

**2016 PERIODIC REVIEW REPORT
COOPERVISION
711 NORTH STREET
SCOTTSVILLE, NEW YORK**

**by Haley & Aldrich of New York
Rochester, New York**

**for New York State Department of Environmental Conservation
East Avon, New York**

File No. 129375-002
15 June 2017





Haley & Aldrich of New York
200 Town Centre Drive
Suite 2
Rochester, NY 14623
585.359.9000

15 June 2017
File No. 129375-002

New York State Department of Environmental Conservation
Division of Environmental Remediation, Region 8
6274 East Avon-Lima Road
East Avon, New York 14414

Attention: Mr. Frank Sowers, P.E.

Subject: Periodic Review Report for May 2016 – 2017
CooperVision Facility – VCA Site#V00175
711 North Street
Scottsville, New York

Ladies and Gentlemen:

Haley & Aldrich of New York is pleased to provide this Periodic Review Report (PRR) for the CooperVision Facility (VCA #V00175) located in Scottsville, New York on behalf of CooperVision, Inc. This report summarizes activities performed during the period 16 May 2016 through 16 May 2017. This report also summarizes site groundwater monitoring and sampling activities, and performance monitoring of the sub-slab depressurization system (SSDS).

This report is being submitted to the New York State Department of Environmental Conservation (NYSDEC) in electronic (Adobe Acrobat) format conforming to the requirements of the NYSDEC letter dated 17 April 2017.

15 June 2017

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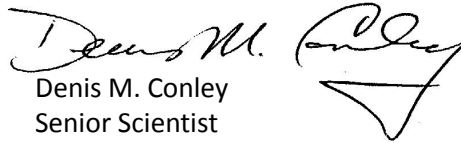
Please do not hesitate to contact us should you have any questions regarding this report.

Sincerely yours,

HALEY & ALDRICH OF NEW YORK



Mark N. Ramsdell, P.E.
Senior Project Manager



Denis M. Conley
Senior Scientist



Vincent B. Dick
Principal

Enclosures

c: CooperVision; Bob Ooyama; James Mazurowski
Baker Hostetler; Christopher H. Marraro, Esq.

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Executive Summary

The CooperVision VCA Site#V00175 is located at 711 North Road in Scottsville, New York (See Figures 1 and 2) (the “Site”). The Site has been used for manufacturing of contact lenses since the mid-1970s. It includes the original site building with later additions comprising an aggregate total building area of approximately 50,000 sq. ft. Soil and groundwater on some portions of the Site have been found to contain certain volatile organic compounds (VOCs), primarily 1,1,1-trichloroethane (1,1,1-TCA) and its breakdown daughter products.

The Site has been remediated as part of the New York State Department of Environmental Conservation (NYSDEC) Voluntary Cleanup Program (VCP). The New York Department of Environmental Conservation (NYSDEC) approved remedy for the Site included the following:

- Injection of Hydrogen Release Compound (HRC) to stimulate reductive dichlorination of the Site contaminants of concern (performed 2001).
- Installation and operation of a sub-slab depressurization system in the Site building to mitigate potential soil vapor intrusion (constructed and started 2006, operated continuously since).
- Installation of soil-bentonite-cement trench collars along utility lines to mitigate the potential for impacted soil vapors from migrating offsite via a potential preferential subsurface utility pathway (constructed 2008 and maintained in-place since).

Also included as part of the NYSDEC approved remedy was the recording of Deed Restrictions; the Deed Restrictions address administrative control requirements of the VCA, including, but not limited to continuing the industrial use of the property, preventing use of groundwater at the site without prior approval of the state, and other measures required by NYSDEC, such as adherence to a NYSDEC-approved Site Management Plan (SMP) for long-term management of the Site to maintain protection of human health and the environment.

Following approval of the Final Engineering Report (FER) on 16 June 2010 and the SMP on 29 July 2010, the NYSDEC granted CooperVision a release from liability for the Site on 29 November 2010. The Site is maintained per the approved SMP.

The site management program consists of implementing institutional and engineering controls (IC/ECs). Engineering controls include maintenance of the existing site cover, the sub-slab depressurization system (SSDS), and utility trench collars. Monitoring of the engineering controls is conducted periodically per the SMP. Institutional controls include those listed in the Deed Restrictions on the property, which include groundwater and land use restrictions, and adherence to the SMP. The institutional and engineering controls have remained in-place and functioned as designed during the reporting period, without exception.

In addition, semi-annual groundwater sampling was conducted to monitor effectiveness of the Site remedy. The groundwater results indicate that the Site conditions are stable except for results of trend analysis for one well, MW-202 which showed an increasing trend starting in the Spring of 2012 based on trend analysis criteria established in the SMP. As a result of this trend, a Remedial Action Work Plan was developed to inject and monitor additional bioremediation substrate in the immediate upgradient area of MW-202. An injection of Emulsified Vegetable Oil (EVO) as a bioremediation substrate was completed for this objective, in the period of November 2013 to October 2014. In addition, follow-up

placement of a Biotrap® to characterize the microbial community available to break down the site COC was included in the monitoring following injection.

Seven rounds of sampling have been completed since the injection of the EVO. The results of the groundwater monitoring conducted in October 2016 and April 2017 show changes in the groundwater geochemistry indicating enhanced reducing conditions within the groundwater and an increase in available organic substrate to support bioremediation of the Site COC within the injection array and down gradient to the area of MW-202.

However, the results of the Biotrap® analysis indicated that there was a low population density of microorganisms known to biodegrade the Site COC, therefore a consortium of microorganisms was obtained from Terrasystems Inc., a vendor of bioremediation products and introduced into the bioaugmentation points. The addition of the consortium of microorganisms should further promote the intrinsic in-situ bioremediation processes and reduce the concentrations of the Site COCs.

Even though the concentrations of 1,1-DCE and 1,1-DCA at MW-202 have decreased during the reporting period, the Mann Kendall trend analysis of the historical groundwater monitoring data continues to show an “increasing trend,” with one set of seasonal concentrations showing increasing values, while the other set of seasonal concentration data shows a stable to decreasing trend.

There were no areas of non-compliance noted during the reporting period. The SMP and Deed Restrictions remain in-place, groundwater has not been used, and Site use is consistent with land use restrictions (commercial/industrial).

We have no recommended changes to the site management program with this PRR.

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1. Site Overview

The CooperVision VCA Site#V00175 is located at 711 North Road in Scottsville, New York (See Figures 1 and 2) (the "Site"). The Site has been used for manufacturing (fabrication of contact lenses) since the mid-1970s and includes the original building with additions having a total area of approximately 50,000 sq. ft. Soil and groundwater on some portions of the Site contain certain volatile organic compounds (VOCs), primarily 1,1,1-trichloroethane (1,1,1-TCA).

Soil and groundwater investigations were conducted at the Site between 1998 and 2000 as part of application for and acceptance into a 1998 investigation Voluntary Cleanup Agreement (VCA). Following investigation, a remedy was selected for the Site, which consisted of an injection with hydrogen release compound (HRC) to stimulate and enhance intrinsic bioremediation of the VOCs in the soil and groundwater. The HRC injection was conducted in 2001. In addition, a sub-slab depressurization system (SSDS) was installed in a portion of the Site building as a mitigative measure in 2006 as part of an Interim Remedial Measure (IRM).

A supplemental vapor intrusion investigation was conducted on the Site, in the right-of-way to the east of the Site, and on the adjacent apartments/townhomes to the east of the Site in 2008 and 2009. The investigation revealed soil vapors with detectable concentrations of Site compounds (1,1,1-TCA, 1,1-dichloroethene (1,1-DCE), 1,1-dichloroethane (1,1-DCA), chloroethane, and vinyl chloride) along the property line and in the adjacent eastern right-of-way, though the vapors were determined not to be adversely impacting the indoor air or sub-slab vapor at the apartment or townhome buildings to the east (per indoor air and sub-slab vapor testing). In addition to the investigation, a second IRM was completed that consisted of installing soil-bentonite-cement (SBC) trench collars in five (5) locations along existing utilities located on the CooperVision Site and within the adjacent eastern right-of-way. The purpose of the trench collars was to mitigate the potential for Site and nearby utility lines to act as potential preferential pathways for impacted soil vapors and groundwater.

Also included as part of the remedy, was the recording of Deed Restrictions. The Deed Restrictions address administrative control requirements of the VCA, including, but not limited to continuing the industrial use of the property, preventing use of groundwater at the site without prior approval of the state, and other measures required by NYSDEC, such as adherence to this Site Management Plan for long-term management of the Site to maintain protection of human health and the environment.

Following submittal and approval of a 16 June 2010 Final Engineering Report (FER) and 29 July 2010 Site Management Plan (SMP), the NYSDEC granted CooperVision a release from liability for the Site on 29 November 2010.

This report summarizes activities performed during the period 16 May 2016 through 16 May 2017. Historical data shown in this report contains data collected since the SMP was approved. The corrective action was continued during the reporting period to address concentrations of Site related compounds observed at MW-202 during the 2012 reporting period which were determined through the SMP trend analysis procedure to constitute an increasing trend in the previous reporting period.

A Remedial Action Work Plan (RAWP) was developed and implemented, which included the installation of an array of injection wells between the source area and monitoring well MW-202. The RAWP was

approved by the Department on 18 October 2013 and was implemented in November 2013 with periodic injections of an organic carbon substrate consisting of Emulsified Vegetable Oil (EVO) from December 2013 through October 2014.

The corrective action activities included:

- The installation of seven (7) permanent injection wells
- The installation of two (2) bioaugmentation points (BAP)
- The introduction of emulsified oil via gravity infiltration to the BAP wells as a bio-stimulation substrate
- The collection of groundwater samples at the BAP locations (7 events) and,
- The introduction of a consortium of microorganisms into the BAP wells and the adjacent injection points (IP-5 and IP-6) to further promote in-situ bioremediation processes.

The Site has otherwise continued to be maintained under the 2010 Site Management Plan.

2. Compliance Report

2.1 INSTITUTIONAL CONTROLS - REQUIREMENTS AND COMPLIANCE

A series of site use restrictions in the form of Deed Restrictions are in effect at the Site. These restrictions include prohibition of groundwater use unless rendered safe for the intended purpose and land use restrictions (commercial and/or industrial use, only). The Deed Restrictions also stipulate that the Site is managed under an approved SMP that is periodically certified to confirm that the engineering controls remain in-place at the Site and continue to be protective.

The site restrictions have not been breached, and the Deed Restrictions remained in force during the reporting period. Certifications are included in Appendix A.

2.2 ENGINEERING CONTROLS - REQUIREMENTS AND COMPLIANCE

There are three engineering controls in place at the Site, which are as follows and further described in the sections below:

1. Existing Cover
2. Sub-Slab Depressurization System
3. Soil-Bentonite-Cement Utility Trench Collars

2.2.1 Existing Cover

Potential exposure to residual contamination at the Site is prevented by an existing cover, which consists of the CooperVision building slab, pavement, and vegetative cover. The existing cover is required to be maintained in accordance with the SMP. Excavations that breach the existing cover may require additional monitoring and soil management in accordance with the Excavation Management Plan included in the SMP. In addition, certain fill materials imported onto the Site must be tested prior to Site use to demonstrate that they comply with the requirements in the SMP. The cover system is monitored via visual inspection at the time of excavation as required, and during periodic Site visits as part of monitoring and certification.

2.2.1.1 Building Renovations and Gowning Room Waterline Installation

During the 2016-2017 reporting period, CooperVision has had ongoing interior renovations in the main manufacturing area located north of the source area and in the sealing room located west of the source area (See Appendix B for building permit).

On 20 April 2017, CooperVision's contractor, Hamilton Stern Construction (Hamilton Stern) subcontracted Genesee Environmental, LLC to dig a trench for the extension of the plumbing to the Gowning room. Approximately 57.5 feet of concrete was cut and removed. Soils were removed by hand to a depth of 18 inches below ground surface. Approximately 70 cubic yards of excavated soils were staged on a closed top roll off for disposal. Haley & Aldrich conducted screening of the soil with a handheld PID. No impacted soils or elevated PID readings were observed. After pipe installation, the trench was backfilled with #2 crushed stone from Hanson Stone Facility. Approximately 6 inches of

concrete was poured and graded. One sample was collected from the staged soil and analyzed for VOCs, Semi Volatile Organic Compounds (SVOCs), Polychlorinated biphenyl (PCBs), Pesticides, Herbicides and Metals. All analytical results passed the Commercial Use SCO criteria. Excavated soils were disposed of at the Mill Seat Landfill located in Bergen, NY on 5 May 2017. Refer to Figure 5 for waterline trench location and dimensions. Refer to Appendix C for the soil analytical data and disposal documentation.

2.2.1.2 Well Maintenance

In the 15 August 2016 PRR response letter, the NYSDEC accepted the recommendation to decommission well MW-1, and subsequently the decommissioning procedures via email dated 11 October 2016. The email and field documentation of the decommissioning of MW-1 can be found in Appendix D. CP-43 guidelines were followed using the grout and pull method. The well-casing was removed as grout was simultaneously placed in the borehole up to ground surface.

In accordance with the SMP, monitoring wells are inspected during each groundwater sampling event to assess structural integrity and overall performance. During the October 2016 groundwater sampling event, it was observed that MW-501 required maintenance and/or repairs. In addition, prior to the April 2017 groundwater sampling event, it was observed that a number of wells required repair/replacement of the road box casing and surrounding concrete pad. Well maintenance is required to maintain integrity of the well and to ensure accurate measurements are obtained during future sampling events.

Well maintenance was performed on four (4) wells by Matrix Environmental during the reporting period under direct oversight of Haley & Aldrich on 15 November 2016 and 28 April 2017. No soil disturbance occurred beneath the asphalt cover. The maintenance was completed as follows:

- 15 November 2016—Remove and replace roadbox at MW-501. A two-foot by two-foot section of asphalt was saw cut and removed and a new 8-inch road box was installed with a surrounding concrete pad.
- 28 April 2017—Remove and replace roadbox in OWD-302 and two injection point wells. Two foot by two foot sections of asphalt and concrete were saw cut and removed for the installation of a new roadbox assembly and concrete pad in these three (3) wells locations.

In summary, the site cover was disturbed only for the activities described above and documented herein, and at the close of this PRR reporting period the cover was intact.

2.2.2 Sub-Slab Depressurization System

A sub-slab depressurization (SSD) system was installed as a contingency measure in order to mitigate potential risks of soil vapor intrusion, at the request of the NYSDEC and the New York State Department of Health (NYSDOH). The system was designed according to the “Sub-Slab Depressurization System (Amended Work Plan)” dated 18 May 2006 (Amended SSD Work Plan) and correspondence from the NYSDEC (RE: CooperVision Site #V00175-8, Sub-Slab Depressurization System (Amended Work Plan)) dated 8 August 2006.

Six (6) fans were installed to depressurize the sub-slab in the vicinity of the identified source area of groundwater contamination, each with a discrete suction location (except for the fan above the switch

gear room which has two suction locations). The fans are located on the roof of the facility. In addition to the suction points and fans, seventeen (17) permanent vacuum measurement points were installed.

Based on vacuum testing results and regular system monitoring, the sub-slab depressurization system appears to continue to be working as designed. Refer to Section 3.2 below, for additional information, including updates provided with this PRR.

2.2.3 Soil-Bentonite-Cement Utility Trench Collars

In order to reduce the potential for onsite and offsite utility lines (natural gas and water) to act as preferred pathways for offsite migration of soil vapor, five (5) soil-bentonite-cement (SBC) trench collars were installed along both the natural gas and water lines on the CooperVision Site and in the adjacent eastern right-of-way (Figure 2). The trench collars are monitored via visual inspection at the time of utility excavations if and when such excavations are required.

Activities that would have impacted the integrity of the trench collars were not performed during the reporting period. The trench collars therefore remain in-place as designed and installed.

2.2.4 Remedial Action Work Plan Implementation

After determination of the increasing concentration trend at MW-202, a Remedial Action Work Plan (RAWP) was prepared by Haley & Aldrich dated 1 October 2013. The RAWP included an EVO Injection to be performed at the Site in close proximity to the MW-202 well. The NYSDEC approved the plan on October 18, 2013, and the implementation was commenced on 18 November 2013.

Two (2) microwell points, useable for bioaugmentation, were installed following the injection point installation. The microwells were constructed with 1-inch PVC risers with 0.10 slotted well screens extending from 10 to 20 feet bgs. The injection points were constructed of 4-inch PVC risers and pea stone filled open bore holes from 10 to 20 feet bgs. After installation of the points and micro wells, initial water levels were monitored and the EVO was poured into each injection point in measured amounts and allowed to penetrate into the formation via gravity. The gravity feed process was repeated periodically from November 2013 to October 2014. A total of 110 gallons of emulsified vegetable oil has been injected.

In accordance with the work plan, when evidence of the EVO was detected at MW-202, following the collection of the semi-annual groundwater samples in October 2016, an un-baited Biotrap® was installed within the well screen of MW-202 to evaluate the effectiveness of the EVO to stimulate indigenous microbial population in the groundwater downgradient from the facility. A supplemental memorandum prepared by Haley & Aldrich was submitted to the NYSDEC on 23 March 2017 presenting the results from the Biotrap® sampling conducted at monitoring well MW-202 (Refer to Appendix E).

Based on the Biotrap® results, a consortium of microorganisms demonstrated to metabolize chlorinated VOCs within bioaugmentation points (BAP-1 and BAP-2) was recommended to be installed between the injection points and MW-202.

Following the collection of the April 2017 semi-annual groundwater sampling event, approximately 9.5 liters of Dehalococcoides mccartyi/Dehalobacter Bioaugmentation Cultures® was injected using the Terra

System Inc. Culture Delivery Procedure. The bacteria culture was injected into BAP-1 and BAP-2 well locations in addition to a combination of nearby injection point locations. Appendix F provides the bioaugmentation culture delivery systems manual and operating procedure for culture injection. No additional emulsified vegetable oil injection was required or completed during this reporting period.

Activities required by the RAWP have been completed in this reporting period; we recommend to discontinue monitoring the BAP wells and continue with the groundwater sampling program.

2.3 IC/EC CERTIFICATION

Based on site visits and interviews with site personnel, the IC/ECs are herein certified by Robert Ooyama, designated representative of CooperVision Inc. and Mark N. Ramsdell, a professional engineer in the State of New York working for Haley & Aldrich of New York on behalf of CooperVision. Refer to Appendix A for a copy of the appropriate certification documentation.

3. Operations, Maintenance, & Monitoring Plan Compliance Report

Onsite monitoring during this reporting period consisted of two (2) groundwater sampling events in accordance with the sampling and analysis plan in the SMP and one round of sub slab vacuum measurements of the sub-slab depressurization system (SSDS). Monitoring of the groundwater and operations, maintenance, and monitoring of the SSDS are further described below.

3.1 GROUNDWATER MONITORING

Groundwater sampling was conducted in October 2016 and April 2017. Summary tables (Tables I through III), and groundwater contour figures for each event (Figures 3 and 4) are attached, and reflect updated information from the reporting period over past year's PRR reports. The laboratory data has been submitted as an EQUIS® deliverable to the NYSDEC and can be found in Appendix G. Groundwater sampling field forms are in Appendix H. Historical analytical data is presented in Appendix I.

Overall, the data appear consistent with previous sampling events. The following summarizes our observations from the groundwater monitoring program:

3.1.1 Source Area

Refer to Table I for a summary of the results for the source area wells. Wells in the source area (MW-205 and OWS-302S) continue to show evidence that biological degradation is active as described below.

- The groundwater sampling results indicate an overall decreasing concentration for 1,1,1-TCA at well MW-205 over the reporting period. These conditions indicate that this compound is biodegrading as 1,1-DCA continues to be detected at levels consistent with previous sampling events. These conditions indicate that 1,1-DCA is not “stacking” and appears to be degrading even though chloroethane has not been detected at concentrations exceeding the laboratory reporting limits. The biologically mediated reductive dechlorination process for 1,1,1-TCA is shown below:



- 1,1,1-TCA was not detected and chloride ion and chloroethane were detected at OWS-302S during the October 2016 and April 2017 sampling events.
- Metabolic acids, butyric, propionic and acetic were detected at MW-205 indicating that the Hydrogen Release Compound (HRC) injection continues to enhance the reductive dechlorination processes at the Site.
- The presence of ferrous iron (Fe^{2+}) and negative oxidation reduction potential (ORP) readings in the source area indicate that the aquifer conditions continue to be anaerobic, which is conducive to promote further biologically mediated reductive dechlorination.

3.1.2 Mid-plume Area

A summary of mid-gradient area well data (MW-3, MW-501, MW-502) is provided in Table II. Overall, mid-gradient conditions are similar to recent groundwater monitoring events.

- 1,1,1-TCA was not detected at MW-3 during the October 2016 and April 2017 sampling events.
- 1,1-DCA and vinyl chloride concentrations continue to decline or remain steady in the mid plume wells.
- The concentration of chloroethane, the breakdown product of 1,1-DCA, continues to be detected in the mid-plume wells, most notably at MW-502.

3.1.3 Down-gradient Area

Table III provides a summary of groundwater quality for the downgradient wells MW-202, MW-203, MW-204 and OW-306. Overall, down-gradient groundwater conditions at these monitoring well locations are similar to previous monitoring events.

- 1,1,1-TCA concentrations were not detected in the downgradient wells.
- 1,1-DCA and 1,1-dichloroethene (1,1-DCE) were detected in well MW-202 during the reporting period. The concentrations of 1,1-DCA and 1,1, DCE detected during the April 2017 reporting period were lower than the concentrations detected during the October 2016 and prior sampling events indicating that the plume appears to have stabilized in this area of the Site.
- 1.2 mg/L of Total Organic Carbon (TOC) was observed at MW-202 indicating that the carbon substrate injected upgradient (the EVO injection) has migrated to this area of the Site.
- Chloroethane was not detected in the downgradient wells.
- VOCs were not detected at OW-306 and MW-203.

3.1.4 Remedial Action Monitoring Locations

Bioaugmentation points identified as BAP-1 and BAP-2 were installed in November 2013 as part of the corrective action. The points had been sampled in the previous reporting periods and twice this period. The field and indicator parameter analysis data indicate that the injection program has continued to induce reducing groundwater conditions in this area of the Site during the 2016-2017 reporting period. These observations include:

- Negative ORP readings with an average of -235 mV.
- An increase in total alkalinity observed in BAP-01 and BAP-02.
- A lower concentration of sulfate in BAP-01 and BAP-02 relative to MW-202.
- A lower concentration of nitrate than observed in MW-202.

The field and indicator parameter data indicate that the groundwater conditions in this area of the Site will support enhanced biodegradation of the groundwater contaminants via reductive dechlorination. These observations are further supported by the presence of the 1,1,1-TCA daughter products of 1,1-DCA and chloroethane at the BAP monitoring well locations.

With the detection of elevated levels of TOC within the BAP monitoring well locations and at MW-202, it is anticipated that the re-enforced microbial population will further promote the biodegradation of the Site COCs via biologically mediated reductive dechlorination processes as has been observed within the upgradient monitoring well locations (e.g. MW-205, MW-3) at the Site.

To evaluate if the presence of the TOC identified at MW-202 was sufficient to stimulate the intrinsic microbial population to biodegrade the Site COC, a Biotrap® was placed in the well following the October 2016 sampling event. The Biotrap® was retrieved after 60 days and analyzed for the presence of microorganisms known to degrade the Site COCs. The results of the Biotrap® analysis indicated that there was a low population density of microorganisms known to biodegrade the Site COC, therefore a consortium of microorganisms was obtained from Terrasystems Inc., a vendor of bioremediation products and the consortium was injected into BAP-01, BAP-02, IP-05 and IP-06. The addition of the consortium of microorganisms should further promote the intrinsic in-situ bioremediation processes and reduce the concentrations of the Site COCs.

3.1.5 Mann-Kendall Trend Analysis

The results of the VOC analyses from the groundwater sampling events conducted during the reporting period in conjunction with the previous sampling events were evaluated using the Mann-Kendall statistical test for trend analysis (Refer to Appendix J).

The Mann-Kendall trend analysis does not take into account magnitude of an increase or decrease; therefore as 1,1,1-TCA continues to degrade within the source area, it is expected that the daughter compounds, 1,1-DCA and 1,1-DCE will continue to increase in concentration at the downgradient wells prior to establishing a decreasing trend as reductive dechlorination proceeds in the downgradient area of the Site.

In summary, most wells showed no trend, and MW-3 and MW-502 exhibited a decreasing trend. Even though the measured concentration of 1,1-DCE and 1,1-DCA in April 2017 showed a decrease from October 2016, the Mann-Kendall analysis indicated that an increasing trend for these parameters at MW-202 suggesting that desorption of the Site COCs from the soil matrix occurred in and around the injection wells as a result of the introduction of the EVO. This increasing trend will likely be transient as the in-situ degradation processes continue at the Site.

Since the groundwater concentrations for the Site COCs appear to have stabilized and have decreased during the reporting period, these data indicate that the introduction of the EVO and consortium of microorganisms upgradient from MW-202 will continue to increase the intrinsic biodegradation processes in this area of the Site.

3.2 SUB-SLAB DEPRESSURIZATION SYSTEM OPERATIONS, MAINTENANCE, AND MONITORING

The sub-slab depressurization system continuously operates at the Site and is monitored monthly by CooperVision staff. CooperVision staff record the system vacuum readings and operations data on a Maintenance Form. This data is either stored onsite or sent offsite by CooperVision for permanent storing at a document storage facility. SSD system and monitoring documentation can be found in Appendix K. No maintenance was required or performed on the system during the reporting period.

The system was evaluated in April 2017 by Haley & Aldrich. The system evaluation included vacuum measurements at the seventeen (17) existing monitoring points located within the facility. Overall, the system operation is consistent with prior operation, and is operating acceptably and consistent with its intended function, design and construction. Leaks and/or other system concerns were not observed. The sub-slab vacuum levels were above the design criteria of 0.002 inches of water, except in the switchgear room. The switchgear room was noted below the design criteria during the initial installation

and is caused by the negative pressure created by the facility's vacuum pumps located in this room. Vacuum testing results are included in Table IV. Vacuum testing locations are shown on Figure 5.

4. Conclusions & Recommendations

The following are conclusions and recommendations regarding the PRR for the Site during the reporting period:

- Site management complied with the SMP during the reporting period. Excavation and the importation of clean stone from a permitted quarry was conducted during the reporting period and was performed in accordance with the Excavation Management Plan in the SMP.
- The engineering controls (existing cover, sub-slab depressurization system, trench collars) were maintained during the reporting period.
- The Deed Restrictions remain in place. Groundwater has not been used at the Site during the reporting period. Site land use has remained manufacturing during the reporting period as dictated in the deed restrictions.
- Groundwater monitoring results for the relative concentrations of parent (1,1,1-TCA) and daughter products (1,1-DCA) indicate that biodegradation of the Site COCs is continuing at the source and mid-plume areas of the Site.
- The results of the indicator parameter analyses (TOC, ORP, nitrate and sulfate) and the decrease in the observed concentration of Site VOCs at the downgradient area of MW-202 and MW-204 during the April 2017 sampling event suggests that the additional remedial action (EVO injection and bioaugmentation) implemented upgradient from this location is promoting in-situ biodegradation in this area of the Site.
- The implementation of the approved Remedial Action Work Plan has been completed. Seven (7) rounds of sampling have been completed since the EVO injection was initiated, and the groundwater monitoring results indicate that the EVO injection has changed the groundwater geochemistry and enhanced reducing conditions and increased organic substrate to support bioremediation. We recommend to discontinue the monitoring of the BAP wells.

TABLES

TABLE I
SUMMARY OF VOLATILE GASES AND DISSOLVED GASES
SOURCE AREA WELLS
COOPERVISION
SCOTTSVILLE, NY

Location	Action Level	MW-205		OWS-302	
Sample Name	NYSDEC	MW205-101716-1435	MW205-042517-1510	OWS302-101716-1330	OWS302-042517-1435
Sample Date	TOGS	10/17/2016	04/25/2017	10/17/2016	04/25/2017
Sample Type	Ambient	N	N	N	N
Sample Depth (bgs)	Water	21.2 - 28 (ft)	21.2 - 28 (ft)	13 - 17.8 (ft)	13 - 17.8 (ft)
Volatile Organic Compounds (ug/L)					
1,1,1-Trichloroethane	5	50000 J ^[A]	39000 ^[A]	500 R	ND (1000)
1,1,2,2-Tetrachloroethane	5	10000 R	ND (10000)	500 R	ND (1000)
1,1,2-Trichloroethane	1	10000 R	ND (10000)	500 R	ND (1000)
1,1-Dichloroethane	5	220000 J ^[A]	200000 ^[A]	500 R	270 J ^[A]
1,1-Dichloroethene	5	10000 R	1500 J ^[A]	500 R	ND (1000)
1,2-Dichloroethane	0.6	10000 R	ND (10000)	500 R	ND (1000)
1,2-Dichloropropane	1	10000 R	ND (10000)	500 R	ND (1000)
2-Butanone (Methyl Ethyl Ketone)	50	20000 R	ND (20000)	1000 R	ND (2000)
2-Hexanone	50	20000 R	ND (20000)	1000 R	ND (2000)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	-	20000 R	ND (20000)	1000 R	ND (2000)
Acetone	50	20000 R	ND (20000)	1000 R	ND (2000)
Benzene	1	10000 R	ND (10000)	500 R	ND (1000)
Bromodichloromethane	50	10000 R	ND (10000)	500 R	64 J ^[A]
Bromoform	50	10000 R	ND (10000)	500 R	ND (1000)
Bromomethane (Methyl Bromide)	5	10000 R	ND (10000)	500 R	ND (1000)
Carbon disulfide	60	20000 R	ND (20000)	1000 R	ND (2000)
Carbon tetrachloride	5	10000 R	ND (10000)	500 R	ND (1000)
Chlorobenzene	5	10000 R	ND (10000)	500 R	ND (1000)
Chloroethane	5	10000 R	1100 J ^[A]	28000 J ^[A]	17000 ^[A]
Chloroform (Trichloromethane)	7	10000 R	ND (10000)	500 R	330 J ^[A]
Chloromethane (Methyl Chloride)	5	10000 R	ND (10000)	500 R	ND (1000)
cis-1,2-Dichloroethene	5	10000 R	ND (10000)	500 R	ND (1000)
cis-1,3-Dichloropropene	0.4	10000 R	ND (10000)	500 R	ND (1000)
Dibromochloromethane	50	10000 R	ND (10000)	500 R	ND (1000)
Ethylbenzene	5	10000 R	ND (10000)	500 R	ND (1000)
m,p-Xylenes	5	10000 R	ND (10000)	500 R	ND (1000)
Methylene chloride	5	10000 R	ND (10000)	500 R	ND (1000)
o-Xylene	5	10000 R	ND (10000)	500 R	ND (1000)
Styrene	5	10000 R	ND (10000)	500 R	ND (1000)
Tetrachloroethene	5	10000 R	ND (10000)	500 R	ND (1000)
Toluene	5	10000 R	ND (10000)	500 R	ND (1000)
trans-1,2-Dichloroethene	5	10000 R	ND (10000)	500 R	ND (1000)
trans-1,3-Dichloropropene	0.4	10000 R	ND (10000)	500 R	ND (1000)
Trichloroethene	5	10000 R	ND (10000)	500 R	ND (1000)
Vinyl chloride	2	10000 R	ND (10000)	500 R	ND (1000)
Other (mg/L)					
Acetic acid	-	1200 J	1200	-	-
Alkalinity, Total (as CaCO3)	-	3260 J	3430	-	-
Butanoic acid	-	3300 J	3300	-	-
Carbon	-	-	-	-	-
Chloride	-	906 J	684	-	-
Lactic Acid	-	25 R	ND (20)	-	-
Nitrate (as N)	-	1 R	ND (1)	-	-
Nitrite (as N)	-	0.061 J	ND (10)	-	-
Propionic acid	-	870 J	750	-	-
Pyruvic Acid	-	13 R	ND (10)	-	-
Sulfate	250	2 R	2.1	-	-
Sulfide	-	2 R	ND (1)	-	-
Other (ug/L)					
Ethane	-	20 J	ND (50)	-	-

TABLE I
SUMMARY OF VOLATILE GASES AND DISSOLVED GASES
SOURCE AREA WELLS
COOPERVISION
SCOTTSVILLE, NY

	Location	Action Level	MW-205		OWS-302	
	Sample Name	NYSDEC	MW205-101716-1435	MW205-042517-1510	OWS302-101716-1330	OWS302-042517-1435
	Sample Date	TOGS	10/17/2016	04/25/2017	10/17/2016	04/25/2017
	Sample Type	Ambient	N	N	N	N
	Sample Depth (bgs)	Water	21.2 - 28 (ft)	21.2 - 28 (ft)	13 - 17.8 (ft)	13 - 17.8 (ft)
Ethene		-	16 J	ND (50)	-	-
Methane		-	5200 J	4900	-	-
Propane		-	1 R	ND (50)	-	-
Inorganic Compounds (ug/L)						
Iron, Dissolved	300		110000 J ^[A]	109000 ^[A]	-	-
Iron, Total	300		108000 J ^[A]	113000 ^[A]	-	-

Notes:

1. Results shaded orange exceed the following criteria:
[A] - NYSDEC TOGS Ambient Water Class GA

2. Results in **bold** were detected.

3. ND - Not detected above reporting limit.
J - Estimated result
ND (#) J - Not detected, estimated reporting limit.
R - Data rejected by validator

TABLE II
SUMMARY OF VOLATILE GASES AND DISSOLVED GASES
MID-GRADIENT WELLS
COOPERVISION
SCOTTSVILLE, NY

Location Sample Name Sample Date Sample Type Sample Depth (bgs)	Action Level NYSDEC TOGS Ambient Water	BAP-01		BAP-02		MW-3		MW-501		MW-502	
		BAP01-102116-0920	BAP01-042617-0950	BAP02-102116-1050	BAP02-042617-1115	MW3-101716-1150	MW3-042517-1400	MW501-101716-1110	MW501-042517-1230	MW502-101716-1235	MW502-042517-1315
		10/21/2016	04/26/2017	10/21/2016	04/26/2017	10/17/2016	04/25/2017	10/17/2016	04/25/2017	10/17/2016	04/25/2017
		N	N	N	N	N	N	N	N	N	N
		10 - 20 (ft)	10 - 20 (ft)	10 - 20 (ft)	10 - 20 (ft)	3 - 10 (ft)	3 - 10 (ft)	20 - 25 (ft)	20 - 25 (ft)	30 - 35 (ft)	30 - 35 (ft)
Volatile Organic Compounds (ug/L)											
1,1,1-Trichloroethane	5	ND (100)	ND (100)	ND (13)	ND (25)	13 R	ND (13)	5 R	ND (25)	100 R	ND (100)
1,1,2,2-Tetrachloroethane	5	ND (100)	ND (100)	ND (13)	ND (25)	13 R	ND (13)	5 R	ND (25)	100 R	ND (100)
1,1,2-Trichloroethane	1	ND (100)	ND (100)	ND (13)	ND (25)	13 R	ND (13)	5 R	ND (25)	100 R	ND (100)
1,1-Dichloroethane	5	2700 J ^[A]	2000 ^[A]	640 J ^[A]	620 ^[A]	85 J ^[A]	64 ^[A]	140 J ^[A]	98 ^[A]	120 J ^[A]	92 J ^[A]
1,1-Dichloroethene	5	720 J ^[A]	220 ^[A]	270 J ^[A]	160 ^[A]	13 R	ND (13)	5 R	ND (25)	100 R	ND (100)
1,2-Dichloroethane	0.6	ND (100)	ND (100)	ND (13)	ND (25)	13 R	ND (13)	5 R	ND (25)	100 R	ND (100)
1,2-Dichloropropane	1	ND (100)	ND (100)	ND (13)	ND (25)	13 R	ND (13)	5 R	ND (25)	100 R	ND (100)
2-Butanone (Methyl Ethyl Ketone)	50	ND (200)	37 J	ND (25)	ND (50)	25 R	ND (25)	10 R	ND (50)	200 R	ND (200)
2-Hexanone	50	ND (200)	ND (200)	ND (25)	ND (50)	25 R	ND (25)	10 R	ND (50)	200 R	ND (200)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	-	ND (200)	ND (200)	ND (25)	ND (50)	25 R	ND (25)	10 R	ND (50)	200 R	ND (200)
Acetone	50	ND (200)	ND (200)	ND (25)	7.9 J	25 R	ND (25)	10 R	6.5 J	200 R	ND (200)
Benzene	1	ND (100)	ND (100)	ND (13)	ND (25)	13 R	ND (13)	5 R	ND (25)	100 R	ND (100)
Bromodichloromethane	50	ND (100)	ND (100)	ND (13)	ND (25)	13 R	ND (13)	5 R	ND (25)	100 R	ND (100)
Bromoform	50	ND (100)	ND (100)	ND (13)	ND (25)	13 R	ND (13)	5 R	ND (25)	100 R	ND (100)
Bromomethane (Methyl Bromide)	5	ND (100)	ND (100)	ND (13)	ND (25)	13 R	ND (13)	5 R	ND (25)	100 R	ND (100)
Carbon disulfide	60	ND (200)	ND (200)	ND (25)	ND (50)	25 R	ND (25)	10 R	ND (50)	200 R	ND (200)
Carbon tetrachloride	5	ND (100)	ND (100)	ND (13)	ND (25)	13 R	ND (13)	5 R	ND (25)	100 R	ND (100)
Chlorobenzene	5	ND (100)	ND (100)	ND (13)	ND (25)	13 R	ND (13)	5 R	ND (25)	100 R	ND (100)
Chloroethane	5	400 J ^[A]	370 ^[A]	25 J ^[A]	30 ^[A]	400 J ^[A]	280 ^[A]	1100 J ^[A]	620 ^[A]	3000 J ^[A]	2200 ^[A]
Chloroform (Trichloromethane)	7	ND (100)	ND (100)	ND (13)	ND (25)	13 R	ND (13)	5 R	ND (25)	100 R	ND (100)
Chloromethane (Methyl Chloride)	5	ND (100)	ND (100)	ND (13)	ND (25)	13 R	ND (13)	5 R	ND (25)	100 R	ND (100)
cis-1,2-Dichloroethene	5	ND (100)	ND (100)	ND (13)	ND (25)	13 R	ND (13)	5 R	ND (25)	100 R	ND (100)
cis-1,3-Dichloropropene	0.4	ND (100)	ND (100)	ND (13)	ND (25)	13 R	ND (13)	5 R	ND (25)	100 R	ND (100)
Dibromochloromethane	50	ND (100)	ND (100)	ND (13)	ND (25)	13 R	ND (13)	5 R	ND (25)	100 R	ND (100)
Ethylbenzene	5	ND (100)	ND (100)	ND (13)	ND (25)	13 R	ND (13)	5 R	ND (25)	100 R	ND (100)
m,p-Xylenes	5	ND (100)	ND (100)	ND (13)	ND (25)	13 R	ND (13)	5 R	ND (25)	100 R	ND (100)
Methylene chloride	5	ND (100)	ND (100)	ND (13)	ND (25)	13 R	ND (13)	5 R	ND (25)	100 R	ND (100)
o-Xylene	5	ND (100)	ND (100)	ND (13)	ND (25)	13 R	ND (13)	5 R	ND (25)	100 R	ND (100)
Styrene	5	ND (100)	ND (100)	ND (13)	ND (25)	13 R	ND (13)	5 R	ND (25)	100 R	ND (100)
Tetrachloroethene	5	ND (100)	ND (100)	ND (13)	ND (25)	13 R	ND (13)	5 R	2.1 J	100 R	ND (100)
Toluene	5	ND (100)	ND (100)	ND (13)	ND (25)	13 R	ND (13)	5 R	ND (25)	100 R	ND (100)
trans-1,2-Dichloroethene	5	ND (100)	ND (100)	ND (13)	ND (25)	13 R	ND (13)	5 R	ND (25)	100 R	ND (100)
trans-1,3-Dichloropropene	0.4	ND (100)	ND (100)	ND (13)	ND (25)	13 R	ND (13)	5 R	ND (25)	100 R	ND (100)
Trichloroethene	5	ND (100)	ND (100)	ND (13)	2.4 J	13 R	ND (13)	5 R	ND (25)	100 R	ND (100)
Vinyl chloride	2	1400 J ^[A]	1300 ^[A]	110 J ^[A]	150 ^[A]	35 J ^[A]	26 ^[A]	82 J ^[A]	65 ^[A]	260 J ^[A]	230 ^[A]
Other (mg/L)											
Acetic acid	-	37 J	48	2 J	3.9	-	-	-	-	-	-
Alkalinity, Total (as CaCO3)	-	298 J	313	262 J	262	232 J	189	-	-	-	-
Butanoic acid	-	ND (2)	ND (2)	ND (2)	ND (2)	-	-	-	-	-	-
Carbon	-	18.5 J	59.8	1.4 J	4	-	-	-	-	-	-
Chloride	-	634 J	609	1490 J	1170	490 J	539	-	-	-	-
Lactic Acid	-	ND (1)	ND (1)	ND (1)	ND (1)	-	-	-	-	-	-
Nitrate (as N)	-	ND (1)	ND (1)	ND (1)	ND (1)	1 R	ND (1)	-	-	-	-
Nitrite (as N)	-	ND (0.01)	ND (1)	ND (0.01)	ND (1)	0.01 R	ND (1)	-	-	-	-
Propionic acid	-	6.8 R	9.9	ND (1)	ND (1)	-	-	-	-	-	-
Pyruvic Acid	-	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	-	-	-	-	-	-
Sulfate	250	97.9 J	55.5	59.4 J	48.6	14.4 J	20.5	-	-	-	-
Sulfide	-	1.4 J	ND (1)	ND (1)	ND (1)	1 R	ND (1)	-	-	-	-
Other (ug/L)											
Ethane	-	ND (10)	ND (10)	ND (50)	ND (50)	1 R	ND (21)	-	-	-	-

TABLE II
SUMMARY OF VOLATILE GASES AND DISSOLVED GASES
MID-GRADIENT WELLS
COOPERVISION
SCOTTSVILLE, NY

Location Sample Name Sample Date Sample Type Sample Depth (bgs)	Action Level NYSDEC TOGS Ambient Water	BAP-01		BAP-02		MW-3		MW-501		MW-502	
		BAP01-102116-0920	BAP01-042617-0950	BAP02-102116-1050	BAP02-042617-1115	MW3-101716-1150	MW3-042517-1400	MW501-101716-1110	MW501-042517-1230	MW502-101716-1235	MW502-042517-1315
		10/21/2016	04/26/2017	10/21/2016	04/26/2017	10/17/2016	04/25/2017	10/17/2016	04/25/2017	10/17/2016	04/25/2017
		N	N	N	N	N	N	N	N	N	N
		10 - 20 (ft)	10 - 20 (ft)	10 - 20 (ft)	10 - 20 (ft)	3 - 10 (ft)	3 - 10 (ft)	20 - 25 (ft)	20 - 25 (ft)	30 - 35 (ft)	30 - 35 (ft)
Ethene	-	26 J	220	ND (50)	ND (50)	54 J	30	-	-	-	-
Methane	-	500 J	1600 J	2600 J	3900	2600 J	1500	-	-	-	-
Propane	-	ND (10)	ND (10)	ND (50)	ND (50)	1 R	ND (20)	-	-	-	-
Inorganic Compounds (ug/L)											
Iron, Dissolved	300	1080 J ^[A]	790 ^[A]	660 J ^[A]	1310 ^[A]	100 R	ND (100)	-	-	-	-
Iron, Total	300	34700 J ^[A]	1600 ^[A]	1010 J ^[A]	11700 ^[A]	2260 J ^[A]	2800 ^[A]	-	-	-	-

- Notes:
- Results shaded orange exceed the following criteria:
[A] - NYSDEC TOGS Ambient Water Class GA
 - Results in **bold** were detected.
 - ND - Not detected above reporting limit.
J - Estimated result
ND (#) J - Not detected, estimated reporting limit.
R - Data rejected by validator

TABLE III
SUMMARY OF VOLATILE GASES AND DISSOLVED GASES
DOWN-GRADIENT WELLS
COOPERVISION
SCOTTSVILLE, NY

Location	Action Level	MW-202		MW-203		MW-204		OW-306	
Sample Name	NYSDEC	MW202-102116-1230	MW202-042617-1210	MW203-101716-1640	MW203-042517-1640	MW204-102116-1350	MW204-042517-1725	OW306-102116-1445	OW306-042617-1445
Sample Date	TOGS	10/21/2016	04/26/2017	10/17/2016	04/25/2017	10/21/2016	04/25/2017	10/21/2016	04/26/2017
Sample Type	Ambient	N	N	N	N	N	N	N	N
Sample Depth (bgs)	Water	10.2 - 20.3 (ft)	10.2 - 20.3 (ft)	9.8 - 20 (ft)	9.8 - 20 (ft)	9.8 - 20 (ft)	9.8 - 20 (ft)	4 - 14 (ft)	4 - 14 (ft)
Volatile Organic Compounds (ug/L)									
1,1,1-Trichloroethane	5	ND (5)	ND (5)	5 R	ND (5)	ND (5)	1.4 J	ND (5)	0.47 J
1,1,2,2-Tetrachloroethane	5	ND (5)	ND (5)	5 R	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
1,1,2-Trichloroethane	1	ND (5)	ND (5)	5 R	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
1,1-Dichloroethane	5	110 J ^[A]	37 ^[A]	5 R	0.29 J	ND (5)	4.8 J	ND (5)	0.74 J
1,1-Dichloroethene	5	98 J ^[A]	38 ^[A]	5 R	ND (5)	ND (5)	4.3 J	ND (5)	ND (5)
1,2-Dichloroethane	0.6	ND (5)	ND (5)	5 R	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
1,2-Dichloropropane	1	ND (5)	ND (5)	5 R	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
2-Butanone (Methyl Ethyl Ketone)	50	ND (10)	ND (10)	10 R	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
2-Hexanone	50	ND (10)	ND (10)	10 R	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	-	ND (10)	ND (10)	10 R	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Acetone	50	ND (10)	ND (10)	10 R	ND (10)	ND (10)	1.4 J	ND (10)	ND (10)
Benzene	1	ND (5)	ND (5)	5 R	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
Bromodichloromethane	50	ND (5)	ND (5)	5 R	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
Bromoform	50	ND (5)	ND (5)	5 R	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
Bromomethane (Methyl Bromide)	5	ND (5)	ND (5)	5 R	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
Carbon disulfide	60	ND (10)	ND (10)	10 R	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Carbon tetrachloride	5	ND (5)	ND (5)	5 R	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
Chlorobenzene	5	ND (5)	ND (5)	5 R	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
Chloroethane	5	ND (5)	1.8 J	5 R	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
Chloroform (Trichloromethane)	7	ND (5)	ND (5)	5 R	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
Chloromethane (Methyl Chloride)	5	ND (5)	ND (5)	5 R	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
cis-1,2-Dichloroethene	5	ND (5)	ND (5)	5 R	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
cis-1,3-Dichloropropene	0.4	ND (5)	ND (5)	5 R	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
Dibromochloromethane	50	ND (5)	ND (5)	5 R	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
Ethylbenzene	5	ND (5)	ND (5)	5 R	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
m,p-Xylenes	5	ND (5)	ND (5)	5 R	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
Methylene chloride	5	ND (5)	ND (5)	5 R	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
o-Xylene	5	ND (5)	ND (5)	5 R	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
Styrene	5	ND (5)	ND (5)	5 R	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
Tetrachloroethene	5	ND (5)	ND (5)	5 R	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
Toluene	5	ND (5)	ND (5)	5 R	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
trans-1,2-Dichloroethene	5	ND (5)	ND (5)	5 R	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
trans-1,3-Dichloropropene	0.4	ND (5)	ND (5)	5 R	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
Trichloroethene	5	ND (5)	ND (5)	5 R	ND (5)	ND (5)	0.89 J	ND (5)	ND (5)
Vinyl chloride	2	ND (5)	ND (5)	5 R	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
Other (mg/L)									
Acetic acid	-	1.5 J	ND (1)	-	-	-	-	-	-
Alkalinity, Total (as CaCO3)	-	138 J	170	-	-	-	-	-	-
Butanoic acid	-	ND (2)	ND (2)	-	-	-	-	-	-
Carbon	-	1.2 J	1.2	-	-	-	-	-	-
Chloride	-	1560 J	5090	-	-	-	-	-	-
Lactic Acid	-	ND (1)	ND (1)	-	-	-	-	-	-
Nitrate (as N)	-	ND (1)	1.9	-	-	-	-	-	-
Nitrite (as N)	-	ND (0.01)	ND (10)	-	-	-	-	-	-
Propionic acid	-	ND (1)	ND (1)	-	-	-	-	-	-
Pyruvic Acid	-	ND (0.5)	ND (0.5)	-	-	-	-	-	-
Sulfate	250	668 J ^[A]	271 ^[A]	-	-	-	-	-	-
Sulfide	-	ND (1)	ND (1)	-	-	-	-	-	-
Other (ug/L)									
Ethane	-	ND (1)	ND (1)	-	-	-	-	-	-

TABLE III
SUMMARY OF VOLATILE GASES AND DISSOLVED GASES
DOWN-GRADIENT WELLS
COOPERVISION
SCOTTSVILLE, NY

Location Sample Name Sample Date Sample Type Sample Depth (bgs)	Action Level NYSDEC TOGS Ambient Water	MW-202		MW-203		MW-204		OW-306	
		MW202-102116-1230	MW202-042617-1210	MW203-101716-1640	MW203-042517-1640	MW204-102116-1350	MW204-042517-1725	OW306-102116-1445	OW306-042617-1445
		10/21/2016	04/26/2017	10/17/2016	04/25/2017	10/21/2016	04/25/2017	10/21/2016	04/26/2017
		N	N	N	N	N	N	N	N
		10.2 - 20.3 (ft)	10.2 - 20.3 (ft)	9.8 - 20 (ft)	9.8 - 20 (ft)	9.8 - 20 (ft)	9.8 - 20 (ft)	4 - 14 (ft)	4 - 14 (ft)
Ethene	-	ND (1)	ND (1)	-	-	-	-	-	-
Methane	-	29 J	ND (1)	-	-	-	-	-	-
Propane	-	ND (1)	ND (1)	-	-	-	-	-	-
Inorganic Compounds (ug/L)									
Iron, Dissolved	300	ND (100)	ND (100)	-	-	-	-	-	-
Iron, Total	300	ND (100)	120	-	-	-	-	-	-

- Notes:
- Results shaded orange exceed the following criteria:
[A] - NYSDEC TOGS Ambient Water Class GA
 - Results in **bold** were detected.
 - ND - Not detected above reporting limit.
J - Estimated result
ND (#) J - Not detected, estimated reporting limit.
R - Data rejected by validator

Table V
Annual SSD System Monitoring

Location (Site/Facility) CooperVision
Location (Address) Scottsville, NY
Client: CooperVision

Date: 28-Apr-17
Performed By: J. Sanger
Job Number: 129375-002

Test Point	10/6/2015 Vacuum Reading ("WC)	04/7/2016 Vacuum Reading ("WC)	4/28/2017 Vacuum Reading ("WC)
T-1	0.129	0.019	0.027
T-2	*	*	*
T-3	0.394	0.272	0.455
T-4	0.030	0.023	0.028
T-5	0.067	0.030	0.046
T-6	0.062	0.034	0.056
T-7 (doors closed)	-0.021	-0.006	-0.028
T-7 (doors open)	0.000	-0.001	-0.009
T-8	0.027	0.033	0.013
T-9 (doors closed)	0.002	-0.002	0.004
T-9 (doors open)	0.029	0.024	0.023
T-10	0.077	0.070	0.074
T-11	0.704	0.844	0.758
T-12	0.018	0.010	0.020
T-13	0.013	0.011	0.008
T-14	0.005	0.006	0.005
T-15	0.039	0.034	0.034
T-16	0.025	0.025	0.022
T-17	0.012	0.010	0.016
T-18	0.018	0.162	0.162

Suction Point	10/6/2015 Vacuum Reading ("WC)	04/7/2016 Vacuum Reading ("WC)	4/28/2017 Vacuum Reading ("WC)
S-1	3.8	3.9	3.8
S-2	3.6	3.7	3.7
S-3	1.5	1.5	1.5
S-4/5	2.1	2.1	2.1
S-6	3.4	3.6	4.0
S-7	1.6	1.7	1.7

* T-2 is not a valid test point

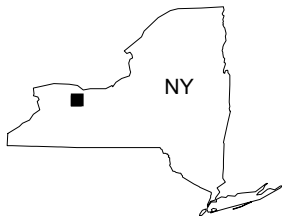
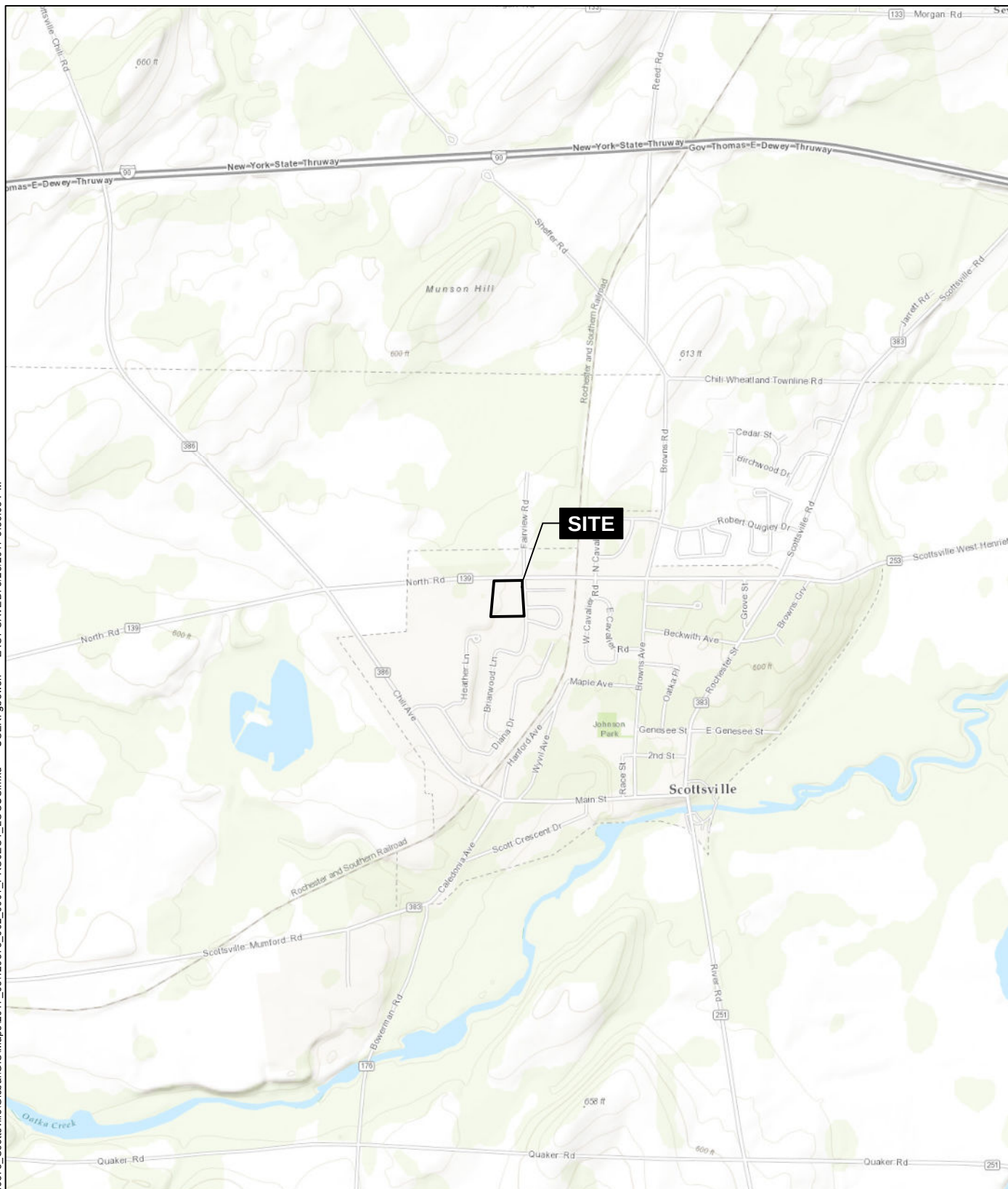
Visual Inspection of System:
System was in operation and intact.

