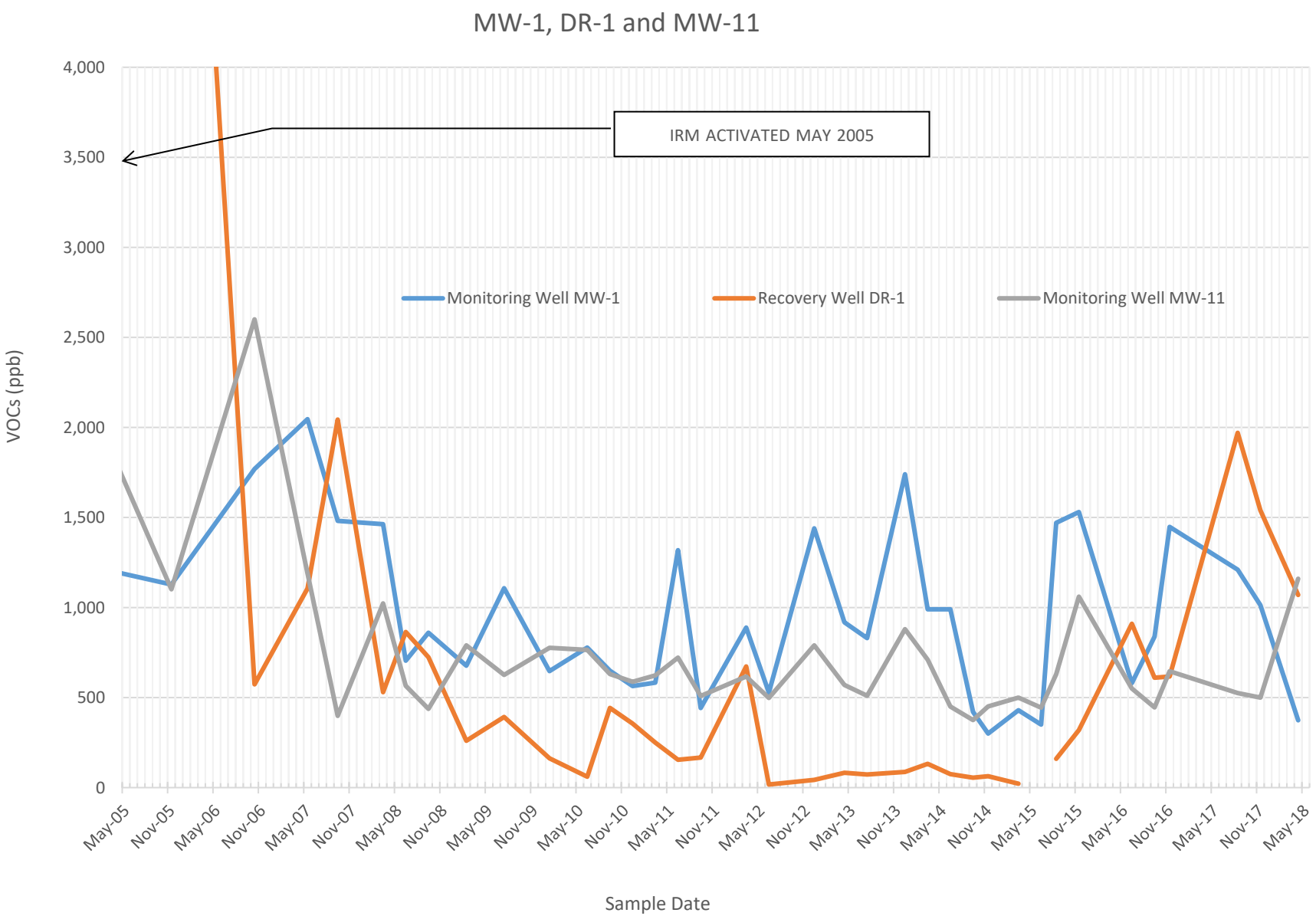
Figure 3

April 2018 Distribution of Groundwater Analytical Results: Recovery Wells

0 25 50 75 100
Feet

N

CHARTS


MW-1, DR-1 and MW-11
IRM ACTIVATED MAY 2005
Monitoring Well MW-1
Recovery Well DR-1
Monitoring Well MW-11
VOCs (ppb)
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
May-05
Nov-05
May-06
Nov-06
May-07
Nov-07
May-08
Nov-08
May-09
Nov-09
May-10
Nov-10
May-11
Nov-11
May-12
Nov-12
May-13
Nov-13
May-14
Nov-14
May-15
Nov-15
May-16
Nov-16
May-17
Nov-17
May-18
Sample Date

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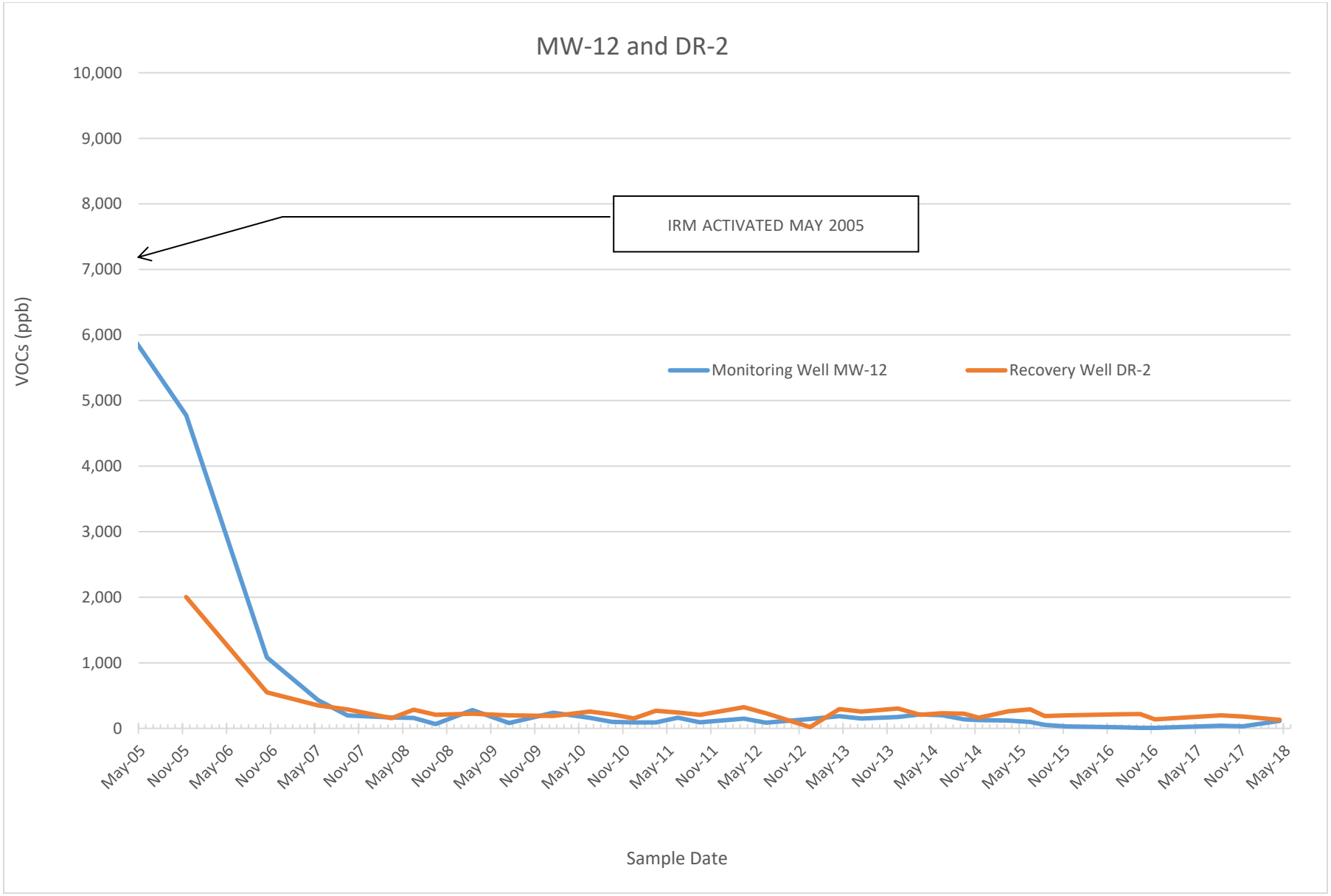
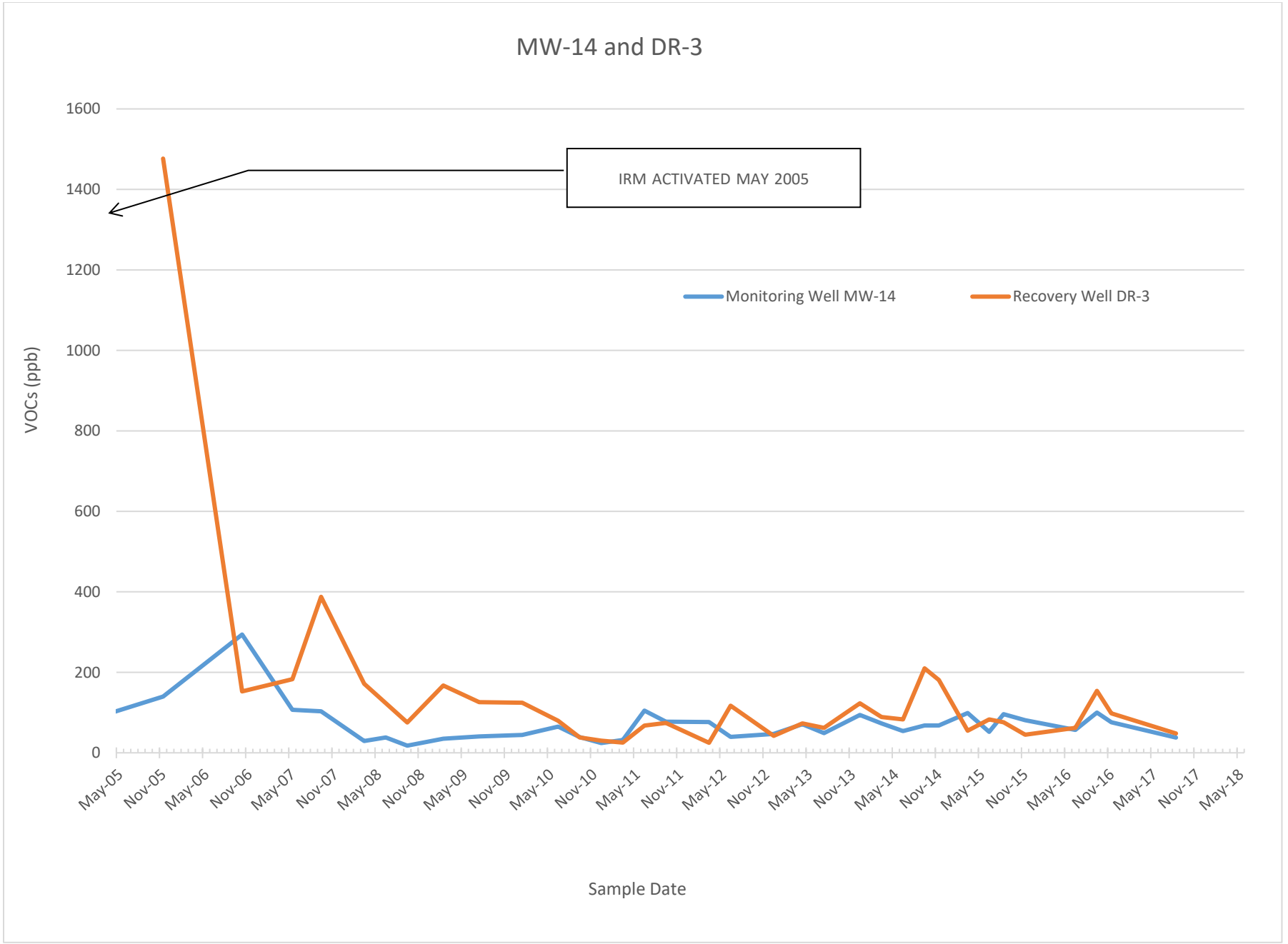
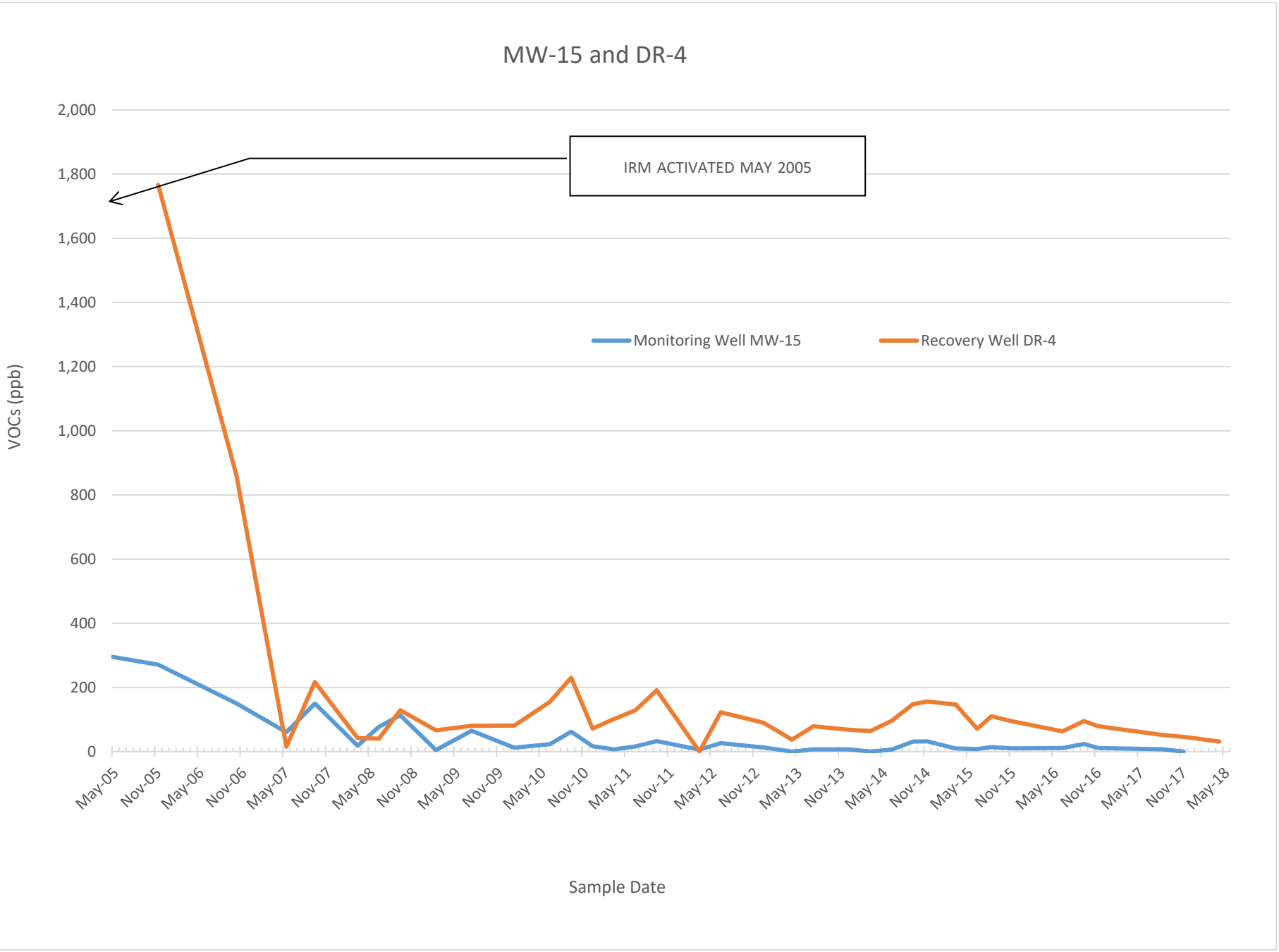
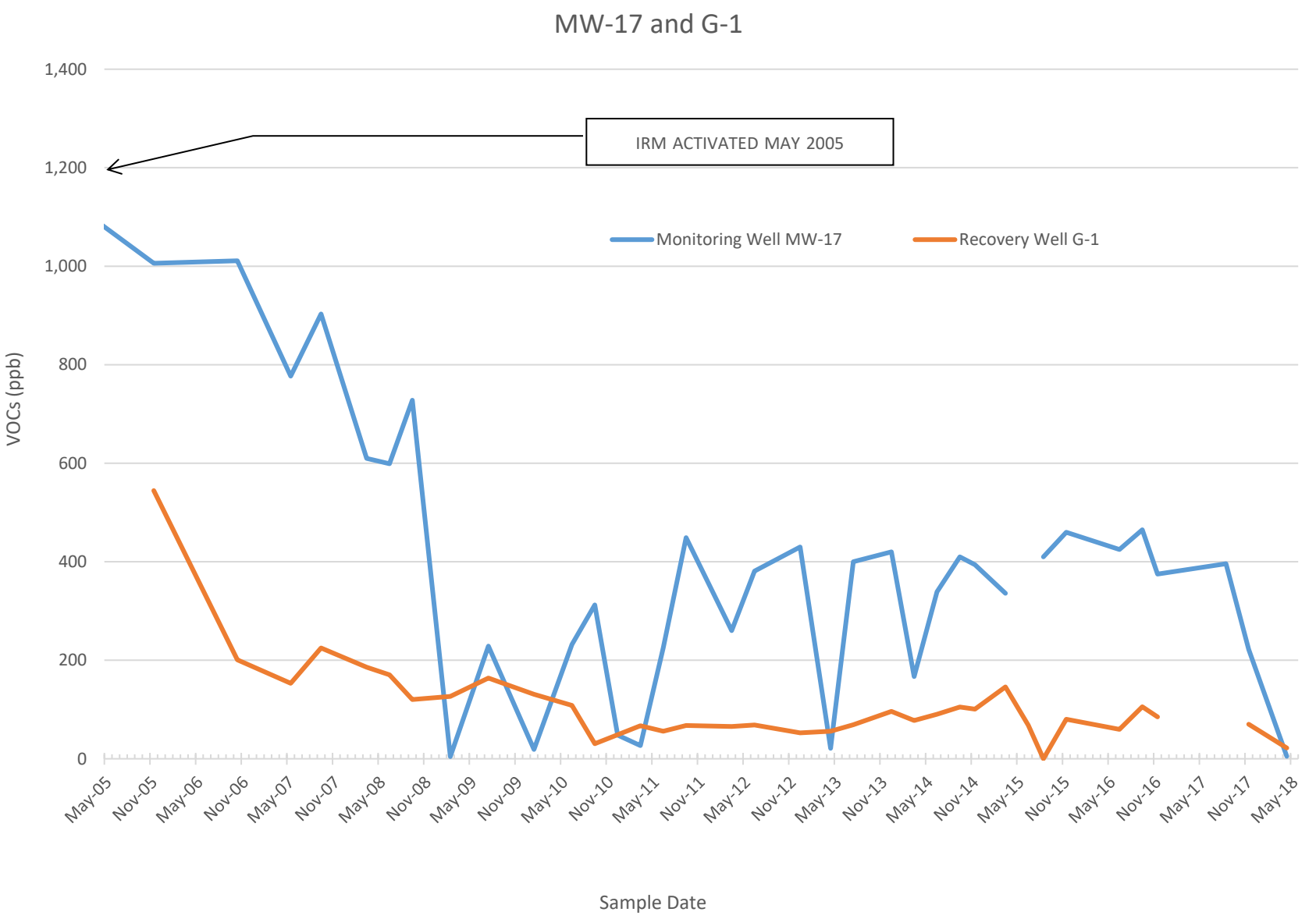
ARCHITECTS ENGINEERS PLANNERS

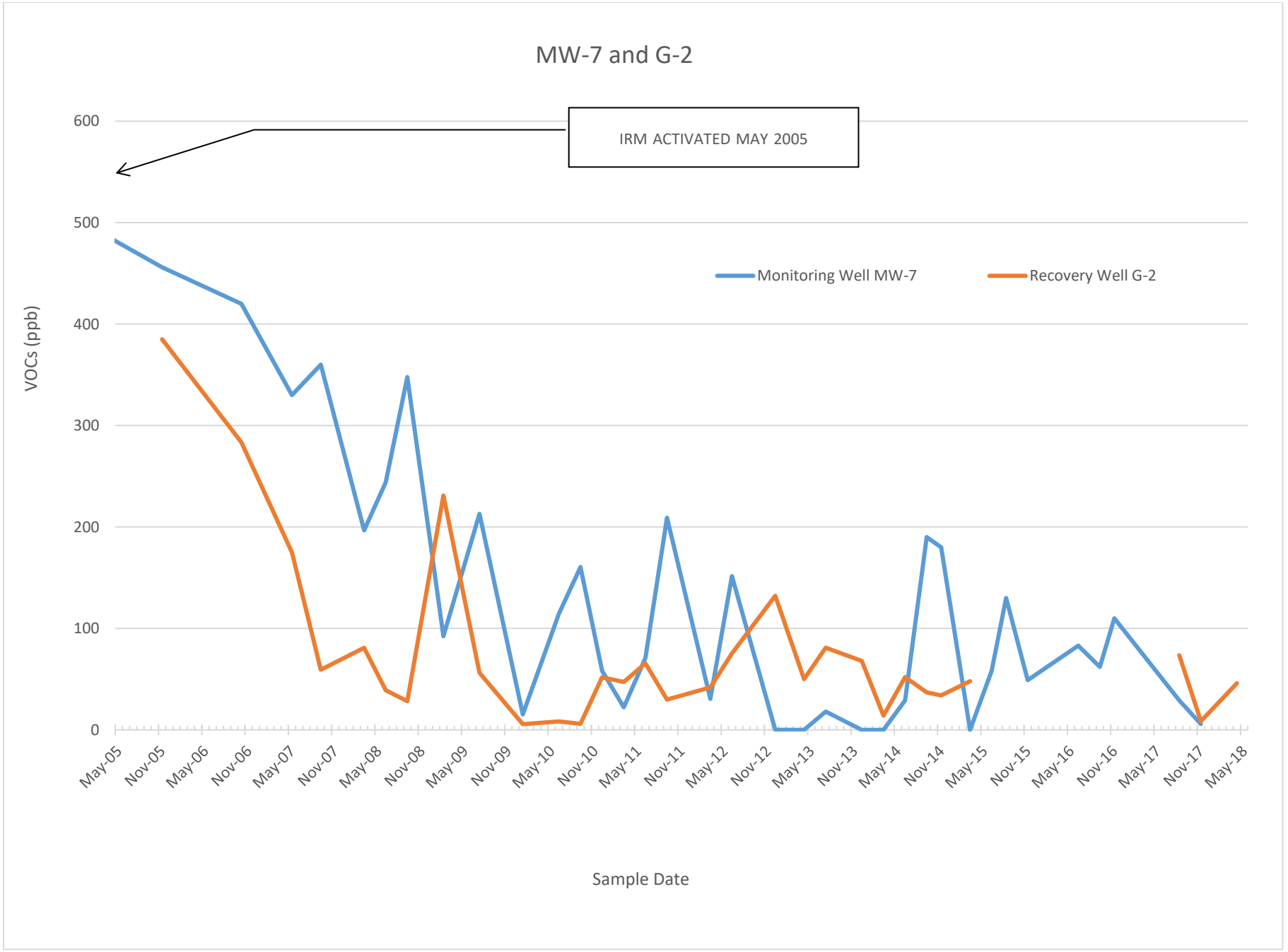


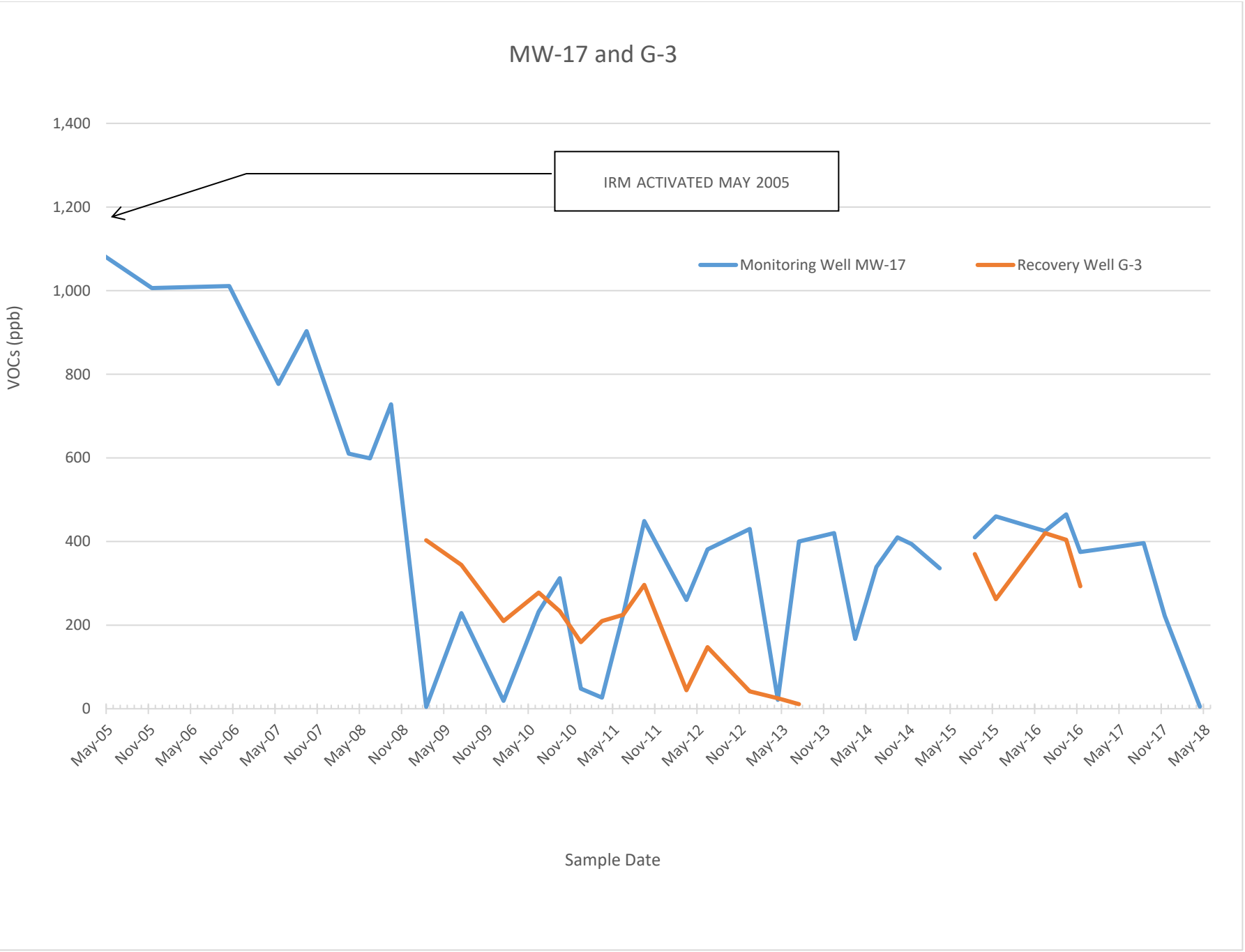

MW-14 and DR-3
IRM ACTIVATED MAY 2005
Monitoring Well MW-14
Recovery Well DR-3
VOCs (ppb)
1600
1400
1200
1000
800
600
400
200
0
May-05
Nov-05
May-06
Nov-06
May-07
Nov-07
May-08
Nov-08
May-09
Nov-09
May-10
Nov-10
May-11
Nov-11
May-12
Nov-12
May-13
Nov-13
May-14
Nov-14
May-15
Nov-15
May-16
Nov-16
May-17
Nov-17
May-18
Sample Date

BERGMANN
ARCHITECTS ENGINEERS PLANNERS




MW-17 and G-1
IRM ACTIVATED MAY 2005
Monitoring Well MW-17
Recovery Well G-1
VOCs (ppb)
1,400
1,200
1,000
800
600
400
200
0
May-05
Nov-05
May-06
Nov-06
May-07
Nov-07
May-08
Nov-08
May-09
Nov-09
May-10
Nov-10
May-11
Nov-11
May-12
Nov-12
May-13
Nov-13
May-14
Nov-14
May-15
Nov-15
May-16
Nov-16
May-17
Nov-17
May-18
Sample Date


MW-7 and G-2
IRM ACTIVATED MAY 2005
Monitoring Well MW-7
Recovery Well G-2
VOCs (ppb)
600
500
400
300
200
100
0
May-05
Nov-05
May-06
Nov-06
May-07
Nov-07
May-08
Nov-08
May-09
Nov-09
May-10
Nov-10
May-11
Nov-11
May-12
Nov-12
May-13
Nov-13
May-14
Nov-14
May-15
Nov-15
May-16
Nov-16
May-17
Nov-17
May-18
Sample Date


MW-17 and G-3
IRM ACTIVATED MAY 2005
Monitoring Well MW-17
Recovery Well G-3
VOCs (ppb)
1,400
1,200
1,000
800
600
400
200
0
May-05
Nov-05
May-06
Nov-06
May-07
Nov-07
May-08
Nov-08
May-09
Nov-09
May-10
Nov-10
May-11
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May-12
Nov-12
May-13
Nov-13
May-14
Nov-14
May-15
Nov-15
May-16
Nov-16
May-17
Nov-17
May-18
Sample Date

APPENDIX A:

LABORATORY ANALYTICAL RESULTS

April 18, 2018 Service Request No:R1803166

Mr. Cash Bleier
Bergmann Associates, Incorporated
280 East Broad Street
Suite 200
Rochester, NY 14604

Laboratory Results for: Gowanda

Dear Mr.Bleier,

Enclosed are the results of the sample(s) submitted to our laboratory April 11, 2018
For your reference, these analyses have been assigned our service request number **R1803166.**

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and ALS Environmental is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s) for analysis of these samples, and represented by Laboratory Control Sample control limits. Any events, such as QC failures, which may add to the uncertainty are explained in the report narrative.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Brady Kalkman
Project Manager

ADDRESS 1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
PHONE +1 585 288 5380 | FAX +1 585 288 8475
ALS Group USA, Corp.
dba ALS Environmental

Narrative Documents

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

ALS Environmental

Client: Bergmann Associates, Incorporated
Project: Gowanda
Sample Matrix: Water

Service Request: R1803166
Date Received: 04/11/2018

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier II data deliverables, including results of QC samples analyzed from this delivery group. Analytical procedures performed by the lab are validated in accordance with NELAC standards. Any parameters that are not included in the lab's NELAC accreditation are identified on a "Non-Certified Analytes" report in the Miscellaneous Forms Section of this report. Individual analytical results requiring further explanation are flagged with qualifiers and/or discussed below. The flags are explained in the Report Qualifiers and Definitions page in the Miscellaneous Forms section of this report.

Sample Receipt:

Twenty four water samples were received for analysis at ALS Environmental on 04/11/2018. Any discrepancies noted upon initial sample inspection are noted on the cooler receipt and preservation form included in this data package. The samples were received in good condition and consistent with the accompanying chain of custody form. Samples are refrigerated at 6°C upon receipt at the lab except for aqueous samples designated for metals analyses, which are stored at room temperature.

Volatiles by GC/MS:

No significant anomalies were noted with this analysis.

Approved by _____ Date 04/18/2018

SAMPLE DETECTION SUMMARY

CLIENT ID: MW-1			Lab ID: R1803166-001			
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
cis-1,2-Dichloroethene	84		0.60	10	ug/L	8260C
Trichloroethene (TCE)	290		0.44	10	ug/L	8260C

CLIENT ID: MW-6			Lab ID: R1803166-006			
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
cis-1,2-Dichloroethene	76		0.30	5.0	ug/L	8260C

CLIENT ID: MW-11			Lab ID: R1803166-010			
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
cis-1,2-Dichloroethene	260		1.5	25	ug/L	8260C
Trichloroethene (TCE)	900		1.1	25	ug/L	8260C

CLIENT ID: MW-12			Lab ID: R1803166-011			
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
cis-1,2-Dichloroethene	99		0.30	5.0	ug/L	8260C
Trichloroethene (TCE)	14		0.22	5.0	ug/L	8260C
Vinyl Chloride	8.9		0.32	5.0	ug/L	8260C

CLIENT ID: MW-14			Lab ID: R1803166-013			
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
cis-1,2-Dichloroethene	10		0.30	5.0	ug/L	8260C
Trichloroethene (TCE)	18		0.22	5.0	ug/L	8260C

CLIENT ID: MW-16			Lab ID: R1803166-015			
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
cis-1,2-Dichloroethene	43		0.30	5.0	ug/L	8260C

CLIENT ID: MW-17			Lab ID: R1803166-016			
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Trichloroethene (TCE)	5.1		0.22	5.0	ug/L	8260C

CLIENT ID: G-1			Lab ID: R1803166-019			
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
cis-1,2-Dichloroethene	22		0.30	5.0	ug/L	8260C

CLIENT ID: G-2			Lab ID: R1803166-020			
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
cis-1,2-Dichloroethene	38		0.30	5.0	ug/L	8260C
Trichloroethene (TCE)	8.0		0.22	5.0	ug/L	8260C

CLIENT ID: DR-1			Lab ID: R1803166-021			
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
cis-1,2-Dichloroethene	190		3.0	50	ug/L	8260C
Trichloroethene (TCE)	880		2.2	50	ug/L	8260C

SAMPLE DETECTION SUMMARY

CLIENT ID: DR-2			Lab ID: R1803166-022			
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
cis-1,2-Dichloroethene	99		0.30	5.0	ug/L	8260C
Trichloroethene (TCE)	31		0.22	5.0	ug/L	8260C

CLIENT ID: DR-3			Lab ID: R1803166-023			
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
cis-1,2-Dichloroethene	11		0.30	5.0	ug/L	8260C
Trichloroethene (TCE)	23		0.22	5.0	ug/L	8260C

CLIENT ID: DR-4			Lab ID: R1803166-024			
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
cis-1,2-Dichloroethene	7.6		0.30	5.0	ug/L	8260C
Trichloroethene (TCE)	24		0.22	5.0	ug/L	8260C

Sample Receipt Information

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: Bergmann Associates, Incorporated **Service Request:**R1803166
Project: Gowanda/6974.90

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
R1803166-001	MW-1	4/10/2018	1210
R1803166-002	MW-3	4/10/2018	1200
R1803166-003	MW-4	4/10/2018	1145
R1803166-004	MW-5	4/10/2018	1115
R1803166-005	MW-7	4/10/2018	1100
R1803166-006	MW-6	4/10/2018	1030
R1803166-007	MW-8	4/10/2018	1006
R1803166-008	MW-9	4/10/2018	0944
R1803166-009	MW-10	4/10/2018	1000
R1803166-010	MW-11	4/10/2018	1140
R1803166-011	MW-12	4/10/2018	1120
R1803166-012	MW-13	4/10/2018	1145
R1803166-013	MW-14	4/10/2018	1050
R1803166-014	MW-15	4/10/2018	1033
R1803166-015	MW-16	4/10/2018	1020
R1803166-016	MW-17	4/10/2018	1045
R1803166-017	MW-18	4/10/2018	1220
R1803166-018	MW-20	4/10/2018	1130
R1803166-019	G-1	4/10/2018	1100
R1803166-020	G-2	4/10/2018	1020
R1803166-021	DR-1	4/10/2018	1136
R1803166-022	DR-2	4/10/2018	1125
R1803166-023	DR-3	4/10/2018	1150
R1803166-024	DR-4	4/10/2018	1220

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

50525

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax) PAGE 1 OF 3

Project Name: Gowanda	Project Number: 6974.90
Project Manager: C. Bleier	Report CC:
Company/Address: Bergmann 280 E Broad St, Suite 200 Rochester, NY, 14604	
Phone #: 585-498-7450	Email: cbleier@bergmannpc.com
Sampler's Signature:	Sampler's Printed Name: Cash Bleier

ANALYSIS REQUESTED *(Include Method Number and Container Preservative)*

PRESERVATIVE: 1

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GC/MS VOAs ○ 8260 ○ 624 ○ CLP	GC/MS SVOAs ○ 8270 ○ 625	GC VOAs ○ 8021 ○ 601/602	PESTICIDES ○ 8081 ○ 608	PCBs ○ 8082 ○ 608	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)	REMARKS/ ALTERNATE DESCRIPTION
MW-1		04/10/18	12:10pm	GW	3	X							
MW-3		4/10/18	12:00pm	GW	3	X							
MW-4		4/10/18	11:45am	GW	3	X							
MW-5		4/10/18	11:15am	GW	3	X							
MW-7		4/10/18	11:00am	GW	3	X							
MW-6		4/10/18	10:30am	GW	3	X							
MW-8		4/10/18	10:06am	GW	3	X							
MW-9		4/10/18	9:44am	GW	3	X							
MW-10		4/10/18	10:60am	GW	3	X							
MW-11		4/10/18	11:40am	GW	3	X							
MW-12		4/10/18	11:20am	GW	3	X							

Preservative Key
0. NONE
1. HCL
2. HNO_3
3. H_2SO_4
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other X (Chill)

SPECIAL INSTRUCTIONS/COMMENTS
Metals

See QAPP ☐

TURNAROUND REQUIREMENTS
____ RUSH (SURCHARGES APPLY)
____ 1 day ____ 2 day ____ 3 day
____ 4 day __X__ 5 day

REQUESTED REPORT DATE: _____

REPORT REQUIREMENTS
____ I. Results Only
____ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
____ III. Results + QC and Calibration Summaries
____ IV. Data Validation Report with Raw Data
NYS DEC Equis
Edata __X__ Yes ____ No

INVOICE INFORMATION
PO #:
BILL TO:

STATE WHERE SAMPLES WERE COLLECTED: New York

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature:	Signature:	Signature:	Signature:	Signature:	
Printed Name: Cash Bleier	Printed Name: Brady Kirkpatrick	Printed Name:	Printed Name:	Printed Name:	
Firm: Bergmann	Firm: ALS	Firm:	Firm:	Firm:	
Date/Time: 04/11/2018	Date/Time: 4/11/18 0830	Date/Time:	Date/Time:	Date/Time:	

R1803166 5
Bergmann Associates, Incorporated
Gowanda

Distribution: White - Lab Copy; Yellow - Return to Originator

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

50526

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax)

Project Name: Gowanda	Project Number: 6974.90
Project Manager: C. Bleier	Report CC:
Company/Address: Bergmann 280 E Broad St, Suite 200 Rochester, NY 14604	
Phone #: 585-498-7950	Email: cbleier@bergmannpc.com
Sampler's Signature: Cash Bleier	Sampler's Printed Name: Cash Bleier

ANALYSIS REQUESTED *(Include Method Number and Container Preservative)*

PRESERVATIVE: 1

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GC/MS VOAs ◦ 8260 ◦ 624 ◦ CLP	GC/MS SVOAs ◦ 8270 ◦ 625	GC VOAs ◦ 8021 ◦ 601/602	PESTICIDES ◦ 8081 ◦ 608	PCBs ◦ 8082 ◦ 608	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)
MW-13		4/10/18	11:45am	GW	3	X						
MW-14		4/10/18	10:50am	GW	3	X						
MW-15		4/10/18	10:33am	GW	3	X						
MW-16		4/10/18	10:20am	GW	3	X						
MW-17		4/10/18	10:45am	GW	3	X						
MW-18		4/10/18	12:20am	GW	3	X						
MW-20		4/10/18	11:30am	GW	3	X						
G-1		4/10/18	11:00am	GW	3	X						
G-2		4/10/18	10:20am	GW	3	X						
DR-1		4/10/18	11:36am	GW	3	X						
DR-2		4/10/18	11:25am	GW	3	X						

Preservative Key
0. NONE
1. HCL
2. HNO_3
3. H_2SO_4
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other ice

REMARKS/ ALTERNATE DESCRIPTION

SPECIAL INSTRUCTIONS/COMMENTS
Metals

See QAPP ☐

TURNAROUND REQUIREMENTS
____ RUSH (SURCHARGES APPLY)
____ 1 day ____ 2 day ____ 3 day
____ 4 day __X__ 5 day

REQUESTED REPORT DATE

REPORT REQUIREMENTS
____ I. Results Only
____ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
____ III. Results + QC and Calibration Summaries
____ IV. Data Validation Report with Raw Data
NYSDEC Equis
Edata __X__ Yes ____ No

INVOICE INFORMATION
PO #
BILL TO:

STATE WHERE SAMPLES WERE COLLECTED: New York

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature: Cash Bleier	Signature: Brady Kellam	Signature	Signature	Signature	
Printed Name: Cash Bleier	Printed Name: Brady Kellam	Printed Name	Printed Name		
Firm: Bergmann	Firm: ALS	Firm	Firm		
Date/Time: 4/11/18	Date/Time: 4/11/18 0830	Date/Time	Date/Time		

R1803166 5
Bergmann Associates, Incorporated
Gowanda

Distribution: White - Lab Copy; Yellow - Return to Originator

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

50527

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax)

Project Name: Gowanda	Project Number: 6974-90
Project Manager: C. Bleier	Report CC:
Company/Address: Bergmann 280 E Broad St, Suite 200 Rochester, NY 14604	
Phone #: 585-498-7950	Email: cbleier@bergmannpc.com
Sampler's Signature:	Sampler's Printed Name: Cash Bleier

ANALYSIS REQUESTED *(Include Method Number and Container Preservative)*

PRESERVATIVE: 1

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GC/MS VOAs ○ 8260 ○ 624 ○ CLP	GC/MS SVOAs ○ 8270 ○ 625	GC VOAs ○ 8021 ○ 601/602	PESTICIDES ○ 8081 ○ 608	PCBs ○ 8082 ○ 608	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)	REMARKS/ ALTERNATE DESCRIPTION
DR-3		4/10/18	11:50am	GW	3	1							
DR-4		4/10/18	12:20pm	GW	3	1							

Preservative Key
0. NONE
1. HCL
2. HNO_3
3. H_2SO_4
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other X chill

SPECIAL INSTRUCTIONS/COMMENTS
Metals

See QAPP ☐

STATE WHERE SAMPLES WERE COLLECTED: New York

TURNAROUND REQUIREMENTS
____ RUSH (SURCHARGES APPLY)
____ 1 day ____ 2 day ____ 3 day
____ 4 day X 5 day

REQUESTED REPORT DATE: _____

REPORT REQUIREMENTS
____ I. Results Only
____ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
____ III. Results + QC and Calibration Summaries
____ IV. Data Validation Report with Raw Data
NYSDEC Equis
Edata X Yes ____ No

INVOICE INFORMATION
PO #:
BILL TO:

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature:	Signature:	Signature:	Signature:		
Printed Name: Cash Bleier	Printed Name: Brady Kaufman	Printed Name:	Printed Name:		
Firm: Bergmann	Firm: ALS	Firm:	Firm:		
Date/Time: 4/11/2018	Date/Time: 4/11/18 0830	Date/Time:	Date/Time:	Date/Time:	Date/Time:

R1803166 5
Bergmann Associates, Incorporated
Gowanda

Distribution: White - Lab Copy; Yellow - Return to Originator

Cooler Receipt and Preservation Check Form

R1803166 5
Bergmann Associates, Incorporated
Gowanda

Project/Client Bergmann Folder Number

Cooler received on 4-11-18 by: RE

COURIER: ALS UPS FEDEX VELOCITY (CLIENT)

1	Were **Custody seals** on outside of cooler?	Y	(N)
2	**Custody papers** properly completed (ink, signed)?	(Y)	N
3	Did all bottles arrive in good **condition** (unbroken)?	(Y)	N
4	Circle: (**Wet Ice**) **Dry Ice** **Gel packs** present?	(Y)	N

5a	**Perchlorate** samples have required headspace?	Y	N	(NA)
5b	Did VOA vials, Alk,or Sulfide have sig* **bubbles**?	(Y)	N	NA
6	Where did the bottles originate?	(ALS/ROC)	CLIENT	
7	Soil VOA received as: Bulk Encore 5035set			(NA)

8. Temperature Readings Date: 4-11-18 Time: 09:00 ID: (IR#7) IR#9 From: (Temp Blank) (Sample Bottle)

Observed Temp (°C)	6.3 T.B	6.9 sample					
Correction Factor (°C)	+0.8	+0.5					
Corrected Temp (°C)	7.1	7.4					
Temp from:Type of bottle	centrifuge	VOA vial					
Within 0-6°C?	Y N	Y N	Y N	Y N	Y N	Y N	Y N
If <0°C, were samples frozen?	Y N	Y N	Y N	Y N	Y N	Y N	Y N

If out of Temperature, note packing/ice condition: _____ Ice melted Poorly Packed (described below) Same Day Rule

&Client Approval to Run Samples: _____ Standing Approval Client aware at drop-off Client notified by: _____

All samples held in storage location: R-002 by RE on 4-11-18 at 09:07
5035 samples placed in storage location: _____ by _____ on _____ at _____

Cooler Breakdown/Preservation Check**: Date: 4/11/18 Time: 1810 by: DW

9. Were all bottle labels complete (*i.e.* analysis, preservation, etc.)? (YES) NO
10. Did all bottle labels and tags agree with custody papers? (YES) NO
11. Were correct containers used for the tests indicated? (YES) NO
12. Were 5035 vials acceptable (no extra labels, not leaking)? YES NO (N/A)
13. Air Samples: Cassettes / Tubes Intact with MS? Canisters Pressurized Tedlar® Bags Inflated (N/A)

pH	Lot of test paper	Reagent	Preserved? Yes	Preserved? No	Lot Received	Exp	Sample ID Adjusted	Vol. Added	Lot Added	Final pH
≥12		NaOH								
≤2		HNO_3								
≤2		H_2SO_4								
<4		$NaHSO_4$								
5-9		For 608pest			No=Notify for 3day					
Residual Chlorine (-)		For CN, Phenol, 625, 608pest, 522			If +, contact PM to add $Na_2S_2O_3$ (625, 608, CN), ascorbic (phenol).					
		$Na_2S_2O_3$								
		ZnAcetate	-	-						
		HCl	**	**	4115170					

**VOAs and 1664 Not to be tested before analysis. Otherwise, all bottles of all samples with chemical preservatives are checked (not just representatives).

Bottle lot numbers: 7-249-002

Explain all Discrepancies/ Other Comments:

* MW-1 : 1 of 3 vials
MW-12: All 3 vials
MW-9: 1 of 3 vials
MW-15: All 3 vials
MW-14: 2 of 3 vials
MW-10: 2 of 3 vials
DR-2: 2 of 3 vials
DR-1: 2 of 3 vials
MW-16: 1 of 3 vials
MW-18: 1 of 3 vials
MW-13: All 3 vials
MW-11: All 3 vials
DR-4: All 3 vials
G-1: All 3 vials
DR-3: All 3 vials
G-2: 2 of 3 vials

CLRES	BULK
DO	FLDT
HPROD	HGFB
HTR	LL3541
PH	SUB
SO3	MARRS
ALS	REV

Labels secondary reviewed by: DL
PC Secondary Review: _____

*significant air bubbles: VOA > 5-6 mm : WC >1 in. diameter

Miscellaneous Forms

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

REPORT QUALIFIERS AND DEFINITIONS

U	Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
J	Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Arclors).
B	Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
E	Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
E	Organics- Concentration has exceeded the calibration range for that specific analysis.
D	Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.
*	Indicates that a quality control parameter has exceeded laboratory limits. Under the ñNotesò column of the Form I, this qualifier denotes analysis was performed out of Holding Time.
H	Analysis was performed out of hold time for tests that have an ñimmediateò hold time criteria.
#	Spike was diluted out.
+	Correlation coefficient for MSA is <0.995.
N	Inorganics- Matrix spike recovery was outside laboratory limits.
N	Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
S	Concentration has been determined using Method of Standard Additions (MSA).
W	Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
P	Concentration >40% difference between the two GC columns.
C	Confirmed by GC/MS
Q	DoD reports: indicates a pesticide/Aroclor is not confirmed (Ó100% Difference between two GC columns).
X	See Case Narrative for discussion.
MRL LOQ	Method Reporting Limit. Also known as: Limit of Quantitation (LOQ) The lowest concentration at which the method analyte may be reliably quantified under the method conditions.
MDL	Method Detection Limit. A statistical value derived from a study designed to provide the lowest concentration that will be detected 99% of the time. Values between the MDL and MRL are estimated (see J qualifier).
LOD	Limit of Detection. A value at or above the MDL which has been verified to be detectable.
ND	Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.

Rochester Lab ID # for State Certifications[1]

Connecticut ID # PH0556	Maine ID #NY0032	New Hampshire ID # 294100 A/B
Delaware Approved	New Jersey ID # NY004	
DoD ELAP #65817	New York ID # 10145	Pennsylvania ID# 68-786
Florida ID # E87674	North Carolina #676	Rhode Island ID # 158
		Virginia #460167

[1] Analyses were performed according to our laboratoryôs NELAP-approved quality assurance program and any applicable state or agency requirements. The test results meet requirements of the current NELAP/TNI standards or state or agency requirements, where applicable, except as noted in the case narrative. Since not all analyte/method/matrix combinations are offered for state/NELAC accreditation, this report may contain results which are not accredited. For a specific list of accredited analytes, contact the laboratory or go to https://www.alsglobal.com/locations/americas/north-america/usa/new-york/rochester-environmental

ALS Laboratory Group

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1803166
Project:	Gowanda/6974.90		

Sample Name:	MW-1	**Date Collected:**	04/10/18
Lab Code:	R1803166-001	**Date Received:**	04/11/18
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name:	MW-3	**Date Collected:**	04/10/18
Lab Code:	R1803166-002	**Date Received:**	04/11/18
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name:	MW-4	**Date Collected:**	04/10/18
Lab Code:	R1803166-003	**Date Received:**	04/11/18
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name:	MW-5	**Date Collected:**	04/10/18
Lab Code:	R1803166-004	**Date Received:**	04/11/18
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name:	MW-7	**Date Collected:**	04/10/18
Lab Code:	R1803166-005	**Date Received:**	04/11/18
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1803166
Project:	Gowanda/6974.90		

Sample Name:	MW-6	**Date Collected:**	04/10/18
Lab Code:	R1803166-006	**Date Received:**	04/11/18
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name:	MW-8	**Date Collected:**	04/10/18
Lab Code:	R1803166-007	**Date Received:**	04/11/18
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name:	MW-9	**Date Collected:**	04/10/18
Lab Code:	R1803166-008	**Date Received:**	04/11/18
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name:	MW-10	**Date Collected:**	04/10/18
Lab Code:	R1803166-009	**Date Received:**	04/11/18
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name:	MW-11	**Date Collected:**	04/10/18
Lab Code:	R1803166-010	**Date Received:**	04/11/18
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Client: Bergmann Associates, Incorporated **Service Request:** R1803166
Project: Gowanda/6974.90

Sample Name: MW-12 **Date Collected:** 04/10/18
Lab Code: R1803166-011 **Date Received:** 04/11/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name: MW-13 **Date Collected:** 04/10/18
Lab Code: R1803166-012 **Date Received:** 04/11/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name: MW-14 **Date Collected:** 04/10/18
Lab Code: R1803166-013 **Date Received:** 04/11/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name: MW-15 **Date Collected:** 04/10/18
Lab Code: R1803166-014 **Date Received:** 04/11/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name: MW-16 **Date Collected:** 04/10/18
Lab Code: R1803166-015 **Date Received:** 04/11/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Client: Bergmann Associates, Incorporated **Service Request:** R1803166
Project: Gowanda/6974.90

Sample Name: MW-17 **Date Collected:** 04/10/18
Lab Code: R1803166-016 **Date Received:** 04/11/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name: MW-18 **Date Collected:** 04/10/18
Lab Code: R1803166-017 **Date Received:** 04/11/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name: MW-20 **Date Collected:** 04/10/18
Lab Code: R1803166-018 **Date Received:** 04/11/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name: G-1 **Date Collected:** 04/10/18
Lab Code: R1803166-019 **Date Received:** 04/11/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name: G-2 **Date Collected:** 04/10/18
Lab Code: R1803166-020 **Date Received:** 04/11/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1803166
Project:	Gowanda/6974.90		

Sample Name:	DR-1	**Date Collected:**	04/10/18
Lab Code:	R1803166-021	**Date Received:**	04/11/18
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name:	DR-2	**Date Collected:**	04/10/18
Lab Code:	R1803166-022	**Date Received:**	04/11/18
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name:	DR-3	**Date Collected:**	04/10/18
Lab Code:	R1803166-023	**Date Received:**	04/11/18
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name:	DR-4	**Date Collected:**	04/10/18
Lab Code:	R1803166-024	**Date Received:**	04/11/18
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

The preparation methods associated with this report are found in these tables unless discussed in the case narrative.

Water/Liquid Matrix

Analytical Method	Preparation Method
200.7	200.2
200.8	200.2
6010C	3005A/3010A
6020A	ILM05.3
9014 Cyanide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Acid Soluble	9030B
9056A Bomb (Halogens)	5050A
9066 Manual Distillation	9065
SM 4500-CN-E Residual Cyanide	SM 4500-CN-G
SM 4500-CN-E WAD Cyanide	SM 4500-CN-I

Solid/Soil/Non-Aqueous Matrix

Analytical Method	Preparation Method
6010C	3050B
6020A	3050B
6010C TCLP (1311) extract	3005A/3010A
6010 SPLP (1312) extract	3005A/3010A
7196A	3060A
7199	3060A
9056A Halogens/Halides	5050
300.0 Anions/ 350.1/ 353.2/ SM 2320B/ SM 5210B/ 9056A Anions	DI extraction

For analytical methods not listed, the preparation method is the same as the analytical method reference.

Sample Results

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Volatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1803166
Project:	Gowanda/6974.90	**Date Collected:**	04/10/18 12:10
Sample Matrix:	Water	**Date Received:**	04/11/18 08:30
Sample Name:	MW-1	**Units:**	ug/L
Lab Code:	R1803166-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	**84**		10	2	04/14/18 05:07	
trans-1,2-Dichloroethene	10	U	10	2	04/14/18 05:07	
Tetrachloroethene (PCE)	10	U	10	2	04/14/18 05:07	
1,1,1-Trichloroethane (TCA)	10	U	10	2	04/14/18 05:07	
Trichloroethene (TCE)	**290**		10	2	04/14/18 05:07	
Vinyl Chloride	10	U	10	2	04/14/18 05:07	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	99	85 - 122	04/14/18 05:07	
Dibromofluoromethane	101	89 - 119	04/14/18 05:07	
Toluene-d8	104	87 - 121	04/14/18 05:07	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1803166
Project:	Gowanda/6974.90	**Date Collected:**	04/10/18 12:00
Sample Matrix:	Water	**Date Received:**	04/11/18 08:30
Sample Name:	MW-3	**Units:**	ug/L
Lab Code:	R1803166-002	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	04/13/18 15:58	
trans-1,2-Dichloroethene	5.0 U	5.0	1	04/13/18 15:58	
Tetrachloroethene (PCE)	5.0 U	5.0	1	04/13/18 15:58	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	04/13/18 15:58	
Trichloroethene (TCE)	5.0 U	5.0	1	04/13/18 15:58	
Vinyl Chloride	5.0 U	5.0	1	04/13/18 15:58	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	100	85 - 122	04/13/18 15:58	
Dibromofluoromethane	99	89 - 119	04/13/18 15:58	
Toluene-d8	101	87 - 121	04/13/18 15:58	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1803166
Project:	Gowanda/6974.90	**Date Collected:**	04/10/18 11:45
Sample Matrix:	Water	**Date Received:**	04/11/18 08:30
Sample Name:	MW-4	**Units:**	ug/L
Lab Code:	R1803166-003	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	04/13/18 16:20	
trans-1,2-Dichloroethene	5.0 U	5.0	1	04/13/18 16:20	
Tetrachloroethene (PCE)	5.0 U	5.0	1	04/13/18 16:20	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	04/13/18 16:20	
Trichloroethene (TCE)	5.0 U	5.0	1	04/13/18 16:20	
Vinyl Chloride	5.0 U	5.0	1	04/13/18 16:20	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	102	85 - 122	04/13/18 16:20	
Dibromofluoromethane	102	89 - 119	04/13/18 16:20	
Toluene-d8	104	87 - 121	04/13/18 16:20	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1803166
Project:	Gowanda/6974.90	**Date Collected:**	04/10/18 11:15
Sample Matrix:	Water	**Date Received:**	04/11/18 08:30
Sample Name:	MW-5	**Units:**	ug/L
Lab Code:	R1803166-004	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	04/13/18 16:42	
trans-1,2-Dichloroethene	5.0 U	5.0	1	04/13/18 16:42	
Tetrachloroethene (PCE)	5.0 U	5.0	1	04/13/18 16:42	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	04/13/18 16:42	
Trichloroethene (TCE)	5.0 U	5.0	1	04/13/18 16:42	
Vinyl Chloride	5.0 U	5.0	1	04/13/18 16:42	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	101	85 - 122	04/13/18 16:42	
Dibromofluoromethane	103	89 - 119	04/13/18 16:42	
Toluene-d8	103	87 - 121	04/13/18 16:42	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1803166
Project:	Gowanda/6974.90	**Date Collected:**	04/10/18 11:00
Sample Matrix:	Water	**Date Received:**	04/11/18 08:30
Sample Name:	MW-7	**Units:**	ug/L
Lab Code:	R1803166-005	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	04/13/18 17:04	
trans-1,2-Dichloroethene	5.0 U	5.0	1	04/13/18 17:04	
Tetrachloroethene (PCE)	5.0 U	5.0	1	04/13/18 17:04	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	04/13/18 17:04	
Trichloroethene (TCE)	5.0 U	5.0	1	04/13/18 17:04	
Vinyl Chloride	5.0 U	5.0	1	04/13/18 17:04	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	104	85 - 122	04/13/18 17:04	
Dibromofluoromethane	103	89 - 119	04/13/18 17:04	
Toluene-d8	105	87 - 121	04/13/18 17:04	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1803166
Project:	Gowanda/6974.90	**Date Collected:**	04/10/18 10:30
Sample Matrix:	Water	**Date Received:**	04/11/18 08:30
Sample Name:	MW-6	**Units:**	ug/L
Lab Code:	R1803166-006	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	**76**	5.0	1	04/13/18 22:54	
trans-1,2-Dichloroethene	5.0 U	5.0	1	04/13/18 22:54	
Tetrachloroethene (PCE)	5.0 U	5.0	1	04/13/18 22:54	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	04/13/18 22:54	
Trichloroethene (TCE)	5.0 U	5.0	1	04/13/18 22:54	
Vinyl Chloride	5.0 U	5.0	1	04/13/18 22:54	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	104	85 - 122	04/13/18 22:54	
Dibromofluoromethane	102	89 - 119	04/13/18 22:54	
Toluene-d8	105	87 - 121	04/13/18 22:54	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1803166
Project:	Gowanda/6974.90	**Date Collected:**	04/10/18 10:06
Sample Matrix:	Water	**Date Received:**	04/11/18 08:30
Sample Name:	MW-8	**Units:**	ug/L
Lab Code:	R1803166-007	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	04/13/18 23:16	
trans-1,2-Dichloroethene	5.0 U	5.0	1	04/13/18 23:16	
Tetrachloroethene (PCE)	5.0 U	5.0	1	04/13/18 23:16	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	04/13/18 23:16	
Trichloroethene (TCE)	5.0 U	5.0	1	04/13/18 23:16	
Vinyl Chloride	5.0 U	5.0	1	04/13/18 23:16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	104	85 - 122	04/13/18 23:16	
Dibromofluoromethane	103	89 - 119	04/13/18 23:16	
Toluene-d8	104	87 - 121	04/13/18 23:16	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1803166
Project:	Gowanda/6974.90	**Date Collected:**	04/10/18 09:44
Sample Matrix:	Water	**Date Received:**	04/11/18 08:30
Sample Name:	MW-9	**Units:**	ug/L
Lab Code:	R1803166-008	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	04/13/18 23:38	
trans-1,2-Dichloroethene	5.0 U	5.0	1	04/13/18 23:38	
Tetrachloroethene (PCE)	5.0 U	5.0	1	04/13/18 23:38	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	04/13/18 23:38	
Trichloroethene (TCE)	5.0 U	5.0	1	04/13/18 23:38	
Vinyl Chloride	5.0 U	5.0	1	04/13/18 23:38	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	103	85 - 122	04/13/18 23:38	
Dibromofluoromethane	103	89 - 119	04/13/18 23:38	
Toluene-d8	104	87 - 121	04/13/18 23:38	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1803166
Project:	Gowanda/6974.90	**Date Collected:**	04/10/18 10:00
Sample Matrix:	Water	**Date Received:**	04/11/18 08:30
Sample Name:	MW-10	**Units:**	ug/L
Lab Code:	R1803166-009	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	04/14/18 00:00	
trans-1,2-Dichloroethene	5.0 U	5.0	1	04/14/18 00:00	
Tetrachloroethene (PCE)	5.0 U	5.0	1	04/14/18 00:00	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	04/14/18 00:00	
Trichloroethene (TCE)	5.0 U	5.0	1	04/14/18 00:00	
Vinyl Chloride	5.0 U	5.0	1	04/14/18 00:00	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	102	85 - 122	04/14/18 00:00	
Dibromofluoromethane	102	89 - 119	04/14/18 00:00	
Toluene-d8	105	87 - 121	04/14/18 00:00	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1803166
Project:	Gowanda/6974.90	**Date Collected:**	04/10/18 11:40
Sample Matrix:	Water	**Date Received:**	04/11/18 08:30
Sample Name:	MW-11	**Units:**	ug/L
Lab Code:	R1803166-010	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	**260**	25	5	04/14/18 05:28	
trans-1,2-Dichloroethene	25 U	25	5	04/14/18 05:28	
Tetrachloroethene (PCE)	25 U	25	5	04/14/18 05:28	
1,1,1-Trichloroethane (TCA)	25 U	25	5	04/14/18 05:28	
Trichloroethene (TCE)	**900**	25	5	04/14/18 05:28	
Vinyl Chloride	25 U	25	5	04/14/18 05:28	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	102	85 - 122	04/14/18 05:28	
Dibromofluoromethane	101	89 - 119	04/14/18 05:28	
Toluene-d8	104	87 - 121	04/14/18 05:28	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1803166
Project:	Gowanda/6974.90	**Date Collected:**	04/10/18 11:20
Sample Matrix:	Water	**Date Received:**	04/11/18 08:30
Sample Name:	MW-12	**Units:**	ug/L
Lab Code:	R1803166-011	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	**99**	5.0	1	04/14/18 00:22	
trans-1,2-Dichloroethene	5.0 U	5.0	1	04/14/18 00:22	
Tetrachloroethene (PCE)	5.0 U	5.0	1	04/14/18 00:22	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	04/14/18 00:22	
Trichloroethene (TCE)	**14**	5.0	1	04/14/18 00:22	
Vinyl Chloride	**8.9**	5.0	1	04/14/18 00:22	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	105	85 - 122	04/14/18 00:22	
Dibromofluoromethane	103	89 - 119	04/14/18 00:22	
Toluene-d8	105	87 - 121	04/14/18 00:22	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1803166
Project:	Gowanda/6974.90	**Date Collected:**	04/10/18 11:45
Sample Matrix:	Water	**Date Received:**	04/11/18 08:30
Sample Name:	MW-13	**Units:**	ug/L
Lab Code:	R1803166-012	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	04/14/18 00:44	
trans-1,2-Dichloroethene	5.0 U	5.0	1	04/14/18 00:44	
Tetrachloroethene (PCE)	5.0 U	5.0	1	04/14/18 00:44	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	04/14/18 00:44	
Trichloroethene (TCE)	5.0 U	5.0	1	04/14/18 00:44	
Vinyl Chloride	5.0 U	5.0	1	04/14/18 00:44	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	104	85 - 122	04/14/18 00:44	
Dibromofluoromethane	101	89 - 119	04/14/18 00:44	
Toluene-d8	105	87 - 121	04/14/18 00:44	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1803166
Project:	Gowanda/6974.90	**Date Collected:**	04/10/18 10:50
Sample Matrix:	Water	**Date Received:**	04/11/18 08:30
Sample Name:	MW-14	**Units:**	ug/L
Lab Code:	R1803166-013	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	**10**	5.0	1	04/14/18 01:06	
trans-1,2-Dichloroethene	5.0 U	5.0	1	04/14/18 01:06	
Tetrachloroethene (PCE)	5.0 U	5.0	1	04/14/18 01:06	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	04/14/18 01:06	
Trichloroethene (TCE)	**18**	5.0	1	04/14/18 01:06	
Vinyl Chloride	5.0 U	5.0	1	04/14/18 01:06	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	102	85 - 122	04/14/18 01:06	
Dibromofluoromethane	101	89 - 119	04/14/18 01:06	
Toluene-d8	105	87 - 121	04/14/18 01:06	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1803166
Project:	Gowanda/6974.90	**Date Collected:**	04/10/18 10:33
Sample Matrix:	Water	**Date Received:**	04/11/18 08:30
Sample Name:	MW-15	**Units:**	ug/L
Lab Code:	R1803166-014	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	04/14/18 01:28	
trans-1,2-Dichloroethene	5.0 U	5.0	1	04/14/18 01:28	
Tetrachloroethene (PCE)	5.0 U	5.0	1	04/14/18 01:28	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	04/14/18 01:28	
Trichloroethene (TCE)	5.0 U	5.0	1	04/14/18 01:28	
Vinyl Chloride	5.0 U	5.0	1	04/14/18 01:28	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	101	85 - 122	04/14/18 01:28	
Dibromofluoromethane	102	89 - 119	04/14/18 01:28	
Toluene-d8	104	87 - 121	04/14/18 01:28	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1803166
Project:	Gowanda/6974.90	**Date Collected:**	04/10/18 10:20
Sample Matrix:	Water	**Date Received:**	04/11/18 08:30
Sample Name:	MW-16	**Units:**	ug/L
Lab Code:	R1803166-015	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	**43**	5.0	1	04/14/18 01:50	
trans-1,2-Dichloroethene	5.0 U	5.0	1	04/14/18 01:50	
Tetrachloroethene (PCE)	5.0 U	5.0	1	04/14/18 01:50	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	04/14/18 01:50	
Trichloroethene (TCE)	5.0 U	5.0	1	04/14/18 01:50	
Vinyl Chloride	5.0 U	5.0	1	04/14/18 01:50	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	105	85 - 122	04/14/18 01:50	
Dibromofluoromethane	101	89 - 119	04/14/18 01:50	
Toluene-d8	107	87 - 121	04/14/18 01:50	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1803166
Project:	Gowanda/6974.90	**Date Collected:**	04/10/18 10:45
Sample Matrix:	Water	**Date Received:**	04/11/18 08:30
Sample Name:	MW-17	**Units:**	ug/L
Lab Code:	R1803166-016	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	04/14/18 02:12	
trans-1,2-Dichloroethene	5.0 U	5.0	1	04/14/18 02:12	
Tetrachloroethene (PCE)	5.0 U	5.0	1	04/14/18 02:12	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	04/14/18 02:12	
Trichloroethene (TCE)	**5.1**	5.0	1	04/14/18 02:12	
Vinyl Chloride	5.0 U	5.0	1	04/14/18 02:12	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	102	85 - 122	04/14/18 02:12	
Dibromofluoromethane	103	89 - 119	04/14/18 02:12	
Toluene-d8	104	87 - 121	04/14/18 02:12	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1803166
Project:	Gowanda/6974.90	**Date Collected:**	04/10/18 12:20
Sample Matrix:	Water	**Date Received:**	04/11/18 08:30
Sample Name:	MW-18	**Units:**	ug/L
Lab Code:	R1803166-017	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	04/14/18 02:33	
trans-1,2-Dichloroethene	5.0 U	5.0	1	04/14/18 02:33	
Tetrachloroethene (PCE)	5.0 U	5.0	1	04/14/18 02:33	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	04/14/18 02:33	
Trichloroethene (TCE)	5.0 U	5.0	1	04/14/18 02:33	
Vinyl Chloride	5.0 U	5.0	1	04/14/18 02:33	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	103	85 - 122	04/14/18 02:33	
Dibromofluoromethane	104	89 - 119	04/14/18 02:33	
Toluene-d8	106	87 - 121	04/14/18 02:33	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1803166
Project:	Gowanda/6974.90	**Date Collected:**	04/10/18 11:30
Sample Matrix:	Water	**Date Received:**	04/11/18 08:30
Sample Name:	MW-20	**Units:**	ug/L
Lab Code:	R1803166-018	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	04/14/18 02:55	
trans-1,2-Dichloroethene	5.0 U	5.0	1	04/14/18 02:55	
Tetrachloroethene (PCE)	5.0 U	5.0	1	04/14/18 02:55	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	04/14/18 02:55	
Trichloroethene (TCE)	5.0 U	5.0	1	04/14/18 02:55	
Vinyl Chloride	5.0 U	5.0	1	04/14/18 02:55	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	101	85 - 122	04/14/18 02:55	
Dibromofluoromethane	101	89 - 119	04/14/18 02:55	
Toluene-d8	102	87 - 121	04/14/18 02:55	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1803166
Project:	Gowanda/6974.90	**Date Collected:**	04/10/18 11:00
Sample Matrix:	Water	**Date Received:**	04/11/18 08:30
Sample Name:	G-1	**Units:**	ug/L
Lab Code:	R1803166-019	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	**22**	5.0	1	04/14/18 03:17	
trans-1,2-Dichloroethene	5.0 U	5.0	1	04/14/18 03:17	
Tetrachloroethene (PCE)	5.0 U	5.0	1	04/14/18 03:17	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	04/14/18 03:17	
Trichloroethene (TCE)	5.0 U	5.0	1	04/14/18 03:17	
Vinyl Chloride	5.0 U	5.0	1	04/14/18 03:17	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	102	85 - 122	04/14/18 03:17	
Dibromofluoromethane	104	89 - 119	04/14/18 03:17	
Toluene-d8	102	87 - 121	04/14/18 03:17	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1803166
Project:	Gowanda/6974.90	**Date Collected:**	04/10/18 10:20
Sample Matrix:	Water	**Date Received:**	04/11/18 08:30
Sample Name:	G-2	**Units:**	ug/L
Lab Code:	R1803166-020	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	**38**	5.0	1	04/14/18 03:39	
trans-1,2-Dichloroethene	5.0 U	5.0	1	04/14/18 03:39	
Tetrachloroethene (PCE)	5.0 U	5.0	1	04/14/18 03:39	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	04/14/18 03:39	
Trichloroethene (TCE)	**8.0**	5.0	1	04/14/18 03:39	
Vinyl Chloride	5.0 U	5.0	1	04/14/18 03:39	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	102	85 - 122	04/14/18 03:39	
Dibromofluoromethane	103	89 - 119	04/14/18 03:39	
Toluene-d8	102	87 - 121	04/14/18 03:39	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1803166
Project:	Gowanda/6974.90	**Date Collected:**	04/10/18 11:36
Sample Matrix:	Water	**Date Received:**	04/11/18 08:30
Sample Name:	DR-1	**Units:**	ug/L
Lab Code:	R1803166-021	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	**190**		50	10	04/14/18 05:50	
trans-1,2-Dichloroethene	50	U	50	10	04/14/18 05:50	
Tetrachloroethene (PCE)	50	U	50	10	04/14/18 05:50	
1,1,1-Trichloroethane (TCA)	50	U	50	10	04/14/18 05:50	
Trichloroethene (TCE)	**880**		50	10	04/14/18 05:50	
Vinyl Chloride	50	U	50	10	04/14/18 05:50	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	106	85 - 122	04/14/18 05:50	
Dibromofluoromethane	103	89 - 119	04/14/18 05:50	
Toluene-d8	106	87 - 121	04/14/18 05:50	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1803166
Project:	Gowanda/6974.90	**Date Collected:**	04/10/18 11:25
Sample Matrix:	Water	**Date Received:**	04/11/18 08:30
Sample Name:	DR-2	**Units:**	ug/L
Lab Code:	R1803166-022	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	**99**	5.0	1	04/14/18 04:01	
trans-1,2-Dichloroethene	5.0 U	5.0	1	04/14/18 04:01	
Tetrachloroethene (PCE)	5.0 U	5.0	1	04/14/18 04:01	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	04/14/18 04:01	
Trichloroethene (TCE)	**31**	5.0	1	04/14/18 04:01	
Vinyl Chloride	5.0 U	5.0	1	04/14/18 04:01	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	102	85 - 122	04/14/18 04:01	
Dibromofluoromethane	103	89 - 119	04/14/18 04:01	
Toluene-d8	104	87 - 121	04/14/18 04:01	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1803166
Project:	Gowanda/6974.90	**Date Collected:**	04/10/18 11:50
Sample Matrix:	Water	**Date Received:**	04/11/18 08:30
Sample Name:	DR-3	**Units:**	ug/L
Lab Code:	R1803166-023	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	**11**	5.0	1	04/14/18 04:23	
trans-1,2-Dichloroethene	5.0 U	5.0	1	04/14/18 04:23	
Tetrachloroethene (PCE)	5.0 U	5.0	1	04/14/18 04:23	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	04/14/18 04:23	
Trichloroethene (TCE)	**23**	5.0	1	04/14/18 04:23	
Vinyl Chloride	5.0 U	5.0	1	04/14/18 04:23	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	104	85 - 122	04/14/18 04:23	
Dibromofluoromethane	103	89 - 119	04/14/18 04:23	
Toluene-d8	105	87 - 121	04/14/18 04:23	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1803166
Project:	Gowanda/6974.90	**Date Collected:**	04/10/18 12:20
Sample Matrix:	Water	**Date Received:**	04/11/18 08:30
Sample Name:	DR-4	**Units:**	ug/L
Lab Code:	R1803166-024	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	**7.6**	5.0	1	04/14/18 04:45	
trans-1,2-Dichloroethene	5.0 U	5.0	1	04/14/18 04:45	
Tetrachloroethene (PCE)	5.0 U	5.0	1	04/14/18 04:45	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	04/14/18 04:45	
Trichloroethene (TCE)	**24**	5.0	1	04/14/18 04:45	
Vinyl Chloride	5.0 U	5.0	1	04/14/18 04:45	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	102	85 - 122	04/14/18 04:45	
Dibromofluoromethane	100	89 - 119	04/14/18 04:45	
Toluene-d8	105	87 - 121	04/14/18 04:45	