Recommendation Actions:
None

Description of Past Year Activities:

FIGURES

GIS FILE PATH: G:\Projects\Cooper\Vision\129375_Scottsville\Global\GIS\Maps\2017_05\129375_002_0001_PROJECT_LOCUS.mxd — USER: gbowen — LAST SAVED: 5/23/2017 3:56:05 PM



MAP SOURCE: ESRI
USGS QUAD: CLIFTON, NEW YORK
SITE COORDINATES: 43°01'39.9"N, 70°45'27.6"W

**HALEY
ALDRICH**

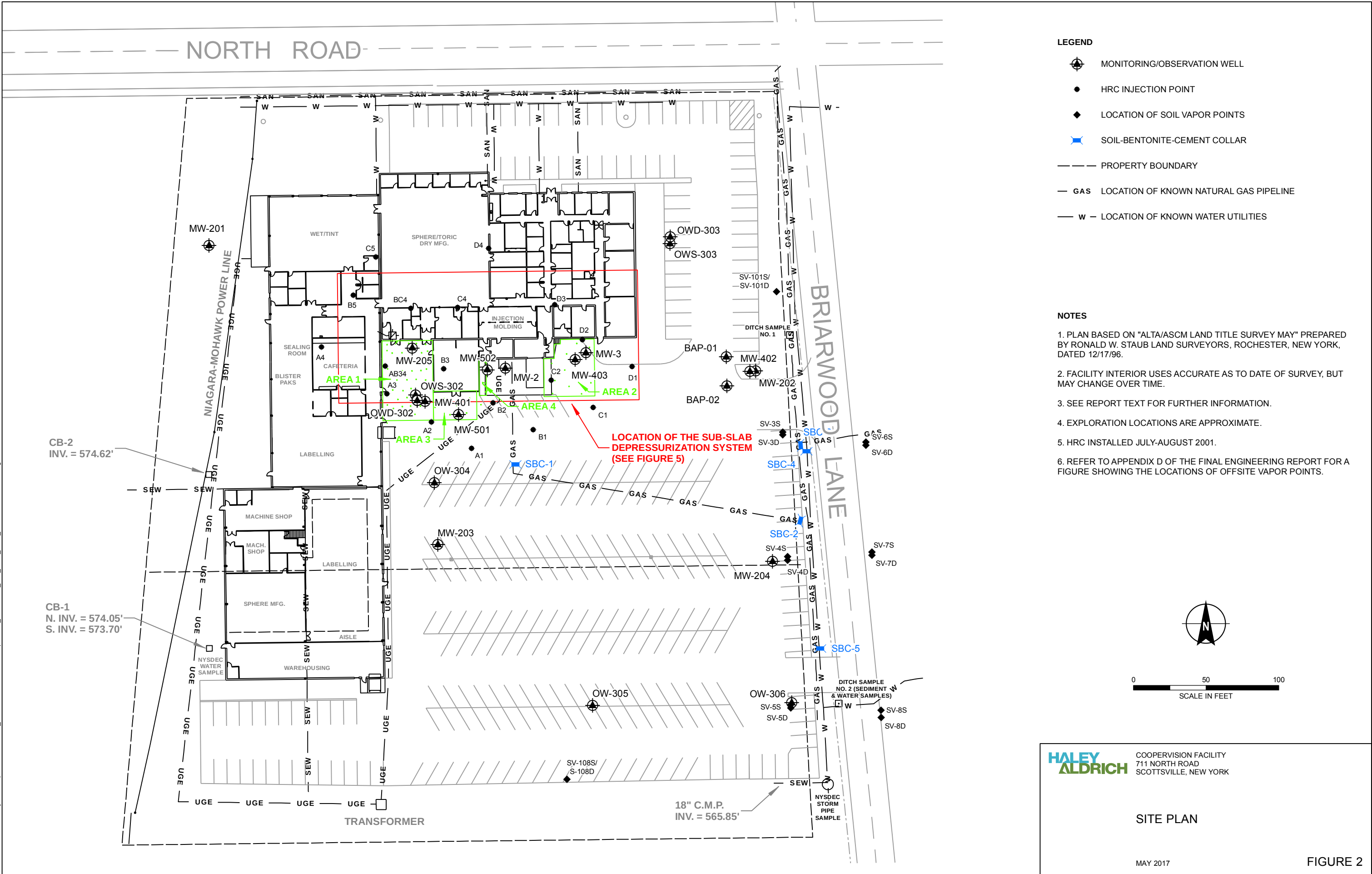
COOPERVISION, INC.
711 NORTH ROAD
SCOTTVILLE, NEW YORK

PROJECT LOCUS

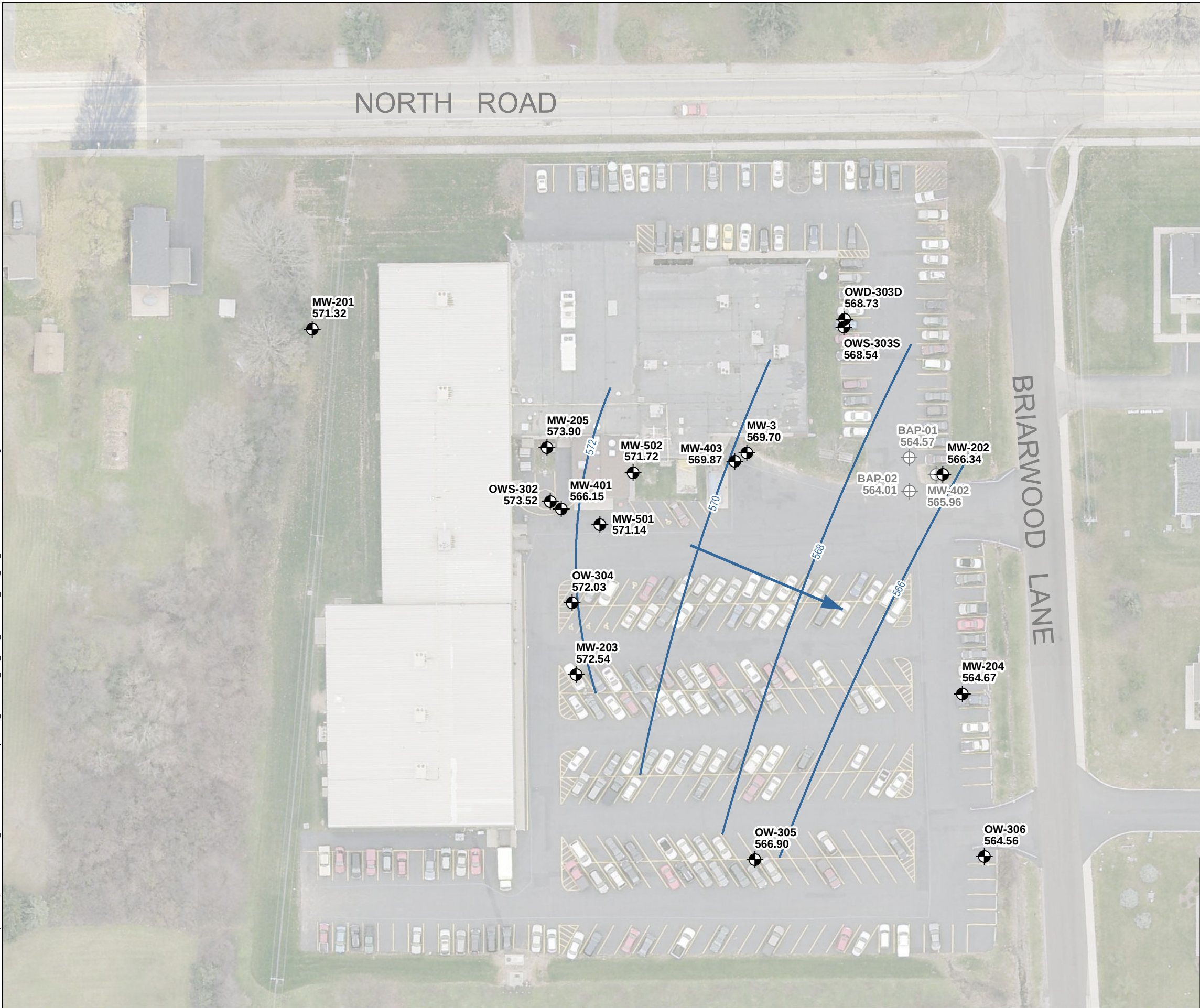
APPROXIMATE SCALE: 1 IN = 2000 FT
MAY 2017

FIGURE 1

GIS FILE PATH: G:\Projects\Cooper\Ison\129375_Scottsville\Global\GIS\Maps\2017_05\129375_002_0002_SITE_PLAN.mxd — USER: gbowen — LAST SAVED: 5/23/2017 11:36:17 AM



GIS FILE PATH: G:\Projects\Cooper\Ison\129375_Scottsville\Global\GIS\Maps\2017_05\129375_002_0003_OCTOBER_2016_GW_CONTOURS.mxd — USER: gbowen — LAST SAVED: 6/1/2017 9:47:25 AM

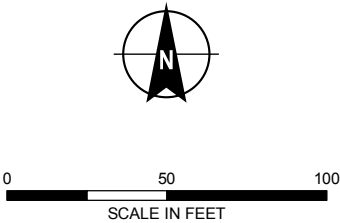


LEGEND

- WELLS INCLUDED IN CONTOURS
- WELLS NOT INCLUDED IN CONTOURS DUE TO SCREEN DEPTH, INCOMPLETE WELL INFORMATION, POOR WELL RECHARGE, OR PROXIMITY TO INJECTION WELLS.
- GROUNDWATER ELEVATION CONTOUR
- GROUNDWATER FLOW DIRECTION

NOTES

1. PLAN BASED ON "ALTA/ASCM LAND TITLE SURVEY MAY" PREPARED BY RONALD W. STAUB LAND SURVEYORS, ROCHESTER, NEW YORK, DATED 17 DECEMBER 1996.
2. GROUNDWATER CONTOURS ARE BASED ON DATA COLLECTED ON 12 AND 17 OCTOBER 2016. ELEVATIONS SHOWN ONLY FOR THOSE WELLS APPLICABLE TO THE ISOPOTENTIAL CONTOURS DEVELOPED.
3. EXPLORATION LOCATIONS ARE APPROXIMATE.



**HALEY
ALDRICH**

COOPERVISION FACILITY INVESTIGATION
711 NORTH ROAD
SCOTTSVILLE, NEW YORK

GROUNDWATER CONTOUR PLAN
(OCTOBER 2016)

JUNE 2017

FIGURE 3

GIS FILE PATH: G:\Projects\Cooper\Ison\129375_Scottsville\Global\GIS\Maps\2017_05\129375_002_0004_APRIL_2017_GW_CONTOURS.mxd — USER: gbowen — LAST SAVED: 5/25/2017 11:32:37 AM



LEGEND

-  WELLS INCLUDED IN CONTOURS
-  WELLS NOT INCLUDED IN CONTOURS DUE TO SCREEN DEPTH, INCOMPLETE WELL INFORMATION, POOR WELL RECHARGE, OR PROXIMITY TO INJECTION WELLS.
-  GROUNDWATER ELEVATION CONTOUR
-  GROUNDWATER FLOW DIRECTION

NOTES

1. PLAN BASED ON "ALTA/ASCM LAND TITLE SURVEY MAY" PREPARED BY RONALD W. STAUB LAND SURVEYORS, ROCHESTER, NEW YORK, DATED 17 DECEMBER 1996.
2. GROUNDWATER CONTOURS ARE BASED ON DATA COLLECTED ON 25 APRIL 2017. ELEVATIONS SHOWN ONLY FOR THOSE WELLS APPLICABLE TO THE ISOPOTENTIAL CONTOURS DEVELOPED.
3. EXPLORATION LOCATIONS ARE APPROXIMATE.



0 50 100
SCALE IN FEET

**HALEY
ALDRICH**

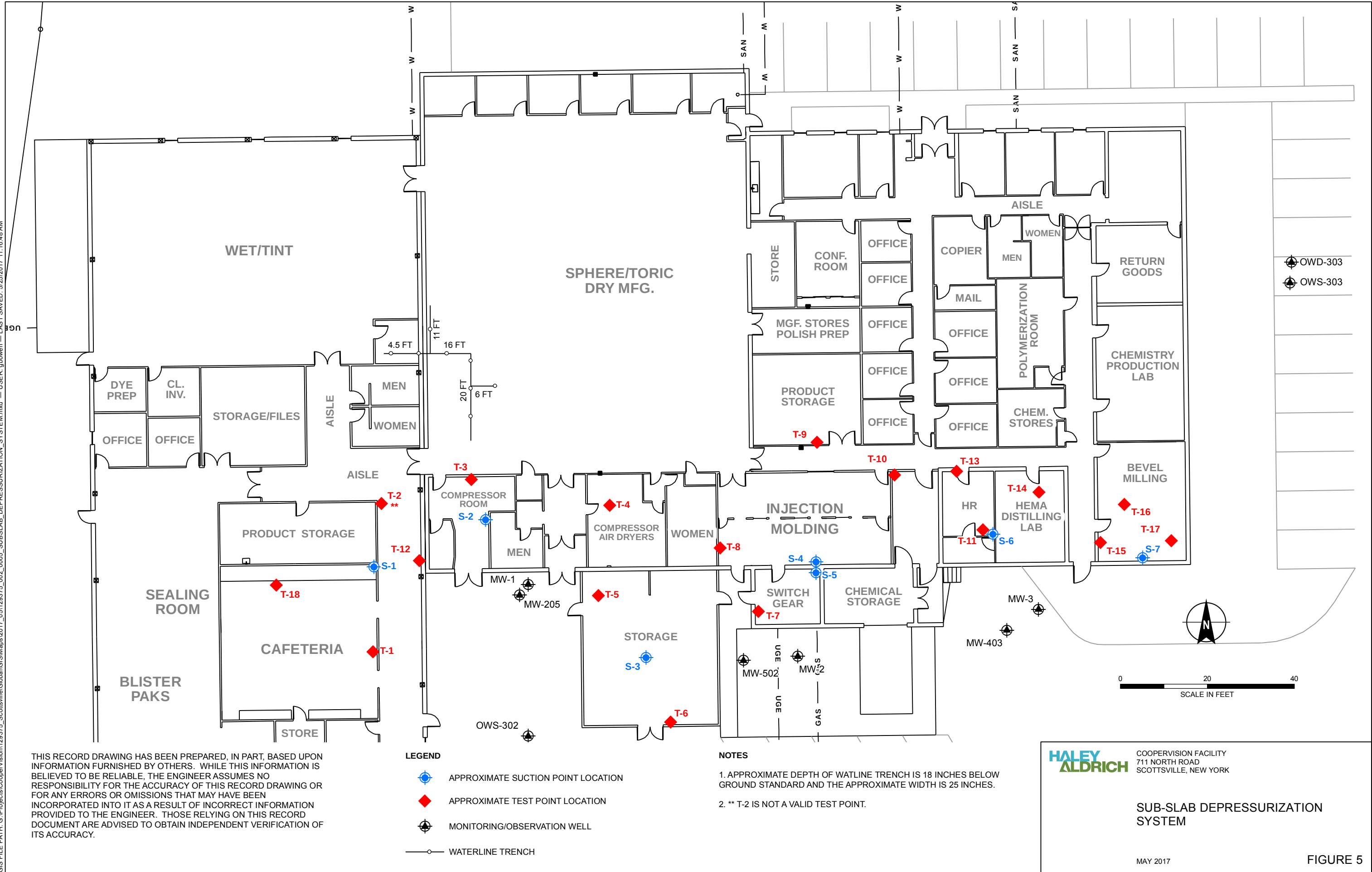
COOPERVISION FACILITY INVESTIGATION
711 NORTH ROAD
SCOTTSVILLE, NEW YORK

GROUNDWATER CONTOUR PLAN
(APRIL 2017)

JUNE 2017

FIGURE 4

GIS FILE PATH: G:\Projects\Cooper\Ision\129375_Scottsville\Global\GIS\Maps\2017_05\129375_002_0005_SUBSLAB_DEPRESSURIZATION_SYSTEM.mxd — USER: gbowen — LAST SAVED: 5/25/2017 11:16:48 AM



APPENDIX A

Institutional and Engineering Controls Certification Form



Enclosure 2
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Site Management Periodic Review Report Notice
Institutional and Engineering Controls Certification Form



Site Details

Box 1

Site No. V00175

Site Name 711 North Road (Cooper Vision)

Site Address: 711 North Road Zip Code: 14546-
City/Town: Scottsville
County: Monroe
Site Acreage: 5.5

Reporting Period: May 16, 2016 to May 16, 2017

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?

☒ ☐

Refer to Appendix B for a copy
of the Village Building Permit

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?

Current activities are
comprised of internal building
renovations

☐ ☒

Box 2

YES NO

6. Is the current site use consistent with the use(s) listed below?
Commercial and Industrial

☒ ☐

7. Are all ICs/ECs in place and functioning as designed?

☒ ☐

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

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

Signature of Owner, Remedial Party or Designated Representative

Date

Description of Institutional Controls

<u>Parcel</u>	<u>Owner</u>	<u>Institutional Control</u>
187.170-1-18	CooperVision, Inc	Ground Water Use Restriction Landuse Restriction Site Management Plan

Deed Restriction with following provisions:

- 1) Site use limited to Commercial and Industrial Uses;
- 2) groundwater use restriction;
- 3) site disturbance must comply with Site Management Plan; and
- 4) annual certification.

187.170-1-18.1	CooperVision, Inc.	Ground Water Use Restriction Landuse Restriction Site Management Plan
-----------------------	--------------------	---

Deed Restriction with following provisions:

- 1) Site use limited to Commercial and Industrial Uses;
- 2) groundwater use restriction;
- 3) site disturbance must comply with Site Management Plan; and
- 4) annual certification.

Description of Engineering Controls

<u>Parcel</u>	<u>Engineering Control</u>
187.170-1-18	Cover System Subsurface Barriers Vapor Mitigation
187.170-1-18.1	Cover System Subsurface Barriers Vapor Mitigation

Periodic Review Report (PRR) Certification Statements

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

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

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

YES NO

☒ ☐

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

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

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

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

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

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

YES NO

☒ ☐

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

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

Signature of Owner, Remedial Party or Designated Representative

Date

IC CERTIFICATIONS
SITE NO. V00175

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 Robert Ooyama at CooperVision, 711 North Road, Scottsville, New York
print name print business address

am certifying as Designated Representative (Owner or Remedial Party)

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

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

6/9/17
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 Mark N. Ramsdell at Haley & Aldrich of New York, Rochester, New York
print name print business address

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

Mark N. Ramsdell

Signature of Professional Engineer, for the Owner or
Remedial Party, Rendering Certification



6/13/17
Date

APPENDIX B

2017 Renovations Building Permit



Offices of Building, Codes and Fire Marshal
22 Main Street, Suite 3, Scottsville NY 14546
Tel: (585) 889-6050
Fax: (585) 889-2505
code@scottsvilleny.org

BUILDING PERMIT

Permit No. 2016.44

Date: 12/22/16

Issued to:

COOKERVISION

Address:

711 NORTH RD

tax ID # _____

zoning classification _____

variance required _____

permitted setbacks _____

Work to be completed:

INTERIOR RENOVATIONS (5 PHASES)

Owner:

same

Contractor:

HAMILTON STONE

Address:

same

Address:

MEMPHIS AVE

This notice is to be fastened in the front window of the building for which it is issued plainly by all persons. Call for all inspections listed on back of permit.

All work must be completed in accordance with applicable Federal, NY State Building Code and Village of Scottsville local Codes.

Permit expires one (1) year from date of issuance.

Code Enforcement Officer/Building Inspector

1250-

FEE

APPENDIX C

Soil Analytical Data and Disposal Documentation



May 09, 2017

Service Request No:R1703570

Mr. Mark Ramsdell
Haley & Aldrich, Inc.
200 Town Centre Drive
Suite 2
Rochester, NY 14623-4264

Laboratory Results for: Coopervision

Dear Mr.Ramsdell,

Enclosed are the results of the sample(s) submitted to our laboratory April 21, 2017
For your reference, these analyses have been assigned our service request number **R1703570**.

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

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-004
Sample Matrix: Soil

Service Request: R1703570
Date Received: 4/21/17

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

One soil samples were received for analysis at ALS Environmental on 04/21/2017. 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 $\leq 6^{\circ}\text{C}$ upon receipt at the lab except for aqueous samples designated for metals analyses, which are stored at room temperature.

Volatile Organic Analyses:

No significant anomalies were noted with this analysis.

Semi-Volatile Organic Analyses:

No significant anomalies were noted with this analysis.

Metals Analyses:

No significant anomalies were noted with this analysis.

General Chemistry Analyses:

No significant anomalies were noted with this analysis.

Subcontracted Analytical Parameters:

One or more samples were subcontracted to another laboratory for testing. The certified analytical report from the subcontractor has been included in its entirety at the end of this report and includes the name and address of the subcontracted laboratory.

Approved by  Date 5/9/2017

SAMPLE DETECTION SUMMARY

CLIENT ID: 4257-042117-1400			Lab ID: R1703570-001			
Analyte	Results	Flag	MDL	PQL	Units	Method
Chromium, Trivalent	12.2			1.0	mg/Kg	Calculation
Total Solids	87.2				Percent	ALS SOP
Arsenic, Total	5.2		0.3	1.1	mg/Kg	6010C
Barium, Total	69.4		0.2	2.2	mg/Kg	6010C
Beryllium, Total	0.43		0.02	0.33	mg/Kg	6010C
Chromium, Total	12.2		0.2	1.1	mg/Kg	6010C
Copper, Total	18.6		0.2	2.2	mg/Kg	6010C
Lead, Total	13.7		0.4	5.6	mg/Kg	6010C
Manganese, Total	681		0.08	1.1	mg/Kg	6010C
Nickel, Total	12.4		0.2	4.5	mg/Kg	6010C
Zinc, Total	71.0		0.2	2.2	mg/Kg	6010C
2-Butanone (MEK)	9.4		1.4	3.0	ug/Kg	8260C
Acetone	55		1.8	3.0	ug/Kg	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: Haley & Aldrich, Incorporated
Project: Coopervision/129375-004

Service Request:R1703570

SAMPLE CROSS-REFERENCE

<u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>DATE</u>	<u>TIME</u>
R1703570-001	4257-042117-1400	4/21/2017	1400



**HALEY
ALDRICH**

ALS Environmental Laboratory:

1565 Jefferson Rd, Bldg 300, Ste 360, Rochester, NY 14623, USA | +1 585 288 5380

Chain of Custody Form

Page 1 of 1

Blanket Service Agreement: 2015-18-ALS Group				H&A Project Number: <u>70665</u>		H&A Client Name: <u>Coopervision</u>	
				ALS Project Manager: <u>Brady Kalkman</u>		ALS Work Order #:	

Customer Information				Project Information				Parameter/Method Request for Analysis												
Purchase Order				Project Name	<u>Coopervision</u>			A	<u>VOCs 8260</u>											
Work Order				Project Number	<u>70665</u>			B	<u>SVOCs 8270</u>											
Company Name	<u>Haley + Aldrich</u>			Bill To Company	<u>Haley + Aldrich</u>			C	<u>Pesticides 8081</u>											
Send Report To	<u>Santa McKenna</u>			Invoice Attn.				D	<u>PCBs 8082</u>											
Address	<u>200 Town Centre Dr</u>			Address				E	<u>Herbicides 8151</u>											
City/State/Zip	<u>Rochester NY 14623</u>			City/State/Zip				F	<u>Metals</u>											
Phone	<u>585 321 4242</u>			Phone				G	<u>Total Cr</u>											
Fax	<u>Smckenna@haleyaldrich.com</u>			State Samples Collected	<u>NY</u>			H	<u>Hex Cr</u>											
Email Address	<u>mramsdell@haleyaldrich.com</u>			Email Address				I	<u>Total Solids</u>											
								J												

No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	<u>4257-042117-1400</u>	<u>4/21/17</u>	<u>1400</u>	<u>S</u>	<u>7</u>	<u>5</u>	<u>x</u>	<u>x</u>	<u>x</u>	<u>x</u>	<u>x</u>	<u>x</u>	<u>x</u>	<u>x</u>	<u>x</u>		
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s): Please Print & Sign <u>Santa McKenna</u>		Shipment Method: <u>Client</u>		Turnaround Time in Business Days (BD): ☐ 10 BD ☐ 5 BD ☐ 3 BD ☒ 2 BD ☐ 1 BD				Results Due Date: <u>ASAP!</u>	
Relinquished by: <u>[Signature]</u>		Date: <u>4/21/17</u>	Time: <u>1600</u>	Received by: <u>[Signature]</u>				Notes:	
Relinquished by: <u>[Signature]</u>		Date: <u>4/21/17</u>	Time: <u>1600</u>	Received by (Laboratory): <u>[Signature]</u>				ALS Cooler ID	Cooler Temp
Logged by (Laboratory):		Date:	Time:	Checked by (Laboratory):				QC Package: (Check Box Below)	
								☒ Level II: Standard QC	☐ TRRP Checklist
								☐ Level III	☐ TRRP Level IV
								☐ Level IV: Std QC/Raw Data	
								☐ Other:	

Preservative Key: 1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-None/40C

1. ALS Group's services under this Chain of Custody shall be performed in accordance with terms and conditions within Blanket Service Agreement# 2015-18-ALS Group by and between Haley & Aldrich, Inc., its subsidiaries and affiliates and ALS Group.

2. Communicate with Laboratory Project Manager for any turnaround time less than 5 days.

R1703570

Haley & Aldrich, Inc.
Coopervision

5





Cooler Receipt and Preservation Check Form

R1703570

Haley & Aldrich, Inc.
Cooperation

5

Project/Client H+A Folder Number _____Cooler received on 4/21/17 by: dmCOURIER: ALS UPS FEDEX VELOCITY CLIENT

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

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

8. Temperature Readings Date: 4/21/17 Time: 1610 ID: IR#7 IR#8 From: Temp Blank Sample Bottle

Observed Temp (°C)	<u>5.40</u>						
Correction Factor (°C)	<u>10.0</u>						
Corrected Temp (°C)	<u>5.4</u>						
Temp from: Type of bottle							
Within 0-6°C?	☒ 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 _____ 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 dm on 4/21/17 at 1610
 5035 samples placed in storage location: R-503 by dm on 4/21/17 at 1610

Cooler Breakdown: Date: 4/24/17 Time: 1032 by: dm

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
 13. Air Samples: Cassettes / Tubes Intact _____ Canisters Pressurized _____ Tedlar® Bags Inflated N/A

pH	Lot of test paper	Reagent	Preserved?		Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH
			Yes	No						
≥12		NaOH								
≤2		HNO ₃								
≤2		H ₂ SO ₄								
<4		NaHSO ₄								
Residual Chlorine (-)		For CN Phenol and 522			If +, contact PM to add Na ₂ S ₂ O ₃ (CN), ascorbic (phenol).					
		Na ₂ S ₂ O ₃	-	-						
		ZnAcetate	-	-						
		HCl	**	**						

**Not to be tested before analysis – pH tested and recorded by VOAs on a separate worksheet

Bottle lot numbers: 092614 1BNS, 103116-1BNIH, 5035-AL

Explain all Discrepancies/ Other Comments: _____

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

Labels secondary reviewed by: dm

PC Secondary Review: _____

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



Miscellaneous Forms

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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.	+	Correlation coefficient for MSA is <0.995.
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/Aroclors).	N	Inorganics- Matrix spike recovery was outside laboratory limits.
B	Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.	N	Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
E	Inorganics- Concentration is estimated due to the serial dilution was outside control limits.	S	Concentration has been determined using Method of Standard Additions (MSA).
E	Organics- Concentration has exceeded the calibration range for that specific analysis.	W	Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
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.	P	Concentration >40% (25% for CLP) difference between the two GC columns.
*	Indicates that a quality control parameter has exceeded laboratory limits. Under the "Notes" column of the Form I, this qualifier denotes analysis was performed out of Holding Time.	C	Confirmed by GC/MS
H	Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.	Q	DoD reports: indicates a pesticide/Aroclor is not confirmed (100% Difference between two GC columns).
#	Spike was diluted out.	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 Certifications¹

Connecticut ID # PH0556	Maine ID #NY0032	New Hampshire ID #
Delaware Accredited	Nebraska Accredited	294100 A/B
DoD ELAP #65817	New Jersey ID # NY004	Pennsylvania ID# 68-786
Florida ID # E87674	New York ID # 10145	Rhode Island ID # 158
Illinois ID #200047	North Carolina #676	Virginia #460167

¹ Analyses were performed according to our laboratory's 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 <http://www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads/North-America-Downloads>

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.

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Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-004

Service Request: R1703570

Non-Certified Analytes

Certifying Agency: New York Department of Health

Method	Matrix	Analyte
ALS SOP	Soil	Total Solids
Calculation	Soil	Chromium, Trivalent

ALS Group USA, Corp.
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Analyst Summary report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-004

Service Request: R1703570

Sample Name: 4257-042117-1400
Lab Code: R1703570-001
Sample Matrix: Soil

Date Collected: 04/21/17
Date Received: 04/21/17

Analysis Method	Extracted/Digested By	Analyzed By
6010C	CMERCHANT	NMANSEN
7199	CWOODS	CWOODS
7471B	NMANSEN	NMANSEN
8081B	DMURPHY	MPEDRO
8082A	DMURPHY	MPEDRO
8260C		FNAEGLER
8270D	DMURPHY	JMISIUREWICZ
9012B	GNITAJOUPPI	AMOSSES
ALS SOP		KWONG
Calculation		NA

Sample Name: Batch QC
Lab Code: T1700613-001
Sample Matrix: Soil

Date Collected: NA
Date Received: NA

Analysis Method	Extracted/Digested By	Analyzed By
7199	CWOODS	CWOODS



INORGANIC PREPARATION METHODS

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

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Volatile Organic Compounds by GC/MS

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-004
Sample Matrix: Soil

Service Request: R1703570
Date Collected: 04/21/17 14:00
Date Received: 04/21/17 16:00

Sample Name: 4257-042117-1400
Lab Code: R1703570-001

Units: ug/Kg
Basis: Dry

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5035A

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	ND U	3.0	.53	04/27/17 17:49	
1,1,2,2-Tetrachloroethane	ND U	3.0	.53	04/27/17 17:49	
1,1,2-Trichloroethane	ND U	3.0	.53	04/27/17 17:49	
1,1-Dichloroethane (1,1-DCA)	ND U	3.0	.53	04/27/17 17:49	
1,1-Dichloroethene (1,1-DCE)	ND U	3.0	.53	04/27/17 17:49	
1,2-Dichloroethane	ND U	3.0	.53	04/27/17 17:49	
1,2-Dichloropropane	ND U	3.0	.53	04/27/17 17:49	
2-Butanone (MEK)	9.4	3.0	.53	04/27/17 17:49	
2-Hexanone	ND U	3.0	.53	04/27/17 17:49	
4-Methyl-2-pentanone	ND U	3.0	.53	04/27/17 17:49	
Acetone	55	3.0	.53	04/27/17 17:49	
Benzene	ND U	3.0	.53	04/27/17 17:49	
Bromodichloromethane	ND U	3.0	.53	04/27/17 17:49	
Bromoform	ND U	3.0	.53	04/27/17 17:49	
Bromomethane	ND U	3.0	.53	04/27/17 17:49	
Carbon Disulfide	ND U	3.0	.53	04/27/17 17:49	
Carbon Tetrachloride	ND U	3.0	.53	04/27/17 17:49	
Chlorobenzene	ND U	3.0	.53	04/27/17 17:49	
Chloroethane	ND U	3.0	.53	04/27/17 17:49	
Chloroform	ND U	3.0	.53	04/27/17 17:49	
Chloromethane	ND U	3.0	.53	04/27/17 17:49	
Dibromochloromethane	ND U	3.0	.53	04/27/17 17:49	
Dichloromethane	ND U	3.0	.53	04/27/17 17:49	
Ethylbenzene	ND U	3.0	.53	04/27/17 17:49	
Styrene	ND U	3.0	.53	04/27/17 17:49	
Tetrachloroethene (PCE)	ND U	3.0	.53	04/27/17 17:49	
Toluene	ND U	3.0	.53	04/27/17 17:49	
Trichloroethene (TCE)	ND U	3.0	.53	04/27/17 17:49	
Vinyl Chloride	ND U	3.0	.53	04/27/17 17:49	
cis-1,2-Dichloroethene	ND U	3.0	.53	04/27/17 17:49	
cis-1,3-Dichloropropene	ND U	3.0	.53	04/27/17 17:49	
m,p-Xylenes	ND U	6.1	.53	04/27/17 17:49	
o-Xylene	ND U	3.0	.53	04/27/17 17:49	
trans-1,2-Dichloroethene	ND U	3.0	.53	04/27/17 17:49	
trans-1,3-Dichloropropene	ND U	3.0	.53	04/27/17 17:49	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-004
Sample Matrix: Soil

Service Request: R1703570
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Date Received: 04/21/17 16:00

Sample Name: 4257-042117-1400
Lab Code: R1703570-001

Units: ug/Kg
Basis: Dry

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5035A

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	101	51 - 136	04/27/17 17:49	
Dibromofluoromethane	102	63 - 138	04/27/17 17:49	
Toluene-d8	104	66 - 138	04/27/17 17:49	



Semivolatile Organic Compounds by GC/MS

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-004
Sample Matrix: Soil

Service Request: R1703570
Date Collected: 04/21/17 14:00
Date Received: 04/21/17 16:00

Sample Name: 4257-042117-1400
Lab Code: R1703570-001

Units: ug/Kg
Basis: Dry

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	ND U	380	1	04/27/17 09:40	4/26/17	
1,2-Dichlorobenzene	ND U	380	1	04/27/17 09:40	4/26/17	
1,3-Dichlorobenzene	ND U	380	1	04/27/17 09:40	4/26/17	
1,4-Dichlorobenzene	ND U	380	1	04/27/17 09:40	4/26/17	
2,4,5-Trichlorophenol	ND U	380	1	04/27/17 09:40	4/26/17	
2,4,6-Trichlorophenol	ND U	380	1	04/27/17 09:40	4/26/17	
2,4-Dichlorophenol	ND U	380	1	04/27/17 09:40	4/26/17	
2,4-Dimethylphenol	ND U	380	1	04/27/17 09:40	4/26/17	
2,4-Dinitrophenol	ND U	1900	1	04/27/17 09:40	4/26/17	
2,4-Dinitrotoluene	ND U	380	1	04/27/17 09:40	4/26/17	
2,6-Dinitrotoluene	ND U	380	1	04/27/17 09:40	4/26/17	
2-Chloronaphthalene	ND U	380	1	04/27/17 09:40	4/26/17	
2-Chlorophenol	ND U	380	1	04/27/17 09:40	4/26/17	
2-Methylnaphthalene	ND U	380	1	04/27/17 09:40	4/26/17	
2-Methylphenol	ND U	380	1	04/27/17 09:40	4/26/17	
2-Nitroaniline	ND U	1900	1	04/27/17 09:40	4/26/17	
2-Nitrophenol	ND U	380	1	04/27/17 09:40	4/26/17	
3,3'-Dichlorobenzidine	ND U	380	1	04/27/17 09:40	4/26/17	
3- and 4-Methylphenol Coelution	ND U	380	1	04/27/17 09:40	4/26/17	
3-Nitroaniline	ND U	1900	1	04/27/17 09:40	4/26/17	
4,6-Dinitro-2-methylphenol	ND U	1900	1	04/27/17 09:40	4/26/17	
4-Bromophenyl Phenyl Ether	ND U	380	1	04/27/17 09:40	4/26/17	
4-Chloro-3-methylphenol	ND U	380	1	04/27/17 09:40	4/26/17	
4-Chloroaniline	ND U	380	1	04/27/17 09:40	4/26/17	
4-Chlorophenyl Phenyl Ether	ND U	380	1	04/27/17 09:40	4/26/17	
4-Nitroaniline	ND U	1900	1	04/27/17 09:40	4/26/17	
4-Nitrophenol	ND U	1900	1	04/27/17 09:40	4/26/17	
Acenaphthene	ND U	380	1	04/27/17 09:40	4/26/17	
Acenaphthylene	ND U	380	1	04/27/17 09:40	4/26/17	
Anthracene	ND U	380	1	04/27/17 09:40	4/26/17	
Benz(a)anthracene	ND U	380	1	04/27/17 09:40	4/26/17	
Benzo(a)pyrene	ND U	380	1	04/27/17 09:40	4/26/17	
Benzo(b)fluoranthene	ND U	380	1	04/27/17 09:40	4/26/17	
Benzo(g,h,i)perylene	ND U	380	1	04/27/17 09:40	4/26/17	
Benzo(k)fluoranthene	ND U	380	1	04/27/17 09:40	4/26/17	
Benzyl Alcohol	ND U	380	1	04/27/17 09:40	4/26/17	
2,2'-Oxybis(1-chloropropane)	ND U	380	1	04/27/17 09:40	4/26/17	
Bis(2-chloroethoxy)methane	ND U	380	1	04/27/17 09:40	4/26/17	
Bis(2-chloroethyl) Ether	ND U	380	1	04/27/17 09:40	4/26/17	
Bis(2-ethylhexyl) Phthalate	ND U	380	1	04/27/17 09:40	4/26/17	
Butyl Benzyl Phthalate	ND U	380	1	04/27/17 09:40	4/26/17	
Carbazole	ND U	380	1	04/27/17 09:40	4/26/17	
Chrysene	ND U	380	1	04/27/17 09:40	4/26/17	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-004
Sample Matrix: Soil

Service Request: R1703570
Date Collected: 04/21/17 14:00
Date Received: 04/21/17 16:00

Sample Name: 4257-042117-1400
Lab Code: R1703570-001

Units: ug/Kg
Basis: Dry

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Di-n-butyl Phthalate	ND U	380	1	04/27/17 09:40	4/26/17	
Di-n-octyl Phthalate	ND U	380	1	04/27/17 09:40	4/26/17	
Dibenz(a,h)anthracene	ND U	380	1	04/27/17 09:40	4/26/17	
Dibenzofuran	ND U	380	1	04/27/17 09:40	4/26/17	
Diethyl Phthalate	ND U	380	1	04/27/17 09:40	4/26/17	
Dimethyl Phthalate	ND U	380	1	04/27/17 09:40	4/26/17	
Fluoranthene	ND U	380	1	04/27/17 09:40	4/26/17	
Fluorene	ND U	380	1	04/27/17 09:40	4/26/17	
Hexachlorobenzene	ND U	380	1	04/27/17 09:40	4/26/17	
Hexachlorobutadiene	ND U	380	1	04/27/17 09:40	4/26/17	
Hexachlorocyclopentadiene	ND U	380	1	04/27/17 09:40	4/26/17	
Hexachloroethane	ND U	380	1	04/27/17 09:40	4/26/17	
Indeno(1,2,3-cd)pyrene	ND U	380	1	04/27/17 09:40	4/26/17	
Isophorone	ND U	380	1	04/27/17 09:40	4/26/17	
N-Nitrosodi-n-propylamine	ND U	380	1	04/27/17 09:40	4/26/17	
N-Nitrosodimethylamine	ND U	380	1	04/27/17 09:40	4/26/17	
N-Nitrosodiphenylamine	ND U	380	1	04/27/17 09:40	4/26/17	
Naphthalene	ND U	380	1	04/27/17 09:40	4/26/17	
Nitrobenzene	ND U	380	1	04/27/17 09:40	4/26/17	
Pentachlorophenol (PCP)	ND U	1900	1	04/27/17 09:40	4/26/17	
Phenanthrene	ND U	380	1	04/27/17 09:40	4/26/17	
Phenol	ND U	380	1	04/27/17 09:40	4/26/17	
Pyrene	ND U	380	1	04/27/17 09:40	4/26/17	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	30	13 - 128	04/27/17 09:40	
2-Fluorobiphenyl	40	10 - 102	04/27/17 09:40	
2-Fluorophenol	33	16 - 129	04/27/17 09:40	
Nitrobenzene-d5	35	10 - 95	04/27/17 09:40	
Phenol-d6	37	10 - 145	04/27/17 09:40	
p-Terphenyl-d14	68	16 - 126	04/27/17 09:40	



Semivolatile Organic Compounds by GC

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-004
Sample Matrix: Soil

Service Request: R1703570
Date Collected: 04/21/17 14:00
Date Received: 04/21/17 16:00

Sample Name: 4257-042117-1400
Lab Code: R1703570-001

Units: ug/Kg
Basis: Dry

Organochlorine Pesticides by Gas Chromatography

Analysis Method: 8081B
Prep Method: EPA 3541

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
4,4'-DDD	ND U	1.9	1	04/27/17 16:13	4/26/17	
4,4'-DDE	ND U	1.9	1	04/27/17 16:13	4/26/17	
4,4'-DDT	ND U	1.9	1	04/27/17 16:13	4/26/17	
Aldrin	ND U	1.9	1	04/27/17 16:13	4/26/17	
Dieldrin	ND U	1.9	1	04/27/17 16:13	4/26/17	
Endosulfan I	ND U	1.9	1	04/27/17 16:13	4/26/17	
Endosulfan II	ND U	1.9	1	04/27/17 16:13	4/26/17	
Endosulfan Sulfate	ND U	1.9	1	04/27/17 16:13	4/26/17	
Endrin	ND U	1.9	1	04/27/17 16:13	4/26/17	
Endrin Aldehyde	ND U	1.9	1	04/27/17 16:13	4/26/17	
Endrin Ketone	ND U	1.9	1	04/27/17 16:13	4/26/17	
Heptachlor	ND U	1.9	1	04/27/17 16:13	4/26/17	
Heptachlor Epoxide	ND U	1.9	1	04/27/17 16:13	4/26/17	
Methoxychlor	ND U	1.9	1	04/27/17 16:13	4/26/17	
Toxaphene	ND U	19	1	04/27/17 16:13	4/26/17	
alpha-BHC	ND U	1.9	1	04/27/17 16:13	4/26/17	
alpha-Chlordane	ND U	1.9	1	04/27/17 16:13	4/26/17	
beta-BHC	ND U	1.9	1	04/27/17 16:13	4/26/17	
delta-BHC	ND U	1.9	1	04/27/17 16:13	4/26/17	
gamma-BHC (Lindane)	ND U	1.9	1	04/27/17 16:13	4/26/17	
gamma-Chlordane	ND U	1.9	1	04/27/17 16:13	4/26/17	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	73	10 - 122	04/27/17 16:13	
Tetrachloro-m-xylene	77	10 - 123	04/27/17 16:13	

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dba ALS Environmental

Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-004
Sample Matrix: Soil

Service Request: R1703570
Date Collected: 04/21/17 14:00
Date Received: 04/21/17 16:00

Sample Name: 4257-042117-1400
Lab Code: R1703570-001

Units: ug/Kg
Basis: Dry

Polychlorinated Biphenyls (PCBs) by GC

Analysis Method: 8082A
Prep Method: EPA 3541

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Aroclor 1016	ND U	38	1	04/28/17 09:54	4/26/17	
Aroclor 1221	ND U	77	1	04/28/17 09:54	4/26/17	
Aroclor 1232	ND U	38	1	04/28/17 09:54	4/26/17	
Aroclor 1242	ND U	38	1	04/28/17 09:54	4/26/17	
Aroclor 1248	ND U	38	1	04/28/17 09:54	4/26/17	
Aroclor 1254	ND U	38	1	04/28/17 09:54	4/26/17	
Aroclor 1260	ND U	38	1	04/28/17 09:54	4/26/17	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	89	22 - 128	04/28/17 09:54	
Tetrachloro-m-xylene	79	14 - 119	04/28/17 09:54	



Metals

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Date Received: 04/21/17 16:00

Sample Name: 4257-042117-1400
Lab Code: R1703570-001

Basis: Dry

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, Total	6010C	5.2	mg/Kg	1.1	1	04/27/17 20:47	04/26/17	
Barium, Total	6010C	69.4	mg/Kg	2.2	1	04/27/17 20:47	04/26/17	
Beryllium, Total	6010C	0.43	mg/Kg	0.33	1	04/27/17 20:47	04/26/17	
Cadmium, Total	6010C	ND U	mg/Kg	0.56	1	04/27/17 20:47	04/26/17	
Chromium, Total	6010C	12.2	mg/Kg	1.1	1	04/27/17 20:47	04/26/17	
Copper, Total	6010C	18.6	mg/Kg	2.2	1	04/27/17 20:47	04/26/17	
Lead, Total	6010C	13.7	mg/Kg	5.6	1	04/27/17 20:47	04/26/17	
Manganese, Total	6010C	681	mg/Kg	1.1	1	04/27/17 20:47	04/26/17	
Mercury, Total	7471B	ND U	mg/Kg	0.035	1	04/27/17 16:01	04/26/17	
Nickel, Total	6010C	12.4	mg/Kg	4.5	1	04/27/17 20:47	04/26/17	
Selenium, Total	6010C	ND U	mg/Kg	1.1	1	04/27/17 20:47	04/26/17	
Silver, Total	6010C	ND U	mg/Kg	1.1	1	04/27/17 20:47	04/26/17	
Zinc, Total	6010C	71.0	mg/Kg	2.2	1	04/27/17 20:47	04/26/17	



General Chemistry

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-004
Sample Matrix: Soil

Sample Name: 4257-042117-1400
Lab Code: R1703570-001

Service Request: R1703570
Date Collected: 04/21/17 14:00
Date Received: 04/21/17 16:00

Basis: Dry

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Chromium, Hexavalent	7199	ND U	mg/Kg	0.44	1	05/05/17 15:24	05/05/17	
Chromium, Hexavalent	7199	ND U	mg/Kg	0.44	1	05/05/17 15:15	05/05/17	
Chromium, Trivalent	Calculation	12.2	mg/Kg	1.0	1	NA	NA	
Cyanide, Total	9012B	ND U	mg/Kg	0.11	1	05/03/17 15:11	05/02/17	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-004
Sample Matrix: Soil