QC Summary Forms

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
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Volatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: Bergmann Associates, Incorporated **Service Request:** R1803166
Project: Gowanda/6974.90
Sample Matrix: Water

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Extraction Method: EPA 5030C

Sample Name	Lab Code	4-Bromofluorobenzene 85 - 122	Dibromofluoromethane 89 - 119	Toluene-d8 87 - 121
MW-1	R1803166-001	99	101	104
MW-3	R1803166-002	100	99	101
MW-4	R1803166-003	102	102	104
MW-5	R1803166-004	101	103	103
MW-7	R1803166-005	104	103	105
MW-6	R1803166-006	104	102	105
MW-8	R1803166-007	104	103	104
MW-9	R1803166-008	103	103	104
MW-10	R1803166-009	102	102	105
MW-11	R1803166-010	102	101	104
MW-12	R1803166-011	105	103	105
MW-13	R1803166-012	104	101	105
MW-14	R1803166-013	102	101	105
MW-15	R1803166-014	101	102	104
MW-16	R1803166-015	105	101	107
MW-17	R1803166-016	102	103	104
MW-18	R1803166-017	103	104	106
MW-20	R1803166-018	101	101	102
G-1	R1803166-019	102	104	102
G-2	R1803166-020	102	103	102
DR-1	R1803166-021	106	103	106
DR-2	R1803166-022	102	103	104
DR-3	R1803166-023	104	103	105
DR-4	R1803166-024	102	100	105
Lab Control Sample	RQ1803335-03	105	106	104
Method Blank	RQ1803335-04	101	103	103
Lab Control Sample	RQ1803359-03	103	105	103
Method Blank	RQ1803359-04	102	104	105
DR-1 MS	RQ1803359-05	106	104	106
DR-1 DMS	RQ1803359-06	104	106	105

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1803166
Project:	Gowanda/6974.90	**Date Collected:**	04/10/18
Sample Matrix:	Water	**Date Received:**	04/11/18
		Date Analyzed:	04/14/18
		Date Extracted:	NA

Duplicate Matrix Spike Summary
Volatile Organic Compounds by GC/MS

Sample Name:	DR-1	**Units:**	ug/L
Lab Code:	R1803166-021	**Basis:**	NA
Analysis Method:	8260C		
Prep Method:	EPA 5030C		

		Matrix Spike			Duplicate Matrix Spike					
		RQ1803359-05			RQ1803359-06					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
cis-1,2-Dichloroethene	190	732	500	107	719	500	105	72-133	2	30
trans-1,2-Dichloroethene	50 U	545	500	109	528	500	106	77-125	3	30
Tetrachloroethene (PCE)	50 U	461	500	92	445	500	89	67-137	4	30
1,1,1-Trichloroethane (TCA)	50 U	514	500	103	507	500	101	74-127	1	30
Trichloroethene (TCE)	880	1380	500	99	1380	500	99	62-142	<1	30
Vinyl Chloride	50 U	572	500	114	541	500	108	60-157	5	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1803166
Project:	Gowanda/6974.90	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1803335-04	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	04/13/18 11:49	
trans-1,2-Dichloroethene	5.0 U	5.0	1	04/13/18 11:49	
Tetrachloroethene (PCE)	5.0 U	5.0	1	04/13/18 11:49	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	04/13/18 11:49	
Trichloroethene (TCE)	5.0 U	5.0	1	04/13/18 11:49	
Vinyl Chloride	5.0 U	5.0	1	04/13/18 11:49	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	101	85 - 122	04/13/18 11:49	
Dibromofluoromethane	103	89 - 119	04/13/18 11:49	
Toluene-d8	103	87 - 121	04/13/18 11:49	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1803166
Project:	Gowanda/6974.90	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1803359-04	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	04/13/18 22:33	
trans-1,2-Dichloroethene	5.0 U	5.0	1	04/13/18 22:33	
Tetrachloroethene (PCE)	5.0 U	5.0	1	04/13/18 22:33	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	04/13/18 22:33	
Trichloroethene (TCE)	5.0 U	5.0	1	04/13/18 22:33	
Vinyl Chloride	5.0 U	5.0	1	04/13/18 22:33	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	102	85 - 122	04/13/18 22:33	
Dibromofluoromethane	104	89 - 119	04/13/18 22:33	
Toluene-d8	105	87 - 121	04/13/18 22:33	

Client: Bergmann Associates, Incorporated
Project: Gowanda/6974.90
Sample Matrix: Water

Service Request: R1803166
Date Analyzed: 04/13/18

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1803335-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
cis-1,2-Dichloroethene	8260C	19.8	20.0	99	80-121
trans-1,2-Dichloroethene	8260C	20.4	20.0	102	80-120
Tetrachloroethene (PCE)	8260C	17.2	20.0	86	78-124
1,1,1-Trichloroethane (TCA)	8260C	17.3	20.0	86	74-120
Trichloroethene (TCE)	8260C	17.7	20.0	88	78-123
Vinyl Chloride	8260C	19.8	20.0	99	69-133

Client: Bergmann Associates, Incorporated
Project: Gowanda/6974.90
Sample Matrix: Water

Service Request: R1803166
Date Analyzed: 04/13/18

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1803359-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
cis-1,2-Dichloroethene	8260C	19.8	20.0	99	80-121
trans-1,2-Dichloroethene	8260C	18.7	20.0	94	80-120
Tetrachloroethene (PCE)	8260C	16.6	20.0	83	78-124
1,1,1-Trichloroethane (TCA)	8260C	17.7	20.0	88	74-120
Trichloroethene (TCE)	8260C	17.7	20.0	89	78-123
Vinyl Chloride	8260C	20.0	20.0	100	69-133

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MAY 2018
GROUNDWATER CHARACTERIZATION REPORT

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New York State Office of People with Developmental Disabilities

GROUNDWATER CHARACTERIZATION REPORT – MAY 2018

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1.0 INTRODUCTION

Bergmann is submitting this groundwater characterization report for the May 2018 sampling event on behalf of the Dormitory Authority of the State of New York (DASNY) and the New York State Office of People with Developmental Disabilities (OPWDD) for activities conducted at the former Gowanda Day Habilitation Center facility at 4 Industrial Place, Gowanda, NY. The OPWDD, as the volunteer, has entered into a Voluntary Cleanup Agreement (VCA) with the New York State Department of Environmental Conservation (NYSDEC) to conduct investigations and implement remedial measures in accordance with VCA Site No. V-00463-9, effective August 16, 2001.

1.1 SCOPE OF WORK

This report documents the site-wide groundwater monitoring and laboratory analytical sampling event conducted on May 30, 2018. Field measurements, sampling procedures and laboratory analysis were conducted in accordance with the October 2006 Operations, Monitoring and Maintenance (OM&M) Manual and as modified with NYSDEC approval. During this sampling event, groundwater from 19 of 21 site-related groundwater monitoring wells and six (6) of seven (7) groundwater recovery wells were sampled for laboratory analysis. Of the eight (8) monitoring wells determined by the NYSDEC and Bergmann personnel in 2008 to be outside the area of impact by the Groundwater Treatment System (GTS), three (3) were not sampled. These monitoring wells include MW-19R, MW-21, and G-3. Monitoring well MW-21 was added to the well sampling plan permanently by NYSDEC to monitor groundwater migration off-site.

The prior groundwater sampling event was conducted in April 2018 and included analysis of groundwater samples from 18 of 21 site-related groundwater monitoring wells and six (6) of seven (7) groundwater recovery wells.

1.2 SITE BACKGROUND

The Gowanda Day Habilitation site consists of a 5.94-acre parcel located at 4 Industrial Place. The building, previously used by several manufacturing operations, was built in stages between circa 1948 and 1987 and was renovated in 1987-1988. New York State agencies have occupied the building since 1982. New York State acquired the parcel in 1989. The building was most recently operated by the OPWDD, which at that time was known as the Western New York Developmental Disabilities Services Office, as a Day Habilitation Center for mental care clients. In April 2001, on-site operations ceased. The nature and extent of contamination at the Gowanda Day Habilitation Center was detailed as part of the 2003 Site Investigation and 2004 Supplemental Site Investigation Reports. Trichloroethene (TCE) was the most commonly detected compound. TCE degradation products cis-1,2, Dichloroethene (Cis-1,2-DCE), trans-1,2-Dichloroethene (Trans-1,2-DCE) and Vinyl Chloride (VC) were also detected.

Following Interim Remedial Measure (IRM) system installation, the Groundwater Treatment System (GTS) and the Soil Vapor Extraction System (SVES) were activated on May 10, 2005, recovering 2-5 gallons per minute (gpm) of groundwater. An additional groundwater recovery well, designated G-3, was installed outside the building and adjacent to MW-17 in November 2008. The GTS portion consists of seven (7) groundwater recovery wells (four dual phase recovery wells and three groundwater-only recovery wells), an air compressor, a network of controller-less pneumatic pumps and an air stripper treatment system to process recovered groundwater. Recovered groundwater was pumped to the equalization tank for settling of the sediment and transferred to the air stripper using a consistent flow rate. Air discharge from the air stripper was routed to the EVE for treatment prior to discharge. Groundwater was discharged to the village of Gowanda Sewage Treatment Plant (STP).

In January 2008, the building was decommissioned. The GTS was winterized with the addition of heat tape and insulation to conveyance lines and the installation of an independently operated suspended heater in the treatment area for the GTS and SVES (former Machine Shop). Quarterly groundwater sampling with Operation and Maintenance of the remediation system has been ongoing since 2002.

During January 2014, the condition of the SVE and GTS was discussed with the NYSDEC representative and it was agreed that these systems would be inactivated to allow for groundwater level recovery during the preparation of an ISCO remedial action plan (RAP) and implementation of an ISCO treatment. Bergmann submitted an ISCO RAP for groundwater treatment to the NYSDEC to address remaining contamination at the Site in lieu of costly repair of the SVE and GTS. The SVE and GTS equipment will remain on site in the event that re-activation is required in the future. The ISCO was implemented in May 2015. An ISCO Report was prepared under separate cover.

2.0 GROUNDWATER SAMPLING OVERVIEW AND METHODS

2.1 WELL MAINTENANCE ACTIVITIES

During the May 2018 site visit, all monitoring wells were accessible and the integrity of the wells was not compromised except for MW-19R, MW-21, and G-3. MW-19R and MW-21, both located on Torrance Place, were still paved over as originally reported in the August 2017 summary report. G-3 was not located due to extensive vegetative growth around the well vault. Bergmann personnel will request the site maintenance staff to remove the excessive vegetation that is growing around the site in attempts to locate the well. Repairs or maintenance to the network of groundwater monitoring wells or recovery wells has not been required since June 2007, with the exception of the redevelopment activities performed on August 19, 2015. All protective casings and flush-mount curb boxes were found to be intact and secure. Exterior monitoring wells are secured with locking stick-up protective casings. The monitoring wells within the building are secured with flush-mount roadway covers. Well maintenance was not performed during the May 2018 sampling event.

2.2 GROUNDWATER FIELD MONITORING AND SAMPLING ACTIVITIES

Groundwater measurements and sampling activities were conducted in accordance with the October 2006 OM&M Manual. The depths to groundwater in groundwater monitoring wells are measured on a regular basis to track site-wide changes in the water table elevation and to allow for adjustment at recovery wells. Past operation of the recovery wells was intended to establish hydraulic containment of the impacted groundwater plume beneath the former Day Habilitation building and improve recovery and treatment of impacted groundwater. Groundwater samples were collected from 19 of the 21 site-related groundwater monitoring wells for laboratory analysis on May 31, 2018. Depth to groundwater measurements were obtained from 25 wells (including recovery wells).

Groundwater samples were collected from monitoring wells after each well was gauged and purged of standing water via low-flow pumping using a Geo-pump electric peristaltic pump. Sample parameters including turbidity, temperature, pH, oxygen, salinity and conductivity were monitored using a YSI Quatro to ensure sufficient well purging prior to sampling. Groundwater samples were collected from recovery wells using dedicated bailers, to allow for an accurate representation of groundwater without collecting sediment from within the wells. A single duplicate sample and a field blank sample were collected and submitted for laboratory analysis.

Groundwater samples were delivered via chain-of-custody protocol to ALS Environmental Services located in Rochester, NY, a NYSDOH certified laboratory, for testing using EPA Method 8260B for targeted chlorinated

volatile organic compounds (VOCs) of concern. Analytical results for each individual monitoring well have been posted in Table 3 for comparative purposes from sampling events completed 2002 – 2018.

3.0 LOCAL GROUNDWATER FLOW CHARACTERIZATION

The Site water table potentiometric surface pattern and groundwater flow direction was determined for May 2018 using elevations measured at each well. Groundwater elevations and well reference elevations were calculated using depth to water values obtained on May 30, 2018. The well gauging values and groundwater elevations are provided in Table 1 – Groundwater Elevations and Field Measurements - May 2018.

The May 2018 groundwater contour map shows a flow pattern similar to groundwater contours observed historically since 2002. Groundwater at the Site is flowing in a northerly direction. Torrance Place is hydraulically down-gradient from the Day Habilitation Center building. The May 2018 depths to groundwater range from 6.12 ft below top of casing (btoc) at MW-1, to 13.22 ft btoc at MW-17 located at the northern property line. The average depth to groundwater at the wells measured was 9.49 ft btoc.

The site-wide average depth to water table increased by approximately 0.31 ft when compared to the April 2018 sampling event. This increase in the water table is inferred as seasonal.

Measured depth to water at all gauged monitoring and recovery wells is presented Table 1 and May 2018 Groundwater Contours are presented on Figure 1 – May 2018 Groundwater Contour Map.

4.0 LABORATORY ANALYSIS

4.1 LABORATORY ANALYSIS ON GROUNDWATER SAMPLES

Laboratory analysis was completed on the groundwater samples from 19 monitoring wells and six (6) recovery wells collected May 30, 2018. Samples were analyzed for VOCs via EPA Method 8260B. Analysis was performed in accordance with the October 2006 OM&M Manual. The following halogenated VOCs were analyzed for:

- Trichloroethene (TCE)
- 1,1,1 Trichloroethane (TCA)
- Cis-1,2-Dichloroethene (Cis-DCE)
- Trans-1,2-Dichloroethene (Trans-DCE)
- Vinyl Chloride (VC)

4.2 MONITORING WELL GROUNDWATER ANALYSIS SUMMARY

The May 2018 analytical results indicate three (3) chlorinated VOCs in monitoring well samples: TCE, Cis-DCE, and Trans-DCE. Chlorinated VOCs were detected in groundwater from seven (7) of the 19 sampled monitoring wells. Analytical results are summarized in Table 2 – May 2018 Analytical Results Summary, which compares detected VOCs and applicable NYSDEC Class GA Standards for each analyte. The complete laboratory analytical reporting package is provided in Appendix A – Laboratory Analytical Results Report May 2018 Sampling Event. Table 3 – Historic Groundwater Analysis Results Summary includes the historical total VOC concentrations at each well since sampling of the monitoring wells began in 2002.

VOCs were not detected in groundwater from 12 of the sampled monitoring wells.

Groundwater samples from seven (7) monitoring wells had detectable chlorinated VOCs at concentrations above applicable Class GA Standards. The monitoring well with the highest total VOCs, DR-1 (1,319 ppb), is located in the area of historically greatest impacted groundwater.

Concentrations in three (3) of the 19 monitoring well groundwater samples increased when compared to the April 2018 sampling event while concentrations in four (4) of the 19 monitoring well groundwater samples decreased. Concentrations in 12 groundwater samples from monitoring wells had no change. The current sampling analytical results indicate an average site-wide decrease in total VOCs of approximately 81.2% since activation of the GTS in May 2005.

The area of highest impacted groundwater exists at the area centered between monitoring wells MW-1 and MW-11, which has historically indicated the highest levels of VOCs and is inferred as the source area of impacted groundwater. In the area where the plume of impacted groundwater is inferred (monitoring wells MW-1, MW-6, MW-7, MW-11, MW-12, MW-14, MW-15, and MW-17) the current laboratory analysis shows a contaminant reduction in VOC concentrations by an average of approximately 65.3% since groundwater monitoring of these wells began in 2002.

Monitoring well MW-1 increased in targeted chlorinated VOCs relative to the prior sampling event. The total VOC concentration at monitoring well MW-1 for the May 2018 sampling event was 1,110 parts per billion (ppb), a decrease from the April 2018 value of 374 ppb. Since activation of the GTS, detected VOCs at MW-1 have increased by about 44.5%.

Monitoring well MW-11 decreased in targeted chlorinated VOCs relative to the prior sampling event. The total VOC concentration at MW-11 for the May 2018 sampling event is 489 ppb, a decrease from the April 2018 value of 1,160 ppb. Since activation of the GTS in May 2005, detected VOCs at MW-11 have decreased by 89.5%.

Monitoring well MW-12 decreased in targeted chlorinated VOCs relative to the prior sampling event. The total VOC concentration at MW-12 for the April 2018 sampling event is 100 ppb, a decrease from the April 2018 value of 113 ppb. MW-12 is nearest to recovery well DR-2, in close proximity to the center of the building. Since activation of the GTS in May 2005, detected VOCs at MW-12 have decreased by about 99%.

Monitoring well MW-14 decreased in targeted chlorinated VOCs relative to the prior sampling event. The total VOC concentration at MW-14 for the May 2018 sampling event is 22.8 ppb, an increase from the April 2018 value of 28 ppb. MW-14 is nearest to recovery well DR-3. Since activation of the GTS in May 2005 detected VOCs at MW-14 have decreased by about 93%.

Monitoring well MW-15 remained the same in targeted chlorinated VOCs relative to the prior sampling event. The total VOC concentration at MW-15 for the May 2018 sampling event was Not Detected (ND), which was no change from the April 2018 sampling event. MW-15 is nearest to recovery well DR-4. Since activation of the GTS in May 2005, the detected VOCs at MW-15 have remained unchanged at non-detect levels.

Six (6) groundwater monitoring wells are located along the subject property's north perimeter, down-gradient from the area of impacted groundwater. The north perimeter monitoring wells consist of wells MW-5, MW-6, MW-7, MW-16, MW-17 and MW-21. The current analytical results exhibit an increase in targeted VOCs at the sampled monitoring wells along the north perimeter.

Monitoring wells MW-18, MW-19R and MW-21 are located off-site along Torrance Place. These three (3) wells are considered to be beyond the radius of influence for the Day Habilitation groundwater treatment system. The current results indicate non-detect levels for MW-18. Monitoring well MW-21 was added to the sampling list at the request of the NYSDEC beginning with the June 2015 sampling event. It was first noted that during the August 2017 sampling event, wells MW-19R and MW-21 were not sampled because they were inaccessible.

It was observed that the wells were likely paved over by a re-sealing operation. The wells were still inaccessible and paved over during the May 2018 sampling event.

Laboratory analytical results are included in Appendix A. Monitoring well locations and distribution of analytical results are shown on Figure 2 – May 2018 Distribution of Groundwater Analytical Results: Monitoring Wells.

4.3 SENTRY WELL GROUNDWATER ANALYSIS SUMMARY

Sentry groundwater monitoring wells monitor a separate occurrence of contaminated groundwater at the Gowanda Electronics site (NYSDEC Site 905025), immediately east of Industrial Place and east of the Day Habilitation Center property. The eastern sentry well sampled for this event was only MW-4. The current results indicate non-detect levels for this eastern sentry well.

The Gowanda Electronics impacted groundwater plume may be migrating to an area near Industrial Place and has intermittently impacted MW-19R, but MW-19R is unable to be sampled because it is paved over. The Gowanda Electronics impacted groundwater plume does not appear to extend to the Day Habilitation Center property, based on consistent non-detect values at the eastern sentry wells. Conversely, impacted groundwater from the Day Habilitation Center does not appear to extend off-site to the east toward Industrial Place. According to Mr. Chris Sanson, an Environmental Scientist for Groundwater & Environmental Services, Inc. (GES), an ISCO injection application was implemented for the Gowanda Electronics site in March 2014.

Laboratory analytical results are included in Appendix A. Sentry well locations and analytical results are shown on Figure 2.

4.4 RECOVERY WELL GROUNDWATER ANALYSIS SUMMARY

During the May 2018 sampling event, six (6) of the seven (7) recovery wells were sampled. The G-3 well could not be located and is assumed to be overgrown with vegetation. Bergmann personnel will request the site maintenance crew to clear the vegetation around the area of G-3 prior to the next sampling event.

The May 2018 analytical results indicate detection of five (5) chlorinated VOCs in recovery well samples: TCE, Cis-DCE, and TRANS. Chlorinated VOCs were detected in samples from all six (6) of the sampled recovery wells. Total VOCs at the 6 recovery wells for which past data is available have decreased overall since activation of the GTS in May 2002. The average reduction in VOCs for the current sampling event is about 37% relative to concentrations prior to GTS activation in 2002. Relative percent reductions in total VOCs for all monitoring wells and recovery wells are shown on Table 4 – Percent Reductions in Total Groundwater VOCs.

Recovery well DR-1 increased in targeted chlorinated VOCs relative to the prior sampling event. The total VOC concentration at DR-1 for the May 2018 sampling event is 1,319 ppb, a decrease from the April 2018 value of 1,070 ppb. The current sampling event indicates an increase in VOCs at DR-1 of 130% since activation of the GTS. Recovery well DR-1 is located closest to MW-1 in an area of historically highest concentrations.

Recovery well DR-2 decreased in targeted chlorinated VOCs relative to the prior sampling event. The total VOC concentration at DR-2 for the May 2018 sampling event is 128 ppb, a decrease from the April 2018 value of 130 ppb. The current sampling event indicates a decrease in VOCs at DR-2 of about 76.7% since activation of the GTS.

Recovery well DR-3 increased in targeted chlorinated VOCs relative to the prior sampling event. The total VOC concentration at DR-2 for the May 2018 sampling event is 125.5 ppb, an increase from the April 2018 value of 24 ppb. The current sampling event indicates a decrease in VOCs at DR-3 of about 17.8% since activation of the GTS.

Recovery well DR-4 decreased in targeted chlorinated VOCs relative to the prior sampling event. The total VOC concentration at DR-4 for the May 2018 sampling event is 31.2 ppb, a decrease from the April 2018 value of 31.6 ppb. The current sampling event indicates a decrease in VOCs at DR-4 of about 96.4% since activation of the GTS.

Recovery well G-1 increased in targeted chlorinated VOCs relative to the prior sampling event. The total VOC concentration at G-1 for the May 2018 sampling event was 40 ppb, an increase from the April value of 22 ppb. The current sampling event indicates a decrease in VOCs at G-1 of 80% since activation of the GTS.

Recover well G-2 increased in targeted chlorinated VOCs relative to the prior sampling event. The total VOC concentration at G-2 for the May 2018 sampling event was 50 ppb, an increase from the April 2018 value of 46 ppb. The current sampling event indicates a decrease in VOCs at G-2 of 82.4% since activation of the GTS.

Laboratory analytical results are included in Appendix A. Recovery well locations and analytical results are shown on Figure 3 – May 2018 Distribution of Groundwater Analytical Results: Recovery Wells.

4.5 QUALITY ASSURANCE AND QUALITY CONTROL SAMPLES

For quality assurance purposes a duplicate groundwater sample is typically collected from monitoring well MW-11, designated sample "MW-X". TRANS was detected in the duplicate sample but not in the original sample (MW-11). This is most likely a result of laboratory contamination.

A trip blank was supplied by the laboratory for the May 2018 sampling event. An equipment blank was collected to ensure proper cleaning of the sampling equipment. The equipment blank, designated as EB, was non-detect for chlorinated halogens.

Laboratory analytical results are included in Appendix A.

5.0 REMEDIATION SYSTEM EFFICIENCY

5.1 IMPACT OF THE GTS RECOVERY WELLS

Groundwater control charts for the six (6) sampled recovery wells and the nearest relative monitoring well were created to illustrate the impact of the GTS on recovery wells at the Day Habilitation Center. Chart 1 presents a summary of the sampled groundwater recovery wells. Since activation of the GTS in May 2005, all six (6) sampled groundwater recovery wells have demonstrated a general decrease in VOC concentration.

The current sampling event results represent a decrease of total VOCs at two (2) recovery wells (DR-2 and G-2) when compared to the April 2018 sampling event.

Chart 2 displays the relationship between monitoring wells MW-1, MW-11 and recovery well DR-1. The current total VOCs at MW-1 (1,110 ppb) show an increase from the April 2018 sampling event (374 ppb). The current total VOCs at MW-11 (489 ppb) shows a decrease from the April 2018 sampling event (1,160 ppb). The current total VOCs at DR-1 (1,319 ppb) show an increase from the April 2018 sampling event (1,070 ppb).

Chart 3 compares laboratory results between recovery well DR-2 and MW-12. These wells are located north of the wells outlined in Chart 1 and represent the northern limit of the highest concentration within the impacted area. The current total VOCs at MW-12 (100 ppb) show a decrease from the April 2018 sampling event (113 ppb). The current total VOCs at recovery well DR-2 (128 ppb) show a decrease from the April 2018 sampling event (130 ppb).

Chart 4 compares the relationship between wells DR-3 and MW-14 which are located in the central portion of the Gowanda Day Habilitation building. The current total VOCs at MW-14 (22.8 ppb) show a decrease from the April 2018 sampling event (28 ppb). The current total VOCs at recovery well DR-3 (125.4 ppb) show an increase from the April 2018 sampling event (34 ppb).

Chart 5 compares laboratory results between recovery well DR-4 and MW-15. These wells are located at the center-north portion of the building. The current total VOCs at MW-15 (ND) show no change from the April 2018 sampling event. The current total VOCs at recovery well DR-4 (31.2 ppb) show a decrease from the April 2018 sampling event (31.6 ppb).

Chart 6 compares laboratory results between recovery well G-1 and monitoring well MW-17. The recovery well is located in the northern portion of the building and MW-17 is located along the northern property line. The current total VOCs at recovery well MW-17 (112.5) show an increase from the April 2018 sampling event (5.1). The current total VOCs at recovery well G-1 (40 ppb) show an increase from the April 2018 sampling event (22 ppb).

Chart 7 compares laboratory results between recovery well G-2 and MW-7 which are located at the northeastern portion of the building. This area is at the apparent western perimeter of the area of impacted groundwater. Recovery well G-2 had a total VOC of 50 ppb, which shows an increase from the April 2018 sampling event (46 ppb). The May 2018 total VOCs of MW-7 (ND) showed no change from the April 2018 sampling event (ND).

Chart 8 compares laboratory results between recovery well G-3 which is located at the northeastern portion of the building and MW-17 which is located along the northern property boundary. This area is at the western perimeter of the apparent area of impacted groundwater. The current total VOCs at monitoring well MW-17 (112.5) showed an increase from the April 2018 sampling event (5.1). The current total VOCs at recovery well G-3 were not calculated due to recovery well G-3 not being sampled during the May 2018 sampling event. Groundwater sampling results from monitoring wells along the western and eastern perimeters have consistently been non-detect.

5.2 EXTENT OF IMPACTED GROUNDWATER

The area of highest impacted groundwater is consistent with prior sampling events. The bulk of the contaminant mass appears to be concentrated beneath the building in the source area, in the vicinity of monitoring well MW-1 and MW-11, extending north to recovery well DR-2. Concentration of VOCs in the source area have been reduced as a result of cleanup activities.

When operating, the GTS maintained an area of hydraulic containment for recovery wells within the source area of impacted groundwater. The GTS was successful in hydraulically containing most of the contaminant plume on the property and minimizing further migration. The GTS was not operating during this monitoring period and overall sample results are similar to previous quarterly sampling results. Therefore, residual VOCs in the plume have not migrated and appear to be stabilized when compared to sample results with operation of the GTS during previous monitoring events.

VOCs were not sampled at MW-19R and MW-21 during the May 2018 and April 2018 sampling events due to the fact that they were both paved over and inaccessible, as first reported by Bergmann in the August 2017 Sampling Report. Additionally, G-3 was not sampled because it is inaccessible due to excessive vegetative growth around the well vault. Bergmann will ask the site maintenance crew to cut vegetation in the area of G-3 and all other exterior wells prior to the next sampling event (August 2018).

The redevelopment of wells was performed in fall 2015 to remove sediment from wells at the Site after the ISCO injections. Overall reduction of contaminants in the majority of the monitoring and recovery wells has occurred at the Site when compared to the past ten (10) years of sampling. The following notes are a summary of the meeting held on June 22, 2018 between Bergmann, DASNY, and the NYSDEC.

- Bergmann will be implementing a subsurface investigation plan consisting of soil borings to locate the source of contamination on site.
- Soils will be sampled for the same VOCs that are consistently present in groundwater samples to determine if the contamination is residual in the soils on site.
- Details of the proposed additional investigation are outlined in the Additional Subsurface Investigation Plan dated July 2018 and submitted to DASNY on July 23, 2018.

5.3 FUTURE GROUNDWATER MONITORING AND ANALYSIS ACTIVITIES

The condition of the SVE and GTS was discussed with the NYSDEC representative and it was agreed upon that these systems would be inactivated to allow for groundwater level recovery during the implementation of an ISCO groundwater treatment and subsequent sampling events. Bergmann performed an ISCO RAP in May (round 1) and September (round 2) 2015 to address remaining residual contamination at the Site in lieu of costly repair of the SVE and GTS. The SVE and GTS equipment remains on site in the event that re-activation is required in the future; however, system components may need repair and/or replacement. Three (3) routine quarterly monitoring events will be completed to fulfill the NYSDEC requirements for post ISCO groundwater treatment.

The next site-wide groundwater sampling and laboratory analysis event is scheduled for August 2018. This sampling event will include sampling and laboratory analysis for the limited number of wells as determined by Bergmann correspondence with the NYSDEC. Future sampling and analytical events will be conducted to track the effects of the ISCO injections on impacted groundwater and to evaluate seasonal changes in water table elevations. In addition, the evaluation of groundwater flow pattern and movement of residual impacted groundwater at the site will be monitored and recorded during future sampling events.

TABLES

Table 1 Groundwater Elevations and Field Measurements May 2018
Gowanda Day Habilitation Center
4 Industrial Place, Gowanda, New York
VCA # V-00463-9

	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10
Casing Elevation*	778.23	778.08	778.38	778.43	778.61	781.10	780.94	781.33	782.61	780.02
Depth to Groundwater (btoc)	6.12	6.40	6.35	7.44	10.60	13.10	13.10	9.32	9.25	7.00
Groundwater Elevation	772.11	771.68	772.03	770.99	768.01	768.00	767.84	772.01	773.36	773.02
Well Diameter	2"	2"	2"	2"	2"	2"	2"	2"	2"	2"
Product Thickness	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND
Well Depth (btoc)	16.02	17.15	16.30	15.78	13.95	22.88	21.80	17.65	20.96	19.42
Bottom of Well Elevation	762.21	760.93	762.08	762.65	764.66	758.22	759.14	763.68	761.65	760.60
Thickness of Water Column	9.90	10.75	9.95	8.34	3.35	9.78	8.70	8.33	11.71	12.42
Minimum Purge Volume (gal)	1.6	1.75	1.6	1.4	0.5	1.6	1.4	1.4	1.9	2.0
3 Volumes	4.8	5.26	4.9	4.1	1.6	4.8	4.3	4.1	5.7	6.1
Actual volume purged	4.8	5.26	NS	4.1	1.4	4.8	4.3	NS	NS	NS
Comments	Flush = -0.29'	Flush = -0.30'	Flush = -0.23'	Flush = -0.34'	Flush = -0.24'	Stickup=2.17'	Stickup=2.17'	Stickup=2.84'	Stickup=2.05'	Stickup=2.56'

	MW-11	MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	MW-18	MW-19R	MW-20	MW-21
Casing Elevation	778.58	778.50	778.39	778.43	778.38	780.43	779.85	776.39	NA	778.04	NA
Depth to Groundwater (btoc)	7.53	7.18	7.61	10.79	10.76	12.50	13.22	9.10	NA	9.81	NA
Groundwater Elevation	771.05	771.32	770.78	767.64	767.62	767.93	766.63	767.29	NA	768.23	NA
Well Diameter	2"	2"	2"	2"	2"	2"	2"	2"	NA	2"	NA
Product Thickness	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA
Well Depth (btoc)	15.48	17.38	17.40	18.15	19.80	23.26	25.18	25.0	NA	14.75	NA
Bottom of Well Elevation	763.10	761.12	760.99	760.28	758.58	757.17	754.67	751.39	NA	763.29	NA
Thickness of Water Column	7.95	10.20	9.79	7.36	9.04	10.76	NA	15.90	NA	4.94	NA
Minimum Purge Volume (gal)	1.3	1.7	1.6	1.2	1.5	1.8	NS	2.6	NA	0.8	NA
3 Volumes	3.9	5.0	4.8	3.6	4.4	5.3	NS	7.8	NA	2.4	NA
Actual volume purged	3.9	5.0	NS	3.6	4.4	5.3	NS	7.8	NA	2.4	NA
Comments	Flush = -0.23'	Flush = -0.35'	Flush = -0.48'	Flush = -0.39'	Flush = -0.38	Stickup=2.26'	Stickup=1.18'	Flush =-0.26'	Paved Over	Flush=-0.43'	Paved Over.

	DR-1	DR-2	DR-3	DR-4	G-1	G-2	G-3
Casing Elevation	779.66	779.93	779.78	779.64	779.83	779.72	NS
Depth to Groundwater (btoc)	7.70	7.41	10.92	10.41	11.90	11.81	NS
Groundwater Elevation	771.96	772.52	768.86	769.23	767.93	NA	NS
Well Diameter	4"	4"	4"	4"	4"	4"	4"
Product Thickness	ND	ND	ND	ND	ND	ND	ND
Well Depth (btoc)	18.06	18.06	20.45	19.69	22.98	20.72	NS
Bottom of Well Elevation	761.6	761.87	759.33	759.95	756.85	759	NS
Thickness of Water Column	10.36	10.65	9.53	9.28	11.08	9.17	NS
Minimum Purge Volume (gal)	6.77	6.95	6.22	6.06	7.24	5.98	NS
3 Volumes	20.30	20.86	18.67	18.18	21.71	17.94	NS
Actual volume purged	20.30	20.86	NS	18.18	21.71	17.94	NS
Comments	Stickup=0.85'	Stickup=1.06'	Stickup=0.95'	Stickup=0.84'	Stickup=1.03'	Stickup=0.86'	NA

NOTES

btoc = Below top of casing (inner riser) All measurements are in feet, referenced to Mean Sea Level
NS = Not Sampled
ND = No floating product encountered
Minimum purge volume = 3 X well volume, 0.163 gallon per foot in a 2" diameter well. 0.653 gallon per foot in a 4" diameter well.
Monitoring well MW-19 was removed and the area restored on July 23, 2003 immediately after the well was developed, purged of 3 volumes and sampled.
The borehole for MW-19 was backfilled with a cement-bentonite grout after the PVC screening and casing was successfully removed.
Wells MW-19R, MW-20 and MW-21 were installed in October 2004, MW-19R and MW-21 have been paved over.

Table 2 May 2018 Analytical Results Summary
Gowanda Day Habilitation Center
4 Industrial Place, Gowanda, New York
VCA # V-00463-9

Monitoring Well MW-1 Sample Date: 05/30/2018
Sampling Events

Analyte in ppb	April 2018	May 2018	NYS Guidance Value
TCE	**290**	**920**	5.0
CIS	**84**	**190**	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	374	1,110	

Monitoring Well MW-2 Sample Date: 05/30/2018
Sampling Events

Analyte in ppb	April 2018	May 2018	NYS Guidance Value
TCE	NS	ND	5.0
CIS	NS	ND	5.0
TRANS	NS	ND	5.0
VC	NS	ND	2.0
TCA	NS	ND	5.0
Total VOCs	NS	ND	

Monitoring Well MW-3 Sample Date: 05/30/2018
Sampling Events

Analyte in ppb	April 2018	May 2018	NYS Guidance Value
TCE	ND	ND	5.0
CIS	ND	ND	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	ND	ND	

Monitoring Well MW-4 Sample Date: 05/30/2018
Sampling Events

Analyte in ppb	April 2018	May 2018	NYS Guidance Value
TCE	ND	ND	5.0
CIS	ND	ND	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	ND	ND	

Monitoring Well MW-5 Sample Date: 05/30/2018
Sampling Events

Analyte in ppb	April 2018	May 2018	NYS Guidance Value
TCE	ND	ND	5.0
CIS	ND	ND	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	ND	ND	

Monitoring Well MW-6 Sample Date: 05/30/2018
Sampling Events

Analyte in ppb	April 2018	May 2018	NYS Guidance Value
TCE	ND	ND	5.0
CIS	**76**	**77**	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	76	77	

ND = Non-detect
NS = Not Sampled. No analysis performed during this sampling event.
Results expressed as parts per billion (ppb).
Bold results exceed NYSDEC TOGS 1.1.1 Class GA, June 1998 re-issue (MTBE = April 2000 Addendum Guidance Value)

Table 2 May 2018 Analytical Results Summary
Gowanda Day Habilitation Center
4 Industrial Place, Gowanda, New York
VCA # V-00463-9

Monitoring Well MW-7 Sample Date: 05/30/2018
Sampling Events

Analyte in ppb	April 2018	May 2018	NYS Guidance Value
TCE	ND	ND	5.0
CIS	ND	ND	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	ND	ND	

Monitoring Well MW-8 Sample Date: 05/30/2018
Sampling Events

Analyte in ppb	April 2018	May 2018	NYS Guidance Value
TCE	ND	ND	5.0
CIS	ND	ND	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	ND	ND	

Monitoring Well MW-9 Sample Date: 05/30/2018
Sampling Events

Analyte in ppb	April 2018	May 2018	NYS Guidance Value
TCE	ND	ND	5.0
CIS	ND	ND	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	ND	ND	

Monitoring Well MW-10 Sample Date: 05/30/2018
Sampling Events

Analyte in ppb	April 2018	May 21018	NYS Guidance Value
TCE	ND	ND	5.0
CIS	ND	ND	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	ND	ND	

Monitoring Well MW-11 Sample Date: 05/30/2018
Sampling Events

Analyte in ppb	April 2018	May 2018	NYS Guidance Value
TCE	**900**	**430**	5.0
CIS	**260**	**59**	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	1,160	489	

Monitoring Well MW-12 Sample Date: 05/30/2018
Sampling Events

Analyte in ppb	April 2018	May 2018	NYS Guidance Value
TCE	**14**	**27**	5.0
CIS	**99**	**73**	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	113	100	

ND = Non-detect
NS = Not Sampled. No analysis performed during this sampling event.
Results expressed as parts per billion (ppb).
Bold results exceed NYSDEC TOGS 1.1.1 Class GA, June 1998 re-issue (MTBE = April 2000 Addendum Guidance Value)

Table 2 May 2018 Analytical Results Summary
Gowanda Day Habilitation Center
4 Industrial Place, Gowanda, New York
VCA # V-00463-9

Monitoring Well MW-13 Sample Date: 05/30/2018
Sampling Events

Analyte in ppb	April 2018	May 2018	NYS Guidance Value
TCE	ND	ND	5.0
CIS	ND	ND	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	ND	ND	

Monitoring Well MW-16 Sample Date: 05/30/2018
Sampling Events

Analyte in ppb	April 2018	May 2018	NYS Guidance Value
TCE	ND	ND	5.0
CIS	**43**	**41**	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	43	41	

Monitoring Well MW-14 Sample Date: 05/30/2018
Sampling Events

Analyte in ppb	April 2018	May 2018	NYS Guidance Value
TCE	**18**	**17**	5.0
CIS	**10**	**5.8**	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	28	22.8	

Monitoring Well MW-17 Sample Date: 05/30/2018
Sampling Events

Analyte in ppb	Nov 2017	May 2018	NYS Guidance Value
TCE	**5**	**20**	5.0
CIS	ND	**85**	5.0
TRANS	ND	**7.5**	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	5.1	112.5	

Monitoring Well MW-15 Sample Date: 05/30/2018
Sampling Events

Analyte in ppb	April 2018	May 2018	NYS Guidance Value
TCE	ND	ND	5.0
CIS	ND	ND	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	ND	ND	

Monitoring Well MW-18 Sample Date: 05/30/2018
Sampling Events

Analyte in ppb	April 2018	May 2018	NYS Guidance Value
TCE	ND	ND	5.0
CIS	ND	ND	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	ND	ND	

ND = Non-detect
NS = Not Sampled. No analysis performed during this sampling event.
Results expressed as parts per billion (ppb).
Bold results exceed NYSDEC TOGS 1.1.1 Class GA, June 1998 re-issue (MTBE = April 2000 Addendum Guidance Value)

Table 2 May 2018 Analytical Results Summary
Gowanda Day Habilitation Center
4 Industrial Place, Gowanda, New York
VCA # V-00463-9

Monitoring Well MW-19R Sample Date: NS
Sampling Events

Analyte in ppb	April 2018	May 2018	NYS Guidance Value
TCE	NS	NS	5.0
CIS	NS	NS	5.0
TRANS	NS	NS	5.0
VC	NS	NS	2.0
TCA	NS	NS	5.0
Total VOCs	NS	NS	

Monitoring Well MW-20 Sample Date: 05/30/2018
Sampling Events

Analyte in ppb	April 2018	May 2018	NYS Guidance Value
TCE	ND	ND	5.0
CIS	ND	ND	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	ND	ND	

Monitoring Well MW-21 Sample Date: NS
Sampling Events

Analyte in ppb	April 2018	May 2018	NYS Guidance Value
TCE	NS	NS	5.0
CIS	NS	NS	5.0
TRANS	NS	NS	5.0
VC	NS	NS	2.0
TCA	NS	NS	5.0
Total VOCs	NS	NS	

ND = Non-detect
NS = Not Sampled. No analysis performed during this sampling event.
Results expressed as parts per billion (ppb).
Bold results exceed NYSDEC TOGS 1.1.1 Class GA, June 1998 re-issue (MTBE = April 2000 Addendum Guidance Value)

Table 2 May 2018 Analytical Results Summary
Gowanda Day Habilitation Center
4 Industrial Place, Gowanda, New York
VCA # V-00463-9

Recovery Well DR-1 Sample Date: 05/30/2018
Sampling Events

Analyte in ppb	April 2018	May 2018	NYS Guidance Value
TCE	**880**	**1100**	5.0
CIS	**190**	**219**	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	1070	1319	

Recovery Well DR-2 Sample Date: 05/30/2018
Sampling Events

Analyte in ppb	April 2018	May 2018	NYS Guidance Value
TCE	**31**	**31**	5.0
CIS	**99**	**97**	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	130	128	

Recovery Well DR-3 Sample Date: 05/30/2018
Sampling Events

Analyte in ppb	April 2018	May 2018	NYS Guidance Value
TCE	**23**	**30**	5.0
CIS	**11**	**86**	5.0
TRANS	ND	**9.4**	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	34	125.4	

Recovery Well DR-4 Sample Date: 05/30/2018
Sampling Events

Analyte in ppb	April 2018	May 2018	NYS Guidance Value
TCE	**24**	**24**	5.0
CIS	**7.6**	**7.2**	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	31.6	31.2	

Recovery Well G-1 Sample Date: 05/30/2018
Sampling Events

Analyte in ppb	April 2018	May 2018	NYS Guidance Value
TCE	ND	**6.3**	5.0
CIS	**22**	**34**	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	22	40	

Recovery Well G-2 Sample Date: 05/30/2018
Sampling Events

Analyte in ppb	April 2018	May 2018	NYS Guidance Value
TCE	**8**	ND	5.0
CIS	**38**	**50**	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	46	50	

ND = Non-detect
NS = Not Sampled. No analysis performed during this sampling event.
Results expressed as parts per billion (ppb).
Bold results exceed NYSDEC TOGS 1.1.1 Class GA, June 1998 re-issue (MTBE = April 2000 Addendum Guidance Value)

Table 2 May 2018 Analytical Results Summary
Gowanda Day Habilitation Center
4 Industrial Place, Gowanda, New York
VCA # V-00463-9

Recovery Well G-3 Sample Date: NS
Sampling Events

Analyte in ppb	April 2018	May 2018	NYS Guidance Value
TCE	NS	NS	5.0
CIS	NS	NS	5.0
TRANS	NS	NS	5.0
VC	NS	NS	2.0
TCA	NS	NS	5.0
Total VOCs	NS	NS	

Duplicate Blank Sample Date: 05/30/2018
Sampling Events

Analyte in ppb	May 2018	NYS Guidance Value
TCE	**370**	5.0
CIS	**54**	5.0
TRANS	**10**	5.0
VC	NS	2.0
TCA	NS	5.0
Total VOCs	434	

Equipment Blank Sample Date: 05/30/2018
Sampling Events

Analyte in ppb	April 2018	May 2018	NYS Guidance Value
TCE	ND	ND	5.0
CIS	ND	ND	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	ND	ND	

ND = Non-detect
NS = Not Sampled. No analysis performed during this sampling event.
Results expressed as parts per billion (ppb).
Bold results exceed NYSDEC TOGS 1.1.1 Class GA, June 1998 re-issue (MTBE = April 2000 Addendum Guidance Value)

Table 3 Historic Groundwater Analysis Results Summary
Gowanda Day Habilitation Center
4 Industrial Place, Gowanda, New York
VCA # V-00463-9

MONITORING WELLS

Monitoring Well Number	Total VOCs May 2018 (ppb)	Total VOCs April 2018 (ppb)	Total VOCs Nov 2017 (ppb)	Total VOCs Aug 2017 (ppb)	Total VOCs Nov 2016 (ppb)	Total VOCs Sep 2016 (ppb)	Total VOCs Jun 2016 (ppb)	Total VOCs Nov 2015 (ppb)	Total VOCs Aug 2015 (ppb)	Total VOCs Jun 2015 (ppb)	Total VOCs Mar 2015 (ppb)	Total VOCs Nov 2014 (ppb)	Total VOCs Sep 2014 (ppb)	Total VOCs Jun 2014 (ppb)	Total VOCs Mar 2014 (ppb)	Total VOCs Dec 2013 (ppb)	Total VOCs Jul 2013 (ppb)	Total VOCs Apr 2013 (ppb)	Total VOCs Dec 2012 (ppb)	Total VOCs Jun 2012 (ppb)	Total VOCs Mar 2012 (ppb)
MW-1	1,110	374	1013	1,210	1,467	838	580	1,530	1,470	350	430	300	420	990	990	1,740	830	910	1,440	528	889
MW-2	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-3	ND	ND	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-5	ND	ND	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-6	77	76	100	91	87	120	100	120	96	86	81	110	110	96	94	130	99	93	99	86.7	85.7
MW-7	ND	ND	5.8	29	110	62	83	49	130	58	ND	180	190	29	ND	ND	18	ND	ND	151.56	30.5
MW-8	ND	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-9	ND	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-10	ND	ND	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-11	489	1,160	470	525	646	445	550	1,060	630	444	500	451	375	450	710	880	510	570	790	498	617
MW-12	100	113	31	40	7.1	7.8	15.8	28.8	52	97	120	126	136	200	212	173	149.3	186.6	142	86.5	148.22
MW-13	ND	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-14	22.8	28	38	22.1	76	100	57	81	96	52	99	68	68	54	73	94	49	71	47	39.7	76.6
MW-15	ND	ND	ND	7.4	11	23.8	11	9.9	14	8.1	9.8	32	31	6.1	ND	6.8	7	ND	12.9	26.26	6.25
MW-16	41	43	32	36	14	20	37	31	13	6.8	ND	5.2	9.4	21	24	20	8.4	24	18	4.36	12.2
MW-17	112.5	5.1	222	396	375	465	425	460	410	NS	336	394	410	339	167	420	400	21.3	430	381	260.1
MW-18	ND	ND	6.3	ND	10	26	6.9	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND	ND	ND	16.6	2.33
MW-19R	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.5	ND	ND
MW-20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-21	NS	NS	NS	NS	17	39	8.7	20	20	10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-X (DUP)	434	NS	490	DWS	1,705	879	550	1,720	410	360	407	300	400	870	990	1,850	540	186.8	1,450	521	913
EB	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

RECOVERY WELLS

Recovery Well Number	Total VOCs May 2018 (ppb)	Total VOCs April 2018 (ppb)	Total VOCs Nov 2017 (ppb)	Total VOCs Aug 2017 (ppb)	Total VOCs Nov 2016 (ppb)	Total VOCs Sep 2016 (ppb)	Total VOCs Jun 2016 (ppb)	Total VOCs Nov 2015 (ppb)	Total VOCs Aug 2015 (ppb)	Total VOCs Jun 2015 (ppb)	Total VOCs Mar 2015 (ppb)	Total VOCs Nov 2014 (ppb)	Total VOCs Sep 2014 (ppb)	Total VOCs Jun 2014 (ppb)	Total VOCs Mar 2014 (ppb)	Total VOCs Dec 2013 (ppb)	Total VOCs Jul 2013 (ppb)	Total VOCs Apr 2013 (ppb)	Total VOCs Dec 2012 (ppb)	Total VOCs Jun 2012 (ppb)	Total VOCs Mar 2012 (ppb)
DR-1	1,319	1,070	1540	1,970	617	610	910	319	160	NS	21.7	63	55	75	132	87	73	82	43	29.38	673
DR-2	128	130	181	199	137	218	215	199	187	291	259	162	224	231	207	302	256	293	19	229.9	305.3
DR-3	125.4	34	48	NS	98	154	62	45	76	83	55	181	210	83	89	123	62	73	42	116.96	24.9
DR-4	31.2	31.6	46	52	79	95	63	94	110	71	147	156	148	96	64	68	79	37	90	122.6	ND
G-1	40	22	70	73.5	85	105.6	59.7	80.3	ND	68	146	101	105	90	78	96.2	69.1	55.8	52.6	68.55	65.58
G-2	50	46	8.5	NS	NS	ND	NS	NS	28	NS	48	34	37	52	14	68	81	50	132.2	75.3	41.9
G-3	NS	NS	NS	NS	293	404	420	262	370	NS	NS	NS	NS	NS	82	NS	11	25	41.6	147.3	44.2

NS= This well not included in this sampling event.
ND = Not Detected, results less than Method Detection Limit.
Impacted north property line wells: MW-5, MW-6, MW-7, MW-16, MW-17, MW-21
All compounds are measured in parts per billion (ppb).
VOC - Volatile Organic Compounds.
DUP - Duplicate Sample
EB - Equipment/Field Blank Sample
* - Sample was broken in transit and not able to be analyzed
DWS- Different Well Sampled than previosuly tested.

Table 4 Percent Reductions in Total Groundwater VOCs
Gowanda Day Habilitation Center
4 Industrial Place, Gowanda, New York
VCA # V-00463-9

The Groundwater Treatment System was activated in May 2005

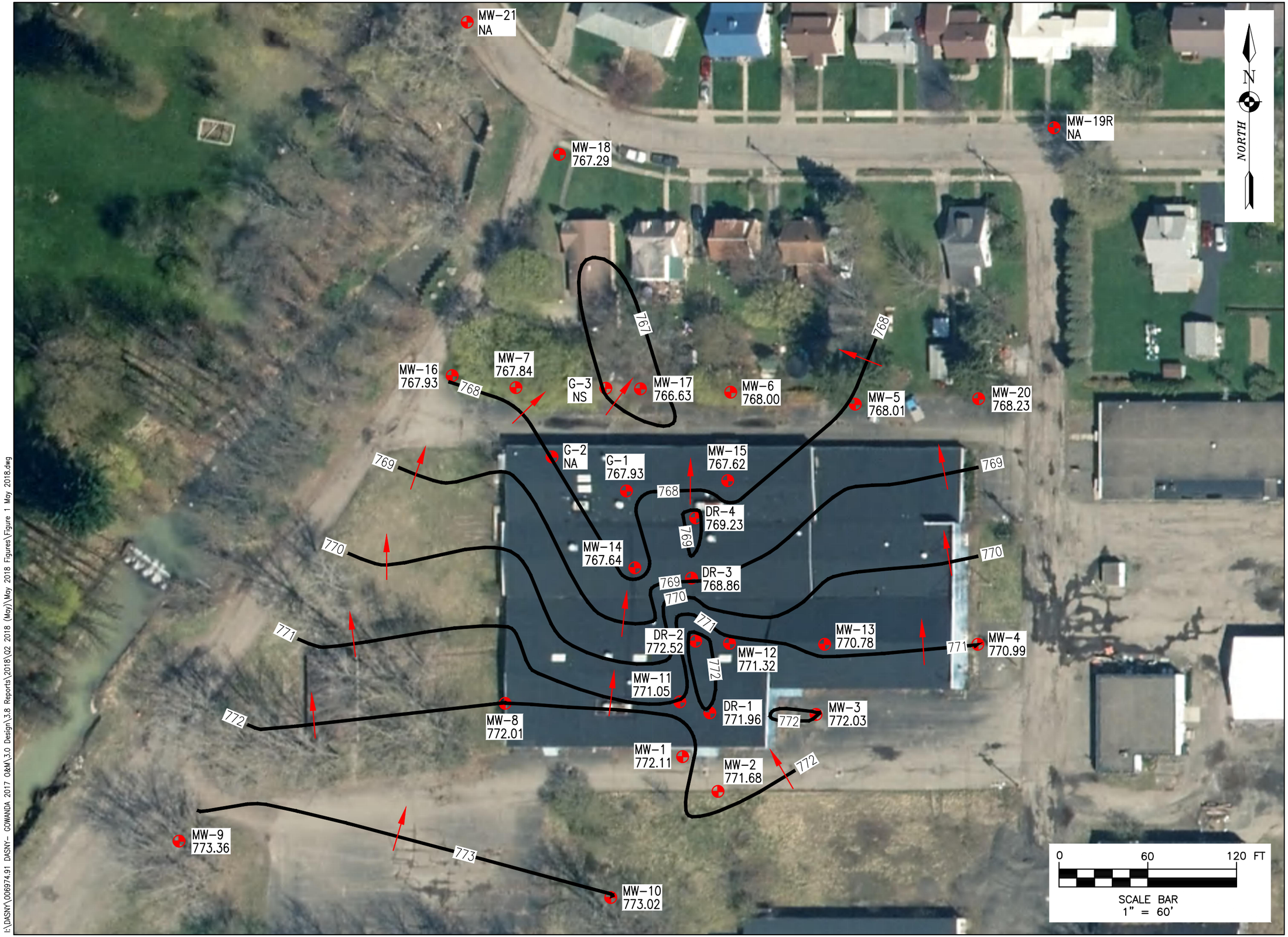
Monitoring Well	% Reduction 2002 to May 2018	% Reduction 2002 to April 2018	% Reduction 2002 to Nov 2017	% Reduction 2002 to Aug 2017	% Reduction 2002 to Nov 2016	% Reduction 2002 to Sep 2016	% Reduction 2002 to Jun 2016	% Reduction 2002 to Nov 2015	% Reduction 2002 to Aug 2015	% Reduction 2002 to Jun 2015	% Reduction 2002 to Mar 2015	% Reduction 2002 to Nov 2014	% Reduction 2002 to Sep 2014	% Reduction 2002 to Jun 2014	% Reduction 2002 to Mar 2014	% Reduction 2002 to Dec 2013	% Reduction 2002 to Jul 2013	% Reduction 2002 to Apr 2013	% Reduction 2002 to Dec 2012	% Reduction 2002 to Jun 2012	% Reduction 2002 to Mar 2012
MW-1†	-44.5%	51.3%	-39.90%	-57.6%		-9.1%	24.5%	-99.2%	-91.4%	54.4%	44.0%	60.9%	45.3%	-28.9%	-28.9%	-126.6%	-8.1%	-19.5%	-87.5%	31.3%	-15.8%
MW-2	100%	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled
MW-3	100%	100%	100%	100.0%	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled
MW-4	100%	100%	100%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.00%	100.0%	100.0%
MW-5	100%	100%	100%	100.0%	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled
MW-6	15.4%	15.4%	-84.60%	15.4%	81.3%	70.4%	75.4%	70.4%	76.4%	78.8%	80.0%	72.9%	72.9%	76.4%	76.8%	68.0%	75.6%	77.1%	75.6%	78.6%	78.9%
MW-7	81.0%	81.3%	98.70%	93.6%	75.6%	86.2%	81.6%	89.1%	71.1%	87.1%	100.0%	60.0%	57.8%	93.6%	100.0%	100.0%	96.0%	100.0%	100.0%	66.3%	93.2%
MW-8	100%	100%	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled
MW-9	100%	100%	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled
MW-10	100%	100%	100%	100.0%	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled
MW-11	89.5%	75.0%	89.20%	99.1%	86.1%	90.4%	88.2%	77.2%	86.4%	90.4%	89.2%	90.3%	91.9%	90.3%	84.7%	81.1%	89.0%	87.7%	83.0%	89.3%	86.7%
MW-12	99.2%	99.1%	99.80%	75.0%	99.9%	99.9%	99.9%	99.8%	99.6%	99.2%	99.1%	99.0%	98.4%	98.4%	98.3%	98.6%	98.8%	98.5%	98.9%	99.3%	98.8%
MW-13	100%	100%	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled
MW-14	92.8%	91.1%	87.90%	2.3%	75.9%	68.3%	81.9%	74.3%	69.5%	83.5%	68.6%	78.4%	78.4%	82.9%	76.8%	70.2%	84.4%	77.5%	85.1%	87.4%	75.7%
MW-15	100%	100%	100%	99.0%	98.5%	96.7%	98.5%	98.6%	98.1%	98.9%	98.7%	95.6%	95.8%	99.2%	100.0%	99.1%	99.0%	100.0%	98.2%	96.4%	99.1%
MW:16*	19.9%	2.3%	2.80%	2.3%	72.7%	60.9%	27.7%	39.5%	74.6%	86.7%	100.0%	89.8%	81.6%	59.0%	53.1%	60.9%	77.9%	36.8%	52.6%	88.5%	67.9%
MW-17*	88.9%	99.5%	78*	2.3%	62.9%	54.0%	58.0%	54.5%	59.4%	Not Sampled	66.8%	61.0%	59.4%	66.5%	83.5%	58.5%	50.6%	97.4%	46.9%	53.0%	67.9%
MW-18:*	100%	100%	100%	100.0%	97.4%	93.4%	98.2%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	Not Sampled	100.0%	100.0%	100.0%	89.6%	98.5%
MW-19 R*	Not Sampled	Not Sampled	Not Sampled	Not Sampled	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	75.0%	99.0%	99.0%
MW-20**	100%	100%	100%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	99.4%	99.4%	99.4%
MW-21**	Not Sampled	Not Sampled	Not Sampled	Not Sampled	34.6%	-50.0%	66.5%	23.1%	23.1%	61.5%	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled
* Well installed 2003																					
** Well Installed 2004																					
Site-Wide reduction:	81.2%	84.2%	67.60%	62.1%	83.5%	68.7%	78.6%	66.2%	69.1%	87.7%	88.2%	85.2%	83.2%	79.8%	80.3%	67.5%	81.8%	81.2%	71.3%	82.9%	80.7%
Impacted Groundwater Plume Area Only:	65.3%	76.6%	51.40%	41.1%	82.9%	69.6%	76.0%	58.1%	58.6%	84.6%	80.8%	77.3%	75.0%	72.3%	73.9%	82.2%	73.2%	77.3%	62.5%	75.2%	73.1%

Plume Area = MW-1, MW-11, MW-12, MW-14, MW-15, MW-7, MW-17, MW-6
% reduction = percent reduction in total Volatile Organic Compounds (VOCs) since groundwater monitoring was initiated
†Negative values indicate an increase in total VOCs since monitoring commenced in 2002. The percent increase in total groundwater VOCs is shown below for MW-1.

Recovery Well	% Reduction 2002 to May 2018	% Reduction 2002 to April 2018	% Reduction 2002 to Nov 2017	% Reduction 2002 to Aug 2017	% Reduction 2002 to Nov 2016	% Reduction 2002 to Sep 2016	% Reduction 2002 to Jun 2016	% Reduction 2002 to Nov 2015	% Reduction 2002 to Aug 2015	% Reduction 2002 to Jun 2015	% Reduction 2002 to Mar 2015	% Reduction 2002 to Nov 2014	% Reduction 2002 to Sep 2014	% Reduction 2002 to Jun 2014	% Reduction 2002 to Mar 2014	% Reduction 2002 to Dec 2013	% Reduction 2002 to Jul 2013	% Reduction 2002 to Apr 2013	% Reduction 2002 to Dec 2012	% Reduction 2002 to Jun 2012	% Reduction 2002 to Mar 2012
DR-1	-130.0%	-86.6%	-243.6%	-243.6%	-7.6%	-6.4%	-58.7%	44.4%	72.1%	Not Sampled	96.2%	89.0%	90.4%	86.9%	77.0%	84.8%	99.1%	99.0%	99.5%	99.8%	91.6%
DR-2	76.7%	76%	63.8%	63.8%	75.1%	60.3%	60.9%	63.8%	66.0%	47.0%	52.8%	70.5%	59.2%	58.0%	62.3%	45.0%	87.2%	85.4%	99.1%	88.5%	83.9%
DR-3	17.8%	78%	68.5%	Not Sampled	35.7%	-1.0%	59.3%	70.5%	50.2%	45.6%	63.9%	-18.7%	-37.7%	45.6%	41.6%	19.3%	95.8%	95.1%	97.2%	92.1%	98.3%
DR-4	96.4%	96%	93.9%	93.9%	90.8%	88.9%	92.7%	89.1%	87.2%	91.7%	82.9%	81.8%	82.8%	88.8%	92.5%	90.8%	95.5%	97.9%	94.9%	93.1%	100.0%
G-1	80.1%	80%	74.1%	74.1%	57.7%	47.4%	92.7%	60.0%	100.0%	66.1%	27.3%	49.8%	47.7%	55.0%	61.3%	65.6%	87.3%	89.8%	90.3%	87.4%	88.0%
G-2	82.4%	84%	100.0%	Not Sampled	Not Sampled	100.0%	Not Sampled	Not Sampled	90.1%	Not Sampled	83.1%	88.0%	86.9%	81.7%	95.1%	71.4%	79.0%	87.0%	65.7%	80.4%	89.1%
G-3	Not Sampled	Not Sampled	Not Sampled	Not Sampled	27.3%	-0.2%	-4.2%	35.0%	8.2%	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	79.7%	NA	NA	NA	NA	NA	NA
Overall Reduction	37.2%	54.6%	60.4%	40.4%	46.5%	41.3%	40.4%	60.4%	67.7%	62.6%	67.7%	60.1%	54.9%	69.3%	72.8%	62.8%	90.7%	92.3%	91.1%	90.2%	91.8%

*Sampling of recovery wells initiated in 2005

FIGURES



I:\DASNY\006974.91 DASNY- GOWANDA 2017 O&M\3.0 Design\3.8 Reports\2018\02 2018 (May)\May 2018 Figures\Figure 1 May 2018.dwg

DASNY
Gowanda Day Habilitation Center

4 Industrial Place
Gowanda, New York

BERGMANN
ARCHITECTS ENGINEERS PLANNERS

Bergmann Associates, Architects, Engineers, Landscape Architects & Surveyors, D.P.C.
280 East Broad Street
Suite 200
Rochester, NY 14604

office: 585.232.5135
fax: 585.232.4652

www.bergmannpc.com

REVISIONS

NO.	DATE	DESCRIPTION	REV.	CK'D

Project Manager: S. DEMEO	Checked By: S. DEMEO
Designed By:	Drawn By: C. WOOD
Date Issued: 06/21/2018	Scale: 1" = 60'
Project Number: 6974.91	

MAY 2018
WATER LEVEL CONTOUR MAP

Drawing Number:

FIGURE 1

DASNY

Gowanda Day Habilitation Center

4 Industrial Place
Gowanda, NY

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Figure 2

May 2018 Distribution of Groundwater Analytical Results: Monitoring Wells

DASNY

Gowanda Day Habilitation Center

4 Industrial Place
Gowanda, NY

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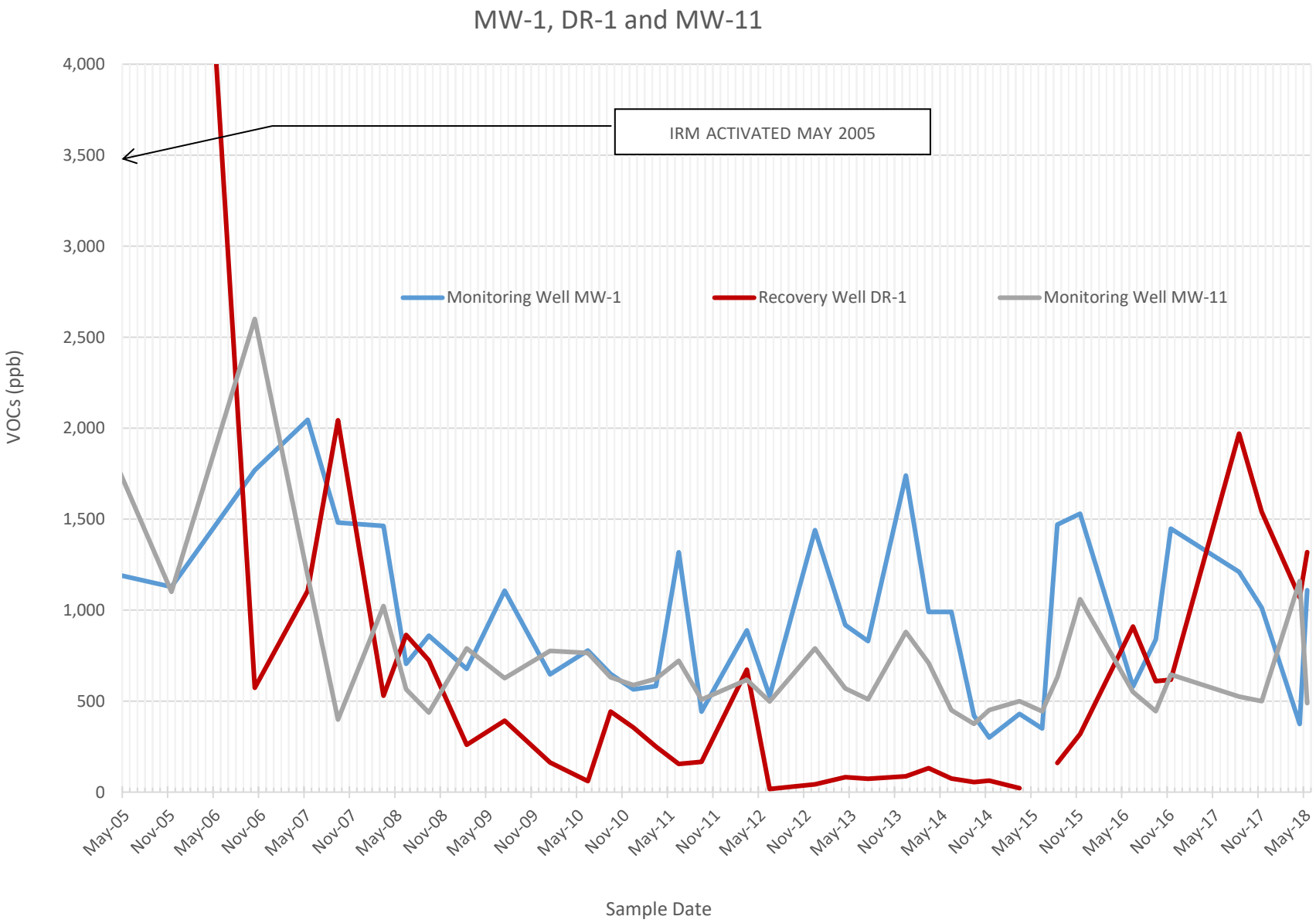
Figure 3

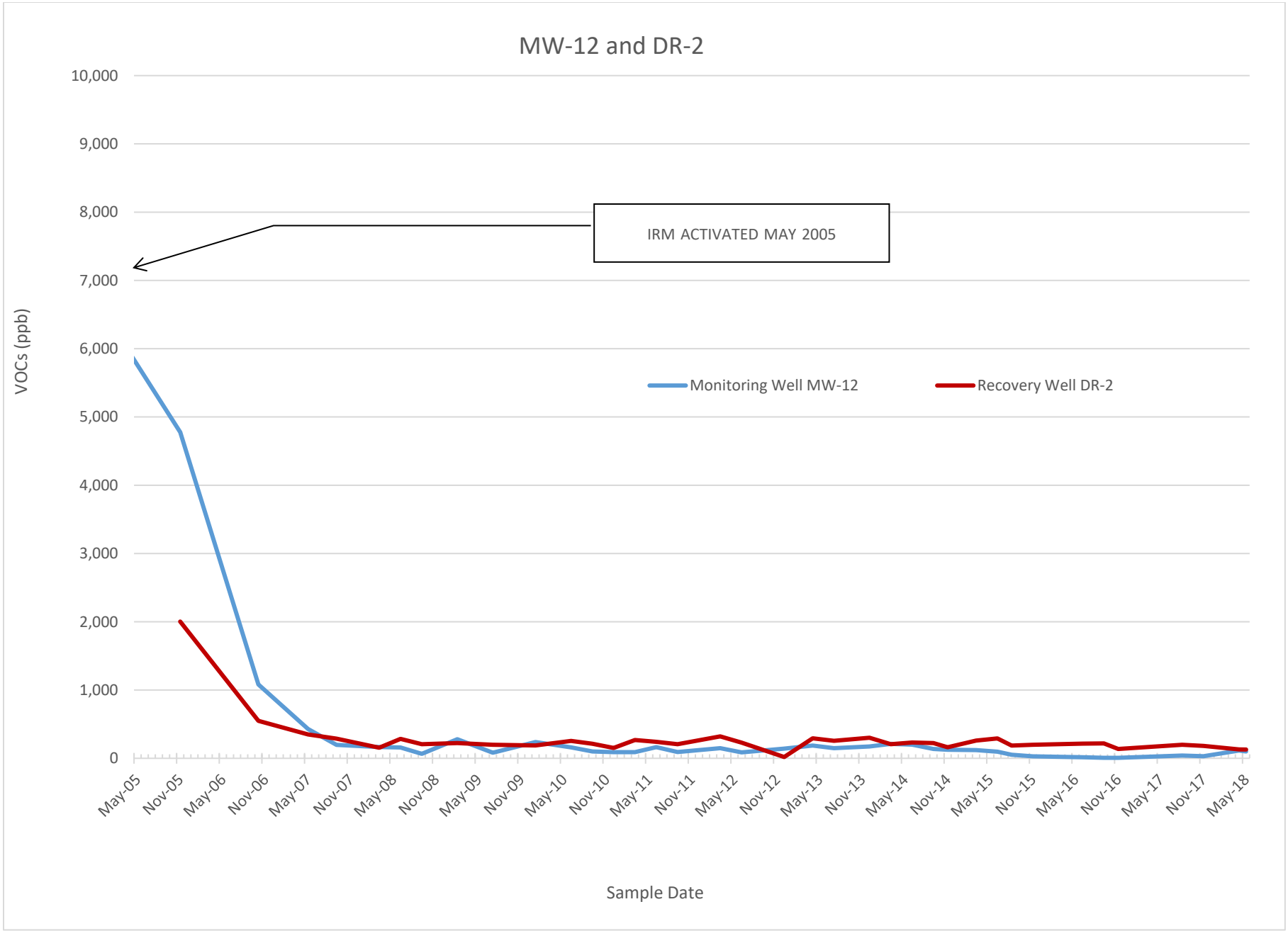
May 2018 Distribution of Groundwater Analytical Results: Recovery Wells

0 25 50 75 100
Feet

N

CHARTS


MW-1, DR-1 and MW-11
IRM ACTIVATED MAY 2005
Monitoring Well MW-1
Recovery Well DR-1
Monitoring Well MW-11
VOCs (ppb)
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
May-05
Nov-05
May-06
Nov-06
May-07
Nov-07
May-08
Nov-08
May-09
Nov-09
May-10
Nov-10
May-11
Nov-11
May-12
Nov-12
May-13
Nov-13
May-14
Nov-14
May-15
Nov-15
May-16
Nov-16
May-17
Nov-17
May-18
Sample Date


MW-12 and DR-2
10,000
9,000
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
VOCs (ppb)
IRM ACTIVATED MAY 2005
Monitoring Well MW-12
Recovery Well DR-2
May-05
Nov-05
May-06
Nov-06
May-07
Nov-07
May-08
Nov-08
May-09
Nov-09
May-10
Nov-10
May-11
Nov-11
May-12
Nov-12
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May-15
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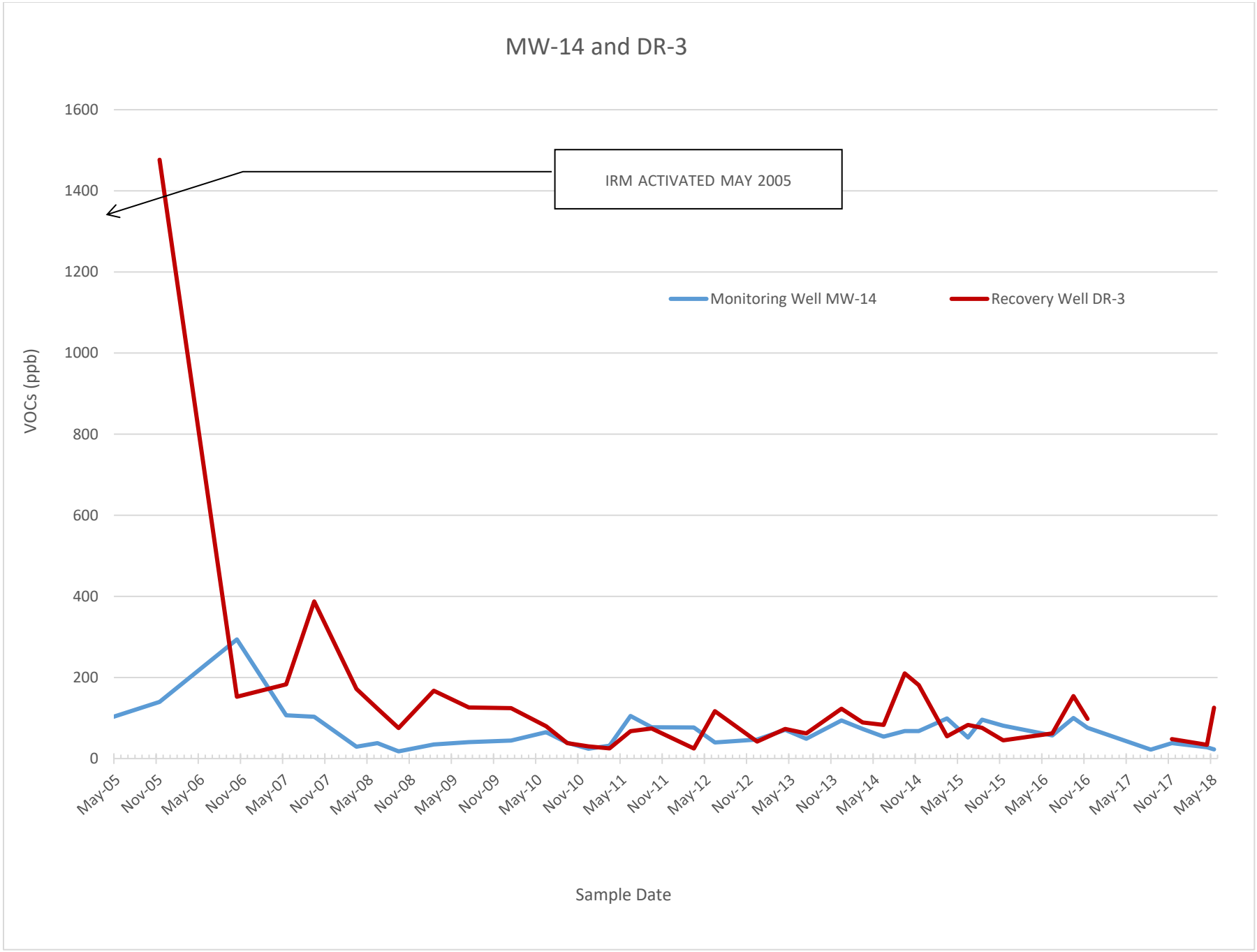
Nov-16
May-17
Nov-17
May-18
Sample Date


MW-14 and DR-3
IRM ACTIVATED MAY 2005
Monitoring Well MW-14
Recovery Well DR-3
VOCs (ppb)
1600
1400
1200
1000
800
600
400
200
0
May-05
Nov-05
May-06
Nov-06
May-07
Nov-07
May-08
Nov-08
May-09
Nov-09
May-10
Nov-10
May-11
Nov-11
May-12
Nov-12
May-13
Nov-13
May-14
Nov-14
May-15
Nov-15
May-16
Nov-16
May-17
Nov-17
May-18
Sample Date

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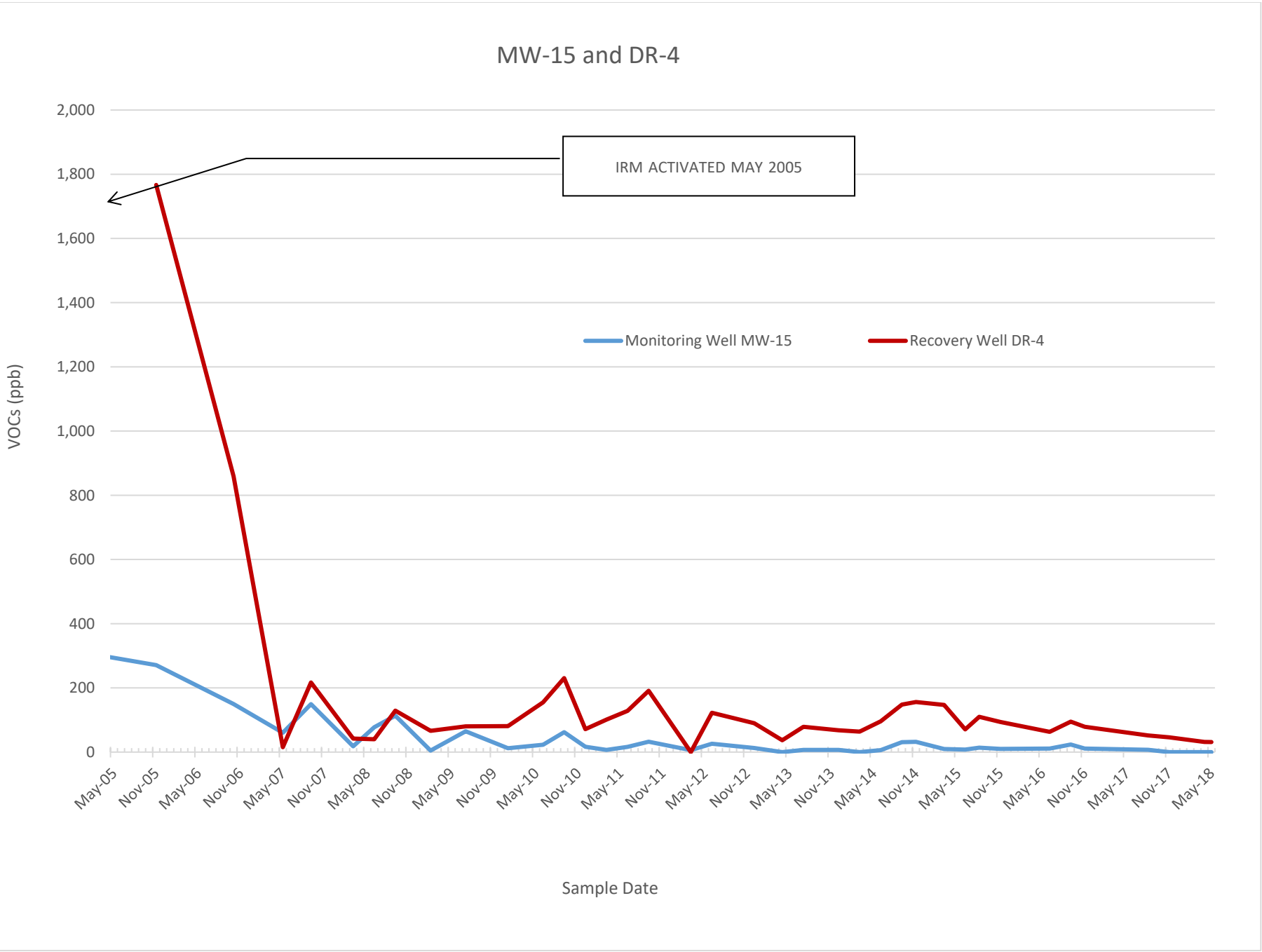

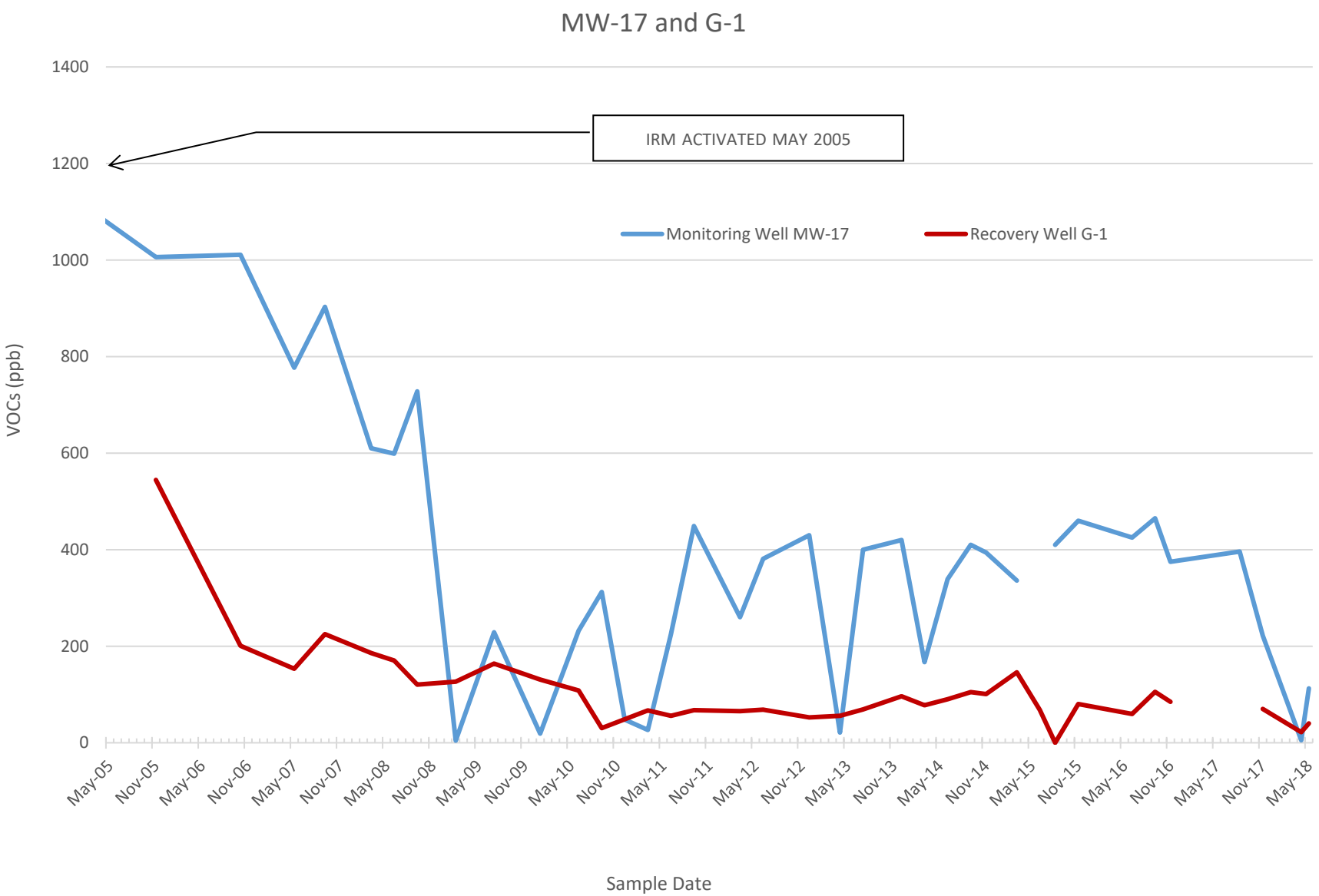
MW-17 and G-1
IRM ACTIVATED MAY 2005
Monitoring Well MW-17
Recovery Well G-1
VOCs (ppb)
1400
1200
1000
800
600
400
200
0
May-05
Nov-05
May-06
Nov-06
May-07
Nov-07
May-08
Nov-08
May-09
Nov-09
May-10
Nov-10
May-11
Nov-11
May-12
Nov-12
May-13
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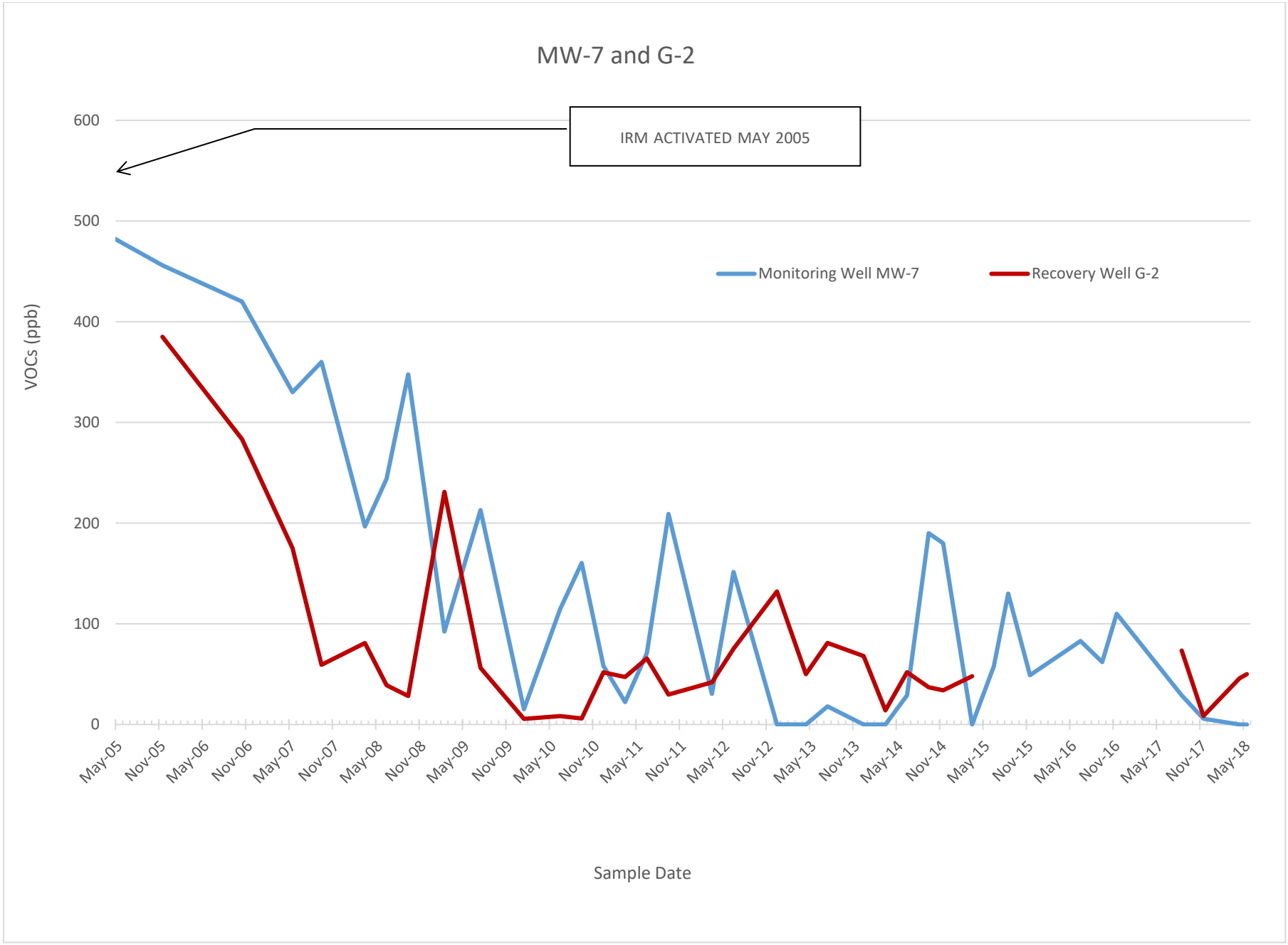
Nov-14
May-15
Nov-15
May-16
Nov-16
May-17
Nov-17
May-18
Sample Date


MW-7 and G-2
IRM ACTIVATED MAY 2005
Monitoring Well MW-7
Recovery Well G-2
VOCs (ppb)
600
500
400
300
200
100
0
May-05
Nov-05
May-06
Nov-06
May-07
Nov-07
May-08
Nov-08
May-09
Nov-09
May-10
Nov-10
May-11
Nov-11
May-12
Nov-12
May-13
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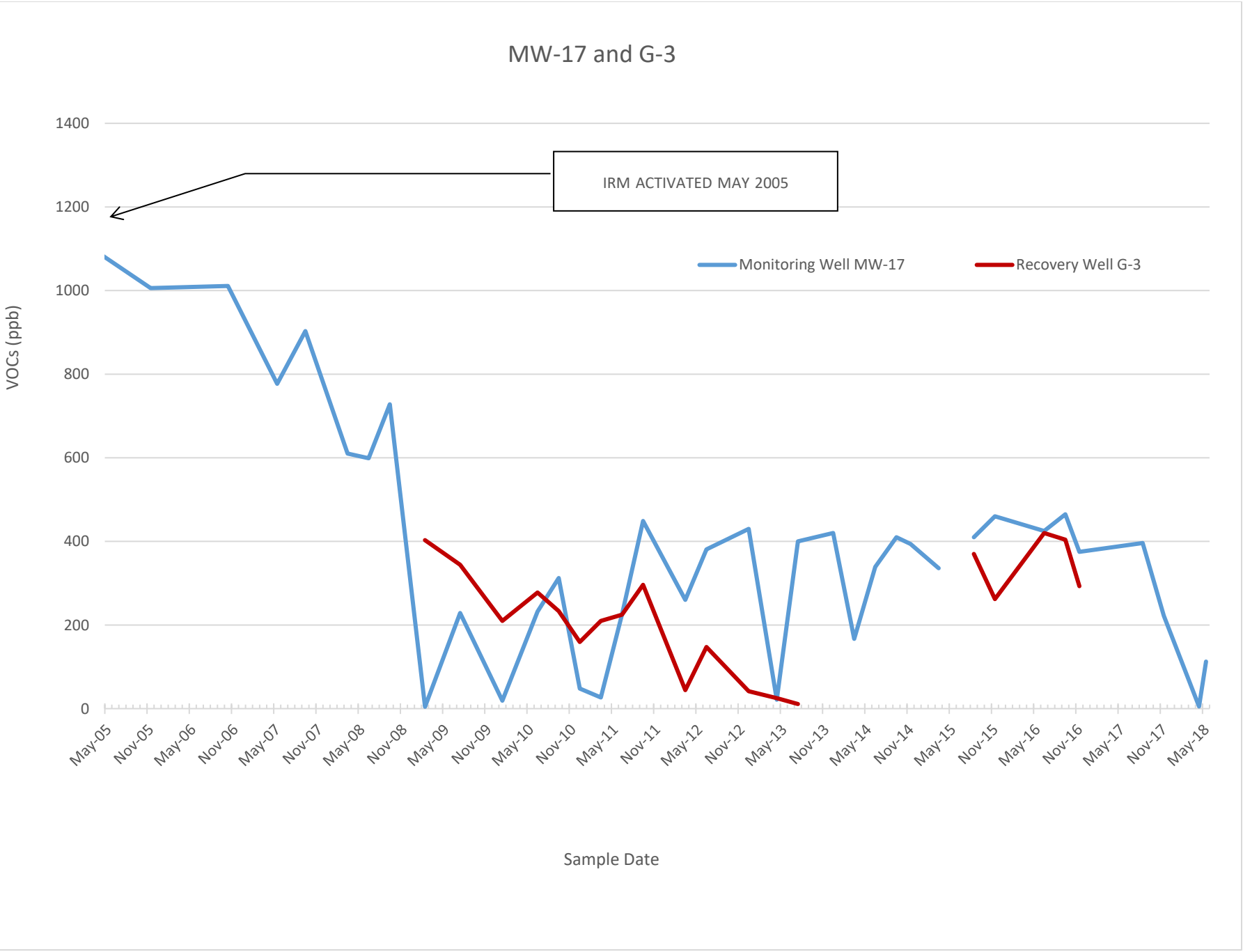
Nov-14
May-15
Nov-15
May-16
Nov-16
May-17
Nov-17
May-18
Sample Date


MW-17 and G-3
IRM ACTIVATED MAY 2005
Monitoring Well MW-17
Recovery Well G-3
VOCs (ppb)
1400
1200
1000
800
600
400
200
0
May-05
Nov-05
May-06
Nov-06
May-07
Nov-07
May-08
Nov-08
May-09
Nov-09
May-10
Nov-10
May-11
Nov-11
May-12
Nov-12
May-13
Nov-13
May-14
Nov-14
May-15
Nov-15
May-16
Nov-16
May-17
Nov-17
May-18
Sample Date

APPENDIX A:

LABORATORY ANALYTICAL RESULTS

June 07, 2018 Service Request No:R1805029

Mr. Cash Bleier
Bergmann Associates, Incorporated
280 East Broad Street
Suite 200
Rochester, NY 14604

Laboratory Results for: Gowanda

Dear Mr.Bleier,

Enclosed are the results of the sample(s) submitted to our laboratory May 31, 2018
For your reference, these analyses have been assigned our service request number **R1805029.**

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and ALS Environmental is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s) for analysis of these samples, and represented by Laboratory Control Sample control limits. Any events, such as QC failures, which may add to the uncertainty are explained in the report narrative.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Brady Kalkman
Project Manager

ADDRESS 1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
PHONE +1 585 288 5380 | FAX +1 585 288 8475
ALS Group USA, Corp.
dba ALS Environmental

Narrative Documents

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

ALS Environmental

Client: Bergmann Associates, Incorporated
Project: Gowanda
Sample Matrix: Water

Service Request: R1805029
Date Received: 05/31/2018

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier II data deliverables, including results of QC samples analyzed from this delivery group. Analytical procedures performed by the lab are validated in accordance with NELAC standards. Any parameters that are not included in the lab's NELAC accreditation are identified on a "Non-Certified Analytes" report in the Miscellaneous Forms Section of this report. Individual analytical results requiring further explanation are flagged with qualifiers and/or discussed below. The flags are explained in the Report Qualifiers and Definitions page in the Miscellaneous Forms section of this report.

Sample Receipt:

Twenty eight water samples were received for analysis at ALS Environmental on 05/31/2018. Any discrepancies noted upon initial sample inspection are noted on the cooler receipt and preservation form included in this data package. The samples were received in good condition and consistent with the accompanying chain of custody form. Samples are refrigerated at 6°C upon receipt at the lab except for aqueous samples designated for metals analyses, which are stored at room temperature.

Volatiles by GC/MS:

No significant anomalies were noted with this analysis.

Approved by _____ Date 06/06/2018

SAMPLE DETECTION SUMMARY

CLIENT ID: MW-01			Lab ID: R1805029-001			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
cis-1,2-Dichloroethene	190		0.52	10	ug/L	8260C
Trichloroethene (TCE)	920	D	2.0	50	ug/L	8260C

CLIENT ID: MW-06			Lab ID: R1805029-006			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
cis-1,2-Dichloroethene	77		0.26	5.0	ug/L	8260C

CLIENT ID: MW-11			Lab ID: R1805029-011			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
cis-1,2-Dichloroethene	59		1.3	25	ug/L	8260C
Trichloroethene (TCE)	430		1.0	25	ug/L	8260C

CLIENT ID: MW-12			Lab ID: R1805029-012			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
cis-1,2-Dichloroethene	73		0.26	5.0	ug/L	8260C
Trichloroethene (TCE)	27		0.20	5.0	ug/L	8260C

CLIENT ID: MW-14			Lab ID: R1805029-014			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
cis-1,2-Dichloroethene	5.8		0.26	5.0	ug/L	8260C
Trichloroethene (TCE)	17		0.20	5.0	ug/L	8260C

CLIENT ID: MW-16			Lab ID: R1805029-016			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
cis-1,2-Dichloroethene	41		0.26	5.0	ug/L	8260C

CLIENT ID: MW-17			Lab ID: R1805029-017			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
cis-1,2-Dichloroethene	85		0.26	5.0	ug/L	8260C
trans-1,2-Dichloroethene	7.5		0.26	5.0	ug/L	8260C
Trichloroethene (TCE)	20		0.20	5.0	ug/L	8260C

CLIENT ID: G-1			Lab ID: R1805029-020			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
cis-1,2-Dichloroethene	34		0.26	5.0	ug/L	8260C
Trichloroethene (TCE)	6.3		0.20	5.0	ug/L	8260C

CLIENT ID: G-2			Lab ID: R1805029-021			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
cis-1,2-Dichloroethene	50		0.26	5.0	ug/L	8260C

CLIENT ID: DR-1			Lab ID: R1805029-022			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
cis-1,2-Dichloroethene	210		2.6	50	ug/L	8260C
Trichloroethene (TCE)	1100		2.0	50	ug/L	8260C

SAMPLE DETECTION SUMMARY

CLIENT ID: DR-2			Lab ID: R1805029-023			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
cis-1,2-Dichloroethene	97		0.26	5.0	ug/L	8260C
Trichloroethene (TCE)	31		0.20	5.0	ug/L	8260C

CLIENT ID: DR-3			Lab ID: R1805029-024			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
cis-1,2-Dichloroethene	86		0.26	5.0	ug/L	8260C
trans-1,2-Dichloroethene	9.4		0.26	5.0	ug/L	8260C
Trichloroethene (TCE)	30		0.20	5.0	ug/L	8260C

CLIENT ID: DR-4			Lab ID: R1805029-025			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
cis-1,2-Dichloroethene	7.2		0.26	5.0	ug/L	8260C
Trichloroethene (TCE)	24		0.20	5.0	ug/L	8260C

CLIENT ID: MW-X			Lab ID: R1805029-026			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
cis-1,2-Dichloroethene	54		0.26	5.0	ug/L	8260C
trans-1,2-Dichloroethene	10		0.26	5.0	ug/L	8260C
Trichloroethene (TCE)	370	D	0.50	13	ug/L	8260C

Sample Receipt Information

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: Bergmann Associates, Incorporated **Service Request:**R1805029
Project: Gowanda/06974-91

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
R1805029-001	MW-01	5/30/2018	1130
R1805029-002	MW-02	5/30/2018	1130
R1805029-003	MW-03	5/30/2018	1115
R1805029-004	MW-04	5/30/2018	1100
R1805029-005	MW-05	5/30/2018	1030
R1805029-006	MW-06	5/30/2018	1015
R1805029-007	MW-07	5/30/2018	0945
R1805029-008	MW-08	5/30/2018	1201
R1805029-009	MW-09	5/30/2018	1155
R1805029-010	MW-10	5/30/2018	1145
R1805029-011	MW-11	5/30/2018	1115
R1805029-012	MW-12	5/30/2018	1020
R1805029-013	MW-13	5/30/2018	1030
R1805029-014	MW-14	5/30/2018	0952
R1805029-015	MW-15	5/30/2018	0935
R1805029-016	MW-16	5/30/2018	0920
R1805029-017	MW-17	5/30/2018	1000
R1805029-018	MW-18	5/30/2018	1230
R1805029-019	MW-20	5/30/2018	1045
R1805029-020	G-1	5/30/2018	0924
R1805029-021	G-2	5/30/2018	0913
R1805029-022	DR-1	5/30/2018	1100
R1805029-023	DR-2	5/30/2018	1015
R1805029-024	DR-3	5/30/2018	1000
R1805029-025	DR-4	5/30/2018	0942
R1805029-026	MW-X	5/30/2018	1100
R1805029-027	Equ Blank	5/30/2018	1230
R1805029-028	Trip Blank	5/30/2018	1230

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM 51502

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax)

Project Name: Gowanda	Project Number: 06974-91
Project Manager: C. Bleier	Report CC:
Company/Address: Bergmann	
280 E Broad St, Suite 200	
Rochester, NY 14604	
Phone #: 585-498-7950	Email: Cbleier@bergmannpc.com
Sampler's Signature: Cash Bleier	Sampler's Printed Name: Cash Bleier

ANALYSIS REQUESTED (Include Method Number and Container Preservative)

PRESERVATIVE: 1

NUMBER OF CONTAINERS: 3

GC/MS VOAs ◦ 8260 ◦ 624 ◦ CLP | GC/MS SVOAs ◦ 8270 ◦ 625 | GC VOAs ◦ 8021 ◦ 601/602 | PESTICIDES ◦ 8081 ◦ 608 | PCBs ◦ 8082 ◦ 608 | METALS, TOTAL (List in comments below) | METALS, DISSOLVED (List in comments below)

Preservative Key
0. NONE
1. HCL
2. HNO_3
3. H_2SO_4
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other X (Chill)

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	REMARKS/ ALTERNATE DESCRIPTION
MW-01		05/30/18	11:30 am	GW	2 vials
MW-02		05/30/18	11:30 am	GW	3 vials
MW-03		05/30/18	11:15 am	GW	1 vial
MW-04		05/30/18	11:00 am	GW	2 vials
MW-05		05/30/18	10:30 am	GW	2 vials
MW-06		05/30/18	10:15 am	GW	
MW-07		05/30/18	9:45 am	GW	2 vials
MW-08		05/30/18	12:01 pm	GW	3 vials
MW-09		05/30/18	11:55 am	GW	3 vials
MW-10		05/30/18	11:45 am	GW	
MW-11		05/30/18	11:15 am	GW	3 vials

SPECIAL INSTRUCTIONS/COMMENTS
Metals

See QAPP ☐

STATE WHERE SAMPLES WERE COLLECTED: New York

TURNAROUND REQUIREMENTS
____ RUSH (SURCHARGES APPLY)
____ 1 day ____ 2 day ____ 3 day
____ 4 day X 5 day
____ Standard (10 business days-No Surcharge)

REQUESTED REPORT DATE: ____

REPORT REQUIREMENTS
____ I. Results Only
____ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
____ III. Results + QC and Calibration Summaries
____ IV. Data Validation Report with Raw Data

NYS DEC EQuIS
Edata X Yes ____ No

INVOICE INFORMATION
PO #:
BILL TO:

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature: Cash Bleier	Signature: [signature]	Signature:	Signature:	Signature:	Signature:
Printed Name: Cash Bleier	Printed Name: Daniel Wirc	Printed Name:	Printed Name:	Printed Name:	Printed Name:
Firm: Bergmann	Firm: ALS	Firm:	Firm:	Firm:	Firm:
Date/Time: 5/31/2018 1607	Date/Time: 5/31/18/ 1607	Date/Time:	Date/Time:	Date/Time:	Date/Time:

R1805029 5
Bergmann Associates, Incorporated
Gowanda

Distribution: White - Lab Copy; Yellow - Return to Originator

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM 51502

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax)

Project Name: Gowanda	Project Number: 06974-91
Project Manager: C. Bleier	Report CC:
Company/Address: Bergmann 280 E Broad St, Suite 200 Rochester, NY 14604	
Phone #: 585-498-7950	Email: cbleier@bergmannpc.com
Sampler's Signature: Cash Bleier	Sampler's Printed Name: Cash Bleier

ANALYSIS REQUESTED (Include Method Number and Container Preservative)

PRESERVATIVE: 1

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GC/MS VOAs • 8260 • 624 • CLP	GC/MS SVOAs • 8270 • 625	GC VOAs • 8021 • 601/602	PESTICIDES • 8081 • 608	PCBs • 8082 • 608	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)	REMARKS/ ALTERNATE DESCRIPTION
MW-12		05/30/18	10:20 am	GW	3	X							1Vial
MW-13		05/30/18	10:30 am	GW	3	X							3Vials
MW-14		05/30/18	9:52 am	GW	3	X							3vials
MW-15		05/30/18	9:35am	GW	3	X							3vials
MW-16		05/30/18	9:20 am	GW	3	X							2vial
MW-17		05/30/18	10:00 am	GW	3	X							
MW-18		05/30/18	12:30 pm	GW	3	X							3vials
MW-20		05/30/18	10:45am	GW	3	X							3vials
G-1		05/30/18	9:24 am	GW	3	X							2vials
G-2		05/30/18	9:13 am	GW	3	X							3vials
DR-1		05/30/18	11:00 am	GW	3	X							3vials

Preservative Key
0. NONE
1. HCL
2. HNO_3
3. H_2SO_4
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other X Chill

SPECIAL INSTRUCTIONS/COMMENTS
Metals

See QAPP ☐

STATE WHERE SAMPLES WERE COLLECTED: New York

TURNAROUND REQUIREMENTS
___ RUSH (SURCHARGES APPLY)
___ 1 day ___ 2 day ___ 3 day
___ 4 day X 5 day
___ Standard (10 business days-No Surcharge)

REQUESTED REPORT DATE: _____

REPORT REQUIREMENTS
___ I. Results Only
___ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
___ III. Results + QC and Calibration Summaries
___ IV. Data Validation Report with Raw Data

NYS DEC EQuIS
Edata X Yes ___ No

INVOICE INFORMATION
PO #:
BILL TO:

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature: Cash Bleier	Signature:	Signature:	Signature:	Signature:	Signature:
Printed Name: Cash Bleier	Printed Name: Daniel Hinc	Printed Name:	Printed Name:	Printed Name:	
Firm: Bergmann	Firm: ALS	Firm:	Firm:	Firm:	
Date/Time: 5/31/2018 1007	Date/Time: 5/31/18/ 1007	Date/Time:	Date/Time:	Date/Time:	

R1805029 5
Bergmann Associates, Incorporated
Gowanda

Distribution: White - Lab Copy; Yellow - Return to Originator

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM 51502

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax)

Project Name: Gowanda	Project Number: 06974.91
Project Manager: C. Bleier	Report CC:
Company/Address: Bergmann 280 E Broad St, Suite 200 Rochester, NY 14604	
Phone #: 585-498-7950	Email: Cbleier@bergmannpc.com
Sampler's Signature: Carl Bleier	Sampler's Printed Name: Cash Bleier

ANALYSIS REQUESTED (Include Method Number and Container Preservative)

PRESERVATIVE: 1

Preservative Key
0. NONE
1. HCL
2. HNO_3
3. H_2SO_4
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other X Chill

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GC/MS VOAs • 8260 • 624 • CLP	GC/MS SVOAs • 8270 • 625	GC VOAs • 8021 • 601/602	PESTICIDES • 8081 • 608	PCBs • 8082 • 608	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)	REMARKS/ ALTERNATE DESCRIPTION
DR-2		05/30/18	10:15am	GW	3	X							3vials
DR-3		05/30/18	10:00am	GW	3	X							3vials
DR-4		05/30/18	9:42am	GW	3	X							3vials
MW-X		05/30/18	11:00am	GW	3	X							3vials
Equ. Blank		05/30/18	12:30pm	GW	3	X							3vials
		~~05/30/18~~		~~GW~~	~~3~~	~~X~~							
		~~05/30/18~~		~~GW~~	~~3~~	~~X~~							
		~~05/30/18~~	CB 5/31/2018	~~GW~~	~~3~~	~~X~~	CB 5/31/2018						
		~~05/30/18~~		~~GW~~	~~3~~	~~X~~							
		~~05/30/18~~		~~GW~~	~~3~~	~~X~~							
		~~05/30/18~~		~~GW~~	~~3~~	~~X~~							

SPECIAL INSTRUCTIONS/COMMENTS
Metals

See QAPP ☐

STATE WHERE SAMPLES WERE COLLECTED: New York

TURNAROUND REQUIREMENTS
___ RUSH (SURCHARGES APPLY)
___ 1 day ___ 2 day ___ 3 day
___ 4 day X 5 day
___ Standard (10 business days-No Surcharge)
REQUESTED REPORT DATE

REPORT REQUIREMENTS
___ I. Results Only
___ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
___ III. Results + QC and Calibration Summaries
___ IV. Data Validation Report with Raw Data
NYS DEC EQuIS
Edata X Yes ___ No

INVOICE INFORMATION
PO #
BILL TO:

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature: Carl Bleier	Signature: Daniel Ward	Signature	Signature	Signature	Signature
Printed Name: Cash Bleier	Printed Name: Daniel Ward	Printed Name	Printed Name	Printed Name	Printed Name
Firm: Bergmann	Firm: ALS	Firm	Firm	Firm	
Date/Time: 5/31/2018 1607	Date/Time: 5/31/18/1607	Date/Time	Date/Time	Date/Time	

R1805029 5
Bergmann Associates, Incorporated
Gowanda

Distribution: White - Lab Copy; Yellow - Return to Originator

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Cooler Receipt and Preservation Check Form

R1805029 5
Bergmann Associates, Incorporated
Gowanda

Project/Client Bergmann Assc. Folder Number

Cooler received on 5/31/18 by: DW

COURIER: ALS UPS FEDEX VELOCITY CLIENT

1	Were **Custody seals** on outside of cooler?	Y N	5a	**Perchlorate** samples have required headspace?	Y N NA
2	**Custody papers** properly completed (ink, signed)?	Y N	5b	Did VOA vials, Alk,or Sulfide have sig* **bubbles**?	Y N NA
3	Did all bottles arrive in good **condition** (unbroken)?	Y N	6	Where did the bottles originate?	ALS/ROC CLIENT
4	Circle: **Wet Ice Dry Ice Gel packs** present?	Y N	7	Soil VOA received as:	Bulk Encore 5035set NA

8. Temperature Readings Date: 5/31/18 Time: 1626 ID: IR#7 IR#9 From: Temp Blank Sample Bottle

Observed Temp (°C)	5.2 c						
Correction Factor (°C)	+0.5						
Corrected Temp (°C)	5.7						
Temp from:Type of bottle	40mL vial						
Within 0-6°C?	Y N	Y N	Y N	Y N	Y N	Y N	Y N
If <0°C, were samples frozen?	Y N	Y N	Y N	Y N	Y N	Y N	Y N

If out of Temperature, note packing/ice condition: _____ Ice melted Poorly Packed (described below) Same Day Rule

&Client Approval to Run Samples: _____ Standing Approval Client aware at drop-off Client notified by: _____

All samples held in storage location: R-002 by DW on 5/31/18 at 1626
5035 samples placed in storage location: _____ by _____ on _____ at _____

Cooler Breakdown/Preservation Check**: Date: 6/1/18 Time: 1234 by: [signature]

9. Were all bottle labels complete (*i.e.* analysis, preservation, etc.)? ~~YES~~ NO date/time
10. Did all bottle labels and tags agree with custody papers? ~~YES~~ NO
11. Were correct containers used for the tests indicated? YES NO
12. Were 5035 vials acceptable (no extra labels, not leaking)? YES NO N/A
13. Air Samples: Cassettes / Tubes Intact with MS? Canisters Pressurized Tedlar® Bags Inflated N/A

pH	Lot of test paper	Reagent	Preserved? Yes	Preserved? No	Lot Received	Exp	Sample ID Adjusted	Vol. Added	Lot Added	Final pH
≥12		NaOH								
≤2		HNO_3								
≤2		H_2SO_4								
<4		$NaHSO_4$								
5-9		For 608pest			No=Notify for 3day					
Residual Chlorine (-)		For CN, Phenol, 625, 608pest, 522			If +, contact PM to add $Na_2S_2O_3$ (625, 608, CN), ascorbic (phenol).					
		$Na_2S_2O_3$								
		ZnAcetate	-	-						
		HCl	**	**	4115120					

**VOAs and 1664 Not to be tested before analysis. Otherwise, all bottles of all samples with chemical preservatives are checked (not just representatives).

Bottle lot numbers: 4-060-003, 7-249-002

Explain all Discrepancies/ Other Comments:
* See Comments on C.O.C

Rec'd Trip Blank not on COC.

CLRES	BULK
DO	FLDT
HPROD	HGFB
HTR	LL3541
PH	SUB
SO3	MARRS
ALS	REV

Labels secondary reviewed by: [signature]
PC Secondary Review: _____

*significant air bubbles: VOA > 5-6 mm : WC >1 in. diameter

Miscellaneous Forms

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

REPORT QUALIFIERS AND DEFINITIONS

U	Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
J	Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Arclors).
B	Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
E	Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
E	Organics- Concentration has exceeded the calibration range for that specific analysis.
D	Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.
*	Indicates that a quality control parameter has exceeded laboratory limits. Under the ñNotesò column of the Form I, this qualifier denotes analysis was performed out of Holding Time.
H	Analysis was performed out of hold time for tests that have an ñimmediateò hold time criteria.
#	Spike was diluted out.
+	Correlation coefficient for MSA is <0.995.
N	Inorganics- Matrix spike recovery was outside laboratory limits.
N	Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
S	Concentration has been determined using Method of Standard Additions (MSA).
W	Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
P	Concentration >40% difference between the two GC columns.
C	Confirmed by GC/MS
Q	DoD reports: indicates a pesticide/Aroclor is not confirmed (Ó100% Difference between two GC columns).
X	See Case Narrative for discussion.
MRL LOQ	Method Reporting Limit. Also known as: Limit of Quantitation (LOQ) The lowest concentration at which the method analyte may be reliably quantified under the method conditions.
MDL	Method Detection Limit. A statistical value derived from a study designed to provide the lowest concentration that will be detected 99% of the time. Values between the MDL and MRL are estimated (see J qualifier).
LOD	Limit of Detection. A value at or above the MDL which has been verified to be detectable.
ND	Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.

Rochester Lab ID # for State Certifications[1]

Connecticut ID # PH0556	Maine ID #NY0032	New Hampshire ID # 294100 A/B
Delaware Approved	New Jersey ID # NY004	
DoD ELAP #65817	New York ID # 10145	Pennsylvania ID# 68-786
Florida ID # E87674	North Carolina #676	Rhode Island ID # 158
		Virginia #460167

[1] Analyses were performed according to our laboratoryôs NELAP-approved quality assurance program and any applicable state or agency requirements. The test results meet requirements of the current NELAP/TNI standards or state or agency requirements, where applicable, except as noted in the case narrative. Since not all analyte/method/matrix combinations are offered for state/NELAC accreditation, this report may contain results which are not accredited. For a specific list of accredited analytes, contact the laboratory or go to https://www.alsglobal.com/locations/americas/north-america/usa/new-york/rochester-environmental

ALS Laboratory Group

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Client: Bergmann Associates, Incorporated **Service Request:** R1805029
Project: Gowanda/06974-91

Sample Name: MW-01 **Date Collected:** 05/30/18
Lab Code: R1805029-001 **Date Received:** 05/31/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name: MW-02 **Date Collected:** 05/30/18
Lab Code: R1805029-002 **Date Received:** 05/31/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name: MW-03 **Date Collected:** 05/30/18
Lab Code: R1805029-003 **Date Received:** 05/31/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name: MW-04 **Date Collected:** 05/30/18
Lab Code: R1805029-004 **Date Received:** 05/31/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name: MW-05 **Date Collected:** 05/30/18
Lab Code: R1805029-005 **Date Received:** 05/31/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Client: Bergmann Associates, Incorporated **Service Request:** R1805029
Project: Gowanda/06974-91

Sample Name: MW-06 **Date Collected:** 05/30/18
Lab Code: R1805029-006 **Date Received:** 05/31/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name: MW-07 **Date Collected:** 05/30/18
Lab Code: R1805029-007 **Date Received:** 05/31/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name: MW-08 **Date Collected:** 05/30/18
Lab Code: R1805029-008 **Date Received:** 05/31/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name: MW-09 **Date Collected:** 05/30/18
Lab Code: R1805029-009 **Date Received:** 05/31/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name: MW-10 **Date Collected:** 05/30/18
Lab Code: R1805029-010 **Date Received:** 05/31/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Client: Bergmann Associates, Incorporated **Service Request:** R1805029
Project: Gowanda/06974-91

Sample Name: MW-11 **Date Collected:** 05/30/18
Lab Code: R1805029-011 **Date Received:** 05/31/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name: MW-12 **Date Collected:** 05/30/18
Lab Code: R1805029-012 **Date Received:** 05/31/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name: MW-13 **Date Collected:** 05/30/18
Lab Code: R1805029-013 **Date Received:** 05/31/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name: MW-14 **Date Collected:** 05/30/18
Lab Code: R1805029-014 **Date Received:** 05/31/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name: MW-15 **Date Collected:** 05/30/18
Lab Code: R1805029-015 **Date Received:** 05/31/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Client: Bergmann Associates, Incorporated **Service Request:** R1805029
Project: Gowanda/06974-91

Sample Name: MW-16 **Date Collected:** 05/30/18
Lab Code: R1805029-016 **Date Received:** 05/31/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name: MW-17 **Date Collected:** 05/30/18
Lab Code: R1805029-017 **Date Received:** 05/31/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name: MW-18 **Date Collected:** 05/30/18
Lab Code: R1805029-018 **Date Received:** 05/31/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name: MW-20 **Date Collected:** 05/30/18
Lab Code: R1805029-019 **Date Received:** 05/31/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name: G-1 **Date Collected:** 05/30/18
Lab Code: R1805029-020 **Date Received:** 05/31/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Client: Bergmann Associates, Incorporated **Service Request:** R1805029
Project: Gowanda/06974-91

Sample Name: G-2 **Date Collected:** 05/30/18
Lab Code: R1805029-021 **Date Received:** 05/31/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name: DR-1 **Date Collected:** 05/30/18
Lab Code: R1805029-022 **Date Received:** 05/31/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name: DR-2 **Date Collected:** 05/30/18
Lab Code: R1805029-023 **Date Received:** 05/31/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name: DR-3 **Date Collected:** 05/30/18
Lab Code: R1805029-024 **Date Received:** 05/31/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name: DR-4 **Date Collected:** 05/30/18
Lab Code: R1805029-025 **Date Received:** 05/31/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1805029
Project:	Gowanda/06974-91		

Sample Name:	MW-X	**Date Collected:**	05/30/18
Lab Code:	R1805029-026	**Date Received:**	05/31/18
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name:	Equ Blank	**Date Collected:**	05/30/18
Lab Code:	R1805029-027	**Date Received:**	05/31/18
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name:	Trip Blank	**Date Collected:**	05/30/18
Lab Code:	R1805029-028	**Date Received:**	05/31/18
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

The preparation methods associated with this report are found in these tables unless discussed in the case narrative.

Water/Liquid Matrix

Analytical Method	Preparation Method
200.7	200.2
200.8	200.2
6010C	3005A/3010A
6020A	ILM05.3
9014 Cyanide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Acid Soluble	9030B
9056A Bomb (Halogens)	5050A
9066 Manual Distillation	9065
SM 4500-CN-E Residual Cyanide	SM 4500-CN-G
SM 4500-CN-E WAD Cyanide	SM 4500-CN-I

Solid/Soil/Non-Aqueous Matrix

Analytical Method	Preparation Method
6010C	3050B
6020A	3050B
6010C TCLP (1311) extract	3005A/3010A
6010 SPLP (1312) extract	3005A/3010A
7196A	3060A
7199	3060A
9056A Halogens/Halides	5050
300.0 Anions/ 350.1/ 353.2/ SM 2320B/ SM 5210B/ 9056A Anions	DI extraction

For analytical methods not listed, the preparation method is the same as the analytical method reference.