Sample Name: 4257-042117-1400
Lab Code: R1703570-001

Service Request: R1703570
Date Collected: 04/21/17 14:00
Date Received: 04/21/17 16:00

Basis: As Received

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Total Solids	ALS SOP	87.2	Percent	-	1	04/25/17 14:55	NA	



QC Summary Forms

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Volatile Organic Compounds by GC/MS

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QA/QC Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-004
Sample Matrix: Soil

Service Request: R1703570

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Extraction Method: EPA 5035A

Sample Name	Lab Code	4-Bromofluorobenzene	Dibromofluoromethane	Toluene-d8
		51 - 136	63 - 138	66 - 138
4257-042117-1400	R1703570-001	101	102	104
Lab Control Sample	RQ1703776-03	102	102	102
Method Blank	RQ1703776-04	111	101	107

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-004
Sample Matrix: Soil

Service Request: R1703570
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: RQ1703776-04

Units: ug/Kg
Basis: Dry

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5035A

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	ND U	5.0	1	04/27/17 16:13	
1,1,2,2-Tetrachloroethane	ND U	5.0	1	04/27/17 16:13	
1,1,2-Trichloroethane	ND U	5.0	1	04/27/17 16:13	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1	04/27/17 16:13	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1	04/27/17 16:13	
1,2-Dichloroethane	ND U	5.0	1	04/27/17 16:13	
1,2-Dichloropropane	ND U	5.0	1	04/27/17 16:13	
2-Butanone (MEK)	ND U	5.0	1	04/27/17 16:13	
2-Hexanone	ND U	5.0	1	04/27/17 16:13	
4-Methyl-2-pentanone	ND U	5.0	1	04/27/17 16:13	
Acetone	ND U	5.0	1	04/27/17 16:13	
Benzene	ND U	5.0	1	04/27/17 16:13	
Bromodichloromethane	ND U	5.0	1	04/27/17 16:13	
Bromoform	ND U	5.0	1	04/27/17 16:13	
Bromomethane	ND U	5.0	1	04/27/17 16:13	
Carbon Disulfide	ND U	5.0	1	04/27/17 16:13	
Carbon Tetrachloride	ND U	5.0	1	04/27/17 16:13	
Chlorobenzene	ND U	5.0	1	04/27/17 16:13	
Chloroethane	ND U	5.0	1	04/27/17 16:13	
Chloroform	ND U	5.0	1	04/27/17 16:13	
Chloromethane	ND U	5.0	1	04/27/17 16:13	
Dibromochloromethane	ND U	5.0	1	04/27/17 16:13	
Dichloromethane	ND U	5.0	1	04/27/17 16:13	
Ethylbenzene	ND U	5.0	1	04/27/17 16:13	
Styrene	ND U	5.0	1	04/27/17 16:13	
Tetrachloroethene (PCE)	ND U	5.0	1	04/27/17 16:13	
Toluene	ND U	5.0	1	04/27/17 16:13	
Trichloroethene (TCE)	ND U	5.0	1	04/27/17 16:13	
Vinyl Chloride	ND U	5.0	1	04/27/17 16:13	
cis-1,2-Dichloroethene	ND U	5.0	1	04/27/17 16:13	
cis-1,3-Dichloropropene	ND U	5.0	1	04/27/17 16:13	
m,p-Xylenes	ND U	10	1	04/27/17 16:13	
o-Xylene	ND U	5.0	1	04/27/17 16:13	
trans-1,2-Dichloroethene	ND U	5.0	1	04/27/17 16:13	
trans-1,3-Dichloropropene	ND U	5.0	1	04/27/17 16:13	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-004
Sample Matrix: Soil

Service Request: R1703570
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: RQ1703776-04

Units: ug/Kg
Basis: Dry

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5035A

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	111	51 - 136	04/27/17 16:13	
Dibromofluoromethane	101	63 - 138	04/27/17 16:13	
Toluene-d8	107	66 - 138	04/27/17 16:13	

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QA/QC Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-004
Sample Matrix: Soil

Service Request: R1703570
Date Analyzed: 04/27/17

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/Kg
Basis:Dry

Lab Control Sample
RQ1703776-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
1,1,1-Trichloroethane (TCA)	8260C	17.6	20.0	88	40-140
1,1,2,2-Tetrachloroethane	8260C	18.9	20.0	95	40-140
1,1,2-Trichloroethane	8260C	18.2	20.0	91	40-140
1,1-Dichloroethane (1,1-DCA)	8260C	18.9	20.0	95	40-140
1,1-Dichloroethene (1,1-DCE)	8260C	17.7	20.0	89	40-140
1,2-Dichloroethane	8260C	19.1	20.0	96	40-140
1,2-Dichloropropane	8260C	17.8	20.0	89	40-140
2-Butanone (MEK)	8260C	20.1	20.0	101	40-140
2-Hexanone	8260C	18.4	20.0	92	40-140
4-Methyl-2-pentanone	8260C	19.2	20.0	96	40-140
Acetone	8260C	26.9	20.0	134	40-140
Benzene	8260C	17.6	20.0	88	40-140
Bromodichloromethane	8260C	16.7	20.0	84	40-140
Bromoform	8260C	16.4	20.0	82	40-140
Bromomethane	8260C	19.2	20.0	96	40-140
Carbon Disulfide	8260C	20.4	20.0	102	40-140
Carbon Tetrachloride	8260C	16.0	20.0	80	40-140
Chlorobenzene	8260C	18.1	20.0	90	40-140
Chloroethane	8260C	19.6	20.0	98	40-140
Chloroform	8260C	19.0	20.0	95	40-140
Chloromethane	8260C	19.3	20.0	97	40-140
Dibromochloromethane	8260C	16.0	20.0	80	40-140
Dichloromethane	8260C	19.0	20.0	95	40-140
Ethylbenzene	8260C	18.6	20.0	93	40-140
Styrene	8260C	18.5	20.0	93	40-140
Tetrachloroethene (PCE)	8260C	17.2	20.0	86	40-140
Toluene	8260C	17.6	20.0	88	40-140
Trichloroethene (TCE)	8260C	17.2	20.0	86	40-140
Vinyl Chloride	8260C	21.7	20.0	108	40-140
cis-1,2-Dichloroethene	8260C	17.6	20.0	88	40-140
cis-1,3-Dichloropropene	8260C	15.4	20.0	77	40-140
m,p-Xylenes	8260C	36.0	40.0	90	40-140
o-Xylene	8260C	18.3	20.0	92	40-140

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QA/QC Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-004
Sample Matrix: Soil

Service Request: R1703570
Date Analyzed: 04/27/17

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/Kg
Basis:Dry

Lab Control Sample
RQ1703776-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
trans-1,2-Dichloroethene	8260C	18.4	20.0	92	40-140
trans-1,3-Dichloropropene	8260C	14.7	20.0	74	40-140



Semivolatile Organic Compounds by GC/MS

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QA/QC Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-004
Sample Matrix: Soil

Service Request: R1703570

SURROGATE RECOVERY SUMMARY
Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Extraction Method: EPA 3541

Sample Name	Lab Code	2,4,6-Tribromophenol	2-Fluorobiphenyl	2-Fluorophenol
		13 - 128	10 - 102	16 - 129
4257-042117-1400	R1703570-001	30	40	33
Method Blank	RQ1703623-01	44	55	49
Lab Control Sample	RQ1703623-02	46	48	43
Duplicate Lab Control Sample	RQ1703623-03	50	51	46

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QA/QC Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-004
Sample Matrix: Soil

Service Request: R1703570

SURROGATE RECOVERY SUMMARY
Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Extraction Method: EPA 3541

Sample Name	Lab Code	Nitrobenzene-d5	Phenol-d6	p-Terphenyl-d14
		10 - 95	10 - 145	16 - 126
4257-042117-1400	R1703570-001	35	37	68
Method Blank	RQ1703623-01	51	53	86
Lab Control Sample	RQ1703623-02	44	46	69
Duplicate Lab Control Sample	RQ1703623-03	46	49	69

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-004
Sample Matrix: Soil

Service Request: R1703570
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: RQ1703623-01

Units: ug/Kg
Basis: Dry

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	ND U	330	1	04/27/17 08:14	4/26/17	
1,2-Dichlorobenzene	ND U	330	1	04/27/17 08:14	4/26/17	
1,3-Dichlorobenzene	ND U	330	1	04/27/17 08:14	4/26/17	
1,4-Dichlorobenzene	ND U	330	1	04/27/17 08:14	4/26/17	
2,4,5-Trichlorophenol	ND U	330	1	04/27/17 08:14	4/26/17	
2,4,6-Trichlorophenol	ND U	330	1	04/27/17 08:14	4/26/17	
2,4-Dichlorophenol	ND U	330	1	04/27/17 08:14	4/26/17	
2,4-Dimethylphenol	ND U	330	1	04/27/17 08:14	4/26/17	
2,4-Dinitrophenol	ND U	1700	1	04/27/17 08:14	4/26/17	
2,4-Dinitrotoluene	ND U	330	1	04/27/17 08:14	4/26/17	
2,6-Dinitrotoluene	ND U	330	1	04/27/17 08:14	4/26/17	
2-Chloronaphthalene	ND U	330	1	04/27/17 08:14	4/26/17	
2-Chlorophenol	ND U	330	1	04/27/17 08:14	4/26/17	
2-Methylnaphthalene	ND U	330	1	04/27/17 08:14	4/26/17	
2-Methylphenol	ND U	330	1	04/27/17 08:14	4/26/17	
2-Nitroaniline	ND U	1700	1	04/27/17 08:14	4/26/17	
2-Nitrophenol	ND U	330	1	04/27/17 08:14	4/26/17	
3,3'-Dichlorobenzidine	ND U	330	1	04/27/17 08:14	4/26/17	
3- and 4-Methylphenol Coelution	ND U	330	1	04/27/17 08:14	4/26/17	
3-Nitroaniline	ND U	1700	1	04/27/17 08:14	4/26/17	
4,6-Dinitro-2-methylphenol	ND U	1700	1	04/27/17 08:14	4/26/17	
4-Bromophenyl Phenyl Ether	ND U	330	1	04/27/17 08:14	4/26/17	
4-Chloro-3-methylphenol	ND U	330	1	04/27/17 08:14	4/26/17	
4-Chloroaniline	ND U	330	1	04/27/17 08:14	4/26/17	
4-Chlorophenyl Phenyl Ether	ND U	330	1	04/27/17 08:14	4/26/17	
4-Nitroaniline	ND U	1700	1	04/27/17 08:14	4/26/17	
4-Nitrophenol	ND U	1700	1	04/27/17 08:14	4/26/17	
Acenaphthene	ND U	330	1	04/27/17 08:14	4/26/17	
Acenaphthylene	ND U	330	1	04/27/17 08:14	4/26/17	
Anthracene	ND U	330	1	04/27/17 08:14	4/26/17	
Benz(a)anthracene	ND U	330	1	04/27/17 08:14	4/26/17	
Benzo(a)pyrene	ND U	330	1	04/27/17 08:14	4/26/17	
Benzo(b)fluoranthene	ND U	330	1	04/27/17 08:14	4/26/17	
Benzo(g,h,i)perylene	ND U	330	1	04/27/17 08:14	4/26/17	
Benzo(k)fluoranthene	ND U	330	1	04/27/17 08:14	4/26/17	
Benzyl Alcohol	ND U	330	1	04/27/17 08:14	4/26/17	
2,2'-Oxybis(1-chloropropane)	ND U	330	1	04/27/17 08:14	4/26/17	
Bis(2-chloroethoxy)methane	ND U	330	1	04/27/17 08:14	4/26/17	
Bis(2-chloroethyl) Ether	ND U	330	1	04/27/17 08:14	4/26/17	
Bis(2-ethylhexyl) Phthalate	ND U	330	1	04/27/17 08:14	4/26/17	
Butyl Benzyl Phthalate	ND U	330	1	04/27/17 08:14	4/26/17	
Carbazole	ND U	330	1	04/27/17 08:14	4/26/17	
Chrysene	ND U	330	1	04/27/17 08:14	4/26/17	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-004
Sample Matrix: Soil

Service Request: R1703570
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: RQ1703623-01

Units: ug/Kg
Basis: Dry

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Di-n-butyl Phthalate	ND U	330	1	04/27/17 08:14	4/26/17	
Di-n-octyl Phthalate	ND U	330	1	04/27/17 08:14	4/26/17	
Dibenz(a,h)anthracene	ND U	330	1	04/27/17 08:14	4/26/17	
Dibenzofuran	ND U	330	1	04/27/17 08:14	4/26/17	
Diethyl Phthalate	ND U	330	1	04/27/17 08:14	4/26/17	
Dimethyl Phthalate	ND U	330	1	04/27/17 08:14	4/26/17	
Fluoranthene	ND U	330	1	04/27/17 08:14	4/26/17	
Fluorene	ND U	330	1	04/27/17 08:14	4/26/17	
Hexachlorobenzene	ND U	330	1	04/27/17 08:14	4/26/17	
Hexachlorobutadiene	ND U	330	1	04/27/17 08:14	4/26/17	
Hexachlorocyclopentadiene	ND U	330	1	04/27/17 08:14	4/26/17	
Hexachloroethane	ND U	330	1	04/27/17 08:14	4/26/17	
Indeno(1,2,3-cd)pyrene	ND U	330	1	04/27/17 08:14	4/26/17	
Isophorone	ND U	330	1	04/27/17 08:14	4/26/17	
N-Nitrosodi-n-propylamine	ND U	330	1	04/27/17 08:14	4/26/17	
N-Nitrosodimethylamine	ND U	330	1	04/27/17 08:14	4/26/17	
N-Nitrosodiphenylamine	ND U	330	1	04/27/17 08:14	4/26/17	
Naphthalene	ND U	330	1	04/27/17 08:14	4/26/17	
Nitrobenzene	ND U	330	1	04/27/17 08:14	4/26/17	
Pentachlorophenol (PCP)	ND U	1700	1	04/27/17 08:14	4/26/17	
Phenanthrene	ND U	330	1	04/27/17 08:14	4/26/17	
Phenol	ND U	330	1	04/27/17 08:14	4/26/17	
Pyrene	ND U	330	1	04/27/17 08:14	4/26/17	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	44	13 - 128	04/27/17 08:14	
2-Fluorobiphenyl	55	10 - 102	04/27/17 08:14	
2-Fluorophenol	49	16 - 129	04/27/17 08:14	
Nitrobenzene-d5	51	10 - 95	04/27/17 08:14	
Phenol-d6	53	10 - 145	04/27/17 08:14	
p-Terphenyl-d14	86	16 - 126	04/27/17 08:14	

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QA/QC Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-004
Sample Matrix: Soil

Service Request: R1703570
Date Analyzed: 04/27/17

Duplicate Lab Control Sample Summary
Semivolatile Organic Compounds by GC/MS

Units:ug/Kg
Basis:Dry

Analyte Name	Lab Control Sample RQ1703623-02				Duplicate Lab Control Sample RQ1703623-03					
	Analytical Method	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene	8270D	1670	3330	50	1840	3330	55	22-128	10	30
1,2-Dichlorobenzene	8270D	1570	3330	47	1710	3330	51	24-117	8	30
1,3-Dichlorobenzene	8270D	1570	3330	47	1700	3330	51	21-115	8	30
1,4-Dichlorobenzene	8270D	1540	3330	46	1650	3330	49	20-117	7	30
2,4,5-Trichlorophenol	8270D	1780	3330	53	1920	3330	58	32-104	8	30
2,4,6-Trichlorophenol	8270D	1820	3330	55	1960	3330	59	30-101	7	30
2,4-Dichlorophenol	8270D	1710	3330	51	1870	3330	56	39-135	9	30
2,4-Dimethylphenol	8270D	1660	3330	50	1790	3330	54	31-135	8	30
2,4-Dinitrophenol	8270D	1120 J	3330	33	1070 J	3330	32	10-128	4	30
2,4-Dinitrotoluene	8270D	2310	3330	69	2400	3330	72	39-122	4	30
2,6-Dinitrotoluene	8270D	2190	3330	66	2370	3330	71	34-122	8	30
2-Chloronaphthalene	8270D	1850	3330	56	1990	3330	60	41-124	7	30
2-Chlorophenol	8270D	1700	3330	51	1840	3330	55	39-123	8	30
2-Methylnaphthalene	8270D	1670	3330	50	1790	3330	54	33-125	7	30
2-Methylphenol	8270D	1630	3330	49	1760	3330	53	38-123	8	30
2-Nitroaniline	8270D	1690 J	3330	51	1820	3330	55	25-116	7	30
2-Nitrophenol	8270D	1760	3330	53	1970	3330	59	23-96	11	30
3,3'-Dichlorobenzidine	8270D	2190	3330	66	2170	3330	65	25-105	1	30
3- and 4-Methylphenol Coelution	8270D	1720	3330	52	1800	3330	54	42-114	5	30
3-Nitroaniline	8270D	1760	3330	53	1720	3330	52	43-106	2	30
4,6-Dinitro-2-methylphenol	8270D	1650 J	3330	49	1630 J	3330	49	10-127	<1	30
4-Bromophenyl Phenyl Ether	8270D	2020	3330	61	2170	3330	65	40-102	7	30
4-Chloro-3-methylphenol	8270D	1700	3330	51	1870	3330	56	42-140	10	30
4-Chloroaniline	8270D	1320	3330	39	1270	3330	38	34-101	4	30
4-Chlorophenyl Phenyl Ether	8270D	1790	3330	54	1920	3330	58	39-100	7	30
4-Nitroaniline	8270D	1880	3330	57	2080	3330	62	35-112	10	30
4-Nitrophenol	8270D	1490 J	3330	45	1560 J	3330	47	34-123	5	30
Acenaphthene	8270D	1740	3330	52	1830	3330	55	32-100	5	30
Acenaphthylene	8270D	1820	3330	55	1920	3330	58	33-100	5	30
Anthracene	8270D	2150	3330	65	2270	3330	68	46-103	6	30
Benz(a)anthracene	8270D	2440	3330	73	2460	3330	74	32-105	1	30
Benzo(a)pyrene	8270D	2470	3330	74	2520	3330	76	48-110	2	30
Benzo(b)fluoranthene	8270D	2300	3330	69	2370	3330	71	44-107	3	30

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QA/QC Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-004
Sample Matrix: Soil

Service Request: R1703570
Date Analyzed: 04/27/17

Duplicate Lab Control Sample Summary
Semivolatile Organic Compounds by GC/MS

Units:ug/Kg
Basis:Dry

Lab Control Sample RQ1703623-02					Duplicate Lab Control Sample RQ1703623-03					
Analyte Name	Analytical Method	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Benzo(g,h,i)perylene	8270D	2500	3330	75	2510	3330	75	49-120	<1	30
Benzo(k)fluoranthene	8270D	2450	3330	73	2480	3330	74	46-107	1	30
Benzyl Alcohol	8270D	1650	3330	49	1810	3330	54	21-100	9	30
2,2'-Oxybis(1-chloropropane)	8270D	1460	3330	44	1600	3330	48	38-138	9	30
Bis(2-chloroethoxy)methane	8270D	1710	3330	51	1840	3330	55	28-91	7	30
Bis(2-chloroethyl) Ether	8270D	1560	3330	47	1670	3330	50	37-86	7	30
Bis(2-ethylhexyl) Phthalate	8270D	2760	3330	83	2810	3330	84	35-119	2	30
Butyl Benzyl Phthalate	8270D	2710	3330	81	2770	3330	83	47-117	2	30
Carbazole	8270D	2270	3330	68	2350	3330	70	41-112	3	30
Chrysene	8270D	2400	3330	72	2480	3330	75	48-111	3	30
Di-n-butyl Phthalate	8270D	2390	3330	72	2470	3330	74	51-120	3	30
Di-n-octyl Phthalate	8270D	2580	3330	77	2600	3330	78	47-127	<1	30
Dibenz(a,h)anthracene	8270D	2530	3330	76	2560	3330	77	46-114	1	30
Dibenzofuran	8270D	1870	3330	56	2000	3330	60	34-97	7	30
Diethyl Phthalate	8270D	2020	3330	61	2120	3330	64	45-108	5	30
Dimethyl Phthalate	8270D	1980	3330	60	2120	3330	64	41-101	7	30
Fluoranthene	8270D	2360	3330	71	2470	3330	74	45-113	5	30
Fluorene	8270D	1820	3330	55	1950	3330	59	38-101	7	30
Hexachlorobenzene	8270D	2240	3330	67	2390	3330	72	41-106	7	30
Hexachlorobutadiene	8270D	1750	3330	52	1910	3330	57	10-142	9	30
Hexachlorocyclopentadiene	8270D	347	3330	10	372	3330	11	10-133	7	30
Hexachloroethane	8270D	1450	3330	43	1570	3330	47	10-129	8	30
Indeno(1,2,3-cd)pyrene	8270D	2700	3330	81	2710	3330	81	46-115	<1	30
Isophorone	8270D	1380	3330	41	1480	3330	44	27-95	7	30
N-Nitrosodi-n-propylamine	8270D	1370	3330	41	1490	3330	45	21-89	8	30
N-Nitrosodimethylamine	8270D	1550	3330	46	1680	3330	50	23-115	8	30
N-Nitrosodiphenylamine	8270D	2080	3330	62	2160	3330	65	37-116	4	30
Naphthalene	8270D	1580	3330	47	1710	3330	51	31-123	8	30
Nitrobenzene	8270D	1530	3330	46	1650	3330	50	35-134	8	30
Pentachlorophenol (PCP)	8270D	1800	3330	54	1950	3330	58	10-137	8	30
Phenanthrene	8270D	2110	3330	63	2260	3330	68	45-106	7	30
Phenol	8270D	1630	3330	49	1780	3330	53	10-144	8	30
Pyrene	8270D	2510	3330	75	2550	3330	76	48-117	1	30



Semivolatile Organic Compounds by GC

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QA/QC Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-004
Sample Matrix: Soil

Service Request: R1703570

SURROGATE RECOVERY SUMMARY
Organochlorine Pesticides by Gas Chromatography

Analysis Method: 8081B
Extraction Method: EPA 3541

Sample Name	Lab Code	Decachlorobiphenyl	Tetrachloro-m-xylene
		10 - 122	10 - 123
4257-042117-1400	R1703570-001	73	77
Method Blank	RQ1703620-01	89	106
Lab Control Sample	RQ1703620-02	82	68
Duplicate Lab Control Sample	RQ1703620-03	82	85
Performance Evaluation PEM	RQ1703782-01		

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-004
Sample Matrix: Soil

Service Request: R1703570
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: RQ1703620-01

Units: ug/Kg
Basis: Dry

Organochlorine Pesticides by Gas Chromatography

Analysis Method: 8081B
Prep Method: EPA 3541

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
4,4'-DDD	ND U	1.7	1	04/27/17 15:20	4/26/17	
4,4'-DDE	ND U	1.7	1	04/27/17 15:20	4/26/17	
4,4'-DDT	ND U	1.7	1	04/27/17 15:20	4/26/17	
Aldrin	ND U	1.7	1	04/27/17 15:20	4/26/17	
Dieldrin	ND U	1.7	1	04/27/17 15:20	4/26/17	
Endosulfan I	ND U	1.7	1	04/27/17 15:20	4/26/17	
Endosulfan II	ND U	1.7	1	04/27/17 15:20	4/26/17	
Endosulfan Sulfate	ND U	1.7	1	04/27/17 15:20	4/26/17	
Endrin	ND U	1.7	1	04/27/17 15:20	4/26/17	
Endrin Aldehyde	ND U	1.7	1	04/27/17 15:20	4/26/17	
Endrin Ketone	ND U	1.7	1	04/27/17 15:20	4/26/17	
Heptachlor	ND U	1.7	1	04/27/17 15:20	4/26/17	
Heptachlor Epoxide	ND U	1.7	1	04/27/17 15:20	4/26/17	
Methoxychlor	ND U	1.7	1	04/27/17 15:20	4/26/17	
Toxaphene	ND U	17	1	04/27/17 15:20	4/26/17	
alpha-BHC	ND U	1.7	1	04/27/17 15:20	4/26/17	
alpha-Chlordane	ND U	1.7	1	04/27/17 15:20	4/26/17	
beta-BHC	ND U	1.7	1	04/27/17 15:20	4/26/17	
delta-BHC	ND U	1.7	1	04/27/17 15:20	4/26/17	
gamma-BHC (Lindane)	ND U	1.7	1	04/27/17 15:20	4/26/17	
gamma-Chlordane	ND U	1.7	1	04/27/17 15:20	4/26/17	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	89	10 - 122	04/27/17 15:20	
Tetrachloro-m-xylene	106	10 - 123	04/27/17 15:20	

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QA/QC Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-004
Sample Matrix: Soil

Service Request: R1703570
Date Analyzed: 04/27/17

Duplicate Lab Control Sample Summary
Organochlorine Pesticides by Gas Chromatography

Units:ug/Kg
Basis:Dry

Lab Control Sample RQ1703620-02					Duplicate Lab Control Sample RQ1703620-03					
Analyte Name	Analytical Method	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
4,4'-DDD	8081B	6.09	6.67	91	7.09	6.67	106	17-138	15	30
4,4'-DDE	8081B	6.29	6.67	94	6.64	6.67	100	35-125	5	30
4,4'-DDT	8081B	6.15	6.67	92	6.38	6.67	96	34-123	4	30
Aldrin	8081B	6.03	6.67	90	6.21	6.67	93	10-103	3	30
Dieldrin	8081B	6.26	6.67	94	6.42	6.67	96	22-120	3	30
Endosulfan I	8081B	6.52	6.67	98	6.73	6.67	101	30-108	3	30
Endosulfan II	8081B	6.38	6.67	96	7.53	6.67	113	26-122	17	30
Endosulfan Sulfate	8081B	5.94	6.67	89	5.93	6.67	89	22-121	<1	30
Endrin	8081B	6.20	6.67	93	6.37	6.67	95	42-133	3	30
Endrin Aldehyde	8081B	2.30	6.67	35	2.42	6.67	36	10-73	5	30
Endrin Ketone	8081B	6.48	6.67	97	5.96	6.67	89	36-116	8	30
Heptachlor	8081B	6.26	6.67	94	7.11	6.67	107	31-115	13	30
Heptachlor Epoxide	8081B	6.56	6.67	98	6.50	6.67	98	27-131	<1	30
Methoxychlor	8081B	6.44	6.67	97	6.34	6.67	95	32-148	2	30
alpha-BHC	8081B	6.08	6.67	91	7.07	6.67	106	19-126	15	30
alpha-Chlordane	8081B	6.13	6.67	92	6.47	6.67	97	31-104	5	30
beta-BHC	8081B	7.03	6.67	105	7.00	6.67	105	28-123	<1	30
delta-BHC	8081B	7.01	6.67	105	6.95	6.67	104	17-126	<1	30
gamma-BHC (Lindane)	8081B	6.48	6.67	97	7.38	6.67	111	23-125	13	30
gamma-Chlordane	8081B	6.14	6.67	92	6.47	6.67	97	28-107	5	30

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QA/QC Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-004
Sample Matrix: Soil

Service Request: R1703570

SURROGATE RECOVERY SUMMARY
Polychlorinated Biphenyls (PCBs) by GC

Analysis Method: 8082A
Extraction Method: EPA 3541

Sample Name	Lab Code	Decachlorobiphenyl	Tetrachloro-m-xylene
		22 - 128	14 - 119
4257-042117-1400	R1703570-001	89	79
Method Blank	RQ1703620-01	102	98
Lab Control Sample	RQ1703620-02	85	79
Duplicate Lab Control Sample	RQ1703620-03	100	52

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-004
Sample Matrix: Soil

Service Request: R1703570
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: RQ1703620-01

Units: ug/Kg
Basis: Dry

Polychlorinated Biphenyls (PCBs) by GC

Analysis Method: 8082A
Prep Method: EPA 3541

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Aroclor 1016	ND U	33	1	04/28/17 08:56	4/26/17	
Aroclor 1221	ND U	67	1	04/28/17 08:56	4/26/17	
Aroclor 1232	ND U	33	1	04/28/17 08:56	4/26/17	
Aroclor 1242	ND U	33	1	04/28/17 08:56	4/26/17	
Aroclor 1248	ND U	33	1	04/28/17 08:56	4/26/17	
Aroclor 1254	ND U	33	1	04/28/17 08:56	4/26/17	
Aroclor 1260	ND U	33	1	04/28/17 08:56	4/26/17	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	102	22 - 128	04/28/17 08:56	
Tetrachloro-m-xylene	98	14 - 119	04/28/17 08:56	

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QA/QC Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-004
Sample Matrix: Soil

Service Request: R1703570
Date Analyzed: 04/28/17

Duplicate Lab Control Sample Summary
Polychlorinated Biphenyls (PCBs) by GC

Units:ug/Kg
Basis:Dry

Lab Control Sample					Duplicate Lab Control Sample					
RQ1703620-02					RQ1703620-03					
Analyte Name	Analytical Method	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Aroclor 1016	8082A	128	167	77	108	167	65	43-129	17	30
Aroclor 1260	8082A	134	167	81	161	167	97	49-135	18	30



Metals

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-004
Sample Matrix: Soil

Service Request: R1703570
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: R1703570-MB

Basis: Dry

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, Total	6010C	ND U	mg/Kg	1.0	1	04/27/17 20:33	04/26/17	
Barium, Total	6010C	ND U	mg/Kg	2.0	1	04/27/17 20:33	04/26/17	
Beryllium, Total	6010C	ND U	mg/Kg	0.30	1	04/27/17 20:33	04/26/17	
Cadmium, Total	6010C	ND U	mg/Kg	0.50	1	04/27/17 20:33	04/26/17	
Chromium, Total	6010C	ND U	mg/Kg	1.0	1	04/27/17 20:33	04/26/17	
Copper, Total	6010C	ND U	mg/Kg	2.0	1	04/27/17 20:33	04/26/17	
Lead, Total	6010C	ND U	mg/Kg	5.0	1	04/27/17 20:33	04/26/17	
Manganese, Total	6010C	ND U	mg/Kg	1.0	1	04/27/17 20:33	04/26/17	
Mercury, Total	7471B	ND U	mg/Kg	0.033	1	04/27/17 15:53	04/26/17	
Nickel, Total	6010C	ND U	mg/Kg	4.0	1	04/27/17 20:33	04/26/17	
Selenium, Total	6010C	ND U	mg/Kg	1.0	1	04/27/17 20:33	04/26/17	
Silver, Total	6010C	ND U	mg/Kg	1.0	1	04/27/17 20:33	04/26/17	
Zinc, Total	6010C	ND U	mg/Kg	2.0	1	04/27/17 20:33	04/26/17	

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QA/QC Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-004
Sample Matrix: Soil

Service Request: R1703570
Date Collected: 04/21/17
Date Received: 04/21/17
Date Analyzed: 04/27/17
Date Extracted: 04/26/17

Duplicate Matrix Spike Summary
Inorganic Parameters

Sample Name: 4257-042117-1400
Lab Code: R1703570-001
Analysis Method: 7471B
Prep Method: Method

Units: mg/Kg
Basis: Dry

Analyte Name	Sample Result	Result	Matrix Spike		Result	Duplicate Matrix Spike		% Rec Limits	RPD	RPD Limit
			Spike Amount	% Rec		Spike Amount	% Rec			
Mercury, Total	ND U	0.222	0.179	124	0.225	0.179	126 *	75-125	1	35

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.

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QA/QC Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-004
Sample Matrix: Soil

Service Request: R1703570
Date Analyzed: 04/27/17

Lab Control Sample Summary
Inorganic Parameters

Units:mg/Kg
Basis:Dry

Lab Control Sample
R1703570-LCS

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Arsenic, Total	6010C	3.77	4.0	94	80-120
Barium, Total	6010C	208	200	104	80-120
Beryllium, Total	6010C	4.80	5.00	96	80-120
Cadmium, Total	6010C	5.07	5.00	101	80-120
Chromium, Total	6010C	20.8	20.0	104	80-120
Copper, Total	6010C	24.7	25.0	99	80-120
Lead, Total	6010C	51.5	50.0	103	80-120
Manganese, Total	6010C	50.7	50.0	101	80-120
Mercury, Total	7471B	0.171	0.167	103	80-120
Nickel, Total	6010C	51.3	50.0	103	80-120
Selenium, Total	6010C	94.8	101	94	80-120
Silver, Total	6010C	4.94	5.0	99	80-120
Zinc, Total	6010C	48.4	50.0	97	80-120



General Chemistry

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-004
Sample Matrix: Soil

Sample Name: Method Blank
Lab Code: R1703570-MB

Service Request: R1703570
Date Collected: NA
Date Received: NA

Basis: Dry

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Chromium, Hexavalent	7199	ND U	mg/Kg	0.40	1	05/05/17 14:35	05/05/17	
Chromium, Hexavalent	7199	ND U	mg/Kg	0.40	1	05/05/17 14:26	05/05/17	
Cyanide, Total	9012B	ND U	mg/Kg	0.10	1	05/03/17 15:04	05/02/17	

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QA/QC Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-004
Sample Matrix: Soil

Service Request: R1703570
Date Analyzed: 05/03/17 - 05/05/17

Lab Control Sample Summary
General Chemistry Parameters

Units:mg/Kg**Basis:**Dry**Lab Control Sample**

R1703570-LCS1

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Chromium, Hexavalent	7199	646	662	97	80-120
Chromium, Hexavalent	7199	646	662	97	80-120
Cyanide, Total	9012B	0.953	1.00	95	85-115

ALS Group USA, Corp.

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QA/QC Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-004
Sample Matrix: Soil

Service Request: R1703570
Date Analyzed: 05/03/17

Lab Control Sample Summary
General Chemistry Parameters

Units:mg/Kg**Basis:**Dry**Lab Control Sample**

R1703570-LCS2

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Cyanide, Total	9012B	5.44	6.00	91	85-115



Subcontracted Analytical Parameters

ALS Environmental—Rochester Laboratory

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May 8, 2017

Reports and Invoices
ALS Environmental
1565 Jefferson Road
Building 300, Suite 360
Rochester, NY 14623

Certificate of Analysis

Project Name:	Custom EDD & QC, No MDL	Workorder:	2226488
Purchase Order:	58R1703570	Workorder ID:	R1703570

Dear Reports Invoices:

Enclosed are the analytical results for samples received by the laboratory on Tuesday, May 2, 2017.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Mrs. Vanessa N Badman (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

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ALS Spring City: 10 Riverside Drive, Spring City, PA 19475 610-948-4903



Mrs. Vanessa N Badman
Project Coordinator

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

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Vancouver Waterloo · Winnipeg · Yellowknife United States: Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York Mexico: Monterrey

SAMPLE SUMMARY

Workorder: 2226488 R1703570

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2226488001	4257-042117-1400	Solid	4/21/2017 14:00	5/2/2017 12:15	Collected by Client

ALS Environmental Laboratory Locations Across North America

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Vancouver Waterloo · Winnipeg · Yellowknife **United States:** Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York **Mexico:** Monterrey

SAMPLE SUMMARY

Workorder: 2226488 R1703570

Notes

- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
- The Chain of Custody document is included as part of this report.
- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are performed in the laboratory and are therefore analyzed out of hold time.
- Method references listed on this report beginning with the prefix "S" followed by a method number (such as S2310B-97) refer to methods from "Standard Methods for the Examination of Water and Wastewater".
- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.

Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
(S)	Surrogate Compound
NC	Not Calculated
*	Result outside of QC limits

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ANALYTICAL RESULTS

Workorder: 2226488 R1703570

Lab ID: **2226488001**
Sample ID: **4257-042117-1400**

Date Collected: 4/21/2017 14:00 Matrix: Solid
Date Received: 5/2/2017 12:15

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
HERBICIDES										
2,4-D	ND		ug/kg	79.7	SW846 8151A	5/3/17 02:30	VLM	5/8/17 06:39	KJH	A
2,4-DB	ND		ug/kg	79.7	SW846 8151A	5/3/17 02:30	VLM	5/8/17 06:39	KJH	A
Dalapon	ND		ug/kg	79.7	SW846 8151A	5/3/17 02:30	VLM	5/8/17 06:39	KJH	A
Dicamba	ND		ug/kg	79.7	SW846 8151A	5/3/17 02:30	VLM	5/8/17 06:39	KJH	A
Dichloroprop	ND		ug/kg	79.7	SW846 8151A	5/3/17 02:30	VLM	5/8/17 06:39	KJH	A
Dinoseb	ND		ug/kg	199	SW846 8151A	5/3/17 02:30	VLM	5/8/17 06:39	KJH	A
4-Nitrophenol	ND		ug/kg	79.7	SW846 8151A	5/3/17 02:30	VLM	5/8/17 06:39	KJH	A
2,4,5-T	ND		ug/kg	79.7	SW846 8151A	5/3/17 02:30	VLM	5/8/17 06:39	KJH	A
2,4,5-TP	ND		ug/kg	79.7	SW846 8151A	5/3/17 02:30	VLM	5/8/17 06:39	KJH	A
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
2,4-Dichlorophenylacetic acid (S)	58.6		%	36 - 113	SW846 8151A	5/3/17 02:30	VLM	5/8/17 06:39	KJH	A
WET CHEMISTRY										
Moisture	16.2		%	0.1	S2540G-11			5/4/17 10:51	VKB	
Total Solids	83.8		%	0.1	S2540G-11			5/4/17 10:51	VKB	


 Mrs. Vanessa N Badman
 Project Coordinator

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QUALITY CONTROL DATA

Workorder: 2226488 R1703570

QC Batch: EXTR/47608 **Analysis Method:** SW846 8151A
QC Batch Method: SW846 8151A
Associated Lab Samples: 2226488001

METHOD BLANK: 2530078

Parameter	Blank Result	Units	Reporting Limit
2,4-D	ND	ug/kg	67.0
2,4-DB	ND	ug/kg	67.0
Dalapon	ND	ug/kg	67.0
Dicamba	ND	ug/kg	67.0
Dichloroprop	ND	ug/kg	67.0
Dinoseb	ND	ug/kg	167
4-Nitrophenol	ND	ug/kg	67.0
2,4,5-T	ND	ug/kg	67.0
2,4,5-TP	ND	ug/kg	67.0
2,4-Dichlorophenylacetic acid (S)	74.2	%	36 - 113

LABORATORY CONTROL SAMPLE: 2530079

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
2,4-D	91.1	ug/kg	333	304	23 - 130
2,4-DB	54.3	ug/kg	333	181	10 - 130
Dalapon	48.6	ug/kg	333	162	24 - 65
Dicamba	77.9	ug/kg	333	260	44 - 89
Dichloroprop	68.7	ug/kg	333	229	36 - 107
Dinoseb	71.9	ug/kg	333	240	25 - 100
4-Nitrophenol	26.4	ug/kg	333	88.1	11 - 68
2,4,5-T	76.4	ug/kg	333	255	22 - 132
2,4,5-TP	76.3	ug/kg	333	254	49 - 105
2,4-Dichlorophenylacetic acid (S)	79.6	%			36 - 113

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QUALITY CONTROL DATA

Workorder: 2226488 R1703570

QC Batch: WETC/186765 **Analysis Method:** S2540G-11
QC Batch Method: S2540G-11
Associated Lab Samples: 2226488001

SAMPLE DUPLICATE: 2531275 ORIGINAL: 2225722002

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Moisture	12.0921	%	11.8744	1.82	10
Total Solids	87.9078	%	88.1255	.25	5

SAMPLE DUPLICATE: 2531276 ORIGINAL: 2226135010

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Moisture	19.1767	%	20.4033	6.2	10
Total Solids	80.8232	%	79.5966	1.53	5

SAMPLE DUPLICATE: 2531277 ORIGINAL: 2226169002

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Moisture	9.8693	%	9.7826	.88	10
Total Solids	90.1306	%	90.2173	.1	5

SAMPLE DUPLICATE: 2531278 ORIGINAL: 2226180004

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Moisture	13.7731	%	13.9557	1.32	10
Total Solids	86.2268	%	86.0442	.21	5

SAMPLE DUPLICATE: 2531279 ORIGINAL: 2226259005

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Moisture	7.1428	%	7.1868	.61	10
Total Solids	92.8571	%	92.8131	.05	5

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QUALITY CONTROL DATA

Workorder: 2226488 R1703570

SAMPLE DUPLICATE: 2531280 ORIGINAL: 2226259016

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Moisture	26.1935	%	23.7958	9.59	10
Total Solids	73.8064	%	76.2041	3.2	5

SAMPLE DUPLICATE: 2531281 ORIGINAL: 2226362001

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Moisture	80	%	82.3221	2.86	10
Total Solids	20	%	17.6778	12.3*	5

SAMPLE DUPLICATE: 2531282 ORIGINAL: 2226472001

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Moisture	30.5402	%	30.9278	1.26	10
Total Solids	69.4597	%	69.0721	.56	5

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QUALITY CONTROL DATA CROSS REFERENCE TABLEWorkorder: 2226488 R1703570

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
2226488001	4257-042117-1400	SW846 8151A	EXTR/47608	SW846 8151A	SVGC/45274
2226488001	4257-042117-1400			S2540G-11	WETC/186765

ALS Environmental Laboratory Locations Across North America

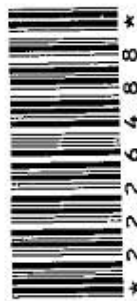
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ALS Environmental Chain of Custody

1565 Jefferson Rd, Building 300 • Rochester, NY 14623 • 585-288-5380 • FAX 585-288-8475

ALS Contact: Brady Kalkman

Project Number: RI1703570
Project Manager: Brady Kalkman
QAP: LAB QAP



HERB
8151A

Lab Code	Sample ID	# of Cont.	Matrix	Sample	
				Date	Time
4257-042117-1400		1	Soil	4/21/17	1400
					Middletown ALS
					X

Y N Initials Cooler Temp. °C

Custody Seals Present? (if present) Seals Intact? Received on Ice? COC/Lbls Complete Cont in Good Cond? Correct Containers? Correct Samp Vol? Correct Preservation? Headspace/Volatiles? Tracking #:

Ship Carrier: FedEx UPS DHL

5 Day Thx if possible

682680196076

Special Instructions/Comments Fedex lost cooler L2 reshipped 5/1/17 NPDES H - Test is On Hold P - Test is Authorized for Prep Only	Turnaround Requirements RUSH (Surcharges Apply) PLEASE CIRCLE WORK DAYS 1 2 3 4 5 STANDARD Requested FAX Date: 04/28/17 Requested Report Date: 04/28/17	Report Requirements I. Results Only X II. Results + QC Summaries III. Results + QC and Calibration Summaries IV. Data Validation Report with Raw Data PQL/MDL/LI EDD 3.7 - HA Xerox web site	Invoice Information PO# 58R1703570 Bill to
---	--	--	---

Airbill Number:

Received By:

Relinquished By:

5/12

Aublin

1215

ALS Environmental Chain of Custody

1565 Jefferson Rd, Building 300 • Rochester, NY 14623 • 585-288-5380 • FAX 585-288-8475

ALS Contact: Brady Kalkman

Project Number: R1703570
 Project Manager: Brady Kalkman
 QAP: LAB QAP

R1703570

X Ship To: Middletown ALS
 ALS Laboratory Group
 34 Dogwood Lane
 Middletown, PA 17057

PC _____ Date _____
 SMO _____ Date _____

Instructions:

Ice _____
 Dry Ice _____
 No Ice _____

Shipping:

Overnight _____
 2nd Day _____
 Ground _____

Bill to Client Account _____

Comments:

ALS Group USA, Corp.
 www.alsglobal.com
 An ALS Limited Company



160 Silvarole Drive • Rochester, NY 14623 • Phone (585) 272-0731

May 18, 2017

Genesee Environmental
24 Industrial Park Circle
Rochester, NY 14624
Attn: Mike Mazzara

Dear Mike,

The waste generated at 711 North Road, Scottsville NY 14546, hauled by Youngblood Disposal, was accepted at our facility on May 2, 2017 and is documented on scale ticket #26148. This load was shipped to Mill Seat Landfill for disposal on May 5, 2017.

Regards,

Shelli Silvarole

Shelli Silvarole
General Manager

160 Silvarole Dr.
Rochester, NY 14623
(585) 272-0731
Shelli@SilvaroleTransfer.com



KAS
711 North Rd
Scottsville
582165
4210CA

Incoming Scale Ticket

Ticket no. 26148
Weighmaster - Jane

Issued on 05.02.2017 07:10 AM

Truck		Date and time	
Truck No.	43-KEN	Tare	5/2/2017 7:01:59 AM
Box No.		Gross	5/2/2017 7:10:49 AM
Job No.		Remarks:	
Trailer No.			

Customer	
Customer No.	2
Name	Youngblood Disposal
Address	P.O BOX 64463
City State Zip	Westgate NY, 14624
County	MONROE

Ref no.	Material	GROSS	TARE	NET	Tons	QTY	Unit price	Net price
3	C&D- CONSTRUCTION AND DEMOLITION	53,140	33,740	19,400	9.70	0	0.00	0.00
TOTAL				19,400	9.70			0.00

TOTAL PRICE: 0.00

Signature

APPENDIX D

Well Maintenance Forms

Ramsdell, Mark

From: Sowers, Frank (DEC) <frank.sowers@dec.ny.gov>
Sent: Tuesday, October 11, 2016 10:47 AM
To: Ramsdell, Mark
Cc: Conley, Denis; Dick, Vince
Subject: RE: CooperVision - Scottsville, NY - V00175 - Well Decommissioning

The plan described below is acceptable. Thank you

Frank Sowers, P.E.

Environmental Engineer 2, Division of Environmental Remediation

New York State Department of Environmental Conservation

6274 East Avon-Lima Rd, Avon, NY 14414

P: (585) 226-5357 | F: (585) 226-8139 | frank.sowers@dec.ny.gov

www.dec.ny.gov |  | 

From: Ramsdell, Mark [mailto:MRamsdell@haleyaldrich.com]
Sent: Monday, October 10, 2016 9:01 AM
To: Sowers, Frank (DEC) <frank.sowers@dec.ny.gov>
Cc: Conley, Denis <DConley@haleyaldrich.com>; Dick, Vince <VDick@haleyaldrich.com>
Subject: CooperVision - Scottsville, NY - V00175 - Well Decommissioning

ATTENTION: This email came from an external source. Do not open attachments or click on links from unknown senders or unexpected emails.

Frank – as per your letter dated August 15, 2016, we are preparing for the semi-annual groundwater sampling event. Tentatively scheduled for October 17-18th, awaiting confirmation from the facility. During this sampling event we will be installing the Bio-Trap in MW-202 for a 2 month deployment, as per the Injection work plan dated 1 October 2013.

We will be decommissioning MW-1 in general accordance with the NYSDEC CP-43 policy and the following step procedure for your review:

1. Break Through Bottom of Well Screen
2. Start “Tremie” Grout process from bottom of well. Pull screen as grout is applied.
3. Apply Grout up to 5' below ground surface
4. Remove protective outer casing
5. Fill Remaining void space with bagged soil/topsoil
6. Dispose of casing and waste materials

*If riser breaks during removal, soil will be dug down to 5 feet and piping cut off.

Standard Grout Mixture Referenced in CP-43, this will be modified as necessary in the field to be able to tremie the grout into the “micro” well:

- One 94-pound bag Type I Portland cement;
- 3.9 pounds powdered bentonite; and
- 7.8 gallons potable water.

Well Features: 1” diameter PVC, Approx. 15’ in depth. 3” diameter PVC Protective casing surrounding pipe, Depth unknown.

We will document these activities in the next PRR. Please let us know if you are in agreement with this procedure.

Thanks,
Mark

Mark N. Ramsdell, P.E.

Senior Project Manager

Senior Engineer

Haley & Aldrich of New York

200 Town Centre Drive | Suite 2

Rochester, NY 14623-4264

T: 585.321.4262

C: 585.370.6597

www.haleyaldrich.com

Project	Cooper Vision	Report No.	20
Location	711 North Rd. Scottsville NY	Date	11/15/16
Client	CooperVision	Page	1 of 1
Contractor	Matrix Drilling	File No.	
Weather	Sunny 40's	Temperature	

0810 S. McKenna onsite

0815 Pat + Mark of Matrix onsite. Check into front desk.

0830 Begin decommissioning MW-1. This will be done using the CP-43 method - grant + pull.

0950 MW-1 granted to surface; casing pulled, surface restored.

1000 Begin cutting asphalt at MW-501 for well vault + pad replacement

1045 MW-501 well maintenance complete. Matrix provides 9/16 bolts.

1100 Matrix off site. S. McKenna goes around to wells that need bolts

1145 S. McKenna offsite

Field Representative(s)	Time on site	Report/Travel/Other	Total hours
S. McKenna	0810		3.5

Distribution:

APPENDIX E

NYSDEC Biotrap Results Correspondence



HALEY & ALDRICH OF NEW YORK
200 Town Centre Drive
Suite 2
Rochester, NY 14623
585.359.9000

MEMORANDUM

23 March 2017
File No. 129375-002

TO: NYSDEC, Department of Environmental Remediation
Frank Sowers, P.E.

C: BakerHostetler
Christopher H. Marraro, Esq.
CooperVision, Inc.
Myles Ott

FROM: Haley & Aldrich of New York
Denis Conley
Mark Ramsdell, P.E.

SUBJECT: Results of Biotrap® Sampling - MW-202

This memorandum presents the results from the Biotrap® sampling conducted at monitoring well, MW-202 as part of the groundwater monitoring program at the CooperVision Facility located in Scottsville, New York. The purpose of the testing was to evaluate the effectiveness of the bioamendment, emulsified vegetable oil (EVO) to stimulate the growth of the indigenous microbial population in the groundwater bearing sediments downgradient from the facility.

Background

Soil and groundwater investigations were conducted at the facility between 1998 and 2000 as part of application for and acceptance into a Voluntary Cleanup Agreement (VCA) with the New York State Department of Environmental Conservation (NYSDEC). Following the site investigation, a remedy was selected, which included the injection of hydrogen release compound (HRC) in the overburden soil and groundwater to stimulate enhanced bio-remediation of the volatile organic compounds (VOCs) detected in the soil and groundwater. Periodic groundwater monitoring conducted since the in-situ treatment has indicated that the HRC is continuing to enhance the biodegradation of the groundwater contaminants in that area of the facility but it had not affected the downgradient groundwater near MW-202 along the eastern property line.

At the request of the NYSDEC, CooperVision prepared an Evaluation of Remedial Alternatives, which included an update of the Conceptual Site Model (CSM) and the identification of applicable remedial technologies that may be used to address the downgradient groundwater conditions. The evaluation

concluded that an injection of a biological amendment (emulsified vegetable oil (EVO)) was the most appropriate remedy to address the VOCs detected in the downgradient area groundwater.

The injection of EVO was completed pursuant to the approved Remedial Action Work Plan (RAWP) (Haley & Aldrich, October 2013) and the subsequent post injection groundwater monitoring program prescribed by the RAWP. With the observed increase in total organic carbon (TOC) concentrations within MW-202 indicating the presence of the EVO amendment, a Biotrap® was deployed to evaluate the indigenous microbial population and determine if the addition of a bioaugmentation culture would be required to enhance the biodegradation of the VOCs present in the groundwater.

Implementation

Following the collection of the semi-annual groundwater samples in October 2016, an un-baited Biotrap® consisting of Biosep® beads was installed within the well screen of MW-202. The purpose of the Biotrap is to create a substrate that will enable the growth of the native microorganisms so that identification and quantification of the intrinsic microorganisms can be performed. The Biotrap was retrieved after 2 months of incubation within the well for analysis at Microbial Insights, a biological testing laboratory located in Knoxville, TN. The Biotrap was recovered on 23 December 2016 and shipped to MI for the quantification of dehalococcoides sp. (DHC) and dehalobacter sp.(DHBt); two microorganisms known to biodegrade chlorinated VOCs under anaerobic conditions and the associated enzymes known to facilitate those processes; tceA reductase, BAV1 reductase and vinyl chloride reductase.

Results

The laboratory results provided in the attached Microbial Insights report indicate that DHC and the associated reductase enzymes were not present above the laboratory reporting limits, but DHBt was present at a population density of 2750 cells/bead. DHBt sp. has been identified as a microbial species that can metabolize 1,1,1-trichloroethane under anaerobic conditions. The population density detected is considered a **moderate** level which suggest that intrinsic biodegradation is occurring within the groundwater as a result of the EVO injection program. However, the lack of detectable amounts of DHC or the associated enzymes suggests that the rate of biological activity is down and the complete mineralization of the detected contaminants; 1,1 DCA and 1,1 DCE is less likely without an increase in both the microbial population density and the enzyme activity.

Recommendations

Based on the results of the Biotrap® sampling conducted at MW-202 following the fall 2016 groundwater sampling event, we recommend the placement of a consortium of microorganisms demonstrated to metabolize chlorinated VOCs within the bioaugmentation points (BAP-1 and BAP-2) installed between the injection points and MW-202. This consortium should include both DHC sp. and DHBt sp. Attached to this memorandum are product specifications for several consortia that could be utilized.



10515 Research Drive
Knoxville, TN 37932
Phone: (865) 573-8188
Fax: (865) 573-8133

Client: Dennis Conley
Haley & Aldrich, Inc.
200 Town Centre Road
Suite 2
Rochester, NY 14623

Phone:

Fax:

Identifier: 088NL

Date Rec: 12/22/2016

Report Date: 12/23/2016

Client Project #: 129375-002

Client Project Name: Cooper Vision

Purchase Order #: 129375-002-1.1

Analysis Requested: CENSUS, Standard Bio-Trap

Reviewed By:

A handwritten signature in black ink, appearing to read 'Joan Spence', written over a light blue rectangular background.

NOTICE: This report is intended only for the addressee shown above and may contain confidential or privileged information. If the recipient of this material is not the intended recipient or if you have received this in error, please notify Microbial Insights, Inc. immediately. The data and other information in this report represent only the sample(s) analyzed and are rendered upon condition that it is not to be reproduced without approval from Microbial Insights, Inc. Thank you for your cooperation.

MICROBIAL INSIGHTS, INC.

10515 Research Dr., Knoxville, TN 37932
Tel. (865) 573-8188 Fax. (865) 573-8133

CENSUS

Client: Haley & Aldrich, Inc.
Project: Cooper Vision

MI Project Number: 088NL
Date Received: 12/22/2016

Sample Information

Client Sample ID:	ET-MW202-1221
	16
Sample Date:	12/21/2016
Units:	cells/bead
Analyst:	JS

Dechlorinating Bacteria

<i>Dehalococcoides</i>	<i>DHC</i>	<2.50E+01
tceA Reductase	TCE	<2.50E+01
BAV1 Vinyl Chloride Reductase	BVC	<2.50E+01
Vinyl Chloride Reductase	VCR	<2.50E+01
<i>Dehalobacter</i> spp.	<i>DHBt</i>	2.76E+03

Legend:

NA = Not Analyzed NS = Not Sampled J = Estimated gene copies below PQL but above LQL I = Inhibited
< = Result not detected

Quality Assurance/Quality Control Data

Samples Received 12/22/2016

Component	Date Prepared	Date Analyzed	Arrival Temperature	Positive Control	Extraction Blank	Negative Control
DHC	12/22/2016	12/23/2016	1 °C	101%	non-detect	non-detect
DHBt	12/22/2016	12/23/2016	1 °C	107%	non-detect	non-detect
BVC	12/22/2016	12/23/2016	1 °C	119%	non-detect	non-detect
TCE	12/22/2016	12/23/2016	1 °C	104%	non-detect	non-detect
VCR	12/22/2016	12/23/2016	1 °C	100%	non-detect	non-detect



**TERRA SYSTEMS, INC. DEHALOCOCCOIDES
MCCARTYI/DEHALOBACTER BIOAUGMENTATION
CULTURES (TSI-DC AND TSI-TCA) SAFETY DATA SHEET**

>1 x 10¹¹ Dehalococcoides/Dehalobacter cells/L

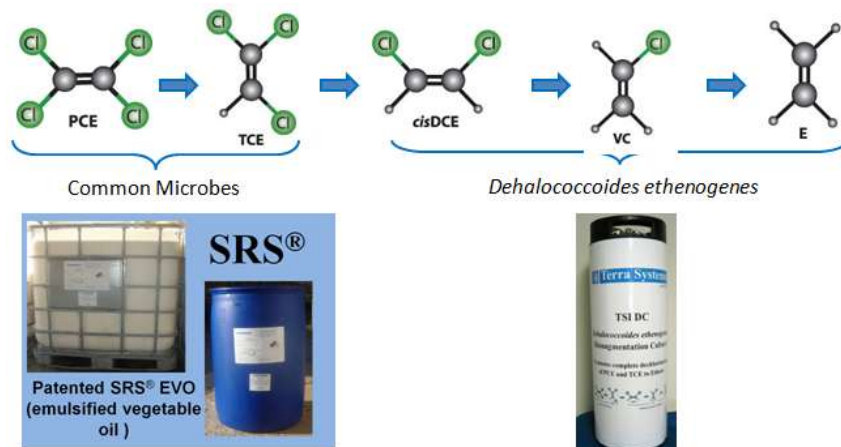
50/50 mix of TSI DC and TSI-TCA *Dehalococcoides mccartyi/Dehalobacter* Bioaugmentation Cultures[®] is an enriched natural bacteria culture that contains *Dehalococcoides* and *Dehalobacter* species for bioaugmentation. This culture dechlorinates tetrachloroethene (PCE) and trichloroethene (TCE) to the non-toxic product ethene. The culture also biodegrades 1,1,1-trichloroethane to 1,1-dichloroethene, 1,1-dichloroethane, and chloroethane. It also can biodegrade carbon tetrachloride and chloroform to methylene chloride and innocuous products. It can be used at sites where bacteria capable of complete reductive dechlorination are not present or there is a need to decrease the remediation time frame. It is estimated that *Dehalococcoides* and *Dehalobacter* are not present in 10 to 40 percent of chlorinated solvent contaminated sites.

Composition

Ingredient	Synonyms	CAS #	Percent	Hazardous
Non-hazardous ingredients	DHC	Not applicable	50%	No
Non-hazardous ingredients	DHB	Not applicable	50%	No

Key Benefits of the 50/50 mix of TSI DC and TSI-TCA *Dehalococcoides mccartyi/Dehalobacter* Bioaugmentation Cultures[®]

The 50/50 mix of TSI DC and TSI-TCA *Dehalococcoides mccartyi/Dehalobacter* Bioaugmentation Cultures[®] has been proven to be effective with a growing body of laboratory and field data demonstrating that the *Dehalococcoides* group of microorganisms is solely responsible for the complete dechlorination of PCE and TCE to ethene. At sites where *Dehalococcoides* microorganisms are not present or are found at low numbers, the process will often "stall" at cis-1,2-dichloroethene. The TSI-DC[®] Bioaugmentation Culture will promote the complete dechlorination of PCE or TCE. The TSI-DC[®] Bioaugmentation Culture contains greater than **1 x 10¹¹ *Dehalococcoides*/L**. The *Dehalobacter* culture biodegrades 1,1,1-trichloroethane to 1,1-dichloroethene, 1,1-dichloroethane, and chloroethane.



The TSI DC and TSI-TCA Bioaugmentation Culture is cost effective and is typically a minor component of the total remediation project cost. At sites where the *Dehalococcoides* and *Dehalobacter* are present, but at low numbers or poorly distributed, bioaugmentation can be used to reduce the treatment time. Bioaugmentation can also reduce the time required to grow the *Dehalococcoides* and *Dehalobacter* population to effective cell densities. Therefore, future costs can be reduced.

- The Bioaugmentation Culture is competitively priced at less than \$150 per liter of culture plus shipping depending on volume ordered.
- The Bioaugmentation Culture works with all commonly used electron donors.
- The Bioaugmentation Culture is not genetically modified or engineered.
- The Bioaugmentation Culture is certified to be free of known human pathogens.
- The Bioaugmentation Culture has rigorous quality control procedures in place to ensure that each shipment is of the highest quality, stable, safe, effective and free of chlorinated volatile organic compounds.
- The Bioaugmentation Culture is shipped overnight in specially designed stainless steel containers that prevent exposure to air and are safe & easy to handle.



Each purchase comes with free technical phone support from an experienced Terra Systems microbiologist. A senior level microbiologist is also available to be on-site to support the successful application at \$1,200 per day.

130 Hickman Road, Suite 1
Claymont, Delaware 19703
Phone: 302-798-9553 • Email: mfree@terrasystems.net
On the Web: www.terrasystems.net



TERRA SYSTEMS, INC DECHLORINATING BIOAUGMENTATION CULTURES (TSI-DC AND TSI-TCA) SAFETY DATA SHEET

1. Product Identification

Synonyms:	<i>Dehalococcoides</i> or DHC Microbial Consortium (TSI-DC) and <i>Dehalobacter</i> (DHB)
Recommended Use:	Bioremediation of groundwater contaminated with chlorinated solvents such as tetrachloroethene and trichloroethene and trichloroethene and their daughter products.
Supplier:	Terra Systems, Inc. 130 Hickman Road, Suite 1 Claymont, Delaware 19703 Telephone (302) 798-9553 Fax (302) 798-9554 www.terrasystems.net

2. Hazards Identification

The available data indicates no known hazards associated with exposure to this product. Nevertheless, individuals who are allergic to enzymes or other related proteins should avoid exposure and handling. Health effects associated with exposure to similar organisms are listed below.

Emergency Overview

Caution:	May cause eye irritation or discomfort if ingested or inhaled or allergic reaction to sensitive individuals.
Health Rating:	1 - Slight
Flammability Rating:	0 - None
Reactivity Rating:	0 - None
Contact Rating:	1 - Slight
Protective Equipment:	Goggles; Proper Gloves
Storage Color Code:	Green (General Storage)
Potential Health Effects	
Inhalation:	Not expected to be a health hazard. Hypersensitive individuals may experience breathing difficulties after inhalation of aerosols.
Ingestion:	Not expected to be a health hazard via ingestion. Ingestion of large quantities may result in abdominal discomfort including nausea, vomiting, cramps, diarrhea, and fever.
Skin Contact:	No adverse effects expected. May cause irritation or sensitization in sensitive individuals upon prolonged contact.



Eye Contact: May cause mild irritation, possible reddening unless immediately rinsed.

Chronic Exposure: No information found.

Aggravation of Pre-existing Conditions: No information found.

3. Composition/Information on Ingredients

Ingredient	Synonyms	CAS #	Percent	Hazardous
Non-hazardous ingredients	DHC	Not applicable	50%	No
Non-hazardous ingredients	DHB	Not applicable	50%	No

4. First Aid Measures

Inhalation: Not expected to require first aid measures. Remove to fresh air. Get medical attention for any breathing difficulty or if allergic symptoms develop.

Ingestion: Thoroughly rinse mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Get immediate medical attention. Never give anything by mouth to an unconscious or convulsing person.

Skin Contact: Not expected to require first aid measures. Wash exposed area with soap and water. Get medical advice if irritation develops.

Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get medical attention if irritation persists.

Note to Physicians: All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this material may have occurred.

5. Fire Fighting Measures

Fire: Non-flammable. Flash point and flammable limits are not available.

Explosion: Not considered to be an explosion hazard.

Fire Extinguishing Media: Dry chemical, foam, carbon dioxide, or water.

Special Information: In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode.



6. Accidental Release Measures

Clean-up personnel may require protective clothing and avoid skin contact. Absorb in sand, paper towels, or other inert material. Scoop up and containerize for disposal. Flush trace residues to sewer with soap and water. Containerized waste may be sent to an approved waste disposal facility. After clean-up, disinfect all cleaning materials and storage containers that come in contact with the spilled liquid.

7. Handling and Storage

Avoid breathing breathe aerosol. Avoid contact with skin. Use personal protective equipment recommended in Section 8. Keep containers tightly closed in a cool, well-ventilated area. The DHC/DHB microbial consortium (TSI-DC and TSI-TCA) can be supplied in stainless steel kegs designed for maximum working pressure of 130 psi and equipped with pressure relief valves. The kegs are pressurized with nitrogen gas up to the pressure of 15 psi. Do not exceed pressure of 15 psi during transfer of DHC/DHB microbial consortium (TSI-DC and TSI-TCA) from kegs. Don't open keg if content of the keg is under pressure. DHC/DHB microbial consortium (TSI-DC and TSI-TCA) may be stored for up to 3 weeks at temperature 2-4°C without aeration. Avoid freezing.

8. Exposure Controls/Personal Protection

Airborne Exposure Limits:	None established.
Ventilation System:	Not expected to require any special ventilation. Provide adequate ventilation to remove odors.
Personal Respirators (NIOSH Approved):	Not expected to require personal respirator usage. If aerosols might be generated, use N95 respirator.
Skin Protection:	Wear protective rubber, nitrile, or vinyl gloves and clean body-covering clothing.
Eye Protection:	Use chemical safety goggles and/or a full face shield where splashing is possible. Provide readily accessible eye wash stations and safety showers.

9. Physical and Chemical Properties

Appearance:	Light greenish, murky liquid.
Odor:	Musty.
Solubility:	Soluble in water.
Specific Gravity (water=1):	1.0. 8.34 pounds per gallon.
pH:	6-8
% Volatiles by volume @ 21C (70F):	Negligible.
Boiling Point:	100C (212F)
Melting Point:	0C (32F)
Flash Point (F):	No information found.



Autoignition Temperature:	No information found.
Decomposition Temperature:	No information found.
Vapor Density (Air=1):	No information found.
Vapor Pressure (mm Hg):	24 mm @ 25C (77F).
Evaporation Rate (BuAc=1):	No information found.
Viscosity @23 C (73 F):	1 centipoises
Partition Coefficient (octanol/water):	No information found.

10. Stability and Reactivity

Stability:	Stable under ordinary conditions of use and storage.
Reactivity:	Not reactive under ordinary conditions.
Hazardous Decomposition Products:	None.
Hazardous Polymerization:	Will not occur.
Incompatibilities:	Strong oxidizers, acids, water reactive materials.
Conditions to Avoid:	Incompatibles. Isolate from heat and open flame.

11. Toxicological Information

TSI-DC and TSI-TCA	No information found on toxicology. It is not a carcinogen listed by IARC, NTP, NIOSH, OSHA, or ACGIH. It has tested negative for pathogenic microorganisms such as <i>Bacillus cereus</i> , <i>Listeria monocytogens</i> , <i>Salmonella</i> sp., <i>Pseudomonas</i> sp., fecal coliform, total coliform, yeast, and mold.
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12. Ecological Information

Environmental Fate:	No information found.
Environmental Toxicity:	No information found.
Degradability:	This product is completely biodegradable under both aerobic and anaerobic conditions.
Soil Mobility:	This compound will move with groundwater until it attaches onto the soil.
Bioaccumulation Potential:	No information found.

13. Disposal Considerations

Waste Disposal Method: No special disposal methods are required. The material is compatible with all known biological treatment methods. To reduce odors and permanently inactivate microorganisms, mix 100 parts (by volume) of TSI-DC/TSI-TCA consortium with 1 part (by volume) of bleach. Dispose of in accordance with local, state and federal regulations.

14. Transport Information

DOT Classification:	N/A
Labeling:	NA



Shipping Name: Not regulated

15. Regulatory Information

OSHA STATUS: This product is not hazardous under the criteria of the Federal OSHA hazard Communication Standard 29 CFR 1910.1200.

TSCA STATUS: No component of this product is listed on the TSCA inventory.

CERCLA (Comprehensive Response Compensation, and Liability Act): Not reportable.

SARA TITLE III (Superfund Amendments and Reauthorization Act)

Section 312 Extremely Hazardous Substances: None

Section 311/312 Hazard Categories: Non-hazardous Under Section 311/312

Section 313 Toxic Chemicals: None

RCRA STATUS: If discarded in its purchased form, this product would not be a hazardous waste either by listing or by characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste. (40 CFR 261.20-24)

CALIFORNIA PROPOSITION 65: The following statement is made in order to comply with the California safe Drinking Water and Toxic Enforcement Act of 1986. The product contains no chemicals known to the State of California to cause cancer.

16. Other Information

NFPA Ratings:

Health: **1** Flammability: **0** Reactivity: **0**

Date Prepared:

February 10, 2016

Revision Information:

SDS Section(s) changed since last revision of document include: None.

Disclaimer:

Terra Systems, Inc. provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose. TERRA SYSTEMS, INC. MAKES NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE INFORMATION SET FORTH HEREIN OR THE PRODUCT TO WHICH THE INFORMATION REFERS. ACCORDINGLY, TERRA SYSTEMS, INC. WILL NOT BE RESPONSIBLE FOR



DAMAGES RESULTING FROM USE OF OR RELIANCE
UPON THIS INFORMATION.

Prepared by:
Phone Number:

Terra Systems, Inc.
(302) 798-9553 (U.S.A.)

APPENDIX F

Terra System User Manual



User Manual for the Calibrated Culture Delivery System

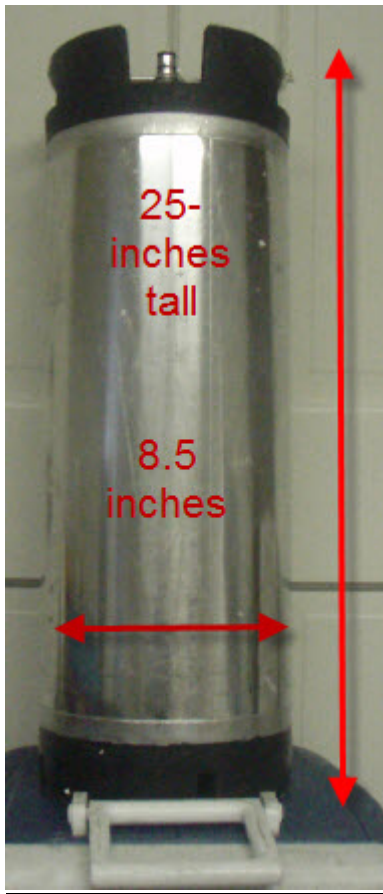




USER INSTRUCTION

WARNINGS

1. Keg is pressurized to 10 to 15 psi with Nitrogen before shipping.
2. Wear suitable eye protection, gloves, respirator and protective clothing.
3. Gas cylinders used to dispense culture **MUST** be equipped with a proper pressure regulator.
4. During operation **DO NOT** exceed the keg's maximum working pressure of 15 psi.

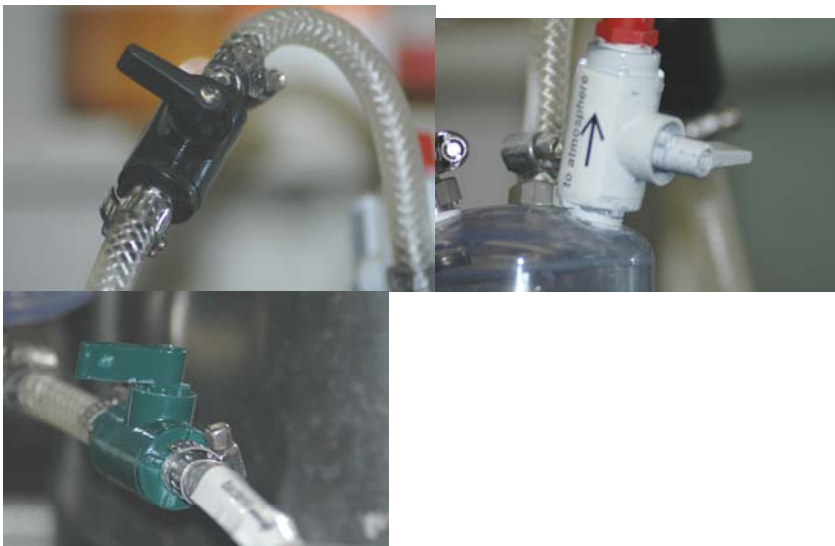


Standard Culture Shipping Keg Dimensions



UNPACKING

1. Carefully remove keg and measuring cylinder from shipping container and stand keg upright.
2. Attach measuring cylinder to the keg by using the black Velcro straps.
3. Carefully check the keg, measuring cylinder, connectors, valves and tubing for any damage or defects. If any defects or damage is observed, do not use. **Report any damage immediately to Dr. Mike Lee at 302-798-9553.** A back-up set of quick connects is provided in the packaging material.
4. Check and ensure that black, white and green valves are in the CLOSED position and brass three-way valve is in position "1" (handle of the valve should be directed to position perpendicular to the body of the valve).

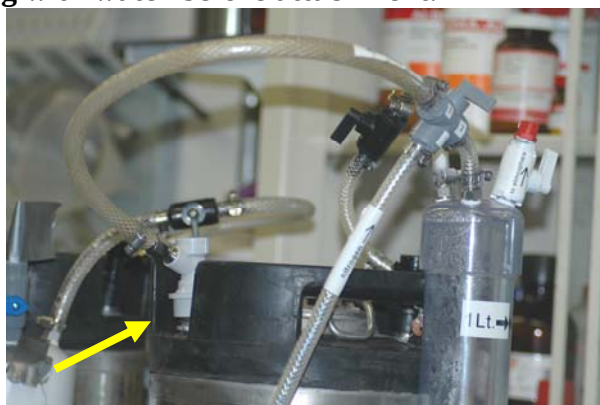


SET-UP

1. Using an appropriate length of reinforced $\frac{1}{4}$ " ID tubing, connect the tubing marked "Nitrogen tank →" to the gas tank regulator. Another end of the tubing is connected to position "1" of three way brass valve.



2. Connect the GREY connector to Gas "In" fitting of the keg. Be sure that the GREY connector is designed to be connected only to Gas "In" keg's fitting. Lubricate fitting with water before attachment.





3. Connect the Black connector to Liquid “Out” fitting of the keg. Be sure that the Black connector is designed to be connected only to Liquid “Out” keg’s fitting. Lubricate fitting with water before attachment. Ensure that the black valve attached to the BLACK quick connect is tightly closed.



4. Connect an appropriate length of reinforced $\frac{1}{4}$ " ID tubing marked “Bacteria →” by the barbed fitting to the site tubing to distribute bacterial culture to the desired injection point. **Be sure the green valve is closed. Do not connect this line to the injection line yet.**



Keg and measuring cylinder attached to the keg’s fittings via black and grey connectors.



Measuring cylinder with attached three-way brass valve.



Keg and measuring cylinder connected to delivery gas tank.



OPERATION

- 1. Set the gas pressure on the delivery gas (Nitrogen or Argon) tank regulator at 10 to 15 psi.**
- 2. Remove air from injection line by the following procedure:**
 - A. Be sure that at this point the injection line is not connected to the injection point.**



- B. Open the green valve located on the bottom of measuring cylinder.**





- C. **Slowly** turn the three way brass valve to position "2" to start supplying the delivery gas (nitrogen, argon) to the measuring cylinder and injection tubing. Flush the cylinder and injection tubing with gas for 2-3 min.



- D. Close the green valve.



- E. Turn the three way brass valve to position "1".



- F. Open the white valve “to atmosphere” position to release any gas pressure in the measuring cylinder. The white valve is equipped with a check valve that prevents the air from entering the measuring cylinder.



3. Add the required amount of bacteria to the measuring cylinder:

- A. Turn the brass three way valve to position “3” to pressurize the keg with delivery gas.





B. Slowly open the black valve to add bacteria from the keg to the cylinder.



C. Add the required amount of bacteria and close the black valve.



D. Close the white valve.



4. Transferring the measured amount of bacteria from the measuring cylinder to the injection point:

A. Be sure that at this point that the injection line is connected to the injection point.





B. Turn the brass three way valve to position "2" to pressurize the measuring cylinder with delivery gas.



C. Slowly open the green valve on the "bacteria →" line to provide the desired flow of bacterial suspension. Delivery of the culture can be monitored by watching the liquid level in the measuring cylinder.



- 5. After delivery of the desired volume of bacterial suspension, close the green valve.**



- A. Turn the brass three way valve to position “1”.**



- 6. To add more bacteria, follow the instructions according to steps 3 and 4 above.**
- 7. After finishing distributing the bacteria, disconnect the black and grey connectors from the keg by pulling up on the barrel of the quick connects.**



STORAGE

If the schedule of bacteria application requires adding the bacteria over a period of more than one day, the keg(s) should be stored at a temperature 2-4 °C, but do not freeze. This can normally be achieved by storing the kegs under ice in the provided coolers. The keg should be pressurized with Nitrogen to pressure 10- 15 psi before storing to ensure a tight seal on the keg cap.



SHIPPING



Cooler and Keg Packed for Return Shipment

After completion of operation, please ship the cooler with keg and all attachments back to the following address:

**Dr. Mike Lee
Terra Systems, Inc.
130 Hickman Road
Suite 1
Claymont, Delaware 19703
302-798-9553
email mlee@terrasystems.net**



**TERRA SYSTEMS, INC. DEHALOCOCCOIDES
MCCARTYI/DEHALOBACTER BIOAUGMENTATION
CULTURES (TSI-DC AND TSI-TCA) SAFETY DATA SHEET**

>1 x 10¹¹ Dehalococcoides/Dehalobacter cells/L

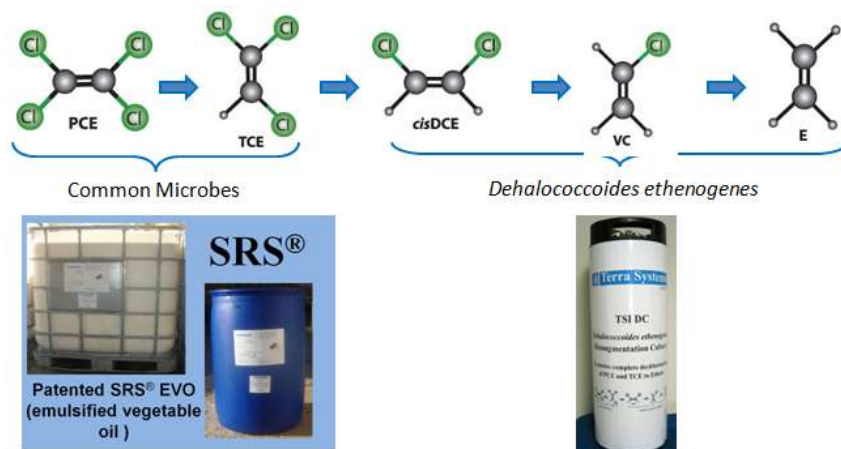
50/50 mix of TSI DC and TSI-TCA *Dehalococcoides mccartyi/Dehalobacter* Bioaugmentation Cultures[®] is an enriched natural bacteria culture that contains *Dehalococcoides* and *Dehalobacter* species for bioaugmentation. This culture dechlorinates tetrachloroethene (PCE) and trichloroethene (TCE) to the non-toxic product ethene. The culture also biodegrades 1,1,1-trichloroethane to 1,1-dichloroethene, 1,1-dichloroethane, and chloroethane. It also can biodegrade carbon tetrachloride and chloroform to methylene chloride and innocuous products. It can be used at sites where bacteria capable of complete reductive dechlorination are not present or there is a need to decrease the remediation time frame. It is estimated that *Dehalococcoides* and *Dehalobacter* are not present in 10 to 40 percent of chlorinated solvent contaminated sites.

Composition

Ingredient	Synonyms	CAS #	Percent	Hazardous
Non-hazardous ingredients	DHC	Not applicable	50%	No
Non-hazardous ingredients	DHB	Not applicable	50%	No

Key Benefits of the 50/50 mix of TSI DC and TSI-TCA *Dehalococcoides mccartyi/Dehalobacter* Bioaugmentation Cultures[®]

The 50/50 mix of TSI DC and TSI-TCA *Dehalococcoides mccartyi/Dehalobacter* Bioaugmentation Cultures[®] has been proven to be effective with a growing body of laboratory and field data demonstrating that the *Dehalococcoides* group of microorganisms is solely responsible for the complete dechlorination of PCE and TCE to ethene. At sites where *Dehalococcoides* microorganisms are not present or are found at low numbers, the process will often "stall" at cis-1,2-dichloroethene. The TSI-DC[®] Bioaugmentation Culture will promote the complete dechlorination of PCE or TCE. The TSI-DC[®] Bioaugmentation Culture contains greater than **1 x 10¹¹ *Dehalococcoides*/L**. The *Dehalobacter* culture biodegrades 1,1,1-trichloroethane to 1,1-dichloroethene, 1,1-dichloroethane, and chloroethane.



The TSI DC and TSI-TCA Bioaugmentation Culture is cost effective and is typically a minor component of the total remediation project cost. At sites where the *Dehalococcoides* and *Dehalobacter* are present, but at low numbers or poorly distributed, bioaugmentation can be used to reduce the treatment time. Bioaugmentation can also reduce the time required to grow the *Dehalococcoides* and *Dehalobacter* population to effective cell densities. Therefore, future costs can be reduced.

- The Bioaugmentation Culture is competitively priced at less than \$150 per liter of culture plus shipping depending on volume ordered.
- The Bioaugmentation Culture works with all commonly used electron donors.
- The Bioaugmentation Culture is not genetically modified or engineered.
- The Bioaugmentation Culture is certified to be free of known human pathogens.
- The Bioaugmentation Culture has rigorous quality control procedures in place to ensure that each shipment is of the highest quality, stable, safe, effective and free of chlorinated volatile organic compounds.
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Each purchase comes with free technical phone support from an experienced Terra Systems microbiologist. A senior level microbiologist is also available to be on-site to support the successful application at \$1,200 per day.

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On the Web: www.terrasystems.net

APPENDIX G

Laboratory Data Packages



October 31, 2016

Service Request No:R1611021

Mr. Mark Ramsdell
Haley & Aldrich, Inc.
200 Town Centre Drive
Suite 2
Rochester, NY 14623-4264

Laboratory Results for: Coopervision

Dear Mr.Ramsdell,

Enclosed are the results of the sample(s) submitted to our laboratory October 18, 2016
For your reference, these analyses have been assigned our service request number **R1611021**.

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

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Received: 10/18/16 - 10/21/16

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

Eighteen water samples were received for analysis at ALS Environmental on 10/18-21/2016. 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 $\leq 6^{\circ}\text{C}$ upon receipt at the lab except for aqueous samples designated for metals analyses, which are stored at room temperature.

Volatile Organic Analyses:

Method 8260, 10/24/16: The upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.

Method 8260, 10/24/16: The upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.

Method 8260, 10/26/16: The upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.

Method 8260, 10/26/16: The upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.

Method 8260, 10/26/16: The lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.

Method 8260: Sample-006 was received unpreserved with a $\text{PH} > 2$. The analysis was performed as soon as possible after receipt by the laboratory but not within seven days.

Semi-Volatile Organic Analyses:

No significant anomalies were noted with this analysis.

Approved by  Date 10/31/2016

Metals Analyses:

No significant anomalies were noted with this analysis.

General Chemistry Analyses:

Method 9034/Sulfide, R1611021-006: The Method Reporting Limit (MRL) was elevated due to reactivity of sample.

Sulfide reagent stock WC149113B expired on 10/20/16. Samples were ran on 10/24/16 with expired stock because new reagent was not delivered yet. Sulfide reference is always standardized for Sulfide test therefore we know true value of LCS/MS.

Approved by  Date 10/31/2016

SAMPLE DETECTION SUMMARY

CLIENT ID: MW3-101716-1150		Lab ID: R1611021-001				
Analyte	Results	Flag	MDL	PQL	Units	Method
Alkalinity, Total as CaCO ₃	232		1.0	2.0	mg/L	SM 2320 B-
Chloride	490		10	20	mg/L	9056A
Sulfate	14.4		0.2	2.0	mg/L	9056A
Iron, Total	2260		9	100	ug/L	6010C
Chloroethane	400		0.60	13	ug/L	8260C
1,1-Dichloroethane	85		0.50	13	ug/L	8260C
Vinyl Chloride	35		0.80	13	ug/L	8260C
Ethylene	54		0.11	1.0	ug/L	RSK 175
Methane	2600	D	11	50	ug/L	RSK 175
CLIENT ID: MW501-101716-1110		Lab ID: R1611021-003				
Analyte	Results	Flag	MDL	PQL	Units	Method
Chloroethane	1100	D	2.4	50	ug/L	8260C
1,1-Dichloroethane	140		0.20	5.0	ug/L	8260C
Vinyl Chloride	82		0.32	5.0	ug/L	8260C
CLIENT ID: MW502-101716-1235		Lab ID: R1611021-004				
Analyte	Results	Flag	MDL	PQL	Units	Method
Chloroethane	3000		4.8	100	ug/L	8260C
1,1-Dichloroethane	120		4.0	100	ug/L	8260C
Vinyl Chloride	260		6.4	100	ug/L	8260C
CLIENT ID: OWS302-101716-1330		Lab ID: R1611021-005				
Analyte	Results	Flag	MDL	PQL	Units	Method
Chloroethane	28000	D	48	1000	ug/L	8260C
CLIENT ID: MW205-101716-1435		Lab ID: R1611021-006				
Analyte	Results	Flag	MDL	PQL	Units	Method
Alkalinity, Total as CaCO ₃	3260		1.0	2.0	mg/L	SM 2320 B-
Chloride	906		40	80	mg/L	9056A
Nitrite as Nitrogen	0.061		0.002	0.010	mg/L	353.2
Iron, Total	108000		90	1000	ug/L	6010C
1,1-Dichloroethane	220000		400	10000	ug/L	8260C
1,1,1-Trichloroethane	50000		720	10000	ug/L	8260C
Ethane	20		0.20	1.0	ug/L	RSK 175
Ethylene	16		0.11	1.0	ug/L	RSK 175
Methane	5200	D	21	100	ug/L	RSK 175
Acetic Acid	1200		4.7	25	mg/L	Organic
Butanoic Acid (Butyric Acid)	3300		7.8	50	mg/L	Organic
Propionic Acid	870		4.7	25	mg/L	Organic
CLIENT ID: MW205-101716-1435 Dissolved		Lab ID: R1611021-007				
Analyte	Results	Flag	MDL	PQL	Units	Method
Iron, Dissolved	110000		90	1000	ug/L	6010C

SAMPLE DETECTION SUMMARY

CLIENT ID: MW205-101716-1435 Dissolved	Lab ID: R1611021-007
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Analyte	Results	Flag	MDL	PQL	Units	Method
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CLIENT ID: BAP01-102116-0920	Lab ID: R1611021-010
-------------------------------------	-----------------------------

Analyte	Results	Flag	MDL	PQL	Units	Method
Alkalinity, Total as CaCO ₃	298		1.0	2.0	mg/L	SM 2320 B-
Carbon, Total Organic (TOC)	18.5		0.05	1.0	mg/L	SM 5310 C-
Chloride	634		10	20	mg/L	9056A
Sulfate	97.9		0.2	2.0	mg/L	9056A
Sulfide, Acid-Soluble	1.4		0.4	1.0	mg/L	9034
Iron, Total	34700		9	100	ug/L	6010C
Chloroethane	400		4.8	100	ug/L	8260C
1,1-Dichloroethane	2700		4.0	100	ug/L	8260C
1,1-Dichloroethene	720		12	100	ug/L	8260C
Vinyl Chloride	1400		6.4	100	ug/L	8260C
Ethylene	26		1.1	10	ug/L	RSK 175
Methane	500		2.1	10	ug/L	RSK 175
Acetic Acid	37		0.19	1.0	mg/L	Organic
Propionic Acid	6.8		0.19	1.0	mg/L	Organic

CLIENT ID: BAP01-102116-0920 Dissolved	Lab ID: R1611021-011
---	-----------------------------

Analyte	Results	Flag	MDL	PQL	Units	Method
Iron, Dissolved	1080		9	100	ug/L	6010C

CLIENT ID: BAP02-102116-1050	Lab ID: R1611021-012
-------------------------------------	-----------------------------

Analyte	Results	Flag	MDL	PQL	Units	Method
Alkalinity, Total as CaCO ₃	262		1.0	2.0	mg/L	SM 2320 B-
Carbon, Total Organic (TOC)	1.4		0.05	1.0	mg/L	SM 5310 C-
Chloride	1490		40	80	mg/L	9056A
Sulfate	59.4		0.2	2.0	mg/L	9056A
Iron, Total	1010		9	100	ug/L	6010C
Chloroethane	25		0.60	13	ug/L	8260C
1,1-Dichloroethane	640	D	2.0	50	ug/L	8260C
1,1-Dichloroethene	270		1.5	13	ug/L	8260C
Vinyl Chloride	110		0.80	13	ug/L	8260C
Methane	2600		11	50	ug/L	RSK 175
Acetic Acid	2.0		0.19	1.0	mg/L	Organic

CLIENT ID: BAP02-102116-1050 Dissolved	Lab ID: R1611021-013
---	-----------------------------

Analyte	Results	Flag	MDL	PQL	Units	Method
Iron, Dissolved	660		9	100	ug/L	6010C

CLIENT ID: MW202-102116-1230	Lab ID: R1611021-014
-------------------------------------	-----------------------------

Analyte	Results	Flag	MDL	PQL	Units	Method
Alkalinity, Total as CaCO ₃	138		1.0	2.0	mg/L	SM 2320 B-
Carbon, Total Organic (TOC)	1.2		0.05	1.0	mg/L	SM 5310 C-

SAMPLE DETECTION SUMMARY**CLIENT ID: MW202-102116-1230****Lab ID: R1611021-014**

Analyte	Results	Flag	MDL	PQL	Units	Method
Chloride	1560		40	80	mg/L	9056A
Sulfate	668		8	80	mg/L	9056A
1,1-Dichloroethane	110		0.20	5.0	ug/L	8260C
1,1-Dichloroethene	98		0.57	5.0	ug/L	8260C
Methane	29		0.21	1.0	ug/L	RSK 175
Acetic Acid	1.5		0.19	1.0	mg/L	Organic



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: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020

Service Request:R1611021

SAMPLE CROSS-REFERENCE

<u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>DATE</u>	<u>TIME</u>
R1611021-001	MW3-101716-1150	10/17/2016	1150
R1611021-002	MW3-101716-1150 Dissolved	10/17/2016	1150
R1611021-003	MW501-101716-1110	10/17/2016	1110
R1611021-004	MW502-101716-1235	10/17/2016	1235
R1611021-005	OWS302-101716-1330	10/17/2016	1330
R1611021-006	MW205-101716-1435	10/17/2016	1435
R1611021-007	MW205-101716-1435 Dissolved	10/17/2016	1435
R1611021-008	MW203-101716-1640	10/17/2016	1640
R1611021-009	TRIP BLANK	10/17/2016	
R1611021-010	BAP01-102116-0920	10/21/2016	0920
R1611021-011	BAP01-102116-0920 Dissolved	10/21/2016	0920
R1611021-012	BAP02-102116-1050	10/21/2016	1050
R1611021-013	BAP02-102116-1050 Dissolved	10/21/2016	1050
R1611021-014	MW202-102116-1230	10/21/2016	1230
R1611021-015	MW202-102116-1230 Dissolved	10/21/2016	1230
R1611021-016	MW204-102116-1350	10/21/2016	1350
R1611021-017	OW306-102116-1445	10/21/2016	1445
R1611021-018	4248-102116-0001	10/21/2016	0920



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ALS Environmental Laboratory:

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Chain of Custody Form

Page _____ of _____

Blanket Service Agreement: 2015-18-ALS Group		ALS Project Manager:		H&A Project Number:		H&A Client Name:		Cooperation												
ALS Work Order #:																				
Customer Information		Project Information				Parameter/Method Request for Analysis														
Purchase Order		Project Name	Cooperation			A	VOCs 8260													
Work Order		Project Number	70665-020			B	Dissolved Gases (RSK-175)													
Company Name	Haley & Aldrich	Bill To Company				C	Alkalinity													
Send Report To	Mark Ramsdell	Invoice Attn.	Accounts Payable			D	Sulfides													
Address	200 Town Centre Drive Suite 2	Address				E	NO2, NO3, Cl 304													
City/State/Zip	Rochester, NY 14623	City/State/Zip				F	Iron (Dissolved, Total Fe)													
Phone	585-321-4241	Phone				G	Organic Acids													
Fax		State Samples Collected				H	TOC													
Email Address	M.Ramsdell@haleyaldrich.com	Email Address				I														
J																				
No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold			
1	Bap01-102116-0920	10/21/16	920	GW	0	12	X	X	X	X	X	X	X	X						
2	Bap02-102116-1050		1050	GW		12	X	X	X	X	X	X	X	X						
3	MW202-102116-1230		1230	GW		12	X	X	X	X	X	X	X	X						
4	MW204-102116-1350		1350	GW		3	X													
5	OW306-102116-1445		1445	GW		3	X													
6	4248-102116-0001			TB		3	X													
7																				
8																				
9																				
10																				
Sampler(s): Please Print & Sign		Shipment Method:		Turnaround Time in Business Days (BD):				☐ 10 BD ☐ 5 BD ☐ 3 BD ☐ 2 BD ☐ 1 BD				Results Due Date:								
Jon Sanger																				
Relinquished by:		Date:	Time:	Received by:		Notes:														
Jon Sanger		10/21/16	16:40	[Signature]																
Relinquished by:		Date:	Time:	Received by (Laboratory):		ALS Cooler ID		Cooler Temp		QC Package: (Check Box Below)										
				[Signature]						☐ Level II: Standard QC ☐ TRRP Checklist										
Logged by (Laboratory):		Date:	Time:	Checked by (Laboratory):						☐ Level III ☐ TRRP Level IV										
										☐ Level IV: Std QC/Raw Data										
										☐ Other: _____										
Preservative Key: 1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-None/40C																				

1. ALS Group's services under this Chain of Custody shall be performed in accordance with terms and conditions within Blanket Service Agreement# 2015-18-ALS Group by and between Haley & Aldrich, Inc., its subsidiaries and affiliates and ALS Group.

2. Communicate with Laboratory Project Manager for any turnaround time less than 5 days.



Cooler Receipt and Preservation Check Form

R1611021
Haley & Aldrich, Inc.
Cooperation

5

Project/Client H+A Folder Number _____Cooler received on 10/21/16 by: OHCOURIER: ALS UPS FEDEX VELOCITY CLIENT

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

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

8. Temperature Readings Date: 10/21/16 Time: 11:40 ID: H#7 IR#8 From: Temp Blank Sample Bottle

Observed Temp (°C)	<u>11.8°</u>						
Correction Factor (°C)	<u>±0.0°</u>						
Corrected Temp (°C)	<u>11.8°</u>						
Within 0-6°C?	☒ 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 _____ Same Day Rule _____

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

All samples held in storage location:	<u>R-007</u>	by <u>OH</u>	on <u>10/21/16</u>	at <u>11:40</u>
5035 samples placed in storage location:		by	on	at

Cooler Breakdown: Date: _____ Time: _____ by: _____

- | | | | |
|---|-----------------------|-----------------------|-----|
| 1. Were all bottle labels complete (i.e. analysis, preservation, etc.)? | YES | NO | |
| 2. Did all bottle labels and tags agree with custody papers? | YES | NO | |
| 3. Were correct containers used for the tests indicated? | YES | NO | |
| 4. Were 5035 vials acceptable (no extra labels, not leaking)? | YES | NO | N/A |
| 5. Air Samples: Cassettes / Tubes Intact | Canisters Pressurized | Tedlar® Bags Inflated | N/A |

Explain any discrepancies:

pH	Reagent	Yes	No	Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH
≥12	NaOH								
≤2	HNO ₃								
≤2	H ₂ SO ₄								
<4	NaHSO ₄								
Residual Chlorine (-)	For CN Phenol and 522			If +, contact PM to add Na ₂ S ₂ O ₃ (CN), ascorbic (phenol).					
	Na ₂ S ₂ O ₃	-	-						
	Zn Acetate	-	-						
	HCl	**	**						

Yes=All samples OK

No=Samples were preserved at The lab as listed

PM OK to Adjust:

**Not to be tested before analysis – pH tested and recorded by VOAs on a separate worksheet

Bottle lot numbers: _____

Other Comments: _____

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

PC Secondary Review: _____

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



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Chain of Custody Form

Page 1 of 1

Blanket Service Agreement: 2015-18-ALS Group		H&A Project Number: 70665-020		H&A Client Name: Coopervision													
ALS Project Manager: Vanessa Brummer		ALS Work Order #:															
Customer Information		Project Information		Parameter/Method Request for Analysis													
Purchase Order		Project Name	Coopervision	A	VOLs 8260												
Work Order		Project Number	70665-020	B	Dissolved gases (DSK-116)												
Company Name	Haley and Aldrich	Bill To Company		C	Alkalinity												
Send Report To	Mark Ramsdell	Invoice Attn.	Accounts Payable	D	SWRides												
Address	200 Town Centre Dr. Suite 2	Address		E	NO2, NO3, Cl, SO4												
City/State/Zip	Rochester, NY 14623	City/State/Zip		F	Dissolved Fe (Filtrated)												
Phone	585-321-4241	Phone		G	Total Fe												
Fax		State Samples Collected		H	Organic Acids												
Email Address	MRamsdell@haleyaldrich.com	Email Address		I													
				J													
No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	MW3-101716-1150	10/17/16	1150	GW		11	X	X	X	X	X	X	X				
2	MW501-101716-1110	10/17/16	1110			3	X	X									
3	MW502-101716-1235	10/17/16	1235			3	X										
4	MW302-101716-1330	10/17/16	1330			3	X										
5	MW205-101716-1435	10/17/16	1435			12	X	X	X	X	X	X	X	X	X		
6	MW203-101716-1640	10/17/16	1640	GW		3	X										
7	Trif Blank	10/17/16		AQ		3	X										
8																	
9																	
10																	
Sampler(s): Please Print & Sign		Shipment Method:		Turnaround Time in Business Days (BD):		Other		Results Due Date:									
Jon Sanger				☒ 10 BD ☐ 5 BD ☐ 3 BD		☐ 2 BD ☐ 1 BD											
Relinquished by:		Date:	Time:	Received by:		Notes:											
Jon Sanger		10/18/16		TS		10-18-16 0940											
Relinquished by:		Date:	Time:	Received by (Laboratory):		ALS Cooler ID		Cooler Temp	QC Package: (Check Box Below)								
									☐ Level II: Standard QC ☐ TRRP Checklist								
Logged by (Laboratory):		Date:	Time:	Checked by (Laboratory):					☐ Level III ☐ TRRP Level IV								
									☐ Level IV: Std QC/Raw Data								
									☐ Other:								
Preservative Key: 1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-None/4oC																	

1. ALS Group's services under this Chain of Custody shall be performed in accordance with terms and conditions within Blanket Service Agreement# 2015-18-ALS Group by and between Haley & Aldrich, Inc., its subsidiaries and affiliates and ALS Group.

2. Communicate with Laboratory Project Manager for any turnaround time less than 5 days.

R1611021

5

Haley & Aldrich, Inc.
Coopervision





Cooler Receipt and Preservation Check Form

R1611021

Haley & Aldrich, Inc.
Cooperation

5



Project/Client _____ Folder Number _____

Cooler received on 10-18-16 by: T.S.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: <u>Wet Ice</u> 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: 10-18-16 Time: 0945 ID: IR#7 IR#8 From: Temp Blank Sample Bottle

Observed Temp (°C)	<u>12.6</u>						
Correction Factor (°C)	<u>+1.5</u>						
Corrected Temp (°C)	<u>13.1</u>						
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 _____ Same Day Rule

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

All samples held in storage location: <u>PCC2</u>	by <u>T.S.</u>	on <u>10-18-16</u>	at <u>0945</u>
5035 samples placed in storage location: _____	by _____	on _____	at _____

Cooler Breakdown: Date: 10-18-16 Time: 1113 by: T.S.