Sample Results

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Volatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1805029
Project:	Gowanda/06974-91	**Date Collected:**	05/30/18 11:30
Sample Matrix:	Water	**Date Received:**	05/31/18 16:07
Sample Name:	MW-01	**Units:**	ug/L
Lab Code:	R1805029-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	**190**		10	2	06/05/18 04:04	
trans-1,2-Dichloroethene	10	U	10	2	06/05/18 04:04	
Tetrachloroethene (PCE)	10	U	10	2	06/05/18 04:04	
1,1,1-Trichloroethane (TCA)	10	U	10	2	06/05/18 04:04	
Trichloroethene (TCE)	**920**	**D**	50	10	06/05/18 16:45	
Vinyl Chloride	10	U	10	2	06/05/18 04:04	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	85 - 122	06/05/18 04:04	
Dibromofluoromethane	98	89 - 119	06/05/18 04:04	
Toluene-d8	99	87 - 121	06/05/18 04:04	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1805029
Project:	Gowanda/06974-91	**Date Collected:**	05/30/18 11:30
Sample Matrix:	Water	**Date Received:**	05/31/18 16:07
Sample Name:	MW-02	**Units:**	ug/L
Lab Code:	R1805029-002	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	06/04/18 16:24	
trans-1,2-Dichloroethene	5.0 U	5.0	1	06/04/18 16:24	
Tetrachloroethene (PCE)	5.0 U	5.0	1	06/04/18 16:24	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	06/04/18 16:24	
Trichloroethene (TCE)	5.0 U	5.0	1	06/04/18 16:24	
Vinyl Chloride	5.0 U	5.0	1	06/04/18 16:24	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	85 - 122	06/04/18 16:24	
Dibromofluoromethane	98	89 - 119	06/04/18 16:24	
Toluene-d8	101	87 - 121	06/04/18 16:24	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1805029
Project:	Gowanda/06974-91	**Date Collected:**	05/30/18 11:15
Sample Matrix:	Water	**Date Received:**	05/31/18 16:07
Sample Name:	MW-03	**Units:**	ug/L
Lab Code:	R1805029-003	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	06/04/18 17:08	
trans-1,2-Dichloroethene	5.0 U	5.0	1	06/04/18 17:08	
Tetrachloroethene (PCE)	5.0 U	5.0	1	06/04/18 17:08	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	06/04/18 17:08	
Trichloroethene (TCE)	5.0 U	5.0	1	06/04/18 17:08	
Vinyl Chloride	5.0 U	5.0	1	06/04/18 17:08	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	93	85 - 122	06/04/18 17:08	
Dibromofluoromethane	96	89 - 119	06/04/18 17:08	
Toluene-d8	99	87 - 121	06/04/18 17:08	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1805029
Project:	Gowanda/06974-91	**Date Collected:**	05/30/18 11:00
Sample Matrix:	Water	**Date Received:**	05/31/18 16:07
Sample Name:	MW-04	**Units:**	ug/L
Lab Code:	R1805029-004	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	06/04/18 17:30	
trans-1,2-Dichloroethene	5.0 U	5.0	1	06/04/18 17:30	
Tetrachloroethene (PCE)	5.0 U	5.0	1	06/04/18 17:30	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	06/04/18 17:30	
Trichloroethene (TCE)	5.0 U	5.0	1	06/04/18 17:30	
Vinyl Chloride	5.0 U	5.0	1	06/04/18 17:30	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	85 - 122	06/04/18 17:30	
Dibromofluoromethane	98	89 - 119	06/04/18 17:30	
Toluene-d8	100	87 - 121	06/04/18 17:30	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1805029
Project:	Gowanda/06974-91	**Date Collected:**	05/30/18 10:30
Sample Matrix:	Water	**Date Received:**	05/31/18 16:07
Sample Name:	MW-05	**Units:**	ug/L
Lab Code:	R1805029-005	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	06/04/18 17:52	
trans-1,2-Dichloroethene	5.0 U	5.0	1	06/04/18 17:52	
Tetrachloroethene (PCE)	5.0 U	5.0	1	06/04/18 17:52	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	06/04/18 17:52	
Trichloroethene (TCE)	5.0 U	5.0	1	06/04/18 17:52	
Vinyl Chloride	5.0 U	5.0	1	06/04/18 17:52	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	85 - 122	06/04/18 17:52	
Dibromofluoromethane	96	89 - 119	06/04/18 17:52	
Toluene-d8	99	87 - 121	06/04/18 17:52	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1805029
Project:	Gowanda/06974-91	**Date Collected:**	05/30/18 10:15
Sample Matrix:	Water	**Date Received:**	05/31/18 16:07
Sample Name:	MW-06	**Units:**	ug/L
Lab Code:	R1805029-006	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	**77**	5.0	1	06/04/18 18:14	
trans-1,2-Dichloroethene	5.0 U	5.0	1	06/04/18 18:14	
Tetrachloroethene (PCE)	5.0 U	5.0	1	06/04/18 18:14	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	06/04/18 18:14	
Trichloroethene (TCE)	5.0 U	5.0	1	06/04/18 18:14	
Vinyl Chloride	5.0 U	5.0	1	06/04/18 18:14	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	85 - 122	06/04/18 18:14	
Dibromofluoromethane	100	89 - 119	06/04/18 18:14	
Toluene-d8	100	87 - 121	06/04/18 18:14	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1805029
Project:	Gowanda/06974-91	**Date Collected:**	05/30/18 09:45
Sample Matrix:	Water	**Date Received:**	05/31/18 16:07
Sample Name:	MW-07	**Units:**	ug/L
Lab Code:	R1805029-007	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	06/04/18 18:35	
trans-1,2-Dichloroethene	5.0 U	5.0	1	06/04/18 18:35	
Tetrachloroethene (PCE)	5.0 U	5.0	1	06/04/18 18:35	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	06/04/18 18:35	
Trichloroethene (TCE)	5.0 U	5.0	1	06/04/18 18:35	
Vinyl Chloride	5.0 U	5.0	1	06/04/18 18:35	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	99	85 - 122	06/04/18 18:35	
Dibromofluoromethane	99	89 - 119	06/04/18 18:35	
Toluene-d8	100	87 - 121	06/04/18 18:35	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1805029
Project:	Gowanda/06974-91	**Date Collected:**	05/30/18 12:01
Sample Matrix:	Water	**Date Received:**	05/31/18 16:07
Sample Name:	MW-08	**Units:**	ug/L
Lab Code:	R1805029-008	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	06/04/18 18:57	
trans-1,2-Dichloroethene	5.0 U	5.0	1	06/04/18 18:57	
Tetrachloroethene (PCE)	5.0 U	5.0	1	06/04/18 18:57	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	06/04/18 18:57	
Trichloroethene (TCE)	5.0 U	5.0	1	06/04/18 18:57	
Vinyl Chloride	5.0 U	5.0	1	06/04/18 18:57	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	99	85 - 122	06/04/18 18:57	
Dibromofluoromethane	100	89 - 119	06/04/18 18:57	
Toluene-d8	102	87 - 121	06/04/18 18:57	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1805029
Project:	Gowanda/06974-91	**Date Collected:**	05/30/18 11:55
Sample Matrix:	Water	**Date Received:**	05/31/18 16:07
Sample Name:	MW-09	**Units:**	ug/L
Lab Code:	R1805029-009	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	06/04/18 19:19	
trans-1,2-Dichloroethene	5.0 U	5.0	1	06/04/18 19:19	
Tetrachloroethene (PCE)	5.0 U	5.0	1	06/04/18 19:19	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	06/04/18 19:19	
Trichloroethene (TCE)	5.0 U	5.0	1	06/04/18 19:19	
Vinyl Chloride	5.0 U	5.0	1	06/04/18 19:19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	85 - 122	06/04/18 19:19	
Dibromofluoromethane	100	89 - 119	06/04/18 19:19	
Toluene-d8	102	87 - 121	06/04/18 19:19	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1805029
Project:	Gowanda/06974-91	**Date Collected:**	05/30/18 11:45
Sample Matrix:	Water	**Date Received:**	05/31/18 16:07
Sample Name:	MW-10	**Units:**	ug/L
Lab Code:	R1805029-010	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	06/04/18 19:41	
trans-1,2-Dichloroethene	5.0 U	5.0	1	06/04/18 19:41	
Tetrachloroethene (PCE)	5.0 U	5.0	1	06/04/18 19:41	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	06/04/18 19:41	
Trichloroethene (TCE)	5.0 U	5.0	1	06/04/18 19:41	
Vinyl Chloride	5.0 U	5.0	1	06/04/18 19:41	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	85 - 122	06/04/18 19:41	
Dibromofluoromethane	99	89 - 119	06/04/18 19:41	
Toluene-d8	101	87 - 121	06/04/18 19:41	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1805029
Project:	Gowanda/06974-91	**Date Collected:**	05/30/18 11:15
Sample Matrix:	Water	**Date Received:**	05/31/18 16:07
Sample Name:	MW-11	**Units:**	ug/L
Lab Code:	R1805029-011	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	**59**	25	5	06/05/18 04:26	
trans-1,2-Dichloroethene	25 U	25	5	06/05/18 04:26	
Tetrachloroethene (PCE)	25 U	25	5	06/05/18 04:26	
1,1,1-Trichloroethane (TCA)	25 U	25	5	06/05/18 04:26	
Trichloroethene (TCE)	**430**	25	5	06/05/18 04:26	
Vinyl Chloride	25 U	25	5	06/05/18 04:26	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	85 - 122	06/05/18 04:26	
Dibromofluoromethane	97	89 - 119	06/05/18 04:26	
Toluene-d8	100	87 - 121	06/05/18 04:26	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1805029
Project:	Gowanda/06974-91	**Date Collected:**	05/30/18 10:20
Sample Matrix:	Water	**Date Received:**	05/31/18 16:07
Sample Name:	MW-12	**Units:**	ug/L
Lab Code:	R1805029-012	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	**73**	5.0	1	06/04/18 20:03	
trans-1,2-Dichloroethene	5.0 U	5.0	1	06/04/18 20:03	
Tetrachloroethene (PCE)	5.0 U	5.0	1	06/04/18 20:03	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	06/04/18 20:03	
Trichloroethene (TCE)	**27**	5.0	1	06/04/18 20:03	
Vinyl Chloride	5.0 U	5.0	1	06/04/18 20:03	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	85 - 122	06/04/18 20:03	
Dibromofluoromethane	95	89 - 119	06/04/18 20:03	
Toluene-d8	99	87 - 121	06/04/18 20:03	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1805029
Project:	Gowanda/06974-91	**Date Collected:**	05/30/18 10:30
Sample Matrix:	Water	**Date Received:**	05/31/18 16:07
Sample Name:	MW-13	**Units:**	ug/L
Lab Code:	R1805029-013	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	06/04/18 23:42	
trans-1,2-Dichloroethene	5.0 U	5.0	1	06/04/18 23:42	
Tetrachloroethene (PCE)	5.0 U	5.0	1	06/04/18 23:42	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	06/04/18 23:42	
Trichloroethene (TCE)	5.0 U	5.0	1	06/04/18 23:42	
Vinyl Chloride	5.0 U	5.0	1	06/04/18 23:42	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	85 - 122	06/04/18 23:42	
Dibromofluoromethane	99	89 - 119	06/04/18 23:42	
Toluene-d8	101	87 - 121	06/04/18 23:42	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1805029
Project:	Gowanda/06974-91	**Date Collected:**	05/30/18 09:52
Sample Matrix:	Water	**Date Received:**	05/31/18 16:07
Sample Name:	MW-14	**Units:**	ug/L
Lab Code:	R1805029-014	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	**5.8**	5.0	1	06/05/18 00:04	
trans-1,2-Dichloroethene	5.0 U	5.0	1	06/05/18 00:04	
Tetrachloroethene (PCE)	5.0 U	5.0	1	06/05/18 00:04	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	06/05/18 00:04	
Trichloroethene (TCE)	**17**	5.0	1	06/05/18 00:04	
Vinyl Chloride	5.0 U	5.0	1	06/05/18 00:04	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	99	85 - 122	06/05/18 00:04	
Dibromofluoromethane	99	89 - 119	06/05/18 00:04	
Toluene-d8	102	87 - 121	06/05/18 00:04	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1805029
Project:	Gowanda/06974-91	**Date Collected:**	05/30/18 09:35
Sample Matrix:	Water	**Date Received:**	05/31/18 16:07
Sample Name:	MW-15	**Units:**	ug/L
Lab Code:	R1805029-015	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	06/05/18 00:26	
trans-1,2-Dichloroethene	5.0 U	5.0	1	06/05/18 00:26	
Tetrachloroethene (PCE)	5.0 U	5.0	1	06/05/18 00:26	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	06/05/18 00:26	
Trichloroethene (TCE)	5.0 U	5.0	1	06/05/18 00:26	
Vinyl Chloride	5.0 U	5.0	1	06/05/18 00:26	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	85 - 122	06/05/18 00:26	
Dibromofluoromethane	98	89 - 119	06/05/18 00:26	
Toluene-d8	100	87 - 121	06/05/18 00:26	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1805029
Project:	Gowanda/06974-91	**Date Collected:**	05/30/18 09:20
Sample Matrix:	Water	**Date Received:**	05/31/18 16:07
Sample Name:	MW-16	**Units:**	ug/L
Lab Code:	R1805029-016	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	**41**	5.0	1	06/05/18 00:47	
trans-1,2-Dichloroethene	5.0 U	5.0	1	06/05/18 00:47	
Tetrachloroethene (PCE)	5.0 U	5.0	1	06/05/18 00:47	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	06/05/18 00:47	
Trichloroethene (TCE)	5.0 U	5.0	1	06/05/18 00:47	
Vinyl Chloride	5.0 U	5.0	1	06/05/18 00:47	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	85 - 122	06/05/18 00:47	
Dibromofluoromethane	97	89 - 119	06/05/18 00:47	
Toluene-d8	99	87 - 121	06/05/18 00:47	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1805029
Project:	Gowanda/06974-91	**Date Collected:**	05/30/18 10:00
Sample Matrix:	Water	**Date Received:**	05/31/18 16:07
Sample Name:	MW-17	**Units:**	ug/L
Lab Code:	R1805029-017	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	**85**	5.0	1	06/05/18 01:09	
trans-1,2-Dichloroethene	**7.5**	5.0	1	06/05/18 01:09	
Tetrachloroethene (PCE)	5.0 U	5.0	1	06/05/18 01:09	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	06/05/18 01:09	
Trichloroethene (TCE)	**20**	5.0	1	06/05/18 01:09	
Vinyl Chloride	5.0 U	5.0	1	06/05/18 01:09	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	85 - 122	06/05/18 01:09	
Dibromofluoromethane	96	89 - 119	06/05/18 01:09	
Toluene-d8	100	87 - 121	06/05/18 01:09	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1805029
Project:	Gowanda/06974-91	**Date Collected:**	05/30/18 12:30
Sample Matrix:	Water	**Date Received:**	05/31/18 16:07
Sample Name:	MW-18	**Units:**	ug/L
Lab Code:	R1805029-018	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	06/05/18 01:31	
trans-1,2-Dichloroethene	5.0 U	5.0	1	06/05/18 01:31	
Tetrachloroethene (PCE)	5.0 U	5.0	1	06/05/18 01:31	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	06/05/18 01:31	
Trichloroethene (TCE)	5.0 U	5.0	1	06/05/18 01:31	
Vinyl Chloride	5.0 U	5.0	1	06/05/18 01:31	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	85 - 122	06/05/18 01:31	
Dibromofluoromethane	98	89 - 119	06/05/18 01:31	
Toluene-d8	101	87 - 121	06/05/18 01:31	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1805029
Project:	Gowanda/06974-91	**Date Collected:**	05/30/18 10:45
Sample Matrix:	Water	**Date Received:**	05/31/18 16:07
Sample Name:	MW-20	**Units:**	ug/L
Lab Code:	R1805029-019	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	06/05/18 01:53	
trans-1,2-Dichloroethene	5.0 U	5.0	1	06/05/18 01:53	
Tetrachloroethene (PCE)	5.0 U	5.0	1	06/05/18 01:53	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	06/05/18 01:53	
Trichloroethene (TCE)	5.0 U	5.0	1	06/05/18 01:53	
Vinyl Chloride	5.0 U	5.0	1	06/05/18 01:53	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	85 - 122	06/05/18 01:53	
Dibromofluoromethane	98	89 - 119	06/05/18 01:53	
Toluene-d8	100	87 - 121	06/05/18 01:53	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1805029
Project:	Gowanda/06974-91	**Date Collected:**	05/30/18 09:24
Sample Matrix:	Water	**Date Received:**	05/31/18 16:07
Sample Name:	G-1	**Units:**	ug/L
Lab Code:	R1805029-020	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	**34**	5.0	1	06/05/18 02:15	
trans-1,2-Dichloroethene	5.0 U	5.0	1	06/05/18 02:15	
Tetrachloroethene (PCE)	5.0 U	5.0	1	06/05/18 02:15	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	06/05/18 02:15	
Trichloroethene (TCE)	**6.3**	5.0	1	06/05/18 02:15	
Vinyl Chloride	5.0 U	5.0	1	06/05/18 02:15	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	85 - 122	06/05/18 02:15	
Dibromofluoromethane	97	89 - 119	06/05/18 02:15	
Toluene-d8	100	87 - 121	06/05/18 02:15	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1805029
Project:	Gowanda/06974-91	**Date Collected:**	05/30/18 09:13
Sample Matrix:	Water	**Date Received:**	05/31/18 16:07
Sample Name:	G-2	**Units:**	ug/L
Lab Code:	R1805029-021	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	**50**	5.0	1	06/05/18 02:37	
trans-1,2-Dichloroethene	5.0 U	5.0	1	06/05/18 02:37	
Tetrachloroethene (PCE)	5.0 U	5.0	1	06/05/18 02:37	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	06/05/18 02:37	
Trichloroethene (TCE)	5.0 U	5.0	1	06/05/18 02:37	
Vinyl Chloride	5.0 U	5.0	1	06/05/18 02:37	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	85 - 122	06/05/18 02:37	
Dibromofluoromethane	97	89 - 119	06/05/18 02:37	
Toluene-d8	100	87 - 121	06/05/18 02:37	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1805029
Project:	Gowanda/06974-91	**Date Collected:**	05/30/18 11:00
Sample Matrix:	Water	**Date Received:**	05/31/18 16:07
Sample Name:	DR-1	**Units:**	ug/L
Lab Code:	R1805029-022	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	**210**		50	10	06/05/18 04:48	
trans-1,2-Dichloroethene	50	U	50	10	06/05/18 04:48	
Tetrachloroethene (PCE)	50	U	50	10	06/05/18 04:48	
1,1,1-Trichloroethane (TCA)	50	U	50	10	06/05/18 04:48	
Trichloroethene (TCE)	**1100**		50	10	06/05/18 04:48	
Vinyl Chloride	50	U	50	10	06/05/18 04:48	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	94	85 - 122	06/05/18 04:48	
Dibromofluoromethane	95	89 - 119	06/05/18 04:48	
Toluene-d8	99	87 - 121	06/05/18 04:48	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1805029
Project:	Gowanda/06974-91	**Date Collected:**	05/30/18 10:15
Sample Matrix:	Water	**Date Received:**	05/31/18 16:07
Sample Name:	DR-2	**Units:**	ug/L
Lab Code:	R1805029-023	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	**97**	5.0	1	06/05/18 02:59	
trans-1,2-Dichloroethene	5.0 U	5.0	1	06/05/18 02:59	
Tetrachloroethene (PCE)	5.0 U	5.0	1	06/05/18 02:59	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	06/05/18 02:59	
Trichloroethene (TCE)	**31**	5.0	1	06/05/18 02:59	
Vinyl Chloride	5.0 U	5.0	1	06/05/18 02:59	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	85 - 122	06/05/18 02:59	
Dibromofluoromethane	98	89 - 119	06/05/18 02:59	
Toluene-d8	100	87 - 121	06/05/18 02:59	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1805029
Project:	Gowanda/06974-91	**Date Collected:**	05/30/18 10:00
Sample Matrix:	Water	**Date Received:**	05/31/18 16:07
Sample Name:	DR-3	**Units:**	ug/L
Lab Code:	R1805029-024	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	**86**	5.0	1	06/05/18 03:21	
trans-1,2-Dichloroethene	**9.4**	5.0	1	06/05/18 03:21	
Tetrachloroethene (PCE)	5.0 U	5.0	1	06/05/18 03:21	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	06/05/18 03:21	
Trichloroethene (TCE)	**30**	5.0	1	06/05/18 03:21	
Vinyl Chloride	5.0 U	5.0	1	06/05/18 03:21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	85 - 122	06/05/18 03:21	
Dibromofluoromethane	97	89 - 119	06/05/18 03:21	
Toluene-d8	99	87 - 121	06/05/18 03:21	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1805029
Project:	Gowanda/06974-91	**Date Collected:**	05/30/18 09:42
Sample Matrix:	Water	**Date Received:**	05/31/18 16:07
Sample Name:	DR-4	**Units:**	ug/L
Lab Code:	R1805029-025	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	**7.2**	5.0	1	06/05/18 03:42	
trans-1,2-Dichloroethene	5.0 U	5.0	1	06/05/18 03:42	
Tetrachloroethene (PCE)	5.0 U	5.0	1	06/05/18 03:42	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	06/05/18 03:42	
Trichloroethene (TCE)	**24**	5.0	1	06/05/18 03:42	
Vinyl Chloride	5.0 U	5.0	1	06/05/18 03:42	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	85 - 122	06/05/18 03:42	
Dibromofluoromethane	97	89 - 119	06/05/18 03:42	
Toluene-d8	101	87 - 121	06/05/18 03:42	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1805029
Project:	Gowanda/06974-91	**Date Collected:**	05/30/18 11:00
Sample Matrix:	Water	**Date Received:**	05/31/18 16:07
Sample Name:	MW-X	**Units:**	ug/L
Lab Code:	R1805029-026	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	**54**		5.0	1	06/04/18 16:46	
trans-1,2-Dichloroethene	**10**		5.0	1	06/04/18 16:46	
Tetrachloroethene (PCE)	5.0	U	5.0	1	06/04/18 16:46	
1,1,1-Trichloroethane (TCA)	5.0	U	5.0	1	06/04/18 16:46	
Trichloroethene (TCE)	**370**	**D**	13	2.5	06/04/18 20:25	
Vinyl Chloride	5.0	U	5.0	1	06/04/18 16:46	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	85 - 122	06/04/18 16:46	
Dibromofluoromethane	96	89 - 119	06/04/18 16:46	
Toluene-d8	101	87 - 121	06/04/18 16:46	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1805029
Project:	Gowanda/06974-91	**Date Collected:**	05/30/18 12:30
Sample Matrix:	Water	**Date Received:**	05/31/18 16:07
Sample Name:	Equ Blank	**Units:**	ug/L
Lab Code:	R1805029-027	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	06/04/18 16:02	
trans-1,2-Dichloroethene	5.0 U	5.0	1	06/04/18 16:02	
Tetrachloroethene (PCE)	5.0 U	5.0	1	06/04/18 16:02	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	06/04/18 16:02	
Trichloroethene (TCE)	5.0 U	5.0	1	06/04/18 16:02	
Vinyl Chloride	5.0 U	5.0	1	06/04/18 16:02	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	85 - 122	06/04/18 16:02	
Dibromofluoromethane	95	89 - 119	06/04/18 16:02	
Toluene-d8	100	87 - 121	06/04/18 16:02	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1805029
Project:	Gowanda/06974-91	**Date Collected:**	05/30/18 12:30
Sample Matrix:	Water	**Date Received:**	05/31/18 16:07
Sample Name:	Trip Blank	**Units:**	ug/L
Lab Code:	R1805029-028	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	06/04/18 15:41	
trans-1,2-Dichloroethene	5.0 U	5.0	1	06/04/18 15:41	
Tetrachloroethene (PCE)	5.0 U	5.0	1	06/04/18 15:41	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	06/04/18 15:41	
Trichloroethene (TCE)	5.0 U	5.0	1	06/04/18 15:41	
Vinyl Chloride	5.0 U	5.0	1	06/04/18 15:41	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	85 - 122	06/04/18 15:41	
Dibromofluoromethane	96	89 - 119	06/04/18 15:41	
Toluene-d8	99	87 - 121	06/04/18 15:41	

QC Summary Forms

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
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Volatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: Bergmann Associates, Incorporated **Service Request:** R1805029
Project: Gowanda/06974-91
Sample Matrix: Water

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Extraction Method: EPA 5030C

Sample Name	Lab Code	4-Bromofluorobenzene 85-122	Dibromofluoromethane 89-119	Toluene-d8 87-121
MW-01	R1805029-001	95	98	99
MW-02	R1805029-002	96	98	101
MW-03	R1805029-003	93	96	99
MW-04	R1805029-004	97	98	100
MW-05	R1805029-005	95	96	99
MW-06	R1805029-006	97	100	100
MW-07	R1805029-007	99	99	100
MW-08	R1805029-008	99	100	102
MW-09	R1805029-009	98	100	102
MW-10	R1805029-010	97	99	101
MW-11	R1805029-011	98	97	100
MW-12	R1805029-012	97	95	99
MW-13	R1805029-013	96	99	101
MW-14	R1805029-014	99	99	102
MW-15	R1805029-015	95	98	100
MW-16	R1805029-016	95	97	99
MW-17	R1805029-017	96	96	100
MW-18	R1805029-018	97	98	101
MW-20	R1805029-019	96	98	100
G-1	R1805029-020	97	97	100
G-2	R1805029-021	98	97	100
DR-1	R1805029-022	94	95	99
DR-2	R1805029-023	98	98	100
DR-3	R1805029-024	96	97	99
DR-4	R1805029-025	98	97	101
MW-X	R1805029-026	97	96	101
Equ Blank	R1805029-027	97	95	100
Trip Blank	R1805029-028	95	96	99
Method Blank	RQ1805466-04	96	100	101
Method Blank	RQ1805467-04	97	98	99
Method Blank	RQ1805500-04	95	96	98
Lab Control Sample	RQ1805466-03	97	100	99
Lab Control Sample	RQ1805467-03	99	103	100
Lab Control Sample	RQ1805500-03	98	101	100
MW-03 MS	RQ1805466-05	100	101	101
MW-03 DMS	RQ1805466-06	101	102	102
DR-1 MS	RQ1805467-05	98	102	100

Client: Bergmann Associates, Incorporated **Service Request:** R1805029
Project: Gowanda/06974-91
Sample Matrix: Water

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Extraction Method: EPA 5030C

Sample Name	Lab Code	4-Bromofluorobenzene 85-122	Dibromofluoromethane 89-119	Toluene-d8 87-121
DR-1 DMS	RQ1805467-06	97	98	99

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QA/QC Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1805029
Project:	Gowanda/06974-91	**Date Collected:**	05/30/18
Sample Matrix:	Water	**Date Received:**	05/31/18
		Date Analyzed:	06/4/18
		Date Extracted:	NA

Duplicate Matrix Spike Summary
Volatile Organic Compounds by GC/MS

Sample Name:	MW-03	**Units:**	ug/L
Lab Code:	R1805029-003	**Basis:**	NA
Analysis Method:	8260C		
Prep Method:	EPA 5030C		

		Matrix Spike RQ1805466-05			**Duplicate Matrix Spike** RQ1805466-06					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
cis-1,2-Dichloroethene	5.0 U	51.3	50.0	103	52.6	50.0	105	77-127	3	30
trans-1,2-Dichloroethene	5.0 U	50.8	50.0	102	52.9	50.0	106	73-118	4	30
Tetrachloroethene (PCE)	5.0 U	50.7	50.0	101	50.9	50.0	102	72-125	<1	30
1,1,1-Trichloroethane (TCA)	5.0 U	52.3	50.0	105	55.1	50.0	110	74-127	5	30
Trichloroethene (TCE)	5.0 U	49.9	50.0	100	52.7	50.0	105	74-122	6	30
Vinyl Chloride	5.0 U	50.1	50.0	100	51.4	50.0	103	74-159	3	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1805029
Project:	Gowanda/06974-91	**Date Collected:**	05/30/18
Sample Matrix:	Water	**Date Received:**	05/31/18
		Date Analyzed:	06/5/18
		Date Extracted:	NA

Duplicate Matrix Spike Summary
Volatile Organic Compounds by GC/MS

Sample Name:	DR-1	**Units:**	ug/L
Lab Code:	R1805029-022	**Basis:**	NA
Analysis Method:	8260C		
Prep Method:	EPA 5030C		

		Matrix Spike RQ1805467-05			Duplicate Matrix Spike RQ1805467-06					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
cis-1,2-Dichloroethene	210	723	500	103	689	500	96	77-127	5	30
trans-1,2-Dichloroethene	50 U	522	500	104	505	500	101	73-118	3	30
Tetrachloroethene (PCE)	50 U	503	500	101	487	500	97	72-125	3	30
1,1,1-Trichloroethane (TCA)	50 U	533	500	107	509	500	102	74-127	5	30
Trichloroethene (TCE)	1100	1650	500	101	1590	500	87	74-122	4	30
Vinyl Chloride	50 U	497	500	99	482	500	96	74-159	3	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1805029
Project:	Gowanda/06974-91	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1805466-04	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	06/04/18 12:47	
trans-1,2-Dichloroethene	5.0 U	5.0	1	06/04/18 12:47	
Tetrachloroethene (PCE)	5.0 U	5.0	1	06/04/18 12:47	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	06/04/18 12:47	
Trichloroethene (TCE)	5.0 U	5.0	1	06/04/18 12:47	
Vinyl Chloride	5.0 U	5.0	1	06/04/18 12:47	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	85 - 122	06/04/18 12:47	
Dibromofluoromethane	100	89 - 119	06/04/18 12:47	
Toluene-d8	101	87 - 121	06/04/18 12:47	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1805029
Project:	Gowanda/06974-91	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1805467-04	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	06/04/18 23:20	
trans-1,2-Dichloroethene	5.0 U	5.0	1	06/04/18 23:20	
Tetrachloroethene (PCE)	5.0 U	5.0	1	06/04/18 23:20	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	06/04/18 23:20	
Trichloroethene (TCE)	5.0 U	5.0	1	06/04/18 23:20	
Vinyl Chloride	5.0 U	5.0	1	06/04/18 23:20	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	85 - 122	06/04/18 23:20	
Dibromofluoromethane	98	89 - 119	06/04/18 23:20	
Toluene-d8	99	87 - 121	06/04/18 23:20	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1805029
Project:	Gowanda/06974-91	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1805500-04	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	06/05/18 11:51	
trans-1,2-Dichloroethene	5.0 U	5.0	1	06/05/18 11:51	
Tetrachloroethene (PCE)	5.0 U	5.0	1	06/05/18 11:51	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	06/05/18 11:51	
Trichloroethene (TCE)	5.0 U	5.0	1	06/05/18 11:51	
Vinyl Chloride	5.0 U	5.0	1	06/05/18 11:51	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	85 - 122	06/05/18 11:51	
Dibromofluoromethane	96	89 - 119	06/05/18 11:51	
Toluene-d8	98	87 - 121	06/05/18 11:51	

Client: Bergmann Associates, Incorporated
Project: Gowanda/06974-91
Sample Matrix: Water

Service Request: R1805029
Date Analyzed: 06/04/18

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1805466-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
cis-1,2-Dichloroethene	8260C	18.0	20.0	90	80-121
trans-1,2-Dichloroethene	8260C	17.7	20.0	89	73-118
Tetrachloroethene (PCE)	8260C	17.6	20.0	88	72-125
1,1,1-Trichloroethane (TCA)	8260C	17.5	20.0	88	75-125
Trichloroethene (TCE)	8260C	17.2	20.0	86	74-122
Vinyl Chloride	8260C	17.0	20.0	85	74-159

Client: Bergmann Associates, Incorporated
Project: Gowanda/06974-91
Sample Matrix: Water

Service Request: R1805029
Date Analyzed: 06/04/18

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1805467-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
cis-1,2-Dichloroethene	8260C	20.4	20.0	102	80-121
trans-1,2-Dichloroethene	8260C	20.1	20.0	101	73-118
Tetrachloroethene (PCE)	8260C	19.2	20.0	96	72-125
1,1,1-Trichloroethane (TCA)	8260C	20.3	20.0	102	75-125
Trichloroethene (TCE)	8260C	19.5	20.0	98	74-122
Vinyl Chloride	8260C	20.1	20.0	100	74-159

Client: Bergmann Associates, Incorporated
Project: Gowanda/06974-91
Sample Matrix: Water

Service Request: R1805029
Date Analyzed: 06/05/18

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1805500-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
cis-1,2-Dichloroethene	8260C	18.0	20.0	90	80-121
trans-1,2-Dichloroethene	8260C	18.3	20.0	91	73-118
Tetrachloroethene (PCE)	8260C	17.3	20.0	87	72-125
1,1,1-Trichloroethane (TCA)	8260C	17.8	20.0	89	75-125
Trichloroethene (TCE)	8260C	17.9	20.0	89	74-122
Vinyl Chloride	8260C	17.6	20.0	88	74-159

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AUGUST 2018
GROUNDWATER CHARACTERIZATION REPORT

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New York State Office of People with Developmental Disabilities – Gowanda Site

GROUNDWATER CHARACTERIZATION REPORT – AUGUST 2018

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Issued: October 10, 2018

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1.0 INTRODUCTION

Bergmann is submitting this groundwater characterization report for the August 2018 sampling event on behalf of the Dormitory Authority of the State of New York (DASNY) and the New York State Office of People with Developmental Disabilities (OPWDD) for activities conducted at the former Gowanda Day Habilitation Center facility at 4 Industrial Place, Gowanda, NY. The OPWDD, as the volunteer, entered into a Voluntary Cleanup Agreement (VCA) with the New York State Department of Environmental Conservation (NYSDEC) to conduct investigations and implement remedial measures in accordance with VCA Site No. V-00463-9, effective August 16, 2001.

1.1 SCOPE OF WORK

This report documents the site-wide groundwater monitoring and laboratory analytical sampling event conducted on August 22, 2018. Field measurements, sampling procedures and laboratory analysis were conducted in accordance with the October 2006 Operations, Monitoring and Maintenance (OM&M) Manual and as modified with NYSDEC approval. During this sampling event, groundwater from 19 of 21 site-related groundwater monitoring wells and all seven (7) groundwater recovery wells were sampled for laboratory analysis. Of the eight (8) monitoring wells determined by the NYSDEC and Bergmann personnel in 2008 to be outside the area of impact by the Groundwater Treatment System (GTS), two (2) were not sampled. These monitoring wells are MW-19R and MW-21. Monitoring well MW-21 was added to the well sampling plan permanently by NYSDEC to monitor groundwater migration off-site. Monitoring Wells MW-19R and MW-20 have not been sampled due to the fact that they have been paved over as first reported by Bergmann in the August 2017 sampling report.

The prior groundwater sampling event was conducted in May 2018 and included analysis of groundwater samples from 19 of 21 site-related groundwater monitoring wells and six (6) of seven (7) groundwater recovery wells.

1.2 SITE BACKGROUND

The Gowanda Day Habilitation site consists of a 5.94-acre parcel located at 4 Industrial Place. The building, previously used by several manufacturing operations, was built in stages between circa 1948 and 1987 and was renovated in 1987-1988. New York State agencies occupied the building since 1982. New York State acquired the parcel in 1989. The building was most recently operated by the OPWDD, which at that time was known as the Western New York Developmental Disabilities Services Office, as a Day Habilitation Center for mental care clients. In April 2001, on-site operations ceased. The nature and extent of contamination at the Gowanda Day Habilitation Center was detailed as part of the 2003 Site Investigation and 2004 Supplemental Site Investigation Reports. Trichloroethene (TCE) was the most commonly detected compound. TCE degradation products cis-1,2, Dichloroethene (Cis-1,2-DCE), trans-1,2-Dichloroethene (Trans-1,2-DCE) and Vinyl Chloride (VC) were also detected.

Following Interim Remedial Measure (IRM) system installation, the Groundwater Treatment System (GTS) and the Soil Vapor Extraction System (SVES) were activated on May 10, 2005, recovering 2-5 gallons per minute (gpm) of groundwater. An additional groundwater recovery well, designated G-3, was installed outside the building and adjacent to MW-17 in November 2008. The GTS portion consists of seven (7) groundwater recovery wells (four dual phase recovery wells and three groundwater-only recovery wells), an air compressor, a network of controller-less pneumatic pumps and an air stripper treatment system to process recovered groundwater. Recovered groundwater was pumped to the equalization tank for settling of the sediment and transferred to the air stripper using a consistent flow rate. Air discharge from the air stripper was routed to the

EVE for treatment prior to discharge. Groundwater was discharged to the village of Gowanda Sewage Treatment Plant (STP).

In January 2008, the building was decommissioned. The GTS was winterized with the addition of heat tape and insulation to conveyance lines and the installation of an independently operated suspended heater in the treatment area for the GTS and SVES (former Machine Shop). Quarterly groundwater sampling with Operation and Maintenance of the remediation system has been ongoing since 2002.

During January 2014, the condition of the SVE and GTS was discussed with the NYSDEC representative and it was agreed that these systems would be inactivated to allow for groundwater level recovery during the preparation of an ISCO remedial action plan (RAP) and implementation of an ISCO treatment. Bergmann submitted an ISCO RAP for groundwater treatment to the NYSDEC to address remaining contamination at the Site in lieu of costly repair of the SVE and GTS. The SVE and GTS equipment will remain on site in the event that re-activation is required in the future. The ISCO was implemented in May 2015. An ISCO Report was prepared under separate cover.

2.0 GROUNDWATER SAMPLING OVERVIEW AND METHODS

2.1 WELL MAINTENANCE ACTIVITIES

During the August 2018 site visit, all monitoring wells were accessible and the integrity of the wells was not compromised except for MW-19R and MW-21. MW-19R and MW-21, both located on Torrance Place, were still paved over as originally reported in the August 2017 summary report. Repairs or maintenance to the network of groundwater monitoring wells or recovery wells has not been required since June 2007, with the exception of the redevelopment activities performed on August 19, 2015. All protective casings and flush-mount curb boxes were found to be intact and secure. Exterior monitoring wells are secured with locking stick-up protective casings. The monitoring wells within the building are secured with flush-mount roadway covers. Well maintenance was not performed during the August 2018 sampling event.

2.2 GROUNDWATER FIELD MONITORING AND SAMPLING ACTIVITIES

Groundwater measurements and sampling activities were conducted in accordance with the October 2006 OM&M Manual. The depths to groundwater in groundwater monitoring wells are measured on a regular basis to track site-wide changes in the water table elevation and to allow for adjustment at recovery wells. Past operation of the recovery wells was intended to establish hydraulic containment of the impacted groundwater plume beneath the former Day Habilitation building and improve recovery and treatment of impacted groundwater. Groundwater samples were collected from 19 of the 21 site-related groundwater monitoring wells for laboratory analysis on August 23, 2018. Depth to groundwater measurements were obtained from 26 wells (including recovery wells).

Groundwater samples were collected from monitoring wells after each well was gauged and purged of standing water via bailing with dedicated bailers for each individual well. Sample parameters including turbidity, temperature, pH, oxygen, salinity and conductivity were monitored using a YSI Quatro to ensure sufficient well purging prior to sampling. Groundwater samples were collected from recovery wells using dedicated bailers, to allow for an accurate representation of groundwater without collecting sediment from within the wells. A single duplicate sample was not taken this quarter but a duplicate sample will be taken during the next sampling event (November 2018).

Groundwater samples were delivered via chain-of-custody protocol to ALS Environmental Services located in Rochester, NY, a NYSDOH certified laboratory, for testing using EPA Method 8260B for targeted chlorinated volatile organic compounds (VOCs) of concern. Analytical results for each individual monitoring well have been posted in Table 3 for comparative purposes from sampling events completed 2002 – 2018.

3.0 LOCAL GROUNDWATER FLOW CHARACTERIZATION

The Site water table potentiometric surface pattern and groundwater flow direction was determined for August 2018 using elevations measured at each well. Groundwater elevations and well reference elevations were calculated using depth to water values obtained on August 22, 2018. The well gauging values and groundwater elevations are provided in Table 1 – Groundwater Elevations and Field Measurements - August 2018.

The August 2018 groundwater contour map shows a flow pattern similar to groundwater contours observed historically since 2002. Groundwater at the Site is flowing in a northerly direction. Torrance Place is hydraulically down-gradient from the Day Habilitation Center building. The August 2018 depths to groundwater range from 6.00 ft below top of casing (btoc) at MW-2, to 13.45 ft btoc at MW-7. The average depth to groundwater at the wells measured was 9.84 ft btoc.

The site-wide average depth to water table increased by approximately 0.35 ft when compared to the May 2018 sampling event. This increase in the water table is inferred as seasonal.

Measured depth to water at all gauged monitoring and recovery wells is presented Table 1 and August 2018 Groundwater Contours are presented on Figure 1 – August 2018 Groundwater Contour Map.

4.0 LABORATORY ANALYSIS

4.1 LABORATORY ANALYSIS ON GROUNDWATER SAMPLES

Laboratory analysis was completed on the groundwater samples from 19 monitoring wells and seven (7) recovery wells collected August 22, 2018. Samples were analyzed for VOCs via EPA Method 8260B. Analysis was performed in accordance with the October 2006 OM&M Manual. The following halogenated VOCs were analyzed for:

- Trichloroethene (TCE)
- 1,1,1 Trichloroethane (TCA)
- Cis-1,2-Dichloroethene (Cis-DCE)
- Trans-1,2-Dichloroethene (Trans-DCE)
- Vinyl Chloride (VC)

4.2 MONITORING WELL GROUNDWATER ANALYSIS SUMMARY

The August 2018 analytical results indicate three (3) chlorinated VOCs in monitoring well samples: TCE, Cis-DCE, and Trans-DCE. Chlorinated VOCs were detected in groundwater from eight (8) of the 19 sampled monitoring wells. Analytical results are summarized in Table 2 – August 2018 Analytical Results Summary, which compares detected VOCs and applicable NYSDEC Class GA Standards for each analyte. The complete laboratory analytical reporting package is provided in Appendix A – Laboratory Analytical Results Report August 2018 Sampling Event. Table 3 – Historic Groundwater Analysis Results Summary includes the historical total VOC concentrations at each well since sampling of the monitoring wells began in 2002.

VOCs were not detected in groundwater from eleven (11) of the sampled monitoring wells.

Groundwater samples from eight (8) monitoring wells had detectable chlorinated VOCs at concentrations above applicable Class GA Standards. The monitoring well with the highest total VOCs, MW-1 (1,190 ppb), is located in the area of historically greatest impacted groundwater.

Concentrations in four (4) of the 19 monitoring well groundwater samples increased when compared to the May 2018 sampling event while concentrations in four (4) of the 19 monitoring well groundwater samples decreased. Concentrations in eleven (11) groundwater samples from monitoring wells had no change. The current sampling analytical results indicate an average site-wide decrease in total VOCs of approximately 78.0% since activation of the GTS in May 2005.

The area of highest impacted groundwater exists at the area centered between monitoring wells MW-1 and MW-11, which has historically indicated the highest levels of VOCs and is inferred as the source area of impacted groundwater. In the area where the plume of impacted groundwater is inferred (monitoring wells MW-1, MW-6, MW-7, MW-11, MW-12, MW-14, MW-15, and MW-17) the current laboratory analysis shows a contaminant reduction in VOC concentrations by an average of approximately 72.1% since groundwater monitoring of these wells began in 2002.

Monitoring well MW-1 increased in targeted chlorinated VOCs relative to the prior sampling event. The total VOC concentration at monitoring well MW-1 for the August 2018 sampling event was 1,190 parts per billion (ppb), an increase from the May 2018 value of 1,110 ppb. Since activation of the GTS, detected VOCs at MW-1 have increased by about 54.9%.

Monitoring well MW-11 decreased in targeted chlorinated VOCs relative to the prior sampling event. The total VOC concentration at MW-11 for the August 2018 sampling event is 282 ppb, a decrease from the May 2018 value of 489 ppb. Since activation of the GTS in May 2005, detected VOCs at MW-11 have decreased by 93.9%.

Monitoring well MW-12 decreased in targeted chlorinated VOCs relative to the prior sampling event. The total VOC concentration at MW-12 for the August 2018 sampling event is 25 ppb, a decrease from the May 2018 value of 100 ppb. MW-12 is nearest to recovery well DR-2, in close proximity to the center of the building. Since activation of the GTS in May 2005, detected VOCs at MW-12 have decreased by about 99.8%.

Monitoring well MW-14 decreased in targeted chlorinated VOCs relative to the prior sampling event. The total VOC concentration at MW-14 for the August 2018 sampling event is 22.3 ppb, a decrease from the May 2018 value of 22.8 ppb. MW-14 is nearest to recovery well DR-3. Since activation of the GTS in May 2005 detected VOCs at MW-14 have decreased by about 92.9%.

Monitoring well MW-15 increased in targeted chlorinated VOCs relative to the prior sampling event. The total VOC concentration at MW-15 for the August 2018 sampling event was 6.5 ppb, which was an increase from the August 2018 sampling event, which was Non-detect (ND). MW-15 is nearest to recovery well DR-4. Since activation of the GTS in May 2005, the detected VOCs at MW-15 have decreased by 99.1%.

Six (6) groundwater monitoring wells are located along the subject property's north perimeter, down-gradient from the area of impacted groundwater. The north perimeter monitoring wells consist of wells MW-5, MW-6, MW-7, MW-16, MW-17 and MW-21. The current analytical results exhibit an increase in targeted VOCs at the sampled monitoring wells along the north perimeter.

Monitoring wells MW-18, MW-19R and MW-21 are located off-site along Torrance Place. These three (3) wells are considered to be beyond the radius of influence for the Day Habilitation groundwater treatment system. The current results indicate non-detect levels for MW-18. Monitoring well MW-21 was added to the sampling list at the request of the NYSDEC beginning with the June 2015 sampling event. It was first noted that during the August 2017 sampling event, wells MW-19R and MW-21 were not sampled because they were inaccessible.

It was observed that the wells were likely paved over by a re-sealing operation. The wells were still inaccessible and paved over during the August 2018 sampling event.

Laboratory analytical results are included in Appendix A. Monitoring well locations and distribution of analytical results are shown on Figure 2 – August 2018 Distribution of Groundwater Analytical Results: Monitoring Wells.

4.3 SENTRY WELL GROUNDWATER ANALYSIS SUMMARY

Sentry groundwater monitoring wells monitor a separate occurrence of contaminated groundwater at the Gowanda Electronics site (NYSDEC Site 905025), immediately east of Industrial Place and east of the Day Habilitation Center property. The eastern sentry well sampled for this event was only MW-4. The current results indicate non-detect levels for this eastern sentry well.

The Gowanda Electronics impacted groundwater plume may be migrating to an area near Industrial Place and has intermittently impacted MW-19R, but MW-19R is unable to be sampled because it is paved over. The Gowanda Electronics impacted groundwater plume does not appear to extend to the Day Habilitation Center property, based on consistent non-detect values at the eastern sentry wells. Conversely, impacted groundwater from the Day Habilitation Center does not appear to extend off-site to the east toward Industrial Place. According to Mr. Chris Sanson, an Environmental Scientist for Groundwater & Environmental Services, Inc. (GES), an ISCO injection application was implemented for the Gowanda Electronics site in March 2014.

Laboratory analytical results are included in Appendix A. Sentry well locations and analytical results are shown on Figure 2.

4.4 RECOVERY WELL GROUNDWATER ANALYSIS SUMMARY

During the April 2018 sampling event, all of the seven (7) recovery wells were sampled.

The April 2018 analytical results indicate detection of three (3) chlorinated VOCs in recovery well samples: TCE, Cis-DCE, and TRANS. Chlorinated VOCs were detected in samples from all seven (7) of the sampled recovery wells. Total VOCs at the seven (7) recovery wells for which past data is available have decreased overall since activation of the GTS in May 2002. The average reduction in VOCs for the current sampling event is about 28.9% relative to concentrations prior to GTS activation in 2002. Relative percent reductions in total VOCs for all monitoring wells and recovery wells are shown on Table 4 – Percent Reductions in Total Groundwater VOCs.

Recovery well DR-1 increased in targeted chlorinated VOCs relative to the prior sampling event. The total VOC concentration at DR-1 for the August 2018 sampling event is 1,510 ppb, an increase from the May 2018 value of 1,319 ppb. The current sampling event indicates an increase in VOCs at DR-1 of 163.3% since activation of the GTS. Recovery well DR-1 is located closest to MW-1 in an area of historically highest concentrations.

Recovery well DR-2 increased in targeted chlorinated VOCs relative to the prior sampling event. The total VOC concentration at DR-2 for the August 2018 sampling event is 162 ppb, an increase from the May 2018 value of 128 ppb. The current sampling event indicates a decrease in VOCs at DR-2 of about 70.5% since activation of the GTS.

Recovery well DR-3 decreased in targeted chlorinated VOCs relative to the prior sampling event. The total VOC concentration at DR-3 for the August 2018 sampling event is 87 ppb, a decrease from the May 2018 value of 125.4 ppb. The current sampling event indicates a decrease in VOCs at DR-3 of about 43% since activation of the GTS.

Recovery well DR-4 increased in targeted chlorinated VOCs relative to the prior sampling event. The total VOC concentration at DR-4 for the August 2018 sampling event is 48 ppb, an increase from the May 2018 value of

31.2 ppb. The current sampling event indicates a decrease in VOCs at DR-4 of about 94.4% since activation of the GTS.

Recovery well G-1 increased in targeted chlorinated VOCs relative to the prior sampling event. The total VOC concentration at G-1 for the August 2018 sampling event was 77 ppb, an increase from the May value of 40.3 ppb. The current sampling event indicates a decrease in VOCs at G-1 of 61.7% since activation of the GTS.

Recovery well G-2 increased in targeted chlorinated VOCs relative to the prior sampling event. The total VOC concentration at G-2 for the August 2018 sampling event was 68 ppb, an increase from the May 2018 value of 50 ppb. The current sampling event indicates a decrease in VOCs at G-2 of 76.0% since activation of the GTS.

Recovery well G-3 increased in targeted chlorinated VOCs relative to the last time it was sampled, which was November 2016. The total VOC concentration at G-3 for the August 2018 sampling event was 322 ppb, an increase from the November 2016 value of 293 ppb. The current sampling event indicates a decrease in VOCs at G-2 of 20.1% since activation of the GTS.

Laboratory analytical results are included in Appendix A. Recovery well locations and analytical results are shown on Figure 3 – August 2018 Distribution of Groundwater Analytical Results: Recovery Wells.

4.5 QUALITY ASSURANCE AND QUALITY CONTROL SAMPLES

An equipment blank was collected to ensure proper cleaning of the sampling equipment. The equipment blank, designated as EB, was non-detect for chlorinated halogens.

Laboratory analytical results are included in Appendix A.

5.0 REMEDIATION SYSTEM EFFICIENCY

5.1 IMPACT OF THE GTS RECOVERY WELLS

Groundwater control charts for the seven (7) sampled recovery wells and the nearest relative monitoring well were created to illustrate the impact of the GTS on recovery wells at the Day Habilitation Center. Chart 1 presents a summary of the sampled groundwater recovery wells. Since activation of the GTS in May 2005, all seven (7) sampled groundwater recovery wells have demonstrated a general decrease in VOC concentration.

The current sampling event results represent a decrease of total VOCs at DR-3 when compared to the April 2018 sampling event.

Chart 2 displays the relationship between monitoring wells MW-1, MW-11 and recovery well DR-1. The current total VOCs at MW-1 (1,190 ppb) show an increase from the May 2018 sampling event (1,110 ppb). The current total VOCs at MW-11 (282 ppb) shows a decrease from the May 2018 sampling event (489 ppb). The current total VOCs at DR-1 (1,510 ppb) show an increase from the May 2018 sampling event (1,319 ppb).

Chart 3 compares laboratory results between recovery well DR-2 and MW-12. These wells are located north of the wells outlined in Chart 1 and represent the northern limit of the highest concentration within the impacted area. The current total VOCs at MW-12 (25 ppb) show a decrease from the May 2018 sampling event (100 ppb). The current total VOCs at recovery well DR-2 (162 ppb) show an increase from the May 2018 sampling event (128 ppb).

Chart 4 compares the relationship between wells DR-3 and MW-14 which are located in the central portion of the Gowanda Day Habilitation building. The current total VOCs at MW-14 (22.3 ppb) show a decrease from the May 2018 sampling event (22.8 ppb). The current total VOCs at recovery well DR-3 (87 ppb) show a decrease from the May 2018 sampling event (125.4 ppb).

Chart 5 compares laboratory results between recovery well DR-4 and MW-15. These wells are located at the center-north portion of the building. The current total VOCs at MW-15 (6.5) show an increase from the May 2018 sampling event (non-detect). The current total VOCs at recovery well DR-4 (48 ppb) show an increase from the May 2018 sampling event (31.2 ppb).

Chart 6 compares laboratory results between recovery well G-1 and monitoring well MW-17. The recovery well is located in the northern portion of the building and MW-17 is located along the northern property line. The current total VOCs at recovery well MW-17 (265) show an increase from the May 2018 sampling event (112.5). The current total VOCs at recovery well G-1 (77 ppb) show an increase from the May 2018 sampling event (40.3 ppb).

Chart 7 compares laboratory results between recovery well G-2 and MW-7 which are located at the northeastern portion of the building. This area is at the apparent western perimeter of the area of impacted groundwater. Recovery well G-2 had a total VOC of 68 ppb, which shows an increase from the May 2018 sampling event (50 ppb). The May 2018 total VOCs of MW-7 (ND) showed no change from the April 2018 sampling event (5.8 ppb).

Chart 8 compares laboratory results between recovery well G-3 which is located at the northeastern portion of the building and MW-17 which is located along the northern property boundary. This area is at the western perimeter of the apparent area of impacted groundwater. The current total VOCs at monitoring well MW-17 (265) showed an increase from the May 2018 sampling event (112.5). The current total VOCs at recovery well G-3 was 322. Well G-3 was not sampled during the May 2018 sampling event.

5.2 EXTENT OF IMPACTED GROUNDWATER

The area of highest impacted groundwater is consistent with prior sampling events. The bulk of the contaminant mass appears to be concentrated beneath the building in the source area, in the vicinity of monitoring well MW-1 and MW-11, extending north to recovery well DR-2. Concentration of VOCs in the source area have been reduced as a result of cleanup activities.

When operating, the GTS maintained an area of hydraulic containment for recovery wells within the source area of impacted groundwater. The GTS was successful in hydraulically containing most of the contaminant plume on the property and minimizing further migration. The GTS was not operating during this monitoring period and overall sample results are similar to previous quarterly sampling results. Therefore, residual VOCs in the plume have not migrated and appear to be stabilized when compared to sample results with operation of the GTS during previous monitoring events.

VOCs were not sampled at MW-19R and MW-21 during the May 2018 and August 2018 sampling events due to the fact that they were both paved over and inaccessible, as first reported by Bergmann in the August 2017 Sampling Report.

The redevelopment of wells was performed in fall 2015 to remove sediment from wells at the Site after the ISCO injections. Overall reduction of contaminants in the majority of the monitoring and recovery wells has occurred at the Site when compared to the past ten (10) years of sampling. The following notes are a summary of the meeting held on June 22, 2018 between Bergmann, DASNY, and the NYSDEC.

- Bergmann submitted an Additional Subsurface Investigation Plan (ASIP) consisting of additional soil borings to locate the source of contamination on site.
- As part of the ASIP, soils will be sampled for the same VOCs that are consistently present in groundwater samples to determine if the contamination is residual in the soils on site.
- Details of the proposed additional investigation are outlined in the Additional Subsurface Investigation Plan dated July 2018 and submitted to DASNY on July 23, 2018.

5.3 FUTURE GROUNDWATER MONITORING AND ANALYSIS ACTIVITIES

The condition of the SVE and GTS was discussed with the NYSDEC representative and it was agreed upon that these systems would be inactivated to allow for groundwater level recovery during the implementation of an ISCO groundwater treatment and subsequent sampling events. Bergmann performed an ISCO RAP in May (round 1) and September (round 2) 2015 to address remaining residual contamination at the Site in lieu of costly repair of the SVE and GTS. The SVE and GTS equipment remains on site in the event that re-activation is required in the future; however, system components may need repair and/or replacement. Three (3) routine quarterly monitoring events will be completed to fulfill the NYSDEC requirements for post ISCO groundwater treatment.

The next site-wide groundwater sampling and laboratory analysis event is scheduled for November 2018. Future sampling and analytical events will be conducted to track the effects of the ISCO injections on impacted groundwater and to evaluate seasonal changes in water table elevations. In addition, the evaluation of groundwater flow pattern and movement of residual impacted groundwater at the site will be monitored and recorded during future sampling events.

TABLES

Table 1 Groundwater Elevations and Field Measurements August 2018
Gowanda Day Habilitation Center
4 Industrial Place, Gowanda, New York
VCA # V-00463-9

	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10
Casing Elevation*	778.23	778.08	778.38	778.43	778.61	781.10	780.94	781.33	782.61	780.02
Depth to Groundwater (btoc)	6.20	6.00	6.40	7.05	12.60	13.40	13.45	10.41	7.20	6.80
Groundwater Elevation	772.03	772.08	771.98	771.38	766.01	767.70	767.49	770.92	775.41	773.22
Well Diameter	2"	2"	2"	2"	2"	2"	2"	2"	2"	2"
Product Thickness	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND
Well Depth (btoc)	16.02	17.15	16.30	15.78	13.95	22.88	21.80	17.65	20.96	19.42
Bottom of Well Elevation	762.21	760.93	762.08	762.65	764.66	758.22	759.14	763.68	761.65	760.60
Thickness of Water Column	9.82	11.15	9.90	8.73	1.35	9.48	8.35	7.24	13.76	12.62
Minimum Purge Volume (gal)	1.6	1.82	1.6	1.4	0.2	1.5	1.4	1.2	2.2	2.1
3 Volumes	4.8	5.45	4.8	4.3	0.7	4.6	4.1	3.5	6.7	6.2
Actual volume purged	4.8	5.45	NS	4.3	1.4	4.6	4.1	NS	NS	NS
Comments	Flush = -0.29'	Flush = -0.30'	Flush = -0.23'	Flush = -0.34'	Flush = -0.24'	Stickup=2.17'	Stickup=2.17'	Stickup=2.84'	Stickup=2.05'	Stickup=2.56'

	MW-11	MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	MW-18	MW-19R	MW-20	MW-21
Casing Elevation	778.58	778.50	778.39	778.43	778.38	780.43	779.85	776.39	NA	778.04	NA
Depth to Groundwater (btoc)	7.30	7.41	7.48	12.02	10.83	13.10	13.25	9.02	NA	9.70	NA
Groundwater Elevation	771.28	771.09	770.91	766.41	767.55	767.33	766.60	767.37	NA	768.34	NA
Well Diameter	2"	2"	2"	2"	2"	2"	2"	2"	NA	2"	NA
Product Thickness	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA
Well Depth (btoc)	15.48	17.38	17.40	18.15	19.80	23.26	25.18	25.0	NA	14.75	NA
Bottom of Well Elevation	763.10	761.12	760.99	760.28	758.58	757.17	754.67	751.39	NA	763.29	NA
Thickness of Water Column	8.18	9.97	9.92	6.13	8.97	10.16	NA	15.98	NA	5.05	NA
Minimum Purge Volume (gal)	1.3	1.6	1.6	1.0	1.5	1.7	NS	2.6	NA	0.8	NA
3 Volumes	4.0	4.9	4.9	3.0	4.4	5.0	NS	7.8	NA	2.5	NA
Actual volume purged	4.0	4.9	NS	3.0	4.4	5.0	NS	7.8	NA	2.5	NA
Comments	Flush = -0.23'	Flush = -0.35'	Flush = -0.48'	Flush = -0.39'	Flush = -0.38	Stickup=2.26'	Stickup=1.18'	Flush =-0.26'	Paved Over	Flush=-0.43'	Paved Over.

	DR-1	DR-2	DR-3	DR-4	G-1	G-2	G-3
Casing Elevation	779.66	779.93	779.78	779.64	779.83	779.72	779.42
Depth to Groundwater (btoc)	8.14	10.56	11.82	11.74	11.87	11.81	10.25
Groundwater Elevation	771.52	769.37	767.96	767.90	767.96	767.91	769.17
Well Diameter	4"	4"	4"	4"	4"	4"	4"
Product Thickness	ND	ND	ND	ND	ND	ND	ND
Well Depth (btoc)	18.06	18.06	20.45	19.69	22.98	20.72	18.15
Bottom of Well Elevation	761.6	761.87	759.33	759.95	756.85	759	761.27
Thickness of Water Column	9.92	7.50	8.63	7.95	11.11	9.17	7.90
Minimum Purge Volume (gal)	6.48	4.90	5.64	5.19	7.25	5.98	5.16
3 Volumes	19.43	14.69	16.91	15.57	21.76	17.94	15.48
Actual volume purged	19.43	14.69	16.91	15.57	21.76	17.94	15.48
Comments	Stickup=0.85'	Stickup=1.06'	Stickup=0.95'	Stickup=0.84'	Stickup=1.03'	Stickup=0.86'	Vaulted well

NOTES

btoc = Below top of casing (inner riser) All measurements are in feet, referenced to Mean Sea Level
NS = Not Sampled
ND = No floating product encountered
Minimum purge volume = 3 X well volume, 0.163 gallon per foot in a 2" diameter well. 0.653 gallon per foot in a 4" diameter well.
Monitoring well MW-19 was removed and the area restored on July 23, 2003 immediately after the well was developed, purged of 3 volumes and sampled.
The borehole for MW-19 was backfilled with a cement-bentonite grout after the PVC screening and casing was successfully removed.
Wells MW-19R, MW-20 and MW-21 were installed in October 2004, MW-19R and MW-21 have been paved over.

Table 2 August 2018 Analytical Results Summary
Gowanda Day Habilitation Center
4 Industrial Place, Gowanda, New York
VCA # V-00463-9

Monitoring Well MW-1 Sample Date: 08/22/2018
Sampling Events

Analyte in ppb	May 2018	Aug 2018	NYS Guidance Value
TCE	**920**	**930**	5.0
CIS	**190**	**260**	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	**1,110**	**1,190**	

Monitoring Well MW-2 Sample Date: 08/22/2018
Sampling Events

Analyte in ppb	May 2018	Aug 2018	NYS Guidance Value
TCE	ND	ND	5.0
CIS	ND	ND	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	ND	ND	

Monitoring Well MW-3 Sample Date: 08/22/2018
Sampling Events

Analyte in ppb	May 2018	Aug 2018	NYS Guidance Value
TCE	ND	ND	5.0
CIS	ND	ND	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	ND	ND	

Monitoring Well MW-4 Sample Date: 08/22/2018
Sampling Events

Analyte in ppb	May 2018	Aug 2018	NYS Guidance Value
TCE	ND	ND	5.0
CIS	ND	ND	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	ND	ND	

Monitoring Well MW-5 Sample Date: 08/22/2018
Sampling Events

Analyte in ppb	May 2018	Aug 2018	NYS Guidance Value
TCE	ND	ND	5.0
CIS	ND	ND	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	ND	ND	

Monitoring Well MW-6 Sample Date: 08/22/2018
Sampling Events

Analyte in ppb	May 2018	Aug 2018	NYS Guidance Value
TCE	ND	ND	5.0
CIS	**77**	**84**	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	**77**	**84**	

ND = Non-detect
NS = Not Sampled. No analysis performed during this sampling event.
Results expressed as parts per billion (ppb).
Bold results exceed NYSDEC TOGS 1.1.1 Class GA, June 1998 re-issue (MTBE = April 2000 Addendum Guidance Value)

Table 2 August 2018 Analytical Results Summary
Gowanda Day Habilitation Center
4 Industrial Place, Gowanda, New York
VCA # V-00463-9

Monitoring Well MW-7 Sample Date: 08/22/2018
Sampling Events

Analyte in ppb	May 2018	Aug 2018	NYS Guidance Value
TCE	ND	ND	5.0
CIS	ND	ND	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	ND	ND	

Monitoring Well MW-8 Sample Date: 08/22/2018
Sampling Events

Analyte in ppb	May 2018	Aug 2018	NYS Guidance Value
TCE	ND	ND	5.0
CIS	ND	ND	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	ND	ND	

Monitoring Well MW-9 Sample Date: 08/22/2018
Sampling Events

Analyte in ppb	May 2018	Aug 2018	NYS Guidance Value
TCE	ND	ND	5.0
CIS	ND	ND	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	ND	ND	

Monitoring Well MW-10 Sample Date: 08/22/2018
Sampling Events

Analyte in ppb	May 2018	Aug 2018	NYS Guidance Value
TCE	ND	ND	5.0
CIS	ND	ND	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	ND	ND	

Monitoring Well MW-11 Sample Date: 08/22/2018
Sampling Events

Analyte in ppb	May 2018	Aug 2018	NYS Guidance Value
TCE	**430**	**160**	5.0
CIS	**59**	**120**	5.0
TRANS	ND	**2.1**	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	**489**	**282**	

Monitoring Well MW-12 Sample Date: 08/22/2018
Sampling Events

Analyte in ppb	May 2018	Aug 2018	NYS Guidance Value
TCE	**27**	**5.0**	5.0
CIS	**73**	**20**	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	**100**	**25**	

ND = Non-detect
NS = Not Sampled. No analysis performed during this sampling event.
Results expressed as parts per billion (ppb).
Bold results exceed NYSDEC TOGS 1.1.1 Class GA, June 1998 re-issue (MTBE = April 2000 Addendum Guidance Value)

Table 2 August 2018 Analytical Results Summary
Gowanda Day Habilitation Center
4 Industrial Place, Gowanda, New York
VCA # V-00463-9

Monitoring Well MW-13 Sample Date: 08/22/2018
Sampling Events

Analyte in ppb	May 2018	Aug 2018	NYS Guidance Value
TCE	ND	ND	5.0
CIS	ND	ND	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	ND	ND	

Monitoring Well MW-14 Sample Date: 08/22/2018
Sampling Events

Analyte in ppb	May 2018	Aug 2018	NYS Guidance Value
TCE	**17**	**15**	5.0
CIS	**5.8**	**7.3**	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	**22.8**	**22.3**	

Monitoring Well MW-15 Sample Date: 08/22/2018
Sampling Events

Analyte in ppb	May 2018	Aug 2018	NYS Guidance Value
TCE	ND	**6.5**	5.0
CIS	ND	ND	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	ND	**6.5**	

Monitoring Well MW-16 Sample Date: 08/22/2018
Sampling Events

Analyte in ppb	May 2018	Aug 2018	NYS Guidance Value
TCE	ND	ND	5.0
CIS	**41**	**10**	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	**41**	**10**	

Monitoring Well MW-17 Sample Date: 08/22/2018
Sampling Events

Analyte in ppb	May 2018	Aug 2018	NYS Guidance Value
TCE	**20**	**45**	5.0
CIS	**85**	**220**	5.0
TRANS	**7.5**	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	**112.5**	**265**	

Monitoring Well MW-18 Sample Date: 08/22/2018
Sampling Events

Analyte in ppb	May 2018	Aug 2018	NYS Guidance Value
TCE	ND	ND	5.0
CIS	ND	ND	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	ND	ND	

ND = Non-detect
NS = Not Sampled. No analysis performed during this sampling event.
Results expressed as parts per billion (ppb).
Bold results exceed NYSDEC TOGS 1.1.1 Class GA, June 1998 re-issue (MTBE = April 2000 Addendum Guidance Value)

Table 2 August 2018 Analytical Results Summary
Gowanda Day Habilitation Center
4 Industrial Place, Gowanda, New York
VCA # V-00463-9

Monitoring Well MW-19R Sample Date: NS
Sampling Events

Analyte in ppb	April 2018	Aug 2018	NYS Guidance Value
TCE	NS	NS	5.0
CIS	NS	NS	5.0
TRANS	NS	NS	5.0
VC	NS	NS	2.0
TCA	NS	NS	5.0
Total VOCs	NS	NS	

Monitoring Well MW-20 Sample Date: 08/22/2018
Sampling Events

Analyte in ppb	May 2018	Aug 2018	NYS Guidance Value
TCE	ND	ND	5.0
CIS	ND	ND	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	ND	ND	

Monitoring Well MW-21 Sample Date: NS
Sampling Events

Analyte in ppb	April 2018	Aug 2018	NYS Guidance Value
TCE	NS	NS	5.0
CIS	NS	NS	5.0
TRANS	NS	NS	5.0
VC	NS	NS	2.0
TCA	NS	NS	5.0
Total VOCs	NS	NS	

ND = Non-detect
NS = Not Sampled. No analysis performed during this sampling event.
Results expressed as parts per billion (ppb).
Bold results exceed NYSDEC TOGS 1.1.1 Class GA, June 1998 re-issue (MTBE = April 2000 Addendum Guidance Value)

Table 2 August 2018 Analytical Results Summary
Gowanda Day Habilitation Center
4 Industrial Place, Gowanda, New York
VCA # V-00463-9

Recovery Well DR-1 Sample Date: 08/22/2018
Sampling Events

Analyte in ppb	May 2018	Aug 2018	NYS Guidance Value
TCE	**1100**	**1300**	5.0
CIS	**219**	**210**	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	**1319**	**1,510**	

Recovery Well DR-2 Sample Date: 08/22/2018
Sampling Events

Analyte in ppb	May 2018	Aug 2018	NYS Guidance Value
TCE	**31**	**32**	5.0
CIS	**97**	**130**	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	**128**	**162**	

Recovery Well DR-3 Sample Date: 08/22/2018
Sampling Events

Analyte in ppb	May 2018	Aug 2018	NYS Guidance Value
TCE	**30**	**24**	5.0
CIS	**86**	**63**	5.0
TRANS	**9.4**	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	**125.4**	**87**	

Recovery Well DR-4 Sample Date: 08/22/2018
Sampling Events

Analyte in ppb	May 2018	Aug 2018	NYS Guidance Value
TCE	**24**	**29**	5.0
CIS	**7.2**	**19**	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	**31.2**	**48**	

Recovery Well G-1 Sample Date: 08/22/2018
Sampling Events

Analyte in ppb	May 2018	Aug 2018	NYS Guidance Value
TCE	**6.3**	ND	5.0
CIS	**34**	**77**	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	**40.3**	**77**	

Recovery Well G-2 Sample Date: 08/22/2018
Sampling Events

Analyte in ppb	May 2018	Aug 2018	NYS Guidance Value
TCE	ND	ND	5.0
CIS	**50**	**68**	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	**50**	**68**	

ND = Non-detect
NS = Not Sampled. No analysis performed during this sampling event.
Results expressed as parts per billion (ppb).
Bold results exceed NYSDEC TOGS 1.1.1 Class GA, June 1998 re-issue (MTBE = April 2000 Addendum Guidance Value)

Table 2 August 2018 Analytical Results Summary
Gowanda Day Habilitation Center
4 Industrial Place, Gowanda, New York
VCA # V-00463-9

Recovery Well G-3 Sample Date: NS
Sampling Events

Analyte in ppb	Nov 2016	Aug 2018	NYS Guidance Value
TCE	**53**	**52**	5.0
CIS	**240**	**270**	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	**293**	**322**	

Duplicate Blank Sample Date: 08/22/2018
Sampling Events

Analyte in ppb	Aug 2018	NYS Guidance Value
TCE	NS	5.0
CIS	NS	5.0
TRANS	NS	5.0
VC	NS	2.0
TCA	NS	5.0
Total VOCs	NS	

Equipment Blank Sample Date: 08/22/2018
Sampling Events

Analyte in ppb	May 2018	Aug 2018	NYS Guidance Value
TCE	ND	ND	5.0
CIS	ND	ND	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	ND	ND	

ND = Non-detect
NS = Not Sampled. No analysis performed during this sampling event.
Results expressed as parts per billion (ppb).
Bold results exceed NYSDEC TOGS 1.1.1 Class GA, June 1998 re-issue (MTBE = April 2000 Addendum Guidance Value)

Table 3 Historic Groundwater Analysis Results Summary
Gowanda Day Habilitation Center
4 Industrial Place, Gowanda, New York
VCA # V-00463-9

MONITORING WELLS

Monitoring Well Number	Total VOCs August 2018 (ppb)	Total VOCs May 2018 (ppb)	Total VOCs April 2018 (ppb)	Total VOCs Nov 2017 (ppb)	Total VOCs Aug 2017 (ppb)	Total VOCs Nov 2016 (ppb)	Total VOCs Sep 2016 (ppb)	Total VOCs Jun 2016 (ppb)	Total VOCs Nov 2015 (ppb)	Total VOCs Aug 2015 (ppb)	Total VOCs Jun 2015 (ppb)	Total VOCs Mar 2015 (ppb)	Total VOCs Nov 2014 (ppb)	Total VOCs Sep 2014 (ppb)	Total VOCs Jun 2014 (ppb)	Total VOCs Mar 2014 (ppb)	Total VOCs Dec 2013 (ppb)	Total VOCs Jul 2013 (ppb)	Total VOCs Apr 2013 (ppb)	Total VOCs Dec 2012 (ppb)	Total VOCs Jun 2012 (ppb)	Total VOCs Mar 2012 (ppb)
MW-1	1,190	1,110	374	1013	1,210	1,467	838	580	1,530	1,470	350	430	300	420	990	990	1,740	830	910	1,440	528	889
MW-2	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-3	ND	ND	ND	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-5	ND	ND	ND	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-6	84	77	76	100	91	87	120	100	120	96	86	81	110	110	96	94	130	99	93	99	86.7	85.7
MW-7	ND	ND	ND	5.8	29	110	62	83	49	130	58	ND	180	190	29	ND	ND	18	ND	ND	151.56	30.5
MW-8	ND	ND	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-9	ND	ND	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-10	ND	ND	ND	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-11	282	489	1,160	470	525	646	445	550	1,060	630	444	500	451	375	450	710	880	510	570	790	498	617
MW-12	25	100	113	31	40	7.1	7.8	15.8	28.8	52	97	120	126	136	200	212	173	149.3	186.6	142	86.5	148.22
MW-13	ND	ND	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-14	22.3	22.8	28	38	22.1	76	100	57	81	96	52	99	68	68	54	73	94	49	71	47	39.7	76.6
MW-15	6.5	ND	ND	ND	7.4	11	23.8	11	9.9	14	8.1	9.8	32	31	6.1	ND	6.8	7	ND	12.9	26.26	6.25
MW-16	10	41	43	32	36	14	20	37	31	13	6.8	ND	5.2	9.4	21	24	20	8.4	24	18	4.36	12.2
MW-17	265	112.5	5.1	222	396	375	465	425	460	410	NS	336	394	410	339	167	420	400	21.3	430	381	260.1
MW-18	ND	ND	ND	6.3	ND	10	26	6.9	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND	ND	ND	16.6	2.33
MW-19R	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.5	ND	ND
MW-20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-21	NS	NS	NS	NS	NS	17	39	8.7	20	20	10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-X (DUP)	ND	434	NS	490	DWS	1,705	879	550	1,720	410	360	407	300	400	870	990	1,850	540	186.8	1,450	521	913
EB	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

RECOVERY WELLS

Recovery Well Number	Total VOCs August 2018 (ppb)	Total VOCs May 2018 (ppb)	Total VOCs April 2018 (ppb)	Total VOCs Nov 2017 (ppb)	Total VOCs Aug 2017 (ppb)	Total VOCs Nov 2016 (ppb)	Total VOCs Sep 2016 (ppb)	Total VOCs Jun 2016 (ppb)	Total VOCs Nov 2015 (ppb)	Total VOCs Aug 2015 (ppb)	Total VOCs Jun 2015 (ppb)	Total VOCs Mar 2015 (ppb)	Total VOCs Nov 2014 (ppb)	Total VOCs Sep 2014 (ppb)	Total VOCs Jun 2014 (ppb)	Total VOCs Mar 2014 (ppb)	Total VOCs Dec 2013 (ppb)	Total VOCs Jul 2013 (ppb)	Total VOCs Apr 2013 (ppb)	Total VOCs Dec 2012 (ppb)	Total VOCs Jun 2012 (ppb)	Total VOCs Mar 2012 (ppb)
DR-1	1,510	1,319	1,070	1540	1,970	617	610	910	319	160	NS	21.7	63	55	75	132	87	73	82	43	29.38	673
DR-2	162	128	130	181	199	137	218	215	199	187	291	259	162	224	231	207	302	256	293	19	229.9	305.3
DR-3	87	125.4	34	48	NS	98	154	62	45	76	83	55	181	210	83	89	123	62	73	42	116.96	24.9
DR-4	48	31.2	31.6	46	52	79	95	63	94	110	71	147	156	148	96	64	68	79	37	90	122.6	ND
G-1	77	40	22	70	73.5	85	105.6	59.7	80.3	ND	68	146	101	105	90	78	96.2	69.1	55.8	52.6	68.55	65.58
G-2	68	50	46	8.5	NS	NS	ND	NS	NS	28	NS	48	34	37	52	14	68	81	50	132.2	75.3	41.9
G-3	322	NS	NS	NS	NS	293	404	420	262	370	NS	NS	NS	NS	NS	82	NS	11	25	41.6	147.3	44.2

NS= This well not included in this sampling event.
ND = Not Detected, results less than Method Detection Limit.
Impacted north property line wells: MW-5, MW-6, MW-7, MW-16, MW-17, MW-21
All compounds are measured in parts per billion (ppb).
VOC - Volatile Organic Compounds.
DUP - Duplicate Sample
EB - Equipment/Field Blank Sample
* - Sample was broken in transit and not able to be analyzed
DWS- Different Well Sampled than previosuly tested.

Table 4 Percent Reductions in Total Groundwater VOCs
Gowanda Day Habilitation Center
4 Industrial Place, Gowanda, New York
VCA # V-00463-9

The Groundwater Treatment System was activated in May 2005

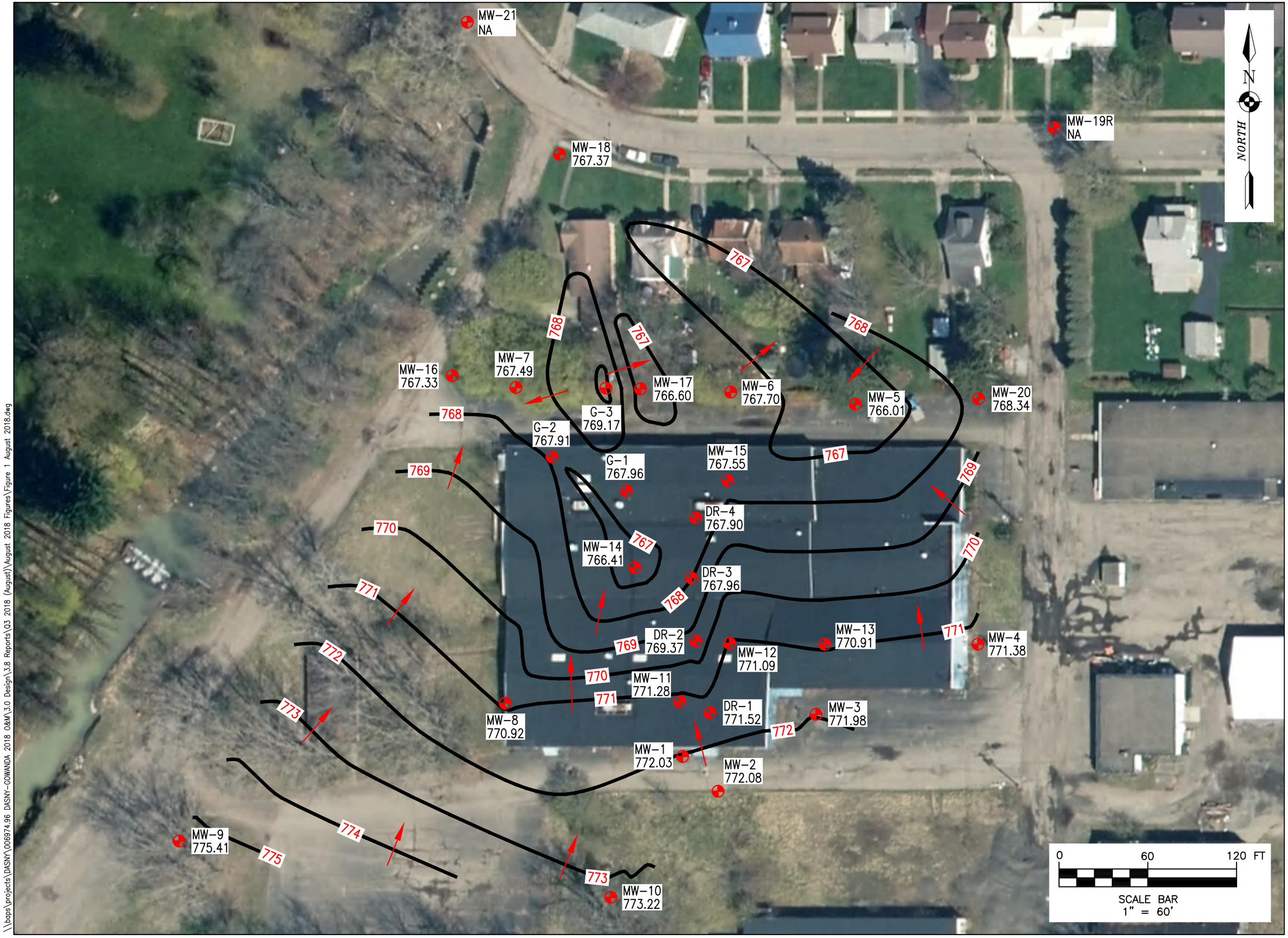
Monitoring Well	% Reduction 2002 to Aug 2018	% Reduction 2002 to May 2018	% Reduction 2002 to April 2018	% Reduction 2002 to Nov 2017	% Reduction 2002 to Aug 2017	% Reduction 2002 to Nov 2016	% Reduction 2002 to Sep 2016	% Reduction 2002 to Jun 2016	% Reduction 2002 to Nov 2015	% Reduction 2002 to Aug 2015	% Reduction 2002 to Jun 2015	% Reduction 2002 to Mar 2015	% Reduction 2002 to Nov 2014	% Reduction 2002 to Sep 2014	% Reduction 2002 to Jun 2014	% Reduction 2002 to Mar 2014	% Reduction 2002 to Dec 2013	% Reduction 2002 to Jul 2013	% Reduction 2002 to Apr 2013	% Reduction 2002 to Dec 2012	% Reduction 2002 to Jun 2012	% Reduction 2002 to Mar 2012
MW-1†	-54.9%	-44.5%	51.3%	-39.90%	-57.6%		-9.1%	24.5%	-99.2%	-91.4%	54.4%	44.0%	60.9%	45.3%	-28.9%	-28.9%	-126.6%	-8.1%	-19.5%	-87.5%	31.3%	-15.8%
MW-2	100%	100%	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled
MW-3	100%	100%	100%	100%	100.0%	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled
MW-4	100%	100%	100%	100%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.00%	100.0%	100.0%
MW-5	100%	100%	100%	100%	100.0%	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled
MW-6	-83.3%	15.4%	15.4%	-84.60%	15.4%	81.3%	70.4%	75.4%	70.4%	76.4%	78.8%	80.0%	72.9%	72.9%	76.4%	76.8%	68.0%	75.6%	77.1%	75.6%	78.6%	78.9%
MW-7	79.3%	81.0%	81.3%	98.70%	93.6%	75.6%	86.2%	81.6%	89.1%	71.1%	87.1%	100.0%	60.0%	57.8%	93.6%	100.0%	100.0%	96.0%	100.0%	100.0%	66.3%	93.2%
MW-8	100%	100%	100%	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled
MW-9	100%	100%	100%	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled
MW-10	100%	100%	100%	100%	100.0%	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled
MW-11	93.9%	89.5%	75.0%	89.20%	99.1%	86.1%	90.4%	88.2%	77.2%	86.4%	90.4%	89.2%	90.3%	91.9%	90.3%	84.7%	81.1%	89.0%	87.7%	83.0%	89.3%	86.7%
MW-12	99.8%	99.2%	99.1%	99.80%	75.0%	99.9%	99.9%	99.9%	99.8%	99.6%	99.2%	99.1%	99.0%	98.4%	98.4%	98.3%	98.6%	98.8%	98.5%	98.9%	99.3%	98.8%
MW-13	100%	100%	100%	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled
MW-14	92.9%	92.8%	91.1%	87.90%	2.3%	75.9%	68.3%	81.9%	74.3%	69.5%	83.5%	68.6%	78.4%	78.4%	82.9%	76.8%	70.2%	84.4%	77.5%	85.1%	87.4%	75.7%
MW-15	99.1%	100%	100%	100%	99.0%	98.5%	96.7%	98.5%	98.6%	98.1%	98.9%	98.7%	95.6%	95.8%	99.2%	100.0%	99.1%	99.0%	100.0%	98.2%	96.4%	99.1%
MW:16*	80.5%	19.9%	2.3%	2.80%	2.3%	72.7%	60.9%	27.7%	39.5%	74.6%	86.7%	100.0%	89.8%	81.6%	59.0%	53.1%	60.9%	77.9%	36.8%	52.6%	88.5%	67.9%
MW-17*	73.8%	88.9%	99.5%	78*	2.3%	62.9%	54.0%	58.0%	54.5%	59.4%	Not Sampled	66.8%	61.0%	59.4%	66.5%	83.5%	58.5%	50.6%	97.4%	46.9%	53.0%	67.9%
MW-18:*	100%	100%	100%	100%	100.0%	97.4%	93.4%	98.2%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	Not Sampled	100.0%	100.0%	100.0%	89.6%	98.5%
MW-19 R*	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	75.0%	99.0%	99.0%
MW-20**	100%	100%	100%	100%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	99.4%	99.4%	99.4%
MW-21**	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	34.6%	-50.0%	66.5%	23.1%	23.1%	61.5%	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled
* Well installed 2003																						
** Well Installed 2004																						
Site-Wide reduction:	78.0%	81.2%	84.2%	67.60%	62.1%	83.5%	68.7%	78.6%	66.2%	69.1%	87.7%	88.2%	85.2%	83.2%	79.8%	80.3%	67.5%	81.8%	81.2%	71.3%	82.9%	80.7%
Impacted Groundwater Plume Area Only:	72.1%	65.3%	76.6%	51.40%	41.1%	82.9%	69.6%	76.0%	58.1%	58.6%	84.6%	80.8%	77.3%	75.0%	72.3%	73.9%	82.2%	73.2%	77.3%	62.5%	75.2%	73.1%

Plume Area = MW-1, MW-11, MW-12, MW-14, MW-15, MW-7, MW-17, MW-6
% reduction = percent reduction in total Volatile Organic Compounds (VOCs) since groundwater monitoring was initiated
†Negative values indicate an increase in total VOCs since monitoring commenced in 2002. The percent increase in total groundwater VOCs is shown below for MW-1.

Recovery Well	% Reduction 2002 to Aug 2018	% Reduction 2002 to May 2018	% Reduction 2002 to April 2018	% Reduction 2002 to Nov 2017	% Reduction 2002 to Aug 2017	% Reduction 2002 to Nov 2016	% Reduction 2002 to Sep 2016	% Reduction 2002 to Jun 2016	% Reduction 2002 to Nov 2015	% Reduction 2002 to Aug 2015	% Reduction 2002 to Jun 2015	% Reduction 2002 to Mar 2015	% Reduction 2002 to Nov 2014	% Reduction 2002 to Sep 2014	% Reduction 2002 to Jun 2014	% Reduction 2002 to Mar 2014	% Reduction 2002 to Dec 2013	% Reduction 2002 to Jul 2013	% Reduction 2002 to Apr 2013	% Reduction 2002 to Dec 2012	% Reduction 2002 to Jun 2012	% Reduction 2002 to Mar 2012
DR-1	-163.3%	-130.0%	-86.6%	-243.6%	-243.6%	-7.6%	-6.4%	-58.7%	44.4%	72.1%	Not Sampled	96.2%	89.0%	90.4%	86.9%	77.0%	84.8%	99.1%	99.0%	99.5%	99.8%	91.6%
DR-2	70.5%	76.7%	76%	63.8%	63.8%	75.1%	60.3%	60.9%	63.8%	66.0%	47.0%	52.8%	70.5%	59.2%	58.0%	62.3%	45.0%	87.2%	85.4%	99.1%	88.5%	83.9%
DR-3	43.0%	17.8%	78%	68.5%	Not Sampled	35.7%	-1.0%	59.3%	70.5%	50.2%	45.6%	63.9%	-18.7%	-37.7%	45.6%	41.6%	19.3%	95.8%	95.1%	97.2%	92.1%	98.3%
DR-4	94.4%	96.4%	96%	93.9%	93.9%	90.8%	88.9%	92.7%	89.1%	87.2%	91.7%	82.9%	81.8%	82.8%	88.8%	92.5%	90.8%	95.5%	97.9%	94.9%	93.1%	100.0%
G-1	61.7%	80.1%	80%	74.1%	74.1%	57.7%	47.4%	92.7%	60.0%	100.0%	66.1%	27.3%	49.8%	47.7%	55.0%	61.3%	65.6%	87.3%	89.8%	90.3%	87.4%	88.0%
G-2	76.0%	82.4%	84%	100.0%	Not Sampled	Not Sampled	100.0%	Not Sampled	Not Sampled	90.1%	Not Sampled	83.1%	88.0%	86.9%	81.7%	95.1%	71.4%	79.0%	87.0%	65.7%	80.4%	89.1%
G-3	20.1%	Not Sampled	Not Sampled	Not Sampled	Not Sampled	27.3%	-0.2%	-4.2%	35.0%	8.2%	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	79.7%	NA	NA	NA	NA	NA	NA
Overall Reduction	28.9%	37.2%	54.6%	60.4%	40.4%	46.5%	41.3%	40.4%	60.4%	67.7%	62.6%	67.7%	60.1%	54.9%	69.3%	72.8%	62.8%	90.7%	92.3%	91.1%	90.2%	91.8%

*Sampling of recovery wells initiated in 2005

FIGURES



\\bgps\projects\DASNY\006974.96 DASNY-GOWANDA 2018 O&M\3.0 Design\3.8 Reports\03 2018 (August)\August 2018 Figures\Figure 1 August 2018.dwg

DASNY
Gowanda Day Habilitation Center

4 Industrial Place
Gowanda, New York

BERGMANN
ARCHITECTS ENGINEERS PLANNERS

Bergmann Associates, Architects, Engineers, Landscape Architects & Surveyors, D.P.C.
280 East Broad Street
Suite 200
Rochester, NY 14604

office: 585.232.5135
fax: 585.232.4652

www.bergmannpc.com

REVISIONS

NO.	DATE	DESCRIPTION	REV.	CK'D

Project Manager: S. DEMEO	Checked By: S. DEMEO
Designed By:	Drawn By: C. WOOD
Date Issued: 09/26/2018	Scale: 1" = 60'
Project Number: 6974.96	

AUGUST 2018 WATER LEVEL CONTOUR MAP

Drawing Number:

FIGURE 1

DASNY

Gowanda Day Habilitation Center

4 Industrial Place
Gowanda, NY

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Figure 2

August 2018 Distribution of Groundwater Analytical Results: Monitoring Wells

DASNY

Gowanda Day Habilitation Center

4 Industrial Place
Gowanda, NY

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Figure 3

August 2018 Distribution of Groundwater Analytical Results: Recovery Wells

0 25 50 75 100
Feet

N

CHARTS

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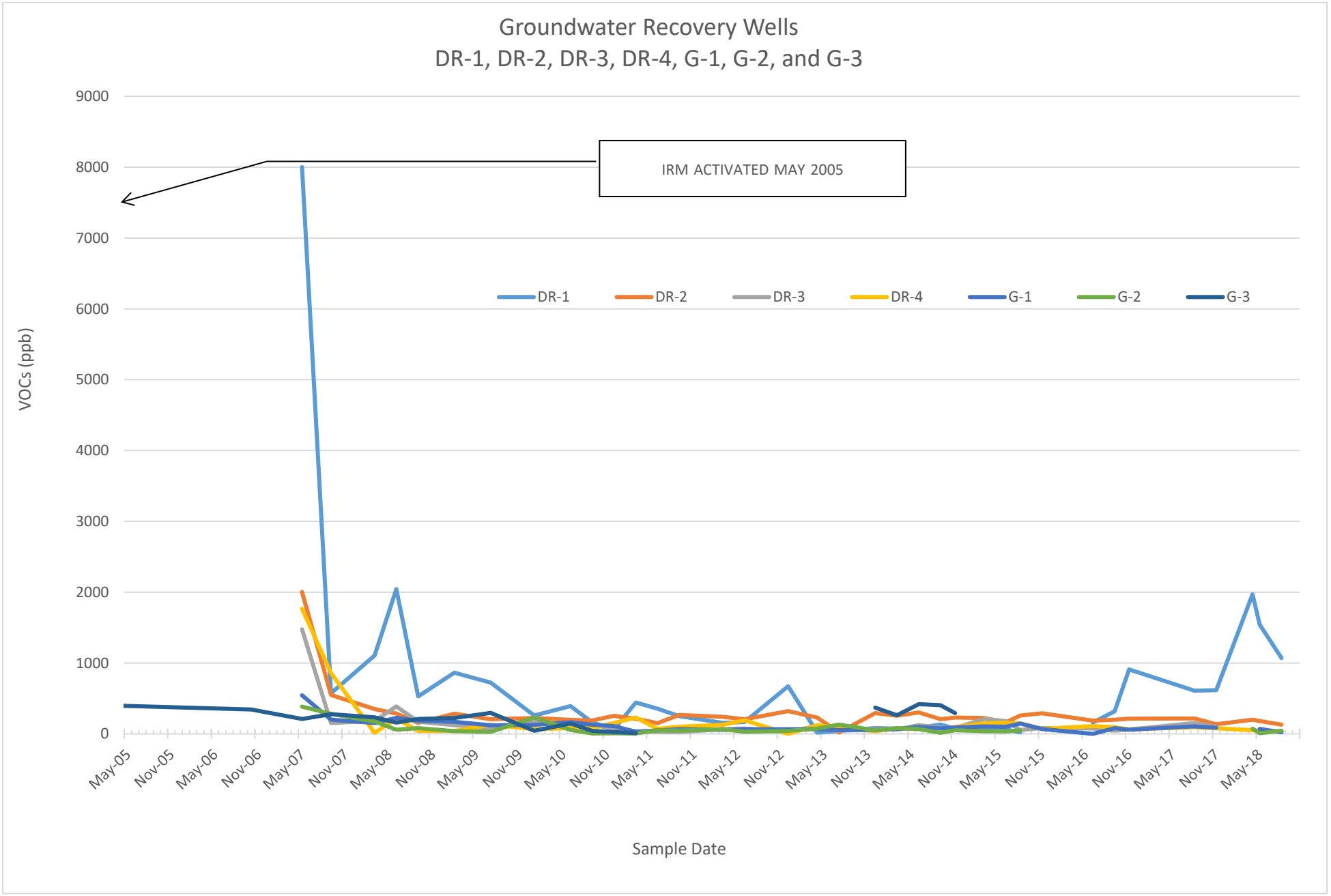

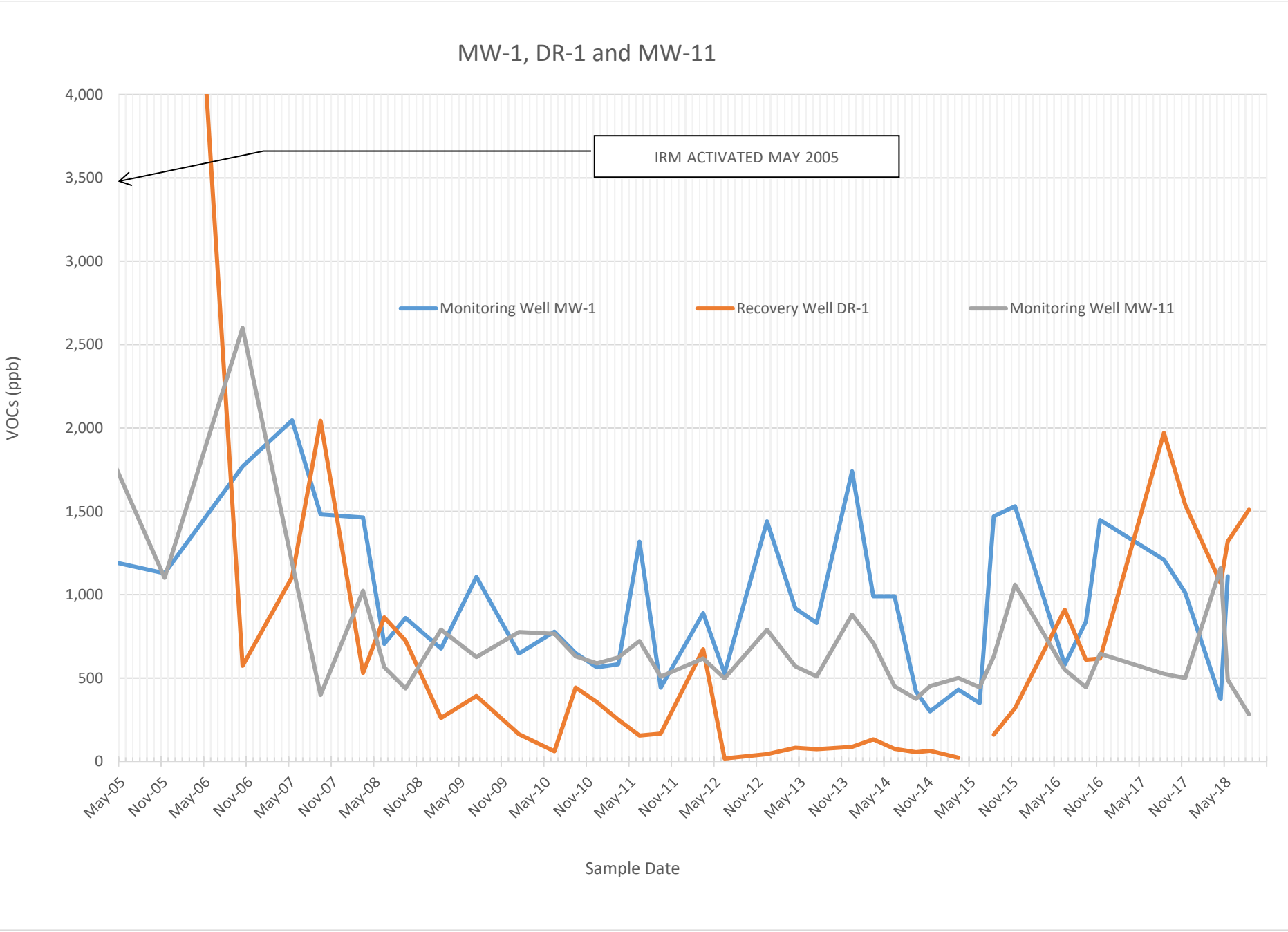
MW-1, DR-1 and MW-11
IRM ACTIVATED MAY 2005
Monitoring Well MW-1
Recovery Well DR-1
Monitoring Well MW-11
VOCs (ppb)
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
May-05
Nov-05
May-06
Nov-06
May-07
Nov-07
May-08
Nov-08
May-09
Nov-09
May-10
Nov-10
May-11
Nov-11
May-12
Nov-12
May-13
Nov-13
May-14
Nov-14
May-15
Nov-15
May-16
Nov-16
May-17
Nov-17
May-18
Sample Date

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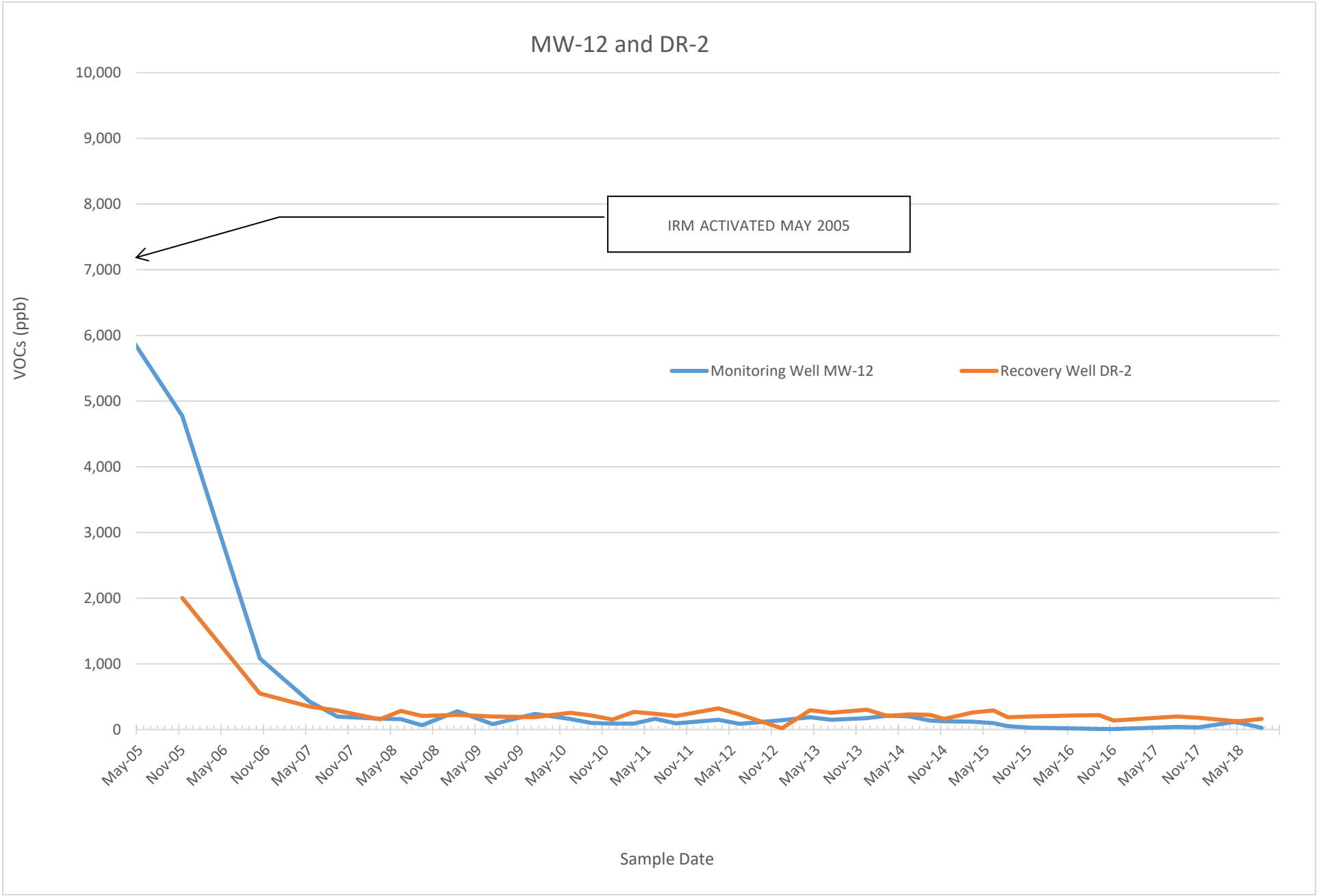

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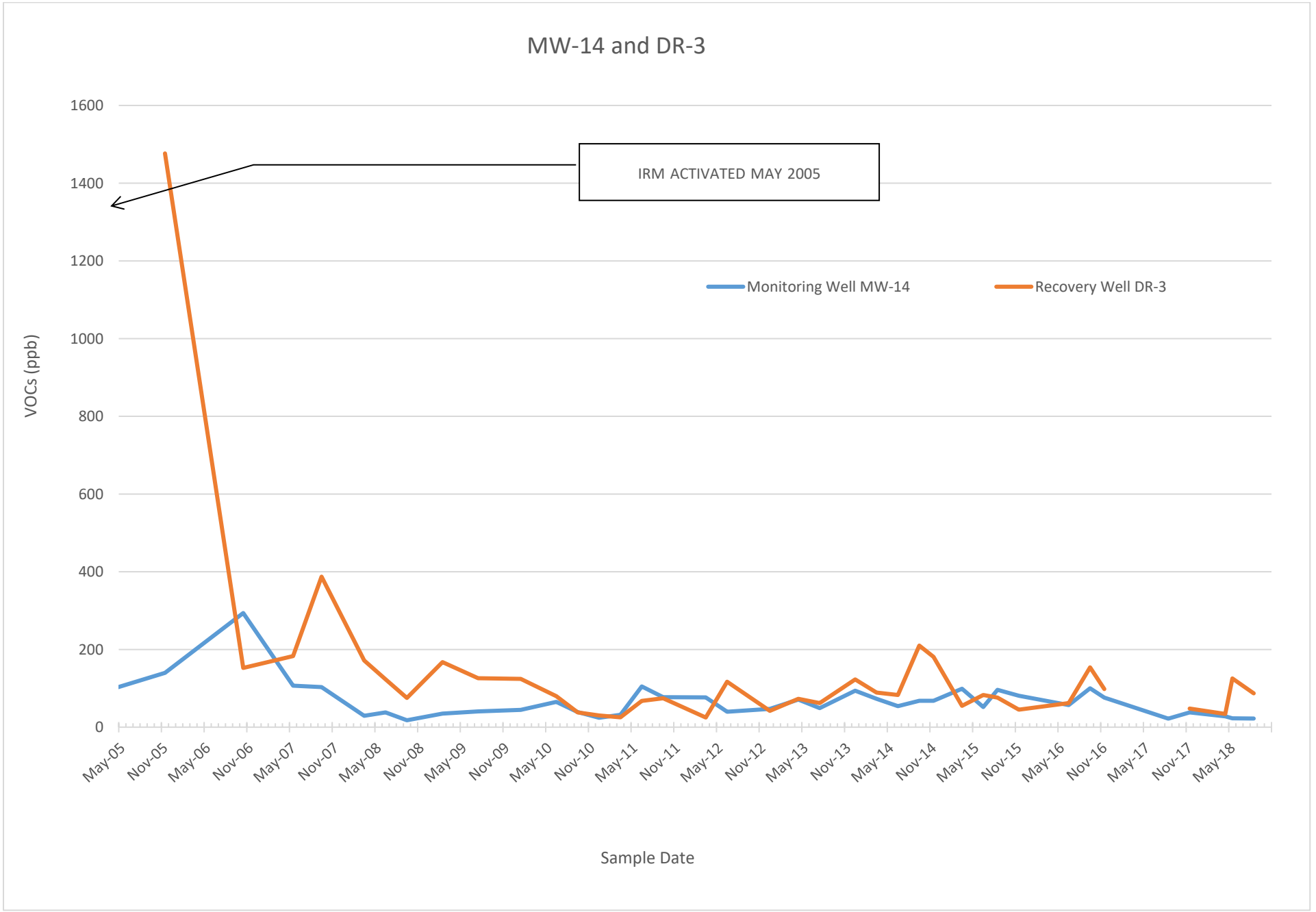

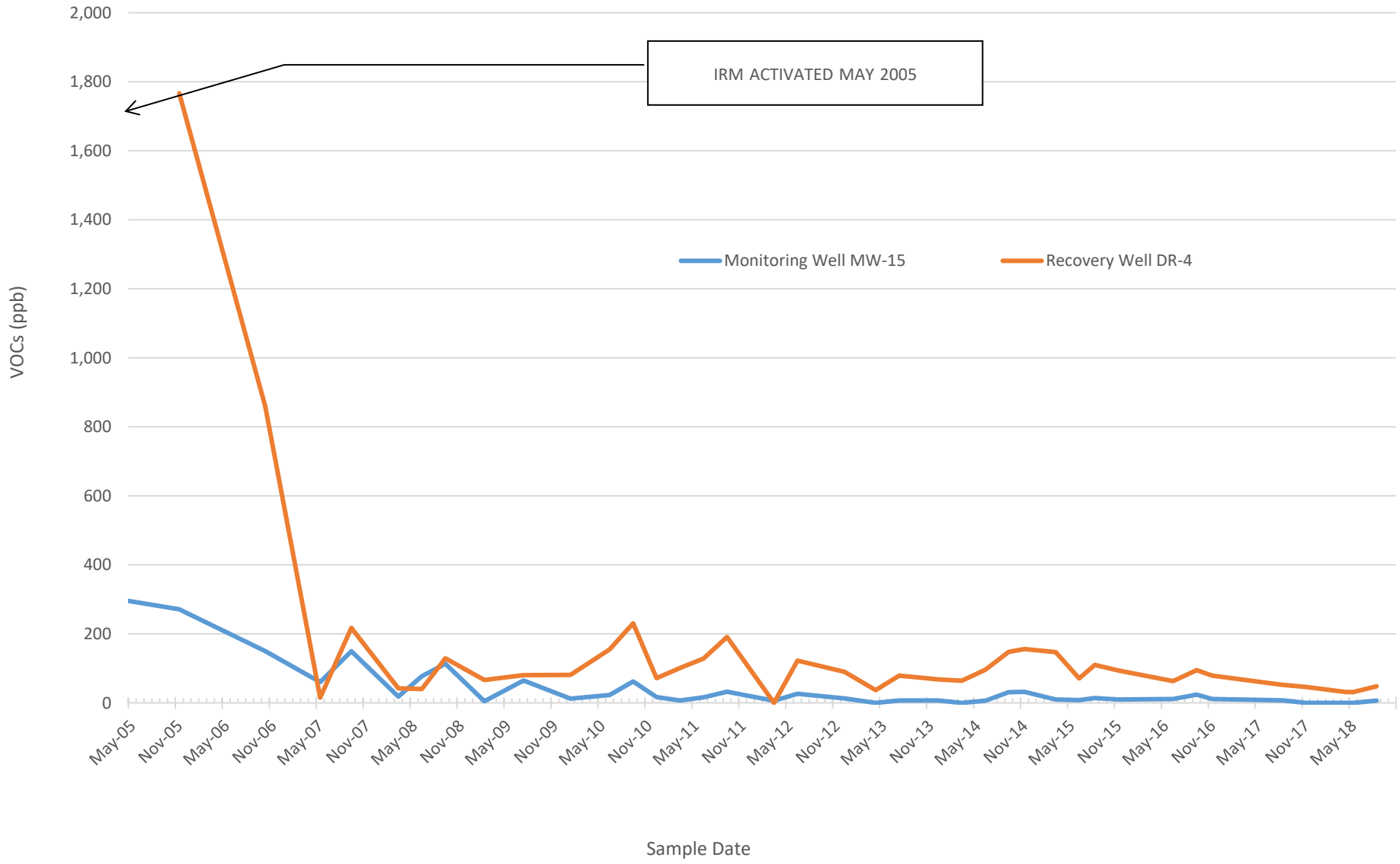
MW-15 and DR-4
IRM ACTIVATED MAY 2005
Monitoring Well MW-15
Recovery Well DR-4
VOCs (ppb)
2,000
1,800
1,600
1,400
1,200
1,000
800
600
400
200
0
May-05
Nov-05
May-06
Nov-06
May-07
Nov-07
May-08
Nov-08
May-09
Nov-09
May-10
Nov-10
May-11
Nov-11
May-12
Nov-12
May-13
Nov-13
May-14
Nov-14
May-15
Nov-15
May-16
Nov-16
May-17
Nov-17
May-18
Sample Date

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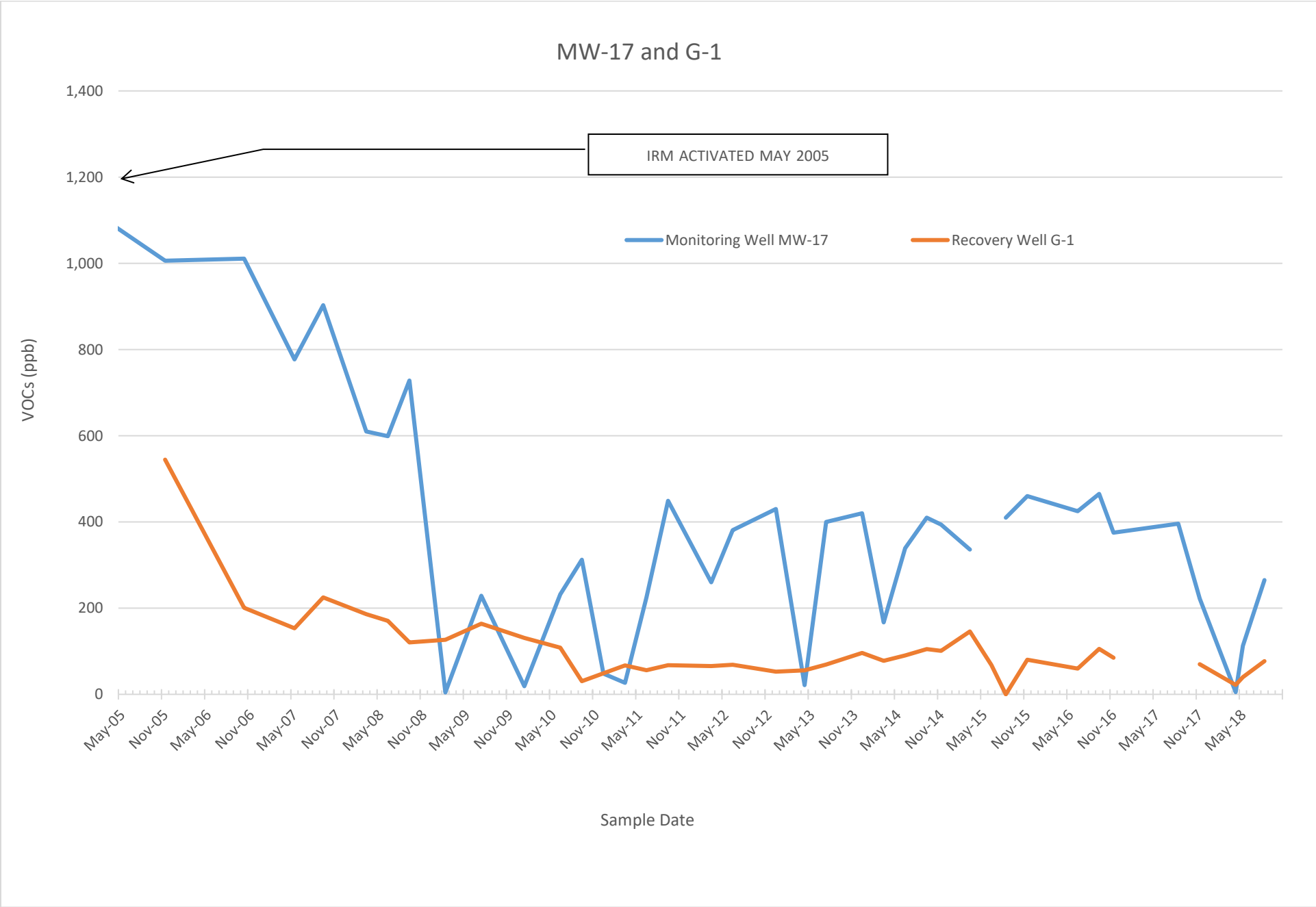

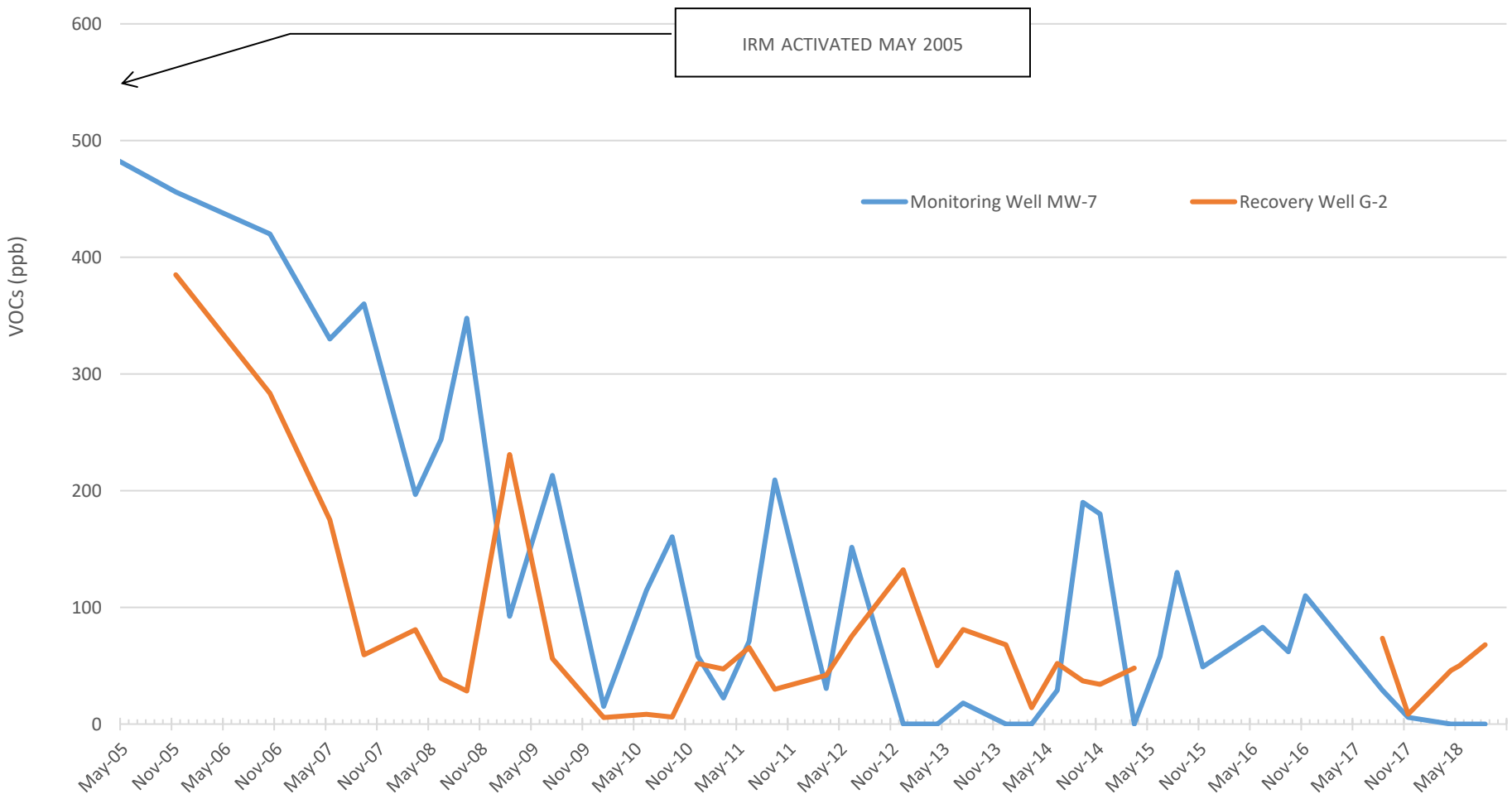
MW-7 and G-2
IRM ACTIVATED MAY 2005
Monitoring Well MW-7
Recovery Well G-2
VOCs (ppb)
600
500
400
300
200
100
0
May-05
Nov-05
May-06
Nov-06
May-07
Nov-07
May-08
Nov-08
May-09
Nov-09
May-10
Nov-10
May-11
Nov-11
May-12
Nov-12
May-13
Nov-13
May-14
Nov-14
May-15
Nov-15
May-16
Nov-16
May-17
Nov-17
May-18
Sample Date

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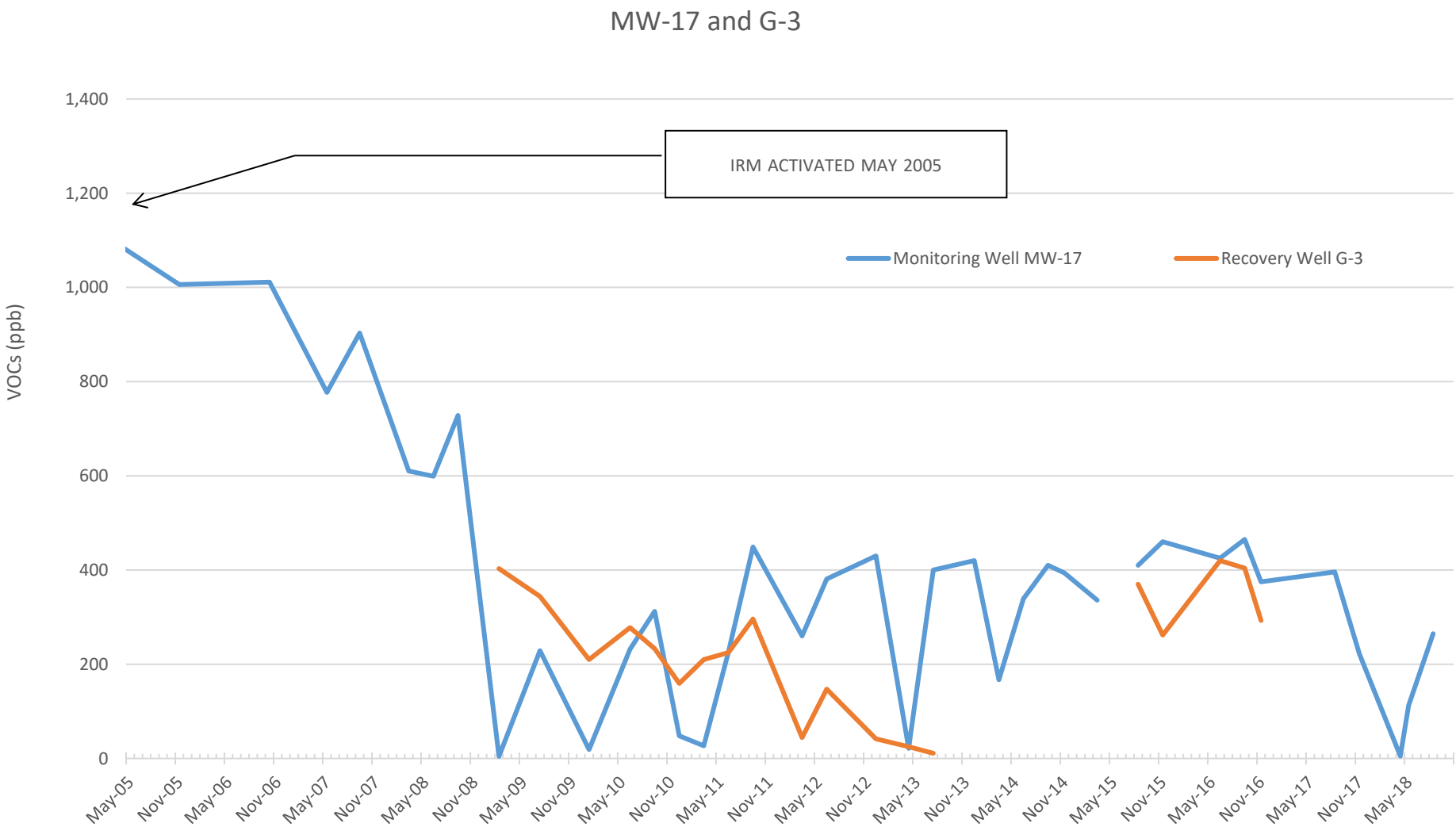

APPENDIX A:

LABORATORY ANALYTICAL RESULTS

August 31, 2018 Service Request No:R1808107

Mr. Cash Bleier
Bergmann Associates, Incorporated
280 East Broad Street
Suite 200
Rochester, NY 14604

Laboratory Results for: Gowanda Q3 2018

Dear Mr.Bleier,

Enclosed are the results of the sample(s) submitted to our laboratory August 23, 2018
For your reference, these analyses have been assigned our service request number **R1808107.**

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and ALS Environmental is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s) for analysis of these samples, and represented by Laboratory Control Sample control limits. Any events, such as QC failures, which may add to the uncertainty are explained in the report narrative.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Brady Kalkman
Project Manager

ADDRESS 1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
PHONE +1 585 288 5380 | FAX +1 585 288 8475
ALS Group USA, Corp.
dba ALS Environmental

Narrative Documents

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

ALS Environmental

Client: Bergmann Associates, Incorporated
Project: Gowanda Q3 2018
Sample Matrix: Water

Service Request: R1808107
Date Received: 08/23/2018

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier II data deliverables, including results of QC samples analyzed from this delivery group. Analytical procedures performed by the lab are validated in accordance with NELAC standards. Any parameters that are not included in the lab's NELAC accreditation are identified on a "Non-Certified Analytes" report in the Miscellaneous Forms Section of this report. Individual analytical results requiring further explanation are flagged with qualifiers and/or discussed below. The flags are explained in the Report Qualifiers and Definitions page in the Miscellaneous Forms section of this report.

Sample Receipt:

Twenty seven water samples were received for analysis at ALS Environmental on 08/23/2018. Any discrepancies noted upon initial sample inspection are noted on the cooler receipt and preservation form included in this data package. The samples were received in good condition and consistent with the accompanying chain of custody form. Samples are refrigerated at 6°C upon receipt at the lab except for aqueous samples designated for metals analyses, which are stored at room temperature.

Volatiles by GC/MS:

No significant anomalies were noted with this analysis.

Approved by _____ Date 08/31/2018

SAMPLE DETECTION SUMMARY

CLIENT ID: MW-1			Lab ID: R1808107-001			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
cis-1,2-Dichloroethene	260		1.3	25	ug/L	8260C
Trichloroethene (TCE)	930		1.0	25	ug/L	8260C

CLIENT ID: MW-6			Lab ID: R1808107-006			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
cis-1,2-Dichloroethene	84		0.26	5.0	ug/L	8260C

CLIENT ID: MW-11			Lab ID: R1808107-011			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
cis-1,2-Dichloroethene	120		0.26	5.0	ug/L	8260C
trans-1,2-Dichloroethene	5.1		0.26	5.0	ug/L	8260C
Trichloroethene (TCE)	160		0.20	5.0	ug/L	8260C

CLIENT ID: MW-12			Lab ID: R1808107-012			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
cis-1,2-Dichloroethene	20		0.26	5.0	ug/L	8260C
Trichloroethene (TCE)	5.2		0.20	5.0	ug/L	8260C

CLIENT ID: MW-14			Lab ID: R1808107-014			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
cis-1,2-Dichloroethene	7.3		0.26	5.0	ug/L	8260C
Trichloroethene (TCE)	15		0.20	5.0	ug/L	8260C

CLIENT ID: MW-15			Lab ID: R1808107-015			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Trichloroethene (TCE)	6.5		0.20	5.0	ug/L	8260C

CLIENT ID: MW-16			Lab ID: R1808107-016			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
cis-1,2-Dichloroethene	10		0.26	5.0	ug/L	8260C

CLIENT ID: MW-17			Lab ID: R1808107-017			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
cis-1,2-Dichloroethene	220	D	0.52	10	ug/L	8260C
Trichloroethene (TCE)	45		0.20	5.0	ug/L	8260C

CLIENT ID: G-1			Lab ID: R1808107-020			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
cis-1,2-Dichloroethene	77		0.26	5.0	ug/L	8260C

CLIENT ID: G-2			Lab ID: R1808107-021			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
cis-1,2-Dichloroethene	68		0.26	5.0	ug/L	8260C

SAMPLE DETECTION SUMMARY

CLIENT ID: G-3			Lab ID: R1808107-022			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
cis-1,2-Dichloroethene	270		0.52	10	ug/L	8260C
Trichloroethene (TCE)	52		0.40	10	ug/L	8260C

CLIENT ID: DR-1			Lab ID: R1808107-023			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
cis-1,2-Dichloroethene	210		2.6	50	ug/L	8260C
Trichloroethene (TCE)	1300		2.0	50	ug/L	8260C

CLIENT ID: DR-2			Lab ID: R1808107-024			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
cis-1,2-Dichloroethene	130		0.26	5.0	ug/L	8260C
Trichloroethene (TCE)	32		0.20	5.0	ug/L	8260C

CLIENT ID: DR-3			Lab ID: R1808107-025			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
cis-1,2-Dichloroethene	63		0.26	5.0	ug/L	8260C
Trichloroethene (TCE)	24		0.20	5.0	ug/L	8260C

CLIENT ID: DR-4			Lab ID: R1808107-026			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
cis-1,2-Dichloroethene	19		0.26	5.0	ug/L	8260C
Trichloroethene (TCE)	29		0.20	5.0	ug/L	8260C

Sample Receipt Information

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: Bergmann Associates, Incorporated **Service Request:**R1808107
Project: Gowanda Q3 2018/6974.96

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
R1808107-001	MW-1	8/22/2018	1130
R1808107-002	MW-2	8/22/2018	1140
R1808107-003	MW-3	8/22/2018	1120
R1808107-004	MW-4	8/22/2018	1110
R1808107-005	MW-5	8/22/2018	1040
R1808107-006	MW-6	8/22/2018	1025
R1808107-007	MW-7	8/22/2018	0950
R1808107-008	MW-8	8/22/2018	1110
R1808107-009	MW-9	8/22/2018	1200
R1808107-010	MW-10	8/22/2018	1150
R1808107-011	MW-11	8/22/2018	1140
R1808107-012	MW-12	8/22/2018	1015
R1808107-013	MW-13	8/22/2018	1040
R1808107-014	MW-14	8/22/2018	1000
R1808107-015	MW-15	8/22/2018	0955
R1808107-016	MW-16	8/22/2018	0935
R1808107-017	MW-17	8/22/2018	1015
R1808107-018	MW-18	8/22/2018	1230
R1808107-019	MW-20	8/22/2018	1100
R1808107-020	G-1	8/22/2018	0935
R1808107-021	G-2	8/22/2018	0930
R1808107-022	G-3	8/22/2018	1010
R1808107-023	DR-1	8/22/2018	1100
R1808107-024	DR-2	8/22/2018	1020
R1808107-025	DR-3	8/22/2018	1005
R1808107-026	DR-4	8/22/2018	0945
R1808107-027	Equipment Blank	8/22/2018	

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM 52912

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax) PAGE 1 OF 3

Project Name: Gowanda Q3 2018	Project Number: 6974.96
Project Manager: C. Bleier	Report CC:
Company/Address: Bergmann 280 E Broad St, Suite 200 Rochester, NY 14604	
Phone #: 585-498-7950	Email: cbleier@bergmannpc.com
Sampler's Signature:	Sampler's Printed Name: Cash Bleier

ANALYSIS REQUESTED *(Include Method Number and Container Preservative)*

PRESERVATIVE: 1

Preservative Key: 0. NONE; 1. HCL; 2. HNO_3; 3. H_2SO_4; 4. NaOH; 5. Zn. Acetate; 6. MeOH; 7. $NaHSO_4$; 8. Other X Chill

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GC/MS VOAs • 8260 • 624 • CLP	GC/MS SVOAs • 8270 • 625	GC VOAs • 8021 • 601/602	PESTICIDES • 8081 • 608	PCBs • 8082 • 608	METALS: TOTAL (List in comments below)	METALS: DISSOLVED (List in comments below)	REMARKS/ ALTERNATE DESCRIPTION
MW-1		8/22/18	11:30	GW	3	X							
MW-2		8/22/18	11:40	GW	3	X							
MW-3		8/22/18	11:20	GW	3	X							
MW-4		8/22/18	11:10	GW	3	X							
MW-5		8/22/18	10:40	GW	3	X							
MW-6		8/22/18	10:25	GW	3	X							☆
MW-7		8/22/18	9:50	GW	3	X							
MW-8		8/22/18	11:10	GW	3	X							☆
MW-9		8/22/18	12:00	GW	3	X							☆
MW-10		8/22/18	11:50	GW	3	X							☆
MW-11		8/22/18	11:40	GW	3	X							☆

SPECIAL INSTRUCTIONS/COMMENTS
Metals

See QAPP ☐

TURNAROUND REQUIREMENTS
____ RUSH (SURCHARGES APPLY)
____ 1 day ____ 2 day ____ 3 day
____ 4 day X 5 day
____ Standard (10 business days-No Surcharge)
REQUESTED REPORT DATE: _____

REPORT REQUIREMENTS
____ I. Results Only
____ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
____ III. Results + QC and Calibration Summaries
____ IV. Data Validation Report with Raw Data
NYS DEC Equis
Edata X Yes ____ No

INVOICE INFORMATION
PO #:
BILL TO:

STATE WHERE SAMPLES WERE COLLECTED: New York

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature:	Signature:	Signature:	Signature:	Signature:	Signature:
Printed Name: Cash Bleier	Printed Name:	Printed Name:	Printed Name:	Printed Name:	Printed Name:
Firm: Bergmann	Firm: ALS	Firm:	Firm:	Firm:	Firm:
Date/Time: 8/23/2018 1550	Date/Time: 8/23/18/1550	Date/Time:	Date/Time:	Date/Time:	Date/Time:

R1808107 5
Bergmann Associates, Incorporated
Gowanda Q3 2018

Distribution: White - Lab Copy; Yellow - Return to Originator

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM 52913

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax)

Project Name: Gowanda Q3 2018	Project Number: 6974.96
Project Manager: C. Bleier	Report CC:
Company/Address: Bergmann 280 E. Broad St, Suite 200 Rochester, NY 14604	
Phone #: 585-498-7950	Email: cbleier@bergmannpc.com
Sampler's Signature:	Sampler's Printed Name: Cash Bleier

ANALYSIS REQUESTED *(Include Method Number and Container Preservative)*

PRESERVATIVE: 1

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GC/MS VOAs • 8260 • 624 • CLP	GC/MS SVOAs • 8270 • 625	GC VOAs • 8021 • 601/602	PESTICIDES • 8081 • 608	PCBs • 8082 • 608	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)	REMARKS/ ALTERNATE DESCRIPTION
MW-12		8/22/18	10:15	GW	3	X							
MW-13		8/22/18	10:40	GW	3	X							
MW-14		8/22/18	10:00	GW	3	X							
MW-15		8/22/18	9:55	GW	3	X							
MW-16		8/22/18	9:35	GW	3	X							
MW-17		8/22/18	10:15	GW	3	X							
MW-18		8/22/18	12:30	GW	3	X							
MW-20		8/22/18	11:00	GW	3	X							
G-1		8/22/18	9:35	GW	3	X							
G-2		8/22/18	9:30	GW	3	X							
G-3		8/22/18	10:10	GW	3	X							

Preservative Key
0. NONE
1. HCl
2. HNO_3
3. H_2SO_4
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other X Chill

SPECIAL INSTRUCTIONS/COMMENTS
Metals

See QAPP ☐

STATE WHERE SAMPLES WERE COLLECTED: New York

TURNAROUND REQUIREMENTS
____ RUSH (SURCHARGES APPLY)
____ 1 day ____ 2 day ____ 3 day
____ 4 day __X__ 5 day
____ Standard (10 business days-No Surcharge)
REQUESTED REPORT DATE: _____

REPORT REQUIREMENTS
____ I. Results Only
____ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
____ III. Results + QC and Calibration Summaries
____ IV. Data Validation Report with Raw Data
NYSDEC EQuiS
Edata __X__ Yes ____ No

INVOICE INFORMATION
PO #:
BILL TO:

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature	Signature	Signature	Signature	Signature	Signature
Printed Name: Cash Bleier	Printed Name	Printed Name	Printed Name	Printed Name	Printed Name
Firm: Bergmann	Firm: ALS	Firm	Firm	Firm	Firm
Date/Time: 8/23/2018 1552	Date/Time: 8/23/18/1550	Date/Time	Date/Time	Date/Time	Date/Time

R1808107 5
Bergmann Associates, Incorporated
Gowanda Q3 2018

Distribution: White - Lab Copy; Yellow - Return to Originator

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM 52914

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax) PAGE 3 OF 3

Project Name: Gowanda Q3 2018	Project Number: 6974.96
Project Manager: C. Bleier	Report CC:
Company/Address: Bergmann 280 E Broad St, Suite 200 Rochester, NY 14604	
Phone #: 585-498-7950	Email: cbleier@bergmannpc.com
Sampler's Signature:	Sampler's Printed Name: Cash Bleier

ANALYSIS REQUESTED *(Include Method Number and Container Preservative)*

PRESERVATIVE: 1

Preservative Key: 0. NONE; 1. HCl; 2. HNO_3; 3. H_2SO_4; 4. NaOH; 5. Zn. Acetate; 6. MeOH; 7. $NaHSO_4$; 8. Other X (Ch. 11)

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GC/MS VOAs ◦ 8260 ◦ 624 ◦ CLP	GC/MS SVOAs ◦ 8270 ◦ 625	GC VOAs ◦ 8021 ◦ 601/602	PESTICIDES ◦ 8081 ◦ 608	PCBs ◦ 8082 ◦ 608	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)	REMARKS/ ALTERNATE DESCRIPTION
DR-1		4/22/18	11:00	GW	3	X							*
DR-2		4/22/18	10:20	GW	3	X							*
DR-3		4/22/18	10:05	GW	3	X							*
DR-4		4/22/18	9:45	GW	3	X							*

SPECIAL INSTRUCTIONS/COMMENTS
Metals

See QAPP ☐

STATE WHERE SAMPLES WERE COLLECTED

TURNAROUND REQUIREMENTS
____ RUSH (SURCHARGES APPLY)
____ 1 day ____ 2 day ____ 3 day
____ 4 day __X__ 5 day
____ Standard (10 business days-No Surcharge)

REQUESTED REPORT DATE: _____

REPORT REQUIREMENTS
____ I. Results Only
____ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
____ III. Results + QC and Calibration Summaries
____ IV. Data Validation Report with Raw Data
NYS DEC EQuIS
Edata __X__ Yes ____ No

INVOICE INFORMATION
PO #:
BILL TO:

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature:	Signature:	Signature:	Signature:	Signature:	
Printed Name: Cash Bleier	Printed Name: Daniel Wirt	Printed Name:	Printed Name:	Printed Name:	
Firm: Bergmann	Firm: ALS	Firm:	Firm:	Firm:	
Date/Time: 8/23/2018 1530	Date/Time: 8/23/18 1530	Date/Time:	Date/Time:	Date/Time:	

R1808107 5
Bergmann Associates, Incorporated
Gowanda Q3 2018

Distribution: White - Lab Copy; Yellow - Return to Originator

Cooler Receipt and Preservation Check Form

R1808107 5
Bergmann Associates, Incorporated
Gowanda Q3 2018

Project/Client 8/23/18 Folder Number

Cooler received on 8/23/18 by: [illegible]

COURIER: ALS UPS FEDEX VELOCITY ~~CLIENT~~

1	Were **Custody seals** on outside of cooler?	Y (N)	5a	**Perchlorate** samples have required headspace?	Y N (NA)
2	**Custody papers** properly completed (ink, signed)?	(Y) N	5b	Did VOA vials, Alk,or Sulfide have sig* **bubbles**?	(Y) N NA
3	Did all bottles arrive in good **condition** (unbroken)?	(Y) N	6	Where did the bottles originate?	ALS/ROC CLIENT
4	Circle: (**Wet Ice**) **Dry Ice** **Gel packs** present?	(Y) N	7	Soil VOA received as: Bulk Encore 5035set	(NA)

8. Temperature Readings Date: 8/23/18 Time: 16:02 ID: (IR#7) IR#9 From: ~~Temp Blank~~ Sample Bottle

Observed Temp (°C)	1.0						
Correction Factor (°C)	+1.0						
Corrected Temp (°C)	2.0						
Temp from:Type of bottle	Cert Vial						
Within 0-6°C?	Y N	Y N	Y N	Y N	Y N	Y N	Y N
If <0°C, were samples frozen?	Y N	Y N	Y N	Y N	Y N	Y N	Y N

If out of Temperature, note packing/ice condition: _____ Ice melted Poorly Packed (described below) Same Day Rule

&Client Approval to Run Samples: _____ Standing Approval Client aware at drop-off Client notified by: _____

All samples held in storage location: R02 by [illegible] on 8/23/18 at 16:10
5035 samples placed in storage location: _____ by _____ on _____ at _____

Cooler Breakdown/Preservation Check**: Date: 8/23/18 Time: 1741 by: [illegible]

9. Were all bottle labels complete (*i.e.* analysis, preservation, etc.)? ~~YES~~ NO
10. Did all bottle labels and tags agree with custody papers? ~~YES~~ NO
11. Were correct containers used for the tests indicated? ~~YES~~ NO
12. Were 5035 vials acceptable (no extra labels, not leaking)? YES NO ~~N/A~~
13. Air Samples: Cassettes / Tubes Intact with MS? Canisters Pressurized Tedlar® Bags Inflated ~~N/A~~

pH	Lot of test paper	Reagent	Preserved? Yes	Preserved? No	Lot Received	Exp	Sample ID Adjusted	Vol. Added	Lot Added	Final pH
≥12		NaOH								
≤2		HNO_3								
≤2		H_2SO_4								
<4		$NaHSO_4$								
5-9		For 608pest			No=Notify for 3day					
Residual Chlorine (-)		For CN, Phenol, 625, 608pest, 522			If +, contact PM to add $Na_2S_2O_3$ (625, 608, CN), ascorbic (phenol).					
		$Na_2S_2O_3$								
		ZnAcetate	-	-			**VOAs and 1664 Not to be tested before analysis. Otherwise, all bottles of all samples with chemical preservatives are checked (not just representatives).			
		HCl	**	**	411090					

Bottle lot numbers: 8-039-004, client

Explain all Discrepancies/ Other Comments:

5b) See Chains for head space
Equipment Blank not on COC has bubbles

CLRES	BULK
DO	FLDT
HPROD	HGFB
HTR	LL3541
PH	SUB
SO3	MARRS
ALS	REV

Labels secondary reviewed by: [illegible]
PC Secondary Review: _____

*significant air bubbles: VOA > 5-6 mm : WC >1 in. diameter

Miscellaneous Forms

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

REPORT QUALIFIERS AND DEFINITIONS

U	Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
J	Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Arclors).
B	Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
E	Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
E	Organics- Concentration has exceeded the calibration range for that specific analysis.
D	Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.
*	Indicates that a quality control parameter has exceeded laboratory limits. Under the ñNotesò column of the Form I, this qualifier denotes analysis was performed out of Holding Time.
H	Analysis was performed out of hold time for tests that have an ñimmediateò hold time criteria.
#	Spike was diluted out.
+	Correlation coefficient for MSA is <0.995.
N	Inorganics- Matrix spike recovery was outside laboratory limits.
N	Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
S	Concentration has been determined using Method of Standard Additions (MSA).
W	Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
P	Concentration >40% difference between the two GC columns.
C	Confirmed by GC/MS
Q	DoD reports: indicates a pesticide/Aroclor is not confirmed (Ó100% Difference between two GC columns).
X	See Case Narrative for discussion.
MRL LOQ	Method Reporting Limit. Also known as: Limit of Quantitation (LOQ) The lowest concentration at which the method analyte may be reliably quantified under the method conditions.
MDL	Method Detection Limit. A statistical value derived from a study designed to provide the lowest concentration that will be detected 99% of the time. Values between the MDL and MRL are estimated (see J qualifier).
LOD	Limit of Detection. A value at or above the MDL which has been verified to be detectable.
ND	Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.