- Were all bottle labels complete (i.e. analysis, preservation, etc.)? YES ☒ NO ☐
- Did all bottle labels and tags agree with custody papers? YES ☒ NO ☐
- Were correct containers used for the tests indicated? YES ☒ NO ☐
- Were 5035 vials acceptable (no extra labels, not leaking)? YES ☒ NO ☐
- Air Samples: Cassettes / Tubes Intact _____ Canisters Pressurized _____ Tedlar® Bags Inflated NA ☒

Explain any discrepancies: _____

pH	Reagent	Yes	No	Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH
≥12	NaOH								
≤2	HNO ₃		X	<u>B232615613</u>	<u>8/17</u>	<u>006</u>	<u>1ml</u>	<u>B232615613</u>	<u><2</u>
≤2	H ₂ SO ₄		X	<u>no lot info</u>		<u>006</u>	<u>.5m</u>	<u>no lot info</u>	<u><2</u>
<4	NaHSO ₄								
Residual Chlorine (-)	For CN Phenol and 522			If +, contact PM to add Na ₂ S ₂ O ₃ (CN), ascorbic (phenol).					
	Na ₂ S ₂ O ₃	-	-						
	ZnAcetate	-	-	<u>2/149175/8</u>	<u>4/17</u>	**Not to be tested before analysis – pH tested and recorded by VOAs on a separate worksheet			
	HCl	**	**						

Yes=All samples OK

No=Samples were preserved at The lab as listed

PM OK to Adjust: _____

Bottle lot numbers: 062016-249w, 082216-2110
Other Comments: _____

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

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

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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.	+	Correlation coefficient for MSA is <0.995.
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/Aroclors).	N	Inorganics- Matrix spike recovery was outside laboratory limits.
B	Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.	N	Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
E	Inorganics- Concentration is estimated due to the serial dilution was outside control limits.	S	Concentration has been determined using Method of Standard Additions (MSA).
E	Organics- Concentration has exceeded the calibration range for that specific analysis.	W	Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
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.	P	Concentration >40% (25% for CLP) difference between the two GC columns.
*	Indicates that a quality control parameter has exceeded laboratory limits. Under the "Notes" column of the Form I, this qualifier denotes analysis was performed out of Holding Time.	C	Confirmed by GC/MS
H	Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.	Q	DoD reports: indicates a pesticide/Aroclor is not confirmed (100% Difference between two GC columns).
#	Spike was diluted out.	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 Certifications¹

Connecticut ID # PH0556	Maine ID #NY0032	New Hampshire ID #
Delaware Accredited	Nebraska Accredited	294100 A/B
DoD ELAP #65817	New Jersey ID # NY004	Pennsylvania ID# 68-786
Florida ID # E87674	New York ID # 10145	Rhode Island ID # 158
Illinois ID #200047	North Carolina #676	Virginia #460167

¹ Analyses were performed according to our laboratory's 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 <http://www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads/North-America-Downloads>

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: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020

Service Request: R1611021

Non-Certified Analytes

Certifying Agency: New York Department of Health

Method	Matrix	Analyte
Organic Acids	Water	Acetic Acid
Organic Acids	Water	Butanoic Acid (Butyric Acid)
Organic Acids	Water	Lactic Acid
Organic Acids	Water	Propionic Acid
Organic Acids	Water	Pyruvic Acid

ALS Group USA, Corp.
dba ALS Environmental

Analyst Summary report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020

Service Request: R1611021

Sample Name: MW3-101716-1150
Lab Code: R1611021-001
Sample Matrix: Water

Date Collected: 10/17/16
Date Received: 10/18/16

Analysis Method

353.2
6010C
8260C
9034
9056A
9056A
RSK 175
SM 2320 B-1997(2011)

Extracted/Digested By

CBURLESON

KABBOTT

Analyzed By

EDOWDY
NMANSEN
MCYMBAL
KABBOTT
CWOODS
NMANSEN
BALLGEIER
TSABO

Sample Name: MW3-101716-1150 Dissolved
Lab Code: R1611021-002
Sample Matrix: Water

Date Collected: 10/17/16
Date Received: 10/18/16

Analysis Method

6010C

Extracted/Digested By

CBURLESON

Analyzed By

NMANSEN

Sample Name: MW501-101716-1110
Lab Code: R1611021-003
Sample Matrix: Water

Date Collected: 10/17/16
Date Received: 10/18/16

Analysis Method

8260C
8260C

Extracted/Digested By

Analyzed By

KRUEST
MCYMBAL

Sample Name: MW502-101716-1235
Lab Code: R1611021-004
Sample Matrix: Water

Date Collected: 10/17/16
Date Received: 10/18/16

Analysis Method

8260C

Extracted/Digested By

Analyzed By

MCYMBAL

ALS Group USA, Corp.
dba ALS Environmental

Analyst Summary report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020

Service Request: R1611021

Sample Name: OWS302-101716-1330
Lab Code: R1611021-005
Sample Matrix: Water

Date Collected: 10/17/16
Date Received: 10/18/16

Analysis Method
8260C

Extracted/Digested By

Analyzed By
KRUET

Sample Name: MW205-101716-1435
Lab Code: R1611021-006
Sample Matrix: Water

Date Collected: 10/17/16
Date Received: 10/18/16

Analysis Method

353.2
6010C
8260C
9034
9056A
9056A
Organic Acids
RSK 175
SM 2320 B-1997(2011)

Extracted/Digested By

CBURLESON

KABBOTT

Analyzed By

EDOWDY
NMANSEN
MCYMBAL
KABBOTT
CWOODS
NMANSEN
BALLGEIER
BALLGEIER
TSABO

Sample Name: MW205-101716-1435 Dissolved
Lab Code: R1611021-007
Sample Matrix: Water

Date Collected: 10/17/16
Date Received: 10/18/16

Analysis Method
6010C

Extracted/Digested By
CBURLESON

Analyzed By
NMANSEN

Sample Name: MW203-101716-1640
Lab Code: R1611021-008
Sample Matrix: Water

Date Collected: 10/17/16
Date Received: 10/18/16

Analysis Method
8260C

Extracted/Digested By

Analyzed By
KRUET

ALS Group USA, Corp.
dba ALS Environmental

Analyst Summary report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020

Service Request: R1611021

Sample Name: TRIP BLANK
Lab Code: R1611021-009
Sample Matrix: Water

Date Collected: 10/17/16
Date Received: 10/18/16

Analysis Method
8260C

Extracted/Digested By

Analyzed By
KRUET

Sample Name: BAP01-102116-0920
Lab Code: R1611021-010
Sample Matrix: Water

Date Collected: 10/21/16
Date Received: 10/21/16

Analysis Method

353.2
6010C
8260C
9034
9056A
9056A
Organic Acids
RSK 175
SM 2320 B-1997(2011)
SM 5310 C-2000(2011)

Extracted/Digested By

SDIRKX

KABBOTT

Analyzed By

EDOWDY
NMANSEN
MCYMBAL
KABBOTT
CWOODS
GNITAJOUPPI
MPEDRO
AMOSSES
TSABO
KABBOTT

Sample Name: BAP01-102116-0920 Dissolved
Lab Code: R1611021-011
Sample Matrix: Water

Date Collected: 10/21/16
Date Received: 10/21/16

Analysis Method
6010C

Extracted/Digested By
SDIRKX

Analyzed By
NMANSEN

Sample Name: BAP02-102116-1050
Lab Code: R1611021-012
Sample Matrix: Water

Date Collected: 10/21/16
Date Received: 10/21/16

Analysis Method

353.2

Extracted/Digested By

Analyzed By

EDOWDY

ALS Group USA, Corp.
dba ALS Environmental

Analyst Summary report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020

Service Request: R1611021

Sample Name: BAP02-102116-1050
Lab Code: R1611021-012
Sample Matrix: Water

Date Collected: 10/21/16
Date Received: 10/21/16

Analysis Method	Extracted/Digested By	Analyzed By
6010C	SDIRKX	NMANSEN
8260C		MCYMBAL
9034	KABBOTT	KABBOTT
9056A		CWOODS
9056A		GNITAJOUPPI
Organic Acids		MPEDRO
RSK 175		AMOSSES
SM 2320 B-1997(2011)		TSABO
SM 5310 C-2000(2011)		KABBOTT

Sample Name: BAP02-102116-1050 Dissolved
Lab Code: R1611021-013
Sample Matrix: Water

Date Collected: 10/21/16
Date Received: 10/21/16

Analysis Method	Extracted/Digested By	Analyzed By
6010C	SDIRKX	NMANSEN

Sample Name: MW202-102116-1230
Lab Code: R1611021-014
Sample Matrix: Water

Date Collected: 10/21/16
Date Received: 10/21/16

Analysis Method	Extracted/Digested By	Analyzed By
353.2		EDOWDY
6010C	SDIRKX	NMANSEN
8260C		MCYMBAL
9034	KABBOTT	KABBOTT
9056A		CWOODS
9056A		GNITAJOUPPI
Organic Acids		MPEDRO
RSK 175		AMOSSES
SM 2320 B-1997(2011)		TSABO
SM 5310 C-2000(2011)		KABBOTT

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Analyst Summary report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020

Service Request: R1611021

Sample Name: MW202-102116-1230 Dissolved
Lab Code: R1611021-015
Sample Matrix: Water

Date Collected: 10/21/16**Date Received:** 10/21/16

Analysis Method
6010C

Extracted/Digested By
SDIRKX

Analyzed By
NMANSEN

Sample Name: MW204-102116-1350
Lab Code: R1611021-016
Sample Matrix: Water

Date Collected: 10/21/16**Date Received:** 10/21/16

Analysis Method
8260C

Extracted/Digested By

Analyzed By
MCYMBAL

Sample Name: OW306-102116-1445
Lab Code: R1611021-017
Sample Matrix: Water

Date Collected: 10/21/16**Date Received:** 10/21/16

Analysis Method
8260C

Extracted/Digested By

Analyzed By
MCYMBAL

Sample Name: 4248-1021116-0001
Lab Code: R1611021-018
Sample Matrix: Water

Date Collected: 10/21/16**Date Received:** 10/21/16

Analysis Method
8260C

Extracted/Digested By

Analyzed By
MCYMBAL

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

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Volatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory

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ALS Group USA, Corp.
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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Collected: 10/17/16 11:50
Date Received: 10/18/16 09:40

Sample Name: MW3-101716-1150
Lab Code: R1611021-001

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Acetone	25 U	25	2.5	10/26/16 15:25	
Benzene	13 U	13	2.5	10/26/16 15:25	
Bromodichloromethane	13 U	13	2.5	10/26/16 15:25	
Bromoform	13 U	13	2.5	10/26/16 15:25	
Bromomethane	13 U	13	2.5	10/26/16 15:25	
2-Butanone (MEK)	25 U	25	2.5	10/26/16 15:25	
Carbon Disulfide	25 U	25	2.5	10/26/16 15:25	
Carbon Tetrachloride	13 U	13	2.5	10/26/16 15:25	
Chlorobenzene	13 U	13	2.5	10/26/16 15:25	
Chloroethane	400	13	2.5	10/26/16 15:25	
Chloroform	13 U	13	2.5	10/26/16 15:25	
Chloromethane	13 U	13	2.5	10/26/16 15:25	
Dibromochloromethane	13 U	13	2.5	10/26/16 15:25	
1,1-Dichloroethane	85	13	2.5	10/26/16 15:25	
1,2-Dichloroethane	13 U	13	2.5	10/26/16 15:25	
1,1-Dichloroethene	13 U	13	2.5	10/26/16 15:25	
cis-1,2-Dichloroethene	13 U	13	2.5	10/26/16 15:25	
trans-1,2-Dichloroethene	13 U	13	2.5	10/26/16 15:25	
1,2-Dichloropropane	13 U	13	2.5	10/26/16 15:25	
cis-1,3-Dichloropropene	13 U	13	2.5	10/26/16 15:25	
trans-1,3-Dichloropropene	13 U	13	2.5	10/26/16 15:25	
Ethylbenzene	13 U	13	2.5	10/26/16 15:25	
2-Hexanone	25 U	25	2.5	10/26/16 15:25	
Methylene Chloride	13 U	13	2.5	10/26/16 15:25	
4-Methyl-2-pentanone (MIBK)	25 U	25	2.5	10/26/16 15:25	
Styrene	13 U	13	2.5	10/26/16 15:25	
1,1,2,2-Tetrachloroethane	13 U	13	2.5	10/26/16 15:25	
Tetrachloroethene	13 U	13	2.5	10/26/16 15:25	
Toluene	13 U	13	2.5	10/26/16 15:25	
1,1,1-Trichloroethane	13 U	13	2.5	10/26/16 15:25	
1,1,2-Trichloroethane	13 U	13	2.5	10/26/16 15:25	
Trichloroethene	13 U	13	2.5	10/26/16 15:25	
Vinyl Chloride	35	13	2.5	10/26/16 15:25	
o-Xylene	13 U	13	2.5	10/26/16 15:25	
m,p-Xylenes	13 U	13	2.5	10/26/16 15:25	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Collected: 10/17/16 11:50
Date Received: 10/18/16 09:40

Sample Name: MW3-101716-1150
Lab Code: R1611021-001

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	113	85 - 122	10/26/16 15:25	
Toluene-d8	110	87 - 121	10/26/16 15:25	
Dibromofluoromethane	110	89 - 119	10/26/16 15:25	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Collected: 10/17/16 11:10
Date Received: 10/18/16 09:40

Sample Name: MW501-101716-1110
Lab Code: R1611021-003

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Acetone	10 U	10	1	10/24/16 12:51	
Benzene	5.0 U	5.0	1	10/24/16 12:51	
Bromodichloromethane	5.0 U	5.0	1	10/24/16 12:51	
Bromoform	5.0 U	5.0	1	10/24/16 12:51	
Bromomethane	5.0 U	5.0	1	10/24/16 12:51	
2-Butanone (MEK)	10 U	10	1	10/24/16 12:51	
Carbon Disulfide	10 U	10	1	10/24/16 12:51	
Carbon Tetrachloride	5.0 U	5.0	1	10/24/16 12:51	
Chlorobenzene	5.0 U	5.0	1	10/24/16 12:51	
Chloroethane	1100 D	50	10	10/26/16 15:51	
Chloroform	5.0 U	5.0	1	10/24/16 12:51	
Chloromethane	5.0 U	5.0	1	10/24/16 12:51	
Dibromochloromethane	5.0 U	5.0	1	10/24/16 12:51	
1,1-Dichloroethane	140	5.0	1	10/24/16 12:51	
1,2-Dichloroethane	5.0 U	5.0	1	10/24/16 12:51	
1,1-Dichloroethene	5.0 U	5.0	1	10/24/16 12:51	
cis-1,2-Dichloroethene	5.0 U	5.0	1	10/24/16 12:51	
trans-1,2-Dichloroethene	5.0 U	5.0	1	10/24/16 12:51	
1,2-Dichloropropane	5.0 U	5.0	1	10/24/16 12:51	
cis-1,3-Dichloropropene	5.0 U	5.0	1	10/24/16 12:51	
trans-1,3-Dichloropropene	5.0 U	5.0	1	10/24/16 12:51	
Ethylbenzene	5.0 U	5.0	1	10/24/16 12:51	
2-Hexanone	10 U	10	1	10/24/16 12:51	
Methylene Chloride	5.0 U	5.0	1	10/24/16 12:51	
4-Methyl-2-pentanone (MIBK)	10 U	10	1	10/24/16 12:51	
Styrene	5.0 U	5.0	1	10/24/16 12:51	
1,1,2,2-Tetrachloroethane	5.0 U	5.0	1	10/24/16 12:51	
Tetrachloroethene	5.0 U	5.0	1	10/24/16 12:51	
Toluene	5.0 U	5.0	1	10/24/16 12:51	
1,1,1-Trichloroethane	5.0 U	5.0	1	10/24/16 12:51	
1,1,2-Trichloroethane	5.0 U	5.0	1	10/24/16 12:51	
Trichloroethene	5.0 U	5.0	1	10/24/16 12:51	
Vinyl Chloride	82	5.0	1	10/24/16 12:51	
o-Xylene	5.0 U	5.0	1	10/24/16 12:51	
m,p-Xylenes	5.0 U	5.0	1	10/24/16 12:51	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Collected: 10/17/16 11:10
Date Received: 10/18/16 09:40

Sample Name: MW501-101716-1110
Lab Code: R1611021-003

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	110	85 - 122	10/24/16 12:51	
Toluene-d8	109	87 - 121	10/24/16 12:51	
Dibromofluoromethane	108	89 - 119	10/24/16 12:51	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Collected: 10/17/16 12:35
Date Received: 10/18/16 09:40

Sample Name: MW502-101716-1235
Lab Code: R1611021-004

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Acetone	200 U	200	20	10/26/16 16:16	
Benzene	100 U	100	20	10/26/16 16:16	
Bromodichloromethane	100 U	100	20	10/26/16 16:16	
Bromoform	100 U	100	20	10/26/16 16:16	
Bromomethane	100 U	100	20	10/26/16 16:16	
2-Butanone (MEK)	200 U	200	20	10/26/16 16:16	
Carbon Disulfide	200 U	200	20	10/26/16 16:16	
Carbon Tetrachloride	100 U	100	20	10/26/16 16:16	
Chlorobenzene	100 U	100	20	10/26/16 16:16	
Chloroethane	3000	100	20	10/26/16 16:16	
Chloroform	100 U	100	20	10/26/16 16:16	
Chloromethane	100 U	100	20	10/26/16 16:16	
Dibromochloromethane	100 U	100	20	10/26/16 16:16	
1,1-Dichloroethane	120	100	20	10/26/16 16:16	
1,2-Dichloroethane	100 U	100	20	10/26/16 16:16	
1,1-Dichloroethene	100 U	100	20	10/26/16 16:16	
cis-1,2-Dichloroethene	100 U	100	20	10/26/16 16:16	
trans-1,2-Dichloroethene	100 U	100	20	10/26/16 16:16	
1,2-Dichloropropane	100 U	100	20	10/26/16 16:16	
cis-1,3-Dichloropropene	100 U	100	20	10/26/16 16:16	
trans-1,3-Dichloropropene	100 U	100	20	10/26/16 16:16	
Ethylbenzene	100 U	100	20	10/26/16 16:16	
2-Hexanone	200 U	200	20	10/26/16 16:16	
Methylene Chloride	100 U	100	20	10/26/16 16:16	
4-Methyl-2-pentanone (MIBK)	200 U	200	20	10/26/16 16:16	
Styrene	100 U	100	20	10/26/16 16:16	
1,1,2,2-Tetrachloroethane	100 U	100	20	10/26/16 16:16	
Tetrachloroethene	100 U	100	20	10/26/16 16:16	
Toluene	100 U	100	20	10/26/16 16:16	
1,1,1-Trichloroethane	100 U	100	20	10/26/16 16:16	
1,1,2-Trichloroethane	100 U	100	20	10/26/16 16:16	
Trichloroethene	100 U	100	20	10/26/16 16:16	
Vinyl Chloride	260	100	20	10/26/16 16:16	
o-Xylene	100 U	100	20	10/26/16 16:16	
m,p-Xylenes	100 U	100	20	10/26/16 16:16	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Collected: 10/17/16 12:35
Date Received: 10/18/16 09:40

Sample Name: MW502-101716-1235
Lab Code: R1611021-004

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	114	85 - 122	10/26/16 16:16	
Toluene-d8	112	87 - 121	10/26/16 16:16	
Dibromofluoromethane	112	89 - 119	10/26/16 16:16	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Collected: 10/17/16 13:30
Date Received: 10/18/16 09:40

Sample Name: OWS302-101716-1330
Lab Code: R1611021-005

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Acetone	1000 U	1000	100	10/24/16 14:52	
Benzene	500 U	500	100	10/24/16 14:52	
Bromodichloromethane	500 U	500	100	10/24/16 14:52	
Bromoform	500 U	500	100	10/24/16 14:52	
Bromomethane	500 U	500	100	10/24/16 14:52	
2-Butanone (MEK)	1000 U	1000	100	10/24/16 14:52	
Carbon Disulfide	1000 U	1000	100	10/24/16 14:52	
Carbon Tetrachloride	500 U	500	100	10/24/16 14:52	
Chlorobenzene	500 U	500	100	10/24/16 14:52	
Chloroethane	28000 D	1000	200	10/24/16 15:52	
Chloroform	500 U	500	100	10/24/16 14:52	
Chloromethane	500 U	500	100	10/24/16 14:52	
Dibromochloromethane	500 U	500	100	10/24/16 14:52	
1,1-Dichloroethane	500 U	500	100	10/24/16 14:52	
1,2-Dichloroethane	500 U	500	100	10/24/16 14:52	
1,1-Dichloroethene	500 U	500	100	10/24/16 14:52	
cis-1,2-Dichloroethene	500 U	500	100	10/24/16 14:52	
trans-1,2-Dichloroethene	500 U	500	100	10/24/16 14:52	
1,2-Dichloropropane	500 U	500	100	10/24/16 14:52	
cis-1,3-Dichloropropene	500 U	500	100	10/24/16 14:52	
trans-1,3-Dichloropropene	500 U	500	100	10/24/16 14:52	
Ethylbenzene	500 U	500	100	10/24/16 14:52	
2-Hexanone	1000 U	1000	100	10/24/16 14:52	
Methylene Chloride	500 U	500	100	10/24/16 14:52	
4-Methyl-2-pentanone (MIBK)	1000 U	1000	100	10/24/16 14:52	
Styrene	500 U	500	100	10/24/16 14:52	
1,1,2,2-Tetrachloroethane	500 U	500	100	10/24/16 14:52	
Tetrachloroethene	500 U	500	100	10/24/16 14:52	
Toluene	500 U	500	100	10/24/16 14:52	
1,1,1-Trichloroethane	500 U	500	100	10/24/16 14:52	
1,1,2-Trichloroethane	500 U	500	100	10/24/16 14:52	
Trichloroethene	500 U	500	100	10/24/16 14:52	
Vinyl Chloride	500 U	500	100	10/24/16 14:52	
o-Xylene	500 U	500	100	10/24/16 14:52	
m,p-Xylenes	500 U	500	100	10/24/16 14:52	

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dba ALS Environmental

Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Collected: 10/17/16 13:30
Date Received: 10/18/16 09:40

Sample Name: OWS302-101716-1330
Lab Code: R1611021-005

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	109	85 - 122	10/24/16 14:52	
Toluene-d8	112	87 - 121	10/24/16 14:52	
Dibromofluoromethane	107	89 - 119	10/24/16 14:52	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Collected: 10/17/16 14:35
Date Received: 10/18/16 09:40

Sample Name: MW205-101716-1435
Lab Code: R1611021-006

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Acetone	20000 U	20000	2000	10/26/16 16:41	
Benzene	10000 U	10000	2000	10/26/16 16:41	
Bromodichloromethane	10000 U	10000	2000	10/26/16 16:41	
Bromoform	10000 U	10000	2000	10/26/16 16:41	
Bromomethane	10000 U	10000	2000	10/26/16 16:41	
2-Butanone (MEK)	20000 U	20000	2000	10/26/16 16:41	
Carbon Disulfide	20000 U	20000	2000	10/26/16 16:41	
Carbon Tetrachloride	10000 U	10000	2000	10/26/16 16:41	
Chlorobenzene	10000 U	10000	2000	10/26/16 16:41	
Chloroethane	10000 U	10000	2000	10/26/16 16:41	
Chloroform	10000 U	10000	2000	10/26/16 16:41	
Chloromethane	10000 U	10000	2000	10/26/16 16:41	
Dibromochloromethane	10000 U	10000	2000	10/26/16 16:41	
1,1-Dichloroethane	220000	10000	2000	10/26/16 16:41	
1,2-Dichloroethane	10000 U	10000	2000	10/26/16 16:41	
1,1-Dichloroethene	10000 U	10000	2000	10/26/16 16:41	
cis-1,2-Dichloroethene	10000 U	10000	2000	10/26/16 16:41	
trans-1,2-Dichloroethene	10000 U	10000	2000	10/26/16 16:41	
1,2-Dichloropropane	10000 U	10000	2000	10/26/16 16:41	
cis-1,3-Dichloropropene	10000 U	10000	2000	10/26/16 16:41	
trans-1,3-Dichloropropene	10000 U	10000	2000	10/26/16 16:41	
Ethylbenzene	10000 U	10000	2000	10/26/16 16:41	
2-Hexanone	20000 U	20000	2000	10/26/16 16:41	
Methylene Chloride	10000 U	10000	2000	10/26/16 16:41	
4-Methyl-2-pentanone (MIBK)	20000 U	20000	2000	10/26/16 16:41	
Styrene	10000 U	10000	2000	10/26/16 16:41	
1,1,2,2-Tetrachloroethane	10000 U	10000	2000	10/26/16 16:41	
Tetrachloroethene	10000 U	10000	2000	10/26/16 16:41	
Toluene	10000 U	10000	2000	10/26/16 16:41	
1,1,1-Trichloroethane	50000	10000	2000	10/26/16 16:41	
1,1,2-Trichloroethane	10000 U	10000	2000	10/26/16 16:41	
Trichloroethene	10000 U	10000	2000	10/26/16 16:41	
Vinyl Chloride	10000 U	10000	2000	10/26/16 16:41	
o-Xylene	10000 U	10000	2000	10/26/16 16:41	
m,p-Xylenes	10000 U	10000	2000	10/26/16 16:41	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Collected: 10/17/16 14:35
Date Received: 10/18/16 09:40

Sample Name: MW205-101716-1435
Lab Code: R1611021-006

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	111	85 - 122	10/26/16 16:41	
Toluene-d8	111	87 - 121	10/26/16 16:41	
Dibromofluoromethane	113	89 - 119	10/26/16 16:41	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Collected: 10/17/16 16:40
Date Received: 10/18/16 09:40

Sample Name: MW203-101716-1640
Lab Code: R1611021-008

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Acetone	10 U	10	1	10/24/16 13:22	
Benzene	5.0 U	5.0	1	10/24/16 13:22	
Bromodichloromethane	5.0 U	5.0	1	10/24/16 13:22	
Bromoform	5.0 U	5.0	1	10/24/16 13:22	
Bromomethane	5.0 U	5.0	1	10/24/16 13:22	
2-Butanone (MEK)	10 U	10	1	10/24/16 13:22	
Carbon Disulfide	10 U	10	1	10/24/16 13:22	
Carbon Tetrachloride	5.0 U	5.0	1	10/24/16 13:22	
Chlorobenzene	5.0 U	5.0	1	10/24/16 13:22	
Chloroethane	5.0 U	5.0	1	10/24/16 13:22	
Chloroform	5.0 U	5.0	1	10/24/16 13:22	
Chloromethane	5.0 U	5.0	1	10/24/16 13:22	
Dibromochloromethane	5.0 U	5.0	1	10/24/16 13:22	
1,1-Dichloroethane	5.0 U	5.0	1	10/24/16 13:22	
1,2-Dichloroethane	5.0 U	5.0	1	10/24/16 13:22	
1,1-Dichloroethene	5.0 U	5.0	1	10/24/16 13:22	
cis-1,2-Dichloroethene	5.0 U	5.0	1	10/24/16 13:22	
trans-1,2-Dichloroethene	5.0 U	5.0	1	10/24/16 13:22	
1,2-Dichloropropane	5.0 U	5.0	1	10/24/16 13:22	
cis-1,3-Dichloropropene	5.0 U	5.0	1	10/24/16 13:22	
trans-1,3-Dichloropropene	5.0 U	5.0	1	10/24/16 13:22	
Ethylbenzene	5.0 U	5.0	1	10/24/16 13:22	
2-Hexanone	10 U	10	1	10/24/16 13:22	
Methylene Chloride	5.0 U	5.0	1	10/24/16 13:22	
4-Methyl-2-pentanone (MIBK)	10 U	10	1	10/24/16 13:22	
Styrene	5.0 U	5.0	1	10/24/16 13:22	
1,1,2,2-Tetrachloroethane	5.0 U	5.0	1	10/24/16 13:22	
Tetrachloroethene	5.0 U	5.0	1	10/24/16 13:22	
Toluene	5.0 U	5.0	1	10/24/16 13:22	
1,1,1-Trichloroethane	5.0 U	5.0	1	10/24/16 13:22	
1,1,2-Trichloroethane	5.0 U	5.0	1	10/24/16 13:22	
Trichloroethene	5.0 U	5.0	1	10/24/16 13:22	
Vinyl Chloride	5.0 U	5.0	1	10/24/16 13:22	
o-Xylene	5.0 U	5.0	1	10/24/16 13:22	
m,p-Xylenes	5.0 U	5.0	1	10/24/16 13:22	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Collected: 10/17/16 16:40
Date Received: 10/18/16 09:40

Sample Name: MW203-101716-1640
Lab Code: R1611021-008

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	108	85 - 122	10/24/16 13:22	
Toluene-d8	111	87 - 121	10/24/16 13:22	
Dibromofluoromethane	108	89 - 119	10/24/16 13:22	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Collected: 10/17/16
Date Received: 10/18/16 09:40

Sample Name: TRIP BLANK
Lab Code: R1611021-009

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Acetone	10 U	10	1	10/24/16 12:16	
Benzene	5.0 U	5.0	1	10/24/16 12:16	
Bromodichloromethane	5.0 U	5.0	1	10/24/16 12:16	
Bromoform	5.0 U	5.0	1	10/24/16 12:16	
Bromomethane	5.0 U	5.0	1	10/24/16 12:16	
2-Butanone (MEK)	10 U	10	1	10/24/16 12:16	
Carbon Disulfide	10 U	10	1	10/24/16 12:16	
Carbon Tetrachloride	5.0 U	5.0	1	10/24/16 12:16	
Chlorobenzene	5.0 U	5.0	1	10/24/16 12:16	
Chloroethane	5.0 U	5.0	1	10/24/16 12:16	
Chloroform	5.0 U	5.0	1	10/24/16 12:16	
Chloromethane	5.0 U	5.0	1	10/24/16 12:16	
Dibromochloromethane	5.0 U	5.0	1	10/24/16 12:16	
1,1-Dichloroethane	5.0 U	5.0	1	10/24/16 12:16	
1,2-Dichloroethane	5.0 U	5.0	1	10/24/16 12:16	
1,1-Dichloroethene	5.0 U	5.0	1	10/24/16 12:16	
cis-1,2-Dichloroethene	5.0 U	5.0	1	10/24/16 12:16	
trans-1,2-Dichloroethene	5.0 U	5.0	1	10/24/16 12:16	
1,2-Dichloropropane	5.0 U	5.0	1	10/24/16 12:16	
cis-1,3-Dichloropropene	5.0 U	5.0	1	10/24/16 12:16	
trans-1,3-Dichloropropene	5.0 U	5.0	1	10/24/16 12:16	
Ethylbenzene	5.0 U	5.0	1	10/24/16 12:16	
2-Hexanone	10 U	10	1	10/24/16 12:16	
Methylene Chloride	5.0 U	5.0	1	10/24/16 12:16	
4-Methyl-2-pentanone (MIBK)	10 U	10	1	10/24/16 12:16	
Styrene	5.0 U	5.0	1	10/24/16 12:16	
1,1,2,2-Tetrachloroethane	5.0 U	5.0	1	10/24/16 12:16	
Tetrachloroethene	5.0 U	5.0	1	10/24/16 12:16	
Toluene	5.0 U	5.0	1	10/24/16 12:16	
1,1,1-Trichloroethane	5.0 U	5.0	1	10/24/16 12:16	
1,1,2-Trichloroethane	5.0 U	5.0	1	10/24/16 12:16	
Trichloroethene	5.0 U	5.0	1	10/24/16 12:16	
Vinyl Chloride	5.0 U	5.0	1	10/24/16 12:16	
o-Xylene	5.0 U	5.0	1	10/24/16 12:16	
m,p-Xylenes	5.0 U	5.0	1	10/24/16 12:16	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Collected: 10/17/16
Date Received: 10/18/16 09:40

Sample Name: TRIP BLANK
Lab Code: R1611021-009

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	108	85 - 122	10/24/16 12:16	
Toluene-d8	110	87 - 121	10/24/16 12:16	
Dibromofluoromethane	108	89 - 119	10/24/16 12:16	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Collected: 10/21/16 09:20
Date Received: 10/21/16 16:40

Sample Name: BAP01-102116-0920
Lab Code: R1611021-010

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Acetone	200 U	200	20	10/26/16 14:35	
Benzene	100 U	100	20	10/26/16 14:35	
Bromodichloromethane	100 U	100	20	10/26/16 14:35	
Bromoform	100 U	100	20	10/26/16 14:35	
Bromomethane	100 U	100	20	10/26/16 14:35	
2-Butanone (MEK)	200 U	200	20	10/26/16 14:35	
Carbon Disulfide	200 U	200	20	10/26/16 14:35	
Carbon Tetrachloride	100 U	100	20	10/26/16 14:35	
Chlorobenzene	100 U	100	20	10/26/16 14:35	
Chloroethane	400	100	20	10/26/16 14:35	
Chloroform	100 U	100	20	10/26/16 14:35	
Chloromethane	100 U	100	20	10/26/16 14:35	
Dibromochloromethane	100 U	100	20	10/26/16 14:35	
1,1-Dichloroethane	2700	100	20	10/26/16 14:35	
1,2-Dichloroethane	100 U	100	20	10/26/16 14:35	
1,1-Dichloroethene	720	100	20	10/26/16 14:35	
cis-1,2-Dichloroethene	100 U	100	20	10/26/16 14:35	
trans-1,2-Dichloroethene	100 U	100	20	10/26/16 14:35	
1,2-Dichloropropane	100 U	100	20	10/26/16 14:35	
cis-1,3-Dichloropropene	100 U	100	20	10/26/16 14:35	
trans-1,3-Dichloropropene	100 U	100	20	10/26/16 14:35	
Ethylbenzene	100 U	100	20	10/26/16 14:35	
2-Hexanone	200 U	200	20	10/26/16 14:35	
Methylene Chloride	100 U	100	20	10/26/16 14:35	
4-Methyl-2-pentanone (MIBK)	200 U	200	20	10/26/16 14:35	
Styrene	100 U	100	20	10/26/16 14:35	
1,1,2,2-Tetrachloroethane	100 U	100	20	10/26/16 14:35	
Tetrachloroethene	100 U	100	20	10/26/16 14:35	
Toluene	100 U	100	20	10/26/16 14:35	
1,1,1-Trichloroethane	100 U	100	20	10/26/16 14:35	
1,1,2-Trichloroethane	100 U	100	20	10/26/16 14:35	
Trichloroethene	100 U	100	20	10/26/16 14:35	
Vinyl Chloride	1400	100	20	10/26/16 14:35	
o-Xylene	100 U	100	20	10/26/16 14:35	
m,p-Xylenes	100 U	100	20	10/26/16 14:35	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Collected: 10/21/16 09:20
Date Received: 10/21/16 16:40

Sample Name: BAP01-102116-0920
Lab Code: R1611021-010

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	112	85 - 122	10/26/16 14:35	
Toluene-d8	112	87 - 121	10/26/16 14:35	
Dibromofluoromethane	112	89 - 119	10/26/16 14:35	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Collected: 10/21/16 10:50
Date Received: 10/21/16 16:40

Sample Name: BAP02-102116-1050
Lab Code: R1611021-012

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Acetone	25 U	25	2.5	10/26/16 15:00	
Benzene	13 U	13	2.5	10/26/16 15:00	
Bromodichloromethane	13 U	13	2.5	10/26/16 15:00	
Bromoform	13 U	13	2.5	10/26/16 15:00	
Bromomethane	13 U	13	2.5	10/26/16 15:00	
2-Butanone (MEK)	25 U	25	2.5	10/26/16 15:00	
Carbon Disulfide	25 U	25	2.5	10/26/16 15:00	
Carbon Tetrachloride	13 U	13	2.5	10/26/16 15:00	
Chlorobenzene	13 U	13	2.5	10/26/16 15:00	
Chloroethane	25	13	2.5	10/26/16 15:00	
Chloroform	13 U	13	2.5	10/26/16 15:00	
Chloromethane	13 U	13	2.5	10/26/16 15:00	
Dibromochloromethane	13 U	13	2.5	10/26/16 15:00	
1,1-Dichloroethane	640 D	50	10	10/26/16 17:06	
1,2-Dichloroethane	13 U	13	2.5	10/26/16 15:00	
1,1-Dichloroethene	270	13	2.5	10/26/16 15:00	
cis-1,2-Dichloroethene	13 U	13	2.5	10/26/16 15:00	
trans-1,2-Dichloroethene	13 U	13	2.5	10/26/16 15:00	
1,2-Dichloropropane	13 U	13	2.5	10/26/16 15:00	
cis-1,3-Dichloropropene	13 U	13	2.5	10/26/16 15:00	
trans-1,3-Dichloropropene	13 U	13	2.5	10/26/16 15:00	
Ethylbenzene	13 U	13	2.5	10/26/16 15:00	
2-Hexanone	25 U	25	2.5	10/26/16 15:00	
Methylene Chloride	13 U	13	2.5	10/26/16 15:00	
4-Methyl-2-pentanone (MIBK)	25 U	25	2.5	10/26/16 15:00	
Styrene	13 U	13	2.5	10/26/16 15:00	
1,1,2,2-Tetrachloroethane	13 U	13	2.5	10/26/16 15:00	
Tetrachloroethene	13 U	13	2.5	10/26/16 15:00	
Toluene	13 U	13	2.5	10/26/16 15:00	
1,1,1-Trichloroethane	13 U	13	2.5	10/26/16 15:00	
1,1,2-Trichloroethane	13 U	13	2.5	10/26/16 15:00	
Trichloroethene	13 U	13	2.5	10/26/16 15:00	
Vinyl Chloride	110	13	2.5	10/26/16 15:00	
o-Xylene	13 U	13	2.5	10/26/16 15:00	
m,p-Xylenes	13 U	13	2.5	10/26/16 15:00	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Collected: 10/21/16 10:50
Date Received: 10/21/16 16:40

Sample Name: BAP02-102116-1050
Lab Code: R1611021-012

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	112	85 - 122	10/26/16 15:00	
Toluene-d8	110	87 - 121	10/26/16 15:00	
Dibromofluoromethane	110	89 - 119	10/26/16 15:00	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Collected: 10/21/16 12:30
Date Received: 10/21/16 16:40

Sample Name: MW202-102116-1230
Lab Code: R1611021-014

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Acetone	10 U	10	1	10/26/16 12:55	
Benzene	5.0 U	5.0	1	10/26/16 12:55	
Bromodichloromethane	5.0 U	5.0	1	10/26/16 12:55	
Bromoform	5.0 U	5.0	1	10/26/16 12:55	
Bromomethane	5.0 U	5.0	1	10/26/16 12:55	
2-Butanone (MEK)	10 U	10	1	10/26/16 12:55	
Carbon Disulfide	10 U	10	1	10/26/16 12:55	
Carbon Tetrachloride	5.0 U	5.0	1	10/26/16 12:55	
Chlorobenzene	5.0 U	5.0	1	10/26/16 12:55	
Chloroethane	5.0 U	5.0	1	10/26/16 12:55	
Chloroform	5.0 U	5.0	1	10/26/16 12:55	
Chloromethane	5.0 U	5.0	1	10/26/16 12:55	
Dibromochloromethane	5.0 U	5.0	1	10/26/16 12:55	
1,1-Dichloroethane	110	5.0	1	10/26/16 12:55	
1,2-Dichloroethane	5.0 U	5.0	1	10/26/16 12:55	
1,1-Dichloroethene	98	5.0	1	10/26/16 12:55	
cis-1,2-Dichloroethene	5.0 U	5.0	1	10/26/16 12:55	
trans-1,2-Dichloroethene	5.0 U	5.0	1	10/26/16 12:55	
1,2-Dichloropropane	5.0 U	5.0	1	10/26/16 12:55	
cis-1,3-Dichloropropene	5.0 U	5.0	1	10/26/16 12:55	
trans-1,3-Dichloropropene	5.0 U	5.0	1	10/26/16 12:55	
Ethylbenzene	5.0 U	5.0	1	10/26/16 12:55	
2-Hexanone	10 U	10	1	10/26/16 12:55	
Methylene Chloride	5.0 U	5.0	1	10/26/16 12:55	
4-Methyl-2-pentanone (MIBK)	10 U	10	1	10/26/16 12:55	
Styrene	5.0 U	5.0	1	10/26/16 12:55	
1,1,2,2-Tetrachloroethane	5.0 U	5.0	1	10/26/16 12:55	
Tetrachloroethene	5.0 U	5.0	1	10/26/16 12:55	
Toluene	5.0 U	5.0	1	10/26/16 12:55	
1,1,1-Trichloroethane	5.0 U	5.0	1	10/26/16 12:55	
1,1,2-Trichloroethane	5.0 U	5.0	1	10/26/16 12:55	
Trichloroethene	5.0 U	5.0	1	10/26/16 12:55	
Vinyl Chloride	5.0 U	5.0	1	10/26/16 12:55	
o-Xylene	5.0 U	5.0	1	10/26/16 12:55	
m,p-Xylenes	5.0 U	5.0	1	10/26/16 12:55	

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dba ALS Environmental

Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Collected: 10/21/16 12:30
Date Received: 10/21/16 16:40

Sample Name: MW202-102116-1230
Lab Code: R1611021-014

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	113	85 - 122	10/26/16 12:55	
Toluene-d8	109	87 - 121	10/26/16 12:55	
Dibromofluoromethane	111	89 - 119	10/26/16 12:55	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Collected: 10/21/16 13:50
Date Received: 10/21/16 16:40

Sample Name: MW204-102116-1350
Lab Code: R1611021-016

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Acetone	10 U	10	1	10/26/16 17:56	
Benzene	5.0 U	5.0	1	10/26/16 17:56	
Bromodichloromethane	5.0 U	5.0	1	10/26/16 17:56	
Bromoform	5.0 U	5.0	1	10/26/16 17:56	
Bromomethane	5.0 U	5.0	1	10/26/16 17:56	
2-Butanone (MEK)	10 U	10	1	10/26/16 17:56	
Carbon Disulfide	10 U	10	1	10/26/16 17:56	
Carbon Tetrachloride	5.0 U	5.0	1	10/26/16 17:56	
Chlorobenzene	5.0 U	5.0	1	10/26/16 17:56	
Chloroethane	5.0 U	5.0	1	10/26/16 17:56	
Chloroform	5.0 U	5.0	1	10/26/16 17:56	
Chloromethane	5.0 U	5.0	1	10/26/16 17:56	
Dibromochloromethane	5.0 U	5.0	1	10/26/16 17:56	
1,1-Dichloroethane	5.0 U	5.0	1	10/26/16 17:56	
1,2-Dichloroethane	5.0 U	5.0	1	10/26/16 17:56	
1,1-Dichloroethene	5.0 U	5.0	1	10/26/16 17:56	
cis-1,2-Dichloroethene	5.0 U	5.0	1	10/26/16 17:56	
trans-1,2-Dichloroethene	5.0 U	5.0	1	10/26/16 17:56	
1,2-Dichloropropane	5.0 U	5.0	1	10/26/16 17:56	
cis-1,3-Dichloropropene	5.0 U	5.0	1	10/26/16 17:56	
trans-1,3-Dichloropropene	5.0 U	5.0	1	10/26/16 17:56	
Ethylbenzene	5.0 U	5.0	1	10/26/16 17:56	
2-Hexanone	10 U	10	1	10/26/16 17:56	
Methylene Chloride	5.0 U	5.0	1	10/26/16 17:56	
4-Methyl-2-pentanone (MIBK)	10 U	10	1	10/26/16 17:56	
Styrene	5.0 U	5.0	1	10/26/16 17:56	
1,1,2,2-Tetrachloroethane	5.0 U	5.0	1	10/26/16 17:56	
Tetrachloroethene	5.0 U	5.0	1	10/26/16 17:56	
Toluene	5.0 U	5.0	1	10/26/16 17:56	
1,1,1-Trichloroethane	5.0 U	5.0	1	10/26/16 17:56	
1,1,2-Trichloroethane	5.0 U	5.0	1	10/26/16 17:56	
Trichloroethene	5.0 U	5.0	1	10/26/16 17:56	
Vinyl Chloride	5.0 U	5.0	1	10/26/16 17:56	
o-Xylene	5.0 U	5.0	1	10/26/16 17:56	
m,p-Xylenes	5.0 U	5.0	1	10/26/16 17:56	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Collected: 10/21/16 13:50
Date Received: 10/21/16 16:40

Sample Name: MW204-102116-1350
Lab Code: R1611021-016

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	111	85 - 122	10/26/16 17:56	
Toluene-d8	110	87 - 121	10/26/16 17:56	
Dibromofluoromethane	103	89 - 119	10/26/16 17:56	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Collected: 10/21/16 14:45
Date Received: 10/21/16 16:40

Sample Name: OW306-102116-1445
Lab Code: R1611021-017

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Acetone	10 U	10	1	10/26/16 13:45	
Benzene	5.0 U	5.0	1	10/26/16 13:45	
Bromodichloromethane	5.0 U	5.0	1	10/26/16 13:45	
Bromoform	5.0 U	5.0	1	10/26/16 13:45	
Bromomethane	5.0 U	5.0	1	10/26/16 13:45	
2-Butanone (MEK)	10 U	10	1	10/26/16 13:45	
Carbon Disulfide	10 U	10	1	10/26/16 13:45	
Carbon Tetrachloride	5.0 U	5.0	1	10/26/16 13:45	
Chlorobenzene	5.0 U	5.0	1	10/26/16 13:45	
Chloroethane	5.0 U	5.0	1	10/26/16 13:45	
Chloroform	5.0 U	5.0	1	10/26/16 13:45	
Chloromethane	5.0 U	5.0	1	10/26/16 13:45	
Dibromochloromethane	5.0 U	5.0	1	10/26/16 13:45	
1,1-Dichloroethane	5.0 U	5.0	1	10/26/16 13:45	
1,2-Dichloroethane	5.0 U	5.0	1	10/26/16 13:45	
1,1-Dichloroethene	5.0 U	5.0	1	10/26/16 13:45	
cis-1,2-Dichloroethene	5.0 U	5.0	1	10/26/16 13:45	
trans-1,2-Dichloroethene	5.0 U	5.0	1	10/26/16 13:45	
1,2-Dichloropropane	5.0 U	5.0	1	10/26/16 13:45	
cis-1,3-Dichloropropene	5.0 U	5.0	1	10/26/16 13:45	
trans-1,3-Dichloropropene	5.0 U	5.0	1	10/26/16 13:45	
Ethylbenzene	5.0 U	5.0	1	10/26/16 13:45	
2-Hexanone	10 U	10	1	10/26/16 13:45	
Methylene Chloride	5.0 U	5.0	1	10/26/16 13:45	
4-Methyl-2-pentanone (MIBK)	10 U	10	1	10/26/16 13:45	
Styrene	5.0 U	5.0	1	10/26/16 13:45	
1,1,2,2-Tetrachloroethane	5.0 U	5.0	1	10/26/16 13:45	
Tetrachloroethene	5.0 U	5.0	1	10/26/16 13:45	
Toluene	5.0 U	5.0	1	10/26/16 13:45	
1,1,1-Trichloroethane	5.0 U	5.0	1	10/26/16 13:45	
1,1,2-Trichloroethane	5.0 U	5.0	1	10/26/16 13:45	
Trichloroethene	5.0 U	5.0	1	10/26/16 13:45	
Vinyl Chloride	5.0 U	5.0	1	10/26/16 13:45	
o-Xylene	5.0 U	5.0	1	10/26/16 13:45	
m,p-Xylenes	5.0 U	5.0	1	10/26/16 13:45	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Collected: 10/21/16 14:45
Date Received: 10/21/16 16:40

Sample Name: OW306-102116-1445
Lab Code: R1611021-017

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	113	85 - 122	10/26/16 13:45	
Toluene-d8	114	87 - 121	10/26/16 13:45	
Dibromofluoromethane	109	89 - 119	10/26/16 13:45	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Collected: 10/21/16 09:20
Date Received: 10/21/16 16:40

Sample Name: 4248-1021116-0001
Lab Code: R1611021-018

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Acetone	10 U	10	1	10/26/16 14:10	
Benzene	5.0 U	5.0	1	10/26/16 14:10	
Bromodichloromethane	5.0 U	5.0	1	10/26/16 14:10	
Bromoform	5.0 U	5.0	1	10/26/16 14:10	
Bromomethane	5.0 U	5.0	1	10/26/16 14:10	
2-Butanone (MEK)	10 U	10	1	10/26/16 14:10	
Carbon Disulfide	10 U	10	1	10/26/16 14:10	
Carbon Tetrachloride	5.0 U	5.0	1	10/26/16 14:10	
Chlorobenzene	5.0 U	5.0	1	10/26/16 14:10	
Chloroethane	5.0 U	5.0	1	10/26/16 14:10	
Chloroform	5.0 U	5.0	1	10/26/16 14:10	
Chloromethane	5.0 U	5.0	1	10/26/16 14:10	
Dibromochloromethane	5.0 U	5.0	1	10/26/16 14:10	
1,1-Dichloroethane	5.0 U	5.0	1	10/26/16 14:10	
1,2-Dichloroethane	5.0 U	5.0	1	10/26/16 14:10	
1,1-Dichloroethene	5.0 U	5.0	1	10/26/16 14:10	
cis-1,2-Dichloroethene	5.0 U	5.0	1	10/26/16 14:10	
trans-1,2-Dichloroethene	5.0 U	5.0	1	10/26/16 14:10	
1,2-Dichloropropane	5.0 U	5.0	1	10/26/16 14:10	
cis-1,3-Dichloropropene	5.0 U	5.0	1	10/26/16 14:10	
trans-1,3-Dichloropropene	5.0 U	5.0	1	10/26/16 14:10	
Ethylbenzene	5.0 U	5.0	1	10/26/16 14:10	
2-Hexanone	10 U	10	1	10/26/16 14:10	
Methylene Chloride	5.0 U	5.0	1	10/26/16 14:10	
4-Methyl-2-pentanone (MIBK)	10 U	10	1	10/26/16 14:10	
Styrene	5.0 U	5.0	1	10/26/16 14:10	
1,1,2,2-Tetrachloroethane	5.0 U	5.0	1	10/26/16 14:10	
Tetrachloroethene	5.0 U	5.0	1	10/26/16 14:10	
Toluene	5.0 U	5.0	1	10/26/16 14:10	
1,1,1-Trichloroethane	5.0 U	5.0	1	10/26/16 14:10	
1,1,2-Trichloroethane	5.0 U	5.0	1	10/26/16 14:10	
Trichloroethene	5.0 U	5.0	1	10/26/16 14:10	
Vinyl Chloride	5.0 U	5.0	1	10/26/16 14:10	
o-Xylene	5.0 U	5.0	1	10/26/16 14:10	
m,p-Xylenes	5.0 U	5.0	1	10/26/16 14:10	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Collected: 10/21/16 09:20
Date Received: 10/21/16 16:40

Sample Name: 4248-1021116-0001
Lab Code: R1611021-018

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	111	85 - 122	10/26/16 14:10	
Toluene-d8	108	87 - 121	10/26/16 14:10	
Dibromofluoromethane	109	89 - 119	10/26/16 14:10	



Volatile Organic Compounds by GC

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Collected: 10/17/16 11:50
Date Received: 10/18/16 09:40

Sample Name: MW3-101716-1150
Lab Code: R1611021-001

Units: ug/L
Basis: NA

Dissolved Gases by GC/FID

Analysis Method: RSK 175

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Ethane	1.0 U	1.0	1	10/19/16 13:34	
Ethylene	54	1.0	1	10/19/16 13:34	
Methane	2600 D	50	50	10/20/16 13:45	
Propane	1.0 U	1.0	1	10/19/16 13:34	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Collected: 10/17/16 14:35
Date Received: 10/18/16 09:40

Sample Name: MW205-101716-1435
Lab Code: R1611021-006

Units: ug/L
Basis: NA

Dissolved Gases by GC/FID

Analysis Method: RSK 175

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Ethane	20	1.0	1	10/19/16 13:44	
Ethylene	16	1.0	1	10/19/16 13:44	
Methane	5200 D	100	100	10/20/16 14:11	
Propane	1.0 U	1.0	1	10/19/16 13:44	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Collected: 10/21/16 09:20
Date Received: 10/21/16 16:40

Sample Name: BAP01-102116-0920
Lab Code: R1611021-010

Units: ug/L
Basis: NA

Dissolved Gases by GC/FID

Analysis Method: RSK 175

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Ethane	10 U	10	10	10/28/16 11:40	
Ethylene	26	10	10	10/28/16 11:40	
Methane	500	10	10	10/28/16 11:40	
Propane	10 U	10	10	10/28/16 11:40	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Collected: 10/21/16 10:50
Date Received: 10/21/16 16:40

Sample Name: BAP02-102116-1050
Lab Code: R1611021-012

Units: ug/L
Basis: NA

Dissolved Gases by GC/FID

Analysis Method: RSK 175

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Ethane	50 U	50	50	10/28/16 11:50	
Ethylene	50 U	50	50	10/28/16 11:50	
Methane	2600	50	50	10/28/16 11:50	
Propane	50 U	50	50	10/28/16 11:50	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Collected: 10/21/16 12:30
Date Received: 10/21/16 16:40

Sample Name: MW202-102116-1230
Lab Code: R1611021-014

Units: ug/L
Basis: NA

Dissolved Gases by GC/FID

Analysis Method: RSK 175

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Ethane	1.0 U	1.0	1	10/28/16 12:00	
Ethylene	1.0 U	1.0	1	10/28/16 12:00	
Methane	29	1.0	1	10/28/16 12:00	
Propane	1.0 U	1.0	1	10/28/16 12:00	