Rochester Lab ID # for State Certifications[1]

Connecticut ID # PH0556	Maine ID #NY0032	New Hampshire ID # 294100 A/B
Delaware Approved	New Jersey ID # NY004	
DoD ELAP #65817	New York ID # 10145	Pennsylvania ID# 68-786
Florida ID # E87674	North Carolina #676	Rhode Island ID # 158
		Virginia #460167

[1] Analyses were performed according to our laboratoryôs NELAP-approved quality assurance program and any applicable state or agency requirements. The test results meet requirements of the current NELAP/TNI standards or state or agency requirements, where applicable, except as noted in the case narrative. Since not all analyte/method/matrix combinations are offered for state/NELAC accreditation, this report may contain results which are not accredited. For a specific list of accredited analytes, contact the laboratory or go to https://www.alsglobal.com/locations/americas/north-america/usa/new-york/rochester-environmental

ALS Laboratory Group

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1808107
Project:	Gowanda Q3 2018/6974.96		

Sample Name:	MW-1	**Date Collected:**	08/22/18
Lab Code:	R1808107-001	**Date Received:**	08/23/18
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name:	MW-2	**Date Collected:**	08/22/18
Lab Code:	R1808107-002	**Date Received:**	08/23/18
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name:	MW-3	**Date Collected:**	08/22/18
Lab Code:	R1808107-003	**Date Received:**	08/23/18
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name:	MW-4	**Date Collected:**	08/22/18
Lab Code:	R1808107-004	**Date Received:**	08/23/18
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name:	MW-5	**Date Collected:**	08/22/18
Lab Code:	R1808107-005	**Date Received:**	08/23/18
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1808107
Project:	Gowanda Q3 2018/6974.96		

Sample Name:	MW-6	**Date Collected:**	08/22/18
Lab Code:	R1808107-006	**Date Received:**	08/23/18
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name:	MW-7	**Date Collected:**	08/22/18
Lab Code:	R1808107-007	**Date Received:**	08/23/18
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name:	MW-8	**Date Collected:**	08/22/18
Lab Code:	R1808107-008	**Date Received:**	08/23/18
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name:	MW-9	**Date Collected:**	08/22/18
Lab Code:	R1808107-009	**Date Received:**	08/23/18
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name:	MW-10	**Date Collected:**	08/22/18
Lab Code:	R1808107-010	**Date Received:**	08/23/18
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1808107
Project:	Gowanda Q3 2018/6974.96		

Sample Name:	MW-11	**Date Collected:**	08/22/18
Lab Code:	R1808107-011	**Date Received:**	08/23/18
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name:	MW-12	**Date Collected:**	08/22/18
Lab Code:	R1808107-012	**Date Received:**	08/23/18
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name:	MW-13	**Date Collected:**	08/22/18
Lab Code:	R1808107-013	**Date Received:**	08/23/18
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name:	MW-14	**Date Collected:**	08/22/18
Lab Code:	R1808107-014	**Date Received:**	08/23/18
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name:	MW-15	**Date Collected:**	08/22/18
Lab Code:	R1808107-015	**Date Received:**	08/23/18
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Client: Bergmann Associates, Incorporated **Service Request:** R1808107
Project: Gowanda Q3 2018/6974.96

Sample Name: MW-16 **Date Collected:** 08/22/18
Lab Code: R1808107-016 **Date Received:** 08/23/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: MW-17 **Date Collected:** 08/22/18
Lab Code: R1808107-017 **Date Received:** 08/23/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: MW-18 **Date Collected:** 08/22/18
Lab Code: R1808107-018 **Date Received:** 08/23/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: MW-20 **Date Collected:** 08/22/18
Lab Code: R1808107-019 **Date Received:** 08/23/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: G-1 **Date Collected:** 08/22/18
Lab Code: R1808107-020 **Date Received:** 08/23/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Client: Bergmann Associates, Incorporated **Service Request:** R1808107
Project: Gowanda Q3 2018/6974.96

Sample Name: G-2 **Date Collected:** 08/22/18
Lab Code: R1808107-021 **Date Received:** 08/23/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: G-3 **Date Collected:** 08/22/18
Lab Code: R1808107-022 **Date Received:** 08/23/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: DR-1 **Date Collected:** 08/22/18
Lab Code: R1808107-023 **Date Received:** 08/23/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: DR-2 **Date Collected:** 08/22/18
Lab Code: R1808107-024 **Date Received:** 08/23/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: DR-3 **Date Collected:** 08/22/18
Lab Code: R1808107-025 **Date Received:** 08/23/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1808107
Project:	Gowanda Q3 2018/6974.96		

Sample Name:	DR-4	**Date Collected:**	08/22/18
Lab Code:	R1808107-026	**Date Received:**	08/23/18
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name:	Equipment Blank	**Date Collected:**	08/22/18
Lab Code:	R1808107-027	**Date Received:**	08/23/18
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

The preparation methods associated with this report are found in these tables unless discussed in the case narrative.

Water/Liquid Matrix

Analytical Method	Preparation Method
200.7	200.2
200.8	200.2
6010C	3005A/3010A
6020A	ILM05.3
9014 Cyanide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Acid Soluble	9030B
9056A Bomb (Halogens)	5050A
9066 Manual Distillation	9065
SM 4500-CN-E Residual Cyanide	SM 4500-CN-G
SM 4500-CN-E WAD Cyanide	SM 4500-CN-I

Solid/Soil/Non-Aqueous Matrix

Analytical Method	Preparation Method
6010C	3050B
6020A	3050B
6010C TCLP (1311) extract	3005A/3010A
6010 SPLP (1312) extract	3005A/3010A
7196A	3060A
7199	3060A
9056A Halogens/Halides	5050
300.0 Anions/ 350.1/ 353.2/ SM 2320B/ SM 5210B/ 9056A Anions	DI extraction

For analytical methods not listed, the preparation method is the same as the analytical method reference.

Sample Results

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Volatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
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Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1808107
Project:	Gowanda Q3 2018/6974.96	**Date Collected:**	08/22/18 11:30
Sample Matrix:	Water	**Date Received:**	08/23/18 15:50
Sample Name:	MW-1	**Units:**	ug/L
Lab Code:	R1808107-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	**260**	25	5	08/28/18 17:00	
trans-1,2-Dichloroethene	25 U	25	5	08/28/18 17:00	
Tetrachloroethene (PCE)	25 U	25	5	08/28/18 17:00	
1,1,1-Trichloroethane (TCA)	25 U	25	5	08/28/18 17:00	
Trichloroethene (TCE)	**930**	25	5	08/28/18 17:00	
Vinyl Chloride	25 U	25	5	08/28/18 17:00	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	90	85 - 122	08/28/18 17:00	
Dibromofluoromethane	98	89 - 119	08/28/18 17:00	
Toluene-d8	100	87 - 121	08/28/18 17:00	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1808107
Project:	Gowanda Q3 2018/6974.96	**Date Collected:**	08/22/18 11:40
Sample Matrix:	Water	**Date Received:**	08/23/18 15:50
Sample Name:	MW-2	**Units:**	ug/L
Lab Code:	R1808107-002	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	08/28/18 17:23	
trans-1,2-Dichloroethene	5.0 U	5.0	1	08/28/18 17:23	
Tetrachloroethene (PCE)	5.0 U	5.0	1	08/28/18 17:23	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	08/28/18 17:23	
Trichloroethene (TCE)	5.0 U	5.0	1	08/28/18 17:23	
Vinyl Chloride	5.0 U	5.0	1	08/28/18 17:23	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	91	85 - 122	08/28/18 17:23	
Dibromofluoromethane	97	89 - 119	08/28/18 17:23	
Toluene-d8	100	87 - 121	08/28/18 17:23	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1808107
Project:	Gowanda Q3 2018/6974.96	**Date Collected:**	08/22/18 11:20
Sample Matrix:	Water	**Date Received:**	08/23/18 15:50
Sample Name:	MW-3	**Units:**	ug/L
Lab Code:	R1808107-003	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	08/28/18 17:45	
trans-1,2-Dichloroethene	5.0 U	5.0	1	08/28/18 17:45	
Tetrachloroethene (PCE)	5.0 U	5.0	1	08/28/18 17:45	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	08/28/18 17:45	
Trichloroethene (TCE)	5.0 U	5.0	1	08/28/18 17:45	
Vinyl Chloride	5.0 U	5.0	1	08/28/18 17:45	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	90	85 - 122	08/28/18 17:45	
Dibromofluoromethane	96	89 - 119	08/28/18 17:45	
Toluene-d8	99	87 - 121	08/28/18 17:45	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1808107
Project:	Gowanda Q3 2018/6974.96	**Date Collected:**	08/22/18 11:10
Sample Matrix:	Water	**Date Received:**	08/23/18 15:50
Sample Name:	MW-4	**Units:**	ug/L
Lab Code:	R1808107-004	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	08/28/18 18:08	
trans-1,2-Dichloroethene	5.0 U	5.0	1	08/28/18 18:08	
Tetrachloroethene (PCE)	5.0 U	5.0	1	08/28/18 18:08	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	08/28/18 18:08	
Trichloroethene (TCE)	5.0 U	5.0	1	08/28/18 18:08	
Vinyl Chloride	5.0 U	5.0	1	08/28/18 18:08	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	91	85 - 122	08/28/18 18:08	
Dibromofluoromethane	96	89 - 119	08/28/18 18:08	
Toluene-d8	99	87 - 121	08/28/18 18:08	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1808107
Project:	Gowanda Q3 2018/6974.96	**Date Collected:**	08/22/18 10:40
Sample Matrix:	Water	**Date Received:**	08/23/18 15:50
Sample Name:	MW-5	**Units:**	ug/L
Lab Code:	R1808107-005	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	08/28/18 18:30	
trans-1,2-Dichloroethene	5.0 U	5.0	1	08/28/18 18:30	
Tetrachloroethene (PCE)	5.0 U	5.0	1	08/28/18 18:30	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	08/28/18 18:30	
Trichloroethene (TCE)	5.0 U	5.0	1	08/28/18 18:30	
Vinyl Chloride	5.0 U	5.0	1	08/28/18 18:30	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	91	85 - 122	08/28/18 18:30	
Dibromofluoromethane	97	89 - 119	08/28/18 18:30	
Toluene-d8	98	87 - 121	08/28/18 18:30	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1808107
Project:	Gowanda Q3 2018/6974.96	**Date Collected:**	08/22/18 10:25
Sample Matrix:	Water	**Date Received:**	08/23/18 15:50
Sample Name:	MW-6	**Units:**	ug/L
Lab Code:	R1808107-006	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	**84**	5.0	1	08/28/18 18:53	
trans-1,2-Dichloroethene	5.0 U	5.0	1	08/28/18 18:53	
Tetrachloroethene (PCE)	5.0 U	5.0	1	08/28/18 18:53	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	08/28/18 18:53	
Trichloroethene (TCE)	5.0 U	5.0	1	08/28/18 18:53	
Vinyl Chloride	5.0 U	5.0	1	08/28/18 18:53	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	90	85 - 122	08/28/18 18:53	
Dibromofluoromethane	96	89 - 119	08/28/18 18:53	
Toluene-d8	98	87 - 121	08/28/18 18:53	

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1808107
Project:	Gowanda Q3 2018/6974.96	**Date Collected:**	08/22/18 09:50
Sample Matrix:	Water	**Date Received:**	08/23/18 15:50
Sample Name:	MW-7	**Units:**	ug/L
Lab Code:	R1808107-007	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	08/28/18 19:15	
trans-1,2-Dichloroethene	5.0 U	5.0	1	08/28/18 19:15	
Tetrachloroethene (PCE)	5.0 U	5.0	1	08/28/18 19:15	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	08/28/18 19:15	
Trichloroethene (TCE)	5.0 U	5.0	1	08/28/18 19:15	
Vinyl Chloride	5.0 U	5.0	1	08/28/18 19:15	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	93	85 - 122	08/28/18 19:15	
Dibromofluoromethane	98	89 - 119	08/28/18 19:15	
Toluene-d8	102	87 - 121	08/28/18 19:15	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1808107
Project:	Gowanda Q3 2018/6974.96	**Date Collected:**	08/22/18 11:10
Sample Matrix:	Water	**Date Received:**	08/23/18 15:50
Sample Name:	MW-8	**Units:**	ug/L
Lab Code:	R1808107-008	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	08/28/18 22:15	
trans-1,2-Dichloroethene	5.0 U	5.0	1	08/28/18 22:15	
Tetrachloroethene (PCE)	5.0 U	5.0	1	08/28/18 22:15	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	08/28/18 22:15	
Trichloroethene (TCE)	5.0 U	5.0	1	08/28/18 22:15	
Vinyl Chloride	5.0 U	5.0	1	08/28/18 22:15	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	93	85 - 122	08/28/18 22:15	
Dibromofluoromethane	97	89 - 119	08/28/18 22:15	
Toluene-d8	101	87 - 121	08/28/18 22:15	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1808107
Project:	Gowanda Q3 2018/6974.96	**Date Collected:**	08/22/18 12:00
Sample Matrix:	Water	**Date Received:**	08/23/18 15:50
Sample Name:	MW-9	**Units:**	ug/L
Lab Code:	R1808107-009	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	08/28/18 22:38	
trans-1,2-Dichloroethene	5.0 U	5.0	1	08/28/18 22:38	
Tetrachloroethene (PCE)	5.0 U	5.0	1	08/28/18 22:38	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	08/28/18 22:38	
Trichloroethene (TCE)	5.0 U	5.0	1	08/28/18 22:38	
Vinyl Chloride	5.0 U	5.0	1	08/28/18 22:38	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	90	85 - 122	08/28/18 22:38	
Dibromofluoromethane	97	89 - 119	08/28/18 22:38	
Toluene-d8	100	87 - 121	08/28/18 22:38	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1808107
Project:	Gowanda Q3 2018/6974.96	**Date Collected:**	08/22/18 11:50
Sample Matrix:	Water	**Date Received:**	08/23/18 15:50
Sample Name:	MW-10	**Units:**	ug/L
Lab Code:	R1808107-010	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	08/28/18 23:00	
trans-1,2-Dichloroethene	5.0 U	5.0	1	08/28/18 23:00	
Tetrachloroethene (PCE)	5.0 U	5.0	1	08/28/18 23:00	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	08/28/18 23:00	
Trichloroethene (TCE)	5.0 U	5.0	1	08/28/18 23:00	
Vinyl Chloride	5.0 U	5.0	1	08/28/18 23:00	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	91	85 - 122	08/28/18 23:00	
Dibromofluoromethane	96	89 - 119	08/28/18 23:00	
Toluene-d8	99	87 - 121	08/28/18 23:00	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1808107
Project:	Gowanda Q3 2018/6974.96	**Date Collected:**	08/22/18 11:40
Sample Matrix:	Water	**Date Received:**	08/23/18 15:50
Sample Name:	MW-11	**Units:**	ug/L
Lab Code:	R1808107-011	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	**120**	5.0	1	08/29/18 17:09	
trans-1,2-Dichloroethene	**5.1**	5.0	1	08/29/18 17:09	
Tetrachloroethene (PCE)	5.0 U	5.0	1	08/29/18 17:09	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	08/29/18 17:09	
Trichloroethene (TCE)	**160**	5.0	1	08/29/18 17:09	
Vinyl Chloride	5.0 U	5.0	1	08/29/18 17:09	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	89	85 - 122	08/29/18 17:09	
Dibromofluoromethane	96	89 - 119	08/29/18 17:09	
Toluene-d8	98	87 - 121	08/29/18 17:09	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1808107
Project:	Gowanda Q3 2018/6974.96	**Date Collected:**	08/22/18 10:15
Sample Matrix:	Water	**Date Received:**	08/23/18 15:50
Sample Name:	MW-12	**Units:**	ug/L
Lab Code:	R1808107-012	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	**20**	5.0	1	08/28/18 23:45	
trans-1,2-Dichloroethene	5.0 U	5.0	1	08/28/18 23:45	
Tetrachloroethene (PCE)	5.0 U	5.0	1	08/28/18 23:45	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	08/28/18 23:45	
Trichloroethene (TCE)	**5.2**	5.0	1	08/28/18 23:45	
Vinyl Chloride	5.0 U	5.0	1	08/28/18 23:45	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	91	85 - 122	08/28/18 23:45	
Dibromofluoromethane	99	89 - 119	08/28/18 23:45	
Toluene-d8	101	87 - 121	08/28/18 23:45	

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1808107
Project:	Gowanda Q3 2018/6974.96	**Date Collected:**	08/22/18 10:40
Sample Matrix:	Water	**Date Received:**	08/23/18 15:50
Sample Name:	MW-13	**Units:**	ug/L
Lab Code:	R1808107-013	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	08/29/18 00:07	
trans-1,2-Dichloroethene	5.0 U	5.0	1	08/29/18 00:07	
Tetrachloroethene (PCE)	5.0 U	5.0	1	08/29/18 00:07	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	08/29/18 00:07	
Trichloroethene (TCE)	5.0 U	5.0	1	08/29/18 00:07	
Vinyl Chloride	5.0 U	5.0	1	08/29/18 00:07	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	92	85 - 122	08/29/18 00:07	
Dibromofluoromethane	100	89 - 119	08/29/18 00:07	
Toluene-d8	102	87 - 121	08/29/18 00:07	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1808107
Project:	Gowanda Q3 2018/6974.96	**Date Collected:**	08/22/18 10:00
Sample Matrix:	Water	**Date Received:**	08/23/18 15:50
Sample Name:	MW-14	**Units:**	ug/L
Lab Code:	R1808107-014	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	**7.3**	5.0	1	08/29/18 00:29	
trans-1,2-Dichloroethene	5.0 U	5.0	1	08/29/18 00:29	
Tetrachloroethene (PCE)	5.0 U	5.0	1	08/29/18 00:29	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	08/29/18 00:29	
Trichloroethene (TCE)	**15**	5.0	1	08/29/18 00:29	
Vinyl Chloride	5.0 U	5.0	1	08/29/18 00:29	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	90	85 - 122	08/29/18 00:29	
Dibromofluoromethane	97	89 - 119	08/29/18 00:29	
Toluene-d8	99	87 - 121	08/29/18 00:29	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1808107
Project:	Gowanda Q3 2018/6974.96	**Date Collected:**	08/22/18 09:55
Sample Matrix:	Water	**Date Received:**	08/23/18 15:50
Sample Name:	MW-15	**Units:**	ug/L
Lab Code:	R1808107-015	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	08/29/18 00:52	
trans-1,2-Dichloroethene	5.0 U	5.0	1	08/29/18 00:52	
Tetrachloroethene (PCE)	5.0 U	5.0	1	08/29/18 00:52	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	08/29/18 00:52	
Trichloroethene (TCE)	**6.5**	5.0	1	08/29/18 00:52	
Vinyl Chloride	5.0 U	5.0	1	08/29/18 00:52	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	93	85 - 122	08/29/18 00:52	
Dibromofluoromethane	99	89 - 119	08/29/18 00:52	
Toluene-d8	102	87 - 121	08/29/18 00:52	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1808107
Project:	Gowanda Q3 2018/6974.96	**Date Collected:**	08/22/18 09:35
Sample Matrix:	Water	**Date Received:**	08/23/18 15:50
Sample Name:	MW-16	**Units:**	ug/L
Lab Code:	R1808107-016	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	**10**	5.0	1	08/29/18 01:14	
trans-1,2-Dichloroethene	5.0 U	5.0	1	08/29/18 01:14	
Tetrachloroethene (PCE)	5.0 U	5.0	1	08/29/18 01:14	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	08/29/18 01:14	
Trichloroethene (TCE)	5.0 U	5.0	1	08/29/18 01:14	
Vinyl Chloride	5.0 U	5.0	1	08/29/18 01:14	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	93	85 - 122	08/29/18 01:14	
Dibromofluoromethane	98	89 - 119	08/29/18 01:14	
Toluene-d8	101	87 - 121	08/29/18 01:14	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1808107
Project:	Gowanda Q3 2018/6974.96	**Date Collected:**	08/22/18 10:15
Sample Matrix:	Water	**Date Received:**	08/23/18 15:50
Sample Name:	MW-17	**Units:**	ug/L
Lab Code:	R1808107-017	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	**220**	**D**	10	2	08/29/18 17:32	
trans-1,2-Dichloroethene	5.0	U	5.0	1	08/29/18 01:37	
Tetrachloroethene (PCE)	5.0	U	5.0	1	08/29/18 01:37	
1,1,1-Trichloroethane (TCA)	5.0	U	5.0	1	08/29/18 01:37	
Trichloroethene (TCE)	**45**		5.0	1	08/29/18 01:37	
Vinyl Chloride	5.0	U	5.0	1	08/29/18 01:37	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	91	85 - 122	08/29/18 01:37	
Dibromofluoromethane	99	89 - 119	08/29/18 01:37	
Toluene-d8	101	87 - 121	08/29/18 01:37	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1808107
Project:	Gowanda Q3 2018/6974.96	**Date Collected:**	08/22/18 12:30
Sample Matrix:	Water	**Date Received:**	08/23/18 15:50
Sample Name:	MW-18	**Units:**	ug/L
Lab Code:	R1808107-018	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	08/29/18 01:59	
trans-1,2-Dichloroethene	5.0 U	5.0	1	08/29/18 01:59	
Tetrachloroethene (PCE)	5.0 U	5.0	1	08/29/18 01:59	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	08/29/18 01:59	
Trichloroethene (TCE)	5.0 U	5.0	1	08/29/18 01:59	
Vinyl Chloride	5.0 U	5.0	1	08/29/18 01:59	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	92	85 - 122	08/29/18 01:59	
Dibromofluoromethane	98	89 - 119	08/29/18 01:59	
Toluene-d8	102	87 - 121	08/29/18 01:59	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1808107
Project:	Gowanda Q3 2018/6974.96	**Date Collected:**	08/22/18 11:00
Sample Matrix:	Water	**Date Received:**	08/23/18 15:50
Sample Name:	MW-20	**Units:**	ug/L
Lab Code:	R1808107-019	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	08/29/18 02:21	
trans-1,2-Dichloroethene	5.0 U	5.0	1	08/29/18 02:21	
Tetrachloroethene (PCE)	5.0 U	5.0	1	08/29/18 02:21	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	08/29/18 02:21	
Trichloroethene (TCE)	5.0 U	5.0	1	08/29/18 02:21	
Vinyl Chloride	5.0 U	5.0	1	08/29/18 02:21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	91	85 - 122	08/29/18 02:21	
Dibromofluoromethane	97	89 - 119	08/29/18 02:21	
Toluene-d8	101	87 - 121	08/29/18 02:21	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1808107
Project:	Gowanda Q3 2018/6974.96	**Date Collected:**	08/22/18 09:35
Sample Matrix:	Water	**Date Received:**	08/23/18 15:50
Sample Name:	G-1	**Units:**	ug/L
Lab Code:	R1808107-020	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	**77**	5.0	1	08/29/18 02:44	
trans-1,2-Dichloroethene	5.0 U	5.0	1	08/29/18 02:44	
Tetrachloroethene (PCE)	5.0 U	5.0	1	08/29/18 02:44	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	08/29/18 02:44	
Trichloroethene (TCE)	5.0 U	5.0	1	08/29/18 02:44	
Vinyl Chloride	5.0 U	5.0	1	08/29/18 02:44	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	90	85 - 122	08/29/18 02:44	
Dibromofluoromethane	98	89 - 119	08/29/18 02:44	
Toluene-d8	99	87 - 121	08/29/18 02:44	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1808107
Project:	Gowanda Q3 2018/6974.96	**Date Collected:**	08/22/18 09:30
Sample Matrix:	Water	**Date Received:**	08/23/18 15:50
Sample Name:	G-2	**Units:**	ug/L
Lab Code:	R1808107-021	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	**68**	5.0	1	08/29/18 03:06	
trans-1,2-Dichloroethene	5.0 U	5.0	1	08/29/18 03:06	
Tetrachloroethene (PCE)	5.0 U	5.0	1	08/29/18 03:06	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	08/29/18 03:06	
Trichloroethene (TCE)	5.0 U	5.0	1	08/29/18 03:06	
Vinyl Chloride	5.0 U	5.0	1	08/29/18 03:06	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	91	85 - 122	08/29/18 03:06	
Dibromofluoromethane	97	89 - 119	08/29/18 03:06	
Toluene-d8	100	87 - 121	08/29/18 03:06	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1808107
Project:	Gowanda Q3 2018/6974.96	**Date Collected:**	08/22/18 10:10
Sample Matrix:	Water	**Date Received:**	08/23/18 15:50
Sample Name:	G-3	**Units:**	ug/L
Lab Code:	R1808107-022	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	**270**	10	2	08/29/18 03:29	
trans-1,2-Dichloroethene	10 U	10	2	08/29/18 03:29	
Tetrachloroethene (PCE)	10 U	10	2	08/29/18 03:29	
1,1,1-Trichloroethane (TCA)	10 U	10	2	08/29/18 03:29	
Trichloroethene (TCE)	**52**	10	2	08/29/18 03:29	
Vinyl Chloride	10 U	10	2	08/29/18 03:29	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	92	85 - 122	08/29/18 03:29	
Dibromofluoromethane	98	89 - 119	08/29/18 03:29	
Toluene-d8	101	87 - 121	08/29/18 03:29	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1808107
Project:	Gowanda Q3 2018/6974.96	**Date Collected:**	08/22/18 11:00
Sample Matrix:	Water	**Date Received:**	08/23/18 15:50
Sample Name:	DR-1	**Units:**	ug/L
Lab Code:	R1808107-023	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	**210**	50	10	08/29/18 03:51	
trans-1,2-Dichloroethene	50 U	50	10	08/29/18 03:51	
Tetrachloroethene (PCE)	50 U	50	10	08/29/18 03:51	
1,1,1-Trichloroethane (TCA)	50 U	50	10	08/29/18 03:51	
Trichloroethene (TCE)	**1300**	50	10	08/29/18 03:51	
Vinyl Chloride	50 U	50	10	08/29/18 03:51	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	94	85 - 122	08/29/18 03:51	
Dibromofluoromethane	99	89 - 119	08/29/18 03:51	
Toluene-d8	103	87 - 121	08/29/18 03:51	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1808107
Project:	Gowanda Q3 2018/6974.96	**Date Collected:**	08/22/18 10:20
Sample Matrix:	Water	**Date Received:**	08/23/18 15:50
Sample Name:	DR-2	**Units:**	ug/L
Lab Code:	R1808107-024	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	**130**	5.0	1	08/29/18 04:13	
trans-1,2-Dichloroethene	5.0 U	5.0	1	08/29/18 04:13	
Tetrachloroethene (PCE)	5.0 U	5.0	1	08/29/18 04:13	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	08/29/18 04:13	
Trichloroethene (TCE)	**32**	5.0	1	08/29/18 04:13	
Vinyl Chloride	5.0 U	5.0	1	08/29/18 04:13	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	90	85 - 122	08/29/18 04:13	
Dibromofluoromethane	101	89 - 119	08/29/18 04:13	
Toluene-d8	101	87 - 121	08/29/18 04:13	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1808107
Project:	Gowanda Q3 2018/6974.96	**Date Collected:**	08/22/18 10:05
Sample Matrix:	Water	**Date Received:**	08/23/18 15:50
Sample Name:	DR-3	**Units:**	ug/L
Lab Code:	R1808107-025	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	**63**	5.0	1	08/29/18 04:36	
trans-1,2-Dichloroethene	5.0 U	5.0	1	08/29/18 04:36	
Tetrachloroethene (PCE)	5.0 U	5.0	1	08/29/18 04:36	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	08/29/18 04:36	
Trichloroethene (TCE)	**24**	5.0	1	08/29/18 04:36	
Vinyl Chloride	5.0 U	5.0	1	08/29/18 04:36	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	85 - 122	08/29/18 04:36	
Dibromofluoromethane	103	89 - 119	08/29/18 04:36	
Toluene-d8	105	87 - 121	08/29/18 04:36	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1808107
Project:	Gowanda Q3 2018/6974.96	**Date Collected:**	08/22/18 09:45
Sample Matrix:	Water	**Date Received:**	08/23/18 15:50
Sample Name:	DR-4	**Units:**	ug/L
Lab Code:	R1808107-026	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	**19**	5.0	1	08/29/18 04:58	
trans-1,2-Dichloroethene	5.0 U	5.0	1	08/29/18 04:58	
Tetrachloroethene (PCE)	5.0 U	5.0	1	08/29/18 04:58	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	08/29/18 04:58	
Trichloroethene (TCE)	**29**	5.0	1	08/29/18 04:58	
Vinyl Chloride	5.0 U	5.0	1	08/29/18 04:58	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	85 - 122	08/29/18 04:58	
Dibromofluoromethane	102	89 - 119	08/29/18 04:58	
Toluene-d8	103	87 - 121	08/29/18 04:58	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1808107
Project:	Gowanda Q3 2018/6974.96	**Date Collected:**	08/22/18
Sample Matrix:	Water	**Date Received:**	08/23/18 15:50
Sample Name:	Equipment Blank	**Units:**	ug/L
Lab Code:	R1808107-027	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	08/28/18 21:53	
trans-1,2-Dichloroethene	5.0 U	5.0	1	08/28/18 21:53	
Tetrachloroethene (PCE)	5.0 U	5.0	1	08/28/18 21:53	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	08/28/18 21:53	
Trichloroethene (TCE)	5.0 U	5.0	1	08/28/18 21:53	
Vinyl Chloride	5.0 U	5.0	1	08/28/18 21:53	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	107	85 - 122	08/28/18 21:53	
Dibromofluoromethane	112	89 - 119	08/28/18 21:53	
Toluene-d8	116	87 - 121	08/28/18 21:53	

QC Summary Forms

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Volatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: Bergmann Associates, Incorporated **Service Request:** R1808107
Project: Gowanda Q3 2018/6974.96
Sample Matrix: Water

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Extraction Method: EPA 5030C

Sample Name	Lab Code	4-Bromofluorobenzene 85-122	Dibromofluoromethane 89-119	Toluene-d8 87-121
MW-1	R1808107-001	90	98	100
MW-2	R1808107-002	91	97	100
MW-3	R1808107-003	90	96	99
MW-4	R1808107-004	91	96	99
MW-5	R1808107-005	91	97	98
MW-6	R1808107-006	90	96	98
MW-7	R1808107-007	93	98	102
MW-8	R1808107-008	93	97	101
MW-9	R1808107-009	90	97	100
MW-10	R1808107-010	91	96	99
MW-11	R1808107-011	89	96	98
MW-12	R1808107-012	91	99	101
MW-13	R1808107-013	92	100	102
MW-14	R1808107-014	90	97	99
MW-15	R1808107-015	93	99	102
MW-16	R1808107-016	93	98	101
MW-17	R1808107-017	91	99	101
MW-18	R1808107-018	92	98	102
MW-20	R1808107-019	91	97	101
G-1	R1808107-020	90	98	99
G-2	R1808107-021	91	97	100
G-3	R1808107-022	92	98	101
DR-1	R1808107-023	94	99	103
DR-2	R1808107-024	90	101	101
DR-3	R1808107-025	95	103	105
DR-4	R1808107-026	96	102	103
Equipment Blank	R1808107-027	107	112	116
Method Blank	RQ1809064-05	90	98	99
Method Blank	RQ1809076-04	97	101	105
Method Blank	RQ1809124-04	105	113	117
Lab Control Sample	RQ1809064-03	95	102	101
Duplicate Lab Control Sample	RQ1809064-04	93	101	99
Lab Control Sample	RQ1809076-03	98	106	105
Lab Control Sample	RQ1809124-03	117	118	118
DR-1 MS	RQ1809076-05	105	110	110
DR-1 DMS	RQ1809076-06	106	113	111

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1808107
Project:	Gowanda Q3 2018/6974.96	**Date Collected:**	08/22/18
Sample Matrix:	Water	**Date Received:**	08/23/18
		Date Analyzed:	08/29/18
		Date Extracted:	NA

Duplicate Matrix Spike Summary
Volatile Organic Compounds by GC/MS

Sample Name:	DR-1	**Units:**	ug/L
Lab Code:	R1808107-023	**Basis:**	NA
Analysis Method:	8260C		
Prep Method:	EPA 5030C		

		Matrix Spike RQ1809076-05			Duplicate Matrix Spike RQ1809076-06					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
cis-1,2-Dichloroethene	210	623	500	83	677	500	94	77-127	8	30
trans-1,2-Dichloroethene	50 U	442	500	88	508	500	102	73-118	14	30
Tetrachloroethene (PCE)	50 U	478	500	96	513	500	103	72-125	7	30
1,1,1-Trichloroethane (TCA)	50 U	400	500	80	455	500	91	74-127	13	30
Trichloroethene (TCE)	1300	1640	500	73 *	1700	500	85	74-122	4	30
Vinyl Chloride	50 U	431	500	86	491	500	98	74-159	13	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1808107
Project:	Gowanda Q3 2018/6974.96	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1809064-05	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	08/28/18 11:31	
trans-1,2-Dichloroethene	5.0 U	5.0	1	08/28/18 11:31	
Tetrachloroethene (PCE)	5.0 U	5.0	1	08/28/18 11:31	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	08/28/18 11:31	
Trichloroethene (TCE)	5.0 U	5.0	1	08/28/18 11:31	
Vinyl Chloride	5.0 U	5.0	1	08/28/18 11:31	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	90	85 - 122	08/28/18 11:31	
Dibromofluoromethane	98	89 - 119	08/28/18 11:31	
Toluene-d8	99	87 - 121	08/28/18 11:31	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1808107
Project:	Gowanda Q3 2018/6974.96	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1809076-04	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	08/28/18 21:30	
trans-1,2-Dichloroethene	5.0 U	5.0	1	08/28/18 21:30	
Tetrachloroethene (PCE)	5.0 U	5.0	1	08/28/18 21:30	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	08/28/18 21:30	
Trichloroethene (TCE)	5.0 U	5.0	1	08/28/18 21:30	
Vinyl Chloride	5.0 U	5.0	1	08/28/18 21:30	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	85 - 122	08/28/18 21:30	
Dibromofluoromethane	101	89 - 119	08/28/18 21:30	
Toluene-d8	105	87 - 121	08/28/18 21:30	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1808107
Project:	Gowanda Q3 2018/6974.96	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1809124-04	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	08/29/18 13:17	
trans-1,2-Dichloroethene	5.0 U	5.0	1	08/29/18 13:17	
Tetrachloroethene (PCE)	5.0 U	5.0	1	08/29/18 13:17	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	08/29/18 13:17	
Trichloroethene (TCE)	5.0 U	5.0	1	08/29/18 13:17	
Vinyl Chloride	5.0 U	5.0	1	08/29/18 13:17	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	105	85 - 122	08/29/18 13:17	
Dibromofluoromethane	113	89 - 119	08/29/18 13:17	
Toluene-d8	117	87 - 121	08/29/18 13:17	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Bergmann Associates, Incorporated
Project: Gowanda Q3 2018/6974.96
Sample Matrix: Water

Service Request: R1808107
Date Analyzed: 08/28/18

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1809076-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
cis-1,2-Dichloroethene	8260C	17.3	20.0	86	80-121
trans-1,2-Dichloroethene	8260C	17.3	20.0	87	73-118
Tetrachloroethene (PCE)	8260C	17.7	20.0	88	72-125
1,1,1-Trichloroethane (TCA)	8260C	16.0	20.0	80	75-125
Trichloroethene (TCE)	8260C	17.3	20.0	86	74-122
Vinyl Chloride	8260C	17.1	20.0	86	74-159

Client: Bergmann Associates, Incorporated
Project: Gowanda Q3 2018/6974.96
Sample Matrix: Water

Service Request: R1808107
Date Analyzed: 08/29/18

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1809124-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
cis-1,2-Dichloroethene	8260C	18.8	20.0	94	80-121
trans-1,2-Dichloroethene	8260C	19.1	20.0	95	73-118
Tetrachloroethene (PCE)	8260C	21.1	20.0	106	72-125
1,1,1-Trichloroethane (TCA)	8260C	17.4	20.0	87	75-125
Trichloroethene (TCE)	8260C	19.0	20.0	95	74-122
Vinyl Chloride	8260C	19.9	20.0	99	74-159

Client: Bergmann Associates, Incorporated
Project: Gowanda Q3 2018/6974.96
Sample Matrix: Water

Service Request: R1808107
Date Analyzed: 08/28/18

Duplicate Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

		Lab Control Sample			Duplicate Lab Control Sample					
		RQ1809064-03			RQ1809064-04					
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
cis-1,2-Dichloroethene	8260C	18.6	20.0	93	18.6	20.0	93	80-121	<1	30
trans-1,2-Dichloroethene	8260C	19.5	20.0	98	18.5	20.0	93	73-118	5	30
Tetrachloroethene (PCE)	8260C	22.1	20.0	110	21.4	20.0	107	72-125	3	30
1,1,1-Trichloroethane (TCA)	8260C	17.9	20.0	90	17.6	20.0	88	75-125	2	30
Trichloroethene (TCE)	8260C	19.8	20.0	99	19.3	20.0	97	74-122	3	30
Vinyl Chloride	8260C	20.1	20.0	101	19.1	20.0	95	74-159	5	30

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NOVEMBER 2018
GROUNDWATER CHARACTERIZATION REPORT

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New York State Office of People with Developmental Disabilities – Gowanda Site

GROUNDWATER CHARACTERIZATION REPORT – NOVEMBER 2018

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1.0 INTRODUCTION

Bergmann is submitting this groundwater characterization report for the November 2018 sampling event on behalf of the Dormitory Authority of the State of New York (DASNY) and the New York State Office of People with Developmental Disabilities (OPWDD) for activities conducted at the former Gowanda Day Habilitation Center facility at 4 Industrial Place, Gowanda, NY. The OPWDD, as the volunteer, entered into a Voluntary Cleanup Agreement (VCA) with the New York State Department of Environmental Conservation (NYSDEC) to conduct investigations and implement remedial measures in accordance with VCA Site No. V-00463-9, effective August 16, 2001.

1.1 SCOPE OF WORK

This report documents the site-wide groundwater monitoring and laboratory analytical sampling event conducted on November 13, 2018. Field measurements, sampling procedures and laboratory analysis were conducted in accordance with the October 2006 Operations, Monitoring and Maintenance (OM&M) Manual and as modified with NYSDEC approval. During this sampling event, groundwater from 19 of 21 site-related groundwater monitoring wells and all seven (7) groundwater recovery wells were sampled for laboratory analysis. Of the eight (8) monitoring wells determined by the NYSDEC and Bergmann personnel in 2008 to be outside the area of impact by the Groundwater Treatment System (GTS), two (2) were not sampled. These monitoring wells are MW-19R and MW-21. Monitoring well MW-21 was added to the well sampling plan permanently by NYSDEC to monitor groundwater migration off-site. Monitoring Wells MW-19R and MW-21 have not been sampled due to the fact that they have been paved over as first reported by Bergmann in the August 2017 sampling report.

The prior groundwater sampling event was conducted in August 2018 and included analysis of groundwater samples from 19 of 21 site-related groundwater monitoring wells and all seven (7) groundwater recovery wells.

1.2 SITE BACKGROUND

The Gowanda Day Habilitation site consists of a 5.94-acre parcel located at 4 Industrial Place. The building, previously used by several manufacturing operations, was built in stages between circa 1948 and 1987 and was renovated in 1987-1988. New York State agencies occupied the building since 1982. New York State acquired the parcel in 1989. The building was most recently operated by the OPWDD, which at that time was known as the Western New York Developmental Disabilities Services Office, as a Day Habilitation Center for mental care clients. In April 2001, on-site operations ceased. The nature and extent of contamination at the Gowanda Day Habilitation Center was detailed as part of the 2003 Site Investigation and 2004 Supplemental Site Investigation Reports. Trichloroethene (TCE) was the most commonly detected compound. TCE degradation products cis-1,2, Dichloroethene (Cis-1,2-DCE), trans-1,2-Dichloroethene (Trans-1,2-DCE) and Vinyl Chloride (VC) were also detected.

Following Interim Remedial Measure (IRM) system installation, the Groundwater Treatment System (GTS) and the Soil Vapor Extraction System (SVES) were activated on May 10, 2005, recovering 2-5 gallons per minute (gpm) of groundwater. An additional groundwater recovery well, designated G-3, was installed outside the building and adjacent to MW-17 in November 2008. The GTS portion consists of seven (7) groundwater recovery wells (four dual phase recovery wells and three groundwater-only recovery wells), an air compressor, a network of controller-less pneumatic pumps and an air stripper treatment system to process recovered groundwater. Recovered groundwater was pumped to the equalization tank for settling of the sediment and transferred to the air stripper using a consistent flow rate. Air discharge from the air stripper was routed to the

SVE for treatment prior to discharge. Groundwater was discharged to the village of Gowanda Sewage Treatment Plant (STP).

In January 2008, the building was decommissioned. The GTS was winterized with the addition of heat tape and insulation to conveyance lines and the installation of an independently operated suspended heater in the treatment area for the GTS and SVES (former Machine Shop). Quarterly groundwater sampling with Operation and Maintenance of the remediation system has been ongoing since 2002.

During January 2014, the condition of the SVE and GTS was discussed with the NYSDEC representative and it was agreed that these systems would be inactivated to allow for groundwater level recovery during the preparation of an ISCO remedial action plan (RAP) and implementation of an ISCO treatment. Bergmann submitted an ISCO RAP for groundwater treatment to the NYSDEC to address remaining contamination at the Site in lieu of costly repair of the SVE and GTS. The SVE and GTS equipment will remain on site in the event that re-activation is required in the future. The ISCO was implemented in May 2015. An ISCO Report was prepared under a separate cover.

2.0 GROUNDWATER SAMPLING OVERVIEW AND METHODS

2.1 WELL MAINTENANCE ACTIVITIES

During the November 2018 site visit, all monitoring wells were accessible and the integrity of the wells was not compromised except for MW-19R and MW-21. MW-19R and MW-21, both located on Torrance Place, were still paved over as originally reported in the August 2017 summary report. Repairs or maintenance to the network of groundwater monitoring wells or recovery wells has not been required since June 2007, with the exception of the redevelopment activities performed on August 19, 2015. All protective casings and flush-mount curb boxes were found to be intact and secure. Exterior monitoring wells are secured with locking stick-up protective casings. The monitoring wells within the building are secured with flush-mount roadway covers. Well maintenance was not performed during the November 2018 sampling event.

2.2 GROUNDWATER FIELD MONITORING AND SAMPLING ACTIVITIES

Groundwater measurements and sampling activities were conducted in accordance with the October 2006 OM&M Manual. The depths to groundwater in groundwater monitoring wells are measured on a regular basis to track site-wide changes in the water table elevation and to allow for adjustment at recovery wells. Past operation of the recovery wells was intended to establish hydraulic containment of the impacted groundwater plume beneath the former Day Habilitation building and improve recovery and treatment of impacted groundwater. Groundwater samples were collected from 19 of the 21 site-related groundwater monitoring wells for laboratory analysis on November 13, 2018. Depth to groundwater measurements were obtained from 26 wells (including recovery wells).

Groundwater samples were collected from monitoring wells after each well was gauged and purged of standing water via bailing with dedicated bailers for each individual well. Sample parameters including turbidity, temperature, pH, oxygen, salinity and conductivity were monitored using a YSI Quatro to ensure sufficient well purging prior to sampling. Groundwater samples were collected from recovery wells using dedicated bailers, to allow for an accurate representation of groundwater without collecting sediment from within the wells. A single duplicate sample and a field blank sample were collected and submitted for laboratory analysis.

Groundwater samples were delivered via chain-of-custody protocol to ALS Environmental Services located in Rochester, NY, a NYSELAP certified laboratory, for testing using EPA Method 8260B for targeted chlorinated volatile organic compounds (VOCs) of concern. Analytical results for each individual monitoring well have been posted in Table 3 for comparative purposes from sampling events completed 2012 – 2018.

3.0 LOCAL GROUNDWATER FLOW CHARACTERIZATION

The Site water table potentiometric surface pattern and groundwater flow direction was determined for November 2018 using elevations measured at each well. Groundwater elevations and well reference elevations were calculated using depth to water values obtained on November 13, 2018. The well gauging values and groundwater elevations are provided in Table 1 – Groundwater Elevations and Field Measurements – November 2018.

The November 2018 groundwater contour map shows a flow pattern similar to groundwater contours observed historically since 2002. Groundwater at the Site is flowing in a northerly direction. Torrance Place is hydraulically down-gradient from the Day Habilitation Center building. The November 2018 depths to groundwater range from 4.90 ft below top of casing (btoc) at MW-2, to 13.00 ft btoc at MW-7. The average depth to groundwater at the wells measured was 8.83 ft btoc, which is a decrease from the average depth to water of the previous sampling event in August (9.84 ft.).

The site-wide average depth to water table decreased by approximately 1.01 ft when compared to the August 2018 sampling event. This decrease in the water table is inferred as seasonal.

Measured depth to water at all gauged monitoring and recovery wells is presented Table 1 and November 2018 Groundwater Contours are presented on Figure 1 – November 2018 Groundwater Contour Map.

4.0 LABORATORY ANALYSIS

4.1 LABORATORY ANALYSIS ON GROUNDWATER SAMPLES

Laboratory analysis was completed on the groundwater samples from 19 monitoring wells and seven (7) recovery wells collected November 13, 2018. Samples were analyzed for VOCs via EPA Method 8260B. Analysis was performed in accordance with the October 2006 OM&M Manual. The following halogenated VOCs were analyzed for:

- Trichloroethene (TCE)
- 1,1,1 Trichloroethane (TCA)
- Cis-1,2-Dichloroethene (Cis-DCE)
- Trans-1,2-Dichloroethene (Trans-DCE)
- Vinyl Chloride (VC)

4.2 MONITORING WELL GROUNDWATER ANALYSIS SUMMARY

The November 2018 analytical results indicate three (3) chlorinated VOCs in monitoring well samples: TCE, Cis-DCE, and Trans-DCE. Chlorinated VOCs were detected in groundwater from seven (7) of the 19 sampled monitoring wells. Analytical results are summarized in Table 2 – November 2018 Analytical Results Summary, which compares detected VOCs and applicable NYSDEC Class GA Standards for each analyte. The complete laboratory analytical reporting package is provided in Appendix A – Laboratory Analytical Results Report

November 2018 Sampling Event. Table 3 – Historic Groundwater Analysis Results Summary includes the historical total VOC concentrations at each well since sampling of the monitoring wells began in 2002.

VOCs were not detected in groundwater from 12 of the sampled monitoring wells.

Groundwater samples from seven (7) monitoring wells had detectable chlorinated VOCs at concentrations above applicable Class GA Standards. The monitoring well with the highest total VOCs, MW-1 (1,080 ppb), is located in the area of historically greatest impacted groundwater.

Concentrations in five (5) of the 19 monitoring well groundwater samples increased when compared to the August 2018 sampling event while concentrations in three (3) of the 19 monitoring well groundwater samples decreased. Concentrations in eleven (11) groundwater samples from monitoring wells had no change. The current sampling analytical results indicate an average site-wide decrease in total VOCs of approximately 85.1% since activation of the GTS in May 2005.

The area of highest impacted groundwater exists at the area centered between monitoring wells MW-1 and MW-11, which has historically indicated the highest levels of VOCs and is inferred as the source area of impacted groundwater. In the area where the plume of impacted groundwater is inferred (monitoring wells MW-1, MW-6, MW-7, MW-11, MW-12, MW-14, MW-15, and MW-17) the current laboratory analysis shows a contaminant reduction in VOC concentrations by an average of approximately 74.6% since groundwater monitoring of these wells began in 2002.

Monitoring well MW-1 decreased in targeted chlorinated VOCs relative to the prior sampling event. The total VOC concentration at monitoring well MW-1 for the November 2018 sampling event was 1,080 parts per billion (ppb), a decrease from the August 2018 value of 1,190 ppb. Since activation of the GTS, detected VOCs at MW-1 have increased by about 40.6%.

Monitoring well MW-11 increased in targeted chlorinated VOCs relative to the prior sampling event. The total VOC concentration at MW-11 for the November 2018 sampling event is 489.3 ppb, an increase from the August 2018 value of 282 ppb. Since activation of the GTS in May 2005, detected VOCs at MW-11 have decreased by 89.5%.

Monitoring well MW-12 increased in targeted chlorinated VOCs relative to the prior sampling event. The total VOC concentration at MW-12 for the November 2018 sampling event is 53 ppb, an increase from the August 2018 value of 25 ppb. MW-12 is nearest to recovery well DR-2, in close proximity to the center of the building. Since activation of the GTS in May 2005, detected VOCs at MW-12 have decreased by about 99.9%.

Monitoring well MW-14 increased in targeted chlorinated VOCs relative to the prior sampling event. The total VOC concentration at MW-14 for the November 2018 sampling event is 30.7 ppb, an increase from the August 2018 value of 22.3 ppb. MW-14 is nearest to recovery well DR-3. Since activation of the GTS in May 2005 detected VOCs at MW-14 have decreased by about 90.3%.

Monitoring well MW-15 decreased in targeted chlorinated VOCs relative to the prior sampling event. The total VOC concentration at MW-15 for the November 2018 sampling event was non-detect (ND), which was a decrease from the August 2018 sampling event, which was 6.5 ppb. MW-15 is nearest to recovery well DR-4. Since activation of the GTS in May 2005, the detected VOCs at MW-15 have decreased almost 100%.

Six (6) groundwater monitoring wells are located along the subject property's north perimeter, down-gradient from the area of impacted groundwater. The north perimeter monitoring wells consist of wells MW-5, MW-6, MW-7, MW-16, MW-17 and MW-21. The current analytical results exhibit an increase in targeted VOCs at the sampled monitoring wells along the north perimeter.

Monitoring wells MW-18, MW-19R and MW-21 are located off-site along Torrance Place. These three (3) wells are considered to be beyond the radius of influence for the Day Habilitation groundwater treatment system.

The current results indicate non-detect levels for MW-18. Monitoring well MW-21 was added to the sampling list at the request of the NYSDEC beginning with the June 2015 sampling event. It was first noted that during the August 2017 sampling event, wells MW-19R and MW-21 were not sampled because they were inaccessible. It was observed that the wells were likely paved over by a re-sealing operation. The wells were still inaccessible and paved over during the November 2018 sampling event.

Laboratory analytical results are included in Appendix A. Monitoring well locations and distribution of analytical results are shown on Figure 2 – November 2018 Distribution of Groundwater Analytical Results: Monitoring Wells.

4.3 SENTRY WELL GROUNDWATER ANALYSIS SUMMARY

Sentry groundwater monitoring wells monitor a separate occurrence of contaminated groundwater at the Gowanda Electronics site (NYSDEC Site 905025), immediately east of Industrial Place and east of the Day Habilitation Center property. The eastern sentry well sampled for this event was only MW-4. The current results indicate non-detect levels for this eastern sentry well.

The Gowanda Electronics impacted groundwater plume may be migrating to an area near Industrial Place and has intermittently impacted MW-19R, but MW-19R is unable to be sampled because it is paved over. The Gowanda Electronics impacted groundwater plume does not appear to extend to the Day Habilitation Center property, based on consistent non-detect values at the eastern sentry wells. Conversely, impacted groundwater from the Day Habilitation Center does not appear to extend off-site to the east toward Industrial Place. According to Mr. Chris Sanson, an Environmental Scientist for Groundwater & Environmental Services, Inc. (GES), an ISCO injection application was implemented for the Gowanda Electronics site in March 2014.

Laboratory analytical results are included in Appendix A. Sentry well locations and analytical results are shown on Figure 2.

4.4 RECOVERY WELL GROUNDWATER ANALYSIS SUMMARY

During the November 2018 sampling event, all of the seven (7) recovery wells were sampled.

The November 2018 analytical results indicate detection of two (2) chlorinated VOCs in recovery well samples: TCE and Cis-DCE. Chlorinated VOCs were detected in samples from all seven (7) of the sampled recovery wells. Total VOCs at the seven (7) recovery wells for which past data is available have decreased overall since activation of the GTS in May 2002. The average reduction in VOCs for the current sampling event is about 47.2% relative to concentrations prior to GTS activation in 2002. Relative percent reductions in total VOCs for all monitoring wells and recovery wells are shown on Table 4 – Percent Reductions in Total Groundwater VOCs.

Recovery well DR-1 decreased in targeted chlorinated VOCs relative to the prior sampling event. The total VOC concentration at DR-1 for the November 2018 sampling event is 1,310 ppb, a decrease from the August 2018 value of 1,510 ppb. The current sampling event indicates an increase in VOCs at DR-1 of 128.5% since activation of the GTS. Recovery well DR-1 is located closest to MW-1 in an area of historically highest concentrations.

Recovery well DR-2 increased in targeted chlorinated VOCs relative to the prior sampling event. The total VOC concentration at DR-2 for the November 2018 sampling event is 216 ppb, an increase from the August 2018 value of 162 ppb. The current sampling event indicates a decrease in VOCs at DR-2 of about 60.7% since activation of the GTS.

Recovery well DR-3 decreased in targeted chlorinated VOCs relative to the prior sampling event. The total VOC concentration at DR-3 for the November 2018 sampling event is 73 ppb, a decrease from the August 2018 value of 87 ppb. The current sampling event indicates a decrease in VOCs at DR-3 of about 52.1% since activation of the GTS.

Recovery well DR-4 decreased in targeted chlorinated VOCs relative to the prior sampling event. The total VOC concentration at DR-4 for the November 2018 sampling event is 37.2 ppb, a decrease from the August 2018 value of 48 ppb. The current sampling event indicates a decrease in VOCs at DR-4 of about 95.7% since activation of the GTS.

Recovery well G-1 decreased in targeted chlorinated VOCs relative to the prior sampling event. The total VOC concentration at G-1 for the November 2018 sampling event was 74.6 ppb, a decrease from the August 2018 value of 77 ppb. The current sampling event indicates a decrease in VOCs at G-1 of 62.8% since activation of the GTS.

Recovery well G-2 decreased in targeted chlorinated VOCs relative to the prior sampling event. The total VOC concentration at G-2 for the November 2018 sampling event was 25 ppb, a decrease from the August 2018 value of 68 ppb. The current sampling event indicates a decrease in VOCs at G-2 of 91.2% since activation of the GTS.

Recovery well G-3 decreased in targeted chlorinated VOCs relative to the prior sampling event. The total VOC concentration at G-3 for the November 2018 sampling event was 15 ppb, a decrease from the August 2018 value of 322 ppb. The current sampling event indicates a decrease in VOCs at G-2 of 96.3% since activation of the GTS.

Laboratory analytical results are included in Appendix A. Recovery well locations and analytical results are shown on Figure 3 – November 2018 Distribution of Groundwater Analytical Results: Recovery Wells.

4.5 QUALITY ASSURANCE AND QUALITY CONTROL SAMPLES

An equipment blank was collected to ensure proper cleaning of the sampling equipment. The equipment blank, designated as EB, was non-detect for chlorinated halogens. In addition, a duplicate blank (labeled as MW-X) was taken from MW-8.

Laboratory analytical results are included in Appendix A.

5.0 REMEDIATION SYSTEM EFFICIENCY

5.1 IMPACT OF THE GTS RECOVERY WELLS

Groundwater control charts for the seven (7) sampled recovery wells and the nearest relative monitoring well were created to illustrate the impact of the GTS on recovery wells at the Day Habilitation Center.

Chart 1 presents a summary of the sampled groundwater recovery wells. Since activation of the GTS in May 2005, all seven (7) sampled groundwater recovery wells have demonstrated a general decrease in VOC concentration.

Chart 2 displays the relationship between monitoring wells MW-1, MW-11 and recovery well DR-1. The current total VOCs at MW-1 (1,080 ppb) show a decrease from the August 2018 sampling event (1,190 ppb). The current total VOCs at MW-11 (489.3 ppb) shows an increase from the August 2018 sampling event (282 ppb). The current total VOCs at DR-1 (1,310 ppb) show a decrease from the August 2018 sampling event (1,510 ppb).

Chart 3 compares laboratory results between recovery well DR-2 and MW-12. These wells are located north of the wells outlined in Chart 1 and represent the northern limit of the highest concentration within the impacted area. The current total VOCs at MW-12 (53 ppb) shows an increase from the August 2018 sampling event (25 ppb). The current total VOCs at recovery well DR-2 (216 ppb) show an increase from the August 2018 sampling event (162 ppb).

Chart 4 compares the relationship between wells DR-3 and MW-14 which are located in the central portion of the Gowanda Day Habilitation building. The current total VOCs at MW-14 (30.7 ppb) show an increase from the August 2018 sampling event (22.3 ppb). The current total VOCs at recovery well DR-3 (73 ppb) show a decrease from the August 2018 sampling event (87 ppb).

Chart 5 compares laboratory results between recovery well DR-4 and MW-15. These wells are located at the center-north portion of the building. The current total VOCs at MW-15 (ND) show a decrease from the August 2018 sampling event (6.5 ppb). The current total VOCs at recovery well DR-4 (37.2 ppb) show a decrease from the August 2018 sampling event (48 ppb).

Chart 6 compares laboratory results between recovery well G-1 and monitoring well MW-17. The recovery well is located in the northern portion of the building and MW-17 is located along the northern property line. The current total VOCs at recovery well MW-17 (218 ppb) show a decrease from the August 2018 sampling event (265 ppb). The current total VOCs at recovery well G-1 (74.6 ppb) show a decrease from the August 2018 sampling event (77 ppb).

Chart 7 compares laboratory results between recovery well G-2 and MW-7 which are located at the northeastern portion of the building. This area is at the apparent western perimeter of the area of impacted groundwater. Recovery well G-2 had a total VOC concentration of 25 ppb, which shows a decrease from the August 2018 sampling event (68 ppb). The November 2018 total VOCs of MW-7 (ND) showed no change from the August 2018 sampling event (ND).

Chart 8 compares laboratory results between recovery well G-3 which is located at the northeastern portion of the building and MW-17 which is located along the northern property boundary. This area is at the western perimeter of the apparent area of impacted groundwater. The current total VOCs at monitoring well MW-17 (218 ppb) showed a decrease from the August 2018 sampling event (265 ppb). The current total VOCs at recovery well G-3 was 15 ppb, a decrease from the August 2018 sampling event (322).

5.2 EXTENT OF IMPACTED GROUNDWATER

The area of highest impacted groundwater is consistent with prior sampling events. The bulk of the contaminant mass appears to be concentrated beneath the building in the source area, in the vicinity of monitoring well MW-1 and MW-11, extending north to recovery well DR-2. Concentration of VOCs in the source area have been reduced as a result of cleanup activities.

When operating, the GTS maintained an area of hydraulic containment for recovery wells within the source area of impacted groundwater. The GTS was successful in hydraulically containing most of the contaminant plume on the property and minimizing further migration. The GTS was not operating during this monitoring period and overall sample results are similar to previous quarterly sampling results. Therefore, residual VOCs in the plume have not migrated and appear to be stabilized when compared to sample results with operation of the GTS during previous monitoring events.

VOCs were not sampled at MW-19R and MW-21 during the November 2018 and August 2018 sampling events due to the fact that they were both paved over and inaccessible, as first reported by Bergmann in the August 2017 Sampling Report.

The redevelopment of wells was performed in fall 2015 to remove sediment from wells at the Site after the ISCO injections. Overall reduction of contaminants in the majority of the monitoring and recovery wells has occurred at the Site when compared to the past ten (10) years of sampling. The following notes are a summary of the meeting held on June 22, 2018 between Bergmann, DASNY, and the NYSDEC.

- Bergmann submitted an Additional Subsurface Investigation Plan (ASIP) consisting of additional soil borings to further delineate the contamination on site and proposed a method of remediation.
- As part of the ASIP, soils will be sampled for the same VOCs that are consistently present in groundwater samples to determine if the contamination is residual in the soils on site.
- Details of the proposed additional investigation are outlined in the Additional Subsurface Investigation Plan dated July 2018 and submitted to DASNY on July 23, 2018.

5.3 FUTURE GROUNDWATER MONITORING AND ANALYSIS ACTIVITIES

The condition of the SVE and GTS was discussed with the NYSDEC representative and it was agreed upon that these systems would be inactivated to allow for groundwater level recovery during the implementation of an ISCO groundwater treatment and subsequent sampling events. Bergmann performed an ISCO RAP in May (round 1) and September (round 2) 2015 to address remaining residual contamination at the Site in lieu of costly repair of the SVE and GTS. The SVE and GTS equipment remains on site in the event that re-activation is required in the future; however, system components may need repair and/or replacement. Prior to restart, three (3) routine quarterly monitoring events will be completed to fulfill the NYSDEC requirements for post ISCO groundwater treatment.

The next site-wide groundwater sampling and laboratory analysis event is scheduled for February 2019. Future sampling and analytical events will be conducted to track the effects of the ISCO injections on impacted groundwater and to evaluate seasonal changes in water table elevations. In addition, the evaluation of groundwater flow pattern and movement of residual impacted groundwater at the site will be monitored and recorded during future sampling events.

TABLES

Table 1 Groundwater Elevations and Field Measurements November 2018
Gowanda Day Habilitation Center
4 Industrial Place, Gowanda, New York
VCA # V-00463-9

	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10
Casing Elevation*	778.23	778.08	778.38	778.43	778.61	781.10	780.94	781.33	782.61	780.02
Depth to Groundwater (btoc)	5.05	4.90	5.40	6.35	10.75	12.65	13.00	8.61	7.90	5.80
Groundwater Elevation	773.18	773.18	772.98	772.08	767.86	768.45	767.94	772.72	774.71	774.22
Well Diameter	2"	2"	2"	2"	2"	2"	2"	2"	2"	2"
Product Thickness	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND
Well Depth (btoc)	16.02	17.15	16.30	15.78	13.95	22.88	21.80	17.65	20.96	19.42
Bottom of Well Elevation	762.21	760.93	762.08	762.65	764.66	758.22	759.14	763.68	761.65	760.60
Thickness of Water Column	10.97	12.25	10.90	9.43	3.20	10.23	8.80	9.04	13.06	13.62
Minimum Purge Volume (gal)	1.8	2.00	1.8	1.5	0.5	1.7	1.4	1.5	2.1	2.2
3 Volumes	5.4	5.99	5.3	4.6	1.6	5.0	4.3	4.4	6.4	6.7
Actual volume purged	5.4	5.99	NS	4.6	1.4	5.0	4.3	NS	NS	NS
Comments	Flush = -0.29'	Flush = -0.30'	Flush = -0.23'	Flush = -0.34'	Flush = -0.24'	Stickup=2.17'	Stickup=2.17'	Stickup=2.84'	Stickup=2.05'	Stickup=2.56'

	MW-11	MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	MW-18	MW-19R	MW-20	MW-21
Casing Elevation	778.58	778.50	778.39	778.43	778.38	780.43	779.85	776.39	NA	778.04	NA
Depth to Groundwater (btoc)	5.70	6.32	6.67	10.36	10.24	12.60	12.65	8.60	NA	5.95	NA
Groundwater Elevation	772.88	772.18	771.72	768.07	768.14	767.83	767.20	767.79	NA	772.09	NA
Well Diameter	2"	2"	2"	2"	2"	2"	2"	2"	NA	2"	NA
Product Thickness	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA
Well Depth (btoc)	15.48	17.38	17.40	18.15	19.80	23.26	25.18	25.0	NA	14.75	NA
Bottom of Well Elevation	763.10	761.12	760.99	760.28	758.58	757.17	754.67	751.39	NA	763.29	NA
Thickness of Water Column	9.78	11.06	10.73	7.79	9.56	10.66	NA	16.40	NA	8.80	NA
Minimum Purge Volume (gal)	1.6	1.8	1.7	1.3	1.6	1.7	NS	2.7	NA	1.4	NA
3 Volumes	4.8	5.4	5.2	3.8	4.7	5.2	NS	8.0	NA	4.3	NA
Actual volume purged	4.8	5.4	NS	3.8	4.7	5.2	NS	8.0	NA	4.3	NA
Comments	Flush = -0.23'	Flush = -0.35'	Flush = -0.48'	Flush = -0.39'	Flush = -0.38	Stickup=2.26'	Stickup=1.18'	Flush =-0.26'	Paved Over	Flush=-0.43'	Paved Over.