Semivolatile Organic Compounds by GC

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Collected: 10/17/16 14:35
Date Received: 10/18/16 09:40

Sample Name: MW205-101716-1435
Lab Code: R1611021-006

Units: mg/L
Basis: NA

Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Analysis Method: Organic Acids

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Pyruvic Acid	13 U	13	25	10/24/16 11:36	
Acetic Acid	1200	25	25	10/24/16 11:36	
Butanoic Acid (Butyric Acid)	3300	50	25	10/24/16 19:01	
Lactic Acid	25 U	25	25	10/24/16 11:36	
Propionic Acid	870	25	25	10/24/16 11:36	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Collected: 10/21/16 09:20
Date Received: 10/21/16 16:40

Sample Name: BAP01-102116-0920
Lab Code: R1611021-010

Units: mg/L
Basis: NA

Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Analysis Method: Organic Acids

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Pyruvic Acid	0.50 U	0.50	1	10/26/16 17:43	
Acetic Acid	37	1.0	1	10/27/16 11:37	
Butanoic Acid (Butyric Acid)	2.0 U	2.0	1	10/26/16 17:43	
Lactic Acid	1.0 U	1.0	1	10/26/16 17:43	
Propionic Acid	6.8	1.0	1	10/26/16 17:43	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Collected: 10/21/16 10:50
Date Received: 10/21/16 16:40

Sample Name: BAP02-102116-1050
Lab Code: R1611021-012

Units: mg/L
Basis: NA

Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Analysis Method: Organic Acids

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Pyruvic Acid	0.50 U	0.50	1	10/25/16 18:24	
Acetic Acid	2.0	1.0	1	10/27/16 12:07	
Butanoic Acid (Butyric Acid)	2.0 U	2.0	1	10/25/16 18:24	
Lactic Acid	1.0 U	1.0	1	10/25/16 18:24	
Propionic Acid	1.0 U	1.0	1	10/25/16 18:24	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Collected: 10/21/16 12:30
Date Received: 10/21/16 16:40

Sample Name: MW202-102116-1230
Lab Code: R1611021-014

Units: mg/L
Basis: NA

Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Analysis Method: Organic Acids

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Pyruvic Acid	0.50 U	0.50	1	10/25/16 18:57	
Acetic Acid	1.5	1.0	1	10/27/16 12:37	
Butanoic Acid (Butyric Acid)	2.0 U	2.0	1	10/25/16 18:57	
Lactic Acid	1.0 U	1.0	1	10/25/16 18:57	
Propionic Acid	1.0 U	1.0	1	10/25/16 18:57	



Metals

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Sample Name: MW3-101716-1150
Lab Code: R1611021-001

Service Request: R1611021
Date Collected: 10/17/16 11:50
Date Received: 10/18/16 09:40

Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron, Total	6010C	2260	ug/L	100	1	10/28/16 12:35	10/26/16	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Sample Name: MW3-101716-1150 Dissolved
Lab Code: R1611021-002

Service Request: R1611021
Date Collected: 10/17/16 11:50
Date Received: 10/18/16 09:40

Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron, Dissolved	6010C	100 U	ug/L	100	1	10/28/16 12:45	10/26/16	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Sample Name: MW205-101716-1435
Lab Code: R1611021-006

Service Request: R1611021
Date Collected: 10/17/16 14:35
Date Received: 10/18/16 09:40

Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron, Total	6010C	108000	ug/L	1000	10	10/28/16 12:48	10/26/16	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Collected: 10/17/16 14:35
Date Received: 10/18/16 09:40

Sample Name: MW205-101716-1435 Dissolved
Lab Code: R1611021-007

Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron, Dissolved	6010C	110000	ug/L	1000	10	10/28/16 12:51	10/26/16	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Sample Name: BAP01-102116-0920
Lab Code: R1611021-010

Service Request: R1611021
Date Collected: 10/21/16 09:20
Date Received: 10/21/16 16:40

Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron, Total	6010C	34700	ug/L	100	1	10/28/16 23:51	10/25/16	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Sample Name: BAP01-102116-0920 Dissolved
Lab Code: R1611021-011

Service Request: R1611021
Date Collected: 10/21/16 09:20
Date Received: 10/21/16 16:40

Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron, Dissolved	6010C	1080	ug/L	100	1	10/28/16 23:54	10/25/16	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Sample Name: BAP02-102116-1050
Lab Code: R1611021-012

Service Request: R1611021
Date Collected: 10/21/16 10:50
Date Received: 10/21/16 16:40

Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron, Total	6010C	1010	ug/L	100	1	10/29/16 00:16	10/25/16	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Sample Name: BAP02-102116-1050 Dissolved
Lab Code: R1611021-013

Service Request: R1611021
Date Collected: 10/21/16 10:50
Date Received: 10/21/16 16:40

Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron, Dissolved	6010C	660	ug/L	100	1	10/29/16 00:19	10/25/16	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Sample Name: MW202-102116-1230
Lab Code: R1611021-014

Service Request: R1611021
Date Collected: 10/21/16 12:30
Date Received: 10/21/16 16:40

Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron, Total	6010C	100 U	ug/L	100	1	10/29/16 00:22	10/25/16	

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Analytical Report

Client: Haley & Aldrich, Incorporated

Project: Coopervision/70665-020

Sample Matrix: Water

Sample Name: MW202-102116-1230 Dissolved

Lab Code: R1611021-015

Service Request: R1611021

Date Collected: 10/21/16 12:30

Date Received: 10/21/16 16:40

Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron, Dissolved	6010C	100 U	ug/L	100	1	10/29/16 00:26	10/25/16	



General Chemistry

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Sample Name: MW3-101716-1150
Lab Code: R1611021-001

Service Request: R1611021
Date Collected: 10/17/16 11:50
Date Received: 10/18/16 09:40

Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Alkalinity, Total as CaCO3	SM 2320 B-1997(2011)	232	mg/L	2.0	1	10/26/16 02:47	NA	
Chloride	9056A	490	mg/L	20	100	10/27/16 21:20	NA	
Nitrate as Nitrogen	9056A	1.0 U	mg/L	1.0	10	10/18/16 19:49	NA	
Nitrite as Nitrogen	353.2	0.010 U	mg/L	0.010	1	10/18/16 18:16	NA	
Sulfate	9056A	14.4	mg/L	2.0	10	10/27/16 16:16	NA	
Sulfide, Acid-Soluble	9034	1.0 U	mg/L	1.0	1	10/24/16 11:04	10/24/16	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Sample Name: MW205-101716-1435
Lab Code: R1611021-006

Service Request: R1611021
Date Collected: 10/17/16 14:35
Date Received: 10/18/16 09:40

Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Alkalinity, Total as CaCO3	SM 2320 B-1997(2011)	3260	mg/L	2.0	1	10/26/16 02:47	NA	
Chloride	9056A	906	mg/L	80	400	10/27/16 23:08	NA	
Nitrate as Nitrogen	9056A	1.0 U	mg/L	1.0	10	10/18/16 20:34	NA	
Nitrite as Nitrogen	353.2	0.061	mg/L	0.010	1	10/18/16 18:16	NA	
Sulfate	9056A	2.0 U	mg/L	2.0	10	10/27/16 16:29	NA	
Sulfide, Acid-Soluble	9034	2.0 U	mg/L	2.0	1	10/24/16 11:04	10/24/16	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Collected: 10/21/16 09:20
Date Received: 10/21/16 16:40

Sample Name: BAP01-102116-0920
Lab Code: R1611021-010

Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Alkalinity, Total as CaCO3	SM 2320 B-1997(2011)	298	mg/L	2.0	1	10/26/16 02:47	NA	
Carbon, Total Organic (TOC)	SM 5310 C-2000(2011)	18.5	mg/L	1.0	1	10/26/16 04:18	NA	
Chloride	9056A	634	mg/L	20	100	10/27/16 17:24	NA	
Nitrate as Nitrogen	9056A	1.0 U	mg/L	1.0	10	10/21/16 21:09	NA	
Nitrite as Nitrogen	353.2	0.010 U	mg/L	0.010	1	10/22/16 10:37	NA	
Sulfate	9056A	97.9	mg/L	2.0	10	10/21/16 21:09	NA	
Sulfide, Acid-Soluble	9034	1.4	mg/L	1.0	1	10/27/16 10:09	10/31/16	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Collected: 10/21/16 10:50
Date Received: 10/21/16 16:40

Sample Name: BAP02-102116-1050
Lab Code: R1611021-012

Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Alkalinity, Total as CaCO3	SM 2320 B-1997(2011)	262	mg/L	2.0	1	10/26/16 02:47	NA	
Carbon, Total Organic (TOC)	SM 5310 C-2000(2011)	1.4	mg/L	1.0	1	10/26/16 04:39	NA	
Chloride	9056A	1490	mg/L	80	400	10/28/16 00:32	NA	
Nitrate as Nitrogen	9056A	1.0 U	mg/L	1.0	10	10/21/16 20:55	NA	
Nitrite as Nitrogen	353.2	0.010 U	mg/L	0.010	1	10/22/16 10:39	NA	
Sulfate	9056A	59.4	mg/L	2.0	10	10/21/16 20:55	NA	
Sulfide, Acid-Soluble	9034	1.0 U	mg/L	1.0	1	10/27/16 10:09	10/31/16	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Sample Name: MW202-102116-1230
Lab Code: R1611021-014

Service Request: R1611021
Date Collected: 10/21/16 12:30
Date Received: 10/21/16 16:40

Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Alkalinity, Total as CaCO3	SM 2320 B-1997(2011)	138	mg/L	2.0	1	10/26/16 05:57	NA	
Carbon, Total Organic (TOC)	SM 5310 C-2000(2011)	1.2	mg/L	1.0	1	10/26/16 05:00	NA	
Chloride	9056A	1560	mg/L	80	400	10/27/16 19:06	NA	
Nitrate as Nitrogen	9056A	1.0 U	mg/L	1.0	10	10/21/16 21:23	NA	
Nitrite as Nitrogen	353.2	0.010 U	mg/L	0.010	1	10/22/16 10:40	NA	
Sulfate	9056A	668	mg/L	80	400	10/27/16 19:06	NA	
Sulfide, Acid-Soluble	9034	1.0 U	mg/L	1.0	1	10/27/16 10:09	10/31/16	



QC Summary Forms

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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

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1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

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QA/QC Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Extraction Method: EPA 5030C

Sample Name	Lab Code	4-Bromofluorobenzene	Toluene-d8	Dibromofluoromethane
		85 - 122	87 - 121	89 - 119
MW3-101716-1150	R1611021-001	113	110	110
MW501-101716-1110	R1611021-003	110	109	108
MW502-101716-1235	R1611021-004	114	112	112
OWS302-101716-1330	R1611021-005	109	112	107
MW205-101716-1435	R1611021-006	111	111	113
MW203-101716-1640	R1611021-008	108	111	108
TRIP BLANK	R1611021-009	108	110	108
BAP01-102116-0920	R1611021-010	112	112	112
BAP02-102116-1050	R1611021-012	112	110	110
MW202-102116-1230	R1611021-014	113	109	111
MW204-102116-1350	R1611021-016	111	110	103
OW306-102116-1445	R1611021-017	113	114	109
4248-102116-0001	R1611021-018	111	108	109
Lab Control Sample	RQ1612824-03	111	112	108
Method Blank	RQ1612824-04	108	113	109
Lab Control Sample	RQ1613009-03	114	113	115
Method Blank	RQ1613009-04	113	111	113

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: RQ1612824-04

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Acetone	10 U	10	1	10/24/16 11:46	
Benzene	5.0 U	5.0	1	10/24/16 11:46	
Bromodichloromethane	5.0 U	5.0	1	10/24/16 11:46	
Bromoform	5.0 U	5.0	1	10/24/16 11:46	
Bromomethane	5.0 U	5.0	1	10/24/16 11:46	
2-Butanone (MEK)	10 U	10	1	10/24/16 11:46	
Carbon Disulfide	10 U	10	1	10/24/16 11:46	
Carbon Tetrachloride	5.0 U	5.0	1	10/24/16 11:46	
Chlorobenzene	5.0 U	5.0	1	10/24/16 11:46	
Chloroethane	5.0 U	5.0	1	10/24/16 11:46	
Chloroform	5.0 U	5.0	1	10/24/16 11:46	
Chloromethane	5.0 U	5.0	1	10/24/16 11:46	
Dibromochloromethane	5.0 U	5.0	1	10/24/16 11:46	
1,1-Dichloroethane	5.0 U	5.0	1	10/24/16 11:46	
1,2-Dichloroethane	5.0 U	5.0	1	10/24/16 11:46	
1,1-Dichloroethene	5.0 U	5.0	1	10/24/16 11:46	
cis-1,2-Dichloroethene	5.0 U	5.0	1	10/24/16 11:46	
trans-1,2-Dichloroethene	5.0 U	5.0	1	10/24/16 11:46	
1,2-Dichloropropane	5.0 U	5.0	1	10/24/16 11:46	
cis-1,3-Dichloropropene	5.0 U	5.0	1	10/24/16 11:46	
trans-1,3-Dichloropropene	5.0 U	5.0	1	10/24/16 11:46	
Ethylbenzene	5.0 U	5.0	1	10/24/16 11:46	
2-Hexanone	10 U	10	1	10/24/16 11:46	
Methylene Chloride	5.0 U	5.0	1	10/24/16 11:46	
4-Methyl-2-pentanone (MIBK)	10 U	10	1	10/24/16 11:46	
Styrene	5.0 U	5.0	1	10/24/16 11:46	
1,1,2,2-Tetrachloroethane	5.0 U	5.0	1	10/24/16 11:46	
Tetrachloroethene	5.0 U	5.0	1	10/24/16 11:46	
Toluene	5.0 U	5.0	1	10/24/16 11:46	
1,1,1-Trichloroethane	5.0 U	5.0	1	10/24/16 11:46	
1,1,2-Trichloroethane	5.0 U	5.0	1	10/24/16 11:46	
Trichloroethene	5.0 U	5.0	1	10/24/16 11:46	
Vinyl Chloride	5.0 U	5.0	1	10/24/16 11:46	
o-Xylene	5.0 U	5.0	1	10/24/16 11:46	
m,p-Xylenes	5.0 U	5.0	1	10/24/16 11:46	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: RQ1612824-04

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	108	85 - 122	10/24/16 11:46	
Toluene-d8	113	87 - 121	10/24/16 11:46	
Dibromofluoromethane	109	89 - 119	10/24/16 11:46	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: RQ1613009-04

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Acetone	10 U	10	1	10/26/16 10:49	
Benzene	5.0 U	5.0	1	10/26/16 10:49	
Bromodichloromethane	5.0 U	5.0	1	10/26/16 10:49	
Bromoform	5.0 U	5.0	1	10/26/16 10:49	
Bromomethane	5.0 U	5.0	1	10/26/16 10:49	
2-Butanone (MEK)	10 U	10	1	10/26/16 10:49	
Carbon Disulfide	10 U	10	1	10/26/16 10:49	
Carbon Tetrachloride	5.0 U	5.0	1	10/26/16 10:49	
Chlorobenzene	5.0 U	5.0	1	10/26/16 10:49	
Chloroethane	5.0 U	5.0	1	10/26/16 10:49	
Chloroform	5.0 U	5.0	1	10/26/16 10:49	
Chloromethane	5.0 U	5.0	1	10/26/16 10:49	
Dibromochloromethane	5.0 U	5.0	1	10/26/16 10:49	
1,1-Dichloroethane	5.0 U	5.0	1	10/26/16 10:49	
1,2-Dichloroethane	5.0 U	5.0	1	10/26/16 10:49	
1,1-Dichloroethene	5.0 U	5.0	1	10/26/16 10:49	
cis-1,2-Dichloroethene	5.0 U	5.0	1	10/26/16 10:49	
trans-1,2-Dichloroethene	5.0 U	5.0	1	10/26/16 10:49	
1,2-Dichloropropane	5.0 U	5.0	1	10/26/16 10:49	
cis-1,3-Dichloropropene	5.0 U	5.0	1	10/26/16 10:49	
trans-1,3-Dichloropropene	5.0 U	5.0	1	10/26/16 10:49	
Ethylbenzene	5.0 U	5.0	1	10/26/16 10:49	
2-Hexanone	10 U	10	1	10/26/16 10:49	
Methylene Chloride	5.0 U	5.0	1	10/26/16 10:49	
4-Methyl-2-pentanone (MIBK)	10 U	10	1	10/26/16 10:49	
Styrene	5.0 U	5.0	1	10/26/16 10:49	
1,1,2,2-Tetrachloroethane	5.0 U	5.0	1	10/26/16 10:49	
Tetrachloroethene	5.0 U	5.0	1	10/26/16 10:49	
Toluene	5.0 U	5.0	1	10/26/16 10:49	
1,1,1-Trichloroethane	5.0 U	5.0	1	10/26/16 10:49	
1,1,2-Trichloroethane	5.0 U	5.0	1	10/26/16 10:49	
Trichloroethene	5.0 U	5.0	1	10/26/16 10:49	
Vinyl Chloride	5.0 U	5.0	1	10/26/16 10:49	
o-Xylene	5.0 U	5.0	1	10/26/16 10:49	
m,p-Xylenes	5.0 U	5.0	1	10/26/16 10:49	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: RQ1613009-04

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	113	85 - 122	10/26/16 10:49	
Toluene-d8	111	87 - 121	10/26/16 10:49	
Dibromofluoromethane	113	89 - 119	10/26/16 10:49	

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QA/QC Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Analyzed: 10/24/16

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1612824-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Acetone	8260C	24.1	20.0	120	40-161
Benzene	8260C	22.0	20.0	110	76-118
Bromodichloromethane	8260C	19.4	20.0	97	78-126
Bromoform	8260C	20.2	20.0	101	71-136
Bromomethane	8260C	22.8	20.0	114	42-166
2-Butanone (MEK)	8260C	24.4	20.0	122	61-137
Carbon Disulfide	8260C	24.9	20.0	125	65-127
Carbon Tetrachloride	8260C	18.4	20.0	92	68-125
Chlorobenzene	8260C	20.6	20.0	103	80-121
Chloroethane	8260C	23.1	20.0	115	70-127
Chloroform	8260C	22.8	20.0	114	76-120
Chloromethane	8260C	24.2	20.0	121	69-145
Dibromochloromethane	8260C	19.1	20.0	96	77-128
1,1-Dichloroethane	8260C	24.3	20.0	121 *	78-117
1,2-Dichloroethane	8260C	20.8	20.0	104	71-127
1,1-Dichloroethene	8260C	22.6	20.0	113	74-135
cis-1,2-Dichloroethene	8260C	24.5	20.0	122 *	80-121
trans-1,2-Dichloroethene	8260C	22.6	20.0	113	80-120
1,2-Dichloropropane	8260C	22.7	20.0	114	80-119
cis-1,3-Dichloropropene	8260C	21.6	20.0	108	74-126
trans-1,3-Dichloropropene	8260C	19.6	20.0	98	67-135
Ethylbenzene	8260C	20.9	20.0	105	76-120
2-Hexanone	8260C	21.7	20.0	109	63-124
Methylene Chloride	8260C	23.1	20.0	116	73-122
4-Methyl-2-pentanone (MIBK)	8260C	23.2	20.0	116	66-124
Styrene	8260C	20.7	20.0	103	80-124
1,1,2,2-Tetrachloroethane	8260C	22.8	20.0	114	78-122
Tetrachloroethene	8260C	18.7	20.0	93	78-124
Toluene	8260C	22.2	20.0	111	77-120
1,1,1-Trichloroethane	8260C	21.5	20.0	107	74-120
1,1,2-Trichloroethane	8260C	21.9	20.0	109	82-118
Trichloroethene	8260C	20.3	20.0	101	78-123
Vinyl Chloride	8260C	23.7	20.0	118	69-133

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QA/QC Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Analyzed: 10/24/16

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L**Basis:**NA**Lab Control Sample**

RQ1612824-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
o-Xylene	8260C	20.8	20.0	104	80-120
m,p-Xylenes	8260C	43.3	40.0	108	78-123

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QA/QC Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Analyzed: 10/26/16

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1613009-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Acetone	8260C	30.6	20.0	153	40-161
Benzene	8260C	19.3	20.0	96	76-118
Bromodichloromethane	8260C	20.8	20.0	104	78-126
Bromoform	8260C	19.4	20.0	97	71-136
Bromomethane	8260C	10.9	20.0	54	42-166
2-Butanone (MEK)	8260C	24.4	20.0	122	61-137
Carbon Disulfide	8260C	23.1	20.0	115	65-127
Carbon Tetrachloride	8260C	19.7	20.0	99	68-125
Chlorobenzene	8260C	19.3	20.0	97	80-121
Chloroethane	8260C	20.6	20.0	103	70-127
Chloroform	8260C	19.9	20.0	100	76-120
Chloromethane	8260C	19.5	20.0	97	69-145
Dibromochloromethane	8260C	19.7	20.0	98	77-128
1,1-Dichloroethane	8260C	20.4	20.0	102	78-117
1,2-Dichloroethane	8260C	22.0	20.0	110	71-127
1,1-Dichloroethene	8260C	19.3	20.0	96	74-135
cis-1,2-Dichloroethene	8260C	20.2	20.0	101	80-121
trans-1,2-Dichloroethene	8260C	19.2	20.0	96	80-120
1,2-Dichloropropane	8260C	19.8	20.0	99	80-119
cis-1,3-Dichloropropene	8260C	19.1	20.0	95	74-126
trans-1,3-Dichloropropene	8260C	20.9	20.0	104	67-135
Ethylbenzene	8260C	19.4	20.0	97	76-120
2-Hexanone	8260C	26.0	20.0	130 *	63-124
Methylene Chloride	8260C	18.6	20.0	93	73-122
4-Methyl-2-pentanone (MIBK)	8260C	25.4	20.0	127 *	66-124
Styrene	8260C	20.2	20.0	101	80-124
1,1,2,2-Tetrachloroethane	8260C	20.1	20.0	100	78-122
Tetrachloroethene	8260C	18.0	20.0	90	78-124
Toluene	8260C	19.8	20.0	99	77-120
1,1,1-Trichloroethane	8260C	21.5	20.0	107	74-120
1,1,2-Trichloroethane	8260C	20.5	20.0	103	82-118
Trichloroethene	8260C	19.0	20.0	95	78-123
Vinyl Chloride	8260C	22.1	20.0	110	69-133

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QA/QC Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Analyzed: 10/26/16

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L**Basis:**NA**Lab Control Sample**

RQ1613009-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
o-Xylene	8260C	19.3	20.0	96	80-120
m,p-Xylenes	8260C	40.4	40.0	101	78-123



Volatile Organic Compounds by GC

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: RQ1612749-01

Units: ug/L
Basis: NA

Dissolved Gases by GC/FID

Analysis Method: RSK 175

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Ethane	1.0 U	1.0	1	10/19/16 12:32	
Ethylene	1.0 U	1.0	1	10/19/16 12:32	
Methane	1.0 U	1.0	1	10/19/16 12:32	
Propane	1.0 U	1.0	1	10/19/16 12:32	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: RQ1612756-01

Units: ug/L
Basis: NA

Dissolved Gases by GC/FID

Analysis Method: RSK 175

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Ethane	1.0 U	1.0	1	10/20/16 12:00	
Ethylene	1.0 U	1.0	1	10/20/16 12:00	
Methane	1.0 U	1.0	1	10/20/16 12:00	
Propane	1.0 U	1.0	1	10/20/16 12:00	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: RQ1613190-01

Units: ug/L
Basis: NA

Dissolved Gases by GC/FID

Analysis Method: RSK 175

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Ethane	1.0 U	1.0	1	10/28/16 11:06	
Ethylene	1.0 U	1.0	1	10/28/16 11:06	
Methane	1.0 U	1.0	1	10/28/16 11:06	
Propane	1.0 U	1.0	1	10/28/16 11:06	

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QA/QC Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Analyzed: 10/19/16

Duplicate Lab Control Sample Summary
Dissolved Gases by GC/FID

Units:ug/L
Basis:NA

Lab Control Sample					Duplicate Lab Control Sample					
RQ1612749-02					RQ1612749-03					
Analyte Name	Analytical Method	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Ethane	RSK 175	29.6	26.0	114	28.5	26.0	109	75-118	4	20
Ethylene	RSK 175	27.5	24.3	113	27.4	24.3	113	73-129	<1	20
Methane	RSK 175	31.2	26.2	119	30.8	26.2	117	65-126	1	20
Propane	RSK 175	28.8	25.5	113	27.9	25.5	110	72-118	3	20

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QA/QC Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Analyzed: 10/20/16

Duplicate Lab Control Sample Summary
Dissolved Gases by GC/FID

Units:ug/L
Basis:NA

Lab Control Sample					Duplicate Lab Control Sample					
RQ1612756-02					RQ1612756-03					
Analyte Name	Analytical Method	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Ethane	RSK 175	27.7	26.0	106	27.6	26.0	106	75-118	<1	20
Ethylene	RSK 175	26.3	24.3	109	26.2	24.3	108	73-129	<1	20
Methane	RSK 175	29.1	26.2	111	29.1	26.2	111	65-126	<1	20
Propane	RSK 175	26.4	25.5	104	27.0	25.5	106	72-118	2	20

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QA/QC Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Analyzed: 10/28/16

Duplicate Lab Control Sample Summary
Dissolved Gases by GC/FID

Units:ug/L
Basis:NA

Lab Control Sample					Duplicate Lab Control Sample					
RQ1613190-02					RQ1613190-03					
Analyte Name	Analytical Method	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Ethane	RSK 175	27.1	26.0	104	25.5	26.0	98	75-118	6	20
Ethylene	RSK 175	25.2	24.3	104	23.8	24.3	98	73-129	6	20
Methane	RSK 175	28.7	26.2	109	27.1	26.2	103	65-126	6	20
Propane	RSK 175	26.3	25.5	103	24.7	25.5	97	72-118	7	20



Semivolatile Organic Compounds by GC

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QA/QC Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Collected: 10/17/16
Date Received: 10/18/16
Date Analyzed: 10/24/16

Duplicate Matrix Spike Summary

Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Sample Name: MW205-101716-1435
Lab Code: R1611021-006
Analysis Method: Organic Acids

Units: mg/L
Basis: NA

Analyte Name	Sample Result	Matrix Spike RQ1612919-04			Duplicate Matrix Spike RQ1612919-05			% Rec Limits	RPD	RPD Limit
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Pyruvic Acid	13 U	35.8	50.8	70	35.3	50.8	69	45-144	1	30
Acetic Acid	1200	1660	501	84	1690	501	89	30-147	2	30
Butanoic Acid (Butyric Acid)	3300	3630	506	60 #	3590	506	51 #	55-146	1	30
Lactic Acid	25 U	471	494	95	472	494	95	40-158	<1	30
Propionic Acid	870	1320	493	91	1290	493	85	57-135	2	30

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: RQ1612919-01

Units: mg/L
Basis: NA

Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Analysis Method: Organic Acids

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Pyruvic Acid	0.50 U	0.50	1	10/24/16 09:54	
Acetic Acid	1.0 U	1.0	1	10/24/16 09:54	
Butanoic Acid (Butyric Acid)	2.0 U	2.0	1	10/24/16 17:20	
Lactic Acid	1.0 U	1.0	1	10/24/16 09:54	
Propionic Acid	1.0 U	1.0	1	10/24/16 09:54	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: RQ1613040-01

Units: mg/L
Basis: NA

Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Analysis Method: Organic Acids

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Pyruvic Acid	0.50 U	0.50	1	10/25/16 16:14	
Acetic Acid	1.0 U	1.0	1	10/27/16 09:59	
Butanoic Acid (Butyric Acid)	2.0 U	2.0	1	10/25/16 16:14	
Lactic Acid	1.0 U	1.0	1	10/25/16 16:14	
Propionic Acid	1.0 U	1.0	1	10/25/16 16:14	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: RQ1613075-01

Units: mg/L
Basis: NA

Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Analysis Method: Organic Acids

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Pyruvic Acid	0.50 U	0.50	1	10/26/16 16:09	
Acetic Acid	1.0 U	1.0	1	10/26/16 16:09	
Butanoic Acid (Butyric Acid)	2.0 U	2.0	1	10/26/16 16:09	
Lactic Acid	1.0 U	1.0	1	10/26/16 16:09	
Propionic Acid	1.0 U	1.0	1	10/26/16 16:09	

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QA/QC Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Analyzed: 10/24/16

Duplicate Lab Control Sample Summary
Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Units:mg/L
Basis:NA

Lab Control Sample					Duplicate Lab Control Sample					
RQ1612919-02					RQ1612919-03					
Analyte Name	Analytical Method	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Pyruvic Acid	Organic Acids	1.72	2.03	85	1.73	2.03	85	70-130	<1	30
Acetic Acid	Organic Acids	19.9	20.0	99	20.6	20.0	103	70-130	4	30
Butanoic Acid (Butyric Acid)	Organic Acids	19.8	20.2	98	20.8	20.2	103	70-130	5	30
Lactic Acid	Organic Acids	19.8	19.8	100	19.6	19.8	99	70-130	<1	30
Propionic Acid	Organic Acids	19.2	19.7	97	19.5	19.7	99	70-130	2	30

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QA/QC Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Analyzed: 10/25/16 - 10/27/16

Duplicate Lab Control Sample Summary
Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Units:mg/L
Basis:NA

Lab Control Sample					Duplicate Lab Control Sample					
RQ1613040-02					RQ1613040-03					
Analyte Name	Analytical Method	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Pyruvic Acid	Organic Acids	1.61	2.03	79	1.68	2.03	83	70-130	4	30
Acetic Acid	Organic Acids	21.0	20.0	105	22.1	20.0	110	70-130	5	30
Butanoic Acid (Butyric Acid)	Organic Acids	19.5	20.2	96	20.6	20.2	102	70-130	6	30
Lactic Acid	Organic Acids	18.4	19.8	93	18.7	19.8	94	70-130	1	30
Propionic Acid	Organic Acids	19.4	19.7	98	19.2	19.7	97	70-130	1	30

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QA/QC Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Analyzed: 10/26/16

Duplicate Lab Control Sample Summary
Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Units:mg/L
Basis:NA

Lab Control Sample					Duplicate Lab Control Sample					
RQ1613075-02					RQ1613075-03					
Analyte Name	Analytical Method	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Pyruvic Acid	Organic Acids	1.73	2.03	85	1.67	2.03	82	70-130	4	30
Acetic Acid	Organic Acids	26.2	20.0	131 *	25.7	20.0	128	70-130	2	30
Butanoic Acid (Butyric Acid)	Organic Acids	20.3	20.2	100	20.4	20.2	101	70-130	<1	30
Lactic Acid	Organic Acids	19.6	19.8	99	19.1	19.8	97	70-130	3	30
Propionic Acid	Organic Acids	19.9	19.7	101	19.6	19.7	99	70-130	2	30



Metals

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Sample Name: Method Blank
Lab Code: R1611021-MB1

Service Request: R1611021
Date Collected: NA
Date Received: NA

Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron, Dissolved	6010C	100 U	ug/L	100	1	10/28/16 23:26	10/25/16	
Iron, Total	6010C	100 U	ug/L	100	1	10/28/16 23:26	10/25/16	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Sample Name: Method Blank
Lab Code: R1611021-MB2

Service Request: R1611021
Date Collected: NA
Date Received: NA

Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron, Dissolved	6010C	100 U	ug/L	100	1	10/28/16 11:45	10/26/16	
Iron, Total	6010C	100 U	ug/L	100	1	10/28/16 11:45	10/26/16	

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QA/QC Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Collected: 10/21/16
Date Received: 10/21/16
Date Analyzed: 10/29/16
Date Extracted: 10/25/16

**Matrix Spike Summary
Inorganic Parameters**

Sample Name: BAP01-102116-0920 Dissolved
Lab Code: R1611021-011
Analysis Method: 6010C
Prep Method: EPA 3005A/3010A

Units: ug/L
Basis: NA

**Matrix Spike
R1611021-011MS**

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Iron, Dissolved	1080	1990	1000	90	75-125

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

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

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QA/QC Report

Client: Haley & Aldrich, Incorporated
Project Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Collected: 10/21/16
Date Received: 10/21/16
Date Analyzed: 10/29/16

Replicate Sample Summary**Inorganic Parameters**

Sample Name: BAP01-102116-0920 Dissolved
Lab Code: R1611021-011

Units: ug/L
Basis: NA

Duplicate Sample R1611021- 011DUP							
Analyte Name	Analysis Method	MRL	Sample Result	Result	Average	RPD	RPD Limit
Iron, Dissolved	6010C	100	1080	1080	1080	<1	20

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

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

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QA/QC Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Analyzed: 10/28/16

Lab Control Sample Summary
Inorganic Parameters

Units:ug/L**Basis:**NA**Lab Control Sample**

R1611021-LCS1

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Iron, Dissolved	6010C	940	1000	94	80-120
Iron, Total	6010C	940	1000	94	80-120

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QA/QC Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Analyzed: 10/28/16

Lab Control Sample Summary
Inorganic Parameters

Units:ug/L**Basis:**NA**Lab Control Sample**

R1611021-LCS2

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Iron, Dissolved	6010C	1010	1000	101	80-120
Iron, Total	6010C	1010	1000	101	80-120



General Chemistry

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Sample Name: Method Blank
Lab Code: R1611021-MB1

Service Request: R1611021
Date Collected: NA
Date Received: NA

Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Alkalinity, Total as CaCO3	SM 2320 B-1997(2011)	2.0 U	mg/L	2.0	1	10/26/16 02:47	NA	
Carbon, Total Organic (TOC)	SM 5310 C-2000(2011)	1.0 U	mg/L	1.0	1	10/25/16 22:03	NA	
Chloride	9056A	0.20 U	mg/L	0.20	1	10/27/16 11:45	NA	
Nitrate as Nitrogen	9056A	0.10 U	mg/L	0.10	1	10/18/16 16:33	NA	
Nitrite as Nitrogen	353.2	0.010 U	mg/L	0.010	1	10/18/16 18:10	NA	
Sulfate	9056A	0.20 U	mg/L	0.20	1	10/21/16 16:39	NA	
Sulfide, Acid-Soluble	9034	1.0 U	mg/L	1.0	1	10/24/16 11:04	10/24/16	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Sample Name: Method Blank
Lab Code: R1611021-MB2

Service Request: R1611021
Date Collected: NA
Date Received: NA

Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Alkalinity, Total as CaCO3	SM 2320 B-1997(2011)	2.0 U	mg/L	2.0	1	10/26/16 05:57	NA	
Chloride	9056A	0.20 U	mg/L	0.20	1	10/27/16 17:15	NA	
Nitrate as Nitrogen	9056A	0.10 U	mg/L	0.10	1	10/21/16 16:39	NA	
Nitrite as Nitrogen	353.2	0.010 U	mg/L	0.010	1	10/22/16 10:35	NA	
Sulfate	9056A	0.20 U	mg/L	0.20	1	10/27/16 11:45	NA	
Sulfide, Acid-Soluble	9034	1.0 U	mg/L	1.0	1	10/27/16 10:09	10/31/16	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Sample Name: Method Blank
Lab Code: R1611021-MB3

Service Request: R1611021
Date Collected: NA
Date Received: NA

Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Sulfate	9056A	0.20 U	mg/L	0.20	1	10/27/16 17:15	

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QA/QC Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request:R1611021
Date Collected:10/17/16
Date Received:10/18/16
Date Analyzed:10/24/16

Matrix Spike Summary
General Chemistry Parameters

Sample Name: MW3-101716-1150
Lab Code: R1611021-001

Units:mg/L
Basis:NA

Matrix Spike
R1611021-001MS

Analyte Name	Method	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Sulfide, Acid-Soluble	9034	1.0 U	4.9	9.8	50	10-109

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QA/QC Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Collected: 10/21/16
Date Received: 10/21/16
Date Analyzed: 10/22/16

Matrix Spike Summary
Nitrite as Nitrogen

Sample Name: BAP01-102116-0920
Lab Code: R1611021-010
Analysis Method: 353.2

Units: mg/L
Basis: NA

Matrix Spike
R1611021-010MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Nitrite as Nitrogen	0.010 U	0.258	0.250	103	90-110

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QA/QC Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Collected: 10/21/16
Date Received: 10/21/16
Date Analyzed: 10/26/16 - 10/27/16

Matrix Spike Summary
General Chemistry Parameters

Sample Name: MW202-102116-1230
Lab Code: R1611021-014

Units: mg/L
Basis: NA

Matrix Spike
R1611021-014MS

Analyte Name	Method	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Alkalinity, Total as CaCO ₃	SM 2320 B-1997(2011)	138	188	500	10 *	69-114
Sulfide, Acid-Soluble	9034	1.0 U	6.8	8.7	79	10-109

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.

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QA/QC Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Collected: 10/17/16
Date Received: 10/18/16
Date Analyzed: 10/18/16 - 10/27/16

Duplicate Matrix Spike Summary
General Chemistry Parameters

Sample Name: MW3-101716-1150 **Units:** mg/L
Lab Code: R1611021-001 **Basis:** NA

Matrix Spike R1611021-001MS						Duplicate Matrix Spike R1611021-001DMS					
Analyte Name	Method	Sample Result	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Chloride	9056A	490	605	200	58 *	607	200	59 *	80-120	<1	15
Nitrate as Nitrogen	9056A	1.0 U	9.7	10.0	97	9.8	10.0	98	80-120	<1	15

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: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Collected: 10/17/16
Date Received: 10/18/16
Date Analyzed: 10/27/16

**Duplicate Matrix Spike Summary
Chloride**

Sample Name: MW205-101716-1435
Lab Code: R1611021-006
Analysis Method: 9056A

Units: mg/L
Basis: NA

Analyte Name	Sample Result	Result	Matrix Spike R1611021-006MS		Result	Duplicate Matrix Spike R1611021-006DMS		% Rec Limits	RPD	RPD Limit
			Spike Amount	% Rec		Spike Amount	% Rec			
Chloride	906	1660	800	94	1660	800	94	80-120	<1	15

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ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client: Haley & Aldrich, Incorporated
Project Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Collected: 10/17/16
Date Received: 10/18/16
Date Analyzed: 10/24/16

Replicate Sample Summary
General Chemistry Parameters

Sample Name: MW3-101716-1150
Lab Code: R1611021-001

Units: mg/L
Basis: NA

				Duplicate Sample R1611021- 001DUP			
Analyte Name	Analysis Method	MRL	Sample Result	Result	Average	RPD	RPD Limit
Sulfide, Acid-Soluble	9034	1.0	1.0 U	1.0 U	NC	NC	20

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: Haley & Aldrich, Incorporated
Project Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Collected: 10/21/16
Date Received: 10/21/16
Date Analyzed: 10/22/16

Replicate Sample Summary
General Chemistry Parameters

Sample Name: BAP01-102116-0920
Lab Code: R1611021-010

Units: mg/L
Basis: NA

Duplicate Sample R1611021- 010DUP							
Analyte Name	Analysis Method	MRL	Sample Result	Result	Average	RPD	RPD Limit
Nitrite as Nitrogen	353.2	0.010	0.010 U	0.010 U	NC	NC	20

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: Haley & Aldrich, Incorporated
Project Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Collected: 10/21/16
Date Received: 10/21/16
Date Analyzed: 10/26/16 - 10/27/16

Replicate Sample Summary
General Chemistry Parameters

Sample Name: MW202-102116-1230
Lab Code: R1611021-014

Units: mg/L
Basis: NA

				Duplicate Sample R1611021- 014DUP			
Analyte Name	Analysis Method	MRL	Sample Result	Result	Average	RPD	RPD Limit
Alkalinity, Total as CaCO ₃	SM 2320 B-1997(2011)	2.0	138	137	137	<1	20
Sulfide, Acid-Soluble	9034	1.0	1.0 U	1.0 U	NC	NC	20

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: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Analyzed: 10/18/16 - 10/27/16

Lab Control Sample Summary
General Chemistry Parameters

Units:mg/L
Basis:NA

Lab Control Sample
R1611021-LCS1

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Alkalinity, Total as CaCO ₃	SM 2320 B-1997(2011)	19.2	20.0	96	81-112
Carbon, Total Organic (TOC)	SM 5310 C-2000(2011)	8.4	10.0	84	81-118
Chloride	9056A	2.00	2.00	100	80-120
Nitrate as Nitrogen	9056A	0.99	1.00	99	80-120
Nitrite as Nitrogen	353.2	0.244	0.250	98	90-110
Sulfate	9056A	2.08	2.00	104	80-120
Sulfide, Acid-Soluble	9034	8.1	9.8	82	15-124

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Analyzed: 10/21/16 - 10/27/16

Lab Control Sample Summary
General Chemistry Parameters

Units:mg/L
Basis:NA

Lab Control Sample
R1611021-LCS2

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Alkalinity, Total as CaCO ₃	SM 2320 B-1997(2011)	20.8	20.0	104	81-112
Chloride	9056A	1.91	2.00	96	80-120
Nitrate as Nitrogen	9056A	1.03	1.00	103	80-120
Nitrite as Nitrogen	353.2	0.241	0.250	96	90-110
Sulfate	9056A	1.96	2.00	98	80-120
Sulfide, Acid-Soluble	9034	6.1	8.7	70	15-124

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/70665-020
Sample Matrix: Water

Service Request: R1611021
Date Analyzed: 10/27/16

Lab Control Sample Summary
General Chemistry Parameters

Units:mg/L**Basis:**NA**Lab Control Sample**

R1611021-LCS3

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Sulfate	9056A	1.99	2.00	99	80-120



May 11, 2017

Service Request No:R1703719

Mr. Mark Ramsdell
Haley & Aldrich, Inc.
200 Town Centre Drive
Suite 2
Rochester, NY 14623-4264

Laboratory Results for: Coopervision

Dear Mr.Ramsdell,

Enclosed are the results of the sample(s) submitted to our laboratory April 26, 2017
For your reference, these analyses have been assigned our service request number **R1703719**.

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

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Service Request: R1703719
Date Received: 4/26/17

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

Seventeen Water samples were received for analysis at ALS Environmental on 04/26/2017. 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 $\leq 6^{\circ}\text{C}$ upon receipt at the lab except for aqueous samples designated for metals analyses, which are stored at room temperature.

Volatile Organic Analyses:

No significant anomalies were noted with this analysis.

Semi-Volatile Organic Analyses:

No significant anomalies were noted with this analysis.

Metals Analyses:

No significant anomalies were noted with this analysis.

General Chemistry Analyses:

No significant anomalies were noted with this analysis.

Approved by  Date 5/11/2017

SAMPLE DETECTION SUMMARY

CLIENT ID: MW3-042517-1400		Lab ID: R1703719-001				
Analyte	Results	Flag	MDL	PQL	Units	Method
Alkalinity, Total as CaCO ₃	189		1.0	2.0	mg/L	SM 2320 B-
Chloride	539		2	20	mg/L	9056A
Sulfate	20.5		0.2	2.0	mg/L	9056A
Iron, Total	2800		9	100	ug/L	6010C
Chloroethane	280		0.60	13	ug/L	8260C
1,1-Dichloroethane	64		0.50	13	ug/L	8260C
Vinyl Chloride	26		0.80	13	ug/L	8260C
Ethylene	30		2.8	20	ug/L	RSK 175
Methane	1500		2.3	20	ug/L	RSK 175

CLIENT ID: MW202-042617-1210		Lab ID: R1703719-003				
Analyte	Results	Flag	MDL	PQL	Units	Method
Alkalinity, Total as CaCO ₃	170		1.0	2.0	mg/L	SM 2320 B-
Carbon, Total Organic (TOC), Average	1.2		0.05	1.0	mg/L	9060A
Chloride	5090		20	200	mg/L	9056A
Nitrate as Nitrogen	1.9		0.04	1.0	mg/L	9056A
Sulfate	271		2	20	mg/L	9056A
Iron, Total	120		9	100	ug/L	6010C
Chloroethane	1.8	J	0.24	5.0	ug/L	8260C
Chloromethane	0.26	BJ	0.21	5.0	ug/L	8260C
1,1-Dichloroethane	37		0.20	5.0	ug/L	8260C
1,1-Dichloroethene	38		0.57	5.0	ug/L	8260C

CLIENT ID: MW203-042517-1640		Lab ID: R1703719-005				
Analyte	Results	Flag	MDL	PQL	Units	Method
Chloromethane	0.29	BJ	0.21	5.0	ug/L	8260C
1,1-Dichloroethane	0.29	J	0.20	5.0	ug/L	8260C

CLIENT ID: MW205-042517-1510		Lab ID: R1703719-006				
Analyte	Results	Flag	MDL	PQL	Units	Method
Alkalinity, Total as CaCO ₃	3430		1.0	2.0	mg/L	SM 2320 B-
Chloride	684		2	20	mg/L	9056A
Sulfate	2.1		0.2	2.0	mg/L	9056A
Iron, Total	113000		90	1000	ug/L	6010C
Chloroethane	1100	J	480	10000	ug/L	8260C
Chloromethane	500	J	420	10000	ug/L	8260C
1,1-Dichloroethane	200000		400	10000	ug/L	8260C
1,1-Dichloroethene	1500	J	1200	10000	ug/L	8260C
1,1,1-Trichloroethane	39000		720	10000	ug/L	8260C
Methane	4900		5.8	50	ug/L	RSK 175
Acetic Acid	1200		3.8	20	mg/L	Organic
Butanoic Acid (Butyric Acid)	3300		6.3	40	mg/L	Organic
Propionic Acid	750		3.8	20	mg/L	Organic

SAMPLE DETECTION SUMMARY

CLIENT ID: MW205-042517-1510			Lab ID: R1703719-006			
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Analyte	Results	Flag	MDL	PQL	Units	Method
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CLIENT ID: MW205-042517-1510 Dissolved			Lab ID: R1703719-007			
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Analyte	Results	Flag	MDL	PQL	Units	Method
Iron, Dissolved	109000		90	1000	ug/L	6010C

CLIENT ID: BAP01-042617-0950			Lab ID: R1703719-008			
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Analyte	Results	Flag	MDL	PQL	Units	Method
Alkalinity, Total as CaCO3	313		1.0	2.0	mg/L	SM 2320 B-
Carbon, Total Organic (TOC), Average	59.8		0.2	4.0	mg/L	9060A
Chloride	609		3	40	mg/L	9056A
Sulfate	55.5		0.2	2.0	mg/L	9056A
Iron, Total	1600		9	100	ug/L	6010C
2-Butanone (MEK)	37	J	17	200	ug/L	8260C
Chloroethane	370		4.8	100	ug/L	8260C
Chloromethane	7.2	J	4.2	100	ug/L	8260C
1,1-Dichloroethane	2000		4.0	100	ug/L	8260C
1,1-Dichloroethene	220		12	100	ug/L	8260C
Vinyl Chloride	1300		6.4	100	ug/L	8260C
Ethylene	220		1.4	10	ug/L	RSK 175
Methane	1600	D	2.9	25	ug/L	RSK 175
Acetic Acid	48		0.19	1.0	mg/L	Organic
Propionic Acid	9.9		0.19	1.0	mg/L	Organic

CLIENT ID: BAP01-042617-0950 Dissolved			Lab ID: R1703719-009			
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Analyte	Results	Flag	MDL	PQL	Units	Method
Iron, Dissolved	790		9	100	ug/L	6010C

CLIENT ID: BAP02-042617-1115			Lab ID: R1703719-010			
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Analyte	Results	Flag	MDL	PQL	Units	Method
Alkalinity, Total as CaCO3	262		1.0	2.0	mg/L	SM 2320 B-
Carbon, Total Organic (TOC), Average	4.0		0.05	1.0	mg/L	9060A
Chloride	1170		3	40	mg/L	9056A
Sulfate	48.6		0.2	2.0	mg/L	9056A
Iron, Total	11700		9	100	ug/L	6010C
Acetone	7.9	J	6.2	50	ug/L	8260C
Chloroethane	30		1.2	25	ug/L	8260C
Chloromethane	1.4	BJ	1.1	25	ug/L	8260C
1,1-Dichloroethane	620		1.0	25	ug/L	8260C
1,1-Dichloroethene	160		2.9	25	ug/L	8260C
Trichloroethene	2.4	J	1.1	25	ug/L	8260C
Vinyl Chloride	150		1.6	25	ug/L	8260C
Methane	3900		5.8	50	ug/L	RSK 175
Acetic Acid	3.9		0.19	1.0	mg/L	Organic

SAMPLE DETECTION SUMMARY

CLIENT ID: BAP02-042617-1115 Dissolved			Lab ID: R1703719-011			
Analyte	Results	Flag	MDL	PQL	Units	Method
Iron, Dissolved	1310		9	100	ug/L	6010C

CLIENT ID: OW306-042617-1445			Lab ID: R1703719-012			
Analyte	Results	Flag	MDL	PQL	Units	Method
Chloromethane	0.30	BJ	0.21	5.0	ug/L	8260C
1,1-Dichloroethane	0.74	J	0.20	5.0	ug/L	8260C
1,1,1-Trichloroethane	0.47	J	0.36	5.0	ug/L	8260C

CLIENT ID: MW501-042517-1230			Lab ID: R1703719-013			
Analyte	Results	Flag	MDL	PQL	Units	Method
Acetone	6.5	J	6.2	50	ug/L	8260C
Chloroethane	620		1.2	25	ug/L	8260C
Chloromethane	2.0	BJ	1.1	25	ug/L	8260C
1,1-Dichloroethane	98		1.0	25	ug/L	8260C
Tetrachloroethene	2.1	J	1.5	25	ug/L	8260C
Vinyl Chloride	65		1.6	25	ug/L	8260C

CLIENT ID: MW502-042517-1315			Lab ID: R1703719-014			
Analyte	Results	Flag	MDL	PQL	Units	Method
Chloroethane	2200		4.8	100	ug/L	8260C
Chloromethane	4.4	J	4.2	100	ug/L	8260C
1,1-Dichloroethane	92	J	4.0	100	ug/L	8260C
Vinyl Chloride	230		6.4	100	ug/L	8260C

CLIENT ID: MW204-042517-1725			Lab ID: R1703719-015			
Analyte	Results	Flag	MDL	PQL	Units	Method
Acetone	1.4	J	1.3	10	ug/L	8260C
Chloromethane	0.22	BJ	0.21	5.0	ug/L	8260C
1,1-Dichloroethane	4.8	J	0.20	5.0	ug/L	8260C
1,1-Dichloroethene	4.3	J	0.57	5.0	ug/L	8260C
1,1,1-Trichloroethane	1.4	J	0.36	5.0	ug/L	8260C
Trichloroethene	0.89	J	0.22	5.0	ug/L	8260C

CLIENT ID: OWS302-042517-1435			Lab ID: R1703719-016			
Analyte	Results	Flag	MDL	PQL	Units	Method
Bromodichloromethane	64	J	64	1000	ug/L	8260C
Chloroethane	17000		48	1000	ug/L	8260C
Chloroform	330	J	50	1000	ug/L	8260C
Chloromethane	60	J	42	1000	ug/L	8260C
1,1-Dichloroethane	270	J	40	1000	ug/L	8260C

CLIENT ID: TRIP BLANK			Lab ID: R1703719-017			
Analyte	Results	Flag	MDL	PQL	Units	Method
Chloromethane	0.40	BJ	0.21	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: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002

Service Request:R1703719

SAMPLE CROSS-REFERENCE

<u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>DATE</u>	<u>TIME</u>
R1703719-001	MW3-042517-1400	4/25/2017	1400
R1703719-002	MW3-042517-1400 Dissolved	4/25/2017	1400
R1703719-003	MW202-042617-1210	4/26/2017	1210
R1703719-004	MW202-042617-1210 Dissolved	4/26/2017	1210
R1703719-005	MW203-042517-1640	4/25/2017	1640
R1703719-006	MW205-042517-1510	4/25/2017	1510
R1703719-007	MW205-042517-1510 Dissolved	4/25/2017	1510
R1703719-008	BAP01-042617-0950	4/26/2017	0950
R1703719-009	BAP01-042617-0950 Dissolved	4/26/2017	0950
R1703719-010	BAP02-042617-1115	4/26/2017	1115
R1703719-011	BAP02-042617-1115 Dissolved	4/26/2017	1115
R1703719-012	OW306-042617-1445	4/26/2017	1445
R1703719-013	MW501-042517-1230	4/25/2017	1230
R1703719-014	MW502-042517-1315	4/25/2017	1315
R1703719-015	MW204-042517-1725	4/25/2017	1725
R1703719-016	OWS302-042517-1435	4/25/2017	1435
R1703719-017	TRIP BLANK	4/25/2017	1230



HALEY
ALDRICH

ALS Environmental Laboratory:

1565 Jefferson Rd, Bldg 300, Ste 360, Rochester, NY 14623, USA | +1 585 288 5380

Chain of Custody Form

Page 1 of 2

Blanket Service Agreement: 2015-18-ALS Group		H&A Project Number: 129375-002		H&A Client Name:		Coopervision											
ALS Project Manager: Janice Jagur		ALS Work Order #:															
Customer Information		Project Information		Parameter/Method Request for Analysis													
Purchase Order		Project Name	Coopervision	A	VOCs 8260												
Work Order		Project Number	70665-028-129375-002	B	Dissolved Gases (RSK-175)												
Company Name	Haley & Aldrich	Bill To Company		C	Alkalinity												
Send Report To	Mark Ramsdell	Invoice Attn.	Accounts Payable	D	Sulfides												
Address	200 Town Centre Drive	Address		E	NO2 NO3 Cl 504												
	Suite 2			F	Dissolved FE												
City/State/Zip	Rochester, NY, 14623	City/State/Zip		G	Total FE												
Phone	585-321-4241	Phone		H	Organic Acids												
Fax		State Samples Collected		I	TOC												
Email Address	M.Ramsdell@haleyaldrich.com	Email Address		J													
No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	MW3-042517-1400	4/25/17	1400	GW		11	X	X	X	X	X	X	X				
2	MW202-042617-1210	4/26/17	1210	GW		13	X	X	X	X	X	X	X	X	X		
3	MW203-042517-1640	4/25/17	1640	GW		3	X										
4	MW205-042517-1510	4/25/17	1510	GW		12	X	X	X	X	X	X	X	X			
5	BAP01-042617-0950	4/26/17	0950	GW		13	X	X	X	X	X	X	X	X	X		
6	BAP02-042617-1115	4/26/17	1115	GW		13	X	X	X	X	X	X	X	X	X		
7	OW306-042617-1445	4/26/17	1445	GW		3	X										
8	MW501-042517-1230	4/25/17	1230	GW		3	X										
9	MW502-042517-1315	4/25/17	1315	GW		3	X										
10	MW204-042517-1725	4/25/17	1725	GW		3	X										
Sampler(s): Please Print & Sign		Shipment Method:		Turnaround Time in Business Days (BD):		☒ Other Standard		Results Due Date:									
Jon Sanger				☐ 10 BD ☐ 5 BD ☐ 3 BD ☐ 2 BD ☐ 1 BD													
Relinquished by:		Date:	Time:	Received by:		Notes:											
Jan Sanger		4/26/17	16:45	John Doherty													
Relinquished by:		Date:	Time:	Received by (Laboratory):		ALS Cooler ID		Cooler Temp		QC Package: (Check Box Below)							
		4/26/17	1645	John Doherty						☐ Level II: Standard QC ☐ TRRP Checklist							
Logged by (Laboratory):		Date:	Time:	Checked by (Laboratory):						☐ Level III ☐ TRRP Level IV							
										☐ Level IV: Std QC/Raw Data							
										☐ Other:							
Preservative Key: 1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-None/40C																	

1. ALS Group's services under this Chain of Custody shall be performed in accordance with terms and conditions within Blanket Service Agreement# 2015-18-ALS Group by and between Haley & Aldrich, Inc., its subsidiaries and affiliates and ALS Group.

2. Communicate with Laboratory Project Manager for any turnaround time less than 5 days.

R1703719

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Haley & Aldrich, Inc.
Coopervision





HALEY
ALDRICH

ALS Environmental Laboratory:

1565 Jefferson Rd, Bldg 300, Ste 360, Rochester, NY 14623, USA | +1 585 288 5380

Chain of Custody Form

Page 2 of 2

Blanket Service Agreement: 2015-18-ALS Group		H&A Project Number:		H&A Client Name:													
ALS Project Manager:		ALS Work Order #:															
Customer Information		Project Information		Parameter/Method Request for Analysis													
Purchase Order		Project Name	Cooperation			A	VOCs										
Work Order		Project Number	124375-002			B											
Company Name	Haley & Aldrich	Bill To Company				C											
Send Report To	M. Ramsden	Invoice Attn.				D											
Address	200 Town Centre Drive Suite 2	Address				E											
City/State/Zip	Rochester, NY 14623	City/State/Zip				F											
Phone	585-321-4241	Phone				G											
Fax		State Samples Collected				H											
Email Address	M.Ramsden@HaleyAldrich.com	Email Address				I											
						J											
No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	OWS 302-042517-1435	4/25/17	1435	GW		3	X										
2	TRIP Blank	4/26/17	—	AQ		3	X										
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
Sampler(s): Please Print & Sign		Shipment Method:		Turnaround Time in Business Days (BD):				☐ 10 BD ☐ 5 BD ☐ 3 BD ☐ 2 BD ☐ 1 BD				Other: _____				Results Due Date:	
Relinquished by:		Date:	Time:	Received by:			Notes:										
Relinquished by:		Date:	Time:	Received by (Laboratory):			ALS Cooler ID		Cooler Temp		QC Package: (Check Box Below)						
Logged by (Laboratory):		Date:	Time:	Checked by (Laboratory):							☐ Level II: Standard QC ☐ TRRP Checklist						
											☐ Level III ☐ TRRP Level IV						
											☐ Level IV: Std QC/Raw Data						
											☐ Other: _____						
Preservative Key: 1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-None/4oC																	

1. ALS Group's services under this Chain of Custody shall be performed in accordance with terms and conditions within Blanket Service Agreement# 2015-18-ALS Group by and between Haley & Aldrich, Inc., its subsidiaries and affiliates and ALS Group.
2. Communicate with Laboratory Project Manager for any turnaround time less than 5 days.

R1703719

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Haley & Aldrich, Inc.
Cooperation





Cooler Receipt and Preservation Check Form

R1703719

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Haley & Aldrich, Inc.
Cooperation



Project/Client H+A Folder Number _____

Cooler received on 4/26/17 by: SW

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: <u>Wet Ice</u> 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 ☒ NA
6	Where did the bottles originate?	ALSDROC CLIENT
7	Soil VOA received as:	Bulk Encore 5035set ☒ NA

8. Temperature Readings Date: 4/26/17 Time: 1705 ID: IR# IR#8 From: Temp Blank Sample Bottle

Observed Temp (°C)	<u>7.0</u>						
Correction Factor (°C)	<u>±0.6</u>						
Corrected Temp (°C)	<u>7.0</u>						
Temp from: Type of bottle							
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 _____ Same Day Rule

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

All samples held in storage location: Room by SW on 4/26/17 at 1705
5035 samples placed in storage location: _____ by _____ on _____ at _____

Cooler Breakdown: Date: 4/27/17 Time: 1240 by: @

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
13. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated N/A

pH	Lot of test paper	Reagent	Preserved?	Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH
≥12		NaOH	Yes No	<u>177057</u>	<u>2/18</u>				
≤2	<u>2134/6</u>	HNO ₃	✓ ✓	<u>BDB26157A</u>	<u>1/18</u>	<u>-006, -007</u>	<u>1ml</u>	<u>BDB26157A</u>	<u>≤2</u>
≤2	<u>↓</u>	H ₂ SO ₄	✓	<u>180439</u>	<u>4/18</u>				
<4		NaHSO ₄							
Residual Chlorine (-)		For CN Phenol and 522		If +, contact PM to add Na ₂ S ₂ O ₃ (CN), ascorbic (phenol).					
		Na ₂ S ₂ O ₃	- -						
		ZnAcetate	- -	<u>WC 161041F</u>	<u>10/17</u>				
		HCl	** **	<u>4115022</u>					

**Not to be tested before analysis – pH tested and recorded by VOAs on a separate worksheet

Bottle lot numbers: 6-195-001, 021317-1BMC, 021317-2AAO, 091916-2AAW

Explain all Discrepancies/ Other Comments:

H₃PO₄ lot # ~~0213~~ 174351

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

Labels secondary reviewed by: @

PC Secondary Review: _____

14 of 99: 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.	+	Correlation coefficient for MSA is <0.995.
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/Aroclors).	N	Inorganics- Matrix spike recovery was outside laboratory limits.
B	Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.	N	Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
E	Inorganics- Concentration is estimated due to the serial dilution was outside control limits.	S	Concentration has been determined using Method of Standard Additions (MSA).
E	Organics- Concentration has exceeded the calibration range for that specific analysis.	W	Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
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.	P	Concentration >40% (25% for CLP) difference between the two GC columns.
*	Indicates that a quality control parameter has exceeded laboratory limits. Under the "Notes" column of the Form I, this qualifier denotes analysis was performed out of Holding Time.	C	Confirmed by GC/MS
H	Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.	Q	DoD reports: indicates a pesticide/Aroclor is not confirmed (100% Difference between two GC columns).
#	Spike was diluted out.	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 Certifications¹

Connecticut ID # PH0556	Maine ID #NY0032	New Hampshire ID #
Delaware Accredited	Nebraska Accredited	294100 A/B
DoD ELAP #65817	New Jersey ID # NY004	Pennsylvania ID# 68-786
Florida ID # E87674	New York ID # 10145	Rhode Island ID # 158
Illinois ID #200047	North Carolina #676	Virginia #460167

¹ Analyses were performed according to our laboratory's 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 <http://www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads/North-America-Downloads>

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: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002

Service Request: R1703719

Non-Certified Analytes

Certifying Agency: New York Department of Health

Method	Matrix	Analyte
Organic Acids	Water	Acetic Acid
Organic Acids	Water	Butanoic Acid (Butyric Acid)
Organic Acids	Water	Lactic Acid
Organic Acids	Water	Propionic Acid
Organic Acids	Water	Pyruvic Acid

ALS Group USA, Corp.
dba ALS Environmental

Analyst Summary report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002

Service Request: R1703719

Sample Name: MW3-042517-1400
Lab Code: R1703719-001
Sample Matrix: Water

Date Collected: 04/25/17
Date Received: 04/26/17

Analysis Method

6010C
8260C
9034
9056A
9056A
RSK 175
SM 2320 B-1997(2011)

Extracted/Digested By

NMANSEN

GNITAJOUPPI

Analyzed By

NMANSEN
KRUEST
GNITAJOUPPI
CWOODS
JMISIUREWICZ
MCYMBAL
CWOODS

Sample Name: MW3-042517-1400 Dissolved
Lab Code: R1703719-002
Sample Matrix: Water

Date Collected: 04/25/17
Date Received: 04/26/17

Analysis Method

6010C

Extracted/Digested By

NMANSEN

Analyzed By

NMANSEN

Sample Name: MW202-042617-1210
Lab Code: R1703719-003
Sample Matrix: Water

Date Collected: 04/26/17
Date Received: 04/26/17

Analysis Method

6010C
8260C
9034
9056A
9056A
9060A
Organic Acids
RSK 175
SM 2320 B-1997(2011)

Extracted/Digested By

NMANSEN

GNITAJOUPPI

Analyzed By

NMANSEN
KRUEST
GNITAJOUPPI
CWOODS
JMISIUREWICZ
CWOODS
BALLGEIER
MCYMBAL
CWOODS

ALS Group USA, Corp.
dba ALS Environmental

Analyst Summary report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002

Service Request: R1703719

Sample Name: MW202-042617-1210 Dissolved
Lab Code: R1703719-004
Sample Matrix: Water

Date Collected: 04/26/17
Date Received: 04/26/17

Analysis Method
6010C

Extracted/Digested By
NMANSEN

Analyzed By
NMANSEN

Sample Name: MW203-042517-1640
Lab Code: R1703719-005
Sample Matrix: Water

Date Collected: 04/25/17
Date Received: 04/26/17

Analysis Method
8260C

Extracted/Digested By

Analyzed By
KRUEST

Sample Name: MW205-042517-1510
Lab Code: R1703719-006
Sample Matrix: Water

Date Collected: 04/25/17
Date Received: 04/26/17

Analysis Method
6010C
8260C
9034
9056A
9056A

Extracted/Digested By
NMANSEN

GNITAJOUPPI

Analyzed By
NMANSEN
KRUEST
GNITAJOUPPI
CWOODS
JMISIUREWICZ

Organic Acids
RSK 175
SM 2320 B-1997(2011)

BALLGEIER
MCYMBAL
CWOODS

Sample Name: MW205-042517-1510 Dissolved
Lab Code: R1703719-007
Sample Matrix: Water

Date Collected: 04/25/17
Date Received: 04/26/17

Analysis Method
6010C

Extracted/Digested By
NMANSEN

Analyzed By
NMANSEN

ALS Group USA, Corp.
dba ALS Environmental

Analyst Summary report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002

Service Request: R1703719

Sample Name: BAP01-042617-0950
Lab Code: R1703719-008
Sample Matrix: Water

Date Collected: 04/26/17
Date Received: 04/26/17

Analysis Method	Extracted/Digested By	Analyzed By
6010C	NMANSEN	NMANSEN
8260C		KRUEST
9034	GNITAJOUPPI	GNITAJOUPPI
9056A		CWOODS
9056A		JMISIUREWICZ
9060A		CWOODS
Organic Acids		BALLGEIER
RSK 175		MCYMBAL
SM 2320 B-1997(2011)		CWOODS

Sample Name: BAP01-042617-0950 Dissolved
Lab Code: R1703719-009
Sample Matrix: Water

Date Collected: 04/26/17
Date Received: 04/26/17

Analysis Method	Extracted/Digested By	Analyzed By
6010C	NMANSEN	NMANSEN

Sample Name: BAP02-042617-1115
Lab Code: R1703719-010
Sample Matrix: Water

Date Collected: 04/26/17
Date Received: 04/26/17

Analysis Method	Extracted/Digested By	Analyzed By
6010C	NMANSEN	NMANSEN
8260C		KRUEST
9034	GNITAJOUPPI	GNITAJOUPPI
9056A		CWOODS
9056A		JMISIUREWICZ
9060A		CWOODS
Organic Acids		BALLGEIER
RSK 175		MCYMBAL
SM 2320 B-1997(2011)		CWOODS

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Analyst Summary report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002

Service Request: R1703719

Sample Name: BAP02-042617-1115 Dissolved
Lab Code: R1703719-011
Sample Matrix: Water

Date Collected: 04/26/17
Date Received: 04/26/17

Analysis Method
6010C

Extracted/Digested By
NMANSEN

Analyzed By
NMANSEN

Sample Name: OW306-042617-1445
Lab Code: R1703719-012
Sample Matrix: Water

Date Collected: 04/26/17
Date Received: 04/26/17

Analysis Method
8260C

Extracted/Digested By

Analyzed By
KRUEST

Sample Name: MW501-042517-1230
Lab Code: R1703719-013
Sample Matrix: Water

Date Collected: 04/25/17
Date Received: 04/26/17

Analysis Method
8260C

Extracted/Digested By

Analyzed By
KRUEST

Sample Name: MW502-042517-1315
Lab Code: R1703719-014
Sample Matrix: Water

Date Collected: 04/25/17
Date Received: 04/26/17

Analysis Method
8260C

Extracted/Digested By

Analyzed By
KRUEST

Sample Name: MW204-042517-1725
Lab Code: R1703719-015
Sample Matrix: Water

Date Collected: 04/25/17
Date Received: 04/26/17

Analysis Method
8260C

Extracted/Digested By

Analyzed By
KRUEST

ALS Group USA, Corp.
dba ALS Environmental

Analyst Summary report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002

Service Request: R1703719

Sample Name: OWS302-042517-1435
Lab Code: R1703719-016
Sample Matrix: Water

Date Collected: 04/25/17
Date Received: 04/26/17

Analysis Method
8260C

Extracted/Digested By

Analyzed By
KRUEST

Sample Name: TRIP BLANK
Lab Code: R1703719-017
Sample Matrix: Water

Date Collected: 04/25/17
Date Received: 04/26/17

Analysis Method
8260C

Extracted/Digested By

Analyzed By
KRUEST



INORGANIC PREPARATION METHODS

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

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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

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Service Request: R1703719
Date Collected: 04/25/17 14:00
Date Received: 04/26/17 16:45

Sample Name: MW3-042517-1400
Lab Code: R1703719-001

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Acetone	ND U	25	2.5	04/28/17 14:51	
Benzene	ND U	13	2.5	04/28/17 14:51	
Bromodichloromethane	ND U	13	2.5	04/28/17 14:51	
Bromoform	ND U	13	2.5	04/28/17 14:51	
Bromomethane	ND U	13	2.5	04/28/17 14:51	
2-Butanone (MEK)	ND U	25	2.5	04/28/17 14:51	
Carbon Disulfide	ND U	25	2.5	04/28/17 14:51	
Carbon Tetrachloride	ND U	13	2.5	04/28/17 14:51	
Chlorobenzene	ND U	13	2.5	04/28/17 14:51	
Chloroethane	280	13	2.5	04/28/17 14:51	
Chloroform	ND U	13	2.5	04/28/17 14:51	
Chloromethane	ND U	13	2.5	04/28/17 14:51	
Dibromochloromethane	ND U	13	2.5	04/28/17 14:51	
1,1-Dichloroethane	64	13	2.5	04/28/17 14:51	
1,2-Dichloroethane	ND U	13	2.5	04/28/17 14:51	
1,1-Dichloroethene	ND U	13	2.5	04/28/17 14:51	
cis-1,2-Dichloroethene	ND U	13	2.5	04/28/17 14:51	
trans-1,2-Dichloroethene	ND U	13	2.5	04/28/17 14:51	
1,2-Dichloropropane	ND U	13	2.5	04/28/17 14:51	
cis-1,3-Dichloropropene	ND U	13	2.5	04/28/17 14:51	
trans-1,3-Dichloropropene	ND U	13	2.5	04/28/17 14:51	
Ethylbenzene	ND U	13	2.5	04/28/17 14:51	
2-Hexanone	ND U	25	2.5	04/28/17 14:51	
Methylene Chloride	ND U	13	2.5	04/28/17 14:51	
4-Methyl-2-pentanone (MIBK)	ND U	25	2.5	04/28/17 14:51	
Styrene	ND U	13	2.5	04/28/17 14:51	
1,1,2,2-Tetrachloroethane	ND U	13	2.5	04/28/17 14:51	
Tetrachloroethene	ND U	13	2.5	04/28/17 14:51	
Toluene	ND U	13	2.5	04/28/17 14:51	
1,1,1-Trichloroethane	ND U	13	2.5	04/28/17 14:51	
1,1,2-Trichloroethane	ND U	13	2.5	04/28/17 14:51	
Trichloroethene	ND U	13	2.5	04/28/17 14:51	
Vinyl Chloride	26	13	2.5	04/28/17 14:51	
o-Xylene	ND U	13	2.5	04/28/17 14:51	
m,p-Xylenes	ND U	13	2.5	04/28/17 14:51	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Service Request: R1703719
Date Collected: 04/25/17 14:00
Date Received: 04/26/17 16:45

Sample Name: MW3-042517-1400
Lab Code: R1703719-001

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	107	85 - 122	04/28/17 14:51	
Toluene-d8	102	87 - 121	04/28/17 14:51	
Dibromofluoromethane	99	89 - 119	04/28/17 14:51	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Service Request: R1703719
Date Collected: 04/26/17 12:10
Date Received: 04/26/17 16:45

Sample Name: MW202-042617-1210
Lab Code: R1703719-003

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Acetone	ND U	10	1.3	1	04/28/17 13:18	
Benzene	ND U	5.0	0.20	1	04/28/17 13:18	
Bromodichloromethane	ND U	5.0	0.32	1	04/28/17 13:18	
Bromoform	ND U	5.0	0.42	1	04/28/17 13:18	
Bromomethane	ND U	5.0	0.29	1	04/28/17 13:18	
2-Butanone (MEK)	ND U	10	0.81	1	04/28/17 13:18	
Carbon Disulfide	ND U	10	0.22	1	04/28/17 13:18	
Carbon Tetrachloride	ND U	5.0	0.45	1	04/28/17 13:18	
Chlorobenzene	ND U	5.0	0.29	1	04/28/17 13:18	
Chloroethane	1.8 J	5.0	0.24	1	04/28/17 13:18	
Chloroform	ND U	5.0	0.25	1	04/28/17 13:18	
Chloromethane	0.26 BJ	5.0	0.21	1	04/28/17 13:18	
Dibromochloromethane	ND U	5.0	0.31	1	04/28/17 13:18	
1,1-Dichloroethane	37	5.0	0.20	1	04/28/17 13:18	
1,2-Dichloroethane	ND U	5.0	0.36	1	04/28/17 13:18	
1,1-Dichloroethene	38	5.0	0.57	1	04/28/17 13:18	
cis-1,2-Dichloroethene	ND U	5.0	0.30	1	04/28/17 13:18	
trans-1,2-Dichloroethene	ND U	5.0	0.33	1	04/28/17 13:18	
1,2-Dichloropropane	ND U	5.0	0.20	1	04/28/17 13:18	
cis-1,3-Dichloropropene	ND U	5.0	0.24	1	04/28/17 13:18	
trans-1,3-Dichloropropene	ND U	5.0	0.20	1	04/28/17 13:18	
Ethylbenzene	ND U	5.0	0.20	1	04/28/17 13:18	
2-Hexanone	ND U	10	1.7	1	04/28/17 13:18	
Methylene Chloride	ND U	5.0	0.60	1	04/28/17 13:18	
4-Methyl-2-pentanone (MIBK)	ND U	10	0.67	1	04/28/17 13:18	
Styrene	ND U	5.0	0.20	1	04/28/17 13:18	
1,1,2,2-Tetrachloroethane	ND U	5.0	0.25	1	04/28/17 13:18	
Tetrachloroethene	ND U	5.0	0.30	1	04/28/17 13:18	
Toluene	ND U	5.0	0.20	1	04/28/17 13:18	
1,1,1-Trichloroethane	ND U	5.0	0.36	1	04/28/17 13:18	
1,1,2-Trichloroethane	ND U	5.0	0.34	1	04/28/17 13:18	
Trichloroethene	ND U	5.0	0.22	1	04/28/17 13:18	
Vinyl Chloride	ND U	5.0	0.32	1	04/28/17 13:18	
o-Xylene	ND U	5.0	0.20	1	04/28/17 13:18	
m,p-Xylenes	ND U	5.0	0.33	1	04/28/17 13:18	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Service Request: R1703719
Date Collected: 04/26/17 12:10
Date Received: 04/26/17 16:45

Sample Name: MW202-042617-1210
Lab Code: R1703719-003

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	106	85 - 122	04/28/17 13:18	
Toluene-d8	103	87 - 121	04/28/17 13:18	
Dibromofluoromethane	99	89 - 119	04/28/17 13:18	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Service Request: R1703719
Date Collected: 04/25/17 16:40
Date Received: 04/26/17 16:45

Sample Name: MW203-042517-1640
Lab Code: R1703719-005

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Acetone	ND U	10	1.3	1	04/28/17 13:41	
Benzene	ND U	5.0	0.20	1	04/28/17 13:41	
Bromodichloromethane	ND U	5.0	0.32	1	04/28/17 13:41	
Bromoform	ND U	5.0	0.42	1	04/28/17 13:41	
Bromomethane	ND U	5.0	0.29	1	04/28/17 13:41	
2-Butanone (MEK)	ND U	10	0.81	1	04/28/17 13:41	
Carbon Disulfide	ND U	10	0.22	1	04/28/17 13:41	
Carbon Tetrachloride	ND U	5.0	0.45	1	04/28/17 13:41	
Chlorobenzene	ND U	5.0	0.29	1	04/28/17 13:41	
Chloroethane	ND U	5.0	0.24	1	04/28/17 13:41	
Chloroform	ND U	5.0	0.25	1	04/28/17 13:41	
Chloromethane	0.29 BJ	5.0	0.21	1	04/28/17 13:41	
Dibromochloromethane	ND U	5.0	0.31	1	04/28/17 13:41	
1,1-Dichloroethane	0.29 J	5.0	0.20	1	04/28/17 13:41	
1,2-Dichloroethane	ND U	5.0	0.36	1	04/28/17 13:41	
1,1-Dichloroethene	ND U	5.0	0.57	1	04/28/17 13:41	
cis-1,2-Dichloroethene	ND U	5.0	0.30	1	04/28/17 13:41	
trans-1,2-Dichloroethene	ND U	5.0	0.33	1	04/28/17 13:41	
1,2-Dichloropropane	ND U	5.0	0.20	1	04/28/17 13:41	
cis-1,3-Dichloropropene	ND U	5.0	0.24	1	04/28/17 13:41	
trans-1,3-Dichloropropene	ND U	5.0	0.20	1	04/28/17 13:41	
Ethylbenzene	ND U	5.0	0.20	1	04/28/17 13:41	
2-Hexanone	ND U	10	1.7	1	04/28/17 13:41	
Methylene Chloride	ND U	5.0	0.60	1	04/28/17 13:41	
4-Methyl-2-pentanone (MIBK)	ND U	10	0.67	1	04/28/17 13:41	
Styrene	ND U	5.0	0.20	1	04/28/17 13:41	
1,1,2,2-Tetrachloroethane	ND U	5.0	0.25	1	04/28/17 13:41	
Tetrachloroethene	ND U	5.0	0.30	1	04/28/17 13:41	
Toluene	ND U	5.0	0.20	1	04/28/17 13:41	
1,1,1-Trichloroethane	ND U	5.0	0.36	1	04/28/17 13:41	
1,1,2-Trichloroethane	ND U	5.0	0.34	1	04/28/17 13:41	
Trichloroethene	ND U	5.0	0.22	1	04/28/17 13:41	
Vinyl Chloride	ND U	5.0	0.32	1	04/28/17 13:41	
o-Xylene	ND U	5.0	0.20	1	04/28/17 13:41	
m,p-Xylenes	ND U	5.0	0.33	1	04/28/17 13:41	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Service Request: R1703719
Date Collected: 04/25/17 16:40
Date Received: 04/26/17 16:45

Sample Name: MW203-042517-1640
Lab Code: R1703719-005

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	105	85 - 122	04/28/17 13:41	
Toluene-d8	102	87 - 121	04/28/17 13:41	
Dibromofluoromethane	98	89 - 119	04/28/17 13:41	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Service Request: R1703719
Date Collected: 04/25/17 15:10
Date Received: 04/26/17 16:45

Sample Name: MW205-042517-1510
Lab Code: R1703719-006

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Acetone	ND U	20000	2500	2000	04/28/17 17:10	
Benzene	ND U	10000	400	2000	04/28/17 17:10	
Bromodichloromethane	ND U	10000	640	2000	04/28/17 17:10	
Bromoform	ND U	10000	840	2000	04/28/17 17:10	
Bromomethane	ND U	10000	580	2000	04/28/17 17:10	
2-Butanone (MEK)	ND U	20000	1700	2000	04/28/17 17:10	
Carbon Disulfide	ND U	20000	440	2000	04/28/17 17:10	
Carbon Tetrachloride	ND U	10000	900	2000	04/28/17 17:10	
Chlorobenzene	ND U	10000	580	2000	04/28/17 17:10	
Chloroethane	1100 J	10000	480	2000	04/28/17 17:10	
Chloroform	ND U	10000	500	2000	04/28/17 17:10	
Chloromethane	500 J	10000	420	2000	04/28/17 17:10	
Dibromochloromethane	ND U	10000	620	2000	04/28/17 17:10	
1,1-Dichloroethane	200000	10000	400	2000	04/28/17 17:10	
1,2-Dichloroethane	ND U	10000	720	2000	04/28/17 17:10	
1,1-Dichloroethene	1500 J	10000	1200	2000	04/28/17 17:10	
cis-1,2-Dichloroethene	ND U	10000	600	2000	04/28/17 17:10	
trans-1,2-Dichloroethene	ND U	10000	660	2000	04/28/17 17:10	
1,2-Dichloropropane	ND U	10000	400	2000	04/28/17 17:10	
cis-1,3-Dichloropropene	ND U	10000	480	2000	04/28/17 17:10	
trans-1,3-Dichloropropene	ND U	10000	400	2000	04/28/17 17:10	
Ethylbenzene	ND U	10000	400	2000	04/28/17 17:10	
2-Hexanone	ND U	20000	3400	2000	04/28/17 17:10	
Methylene Chloride	ND U	10000	1200	2000	04/28/17 17:10	
4-Methyl-2-pentanone (MIBK)	ND U	20000	1400	2000	04/28/17 17:10	
Styrene	ND U	10000	400	2000	04/28/17 17:10	
1,1,2,2-Tetrachloroethane	ND U	10000	500	2000	04/28/17 17:10	
Tetrachloroethene	ND U	10000	600	2000	04/28/17 17:10	
Toluene	ND U	10000	400	2000	04/28/17 17:10	
1,1,1-Trichloroethane	39000	10000	720	2000	04/28/17 17:10	
1,1,2-Trichloroethane	ND U	10000	680	2000	04/28/17 17:10	
Trichloroethene	ND U	10000	440	2000	04/28/17 17:10	
Vinyl Chloride	ND U	10000	640	2000	04/28/17 17:10	
o-Xylene	ND U	10000	400	2000	04/28/17 17:10	
m,p-Xylenes	ND U	10000	660	2000	04/28/17 17:10	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Service Request: R1703719
Date Collected: 04/25/17 15:10
Date Received: 04/26/17 16:45

Sample Name: MW205-042517-1510
Lab Code: R1703719-006

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	105	85 - 122	04/28/17 17:10	
Toluene-d8	104	87 - 121	04/28/17 17:10	
Dibromofluoromethane	101	89 - 119	04/28/17 17:10	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Service Request: R1703719
Date Collected: 04/26/17 09:50
Date Received: 04/26/17 16:45

Sample Name: BAP01-042617-0950
Lab Code: R1703719-008

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Acetone	ND U	200	25	20	04/28/17 16:00	
Benzene	ND U	100	4.0	20	04/28/17 16:00	
Bromodichloromethane	ND U	100	6.4	20	04/28/17 16:00	
Bromoform	ND U	100	8.4	20	04/28/17 16:00	
Bromomethane	ND U	100	5.8	20	04/28/17 16:00	
2-Butanone (MEK)	37 J	200	17	20	04/28/17 16:00	
Carbon Disulfide	ND U	200	4.4	20	04/28/17 16:00	
Carbon Tetrachloride	ND U	100	9.0	20	04/28/17 16:00	
Chlorobenzene	ND U	100	5.8	20	04/28/17 16:00	
Chloroethane	370	100	4.8	20	04/28/17 16:00	
Chloroform	ND U	100	5.0	20	04/28/17 16:00	
Chloromethane	7.2 J	100	4.2	20	04/28/17 16:00	
Dibromochloromethane	ND U	100	6.2	20	04/28/17 16:00	
1,1-Dichloroethane	2000	100	4.0	20	04/28/17 16:00	
1,2-Dichloroethane	ND U	100	7.2	20	04/28/17 16:00	
1,1-Dichloroethene	220	100	12	20	04/28/17 16:00	
cis-1,2-Dichloroethene	ND U	100	6.0	20	04/28/17 16:00	
trans-1,2-Dichloroethene	ND U	100	6.6	20	04/28/17 16:00	
1,2-Dichloropropane	ND U	100	4.0	20	04/28/17 16:00	
cis-1,3-Dichloropropene	ND U	100	4.8	20	04/28/17 16:00	
trans-1,3-Dichloropropene	ND U	100	4.0	20	04/28/17 16:00	
Ethylbenzene	ND U	100	4.0	20	04/28/17 16:00	
2-Hexanone	ND U	200	34	20	04/28/17 16:00	
Methylene Chloride	ND U	100	12	20	04/28/17 16:00	
4-Methyl-2-pentanone (MIBK)	ND U	200	14	20	04/28/17 16:00	
Styrene	ND U	100	4.0	20	04/28/17 16:00	
1,1,2,2-Tetrachloroethane	ND U	100	5.0	20	04/28/17 16:00	
Tetrachloroethene	ND U	100	6.0	20	04/28/17 16:00	
Toluene	ND U	100	4.0	20	04/28/17 16:00	
1,1,1-Trichloroethane	ND U	100	7.2	20	04/28/17 16:00	
1,1,2-Trichloroethane	ND U	100	6.8	20	04/28/17 16:00	
Trichloroethene	ND U	100	4.4	20	04/28/17 16:00	
Vinyl Chloride	1300	100	6.4	20	04/28/17 16:00	
o-Xylene	ND U	100	4.0	20	04/28/17 16:00	
m,p-Xylenes	ND U	100	6.6	20	04/28/17 16:00	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Service Request: R1703719
Date Collected: 04/26/17 09:50
Date Received: 04/26/17 16:45

Sample Name: BAP01-042617-0950
Lab Code: R1703719-008

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	106	85 - 122	04/28/17 16:00	
Toluene-d8	103	87 - 121	04/28/17 16:00	
Dibromofluoromethane	101	89 - 119	04/28/17 16:00	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Service Request: R1703719
Date Collected: 04/26/17 11:15
Date Received: 04/26/17 16:45

Sample Name: BAP02-042617-1115
Lab Code: R1703719-010

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Acetone	7.9 J	50	6.2	5	04/28/17 15:14	
Benzene	ND U	25	1.0	5	04/28/17 15:14	
Bromodichloromethane	ND U	25	1.6	5	04/28/17 15:14	
Bromoform	ND U	25	2.1	5	04/28/17 15:14	
Bromomethane	ND U	25	1.5	5	04/28/17 15:14	
2-Butanone (MEK)	ND U	50	4.1	5	04/28/17 15:14	
Carbon Disulfide	ND U	50	1.1	5	04/28/17 15:14	
Carbon Tetrachloride	ND U	25	2.3	5	04/28/17 15:14	
Chlorobenzene	ND U	25	1.5	5	04/28/17 15:14	
Chloroethane	30	25	1.2	5	04/28/17 15:14	
Chloroform	ND U	25	1.3	5	04/28/17 15:14	
Chloromethane	1.4 BJ	25	1.1	5	04/28/17 15:14	
Dibromochloromethane	ND U	25	1.6	5	04/28/17 15:14	
1,1-Dichloroethane	620	25	1.0	5	04/28/17 15:14	
1,2-Dichloroethane	ND U	25	1.8	5	04/28/17 15:14	
1,1-Dichloroethene	160	25	2.9	5	04/28/17 15:14	
cis-1,2-Dichloroethene	ND U	25	1.5	5	04/28/17 15:14	
trans-1,2-Dichloroethene	ND U	25	1.7	5	04/28/17 15:14	
1,2-Dichloropropane	ND U	25	1.0	5	04/28/17 15:14	
cis-1,3-Dichloropropene	ND U	25	1.2	5	04/28/17 15:14	
trans-1,3-Dichloropropene	ND U	25	1.0	5	04/28/17 15:14	
Ethylbenzene	ND U	25	1.0	5	04/28/17 15:14	
2-Hexanone	ND U	50	8.3	5	04/28/17 15:14	
Methylene Chloride	ND U	25	3.0	5	04/28/17 15:14	
4-Methyl-2-pentanone (MIBK)	ND U	50	3.4	5	04/28/17 15:14	
Styrene	ND U	25	1.0	5	04/28/17 15:14	
1,1,2,2-Tetrachloroethane	ND U	25	1.3	5	04/28/17 15:14	
Tetrachloroethene	ND U	25	1.5	5	04/28/17 15:14	
Toluene	ND U	25	1.0	5	04/28/17 15:14	
1,1,1-Trichloroethane	ND U	25	1.8	5	04/28/17 15:14	
1,1,2-Trichloroethane	ND U	25	1.7	5	04/28/17 15:14	
Trichloroethene	2.4 J	25	1.1	5	04/28/17 15:14	
Vinyl Chloride	150	25	1.6	5	04/28/17 15:14	
o-Xylene	ND U	25	1.0	5	04/28/17 15:14	
m,p-Xylenes	ND U	25	1.7	5	04/28/17 15:14	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Service Request: R1703719
Date Collected: 04/26/17 11:15
Date Received: 04/26/17 16:45

Sample Name: BAP02-042617-1115
Lab Code: R1703719-010

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	108	85 - 122	04/28/17 15:14	
Toluene-d8	104	87 - 121	04/28/17 15:14	
Dibromofluoromethane	101	89 - 119	04/28/17 15:14	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Service Request: R1703719
Date Collected: 04/26/17 14:45
Date Received: 04/26/17 16:45

Sample Name: OW306-042617-1445
Lab Code: R1703719-012

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Acetone	ND U	10	1.3	1	04/28/17 14:05	
Benzene	ND U	5.0	0.20	1	04/28/17 14:05	
Bromodichloromethane	ND U	5.0	0.32	1	04/28/17 14:05	
Bromoform	ND U	5.0	0.42	1	04/28/17 14:05	
Bromomethane	ND U	5.0	0.29	1	04/28/17 14:05	
2-Butanone (MEK)	ND U	10	0.81	1	04/28/17 14:05	
Carbon Disulfide	ND U	10	0.22	1	04/28/17 14:05	
Carbon Tetrachloride	ND U	5.0	0.45	1	04/28/17 14:05	
Chlorobenzene	ND U	5.0	0.29	1	04/28/17 14:05	
Chloroethane	ND U	5.0	0.24	1	04/28/17 14:05	
Chloroform	ND U	5.0	0.25	1	04/28/17 14:05	
Chloromethane	0.30 BJ	5.0	0.21	1	04/28/17 14:05	
Dibromochloromethane	ND U	5.0	0.31	1	04/28/17 14:05	
1,1-Dichloroethane	0.74 J	5.0	0.20	1	04/28/17 14:05	
1,2-Dichloroethane	ND U	5.0	0.36	1	04/28/17 14:05	
1,1-Dichloroethene	ND U	5.0	0.57	1	04/28/17 14:05	
cis-1,2-Dichloroethene	ND U	5.0	0.30	1	04/28/17 14:05	
trans-1,2-Dichloroethene	ND U	5.0	0.33	1	04/28/17 14:05	
1,2-Dichloropropane	ND U	5.0	0.20	1	04/28/17 14:05	
cis-1,3-Dichloropropene	ND U	5.0	0.24	1	04/28/17 14:05	
trans-1,3-Dichloropropene	ND U	5.0	0.20	1	04/28/17 14:05	
Ethylbenzene	ND U	5.0	0.20	1	04/28/17 14:05	
2-Hexanone	ND U	10	1.7	1	04/28/17 14:05	
Methylene Chloride	ND U	5.0	0.60	1	04/28/17 14:05	
4-Methyl-2-pentanone (MIBK)	ND U	10	0.67	1	04/28/17 14:05	
Styrene	ND U	5.0	0.20	1	04/28/17 14:05	
1,1,2,2-Tetrachloroethane	ND U	5.0	0.25	1	04/28/17 14:05	
Tetrachloroethene	ND U	5.0	0.30	1	04/28/17 14:05	
Toluene	ND U	5.0	0.20	1	04/28/17 14:05	
1,1,1-Trichloroethane	0.47 J	5.0	0.36	1	04/28/17 14:05	
1,1,2-Trichloroethane	ND U	5.0	0.34	1	04/28/17 14:05	
Trichloroethene	ND U	5.0	0.22	1	04/28/17 14:05	
Vinyl Chloride	ND U	5.0	0.32	1	04/28/17 14:05	
o-Xylene	ND U	5.0	0.20	1	04/28/17 14:05	
m,p-Xylenes	ND U	5.0	0.33	1	04/28/17 14:05	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Service Request: R1703719
Date Collected: 04/26/17 14:45
Date Received: 04/26/17 16:45

Sample Name: OW306-042617-1445
Lab Code: R1703719-012

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	104	85 - 122	04/28/17 14:05	
Toluene-d8	102	87 - 121	04/28/17 14:05	
Dibromofluoromethane	99	89 - 119	04/28/17 14:05	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Service Request: R1703719
Date Collected: 04/25/17 12:30
Date Received: 04/26/17 16:45

Sample Name: MW501-042517-1230
Lab Code: R1703719-013

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Acetone	6.5 J	50	6.2	5	04/28/17 17:33	
Benzene	ND U	25	1.0	5	04/28/17 17:33	
Bromodichloromethane	ND U	25	1.6	5	04/28/17 17:33	
Bromoform	ND U	25	2.1	5	04/28/17 17:33	
Bromomethane	ND U	25	1.5	5	04/28/17 17:33	
2-Butanone (MEK)	ND U	50	4.1	5	04/28/17 17:33	
Carbon Disulfide	ND U	50	1.1	5	04/28/17 17:33	
Carbon Tetrachloride	ND U	25	2.3	5	04/28/17 17:33	
Chlorobenzene	ND U	25	1.5	5	04/28/17 17:33	
Chloroethane	620	25	1.2	5	04/28/17 17:33	
Chloroform	ND U	25	1.3	5	04/28/17 17:33	
Chloromethane	2.0 BJ	25	1.1	5	04/28/17 17:33	
Dibromochloromethane	ND U	25	1.6	5	04/28/17 17:33	
1,1-Dichloroethane	98	25	1.0	5	04/28/17 17:33	
1,2-Dichloroethane	ND U	25	1.8	5	04/28/17 17:33	
1,1-Dichloroethene	ND U	25	2.9	5	04/28/17 17:33	
cis-1,2-Dichloroethene	ND U	25	1.5	5	04/28/17 17:33	
trans-1,2-Dichloroethene	ND U	25	1.7	5	04/28/17 17:33	
1,2-Dichloropropane	ND U	25	1.0	5	04/28/17 17:33	
cis-1,3-Dichloropropene	ND U	25	1.2	5	04/28/17 17:33	
trans-1,3-Dichloropropene	ND U	25	1.0	5	04/28/17 17:33	
Ethylbenzene	ND U	25	1.0	5	04/28/17 17:33	
2-Hexanone	ND U	50	8.3	5	04/28/17 17:33	
Methylene Chloride	ND U	25	3.0	5	04/28/17 17:33	
4-Methyl-2-pentanone (MIBK)	ND U	50	3.4	5	04/28/17 17:33	
Styrene	ND U	25	1.0	5	04/28/17 17:33	
1,1,2,2-Tetrachloroethane	ND U	25	1.3	5	04/28/17 17:33	
Tetrachloroethene	2.1 J	25	1.5	5	04/28/17 17:33	
Toluene	ND U	25	1.0	5	04/28/17 17:33	
1,1,1-Trichloroethane	ND U	25	1.8	5	04/28/17 17:33	
1,1,2-Trichloroethane	ND U	25	1.7	5	04/28/17 17:33	
Trichloroethene	ND U	25	1.1	5	04/28/17 17:33	
Vinyl Chloride	65	25	1.6	5	04/28/17 17:33	
o-Xylene	ND U	25	1.0	5	04/28/17 17:33	
m,p-Xylenes	ND U	25	1.7	5	04/28/17 17:33	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Service Request: R1703719
Date Collected: 04/25/17 12:30
Date Received: 04/26/17 16:45

Sample Name: MW501-042517-1230
Lab Code: R1703719-013

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	105	85 - 122	04/28/17 17:33	
Toluene-d8	103	87 - 121	04/28/17 17:33	
Dibromofluoromethane	101	89 - 119	04/28/17 17:33	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Service Request: R1703719
Date Collected: 04/25/17 13:15
Date Received: 04/26/17 16:45

Sample Name: MW502-042517-1315
Lab Code: R1703719-014

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Acetone	ND U	200	25	20	04/28/17 16:24	
Benzene	ND U	100	4.0	20	04/28/17 16:24	
Bromodichloromethane	ND U	100	6.4	20	04/28/17 16:24	
Bromoform	ND U	100	8.4	20	04/28/17 16:24	
Bromomethane	ND U	100	5.8	20	04/28/17 16:24	
2-Butanone (MEK)	ND U	200	17	20	04/28/17 16:24	
Carbon Disulfide	ND U	200	4.4	20	04/28/17 16:24	
Carbon Tetrachloride	ND U	100	9.0	20	04/28/17 16:24	
Chlorobenzene	ND U	100	5.8	20	04/28/17 16:24	
Chloroethane	2200	100	4.8	20	04/28/17 16:24	
Chloroform	ND U	100	5.0	20	04/28/17 16:24	
Chloromethane	4.4 J	100	4.2	20	04/28/17 16:24	
Dibromochloromethane	ND U	100	6.2	20	04/28/17 16:24	
1,1-Dichloroethane	92 J	100	4.0	20	04/28/17 16:24	
1,2-Dichloroethane	ND U	100	7.2	20	04/28/17 16:24	
1,1-Dichloroethene	ND U	100	12	20	04/28/17 16:24	
cis-1,2-Dichloroethene	ND U	100	6.0	20	04/28/17 16:24	
trans-1,2-Dichloroethene	ND U	100	6.6	20	04/28/17 16:24	
1,2-Dichloropropane	ND U	100	4.0	20	04/28/17 16:24	
cis-1,3-Dichloropropene	ND U	100	4.8	20	04/28/17 16:24	
trans-1,3-Dichloropropene	ND U	100	4.0	20	04/28/17 16:24	
Ethylbenzene	ND U	100	4.0	20	04/28/17 16:24	
2-Hexanone	ND U	200	34	20	04/28/17 16:24	
Methylene Chloride	ND U	100	12	20	04/28/17 16:24	
4-Methyl-2-pentanone (MIBK)	ND U	200	14	20	04/28/17 16:24	
Styrene	ND U	100	4.0	20	04/28/17 16:24	
1,1,2,2-Tetrachloroethane	ND U	100	5.0	20	04/28/17 16:24	
Tetrachloroethene	ND U	100	6.0	20	04/28/17 16:24	
Toluene	ND U	100	4.0	20	04/28/17 16:24	
1,1,1-Trichloroethane	ND U	100	7.2	20	04/28/17 16:24	
1,1,2-Trichloroethane	ND U	100	6.8	20	04/28/17 16:24	
Trichloroethene	ND U	100	4.4	20	04/28/17 16:24	
Vinyl Chloride	230	100	6.4	20	04/28/17 16:24	
o-Xylene	ND U	100	4.0	20	04/28/17 16:24	
m,p-Xylenes	ND U	100	6.6	20	04/28/17 16:24	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Service Request: R1703719
Date Collected: 04/25/17 13:15
Date Received: 04/26/17 16:45

Sample Name: MW502-042517-1315
Lab Code: R1703719-014

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	102	85 - 122	04/28/17 16:24	
Toluene-d8	102	87 - 121	04/28/17 16:24	
Dibromofluoromethane	99	89 - 119	04/28/17 16:24	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Service Request: R1703719
Date Collected: 04/25/17 17:25
Date Received: 04/26/17 16:45

Sample Name: MW204-042517-1725
Lab Code: R1703719-015

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Acetone	1.4 J	10	1.3	1	04/28/17 14:28	
Benzene	ND U	5.0	0.20	1	04/28/17 14:28	
Bromodichloromethane	ND U	5.0	0.32	1	04/28/17 14:28	
Bromoform	ND U	5.0	0.42	1	04/28/17 14:28	
Bromomethane	ND U	5.0	0.29	1	04/28/17 14:28	
2-Butanone (MEK)	ND U	10	0.81	1	04/28/17 14:28	
Carbon Disulfide	ND U	10	0.22	1	04/28/17 14:28	
Carbon Tetrachloride	ND U	5.0	0.45	1	04/28/17 14:28	
Chlorobenzene	ND U	5.0	0.29	1	04/28/17 14:28	
Chloroethane	ND U	5.0	0.24	1	04/28/17 14:28	
Chloroform	ND U	5.0	0.25	1	04/28/17 14:28	
Chloromethane	0.22 BJ	5.0	0.21	1	04/28/17 14:28	
Dibromochloromethane	ND U	5.0	0.31	1	04/28/17 14:28	
1,1-Dichloroethane	4.8 J	5.0	0.20	1	04/28/17 14:28	
1,2-Dichloroethane	ND U	5.0	0.36	1	04/28/17 14:28	
1,1-Dichloroethene	4.3 J	5.0	0.57	1	04/28/17 14:28	
cis-1,2-Dichloroethene	ND U	5.0	0.30	1	04/28/17 14:28	
trans-1,2-Dichloroethene	ND U	5.0	0.33	1	04/28/17 14:28	
1,2-Dichloropropane	ND U	5.0	0.20	1	04/28/17 14:28	
cis-1,3-Dichloropropene	ND U	5.0	0.24	1	04/28/17 14:28	
trans-1,3-Dichloropropene	ND U	5.0	0.20	1	04/28/17 14:28	
Ethylbenzene	ND U	5.0	0.20	1	04/28/17 14:28	
2-Hexanone	ND U	10	1.7	1	04/28/17 14:28	
Methylene Chloride	ND U	5.0	0.60	1	04/28/17 14:28	
4-Methyl-2-pentanone (MIBK)	ND U	10	0.67	1	04/28/17 14:28	
Styrene	ND U	5.0	0.20	1	04/28/17 14:28	
1,1,2,2-Tetrachloroethane	ND U	5.0	0.25	1	04/28/17 14:28	
Tetrachloroethene	ND U	5.0	0.30	1	04/28/17 14:28	
Toluene	ND U	5.0	0.20	1	04/28/17 14:28	
1,1,1-Trichloroethane	1.4 J	5.0	0.36	1	04/28/17 14:28	
1,1,2-Trichloroethane	ND U	5.0	0.34	1	04/28/17 14:28	
Trichloroethene	0.89 J	5.0	0.22	1	04/28/17 14:28	
Vinyl Chloride	ND U	5.0	0.32	1	04/28/17 14:28	
o-Xylene	ND U	5.0	0.20	1	04/28/17 14:28	
m,p-Xylenes	ND U	5.0	0.33	1	04/28/17 14:28	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Service Request: R1703719
Date Collected: 04/25/17 17:25
Date Received: 04/26/17 16:45

Sample Name: MW204-042517-1725
Lab Code: R1703719-015

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	106	85 - 122	04/28/17 14:28	
Toluene-d8	104	87 - 121	04/28/17 14:28	
Dibromofluoromethane	100	89 - 119	04/28/17 14:28	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Service Request: R1703719
Date Collected: 04/25/17 14:35
Date Received: 04/26/17 16:45