	DR-1	DR-2	DR-3	DR-4	G-1	G-2	G-3
Casing Elevation	779.66	779.93	779.78	779.64	779.83	779.72	779.42
Depth to Groundwater (btoc)	6.75	6.51	11.25	11.22	11.43	11.39	9.75
Groundwater Elevation	772.91	773.42	768.53	768.42	768.40	768.33	769.67
Well Diameter	4"	4"	4"	4"	4"	4"	4"
Product Thickness	ND	ND	ND	ND	ND	ND	ND
Well Depth (btoc)	18.06	18.06	20.45	19.69	22.98	20.72	18.15
Bottom of Well Elevation	761.6	761.87	759.33	759.95	756.85	759	761.27
Thickness of Water Column	11.31	11.55	9.20	8.47	11.55	9.17	8.40
Minimum Purge Volume (gal)	7.39	7.54	6.01	5.53	7.54	5.98	5.49
3 Volumes	22.16	22.63	18.02	16.59	22.63	17.94	16.46
Actual volume purged	22.16	22.63	18.02	16.59	22.63	17.94	16.46
Comments	Stickup=0.85'	Stickup=1.06'	Stickup=0.95'	Stickup=0.84'	Stickup=1.03'	Stickup=0.86'	Vaulted well

NOTES

btoc = Below top of casing (inner riser) All measurements are in feet, referenced to Mean Sea Level
NS = Not Sampled
ND = No floating product encountered
Minimum purge volume = 3 X well volume, 0.163 gallon per foot in a 2" diameter well. 0.653 gallon per foot in a 4" diameter well.
Monitoring well MW-19 was removed and the area restored on July 23, 2003 immediately after the well was developed, purged of 3 volumes and sampled.
The borehole for MW-19 was backfilled with a cement-bentonite grout after the PVC screening and casing was successfully removed.
Wells MW-19R, MW-20 and MW-21 were installed in October 2004, MW-19R and MW-21 have been paved over.

Table 2 November 2018 Analytical Results Summary
Gowanda Day Habilitation Center
4 Industrial Place, Gowanda, New York
VCA # V-00463-9

Monitoring Well MW-1 Sample Date: 11/13/2018
Sampling Events

Analyte in ppb	Aug 2018	Nov 2018	NYS Guidance Value
TCE	**930**	**900**	5.0
CIS	**260**	**180**	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	**1,190**	**1,080**	

Monitoring Well MW-2 Sample Date: 11/13/2018
Sampling Events

Analyte in ppb	Aug 2018	Nov 2018	NYS Guidance Value
TCE	ND	ND	5.0
CIS	ND	ND	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	ND	ND	

Monitoring Well MW-3 Sample Date: 11/13/2018
Sampling Events

Analyte in ppb	Ag 2018	Nov 2018	NYS Guidance Value
TCE	ND	ND	5.0
CIS	ND	ND	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	ND	ND	

Monitoring Well MW-4 Sample Date: 11/13/2018
Sampling Events

Analyte in ppb	Aug 2018	Nov 2018	NYS Guidance Value
TCE	ND	ND	5.0
CIS	ND	ND	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	ND	ND	

Monitoring Well MW-5 Sample Date: 11/13/2018
Sampling Events

Analyte in ppb	Aug 2018	Nov 2018	NYS Guidance Value
TCE	ND	ND	5.0
CIS	ND	ND	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	ND	ND	

Monitoring Well MW-6 Sample Date: 11/13/2018
Sampling Events

Analyte in ppb	Aug 2018	Nov 2018	NYS Guidance Value
TCE	ND	ND	5.0
CIS	**77**	**81**	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	**77**	**81**	

ND = Non-detect
NS = Not Sampled. No analysis performed during this sampling event.
Results expressed as parts per billion (ppb).
Bold results exceed NYSDEC TOGS 1.1.1 Class GA, June 1998 re-issue (MTBE = April 2000 Addendum Guidance Value)

Table 2 November 2018 Analytical Results Summary
Gowanda Day Habilitation Center
4 Industrial Place, Gowanda, New York
VCA # V-00463-9

Monitoring Well MW-7 Sample Date: 11/13/2018
Sampling Events

Analyte in ppb	Aug 2018	Nov 2018	NYS Guidance Value
TCE	ND	ND	5.0
CIS	ND	ND	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	ND	ND	

Monitoring Well MW-8 Sample Date: 11/13/2018
Sampling Events

Analyte in ppb	Aug 2018	Nov 2018	NYS Guidance Value
TCE	ND	ND	5.0
CIS	ND	ND	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	ND	ND	

Monitoring Well MW-9 Sample Date: 11/13/2018
Sampling Events

Analyte in ppb	Aug 2018	Nov 2018	NYS Guidance Value
TCE	ND	ND	5.0
CIS	ND	ND	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	ND	ND	

Monitoring Well MW-10 Sample Date: 11/13/2018
Sampling Events

Analyte in ppb	Aug 2018	Nov 2018	NYS Guidance Value
TCE	ND	ND	5.0
CIS	ND	ND	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	ND	ND	

Monitoring Well MW-11 Sample Date: 11/13/2018
Sampling Events

Analyte in ppb	Aug 2018	Nov 2018	NYS Guidance Value
TCE	**160**	**290**	5.0
CIS	**120**	**190**	5.0
TRANS	**2.1**	**9.3**	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	**282**	**489.3**	

Monitoring Well MW-12 Sample Date: 11/13/2018
Sampling Events

Analyte in ppb	Aug 2018	Nov 2018	NYS Guidance Value
TCE	**5.0**	**18**	5.0
CIS	**20**	**35**	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	**25**	**53**	

ND = Non-detect
NS = Not Sampled. No analysis performed during this sampling event.
Results expressed as parts per billion (ppb).
Bold results exceed NYSDEC TOGS 1.1.1 Class GA, June 1998 re-issue (MTBE = April 2000 Addendum Guidance Value)

Table 2 November 2018 Analytical Results Summary
Gowanda Day Habilitation Center
4 Industrial Place, Gowanda, New York
VCA # V-00463-9

Monitoring Well MW-13 Sample Date: 11/13/2018
Sampling Events

Analyte in ppb	Aug 2018	Nov 2018	NYS Guidance Value
TCE	ND	ND	5.0
CIS	ND	ND	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	ND	ND	

Monitoring Well MW-14 Sample Date: 11/13/2018
Sampling Events

Analyte in ppb	Aug 2018	Nov 2018	NYS Guidance Value
TCE	**15**	**21**	5.0
CIS	**7.3**	**9.7**	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	**22.3**	**30.7**	

Monitoring Well MW-15 Sample Date: 11/13/2018
Sampling Events

Analyte in ppb	Aug 2018	Nov 2018	NYS Guidance Value
TCE	**6.5**	ND	5.0
CIS	ND	ND	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	**6.5**	ND	

Monitoring Well MW-16 Sample Date: 11/13/2018
Sampling Events

Analyte in ppb	Aug 2018	Nov 2018	NYS Guidance Value
TCE	ND	ND	5.0
CIS	**10**	**41**	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	**10**	**41**	

Monitoring Well MW-17 Sample Date: 11/13/2018
Sampling Events

Analyte in ppb	Aug 2018	Nov 2018	NYS Guidance Value
TCE	**45**	**38**	5.0
CIS	**220**	**180**	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	**265**	**218**	

Monitoring Well MW-18 Sample Date: 11/13/2018
Sampling Events

Analyte in ppb	Aug 2018	Nov 2018	NYS Guidance Value
TCE	ND	ND	5.0
CIS	ND	ND	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	ND	ND	

ND = Non-detect
NS = Not Sampled. No analysis performed during this sampling event.
Results expressed as parts per billion (ppb).
Bold results exceed NYSDEC TOGS 1.1.1 Class GA, June 1998 re-issue (MTBE = April 2000 Addendum Guidance Value)

Table 2 November 2018 Analytical Results Summary
Gowanda Day Habilitation Center
4 Industrial Place, Gowanda, New York
VCA # V-00463-9

Monitoring Well MW-19R Sample Date: NS
Sampling Events

Analyte in ppb	Aug 2018	Nov 2018	NYS Guidance Value
TCE	NS	NS	5.0
CIS	NS	NS	5.0
TRANS	NS	NS	5.0
VC	NS	NS	2.0
TCA	NS	NS	5.0
Total VOCs	NS	NS	

Monitoring Well MW-20 Sample Date: 11/13/2018
Sampling Events

Analyte in ppb	Aug 2018	Nov 2018	NYS Guidance Value
TCE	ND	ND	5.0
CIS	ND	ND	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	ND	ND	

Monitoring Well MW-21 Sample Date: NS
Sampling Events

Analyte in ppb	Aug 2018	Nov 2018	NYS Guidance Value
TCE	NS	NS	5.0
CIS	NS	NS	5.0
TRANS	NS	NS	5.0
VC	NS	NS	2.0
TCA	NS	NS	5.0
Total VOCs	NS	NS	

ND = Non-detect
NS = Not Sampled. No analysis performed during this sampling event.
Results expressed as parts per billion (ppb).
Bold results exceed NYSDEC TOGS 1.1.1 Class GA, June 1998 re-issue (MTBE = April 2000 Addendum Guidance Value)

Table 2 November 2018 Analytical Results Summary
Gowanda Day Habilitation Center
4 Industrial Place, Gowanda, New York
VCA # V-00463-9

Recovery Well DR-1 Sample Date: 11/13/2018
Sampling Events

Analyte in ppb	Aug 2018	Nov 2018	NYS Guidance Value
TCE	**1300**	**1100**	5.0
CIS	**210**	**210**	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	**1,510**	**1,310**	

Recovery Well DR-2 Sample Date: 11/13/2018
Sampling Events

Analyte in ppb	Aug 2018	Nov 2018	NYS Guidance Value
TCE	**32**	**46**	5.0
CIS	**130**	**170**	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	**162**	**216**	

Recovery Well DR-3 Sample Date: 11/13/2018
Sampling Events

Analyte in ppb	Aug 2018	Nov 2018	NYS Guidance Value
TCE	**24**	**31**	5.0
CIS	**63**	**42**	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	**87**	**73**	

Recovery Well DR-4 Sample Date: 11/13/2018
Sampling Events

Analyte in ppb	Aug 2018	Nov 2018	NYS Guidance Value
TCE	**29**	**28**	5.0
CIS	**19**	**9.2**	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	**48**	**37.2**	

Recovery Well G-1 Sample Date: 11/13/2018
Sampling Events

Analyte in ppb	Aug 2018	Nov 2018	NYS Guidance Value
TCE	ND	**6.6**	5.0
CIS	**77**	**68**	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	**77**	**74.6**	

Recovery Well G-2 Sample Date: 11/13/2018
Sampling Events

Analyte in ppb	Aug 2018	Nov 2018	NYS Guidance Value
TCE	ND	ND	5.0
CIS	**68**	**25**	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	**68**	**25**	

ND = Non-detect
NS = Not Sampled. No analysis performed during this sampling event.
Results expressed as parts per billion (ppb).
Bold results exceed NYSDEC TOGS 1.1.1 Class GA, June 1998 re-issue (MTBE = April 2000 Addendum Guidance Value)

Table 2 November 2018 Analytical Results Summary
Gowanda Day Habilitation Center
4 Industrial Place, Gowanda, New York
VCA # V-00463-9

Recovery Well G-3 Sample Date: NS
Sampling Events

Analyte in ppb	Aug 2018	Nov 2018	NYS Guidance Value
TCE	**52**	**8.8**	5.0
CIS	**270**	**6.2**	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	**322**	**15**	

Duplicate Blank (MW-8) Sample Date: 11/13/2018

Sampling Events

Analyte in ppb	Nov 2018	NYS Guidance Value
TCE	ND	5.0
CIS	ND	5.0
TRANS	ND	5.0
VC	ND	2.0
TCA	ND	5.0
Total VOCs	ND	

Equipment Blank Sample Date: 11/13/2018
Sampling Events

Analyte in ppb	Aug 2018	Nov 2018	NYS Guidance Value
TCE	ND	ND	5.0
CIS	ND	ND	5.0
TRANS	ND	ND	5.0
VC	ND	ND	2.0
TCA	ND	ND	5.0
Total VOCs	ND	ND	

ND = Non-detect
NS = Not Sampled. No analysis performed during this sampling event.
Results expressed as parts per billion (ppb).
Bold results exceed NYSDEC TOGS 1.1.1 Class GA, June 1998 re-issue (MTBE = April 2000 Addendum Guidance Value)

Table 3 Historic Groundwater Analysis Results Summary
Gowanda Day Habilitation Center
4 Industrial Place, Gowanda, New York
VCA # V-00463-9

MONITORING WELLS

Monitoring Well Number	Total VOCs Nov 2018 (ppb)	Total VOCs August 2018 (ppb)	Total VOCs May 2018 (ppb)	Total VOCs April 2018 (ppb)	Total VOCs Nov 2017 (ppb)	Total VOCs Aug 2017 (ppb)	Total VOCs Nov 2016 (ppb)	Total VOCs Sep 2016 (ppb)	Total VOCs Jun 2016 (ppb)	Total VOCs Nov 2015 (ppb)	Total VOCs Aug 2015 (ppb)	Total VOCs Jun 2015 (ppb)	Total VOCs Mar 2015 (ppb)	Total VOCs Nov 2014 (ppb)	Total VOCs Sep 2014 (ppb)	Total VOCs Jun 2014 (ppb)	Total VOCs Mar 2014 (ppb)	Total VOCs Dec 2013 (ppb)	Total VOCs Jul 2013 (ppb)	Total VOCs Apr 2013 (ppb)	Total VOCs Dec 2012 (ppb)	Total VOCs Jun 2012 (ppb)	Total VOCs Mar 2012 (ppb)
MW-1	1,080	1,190	1,110	374	1013	1,210	1,467	838	580	1,530	1,470	350	430	300	420	990	990	1,740	830	910	1,440	528	889
MW-2	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-3	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-5	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-6	81	84	77	76	100	91	87	120	100	120	96	86	81	110	110	96	94	130	99	93	99	86.7	85.7
MW-7	ND	ND	ND	ND	5.8	29	110	62	83	49	130	58	ND	180	190	29	ND	ND	18	ND	ND	151.56	30.5
MW-8	ND	ND	ND	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-9	ND	ND	ND	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-10	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-11	489.3	282	489	1,160	470	525	646	445	550	1,060	630	444	500	451	375	450	710	880	510	570	790	498	617
MW-12	53	25	100	113	31	40	7.1	7.8	15.8	28.8	52	97	120	126	136	200	212	173	149.3	186.6	142	86.5	148.22
MW-13	ND	ND	ND	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-14	30.7	22.3	22.8	28	38	22.1	76	100	57	81	96	52	99	68	68	54	73	94	49	71	47	39.7	76.6
MW-15	ND	6.5	ND	ND	ND	7.4	11	23.8	11	9.9	14	8.1	9.8	32	31	6.1	ND	6.8	7	ND	12.9	26.26	6.25
MW-16	41	10	41	43	32	36	14	20	37	31	13	6.8	ND	5.2	9.4	21	24	20	8.4	24	18	4.36	12.2
MW-17	218	265	112.5	5.1	222	396	375	465	425	460	410	NS	336	394	410	339	167	420	400	21.3	430	381	260.1
MW-18	ND	ND	ND	ND	6.3	ND	10	26	6.9	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND	ND	ND	16.6	2.33
MW-19R	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.5	ND	ND
MW-20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-21	NS	NS	NS	NS	NS	NS	17	39	8.7	20	20	10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-X (DUP)	ND	ND	434	NS	490	DWS	1,705	879	550	1,720	410	360	407	300	400	870	990	1,850	540	186.8	1,450	521	913
EB	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

RECOVERY WELLS

Recovery Well Number	Total VOCs Nov 2018 (ppb)	Total VOCs August 2018 (ppb)	Total VOCs May 2018 (ppb)	Total VOCs April 2018 (ppb)	Total VOCs Nov 2017 (ppb)	Total VOCs Aug 2017 (ppb)	Total VOCs Nov 2016 (ppb)	Total VOCs Sep 2016 (ppb)	Total VOCs Jun 2016 (ppb)	Total VOCs Nov 2015 (ppb)	Total VOCs Aug 2015 (ppb)	Total VOCs Jun 2015 (ppb)	Total VOCs Mar 2015 (ppb)	Total VOCs Nov 2014 (ppb)	Total VOCs Sep 2014 (ppb)	Total VOCs Jun 2014 (ppb)	Total VOCs Mar 2014 (ppb)	Total VOCs Dec 2013 (ppb)	Total VOCs Jul 2013 (ppb)	Total VOCs Apr 2013 (ppb)	Total VOCs Dec 2012 (ppb)	Total VOCs Jun 2012 (ppb)	Total VOCs Mar 2012 (ppb)
DR-1	1,310	1,510	1,319	1,070	1540	1,970	617	610	910	319	160	NS	21.7	63	55	75	132	87	73	82	43	29.38	673
DR-2	216	162	128	130	181	199	137	218	215	199	187	291	259	162	224	231	207	302	256	293	19	229.9	305.3
DR-3	73	87	125.4	34	48	NS	98	154	62	45	76	83	55	181	210	83	89	123	62	73	42	116.96	24.9
DR-4	37.2	48	31.2	31.6	46	52	79	95	63	94	110	71	147	156	148	96	64	68	79	37	90	122.6	ND
G-1	74.6	77	40	22	70	73.5	85	105.6	59.7	80.3	ND	68	146	101	105	90	78	96.2	69.1	55.8	52.6	68.55	65.58
G-2	25	68	50	46	8.5	NS	NS	ND	NS	NS	28	NS	48	34	37	52	14	68	81	50	132.2	75.3	41.9
G-3	15	322	NS	NS	NS	NS	293	404	420	262	370	NS	NS	NS	NS	NS	82	NS	11	25	41.6	147.3	44.2

NS= This well not included in this sampling event.
ND = Not Detected, results less than Method Detection Limit.
Impacted north property line wells: MW-5, MW-6, MW-7, MW-16, MW-17, MW-21
All compounds are measured in parts per billion (ppb).
VOC - Volatile Organic Compounds.
DUP - Duplicate Sample
EB - Equipment/Field Blank Sample
* - Sample was broken in transit and not able to be analyzed
DWS- Different Well Sampled than previosuly tested.

Table 4 Percent Reductions in Total Groundwater VOCs
Gowanda Day Habilitation Center
4 Industrial Place, Gowanda, New York
VCA # V-00463-9

The Groundwater Treatment System was activated in May 2005

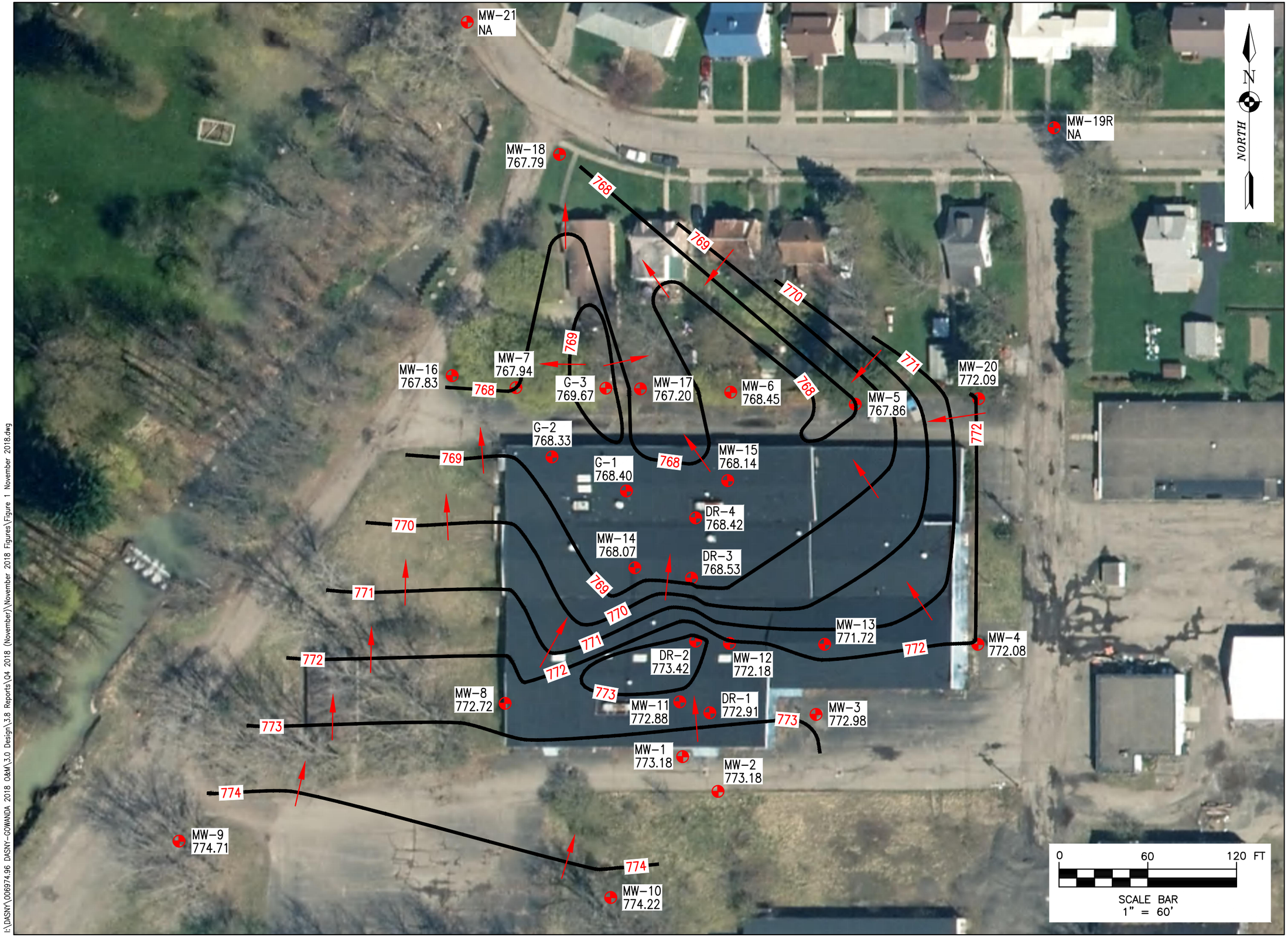
Monitoring Well	% Reduction 2002 to Nov 2018	% Reduction 2002 to Aug 2018	% Reduction 2002 to May 2018	% Reduction 2002 to April 2018	% Reduction 2002 to Nov 2017	% Reduction 2002 to Aug 2017	% Reduction 2002 to Nov 2016	% Reduction 2002 to Sep 2016	% Reduction 2002 to Jun 2016	% Reduction 2002 to Nov 2015	% Reduction 2002 to Aug 2015	% Reduction 2002 to Jun 2015	% Reduction 2002 to Mar 2015	% Reduction 2002 to Nov 2014	% Reduction 2002 to Sep 2014	% Reduction 2002 to Jun 2014	% Reduction 2002 to Mar 2014	% Reduction 2002 to Dec 2013	% Reduction 2002 to Jul 2013	% Reduction 2002 to Apr 2013	% Reduction 2002 to Dec 2012	% Reduction 2002 to Jun 2012	% Reduction 2002 to Mar 2012
MW-1†	-40.6%	-54.9%	-44.5%	51.3%	-39.90%	-57.6%	-48.0%	-9.1%	24.5%	-99.2%	-91.4%	54.4%	44.0%	60.9%	45.3%	-28.9%	-28.9%	-126.6%	-8.1%	-19.5%	-87.5%	31.3%	-15.8%
MW-2	100%	100%	100%	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled
MW-3	100%	100%	100%	100%	100%	100.0%	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled
MW-4	100%	100%	100%	100%	100%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.00%	100.0%	100.0%
MW-5	100%	100%	100%	100%	100%	100.0%	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled
MW-6	100%	-83.3%	15.4%	15.4%	-84.60%	15.4%	81.3%	70.4%	75.4%	70.4%	76.4%	78.8%	80.0%	72.9%	72.9%	76.4%	76.8%	68.0%	75.6%	77.1%	75.6%	78.6%	78.9%
MW-7	80.0%	79.3%	81.0%	81.3%	98.70%	93.6%	75.6%	86.2%	81.6%	89.1%	71.1%	87.1%	100.0%	60.0%	57.8%	93.6%	100.0%	100.0%	96.0%	100.0%	100.0%	66.3%	93.2%
MW-8	100%	100%	100%	100%	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled
MW-9	100%	100%	100%	100%	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled
MW-10	100%	100%	100%	100%	100%	100.0%	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled
MW-11	89.5%	93.9%	89.5%	75.0%	89.20%	99.1%	86.1%	90.4%	88.2%	77.2%	86.4%	90.4%	89.2%	90.3%	91.9%	90.3%	84.7%	81.1%	89.0%	87.7%	83.0%	89.3%	86.7%
MW-12	99.6%	99.8%	99.2%	99.1%	99.80%	75.0%	99.9%	99.9%	99.9%	99.8%	99.6%	99.2%	99.1%	99.0%	98.4%	98.4%	98.3%	98.6%	98.8%	98.5%	98.9%	99.3%	98.8%
MW-13	100%	100%	100%	100%	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled
MW-14	90.3%	92.9%	92.8%	91.1%	87.90%	2.3%	75.9%	68.3%	81.9%	74.3%	69.5%	83.5%	68.6%	78.4%	78.4%	82.9%	76.8%	70.2%	84.4%	77.5%	85.1%	87.4%	75.7%
MW-15	100%	99.1%	100%	100%	100%	99.0%	98.5%	96.7%	98.5%	98.6%	98.1%	98.9%	98.7%	95.6%	95.8%	99.2%	100.0%	99.1%	99.0%	100.0%	98.2%	96.4%	99.1%
MW:16*	19.9%	80.5%	19.9%	2.3%	2.80%	2.3%	72.7%	60.9%	27.7%	39.5%	74.6%	86.7%	100.0%	89.8%	81.6%	59.0%	53.1%	60.9%	77.9%	36.8%	52.6%	88.5%	67.9%
MW-17*	78.4%	73.8%	88.9%	99.5%	78*	2.3%	62.9%	54.0%	58.0%	54.5%	59.4%	Not Sampled	66.8%	61.0%	59.4%	66.5%	83.5%	58.5%	50.6%	97.4%	46.9%	53.0%	67.9%
MW-18:*	100%	100%	100%	100%	100%	100.0%	97.4%	93.4%	98.2%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	Not Sampled	100.0%	100.0%	100.0%	89.6%	98.5%
MW-19 R*	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	75.0%	99.0%	99.0%
MW-20**	100%	100%	100%	100%	100%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	99.4%	99.4%	99.4%
MW-21**	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	34.6%	-50.0%	66.5%	23.1%	23.1%	61.5%	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled
* Well installed 2003																							
** Well Installed 2004																							
Site-Wide reduction:	85.1%	78.0%	81.2%	84.2%	67.60%	62.1%	74.1%	68.7%	78.6%	66.2%	69.1%	87.7%	88.2%	85.2%	83.2%	79.8%	80.3%	67.5%	81.8%	81.2%	71.3%	82.9%	80.7%
Impacted Groundwater Plume Area Only:	74.6%	72.1%	65.3%	76.6%	51.40%	41.1%	66.5%	69.6%	76.0%	58.1%	58.6%	84.6%	80.8%	77.3%	75.0%	72.3%	73.9%	82.2%	73.2%	77.3%	62.5%	75.2%	73.1%

Plume Area = MW-1, MW-11, MW-12, MW-14, MW-15, MW-7, MW-17, MW-6
% reduction = percent reduction in total Volatile Organic Compounds (VOCs) since groundwater monitoring was initiated
†Negative values indicate an increase in total VOCs since monitoring commenced in 2002. The percent increase in total groundwater VOCs is shown below for MW-1.

Recovery Well	% Reduction 2002 to Nov 2018	% Reduction 2002 to Aug 2018	% Reduction 2002 to May 2018	% Reduction 2002 to April 2018	% Reduction 2002 to Nov 2017	% Reduction 2002 to Aug 2017	% Reduction 2002 to Nov 2016	% Reduction 2002 to Sep 2016	% Reduction 2002 to Jun 2016	% Reduction 2002 to Nov 2015	% Reduction 2002 to Aug 2015	% Reduction 2002 to Jun 2015	% Reduction 2002 to Mar 2015	% Reduction 2002 to Nov 2014	% Reduction 2002 to Sep 2014	% Reduction 2002 to Jun 2014	% Reduction 2002 to Mar 2014	% Reduction 2002 to Dec 2013	% Reduction 2002 to Jul 2013	% Reduction 2002 to Apr 2013	% Reduction 2002 to Dec 2012	% Reduction 2002 to Jun 2012	% Reduction 2002 to Mar 2012
DR-1	-128.5%	-163.3%	-130.0%	-86.6%	-243.6%	-243.6%	-7.6%	-6.4%	-58.7%	44.4%	72.1%	Not Sampled	96.2%	89.0%	90.4%	86.9%	77.0%	84.8%	99.1%	99.0%	99.5%	99.8%	91.6%
DR-2	60.7%	70.5%	76.7%	76%	63.8%	63.8%	75.1%	60.3%	60.9%	63.8%	66.0%	47.0%	52.8%	70.5%	59.2%	58.0%	62.3%	45.0%	87.2%	85.4%	99.1%	88.5%	83.9%
DR-3	52.1%	43.0%	17.8%	78%	68.5%	Not Sampled	35.7%	-1.0%	59.3%	70.5%	50.2%	45.6%	63.9%	-18.7%	-37.7%	45.6%	41.6%	19.3%	95.8%	95.1%	97.2%	92.1%	98.3%
DR-4	95.7%	94.4%	96.4%	96%	93.9%	93.9%	90.8%	88.9%	92.7%	89.1%	87.2%	91.7%	82.9%	81.8%	82.8%	88.8%	92.5%	90.8%	95.5%	97.9%	94.9%	93.1%	100.0%
G-1	62.8%	61.7%	80.1%	80%	74.1%	74.1%	57.7%	47.4%	92.7%	60.0%	100.0%	66.1%	27.3%	49.8%	47.7%	55.0%	61.3%	65.6%	87.3%	89.8%	90.3%	87.4%	88.0%
G-2	91.2%	76.0%	82.4%	84%	100.0%	Not Sampled	Not Sampled	100.0%	Not Sampled	Not Sampled	90.1%	Not Sampled	83.1%	88.0%	86.9%	81.7%	95.1%	71.4%	79.0%	87.0%	65.7%	80.4%	89.1%
G-3	96.3%	20.1%	Not Sampled	Not Sampled	Not Sampled	Not Sampled	27.3%	-0.2%	-4.2%	35.0%	8.2%	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	79.7%	NA	NA	NA	NA	NA	NA
Overall Reduction	47.2%	28.9%	37.2%	54.6%	60.4%	40.4%	46.5%	41.3%	40.4%	60.4%	67.7%	62.6%	67.7%	60.1%	54.9%	69.3%	72.8%	62.8%	90.7%	92.3%	91.1%	90.2%	91.8%

*Sampling of recovery wells initiated in 2005

FIGURES



I:\DASNY\006974.96 DASNY-GOWANDA 2018 O&M\3.0 Design\3.8 Reports\Q4 2018 (November)\November 2018 Figures\Figure 1 November 2018.dwg

DASNY
Gowanda Day Habilitation Center

4 Industrial Place
Gowanda, New York

BERGMANN
ARCHITECTS ENGINEERS PLANNERS

Bergmann Associates, Architects, Engineers, Landscape Architects & Surveyors, D.P.C.
280 East Broad Street
Suite 200
Rochester, NY 14604

office: 585.232.5135
fax: 585.232.4652

www.bergmannpc.com

REVISIONS

NO.	DATE	DESCRIPTION	REV.	CK'D

Project Manager: S. DEMEO	Checked By: S. DEMEO
Designed By:	Drawn By: C. WOOD
Date Issued: 12/27/2018	Scale: 1" = 60'
Project Number: 6974.96	

NOVEMBER 2018 WATER LEVEL CONTOUR MAP

Drawing Number:

FIGURE 1

DASNY

Gowanda Day Habilitation Center

4 Industrial Place
Gowanda, NY

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Figure 2

November 2018 Distribution of Groundwater Analytical Results: Monitoring Wells

0 25 50 75 100
Feet

N

DASNY

Gowanda Day Habilitation Center

4 Industrial Place
Gowanda, NY

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Figure 3

November 2018 Distribution of Groundwater Analytical Results: Recovery Wells

0 25 50 75 100
Feet

N

CHARTS

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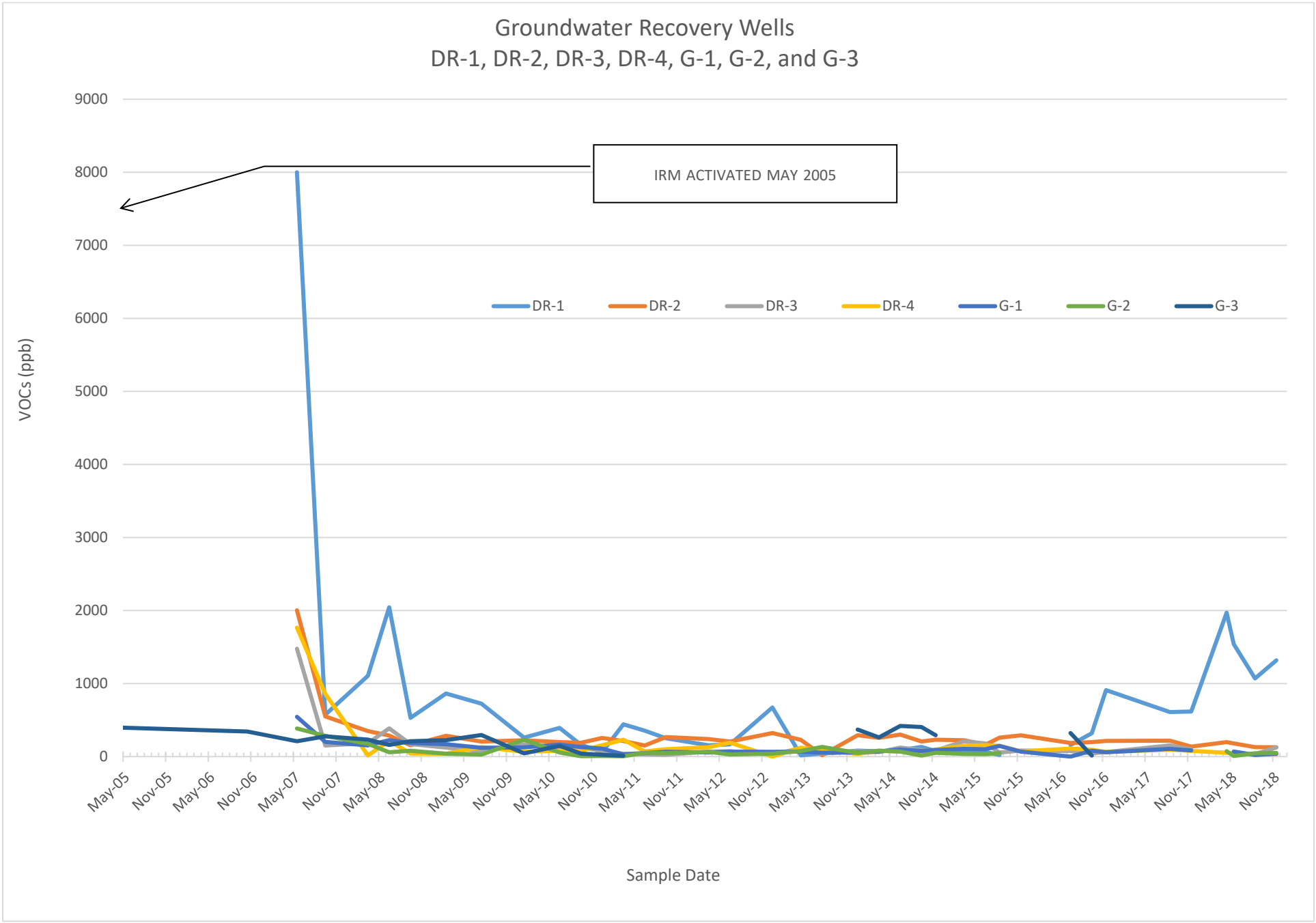

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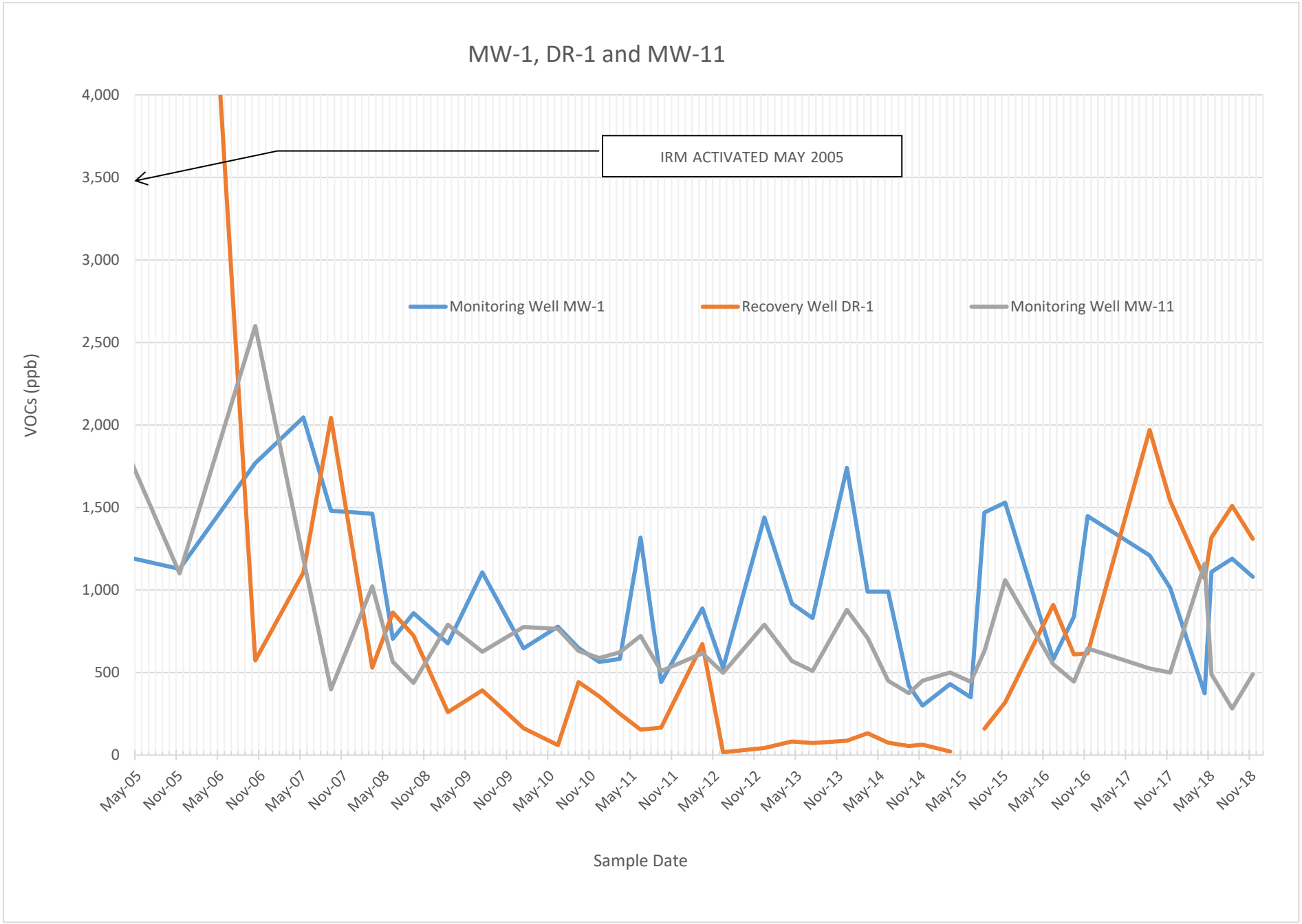

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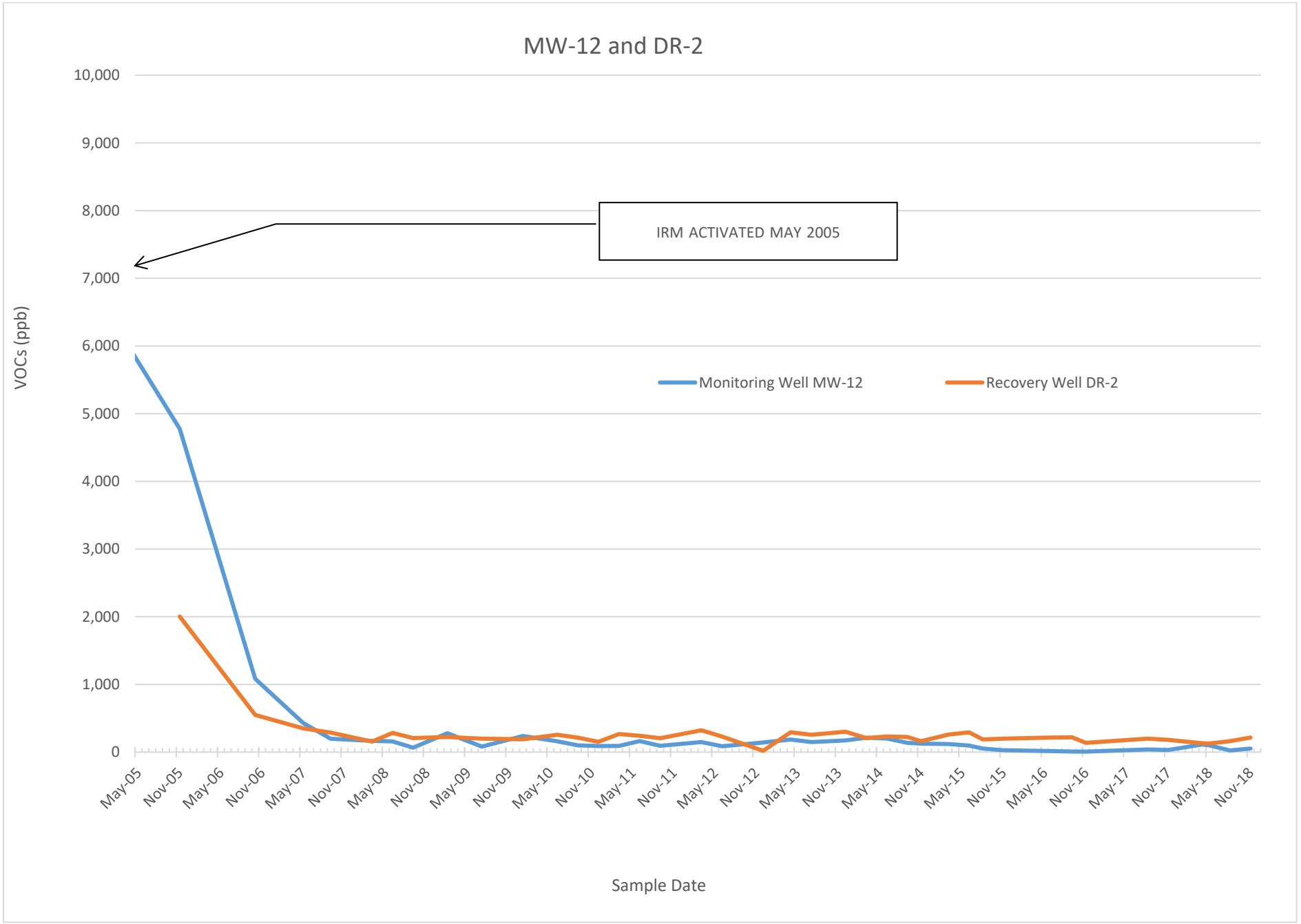

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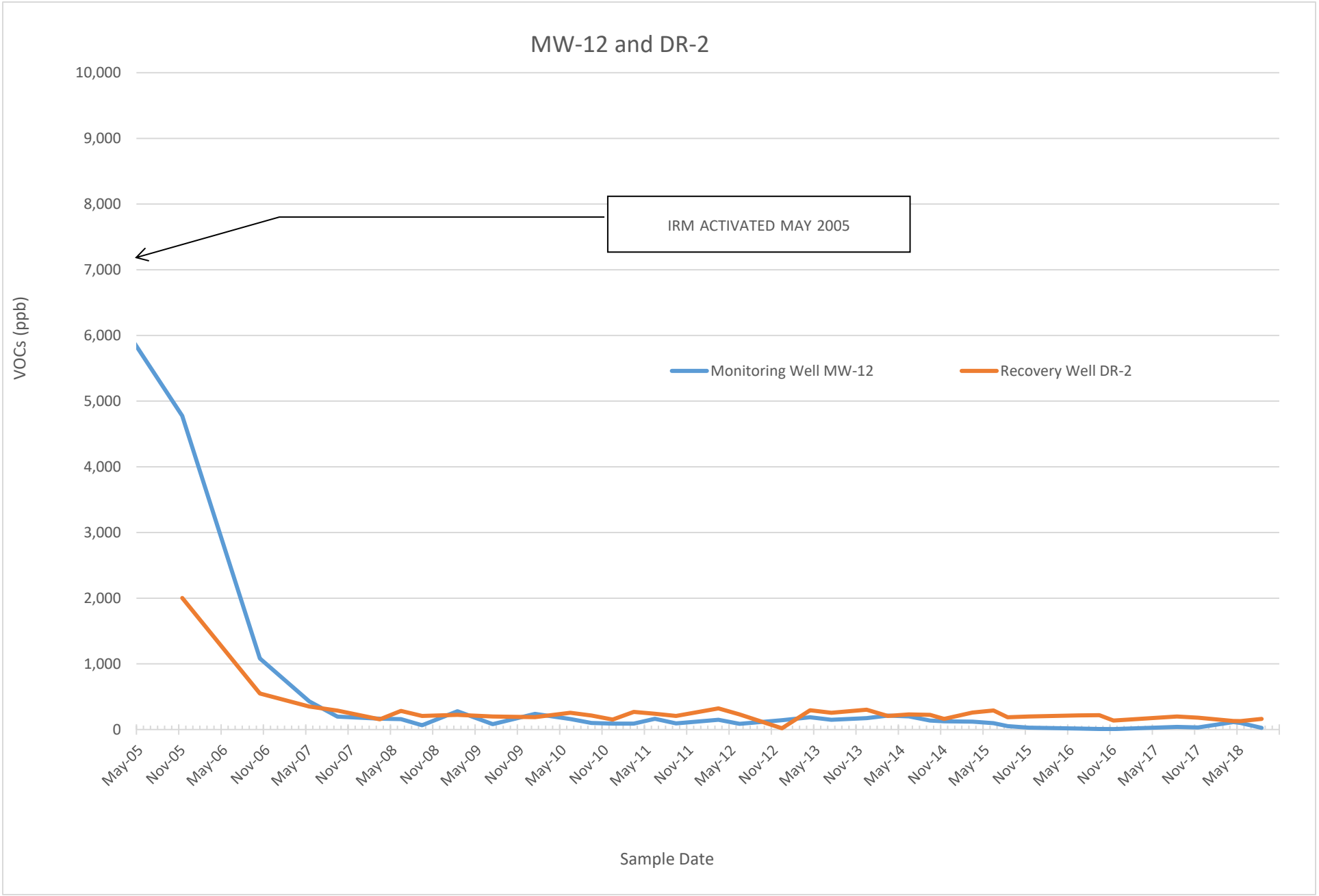

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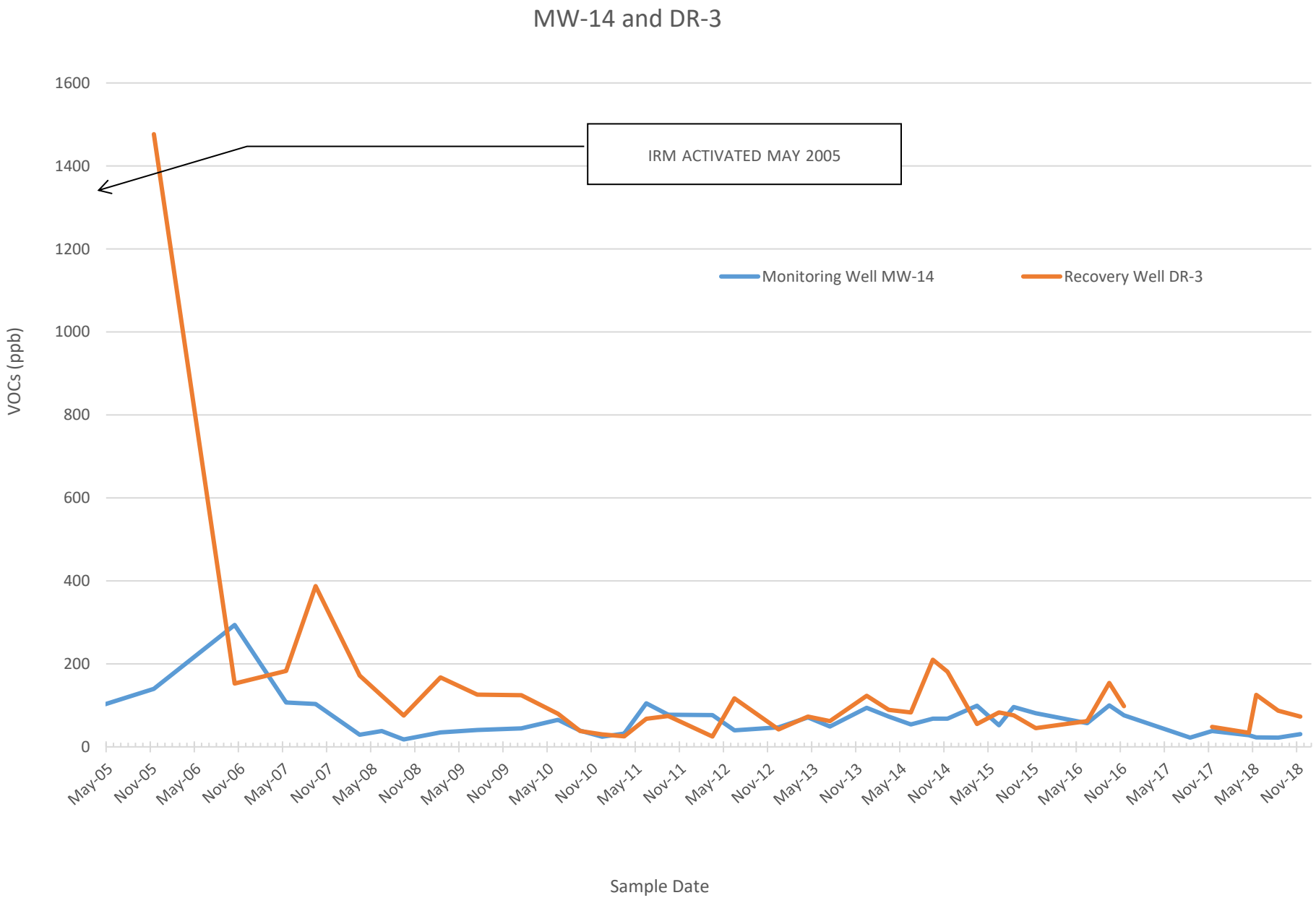

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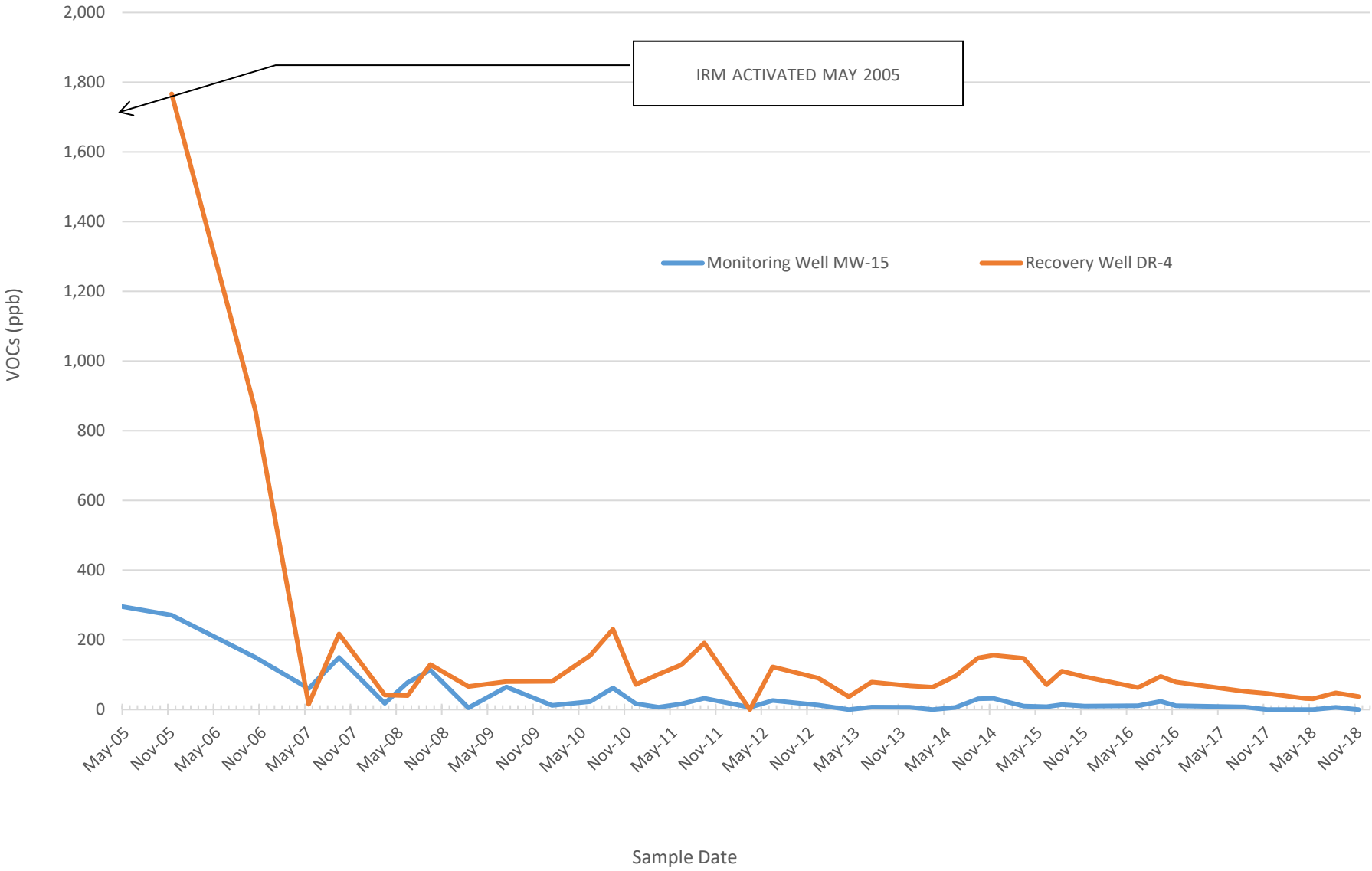

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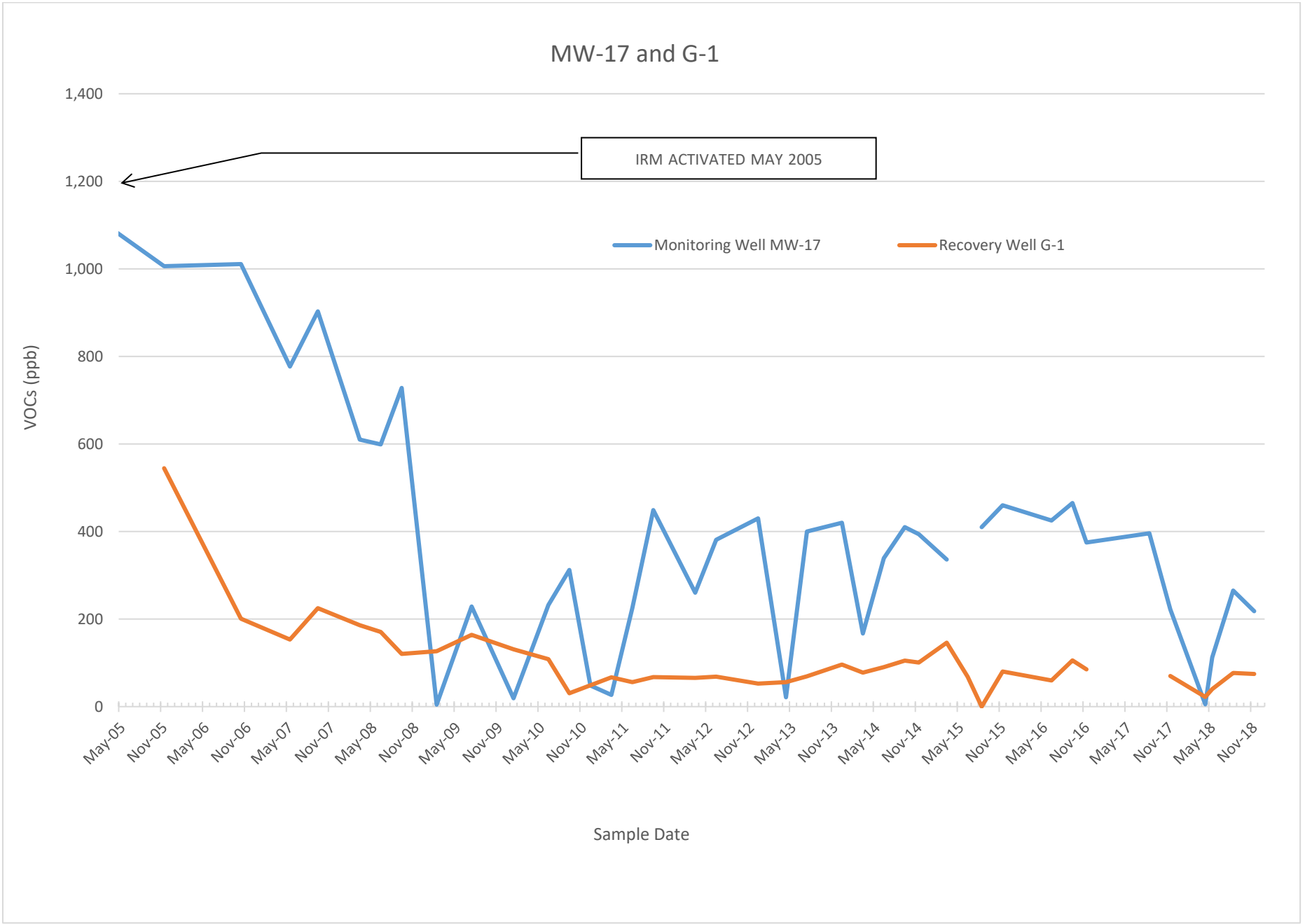

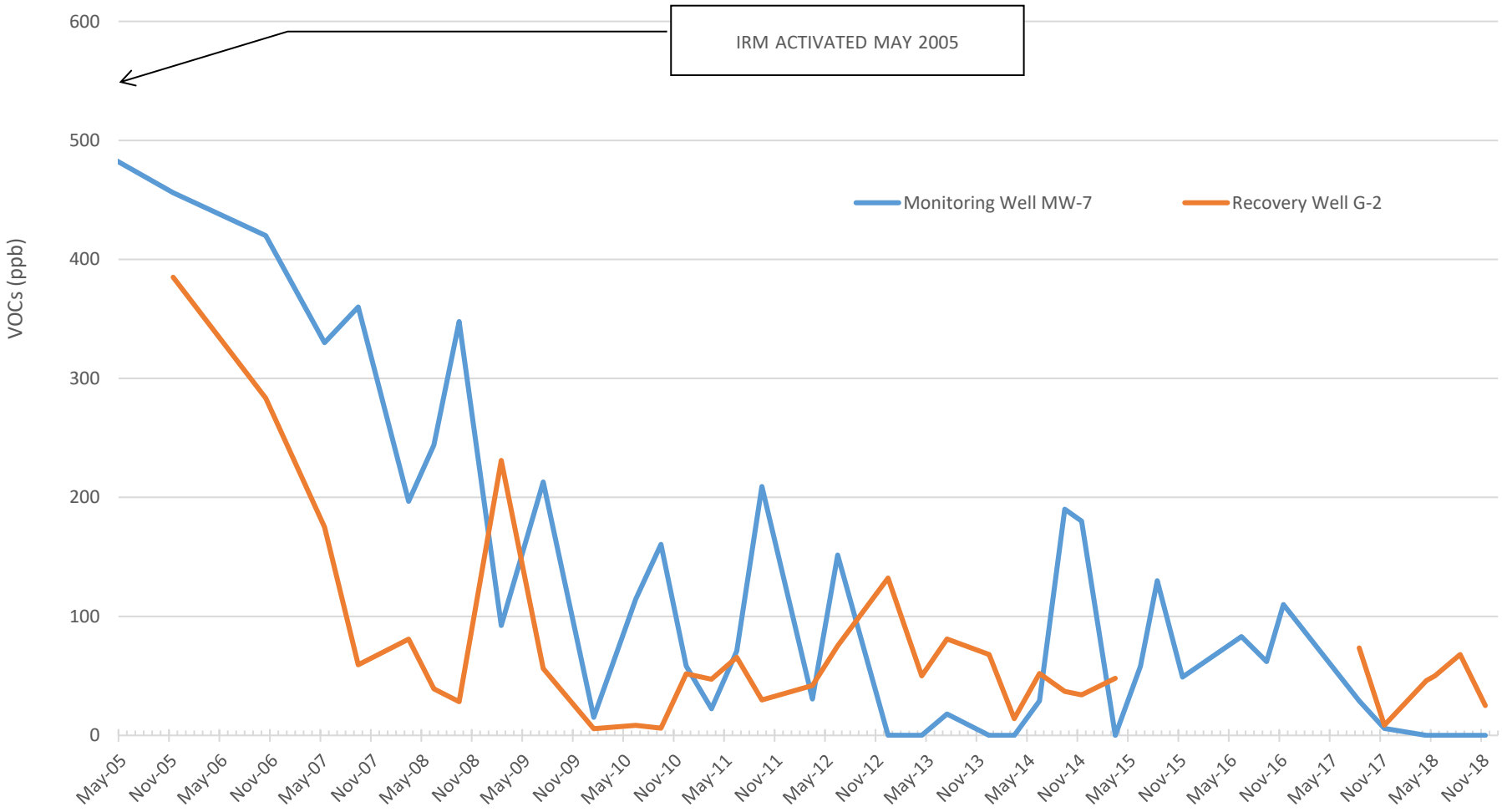
MW-7 and G-2
IRM ACTIVATED MAY 2005
Monitoring Well MW-7
Recovery Well G-2
VOCs (ppb)
600
500
400
300
200
100
0
May-05
Nov-05
May-06
Nov-06
May-07
Nov-07
May-08
Nov-08
May-09
Nov-09
May-10
Nov-10
May-11
Nov-11
May-12
Nov-12
May-13
Nov-13
May-14
Nov-14
May-15
Nov-15
May-16
Nov-16
May-17
Nov-17
May-18
Nov-18
Sample Date

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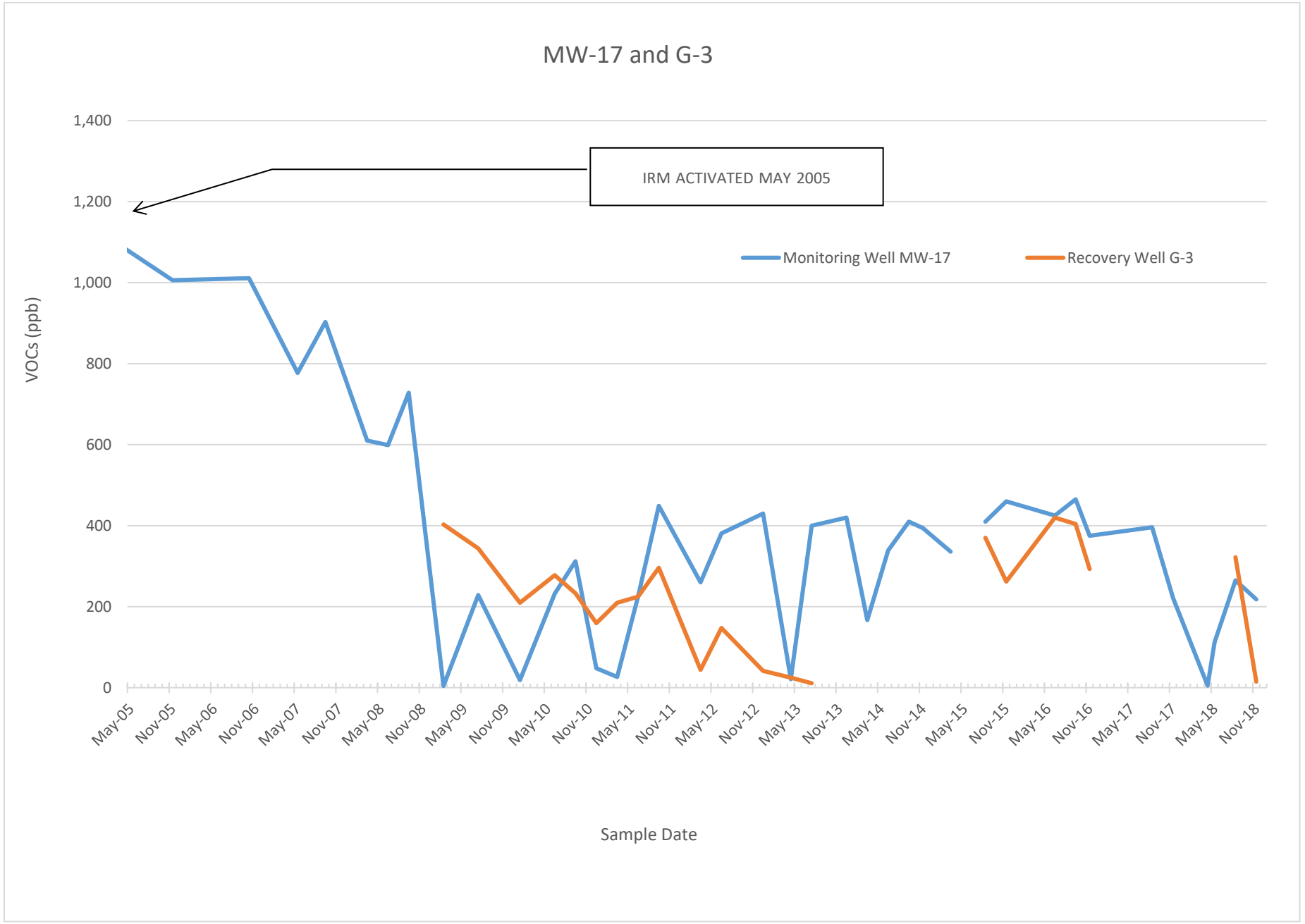

APPENDIX A:

LABORATORY ANALYTICAL RESULTS

November 26, 2018 Service Request No:R1811036

Mr. Cash Bleier
Bergmann Associates, Incorporated
280 East Broad Street
Suite 200
Rochester, NY 14604

Laboratory Results for: Gowanda

Dear Mr.Bleier,

Enclosed are the results of the sample(s) submitted to our laboratory November 14, 2018
For your reference, these analyses have been assigned our service request number **R1811036.**

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and ALS Environmental is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s) for analysis of these samples, and represented by Laboratory Control Sample control limits. Any events, such as QC failures, which may add to the uncertainty are explained in the report narrative.

Please contact me if you have any questions. My extension is 7471. You may also contact me via email at Brady.Kalkman@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Brady Kalkman
Project Manager

ADDRESS 1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
PHONE +1 585 288 5380 | FAX +1 585 288 8475
ALS Group USA, Corp.
dba ALS Environmental

Narrative Documents

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

ALS Environmental

Client: Bergmann Associates, Incorporated
Project: Gowanda
Sample Matrix: Water

Service Request: R1811036
Date Received: 11/14/2018

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier II data deliverables, including results of QC samples analyzed from this delivery group. Analytical procedures performed by the lab are validated in accordance with NELAC standards. Any parameters that are not included in the lab's NELAC accreditation are identified on a "Non-Certified Analytes" report in the Miscellaneous Forms Section of this report. Individual analytical results requiring further explanation are flagged with qualifiers and/or discussed below. The flags are explained in the Report Qualifiers and Definitions page in the Miscellaneous Forms section of this report.

Sample Receipt:

Twenty nine water samples were received for analysis at ALS Environmental on 11/14/2018. Any discrepancies noted upon initial sample inspection are noted on the cooler receipt and preservation form included in this data package. The samples were received in good condition and consistent with the accompanying chain of custody form. Samples are refrigerated at 0 to 6°C upon receipt at the lab except for aqueous samples designated for metals analyses, which are stored at room temperature. If any samples were received for the analysis of pH, chlorine residual, sulfite, dissolved oxygen, or ferrous iron, the samples were analyzed past their holding time expiration since these analyses are required to be analyzed within 15 minutes of sampling.

Volatiles by GC/MS:

No significant anomalies were noted with this analysis.

Approved by _____ Date 11/26/2018

SAMPLE DETECTION SUMMARY

CLIENT ID: MW-1			Lab ID: R1811036-001			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
cis-1,2-Dichloroethene	180		1.3	25	ug/L	8260C
Trichloroethene (TCE)	900		1.0	25	ug/L	8260C

CLIENT ID: MW-6			Lab ID: R1811036-006			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
cis-1,2-Dichloroethene	81		0.26	5.0	ug/L	8260C

CLIENT ID: MW-11			Lab ID: R1811036-011			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
cis-1,2-Dichloroethene	190		0.26	5.0	ug/L	8260C
trans-1,2-Dichloroethene	9.3		0.26	5.0	ug/L	8260C
Trichloroethene (TCE)	290	D	1.0	25	ug/L	8260C

CLIENT ID: MW-12			Lab ID: R1811036-012			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
cis-1,2-Dichloroethene	35		0.26	5.0	ug/L	8260C
Trichloroethene (TCE)	18		0.20	5.0	ug/L	8260C

CLIENT ID: MW-14			Lab ID: R1811036-014			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
cis-1,2-Dichloroethene	9.7		0.26	5.0	ug/L	8260C
Trichloroethene (TCE)	21		0.20	5.0	ug/L	8260C

CLIENT ID: MW-16			Lab ID: R1811036-016			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
cis-1,2-Dichloroethene	41		0.26	5.0	ug/L	8260C

CLIENT ID: MW-17			Lab ID: R1811036-017			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
cis-1,2-Dichloroethene	180	D	0.52	10	ug/L	8260C
Trichloroethene (TCE)	38		0.20	5.0	ug/L	8260C

CLIENT ID: G-1			Lab ID: R1811036-020			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
cis-1,2-Dichloroethene	68		0.26	5.0	ug/L	8260C
Trichloroethene (TCE)	6.6		0.20	5.0	ug/L	8260C

CLIENT ID: G-2			Lab ID: R1811036-021			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
cis-1,2-Dichloroethene	25		0.26	5.0	ug/L	8260C

CLIENT ID: G-3			Lab ID: R1811036-022			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
cis-1,2-Dichloroethene	6.2		0.26	5.0	ug/L	8260C
Trichloroethene (TCE)	6.8		0.20	5.0	ug/L	8260C

SAMPLE DETECTION SUMMARY

CLIENT ID: DR-1			Lab ID: R1811036-023			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
cis-1,2-Dichloroethene	210		2.6	50	ug/L	8260C
Trichloroethene (TCE)	1100		2.0	50	ug/L	8260C

CLIENT ID: DR-2			Lab ID: R1811036-024			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
cis-1,2-Dichloroethene	170		0.26	5.0	ug/L	8260C
Trichloroethene (TCE)	46		0.20	5.0	ug/L	8260C
Vinyl Chloride	5.6		0.22	5.0	ug/L	8260C

CLIENT ID: DR-3			Lab ID: R1811036-025			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
cis-1,2-Dichloroethene	42		0.26	5.0	ug/L	8260C
Trichloroethene (TCE)	31		0.20	5.0	ug/L	8260C

CLIENT ID: DR-4			Lab ID: R1811036-026			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
cis-1,2-Dichloroethene	9.2		0.26	5.0	ug/L	8260C
Trichloroethene (TCE)	28		0.20	5.0	ug/L	8260C

Sample Receipt Information

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: Bergmann Associates, Incorporated **Service Request:**R1811036
Project: Gowanda/6974.96

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
R1811036-001	MW-1	11/13/2018	1210
R1811036-002	MW-2	11/13/2018	1220
R1811036-003	MW-3	11/13/2018	1200
R1811036-004	MW-4	11/13/2018	1150
R1811036-005	MW-5	11/13/2018	1115
R1811036-006	MW-6	11/13/2018	1100
R1811036-007	MW-7	11/13/2018	1030
R1811036-008	MW-8	11/13/2018	1300
R1811036-009	MW-9	11/13/2018	1240
R1811036-010	MW-10	11/13/2018	1230
R1811036-011	MW-11	11/13/2018	1245
R1811036-012	MW-12	11/13/2018	1215
R1811036-013	MW-13	11/13/2018	1200
R1811036-014	MW-14	11/13/2018	1015
R1811036-015	MW-15	11/13/2018	1030
R1811036-016	MW-16	11/13/2018	1015
R1811036-017	MW-17	11/13/2018	1040
R1811036-018	MW-18	11/13/2018	1315
R1811036-019	MW-20	11/13/2018	1130
R1811036-020	G-1	11/13/2018	1015
R1811036-021	G-2	11/13/2018	1000
R1811036-022	G-3	11/13/2018	1300
R1811036-023	DR-1	11/13/2018	1230
R1811036-024	DR-2	11/13/2018	1138
R1811036-025	DR-3	11/13/2018	1100
R1811036-026	DR-4	11/13/2018	1045
R1811036-027	MW-X	11/13/2018	2359
R1811036-028	Equip Blank	11/13/2018	2359
R1811036-029	Trip Blank	11/13/2018	2359

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM 54368

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax) PAGE 1 OF 3

Project Name: Gowanda	Project Number: 6974.96
Project Manager: C. Bleier	Report CC:
Company/Address: Bergmann 280 E Broad St, Suite 200 Rochester, NY 14604	
Phone #: 585-498-7950	Email: CBleier@bergmannpc.com
Sampler's Signature:	Sampler's Printed Name: Cash Bleier

ANALYSIS REQUESTED (Include Method Number and Container Preservative)

PRESERVATIVE: 1

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GC/MS VOAs • 8260 • 624 • CLP	GC/MS SVOAs • 8270 • 625	GC VOAs • 8021 • 601/602	PESTICIDES • 8081 • 608	PCBs • 8082 • 608	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)	REMARKS/ ALTERNATE DESCRIPTION
MW-1		11/13/18	12:10p	GW	3	X							
MW-2		11/13/18	12:20p	GW	3	X							
MW-3		11/13/18	12:00p	GW	3	X							
MW-4		11/13/18	11:50a	GW	3	X							
MW-5		11/13/18	11:15a	GW	3	X							
MW-6		11/13/18	11:00a	GW	3	X							
MW-7		11/13/18	10:30a	GW	3	X							
MW-8		11/13/18	1:00pm	GW	3	X							
MW-9		11/13/18	12:40p	GW	3	X							
MW-10		11/13/18	12:30p	GW	3	X							
MW-11		11/13/18	12:45p	GW	3	X							

Preservative Key
0. NONE
1. HCl
2. ~~HNO3~~
3. H_2SO_4
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other Y
Chill

SPECIAL INSTRUCTIONS/COMMENTS
Metals

See QAPP ☐

TURNAROUND REQUIREMENTS
____ RUSH (SURCHARGES APPLY)
____ 1 day ____ 2 day ____ 3 day
____ 4 day ____ 5 day
X Standard (10 business days-No Surcharge)
REQUESTED REPORT DATE: _____

REPORT REQUIREMENTS
____ I. Results Only
____ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
____ III. Results + QC and Calibration Summaries
____ IV. Data Validation Report with Raw Data
NYS EQuIS EDD
Edata X Yes ____ No

INVOICE INFORMATION
PO #:
BILL TO:

STATE WHERE SAMPLES WERE COLLECTED: New York

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature:	Signature:	Signature:	Signature:	Signature:	
Printed Name: Cash Bleier	Printed Name: Gregory D. Esmerian	Printed Name:	Printed Name:	Printed Name:	
Firm: Bergmann	Firm: ALS	Firm:	Firm:	Firm:	
Date/Time: 11/14/18 09:50	Date/Time: 11-14-18 09:50	Date/Time:	Date/Time:	Date/Time:	

R1811036 5
Bergmann Associates, Incorporated
Gowanda

Distribution: White - Lab Copy; Yellow - Return to Originator

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM 54369

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax)

Project Name: Gowanda	Project Number: 6974.96
Project Manager: C. Bleier	Report CC:
Company/Address: Bergmann 280 E Broad St, Suite 200 Rochester, NY 14604	
Phone #: 585-498-7950	Email: CBleier@bergmannpc.com
Sampler's Signature:	Sampler's Printed Name:

ANALYSIS REQUESTED (Include Method Number and Container Preservative)

PRESERVATIVE: 1

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GC/MS VOAs ◦ 8260 ◦ 624 ◦ CLP	GC/MS SVOAs ◦ 8270 ◦ 625	GC VOAs ◦ 8021 ◦ 601/602	PESTICIDES ◦ 8081 ◦ 608	PCBs ◦ 8082 ◦ 608	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)	REMARKS/ ALTERNATE DESCRIPTION
MW-12		11/13/18	12:15p	GW	3	X							
MW-13		11/13/18	12:00p	GW	3	X							
MW-14		11/13/18	10:15a	GW	3	X							
MW-15		11/13/18	10:30a	GW	3	X							
MW-16		11/13/18	10:15a	GW	3	X							
MW-17		11/13/18	10:40a	GW	3	X							
MW-18		11/13/18	1:15pm	GW	3	X							
MW-20		11/13/18	11:30a	GW	3	X							
G-1		11/13/18	10:15a	GW	3	X							
G-2		11/13/18	10:00a	GW	3	X							
G-3		11/13/18	1:00p	GW	3	X							

Preservative Key
0. NONE
1. HCl
2. HNO_3
3. H_2SO_4
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other X
Chill

SPECIAL INSTRUCTIONS/COMMENTS
Metals

See QAPP ☐

TURNAROUND REQUIREMENTS
____ RUSH (SURCHARGES APPLY)
____ 1 day ____ 2 day ____ 3 day
____ 4 day ____ 5 day
X Standard (10 business days-No Surcharge)
REQUESTED REPORT DATE: _____

REPORT REQUIREMENTS
____ I. Results Only
____ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
____ III. Results + QC and Calibration Summaries
____ IV. Data Validation Report with Raw Data
NYS Equis
Edata X Yes ____ No

INVOICE INFORMATION
PO #:
BILL TO:

STATE WHERE SAMPLES WERE COLLECTED: New York

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature	Signature	Signature	Signature	Signature	Signature
Printed Name: Cash Bleier	Printed Name: Gregory D. Emerian	Printed Name	Printed Name	Printed Name	Printed Name
Firm: Bergmann	Firm: ALS	Firm	Firm	Firm	Firm
Date/Time: 11/14/18	Date/Time: 11-14-18 0950	Date/Time	Date/Time	Date/Time	Date/Time

R1811036 5
Bergmann Associates, Incorporated
Gowanda

Distribution: White - Lab Copy; Yellow - Return to Originator

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM 54370

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax) PAGE 3 OF 3

Project Name: Gowanda	Project Number: 697446
Project Manager: C. Bleier	Report CC:
Company/Address: Bergmann 280 E Broad St, Suite 290 Rochester, NY 14604	
Phone #: 585-498-7950	Email: cbleier@bergmannpc.com
Sampler's Signature: Cash Bleier	Sampler's Printed Name: Cash Bleier

ANALYSIS REQUESTED *(Include Method Number and Container Preservative)*

PRESERVATIVE: 1

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GC/MS VOAs • 8260 • 624 • CLP	GC/MS SVOAs • 8270 • 625	GC VOAs • 8021 • 601/602	PESTICIDES • 8081 • 608	PCBs • 8082 • 608	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)	REMARKS/ ALTERNATE DESCRIPTION
DR-1		11/13/18	12:30pm	GW	5	X							
DR-2		11/13/18	11:38a	GW	3	X							
DR-3		11/13/18	11:00a	GW	3	X							
DR-4		11/13/18	10:45a	GW	3	X							

Preservative Key
0. NONE
1. HCl
2. HNO_3
3. H_2SO_4
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other X Ch. 11

SPECIAL INSTRUCTIONS/COMMENTS
Metals

See QAPP ☐

TURNAROUND REQUIREMENTS
____ RUSH (SURCHARGES APPLY)
____ 1 day ____ 2 day ____ 3 day
____ 4 day ____ 5 day
X Standard (10 business days-No Surcharge)
REQUESTED REPORT DATE: _____

REPORT REQUIREMENTS
____ I. Results Only
____ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
____ III. Results + QC and Calibration Summaries
____ IV. Data Validation Report with Raw Data
NYS EQuIS
Edata Y Yes ____ No

INVOICE INFORMATION
PO #:
BILL TO:

STATE WHERE SAMPLES WERE COLLECTED:

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature: Cash Bleier	Signature:	Signature:	Signature:	Signature:	Signature:
Printed Name: Cash Bleier	Printed Name: Gregory V. Tomerlin	Printed Name:	Printed Name:	Printed Name:	Printed Name:
Firm: Bergmann	Firm: ALS	Firm:	Firm:	Firm:	Firm:
Date/Time: 11/14/2018 0950	Date/Time: 11-14-18 09:50	Date/Time:	Date/Time:	Date/Time:	Date/Time:

Distribution: White - Lab Copy; Yellow - Return to Originator

Cooler Receipt and Preservation Check Form

R1811036 5
Bergmann Associates, Incorporated
Gowanda

Project/Client Bergmann Folder Number

Cooler received on 11-14-18 by: KE

COURIER: ALS UPS FEDEX VELOCITY (CLIENT)

1	Were **Custody seals** on outside of cooler?	Y (N)	5a	**Perchlorate** samples have required headspace?	Y N (NA)
2	**Custody papers** properly completed (ink, signed)?	(Y) N	5b	Did VOA vials, Alk,or Sulfide have sig* **bubbles**?	(Y) N NA *
3	Did all bottles arrive in good **condition** (unbroken)?	(Y) N	6	Where did the bottles originate?	(ALS/ROC) CLIENT
4	Circle: (**Wet Ice**) **Dry Ice** **Gel packs** present?	(Y) N	7	Soil VOA received as: Bulk Encore 5035set	(NA)

8. Temperature Readings Date: 11-14-18 Time: 10:00 ID: IR#7 (IR#10) From: (Temp Blank) Sample Bottle

Observed Temp (°C)	0.1						
Correction Factor (°C)	+0.4						
Corrected Temp (°C)	0.5						
Temp from:Type of bottle	centrifuge						
Within 0-6°C?	(Y) N	Y N	Y N	Y N	Y N	Y N	Y N
If <0°C, were samples frozen?	Y N	Y N	Y N	Y N	Y N	Y N	Y N

If out of Temperature, note packing/ice condition: _____ Ice melted Poorly Packed (described below) Same Day Rule

&Client Approval to Run Samples: _____ Standing Approval Client aware at drop-off Client notified by: _____

All samples held in storage location: IR-002 by KE on 11-14-18 at 1013
5035 samples placed in storage location: _____ by _____ on _____ at _____

Cooler Breakdown/Preservation Check**: Date: 11/14/18 Time: 1528 by: @

9. Were all bottle labels complete (*i.e.* analysis, preservation, etc.)? (YES) NO ½ bottles dont have date/time
10. Did all bottle labels and tags agree with custody papers? (YES) NO
11. Were correct containers used for the tests indicated? (YES) NO
12. Were 5035 vials acceptable (no extra labels, not leaking)? YES NO (N/A)
13. Air Samples: Cassettes / Tubes Intact with MS? Canisters Pressurized Tedlar® Bags Inflated (N/A)

pH	Lot of test paper	Reagent	Preserved? Yes	Preserved? No	Lot Received	Exp	Sample ID Adjusted	Vol. Added	Lot Added	Final pH
≥12		NaOH								
≤2		HNO_3								
≤2		H_2SO_4								
<4		$NaHSO_4$								
5-9		For 608pest			No=Notify for 3day					
Residual Chlorine (-)		For CN, Phenol, 625, 608pest, 522			If +, contact PM to add $Na_2S_2O_3$ (625, 608, CN), ascorbic (phenol).					
		$Na_2S_2O_3$								
		ZnAcetate	-	-						
		HCl	**	**	411090					

**VOAs and 1664 Not to be tested before analysis. Otherwise, all bottles of all samples with chemical preservatives are checked (not just representatives).

Bottle lot numbers: F-206-001

Explain all Discrepancies/ Other Comments:

* G-1: 2of3 vials
MW-15: 2of3 vials
DR-4: 2of3 vials
MW-5: 1of3 vials
MW-12: 1of3 vials
MW-16: 1of3 vials
DR-3: 2of3 vials
MW-11: 2of3 vials
DR-1: 2of3 vials
MW-2: 1of3 vials
G-2: All3 vials
MW-X: 1of3 vials
MW-10: 1of3 vials
MW-13: 2of3 vials

Reid
not on COC { MW-X, Equip Blank, Trip Blank

CLRES	BULK
DO	FLDT
HPROD	HGFB
HTR	LL3541
PH	SUB
SO3	MARRS
ALS	REV

Labels secondary reviewed by: @

PC Secondary Review: _____

*significant air bubbles: VOA > 5-6 mm : WC >1 in. diameter

Miscellaneous Forms

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

REPORT QUALIFIERS AND DEFINITIONS

U Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.

J Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Arclors).

B Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.

E Inorganics- Concentration is estimated due to the serial dilution was outside control limits.

E Organics- Concentration has exceeded the calibration range for that specific analysis.

D Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.

* Indicates that a quality control parameter has exceeded laboratory limits. Under the ñNotesò column of the Form I, this qualifier denotes analysis was performed out of Holding Time.

H Analysis was performed out of hold time for tests that have an ñimmediateò hold time criteria.

Spike was diluted out.

\+ Correlation coefficient for MSA is <0.995.

N Inorganics- Matrix spike recovery was outside laboratory limits.

N Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.

S Concentration has been determined using Method of Standard Additions (MSA).

W Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.

P Concentration >40% difference between the two GC columns.

C Confirmed by GC/MS

Q DoD reports: indicates a pesticide/Aroclor is not confirmed (Ó100% Difference between two GC columns).

X See Case Narrative for discussion.

MRL Method Reporting Limit. Also known as:
LOQ Limit of Quantitation (LOQ)
The lowest concentration at which the method analyte may be reliably quantified under the method conditions.

MDL Method Detection Limit. A statistical value derived from a study designed to provide the lowest concentration that will be detected 99% of the time. Values between the MDL and MRL are estimated (see J qualifier).

LOD Limit of Detection. A value at or above the MDL which has been verified to be detectable.

ND Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.

Rochester Lab ID # for State Certifications[1]

Connecticut ID # PH0556	Maine ID #NY0032	Pennsylvania ID# 68-786
Delaware Approved	New Hampshire ID # 2941	Rhode Island ID # 158
DoD ELAP #65817	New York ID # 10145	Virginia #460167
Florida ID # E87674	North Carolina #676	

[1] Analyses were performed according to our laboratoryôs NELAP-approved quality assurance program and any applicable state or agency requirements. The test results meet requirements of the current NELAP/TNI standards or state or agency requirements, where applicable, except as noted in the case narrative. Since not all analyte/method/matrix combinations are offered for state/NELAC accreditation, this report may contain results which are not accredited. For a specific list of accredited analytes, contact the laboratory or go to https://www.alsglobal.com/locations/americas/north-america/usa/new-york/rochester-environmental

ALS Laboratory Group

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1811036
Project:	Gowanda/6974.96		

Sample Name:	MW-1	**Date Collected:**	11/13/18
Lab Code:	R1811036-001	**Date Received:**	11/14/18
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name:	MW-2	**Date Collected:**	11/13/18
Lab Code:	R1811036-002	**Date Received:**	11/14/18
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name:	MW-3	**Date Collected:**	11/13/18
Lab Code:	R1811036-003	**Date Received:**	11/14/18
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name:	MW-4	**Date Collected:**	11/13/18
Lab Code:	R1811036-004	**Date Received:**	11/14/18
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name:	MW-5	**Date Collected:**	11/13/18
Lab Code:	R1811036-005	**Date Received:**	11/14/18
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Client: Bergmann Associates, Incorporated **Service Request:** R1811036
Project: Gowanda/6974.96

Sample Name: MW-6 **Date Collected:** 11/13/18
Lab Code: R1811036-006 **Date Received:** 11/14/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: MW-7 **Date Collected:** 11/13/18
Lab Code: R1811036-007 **Date Received:** 11/14/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: MW-8 **Date Collected:** 11/13/18
Lab Code: R1811036-008 **Date Received:** 11/14/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: MW-9 **Date Collected:** 11/13/18
Lab Code: R1811036-009 **Date Received:** 11/14/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: MW-10 **Date Collected:** 11/13/18
Lab Code: R1811036-010 **Date Received:** 11/14/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Client: Bergmann Associates, Incorporated **Service Request:** R1811036
Project: Gowanda/6974.96

Sample Name: MW-11 **Date Collected:** 11/13/18
Lab Code: R1811036-011 **Date Received:** 11/14/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: MW-12 **Date Collected:** 11/13/18
Lab Code: R1811036-012 **Date Received:** 11/14/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: MW-13 **Date Collected:** 11/13/18
Lab Code: R1811036-013 **Date Received:** 11/14/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: MW-14 **Date Collected:** 11/13/18
Lab Code: R1811036-014 **Date Received:** 11/14/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: MW-15 **Date Collected:** 11/13/18
Lab Code: R1811036-015 **Date Received:** 11/14/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Client: Bergmann Associates, Incorporated **Service Request:** R1811036
Project: Gowanda/6974.96

Sample Name: MW-16 **Date Collected:** 11/13/18
Lab Code: R1811036-016 **Date Received:** 11/14/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: MW-17 **Date Collected:** 11/13/18
Lab Code: R1811036-017 **Date Received:** 11/14/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: MW-18 **Date Collected:** 11/13/18
Lab Code: R1811036-018 **Date Received:** 11/14/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: MW-20 **Date Collected:** 11/13/18
Lab Code: R1811036-019 **Date Received:** 11/14/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: G-1 **Date Collected:** 11/13/18
Lab Code: R1811036-020 **Date Received:** 11/14/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Client: Bergmann Associates, Incorporated **Service Request:** R1811036
Project: Gowanda/6974.96

Sample Name: G-2 **Date Collected:** 11/13/18
Lab Code: R1811036-021 **Date Received:** 11/14/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: G-3 **Date Collected:** 11/13/18
Lab Code: R1811036-022 **Date Received:** 11/14/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: DR-1 **Date Collected:** 11/13/18
Lab Code: R1811036-023 **Date Received:** 11/14/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: DR-2 **Date Collected:** 11/13/18
Lab Code: R1811036-024 **Date Received:** 11/14/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: DR-3 **Date Collected:** 11/13/18
Lab Code: R1811036-025 **Date Received:** 11/14/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1811036
Project:	Gowanda/6974.96		

Sample Name:	DR-4	**Date Collected:**	11/13/18
Lab Code:	R1811036-026	**Date Received:**	11/14/18
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name:	MW-X	**Date Collected:**	11/13/18
Lab Code:	R1811036-027	**Date Received:**	11/14/18
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name:	Equip Blank	**Date Collected:**	11/13/18
Lab Code:	R1811036-028	**Date Received:**	11/14/18
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name:	Trip Blank	**Date Collected:**	11/13/18
Lab Code:	R1811036-029	**Date Received:**	11/14/18
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

The preparation methods associated with this report are found in these tables unless discussed in the case narrative.

Water/Liquid Matrix

Analytical Method	Preparation Method
200.7	200.2
200.8	200.2
6010C	3005A/3010A
6020A	ILM05.3
9014 Cyanide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Acid Soluble	9030B
9056A Bomb (Halogens)	5050A
9066 Manual Distillation	9065
SM 4500-CN-E Residual Cyanide	SM 4500-CN-G
SM 4500-CN-E WAD Cyanide	SM 4500-CN-I

Solid/Soil/Non-Aqueous Matrix

Analytical Method	Preparation Method
6010C	3050B
6020A	3050B
6010C TCLP (1311) extract	3005A/3010A
6010 SPLP (1312) extract	3005A/3010A
7196A	3060A
7199	3060A
9056A Halogens/Halides	5050
300.0 Anions/ 350.1/ 353.2/ SM 2320B/ SM 5210B/ 9056A Anions	DI extraction

For analytical methods not listed, the preparation method is the same as the analytical method reference.

Sample Results

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Volatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1811036
Project:	Gowanda/6974.96	**Date Collected:**	11/13/18 12:10
Sample Matrix:	Water	**Date Received:**	11/14/18 09:50
Sample Name:	MW-1	**Units:**	ug/L
Lab Code:	R1811036-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	**180**	25	5	11/19/18 01:08	
trans-1,2-Dichloroethene	25 U	25	5	11/19/18 01:08	
Tetrachloroethene (PCE)	25 U	25	5	11/19/18 01:08	
1,1,1-Trichloroethane (TCA)	25 U	25	5	11/19/18 01:08	
Trichloroethene (TCE)	**900**	25	5	11/19/18 01:08	
Vinyl Chloride	25 U	25	5	11/19/18 01:08	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	93	85 - 122	11/19/18 01:08	
Dibromofluoromethane	97	89 - 119	11/19/18 01:08	
Toluene-d8	100	87 - 121	11/19/18 01:08	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1811036
Project:	Gowanda/6974.96	**Date Collected:**	11/13/18 12:20
Sample Matrix:	Water	**Date Received:**	11/14/18 09:50
Sample Name:	MW-2	**Units:**	ug/L
Lab Code:	R1811036-002	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	11/19/18 01:30	
trans-1,2-Dichloroethene	5.0 U	5.0	1	11/19/18 01:30	
Tetrachloroethene (PCE)	5.0 U	5.0	1	11/19/18 01:30	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	11/19/18 01:30	
Trichloroethene (TCE)	5.0 U	5.0	1	11/19/18 01:30	
Vinyl Chloride	5.0 U	5.0	1	11/19/18 01:30	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	93	85 - 122	11/19/18 01:30	
Dibromofluoromethane	97	89 - 119	11/19/18 01:30	
Toluene-d8	98	87 - 121	11/19/18 01:30	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1811036
Project:	Gowanda/6974.96	**Date Collected:**	11/13/18 12:00
Sample Matrix:	Water	**Date Received:**	11/14/18 09:50
Sample Name:	MW-3	**Units:**	ug/L
Lab Code:	R1811036-003	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	11/19/18 01:52	
trans-1,2-Dichloroethene	5.0 U	5.0	1	11/19/18 01:52	
Tetrachloroethene (PCE)	5.0 U	5.0	1	11/19/18 01:52	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	11/19/18 01:52	
Trichloroethene (TCE)	5.0 U	5.0	1	11/19/18 01:52	
Vinyl Chloride	5.0 U	5.0	1	11/19/18 01:52	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	93	85 - 122	11/19/18 01:52	
Dibromofluoromethane	96	89 - 119	11/19/18 01:52	
Toluene-d8	99	87 - 121	11/19/18 01:52	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1811036
Project:	Gowanda/6974.96	**Date Collected:**	11/13/18 11:50
Sample Matrix:	Water	**Date Received:**	11/14/18 09:50
Sample Name:	MW-4	**Units:**	ug/L
Lab Code:	R1811036-004	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	11/19/18 02:15	
trans-1,2-Dichloroethene	5.0 U	5.0	1	11/19/18 02:15	
Tetrachloroethene (PCE)	5.0 U	5.0	1	11/19/18 02:15	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	11/19/18 02:15	
Trichloroethene (TCE)	5.0 U	5.0	1	11/19/18 02:15	
Vinyl Chloride	5.0 U	5.0	1	11/19/18 02:15	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	93	85 - 122	11/19/18 02:15	
Dibromofluoromethane	98	89 - 119	11/19/18 02:15	
Toluene-d8	100	87 - 121	11/19/18 02:15	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1811036
Project:	Gowanda/6974.96	**Date Collected:**	11/13/18 11:15
Sample Matrix:	Water	**Date Received:**	11/14/18 09:50
Sample Name:	MW-5	**Units:**	ug/L
Lab Code:	R1811036-005	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	11/19/18 02:37	
trans-1,2-Dichloroethene	5.0 U	5.0	1	11/19/18 02:37	
Tetrachloroethene (PCE)	5.0 U	5.0	1	11/19/18 02:37	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	11/19/18 02:37	
Trichloroethene (TCE)	5.0 U	5.0	1	11/19/18 02:37	
Vinyl Chloride	5.0 U	5.0	1	11/19/18 02:37	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	94	85 - 122	11/19/18 02:37	
Dibromofluoromethane	98	89 - 119	11/19/18 02:37	
Toluene-d8	101	87 - 121	11/19/18 02:37	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1811036
Project:	Gowanda/6974.96	**Date Collected:**	11/13/18 11:00
Sample Matrix:	Water	**Date Received:**	11/14/18 09:50
Sample Name:	MW-6	**Units:**	ug/L
Lab Code:	R1811036-006	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	**81**	5.0	1	11/19/18 02:59	
trans-1,2-Dichloroethene	5.0 U	5.0	1	11/19/18 02:59	
Tetrachloroethene (PCE)	5.0 U	5.0	1	11/19/18 02:59	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	11/19/18 02:59	
Trichloroethene (TCE)	5.0 U	5.0	1	11/19/18 02:59	
Vinyl Chloride	5.0 U	5.0	1	11/19/18 02:59	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	94	85 - 122	11/19/18 02:59	
Dibromofluoromethane	99	89 - 119	11/19/18 02:59	
Toluene-d8	101	87 - 121	11/19/18 02:59	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1811036
Project:	Gowanda/6974.96	**Date Collected:**	11/13/18 10:30
Sample Matrix:	Water	**Date Received:**	11/14/18 09:50
Sample Name:	MW-7	**Units:**	ug/L
Lab Code:	R1811036-007	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	11/19/18 03:21	
trans-1,2-Dichloroethene	5.0 U	5.0	1	11/19/18 03:21	
Tetrachloroethene (PCE)	5.0 U	5.0	1	11/19/18 03:21	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	11/19/18 03:21	
Trichloroethene (TCE)	5.0 U	5.0	1	11/19/18 03:21	
Vinyl Chloride	5.0 U	5.0	1	11/19/18 03:21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	93	85 - 122	11/19/18 03:21	
Dibromofluoromethane	97	89 - 119	11/19/18 03:21	
Toluene-d8	99	87 - 121	11/19/18 03:21	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1811036
Project:	Gowanda/6974.96	**Date Collected:**	11/13/18 13:00
Sample Matrix:	Water	**Date Received:**	11/14/18 09:50
Sample Name:	MW-8	**Units:**	ug/L
Lab Code:	R1811036-008	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	11/19/18 03:43	
trans-1,2-Dichloroethene	5.0 U	5.0	1	11/19/18 03:43	
Tetrachloroethene (PCE)	5.0 U	5.0	1	11/19/18 03:43	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	11/19/18 03:43	
Trichloroethene (TCE)	5.0 U	5.0	1	11/19/18 03:43	
Vinyl Chloride	5.0 U	5.0	1	11/19/18 03:43	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	94	85 - 122	11/19/18 03:43	
Dibromofluoromethane	97	89 - 119	11/19/18 03:43	
Toluene-d8	99	87 - 121	11/19/18 03:43	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1811036
Project:	Gowanda/6974.96	**Date Collected:**	11/13/18 12:40
Sample Matrix:	Water	**Date Received:**	11/14/18 09:50
Sample Name:	MW-9	**Units:**	ug/L
Lab Code:	R1811036-009	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	11/19/18 04:05	
trans-1,2-Dichloroethene	5.0 U	5.0	1	11/19/18 04:05	
Tetrachloroethene (PCE)	5.0 U	5.0	1	11/19/18 04:05	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	11/19/18 04:05	
Trichloroethene (TCE)	5.0 U	5.0	1	11/19/18 04:05	
Vinyl Chloride	5.0 U	5.0	1	11/19/18 04:05	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	94	85 - 122	11/19/18 04:05	
Dibromofluoromethane	98	89 - 119	11/19/18 04:05	
Toluene-d8	101	87 - 121	11/19/18 04:05	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1811036
Project:	Gowanda/6974.96	**Date Collected:**	11/13/18 12:30
Sample Matrix:	Water	**Date Received:**	11/14/18 09:50
Sample Name:	MW-10	**Units:**	ug/L
Lab Code:	R1811036-010	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	11/19/18 04:27	
trans-1,2-Dichloroethene	5.0 U	5.0	1	11/19/18 04:27	
Tetrachloroethene (PCE)	5.0 U	5.0	1	11/19/18 04:27	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	11/19/18 04:27	
Trichloroethene (TCE)	5.0 U	5.0	1	11/19/18 04:27	
Vinyl Chloride	5.0 U	5.0	1	11/19/18 04:27	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	94	85 - 122	11/19/18 04:27	
Dibromofluoromethane	98	89 - 119	11/19/18 04:27	
Toluene-d8	100	87 - 121	11/19/18 04:27	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1811036
Project:	Gowanda/6974.96	**Date Collected:**	11/13/18 12:45
Sample Matrix:	Water	**Date Received:**	11/14/18 09:50
Sample Name:	MW-11	**Units:**	ug/L
Lab Code:	R1811036-011	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	**190**		5.0	1	11/19/18 04:49	
trans-1,2-Dichloroethene	**9.3**		5.0	1	11/19/18 04:49	
Tetrachloroethene (PCE)	5.0	U	5.0	1	11/19/18 04:49	
1,1,1-Trichloroethane (TCA)	5.0	U	5.0	1	11/19/18 04:49	
Trichloroethene (TCE)	**290**	**D**	25	5	11/20/18 02:08	
Vinyl Chloride	5.0	U	5.0	1	11/19/18 04:49	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	92	85 - 122	11/19/18 04:49	
Dibromofluoromethane	97	89 - 119	11/19/18 04:49	
Toluene-d8	98	87 - 121	11/19/18 04:49	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1811036
Project:	Gowanda/6974.96	**Date Collected:**	11/13/18 12:15
Sample Matrix:	Water	**Date Received:**	11/14/18 09:50
Sample Name:	MW-12	**Units:**	ug/L
Lab Code:	R1811036-012	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	**35**	5.0	1	11/19/18 05:11	
trans-1,2-Dichloroethene	5.0 U	5.0	1	11/19/18 05:11	
Tetrachloroethene (PCE)	5.0 U	5.0	1	11/19/18 05:11	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	11/19/18 05:11	
Trichloroethene (TCE)	**18**	5.0	1	11/19/18 05:11	
Vinyl Chloride	5.0 U	5.0	1	11/19/18 05:11	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	94	85 - 122	11/19/18 05:11	
Dibromofluoromethane	98	89 - 119	11/19/18 05:11	
Toluene-d8	100	87 - 121	11/19/18 05:11	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1811036
Project:	Gowanda/6974.96	**Date Collected:**	11/13/18 12:00
Sample Matrix:	Water	**Date Received:**	11/14/18 09:50
Sample Name:	MW-13	**Units:**	ug/L
Lab Code:	R1811036-013	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	11/19/18 05:33	
trans-1,2-Dichloroethene	5.0 U	5.0	1	11/19/18 05:33	
Tetrachloroethene (PCE)	5.0 U	5.0	1	11/19/18 05:33	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	11/19/18 05:33	
Trichloroethene (TCE)	5.0 U	5.0	1	11/19/18 05:33	
Vinyl Chloride	5.0 U	5.0	1	11/19/18 05:33	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	93	85 - 122	11/19/18 05:33	
Dibromofluoromethane	97	89 - 119	11/19/18 05:33	
Toluene-d8	99	87 - 121	11/19/18 05:33	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1811036
Project:	Gowanda/6974.96	**Date Collected:**	11/13/18 10:15
Sample Matrix:	Water	**Date Received:**	11/14/18 09:50
Sample Name:	MW-14	**Units:**	ug/L
Lab Code:	R1811036-014	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	**9.7**	5.0	1	11/19/18 05:56	
trans-1,2-Dichloroethene	5.0 U	5.0	1	11/19/18 05:56	
Tetrachloroethene (PCE)	5.0 U	5.0	1	11/19/18 05:56	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	11/19/18 05:56	
Trichloroethene (TCE)	**21**	5.0	1	11/19/18 05:56	
Vinyl Chloride	5.0 U	5.0	1	11/19/18 05:56	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	94	85 - 122	11/19/18 05:56	
Dibromofluoromethane	96	89 - 119	11/19/18 05:56	
Toluene-d8	98	87 - 121	11/19/18 05:56	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1811036
Project:	Gowanda/6974.96	**Date Collected:**	11/13/18 10:30
Sample Matrix:	Water	**Date Received:**	11/14/18 09:50
Sample Name:	MW-15	**Units:**	ug/L
Lab Code:	R1811036-015	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	11/19/18 06:18	
trans-1,2-Dichloroethene	5.0 U	5.0	1	11/19/18 06:18	
Tetrachloroethene (PCE)	5.0 U	5.0	1	11/19/18 06:18	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	11/19/18 06:18	
Trichloroethene (TCE)	5.0 U	5.0	1	11/19/18 06:18	
Vinyl Chloride	5.0 U	5.0	1	11/19/18 06:18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	93	85 - 122	11/19/18 06:18	
Dibromofluoromethane	97	89 - 119	11/19/18 06:18	
Toluene-d8	99	87 - 121	11/19/18 06:18	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1811036
Project:	Gowanda/6974.96	**Date Collected:**	11/13/18 10:15
Sample Matrix:	Water	**Date Received:**	11/14/18 09:50
Sample Name:	MW-16	**Units:**	ug/L
Lab Code:	R1811036-016	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	**41**	5.0	1	11/19/18 06:40	
trans-1,2-Dichloroethene	5.0 U	5.0	1	11/19/18 06:40	
Tetrachloroethene (PCE)	5.0 U	5.0	1	11/19/18 06:40	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	11/19/18 06:40	
Trichloroethene (TCE)	5.0 U	5.0	1	11/19/18 06:40	
Vinyl Chloride	5.0 U	5.0	1	11/19/18 06:40	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	93	85 - 122	11/19/18 06:40	
Dibromofluoromethane	98	89 - 119	11/19/18 06:40	
Toluene-d8	99	87 - 121	11/19/18 06:40	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1811036
Project:	Gowanda/6974.96	**Date Collected:**	11/13/18 10:40
Sample Matrix:	Water	**Date Received:**	11/14/18 09:50
Sample Name:	MW-17	**Units:**	ug/L
Lab Code:	R1811036-017	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	**180**	**D**	10	2	11/20/18 09:54	
trans-1,2-Dichloroethene	5.0	U	5.0	1	11/20/18 02:31	
Tetrachloroethene (PCE)	5.0	U	5.0	1	11/20/18 02:31	
1,1,1-Trichloroethane (TCA)	5.0	U	5.0	1	11/20/18 02:31	
Trichloroethene (TCE)	**38**		5.0	1	11/20/18 02:31	
Vinyl Chloride	5.0	U	5.0	1	11/20/18 02:31	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	94	85 - 122	11/20/18 02:31	
Dibromofluoromethane	96	89 - 119	11/20/18 02:31	
Toluene-d8	99	87 - 121	11/20/18 02:31	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1811036
Project:	Gowanda/6974.96	**Date Collected:**	11/13/18 13:15
Sample Matrix:	Water	**Date Received:**	11/14/18 09:50
Sample Name:	MW-18	**Units:**	ug/L
Lab Code:	R1811036-018	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	11/19/18 07:24	
trans-1,2-Dichloroethene	5.0 U	5.0	1	11/19/18 07:24	
Tetrachloroethene (PCE)	5.0 U	5.0	1	11/19/18 07:24	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	11/19/18 07:24	
Trichloroethene (TCE)	5.0 U	5.0	1	11/19/18 07:24	
Vinyl Chloride	5.0 U	5.0	1	11/19/18 07:24	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	92	85 - 122	11/19/18 07:24	
Dibromofluoromethane	96	89 - 119	11/19/18 07:24	
Toluene-d8	98	87 - 121	11/19/18 07:24	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1811036
Project:	Gowanda/6974.96	**Date Collected:**	11/13/18 11:30
Sample Matrix:	Water	**Date Received:**	11/14/18 09:50
Sample Name:	MW-20	**Units:**	ug/L
Lab Code:	R1811036-019	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	11/19/18 07:46	
trans-1,2-Dichloroethene	5.0 U	5.0	1	11/19/18 07:46	
Tetrachloroethene (PCE)	5.0 U	5.0	1	11/19/18 07:46	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	11/19/18 07:46	
Trichloroethene (TCE)	5.0 U	5.0	1	11/19/18 07:46	
Vinyl Chloride	5.0 U	5.0	1	11/19/18 07:46	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	93	85 - 122	11/19/18 07:46	
Dibromofluoromethane	95	89 - 119	11/19/18 07:46	
Toluene-d8	98	87 - 121	11/19/18 07:46	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1811036
Project:	Gowanda/6974.96	**Date Collected:**	11/13/18 10:15
Sample Matrix:	Water	**Date Received:**	11/14/18 09:50
Sample Name:	G-1	**Units:**	ug/L
Lab Code:	R1811036-020	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	**68**	5.0	1	11/19/18 08:08	
trans-1,2-Dichloroethene	5.0 U	5.0	1	11/19/18 08:08	
Tetrachloroethene (PCE)	5.0 U	5.0	1	11/19/18 08:08	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	11/19/18 08:08	
Trichloroethene (TCE)	**6.6**	5.0	1	11/19/18 08:08	
Vinyl Chloride	5.0 U	5.0	1	11/19/18 08:08	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	85 - 122	11/19/18 08:08	
Dibromofluoromethane	98	89 - 119	11/19/18 08:08	
Toluene-d8	101	87 - 121	11/19/18 08:08	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1811036
Project:	Gowanda/6974.96	**Date Collected:**	11/13/18 10:00
Sample Matrix:	Water	**Date Received:**	11/14/18 09:50
Sample Name:	G-2	**Units:**	ug/L
Lab Code:	R1811036-021	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	**25**	5.0	1	11/20/18 02:53	
trans-1,2-Dichloroethene	5.0 U	5.0	1	11/20/18 02:53	
Tetrachloroethene (PCE)	5.0 U	5.0	1	11/20/18 02:53	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	11/20/18 02:53	
Trichloroethene (TCE)	5.0 U	5.0	1	11/20/18 02:53	
Vinyl Chloride	5.0 U	5.0	1	11/20/18 02:53	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	85 - 122	11/20/18 02:53	
Dibromofluoromethane	97	89 - 119	11/20/18 02:53	
Toluene-d8	101	87 - 121	11/20/18 02:53	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1811036
Project:	Gowanda/6974.96	**Date Collected:**	11/13/18 13:00
Sample Matrix:	Water	**Date Received:**	11/14/18 09:50
Sample Name:	G-3	**Units:**	ug/L
Lab Code:	R1811036-022	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	**6.2**	5.0	1	11/20/18 10:16	
trans-1,2-Dichloroethene	5.0 U	5.0	1	11/20/18 10:16	
Tetrachloroethene (PCE)	5.0 U	5.0	1	11/20/18 10:16	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	11/20/18 10:16	
Trichloroethene (TCE)	**6.8**	5.0	1	11/20/18 10:16	
Vinyl Chloride	5.0 U	5.0	1	11/20/18 10:16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	85 - 122	11/20/18 10:16	
Dibromofluoromethane	95	89 - 119	11/20/18 10:16	
Toluene-d8	100	87 - 121	11/20/18 10:16	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1811036
Project:	Gowanda/6974.96	**Date Collected:**	11/13/18 12:30
Sample Matrix:	Water	**Date Received:**	11/14/18 09:50
Sample Name:	DR-1	**Units:**	ug/L
Lab Code:	R1811036-023	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	**210**	50	10	11/20/18 03:37	
trans-1,2-Dichloroethene	50 U	50	10	11/20/18 03:37	
Tetrachloroethene (PCE)	50 U	50	10	11/20/18 03:37	
1,1,1-Trichloroethane (TCA)	50 U	50	10	11/20/18 03:37	
Trichloroethene (TCE)	**1100**	50	10	11/20/18 03:37	
Vinyl Chloride	50 U	50	10	11/20/18 03:37	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	100	85 - 122	11/20/18 03:37	
Dibromofluoromethane	100	89 - 119	11/20/18 03:37	
Toluene-d8	104	87 - 121	11/20/18 03:37	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1811036
Project:	Gowanda/6974.96	**Date Collected:**	11/13/18 11:38
Sample Matrix:	Water	**Date Received:**	11/14/18 09:50
Sample Name:	DR-2	**Units:**	ug/L
Lab Code:	R1811036-024	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	**170**	5.0	1	11/20/18 03:59	
trans-1,2-Dichloroethene	5.0 U	5.0	1	11/20/18 03:59	
Tetrachloroethene (PCE)	5.0 U	5.0	1	11/20/18 03:59	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	11/20/18 03:59	
Trichloroethene (TCE)	**46**	5.0	1	11/20/18 03:59	
Vinyl Chloride	**5.6**	5.0	1	11/20/18 03:59	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	85 - 122	11/20/18 03:59	
Dibromofluoromethane	100	89 - 119	11/20/18 03:59	
Toluene-d8	101	87 - 121	11/20/18 03:59	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1811036
Project:	Gowanda/6974.96	**Date Collected:**	11/13/18 11:00
Sample Matrix:	Water	**Date Received:**	11/14/18 09:50
Sample Name:	DR-3	**Units:**	ug/L
Lab Code:	R1811036-025	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	**42**	5.0	1	11/20/18 04:21	
trans-1,2-Dichloroethene	5.0 U	5.0	1	11/20/18 04:21	
Tetrachloroethene (PCE)	5.0 U	5.0	1	11/20/18 04:21	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	11/20/18 04:21	
Trichloroethene (TCE)	**31**	5.0	1	11/20/18 04:21	
Vinyl Chloride	5.0 U	5.0	1	11/20/18 04:21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	85 - 122	11/20/18 04:21	
Dibromofluoromethane	99	89 - 119	11/20/18 04:21	
Toluene-d8	102	87 - 121	11/20/18 04:21	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1811036
Project:	Gowanda/6974.96	**Date Collected:**	11/13/18 10:45
Sample Matrix:	Water	**Date Received:**	11/14/18 09:50
Sample Name:	DR-4	**Units:**	ug/L
Lab Code:	R1811036-026	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	**9.2**	5.0	1	11/20/18 04:43	
trans-1,2-Dichloroethene	5.0 U	5.0	1	11/20/18 04:43	
Tetrachloroethene (PCE)	5.0 U	5.0	1	11/20/18 04:43	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	11/20/18 04:43	
Trichloroethene (TCE)	**28**	5.0	1	11/20/18 04:43	
Vinyl Chloride	5.0 U	5.0	1	11/20/18 04:43	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	93	85 - 122	11/20/18 04:43	
Dibromofluoromethane	95	89 - 119	11/20/18 04:43	
Toluene-d8	98	87 - 121	11/20/18 04:43	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1811036
Project:	Gowanda/6974.96	**Date Collected:**	11/13/18 23:59
Sample Matrix:	Water	**Date Received:**	11/14/18 09:50
Sample Name:	MW-X	**Units:**	ug/L
Lab Code:	R1811036-027	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	11/20/18 05:05	
trans-1,2-Dichloroethene	5.0 U	5.0	1	11/20/18 05:05	
Tetrachloroethene (PCE)	5.0 U	5.0	1	11/20/18 05:05	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	11/20/18 05:05	
Trichloroethene (TCE)	5.0 U	5.0	1	11/20/18 05:05	
Vinyl Chloride	5.0 U	5.0	1	11/20/18 05:05	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	85 - 122	11/20/18 05:05	
Dibromofluoromethane	98	89 - 119	11/20/18 05:05	
Toluene-d8	102	87 - 121	11/20/18 05:05	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1811036
Project:	Gowanda/6974.96	**Date Collected:**	11/13/18 23:59
Sample Matrix:	Water	**Date Received:**	11/14/18 09:50
Sample Name:	Equip Blank	**Units:**	ug/L
Lab Code:	R1811036-028	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	11/20/18 01:46	
trans-1,2-Dichloroethene	5.0 U	5.0	1	11/20/18 01:46	
Tetrachloroethene (PCE)	5.0 U	5.0	1	11/20/18 01:46	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	11/20/18 01:46	
Trichloroethene (TCE)	5.0 U	5.0	1	11/20/18 01:46	
Vinyl Chloride	5.0 U	5.0	1	11/20/18 01:46	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	93	85 - 122	11/20/18 01:46	
Dibromofluoromethane	97	89 - 119	11/20/18 01:46	
Toluene-d8	99	87 - 121	11/20/18 01:46	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1811036
Project:	Gowanda/6974.96	**Date Collected:**	11/13/18 23:59
Sample Matrix:	Water	**Date Received:**	11/14/18 09:50
Sample Name:	Trip Blank	**Units:**	ug/L
Lab Code:	R1811036-029	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	11/20/18 01:24	
trans-1,2-Dichloroethene	5.0 U	5.0	1	11/20/18 01:24	
Tetrachloroethene (PCE)	5.0 U	5.0	1	11/20/18 01:24	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	11/20/18 01:24	
Trichloroethene (TCE)	5.0 U	5.0	1	11/20/18 01:24	
Vinyl Chloride	5.0 U	5.0	1	11/20/18 01:24	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	94	85 - 122	11/20/18 01:24	
Dibromofluoromethane	93	89 - 119	11/20/18 01:24	
Toluene-d8	98	87 - 121	11/20/18 01:24	

QC Summary Forms

ALS Environmental—Rochester Laboratory
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Volatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory
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Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: Bergmann Associates, Incorporated **Service Request:** R1811036
Project: Gowanda/6974.96
Sample Matrix: Water

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Extraction Method: EPA 5030C

Sample Name	Lab Code	4-Bromofluorobenzene 85-122	Dibromofluoromethane 89-119	Toluene-d8 87-121
MW-1	R1811036-001	93	97	100
MW-2	R1811036-002	93	97	98
MW-3	R1811036-003	93	96	99
MW-4	R1811036-004	93	98	100
MW-5	R1811036-005	94	98	101
MW-6	R1811036-006	94	99	101
MW-7	R1811036-007	93	97	99
MW-8	R1811036-008	94	97	99
MW-9	R1811036-009	94	98	101
MW-10	R1811036-010	94	98	100
MW-11	R1811036-011	92	97	98
MW-12	R1811036-012	94	98	100
MW-13	R1811036-013	93	97	99
MW-14	R1811036-014	94	96	98
MW-15	R1811036-015	93	97	99
MW-16	R1811036-016	93	98	99
MW-17	R1811036-017	94	96	99
MW-18	R1811036-018	92	96	98
MW-20	R1811036-019	93	95	98
G-1	R1811036-020	95	98	101
G-2	R1811036-021	95	97	101
G-3	R1811036-022	95	95	100
DR-1	R1811036-023	100	100	104
DR-2	R1811036-024	96	100	101
DR-3	R1811036-025	98	99	102
DR-4	R1811036-026	93	95	98
MW-X	R1811036-027	96	98	102
Equip Blank	R1811036-028	93	97	99
Trip Blank	R1811036-029	94	93	98
Method Blank	RQ1812914-04	93	97	100
Lab Control Sample	RQ1812914-03	97	101	99
MW-1 MS	RQ1812914-05	101	100	101
MW-1 DMS	RQ1812914-06	100	100	100
Method Blank	RQ1812915-04	93	96	100
Lab Control Sample	RQ1812915-03	96	97	98
DR-1 MS	RQ1812915-05	102	102	101
DR-1 DMS	RQ1812915-06	99	101	100

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1811036
Project:	Gowanda/6974.96	**Date Collected:**	11/13/18
Sample Matrix:	Water	**Date Received:**	11/14/18
		Date Analyzed:	11/19/18
		Date Extracted:	NA

Duplicate Matrix Spike Summary
Volatile Organic Compounds by GC/MS

Sample Name:	MW-1	**Units:**	ug/L
Lab Code:	R1811036-001	**Basis:**	NA
Analysis Method:	8260C		
Prep Method:	EPA 5030C		

		Matrix Spike RQ1812914-05			Duplicate Matrix Spike RQ1812914-06					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
cis-1,2-Dichloroethene	180	431	250	102	421	250	98	77-127	2	30
trans-1,2-Dichloroethene	25 U	265	250	106	259	250	104	73-118	2	30
Tetrachloroethene (PCE)	25 U	216	250	86	217	250	87	72-125	<1	30
1,1,1-Trichloroethane (TCA)	25 U	246	250	99	248	250	99	74-127	<1	30
Trichloroethene (TCE)	900	1120 E	250	88	1110 E	250	82	74-122	1	30
Vinyl Chloride	25 U	245	250	98	237	250	95	74-159	4	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1811036
Project:	Gowanda/6974.96	**Date Collected:**	11/13/18
Sample Matrix:	Water	**Date Received:**	11/14/18
		Date Analyzed:	11/20/18

Duplicate Matrix Spike Summary
Volatile Organic Compounds by GC/MS

Sample Name:	DR-1	**Units:**	ug/L
Lab Code:	R1811036-023	**Basis:**	NA
Analysis Method:	8260C		

		Matrix Spike RQ1812915-05			Duplicate Matrix Spike RQ1812915-06					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
cis-1,2-Dichloroethene	210	751	500	109	737	500	106	77-127	2	30
trans-1,2-Dichloroethene	50 U	571	500	114	579	500	116	73-118	1	30
Tetrachloroethene (PCE)	50 U	504	500	101	497	500	99	72-125	1	30
1,1,1-Trichloroethane (TCA)	50 U	564	500	113	569	500	114	74-127	<1	30
Trichloroethene (TCE)	1100	1610	500	102	1520	500	83	74-122	6	30
Vinyl Chloride	50 U	559	500	112	553	500	111	74-159	1	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1811036
Project:	Gowanda/6974.96	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1812914-04	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	11/19/18 00:46	
trans-1,2-Dichloroethene	5.0 U	5.0	1	11/19/18 00:46	
Tetrachloroethene (PCE)	5.0 U	5.0	1	11/19/18 00:46	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	11/19/18 00:46	
Trichloroethene (TCE)	5.0 U	5.0	1	11/19/18 00:46	
Vinyl Chloride	5.0 U	5.0	1	11/19/18 00:46	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	93	85 - 122	11/19/18 00:46	
Dibromofluoromethane	97	89 - 119	11/19/18 00:46	
Toluene-d8	100	87 - 121	11/19/18 00:46	

Analytical Report

Client:	Bergmann Associates, Incorporated	**Service Request:**	R1811036
Project:	Gowanda/6974.96	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1812915-04	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
cis-1,2-Dichloroethene	5.0 U	5.0	1	11/20/18 01:02	
trans-1,2-Dichloroethene	5.0 U	5.0	1	11/20/18 01:02	
Tetrachloroethene (PCE)	5.0 U	5.0	1	11/20/18 01:02	
1,1,1-Trichloroethane (TCA)	5.0 U	5.0	1	11/20/18 01:02	
Trichloroethene (TCE)	5.0 U	5.0	1	11/20/18 01:02	
Vinyl Chloride	5.0 U	5.0	1	11/20/18 01:02	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	93	85 - 122	11/20/18 01:02	
Dibromofluoromethane	96	89 - 119	11/20/18 01:02	
Toluene-d8	100	87 - 121	11/20/18 01:02	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Bergmann Associates, Incorporated
Project: Gowanda/6974.96
Sample Matrix: Water

Service Request: R1811036
Date Analyzed: 11/19/18

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1812914-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
cis-1,2-Dichloroethene	8260C	20.7	20.0	104	80-121
trans-1,2-Dichloroethene	8260C	21.6	20.0	108	73-118
Tetrachloroethene (PCE)	8260C	20.3	20.0	101	72-125
1,1,1-Trichloroethane (TCA)	8260C	22.3	20.0	112	75-125
Trichloroethene (TCE)	8260C	19.0	20.0	95	74-122
Vinyl Chloride	8260C	21.4	20.0	107	74-159

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Bergmann Associates, Incorporated
Project: Gowanda/6974.96
Sample Matrix: Water

Service Request: R1811036
Date Analyzed: 11/20/18

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1812915-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
cis-1,2-Dichloroethene	8260C	20.6	20.0	103	80-121
trans-1,2-Dichloroethene	8260C	20.7	20.0	104	73-118
Tetrachloroethene (PCE)	8260C	18.8	20.0	94	72-125
1,1,1-Trichloroethane (TCA)	8260C	20.7	20.0	104	75-125
Trichloroethene (TCE)	8260C	17.9	20.0	90	74-122
Vinyl Chloride	8260C	20.8	20.0	104	74-159

APPENDIX B:

IC/EC CHECKLIST

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Division of Environmental Remediation
625 Broadway, 11th Floor, Albany, NY 12233-7020
P: (518)402-9543 | F: (518)402-9547
www.dec.ny.gov

6/11/2019

Joe Whitney
Director Of Capital Services
NYS OPWDD
44 Holland Ave.
Albany, NY 12229

Re: Reminder Notice: Site Management Periodic Review Report and IC/EC Certification Submittal
Site Name: Gowanda Day Habilitation Center
Site No.: V00463
Site Address: 4 Industrial Place
Gowanda, NY 14070

Dear Joe Whitney:

This letter serves as a reminder that sites in active Site Management (SM) require the submittal of a periodic progress report. This report, referred to as the Periodic Review Report (PRR), must document the implementation of, and compliance with, site-specific SM requirements. Section 6.3(b) of DER-10 *Technical Guidance for Site Investigation and Remediation* (available online at http://www.dec.ny.gov/regulations/67386.html) provides guidance regarding the information that must be included in the PRR. Further, if the site is comprised of multiple parcels, then you as the Certifying Party must arrange to submit one PRR for all parcels that comprise the site. The PRR must be received by the Department no later than **May 06, 2019**. Guidance on the content of a PRR is enclosed.

Site Management is defined in regulation (6 NYCRR 375-1.2(at)) and in Chapter 6 of DER-10. Depending on when the remedial program for your site was completed, SM may be governed by multiple documents (e.g., Operation, Maintenance, and Monitoring Plan; Soil Management Plan) or one comprehensive Site Management Plan.

A Site Management Plan (SMP) may contain one or all of the following elements, as applicable to the site: a plan to maintain institutional controls and/or engineering controls ("IC/EC Plan"); a plan for monitoring the performance and effectiveness of the selected remedy ("Monitoring Plan"); and/or a plan for the operation and maintenance of the selected remedy ("O&M Plan"). Additionally, the technical requirements for SM are stated in the decision document (e.g., Record of Decision) and, in some cases, the legal agreement directing the remediation of the site (e.g., order on consent, voluntary agreement, etc.).

When you submit the PRR (by the due date above), include the enclosed forms documenting that all SM requirements are being met. The Institutional Controls (ICs) portion of the form (Box 6) must be signed by you or your designated representative. The Engineering Controls (ECs) portion of the form (Box 7) must be signed by a Professional Engineer (PE). If you cannot certify that all SM requirements are being met, you must submit a Corrective Measures Work Plan that identifies the actions to be taken to restore compliance. The work plan must include a schedule to be approved by the Department. The Periodic Review process will not be considered complete until all necessary corrective measures are completed and all required controls are certified. Instructions for completing the certifications are enclosed.

All site-related documents and data, including the PRR, must be submitted in electronic format to the Department of Environmental Conservation. The required format for documents is an Adobe PDF file with optical character recognition and no password protection. Data must be submitted as an electronic data deliverable (EDD) according to the instructions on the following webpage:

https://www.dec.ny.gov/chemical/62440.html

Documents may be submitted to the project manager either through electronic mail or by using the Department's file transfer service at the following webpage:

https://fts.dec.state.ny.us/fts/

The Department will not approve the PRR unless all documents and data generated in support of the PRR have been submitted using the required formats and protocols.

You may contact David Szymanski, the Project Manager, at 716-851-7220 or david.szymanski@dec.ny.gov with any questions or concerns about the site. Please notify the project manager before conducting inspections or field work. You may also write to the project manager at the following address:

New York State Department of Environmental Conservation
270 Michigan Ave
Buffalo, NY 14203-2915

Enclosures

PRR General Guidance
Certification Form Instructions
Certification Forms

cc: w/ enclosures

NYS OPWDD
Ny State Opwdd

ec: w/ enclosures

David Szymanski, Project Manager

Chad Staniszewski, Hazardous Waste Remediation Supervisor, Region 9

Bergmann Associates - Stephen DeMeo - sdemeo@BERGMANNPC.com

Enclosure 1

Certification Instructions

I. Verification of Site Details (Box 1 and Box 2):

Answer the three questions in the Verification of Site Details Section. The Owner and/or Qualified Environmental Professional (QEP) may include handwritten changes and/or other supporting documentation, as necessary.

II. Certification of Institutional Controls/ Engineering Controls (IC/ECs)(Boxes 3, 4, and 5)

1. Review the listed IC/ECs, confirming that all existing controls are listed, and that all existing controls are applicable. If there is a control that is no longer applicable the Owner / Remedial Party should petition the Department separately to request approval to remove the control.

2. In Box 5, complete certifications for all Plan components, as applicable, by checking the corresponding checkbox.

3. If you cannot certify "YES" for each Control listed in Box 3 & Box 4, sign and date the form in Box 5. Attach supporting documentation that explains why the **Certification** cannot be rendered, as well as a plan of proposed corrective measures, and an associated schedule for completing the corrective measures. Note that this **Certification** form must be submitted even if an IC or EC cannot be certified; however, the certification process will not be considered complete until corrective action is completed.

If the Department concurs with the explanation, the proposed corrective measures, and the proposed schedule, a letter authorizing the implementation of those corrective measures will be issued by the Department's Project Manager. Once the corrective measures are complete, a new Periodic Review Report (with IC/EC Certification) must be submitted within 45 days to the Department. If the Department has any questions or concerns regarding the PRR and/or completion of the IC/EC Certification, the Project Manager will contact you.

III. IC/EC Certification by Signature (Box 6 and Box 7)**:**

If you certified "YES" for each Control, please complete and sign the IC/EC Certifications page as follows:

- For the Institutional Controls on the use of the property, the certification statement in Box 6 shall be completed and may be made by the property owner or designated representative.

- For the Engineering Controls, the certification statement in Box 7 must be completed by a Professional Engineer or Qualified Environmental Professional, as noted on the 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. **V00463**

Site Name **Gowanda Day Habilitation Center**

Site Address: 4 Industrial Place Zip Code: 14070
City/Town: Gowanda
County: Cattaraugus
Site Acreage: 5.940

Reporting Period: October 23, 2018 to April 06, 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? Commercial and Industrial	☒	☐
7. Are all ICs/ECs in place and functioning as designed?	☒	☐

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

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

Carl Bergmann
Signature of Owner, Remedial Party or Designated Representative

6/13/2019
Date

SITE NO. V00463

Description of Institutional Controls

Parcel	Owner	Institutional Control
16.027-2-11	NY State OPWDD	Ground Water Use Restriction Soil Management Plan Building Use Restriction

Site is deed restricted with an SMP (2/22/2008). There is use restriction for industrial and commercial, excluding, medical and day care services. Further restriction is that a sub-slab vapor mitigation system is required before occupancy.

Description of Engineering Controls

Parcel	Engineering Control
16.027-2-11	Groundwater Treatment System Vapor Mitigation

Dual phase soil vapor and groundwater pump and treat with pneumatic high vacuum pumps. Treatment is by best available technology, currently air stripping with carbon treatment of exhaust gas. Treated water is passed to the municipal treatment facility.

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 e

YES	NO
☒	☐

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

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

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

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

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

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

YES	NO
☐	☐

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

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

Signature of Owner, Remedial Party or Designated Representative

Date

IC CERTIFICATIONS
SITE NO. V00463

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 Cash Bleier (print name) at 280 E Broad St, #200 Rochester, NY, 14604 (print business address)

am certifying as Remedial Party Representative (Owner or Remedial Party)

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

Cash Bleier

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

6/13/2019

Date

IC/EC CERTIFICATIONS

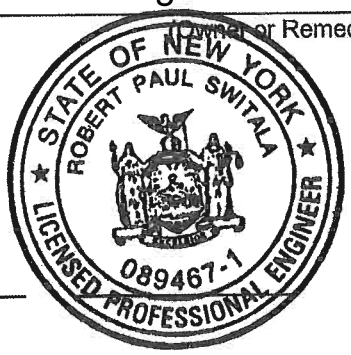
Box 7

Professional Engineer Signature

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

I ROBERT SWITALA at Bergmann: 280 E. Broad Street, Suite 200, Rochester, NY 14604,
print name print business address

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



6/17/19

Signature of Professional Engineer, for the Owner or Remedial Party, Rendering Certification

Stamp (Required for PE)

Date