Sample Name: OWS302-042517-1435
Lab Code: R1703719-016

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Acetone	ND U	2000	250	200	04/28/17 16:47	
Benzene	ND U	1000	40	200	04/28/17 16:47	
Bromodichloromethane	64 J	1000	64	200	04/28/17 16:47	
Bromoform	ND U	1000	84	200	04/28/17 16:47	
Bromomethane	ND U	1000	58	200	04/28/17 16:47	
2-Butanone (MEK)	ND U	2000	170	200	04/28/17 16:47	
Carbon Disulfide	ND U	2000	44	200	04/28/17 16:47	
Carbon Tetrachloride	ND U	1000	90	200	04/28/17 16:47	
Chlorobenzene	ND U	1000	58	200	04/28/17 16:47	
Chloroethane	17000	1000	48	200	04/28/17 16:47	
Chloroform	330 J	1000	50	200	04/28/17 16:47	
Chloromethane	60 J	1000	42	200	04/28/17 16:47	
Dibromochloromethane	ND U	1000	62	200	04/28/17 16:47	
1,1-Dichloroethane	270 J	1000	40	200	04/28/17 16:47	
1,2-Dichloroethane	ND U	1000	72	200	04/28/17 16:47	
1,1-Dichloroethene	ND U	1000	120	200	04/28/17 16:47	
cis-1,2-Dichloroethene	ND U	1000	60	200	04/28/17 16:47	
trans-1,2-Dichloroethene	ND U	1000	66	200	04/28/17 16:47	
1,2-Dichloropropane	ND U	1000	40	200	04/28/17 16:47	
cis-1,3-Dichloropropene	ND U	1000	48	200	04/28/17 16:47	
trans-1,3-Dichloropropene	ND U	1000	40	200	04/28/17 16:47	
Ethylbenzene	ND U	1000	40	200	04/28/17 16:47	
2-Hexanone	ND U	2000	340	200	04/28/17 16:47	
Methylene Chloride	ND U	1000	120	200	04/28/17 16:47	
4-Methyl-2-pentanone (MIBK)	ND U	2000	140	200	04/28/17 16:47	
Styrene	ND U	1000	40	200	04/28/17 16:47	
1,1,2,2-Tetrachloroethane	ND U	1000	50	200	04/28/17 16:47	
Tetrachloroethene	ND U	1000	60	200	04/28/17 16:47	
Toluene	ND U	1000	40	200	04/28/17 16:47	
1,1,1-Trichloroethane	ND U	1000	72	200	04/28/17 16:47	
1,1,2-Trichloroethane	ND U	1000	68	200	04/28/17 16:47	
Trichloroethene	ND U	1000	44	200	04/28/17 16:47	
Vinyl Chloride	ND U	1000	64	200	04/28/17 16:47	
o-Xylene	ND U	1000	40	200	04/28/17 16:47	
m,p-Xylenes	ND U	1000	66	200	04/28/17 16:47	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Service Request: R1703719
Date Collected: 04/25/17 14:35
Date Received: 04/26/17 16:45

Sample Name: OWS302-042517-1435
Lab Code: R1703719-016

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	103	85 - 122	04/28/17 16:47	
Toluene-d8	102	87 - 121	04/28/17 16:47	
Dibromofluoromethane	100	89 - 119	04/28/17 16:47	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Service Request: R1703719
Date Collected: 04/25/17 12:30
Date Received: 04/26/17 16:45

Sample Name: TRIP BLANK
Lab Code: R1703719-017

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Acetone	ND U	10	1.3	1	04/28/17 12:55	
Benzene	ND U	5.0	0.20	1	04/28/17 12:55	
Bromodichloromethane	ND U	5.0	0.32	1	04/28/17 12:55	
Bromoform	ND U	5.0	0.42	1	04/28/17 12:55	
Bromomethane	ND U	5.0	0.29	1	04/28/17 12:55	
2-Butanone (MEK)	ND U	10	0.81	1	04/28/17 12:55	
Carbon Disulfide	ND U	10	0.22	1	04/28/17 12:55	
Carbon Tetrachloride	ND U	5.0	0.45	1	04/28/17 12:55	
Chlorobenzene	ND U	5.0	0.29	1	04/28/17 12:55	
Chloroethane	ND U	5.0	0.24	1	04/28/17 12:55	
Chloroform	ND U	5.0	0.25	1	04/28/17 12:55	
Chloromethane	0.40 BJ	5.0	0.21	1	04/28/17 12:55	
Dibromochloromethane	ND U	5.0	0.31	1	04/28/17 12:55	
1,1-Dichloroethane	ND U	5.0	0.20	1	04/28/17 12:55	
1,2-Dichloroethane	ND U	5.0	0.36	1	04/28/17 12:55	
1,1-Dichloroethene	ND U	5.0	0.57	1	04/28/17 12:55	
cis-1,2-Dichloroethene	ND U	5.0	0.30	1	04/28/17 12:55	
trans-1,2-Dichloroethene	ND U	5.0	0.33	1	04/28/17 12:55	
1,2-Dichloropropane	ND U	5.0	0.20	1	04/28/17 12:55	
cis-1,3-Dichloropropene	ND U	5.0	0.24	1	04/28/17 12:55	
trans-1,3-Dichloropropene	ND U	5.0	0.20	1	04/28/17 12:55	
Ethylbenzene	ND U	5.0	0.20	1	04/28/17 12:55	
2-Hexanone	ND U	10	1.7	1	04/28/17 12:55	
Methylene Chloride	ND U	5.0	0.60	1	04/28/17 12:55	
4-Methyl-2-pentanone (MIBK)	ND U	10	0.67	1	04/28/17 12:55	
Styrene	ND U	5.0	0.20	1	04/28/17 12:55	
1,1,2,2-Tetrachloroethane	ND U	5.0	0.25	1	04/28/17 12:55	
Tetrachloroethene	ND U	5.0	0.30	1	04/28/17 12:55	
Toluene	ND U	5.0	0.20	1	04/28/17 12:55	
1,1,1-Trichloroethane	ND U	5.0	0.36	1	04/28/17 12:55	
1,1,2-Trichloroethane	ND U	5.0	0.34	1	04/28/17 12:55	
Trichloroethene	ND U	5.0	0.22	1	04/28/17 12:55	
Vinyl Chloride	ND U	5.0	0.32	1	04/28/17 12:55	
o-Xylene	ND U	5.0	0.20	1	04/28/17 12:55	
m,p-Xylenes	ND U	5.0	0.33	1	04/28/17 12:55	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Service Request: R1703719
Date Collected: 04/25/17 12:30
Date Received: 04/26/17 16:45

Sample Name: TRIP BLANK
Lab Code: R1703719-017

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	107	85 - 122	04/28/17 12:55	
Toluene-d8	103	87 - 121	04/28/17 12:55	
Dibromofluoromethane	99	89 - 119	04/28/17 12:55	



Volatile Organic Compounds by GC

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: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Service Request: R1703719
Date Collected: 04/25/17 14:00
Date Received: 04/26/17 16:45

Sample Name: MW3-042517-1400
Lab Code: R1703719-001

Units: ug/L
Basis: NA

Dissolved Gases by GC/FID

Analysis Method: RSK 175

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Ethane	ND U	21	20	05/05/17 11:31	
Ethylene	30	20	20	05/05/17 11:31	
Methane	1500	20	20	05/05/17 11:31	
Propane	ND U	20	20	05/05/17 11:31	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Service Request: R1703719
Date Collected: 04/26/17 12:10
Date Received: 04/26/17 16:45

Sample Name: MW202-042617-1210
Lab Code: R1703719-003

Units: ug/L
Basis: NA

Dissolved Gases by GC/FID

Analysis Method: RSK 175

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Ethane	ND U	1.0	1	05/05/17 10:26	
Ethylene	ND U	1.0	1	05/05/17 10:26	
Methane	ND U	1.0	1	05/05/17 10:26	
Propane	ND U	1.0	1	05/05/17 10:26	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Service Request: R1703719
Date Collected: 04/25/17 15:10
Date Received: 04/26/17 16:45

Sample Name: MW205-042517-1510
Lab Code: R1703719-006

Units: ug/L
Basis: NA

Dissolved Gases by GC/FID

Analysis Method: RSK 175

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Ethane	ND U	50	50	05/05/17 10:47	
Ethylene	ND U	50	50	05/05/17 10:47	
Methane	4900	50	50	05/05/17 10:47	
Propane	ND U	50	50	05/05/17 10:47	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Service Request: R1703719
Date Collected: 04/26/17 09:50
Date Received: 04/26/17 16:45

Sample Name: BAP01-042617-0950
Lab Code: R1703719-008

Units: ug/L
Basis: NA

Dissolved Gases by GC/FID

Analysis Method: RSK 175

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Ethane	ND U	10	10	05/05/17 10:36	
Ethylene	220	10	10	05/05/17 10:36	
Methane	1600 D	25	25	05/05/17 11:04	
Propane	ND U	10	10	05/05/17 10:36	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Service Request: R1703719
Date Collected: 04/26/17 11:15
Date Received: 04/26/17 16:45

Sample Name: BAP02-042617-1115
Lab Code: R1703719-010

Units: ug/L
Basis: NA

Dissolved Gases by GC/FID

Analysis Method: RSK 175

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Ethane	ND U	50	50	05/05/17 11:17	
Ethylene	ND U	50	50	05/05/17 11:17	
Methane	3900	50	50	05/05/17 11:17	
Propane	ND U	50	50	05/05/17 11:17	



Semivolatile Organic Compounds by GC

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Service Request: R1703719
Date Collected: 04/26/17 12:10
Date Received: 04/26/17 16:45

Sample Name: MW202-042617-1210
Lab Code: R1703719-003

Units: mg/L
Basis: NA

Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Analysis Method: Organic Acids

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Pyruvic Acid	ND U	0.50	1	05/02/17 15:22	
Acetic Acid	ND U	1.0	1	05/02/17 15:22	
Butanoic Acid (Butyric Acid)	ND U	2.0	1	05/02/17 15:22	
Lactic Acid	ND U	1.0	1	05/02/17 15:22	
Propionic Acid	ND U	1.0	1	05/02/17 15:22	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Service Request: R1703719
Date Collected: 04/25/17 15:10
Date Received: 04/26/17 16:45

Sample Name: MW205-042517-1510
Lab Code: R1703719-006

Units: mg/L
Basis: NA

Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Analysis Method: Organic Acids

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Pyruvic Acid	ND U	10	20	05/02/17 13:28	
Acetic Acid	1200	20	20	05/02/17 13:28	
Butanoic Acid (Butyric Acid)	3300	40	20	05/02/17 13:28	
Lactic Acid	ND U	20	20	05/02/17 13:28	
Propionic Acid	750	20	20	05/02/17 13:28	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Service Request: R1703719
Date Collected: 04/26/17 09:50
Date Received: 04/26/17 16:45

Sample Name: BAP01-042617-0950
Lab Code: R1703719-008

Units: mg/L
Basis: NA

Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Analysis Method: Organic Acids

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Pyruvic Acid	ND U	0.50	1	05/02/17 16:38	
Acetic Acid	48	1.0	1	05/02/17 16:38	
Butanoic Acid (Butyric Acid)	ND U	2.0	1	05/02/17 16:38	
Lactic Acid	ND U	1.0	1	05/02/17 16:38	
Propionic Acid	9.9	1.0	1	05/02/17 16:38	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Service Request: R1703719
Date Collected: 04/26/17 11:15
Date Received: 04/26/17 16:45

Sample Name: BAP02-042617-1115
Lab Code: R1703719-010

Units: mg/L
Basis: NA

Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Analysis Method: Organic Acids

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Pyruvic Acid	ND U	0.50	1	05/02/17 16:00	
Acetic Acid	3.9	1.0	1	05/02/17 16:00	
Butanoic Acid (Butyric Acid)	ND U	2.0	1	05/02/17 16:00	
Lactic Acid	ND U	1.0	1	05/02/17 16:00	
Propionic Acid	ND U	1.0	1	05/02/17 16:00	



Metals

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Sample Name: MW3-042517-1400
Lab Code: R1703719-001

Service Request: R1703719
Date Collected: 04/25/17 14:00
Date Received: 04/26/17 16:45

Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron, Total	6010C	2800	ug/L	100	1	05/02/17 19:00	05/01/17	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water
Sample Name: MW3-042517-1400 Dissolved
Lab Code: R1703719-002

Service Request: R1703719
Date Collected: 04/25/17 14:00
Date Received: 04/26/17 16:45
Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron, Dissolved	6010C	ND U	ug/L	100	1	05/02/17 19:03	05/01/17	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water
Sample Name: MW202-042617-1210
Lab Code: R1703719-003

Service Request: R1703719
Date Collected: 04/26/17 12:10
Date Received: 04/26/17 16:45
Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron, Total	6010C	120	ug/L	100	1	05/02/17 19:07	05/01/17	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Service Request: R1703719
Date Collected: 04/26/17 12:10
Date Received: 04/26/17 16:45

Sample Name: MW202-042617-1210 Dissolved
Lab Code: R1703719-004

Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron, Dissolved	6010C	ND U	ug/L	100	1	05/02/17 19:10	05/01/17	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Sample Name: MW205-042517-1510
Lab Code: R1703719-006

Service Request: R1703719
Date Collected: 04/25/17 15:10
Date Received: 04/26/17 16:45

Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron, Total	6010C	113000	ug/L	1000	10	05/03/17 13:25	05/01/17	

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Analytical Report

Client: Haley & Aldrich, Incorporated

Project: Coopervision/129375-002

Sample Matrix: Water

Sample Name: MW205-042517-1510 Dissolved

Lab Code: R1703719-007

Service Request: R1703719

Date Collected: 04/25/17 15:10

Date Received: 04/26/17 16:45

Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron, Dissolved	6010C	109000	ug/L	1000	10	05/03/17 13:28	05/01/17	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Sample Name: BAP01-042617-0950
Lab Code: R1703719-008

Service Request: R1703719
Date Collected: 04/26/17 09:50
Date Received: 04/26/17 16:45

Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron, Total	6010C	1600	ug/L	100	1	05/02/17 19:20	05/01/17	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Sample Name: BAP01-042617-0950 Dissolved
Lab Code: R1703719-009

Service Request: R1703719
Date Collected: 04/26/17 09:50
Date Received: 04/26/17 16:45

Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron, Dissolved	6010C	790	ug/L	100	1	05/02/17 19:23	05/01/17	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water
Sample Name: BAP02-042617-1115
Lab Code: R1703719-010

Service Request: R1703719
Date Collected: 04/26/17 11:15
Date Received: 04/26/17 16:45
Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron, Total	6010C	11700	ug/L	100	1	05/02/17 19:27	05/01/17	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Sample Name: BAP02-042617-1115 Dissolved
Lab Code: R1703719-011

Service Request: R1703719
Date Collected: 04/26/17 11:15
Date Received: 04/26/17 16:45

Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron, Dissolved	6010C	1310	ug/L	100	1	05/02/17 19:37	05/01/17	



General Chemistry

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Sample Name: MW3-042517-1400
Lab Code: R1703719-001

Service Request: R1703719
Date Collected: 04/25/17 14:00
Date Received: 04/26/17 16:45

Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Alkalinity, Total as CaCO3	SM 2320 B-1997(2011)	189	mg/L	2.0	1	05/02/17 00:47	NA	
Chloride	9056A	539	mg/L	20	100	04/27/17 12:43	NA	
Nitrate as Nitrogen	9056A	ND U	mg/L	1.0	10	04/26/17 19:16	NA	
Nitrite as Nitrogen	9056A	ND U	mg/L	1.0	10	04/26/17 19:16	NA	
Sulfate	9056A	20.5	mg/L	2.0	10	04/26/17 19:16	NA	
Sulfide, Acid-Soluble	9034	ND U	mg/L	1.0	1	05/02/17 09:00	05/02/17	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Sample Name: MW202-042617-1210
Lab Code: R1703719-003

Service Request: R1703719
Date Collected: 04/26/17 12:10
Date Received: 04/26/17 16:45

Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Alkalinity, Total as CaCO3	SM 2320 B-1997(2011)	170	mg/L	2.0	1	05/02/17 00:52	NA	
Carbon, Total Organic (TOC), Average	9060A	1.2	mg/L	1.0	1	05/04/17 18:04	NA	
Chloride	9056A	5090	mg/L	200	1000	04/27/17 12:14	NA	
Nitrate as Nitrogen	9056A	1.9	mg/L	1.0	10	04/26/17 18:54	NA	
Nitrite as Nitrogen	9056A	ND U	mg/L	10	100	04/27/17 11:20	NA	
Sulfate	9056A	271	mg/L	20	100	04/27/17 11:20	NA	
Sulfide, Acid-Soluble	9034	ND U	mg/L	1.0	1	05/02/17 09:00	05/02/17	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Sample Name: MW205-042517-1510
Lab Code: R1703719-006

Service Request: R1703719
Date Collected: 04/25/17 15:10
Date Received: 04/26/17 16:45

Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Alkalinity, Total as CaCO ₃	SM 2320 B-1997(2011)	3430	mg/L	2.0	1	05/02/17 01:13	NA	
Chloride	9056A	684	mg/L	20	100	04/27/17 11:31	NA	
Nitrate as Nitrogen	9056A	ND U	mg/L	1.0	10	04/26/17 18:32	NA	
Nitrite as Nitrogen	9056A	ND U	mg/L	10	100	04/27/17 11:31	NA	
Sulfate	9056A	2.1	mg/L	2.0	10	04/26/17 18:32	NA	
Sulfide, Acid-Soluble	9034	ND U	mg/L	1.0	1	05/02/17 09:00	05/02/17	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Sample Name: BAP01-042617-0950
Lab Code: R1703719-008

Service Request: R1703719
Date Collected: 04/26/17 09:50
Date Received: 04/26/17 16:45

Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Alkalinity, Total as CaCO3	SM 2320 B-1997(2011)	313	mg/L	2.0	1	05/09/17 21:13	NA	
Carbon, Total Organic (TOC), Average	9060A	59.8	mg/L	4.0	4	05/05/17 15:20	NA	
Chloride	9056A	609	mg/L	40	200	04/27/17 11:41	NA	
Nitrate as Nitrogen	9056A	ND U	mg/L	1.0	10	04/26/17 18:43	NA	
Nitrite as Nitrogen	9056A	ND U	mg/L	1.0	10	04/26/17 18:43	NA	
Sulfate	9056A	55.5	mg/L	2.0	10	04/26/17 18:43	NA	
Sulfide, Acid-Soluble	9034	ND U	mg/L	1.0	1	05/02/17 09:00	05/02/17	

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Service Request: R1703719
Date Collected: 04/26/17 11:15
Date Received: 04/26/17 16:45

Sample Name: BAP02-042617-1115
Lab Code: R1703719-010

Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Alkalinity, Total as CaCO3	SM 2320 B-1997(2011)	262	mg/L	2.0	1	05/09/17 21:18	NA	
Carbon, Total Organic (TOC), Average	9060A	4.0	mg/L	1.0	1	05/04/17 18:43	NA	
Chloride	9056A	1170	mg/L	40	200	04/27/17 12:32	NA	
Nitrate as Nitrogen	9056A	ND U	mg/L	1.0	10	04/26/17 19:05	NA	
Nitrite as Nitrogen	9056A	ND U	mg/L	1.0	10	04/26/17 19:05	NA	
Sulfate	9056A	48.6	mg/L	2.0	10	04/26/17 19:05	NA	
Sulfide, Acid-Soluble	9034	ND U	mg/L	1.0	1	05/02/17 09:00	05/02/17	



QC Summary Forms

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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

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QA/QC Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Service Request: R1703719

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Extraction Method: EPA 5030C

Sample Name	Lab Code	4-Bromofluorobenzene	Dibromofluoromethane	Toluene-d8
		85 - 122	89 - 119	87 - 121
MW3-042517-1400	R1703719-001	107	99	102
MW202-042617-1210	R1703719-003	106	99	103
MW203-042517-1640	R1703719-005	105	98	102
MW205-042517-1510	R1703719-006	105	101	104
BAP01-042617-0950	R1703719-008	106	101	103
BAP02-042617-1115	R1703719-010	108	101	104
OW306-042617-1445	R1703719-012	104	99	102
MW501-042517-1230	R1703719-013	105	101	103
MW502-042517-1315	R1703719-014	102	99	102
MW204-042517-1725	R1703719-015	106	100	104
OWS302-042517-1435	R1703719-016	103	100	102
TRIP BLANK	R1703719-017	107	99	103
Lab Control Sample	RQ1703799-03	109	101	105
Method Blank	RQ1703799-04	111	100	108
OWS302-042517-1435 MS	RQ1703799-05	107	103	103
OWS302-042517-1435 DMS	RQ1703799-06	107	105	103

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QA/QC Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Service Request: R1703719
Date Collected: 04/25/17
Date Received: 04/26/17
Date Analyzed: 04/28/17

Duplicate Matrix Spike Summary
Volatile Organic Compounds by GC/MS

Sample Name: OWS302-042517-1435
Lab Code: R1703719-016
Analysis Method: 8260C

Units: ug/L
Basis: NA

Analyte Name	Sample Result	Matrix Spike RQ1703799-05			Duplicate Matrix Spike RQ1703799-06			% Rec Limits	RPD	RPD Limit
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Acetone	ND U	9160	10000	92	8880	10000	89	29-151	3	30
Benzene	ND U	11000	10000	110	10900	10000	109	76-129	<1	30
Bromodichloromethane	64 J	11600	10000	116	11800	10000	117	76-127	1	30
Bromoform	ND U	12200	10000	122	12300	10000	123	58-133	<1	30
Bromomethane	ND U	4400	10000	44	5820	10000	58	10-162	28	30
2-Butanone (MEK)	ND U	9840	10000	98	9530	10000	95	46-141	3	30
Carbon Disulfide	ND U	12000	10000	120	11800	10000	118	34-162	2	30
Carbon Tetrachloride	ND U	11800	10000	118	11900	10000	119	65-135	<1	30
Chlorobenzene	ND U	10900	10000	109	10900	10000	109	76-125	<1	30
Chloroethane	17000	27900	10000	112	26600	10000	99	70-140	5	30
Chloroform	330 J	11700	10000	113	11600	10000	113	75-130	<1	30
Chloromethane	60 J	9790	10000	97	9520	10000	95	55-160	3	30
Dibromochloromethane	ND U	11100	10000	111	11000	10000	110	72-128	<1	30
1,1-Dichloroethane	270 J	11400	10000	112	11300	10000	110	74-132	2	30
1,2-Dichloroethane	ND U	10400	10000	104	10400	10000	104	68-130	<1	30
1,1-Dichloroethene	ND U	10800	10000	108	10300	10000	103	74-139	5	30
cis-1,2-Dichloroethene	ND U	10800	10000	108	10600	10000	106	72-133	2	30
trans-1,2-Dichloroethene	ND U	10500	10000	105	10500	10000	105	77-125	<1	30
1,2-Dichloropropane	ND U	10600	10000	106	10600	10000	106	79-124	<1	30
cis-1,3-Dichloropropene	ND U	10400	10000	104	10400	10000	104	52-134	<1	30
trans-1,3-Dichloropropene	ND U	10700	10000	107	10900	10000	109	50-142	1	30
Ethylbenzene	ND U	11800	10000	118	11600	10000	116	72-134	2	30
2-Hexanone	ND U	10600	10000	106	10700	10000	107	56-132	<1	30
Methylene Chloride	ND U	11100	10000	111	10700	10000	107	75-121	3	30
4-Methyl-2-pentanone (MIBK)	ND U	10800	10000	108	10900	10000	109	60-141	<1	30
Styrene	ND U	12000	10000	120	11700	10000	117	34-156	2	30
1,1,2,2-Tetrachloroethane	ND U	11200	10000	112	11300	10000	113	72-122	<1	30
Tetrachloroethene	ND U	11500	10000	115	11400	10000	114	67-137	<1	30
Toluene	ND U	11100	10000	111	11100	10000	111	79-125	<1	30
1,1,1-Trichloroethane	ND U	11400	10000	114	11300	10000	113	74-127	1	30
1,1,2-Trichloroethane	ND U	10900	10000	109	10600	10000	106	79-119	2	30
Trichloroethene	ND U	11100	10000	111	11300	10000	113	62-142	2	30
Vinyl Chloride	ND U	12900	10000	129	12500	10000	125	60-157	3	30
o-Xylene	ND U	11400	10000	114	11300	10000	113	68-134	<1	30
m,p-Xylenes	ND U	23600	20000	118	23200	20000	116	68-138	2	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.

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dba ALS Environmental

Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Service Request: R1703719
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: RQ1703799-04

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Acetone	ND U	10	1.3	1	04/28/17 12:10	
Benzene	ND U	5.0	0.20	1	04/28/17 12:10	
Bromodichloromethane	ND U	5.0	0.32	1	04/28/17 12:10	
Bromoform	ND U	5.0	0.42	1	04/28/17 12:10	
Bromomethane	ND U	5.0	0.29	1	04/28/17 12:10	
2-Butanone (MEK)	ND U	10	0.81	1	04/28/17 12:10	
Carbon Disulfide	ND U	10	0.22	1	04/28/17 12:10	
Carbon Tetrachloride	ND U	5.0	0.45	1	04/28/17 12:10	
Chlorobenzene	ND U	5.0	0.29	1	04/28/17 12:10	
Chloroethane	ND U	5.0	0.24	1	04/28/17 12:10	
Chloroform	ND U	5.0	0.25	1	04/28/17 12:10	
Chloromethane	0.36 J	5.0	0.21	1	04/28/17 12:10	
Dibromochloromethane	ND U	5.0	0.31	1	04/28/17 12:10	
1,1-Dichloroethane	ND U	5.0	0.20	1	04/28/17 12:10	
1,2-Dichloroethane	ND U	5.0	0.36	1	04/28/17 12:10	
1,1-Dichloroethene	ND U	5.0	0.57	1	04/28/17 12:10	
cis-1,2-Dichloroethene	ND U	5.0	0.30	1	04/28/17 12:10	
trans-1,2-Dichloroethene	ND U	5.0	0.33	1	04/28/17 12:10	
1,2-Dichloropropane	ND U	5.0	0.20	1	04/28/17 12:10	
cis-1,3-Dichloropropene	ND U	5.0	0.24	1	04/28/17 12:10	
trans-1,3-Dichloropropene	ND U	5.0	0.20	1	04/28/17 12:10	
Ethylbenzene	ND U	5.0	0.20	1	04/28/17 12:10	
2-Hexanone	ND U	10	1.7	1	04/28/17 12:10	
Methylene Chloride	ND U	5.0	0.60	1	04/28/17 12:10	
4-Methyl-2-pentanone (MIBK)	ND U	10	0.67	1	04/28/17 12:10	
Styrene	ND U	5.0	0.20	1	04/28/17 12:10	
1,1,2,2-Tetrachloroethane	ND U	5.0	0.25	1	04/28/17 12:10	
Tetrachloroethene	ND U	5.0	0.30	1	04/28/17 12:10	
Toluene	ND U	5.0	0.20	1	04/28/17 12:10	
1,1,1-Trichloroethane	ND U	5.0	0.36	1	04/28/17 12:10	
1,1,2-Trichloroethane	ND U	5.0	0.34	1	04/28/17 12:10	
Trichloroethene	ND U	5.0	0.22	1	04/28/17 12:10	
Vinyl Chloride	ND U	5.0	0.32	1	04/28/17 12:10	
o-Xylene	ND U	5.0	0.20	1	04/28/17 12:10	
m,p-Xylenes	ND U	5.0	0.33	1	04/28/17 12:10	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Service Request: R1703719
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: RQ1703799-04

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	111	85 - 122	04/28/17 12:10	
Toluene-d8	108	87 - 121	04/28/17 12:10	
Dibromofluoromethane	100	89 - 119	04/28/17 12:10	

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QA/QC Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Service Request: R1703719
Date Analyzed: 04/28/17

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1703799-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Acetone	8260C	22.6	20.0	113	40-161
Benzene	8260C	20.1	20.0	101	76-118
Bromodichloromethane	8260C	22.4	20.0	112	78-126
Bromoform	8260C	21.7	20.0	108	71-136
Bromomethane	8260C	19.5	20.0	97	42-166
2-Butanone (MEK)	8260C	19.9	20.0	99	61-137
Carbon Disulfide	8260C	22.0	20.0	110	65-127
Carbon Tetrachloride	8260C	22.0	20.0	110	68-125
Chlorobenzene	8260C	20.7	20.0	103	80-121
Chloroethane	8260C	19.5	20.0	97	70-127
Chloroform	8260C	21.9	20.0	109	76-120
Chloromethane	8260C	20.2	20.0	101	69-145
Dibromochloromethane	8260C	20.9	20.0	105	77-128
1,1-Dichloroethane	8260C	21.0	20.0	105	78-117
1,2-Dichloroethane	8260C	19.9	20.0	100	71-127
1,1-Dichloroethene	8260C	19.9	20.0	100	74-135
cis-1,2-Dichloroethene	8260C	20.7	20.0	103	80-121
trans-1,2-Dichloroethene	8260C	20.2	20.0	101	80-120
1,2-Dichloropropane	8260C	19.9	20.0	99	80-119
cis-1,3-Dichloropropene	8260C	20.0	20.0	100	74-126
trans-1,3-Dichloropropene	8260C	20.4	20.0	102	67-135
Ethylbenzene	8260C	21.7	20.0	109	76-120
2-Hexanone	8260C	19.2	20.0	96	63-124
Methylene Chloride	8260C	21.1	20.0	106	73-122
4-Methyl-2-pentanone (MIBK)	8260C	19.1	20.0	95	66-124
Styrene	8260C	22.3	20.0	111	80-124
1,1,2,2-Tetrachloroethane	8260C	20.7	20.0	103	78-122
Tetrachloroethene	8260C	22.5	20.0	113	78-124
Toluene	8260C	21.0	20.0	105	77-120
1,1,1-Trichloroethane	8260C	21.4	20.0	107	74-120
1,1,2-Trichloroethane	8260C	20.9	20.0	105	82-118
Trichloroethene	8260C	21.4	20.0	107	78-123
Vinyl Chloride	8260C	24.3	20.0	121	69-133

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QA/QC Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Service Request: R1703719
Date Analyzed: 04/28/17

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L**Basis:**NA**Lab Control Sample**

RQ1703799-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
o-Xylene	8260C	21.7	20.0	108	80-120
m,p-Xylenes	8260C	44.4	40.0	111	78-123



Volatile Organic Compounds by GC

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Service Request: R1703719
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: RQ1703955-01

Units: ug/L
Basis: NA

Dissolved Gases by GC/FID

Analysis Method: RSK 175

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Ethane	ND U	1.0	1	05/05/17 09:18	
Ethylene	ND U	1.0	1	05/05/17 09:18	
Methane	ND U	1.1	1	05/05/17 09:18	
Propane	ND U	1.0	1	05/05/17 09:18	

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QA/QC Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Service Request: R1703719
Date Analyzed: 05/05/17

Duplicate Lab Control Sample Summary
Dissolved Gases by GC/FID

Units:ug/L
Basis:NA

Lab Control Sample
RQ1703955-02

Duplicate Lab Control Sample
RQ1703955-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Ethane	RSK 175	29.6	26.0	114	29.0	26.0	111	75-118	2	20
Ethylene	RSK 175	26.6	24.3	109	26.2	24.3	108	73-129	2	20
Methane	RSK 175	29.7	26.2	113	29.2	26.2	111	65-126	2	20
Propane	RSK 175	28.5	25.5	112	27.9	25.5	109	72-118	2	20



Semivolatile Organic Compounds by GC

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Service Request: R1703719
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: RQ1703863-01

Units: mg/L
Basis: NA

Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Analysis Method: Organic Acids

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Pyruvic Acid	ND U	0.50	1	05/02/17 11:34	
Acetic Acid	ND U	1.0	1	05/02/17 11:34	
Butanoic Acid (Butyric Acid)	ND U	2.0	1	05/02/17 11:34	
Lactic Acid	ND U	1.0	1	05/02/17 11:34	
Propionic Acid	ND U	1.0	1	05/02/17 11:34	

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QA/QC Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Service Request: R1703719
Date Analyzed: 05/02/17

Duplicate Lab Control Sample Summary
Organic Acids in Aqueous Matrices by High Performance Liquid Chromatography (HPLC) 28 Day Hold Time

Units:mg/L
Basis:NA

Lab Control Sample					Duplicate Lab Control Sample					
RQ1703863-02					RQ1703863-03					
Analyte Name	Analytical Method	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Pyruvic Acid	Organic Acids	1.93	2.03	95	1.93	2.03	95	70-130	<1	30
Acetic Acid	Organic Acids	19.7	20.0	98	19.6	20.0	98	70-130	<1	30
Butanoic Acid (Butyric Acid)	Organic Acids	21.0	20.4	103	20.1	20.4	99	70-130	5	30
Lactic Acid	Organic Acids	18.6	20.5	91	18.5	20.5	90	70-130	<1	30
Propionic Acid	Organic Acids	17.5	20.1	87	17.4	20.1	87	70-130	<1	30



Metals

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Sample Name: Method Blank
Lab Code: R1703719-MB

Service Request: R1703719
Date Collected: NA
Date Received: NA

Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron, Dissolved	6010C	ND U	ug/L	100	1	05/02/17 18:16	05/01/17	
Iron, Total	6010C	ND U	ug/L	100	1	05/02/17 18:16	05/01/17	

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QA/QC Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Service Request: R1703719
Date Analyzed: 05/02/17

Lab Control Sample Summary
Inorganic Parameters

Units:ug/L**Basis:**NA**Lab Control Sample**

R1703719-LCS

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Iron, Dissolved	6010C	990	1000	99	80-120
Iron, Total	6010C	994	1000	99	80-120



General Chemistry

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Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: R1703719-MB1

Service Request: R1703719
Date Collected: NA
Date Received: NA
Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Alkalinity, Total as CaCO3	SM 2320 B-1997(2011)	ND U	mg/L	2.0	1	05/01/17 22:09	NA	
Carbon, Total Organic (TOC), Average	9060A	ND U	mg/L	1.0	1	05/04/17 17:20	NA	
Chloride	9056A	ND U	mg/L	0.20	1	04/27/17 10:58	NA	
Nitrate as Nitrogen	9056A	ND U	mg/L	0.10	1	04/26/17 12:31	NA	
Nitrite as Nitrogen	9056A	ND U	mg/L	0.10	1	04/26/17 12:31	NA	
Sulfate	9056A	ND U	mg/L	0.20	1	04/26/17 12:31	NA	
Sulfide, Acid-Soluble	9034	ND U	mg/L	1.0	1	05/02/17 09:00	05/02/17	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Sample Name: Method Blank
Lab Code: R1703719-MB2

Service Request: R1703719
Date Collected: NA
Date Received: NA

Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Alkalinity, Total as CaCO3	SM 2320 B-1997(2011)	ND U	mg/L	2.0	1	05/09/17 19:33	
Carbon, Total Organic (TOC), Average	9060A	ND U	mg/L	1.0	1	05/05/17 13:54	
Nitrite as Nitrogen	9056A	ND U	mg/L	0.10	1	04/27/17 10:58	
Sulfate	9056A	ND U	mg/L	0.20	1	04/27/17 10:58	

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QA/QC Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Service Request: R1703719
Date Collected: 04/25/17
Date Received: 04/26/17
Date Analyzed: 05/2/17
Date Extracted: 05/2/17

Duplicate Matrix Spike Summary
Sulfide, Acid-Soluble

Sample Name: MW3-042517-1400
Lab Code: R1703719-001
Analysis Method: 9034
Prep Method: EPA 9030B

Units: mg/L
Basis: NA

Analyte Name	Sample Result	Result	Matrix Spike		Result	Duplicate Matrix Spike		% Rec Limits	RPD	RPD Limit
			Spike Amount	% Rec		Spike Amount	% Rec			
Sulfide, Acid-Soluble	ND U	7.5	11.6	65	8.4	11.6	73	10-109	11	20

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.

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QA/QC Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Service Request: R1703719
Date Collected: 04/26/17
Date Received: 04/26/17
Date Analyzed: 04/27/17

**Duplicate Matrix Spike Summary
Chloride**

Sample Name: BAP01-042617-0950
Lab Code: R1703719-008
Analysis Method: 9056A

Units: mg/L
Basis: NA

Analyte Name	Sample Result	Result	Matrix Spike R1703719-008MS		Result	Duplicate Matrix Spike R1703719-008DMS		% Rec Limits	RPD	RPD Limit
			Spike Amount	% Rec		Spike Amount	% Rec			
Chloride	609	999	400	98	998	400	97	80-120	<1	15

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.
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QA/QC Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Service Request: R1703719
Date Analyzed: 04/26/17 - 05/04/17

Lab Control Sample Summary
General Chemistry Parameters

Units:mg/L
Basis:NA

Lab Control Sample
R1703719-LCS1

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Alkalinity, Total as CaCO ₃	SM 2320 B-1997(2011)	21.6	20.0	108	81-112
Carbon, Total Organic (TOC), Average	9060A	10.0	10.0	100	81-118
Chloride	9056A	1.94	2.00	97	80-120
Nitrate as Nitrogen	9056A	0.97	1.00	97	80-120
Nitrite as Nitrogen	9056A	1.08	1.00	108	80-120
Sulfate	9056A	1.91	2.00	95	80-120
Sulfide, Acid-Soluble	9034	8.5	11.6	74	15-124

ALS Group USA, Corp.
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QA/QC Report

Client: Haley & Aldrich, Incorporated
Project: Coopervision/129375-002
Sample Matrix: Water

Service Request: R1703719
Date Analyzed: 04/27/17 - 05/09/17

Lab Control Sample Summary
General Chemistry Parameters

Units:mg/L
Basis:NA

Lab Control Sample
R1703719-LCS2

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Alkalinity, Total as CaCO ₃	SM 2320 B-1997(2011)	21.6	20.0	108	81-112
Carbon, Total Organic (TOC), Average	9060A	10.1	10.0	101	81-118
Nitrite as Nitrogen	9056A	1.06	1.00	106	80-120
Sulfate	9056A	1.92	2.00	96	80-120

APPENDIX H

Groundwater Sampling Field Forms

GROUNDWATER LEVEL MONITORING RECORD

Project Name	Coopervision Facility	Project Number	70665	Meas. Device Type	
City	Scottsville	Sampling Event	Semi-Annual Groundwater	Meas. Device ID	
State	NY	Project Manager	Mark Ramsdell	Depth Units	Feet
Client Name	CooperVision	Field Representative	Jonathan Sanger	Sampling Company	HAI
Weather					

Well Name	Area of Interest	Measure Date	Measure Time	Well Dry?	Meas. Point Elev.	Screened Formation	Depth to LNAPL	Depth to Water	GW Elevation	Depth to DNAPL	Meas. Well Depth	Remarks
MW-3	-	10/12/2016	08:26	N	574.45	-	-	4.75	569.7	-	-	-
MW-403	-	10/17/2016	08:28	N	574.42	-	-	4.55	569.87	-	44	-
BAP-02	-	10/17/2016	08:32	N	570.14	-	-	6.13	564.01	-	18.8	-
BAP-01	-	10/17/2016	08:40	N	571.07	-	-	6.5	564.57	-	19.3	-
MW-402	-	10/17/2016	08:42	N	572.56	-	-	6.6	565.96	-	43.3	-
MW-202	-	10/17/2016	08:45	N	573.25	-	-	6.91	566.34	-	18.95	-
OWS-303D	-	10/17/2016	08:47	N	574.69	-	-	5.96	568.73	-	25.3	-
MW-201	-	10/17/2016	08:52	N	580.11	-	-	8.79	571.32	-	-	-
OWS-303S	-	10/17/2016	17:00	N	574.42	-	-	5.88	568.54	-	-	-
MW-502	-	10/17/2016	08:58	N	577.46	-	-	5.74	571.72	-	32.39	-
MW-501	-	10/17/2016	09:04	N	576.55	-	-	5.41	571.14	-	10.31	-
OWS-302	-	10/17/2016	09:09	N	577.13	-	-	3.61	573.52	-	14.56	-
MW-401	-	10/17/2016	09:14	N	576.89	-	-	10.74	566.15	-	46.01	-
MW-205	-	10/17/2016	09:18	N	579.03	-	-	5.13	573.9	-	27.67	-
OW-305	-	10/17/2016	09:22	N	572.6	-	-	5.7	566.9	-	10.32	-
OW-306	-	10/17/2016	09:22	N	568.64	-	-	4.08	564.56	-	13.46	-
MW-204	-	10/17/2016	09:23	N	571.12	-	-	6.45	564.67	-	19.15	-
MW-203	-	10/17/2016	09:24	N	576.35	-	-	3.81	572.54	-	19.94	-
OW-304	-	10/17/2016	09:24	N	576.56	-	-	4.53	572.03	-	13.36	-



For Haley & Aldrich, Inc.

Coopervision

1

MW-3

Job Number:	70665-020
Well ID:	MW-3
Field Crew:	

Date: 10/17
Start Time: 9:50
Finished Time: _____
Sample Time: _____

Initial Depth to Water:	4.75
Well Depth:	9.8
Depth to top of screen:	unknown
Depth to bottom of screen:	unknown
Depth of Intake:	9.3

Tubing in well: No

Tubing Type: HDPE

PID (ppm):

[illegible]

VOCs (3 vials), RSK-175 (3 vials), NO₂/NO₃/Cl/SO₄ (1 plastic), Sulfide (1 plastic), Alkalinity (1 plastic), Fe unfiltered (1 plastic), Fe filtered (1 plastic)

Will likely pump dry

Location (Site/Facility Name):

Coopervision

Sample Order

3

WELL ID:

OWS-302

Job Number:

70665-020

Well ID:

OWS-302

Field Crew:

55/mc

Date: 10/17

Start Time: 13:05

Finished Time: _____

Sample Time: _____

Initial Depth to Water: 3.61

Well Depth: 21.82

Depth to top of screen: unknown

Depth to bottom of screen: unkown

Depth of Intake: 21.3

Purging Device: Waterra w/Hydrolift

Tubing in well: No

Tubing Type: HDPE

PID (ppm):

[illegible]

Comments:

VOCs (3 vials)

Has purged dry (occasionally)

Location (Site/Facility Name):

Coopervision

Sample Order

11

WELL ID:

MW-203

Job Number:

70665-020

Well ID:

MW-203

Field Crew:

Date: 10/17

Start Time:

Finished Time:

Sample Time:

Initial Depth to Water: 3.81

Well Depth: 19.45

Depth to top of screen: unknown

Depth to bottom of screen: unknown

Depth of Intake: 19.0

Purging Device: Waterra w/Hydrolift

Tubing in well: No

Tubing Type: HDPE

PID (ppm):

[illegible]

Comments:

VOCs (3 vials)

150 mL/min

Location (Site/Facility Name):

Coopervision

Sample Order

4

WELL ID:

MW-205

Job Number:

70665-020

Well ID:

MW-205

Field Crew:

Date:

Start Time:

Finished Time:

Sample Time:

Initial Depth to Water:

Well Depth: 27.6

Depth to top of screen: unknown

Depth to bottom of screen: unknown

Depth of Intake: 27.1

Purging Device: Waterra w/Hydrolift

Tubing in well: No

Tubing Type: HDPE

PID (ppm):

[illegible]

Comments:

VOCs (3 vials), RSK-175 (3 vials), Alkalinity (1 plastic), NO₂/NO₃/Cl/SO₄ (1 plastic), Sulfide (1 plastic), Organic Acids (1 amber glass), Fe filtered (1 plastic), Fe unfiltered (1 plastic)

This one tends to read moderately high on PID and tends to have a strong odor.

Location (Site/Facility Name):

Coopervision

Sample Order

5

WELL ID:

MW-501-

Job Number:

70665-020

Well ID:

MW-501 502

Field Crew:

Date: 10/17

Start Time:

Finished Time:

Sample Time: 12 35

Initial Depth to Water:

Well Depth:

Depth to top of screen: unkown

Depth to bottom of screen: unknown

Depth of Intake:

Purging Device: Waterra w/Hydrolift

4. Tubing in well: No

Tubing Type: HDPE

PID (ppm):

Comments:

VOCs (3 vials)

High Turbidity - odor

Location (Site/Facility Name):

Coopervision

Sample Order

2

WELL ID:

MW-502-50

Job Number:

70665-020

Well ID:

MW-502-501

Field Crew:

Date: 10/17/16

Start Time: 10.32

Finished Time: _____

Sample Time: _____

Initial Depth to Water:

Well Depth: 32.71 / 10.2

Depth to top of screen: unknown

Depth to bottom of screen: unknown

Depth of Intake: 22.2 9.8

Purging Device: Waterra w/Hydrolift

3 Tubing in well: No

Tubing Type: HDPE

PID (ppm): 0.0

[illegible]

Comments:

VOCs (3 vials)

Has purged dry (occasionally)

Location (Site/Facility Name):

Coopervision

Sample Order

10

WELL ID:

OW-306

Job Number:

70665-020

Well ID:

OW-306

Field Crew:

Date:

Start Time:

Finished Time:

Sample Time:

Initial Depth to Water:

Well Depth: 13.36

Depth to top of screen: unknown

Depth to bottom of screen: unknown

Depth of Intake: 12.9

Purging Device: Waterra w/Hydrolift

Tubing in well: No

Tubing Type: HDPE

PID (ppm):

[illegible]

Comments:

VOCs (3 vials)

Location (Site/Facility Name):

Coopervision

Sample Order

6

WELL ID:

BAP-1

Job Number:

70665-020

Well ID:

BAP-1

Field Crew:

Date: ~~10/18~~ 10/21

Start Time: 8:00

Finished Time: _____

Sample Time: _____

Initial Depth to Water: 6.50

Well Depth: 20.16

Depth to top of screen: unknown

Depth to bottom of screen: unknown

Depth of Intake: 19.7

Purging Device: Waterra w/Hydrolift

Tubing in well: No

Tubing Type: HDPE

PID (ppm):

Time Elapsed (Minutes)	Depth to Water (TOR)	Cumulative Purge Volume (gallons)	Temperature (celsius) +/- 10%	pH +/- 0.1	Conductivity (ms/cm) +/- 3%	Dissolved Oxygen (mg/L) +/- 10%	Turbidity (NTU) <50	ORP/eH (mV) +/- 10 mV	Comments
0	1-inch well	0	-	-	-	-	-	-	
5	-	0.2	20.3	7.25	2.43	0.11	7	-270.3	
10	-	0.4	20.2	7.24	2.47	0.16	9	-277.10	
15	-	0.6	20.3	7.25	2.50	0.18	16	-275.3	
20	-	-	-	-	-	-	-	-	
25	-	-	-	-	-	-	-	-	
30	-	-	-	-	-	-	-	-	
35	-	-	-	-	-	-	-	-	
40	-	-	-	-	-	-	-	-	
45	-	-	-	-	-	-	-	-	
50	-	-	-	-	-	-	-	-	
55	-	-	-	-	-	-	-	-	
60	-	-	-	-	-	-	-	-	
65	-	-	-	-	-	-	-	-	
70	-	-	-	-	-	-	-	-	
75	-	-	-	-	-	-	-	-	
80	-	-	-	-	-	-	-	-	
85	-	-	-	-	-	-	-	-	
90	-	-	-	-	-	-	-	-	
95	-	-	-	-	-	-	-	-	
100	-	-	-	-	-	-	-	-	
105	-	-	-	-	-	-	-	-	
110	-	-	-	-	-	-	-	-	
115	-	-	-	-	-	-	-	-	
120	-	-	-	-	-	-	-	-	
125	-	-	-	-	-	-	-	-	
130	-	-	-	-	-	-	-	-	
135	-	-	-	-	-	-	-	-	
140	-	-	-	-	-	-	-	-	
145	-	-	-	-	-	-	-	-	
150	-	-	-	-	-	-	-	-	
155	-	-	-	-	-	-	-	-	
160	-	-	-	-	-	-	-	-	
165	-	-	-	-	-	-	-	-	
170	-	-	-	-	-	-	-	-	
175	-	-	-	-	-	-	-	-	
180	-	-	-	-	-	-	-	-	
185	-	-	-	-	-	-	-	-	
190	-	-	-	-	-	-	-	-	
195	-	-	-	-	-	-	-	-	
200	-	-	-	-	-	-	-	-	
205	-	-	-	-	-	-	-	-	
210	-	-	-	-	-	-	-	-	
215	-	-	-	-	-	-	-	-	
220	-	-	-	-	-	-	-	-	
225	-	-	-	-	-	-	-	-	
230	-	-	-	-	-	-	-	-	
235	-	-	-	-	-	-	-	-	
240	-	-	-	-	-	-	-	-	
245	-	-	-	-	-	-	-	-	
250	-	-	-	-	-	-	-	-	
255	-	-	-	-	-	-	-	-	
260	-	-	-	-	-	-	-	-	
265	-	-	-	-	-	-	-	-	
270	-	-	-	-	-	-	-	-	
275	-	-	-	-	-	-	-	-	
280	-	-	-	-	-	-	-	-	
285	-	-	-	-	-	-	-	-	
290	-	-	-	-	-	-	-	-	
295	-	-	-	-	-	-	-	-	
300	-	-	-	-	-	-	-	-	
305	-	-	-	-	-	-	-	-	
310	-	-	-	-	-	-	-	-	
315	-	-	-	-	-	-	-	-	
320	-	-	-	-	-	-	-	-	
325	-	-	-	-	-	-	-	-	
330	-	-	-	-	-	-	-	-	

Comments:

VOCs (3 vials), TOC (3 vials), RSK-175 (3 vials), Alkalinity (1 plastic), NO₂/NO₃/Cl/SO₄ (1 plastic), Sulfide (1 plastic), Organic Acids (1 amber glass)

Fe filtered (1 plastic), Fe unfiltered (1 plastic)

Keep tubing off the bottom to avoid clogging valve with sediment/sand. May purge dry.

Location (Site/Facility Name):

Coopervision

Sample Order

7

WELL ID:

BAP-2

Job Number:

70665-020

Well ID:

BAP-2

Field Crew:

Date: 10/21

Start Time: 10:05

Finished Time: _____

Sample Time: _____

Initial Depth to Water: 6.13

Well Depth: 19.52

Depth to top of screen: unknown

Depth to bottom of screen: unkown

Depth of Intake: 19.0

Purging Device: Waterra w/Hydrolift

Tubing in well: No

Tubing Type: HDPE

PID (ppm):

[illegible]

Comments:

VOCs (3 vials), TOC (3 vials), RSK-175 (3 vials), Alkalinity (1 plastic), $\text{NO}_2/\text{NO}_3/\text{Cl}/\text{SO}_4$ (1 plastic), Sulfide (1 plastic), Organic Acids (1 amber glass)

Fe filtered (1 plastic), Fe unfiltered (1 plastic)

Keep tubing off the bottom to avoid clogging valve with sediment/sand. May purge dry.

Fe unfiltered (1 plastic), Fe filtered (1 plastic)

GROUNDWATER LEVEL MONITORING RECORD

Project Name	Coopervision Facility	Project Number	129375-002	Meas. Device Type	
City	Scottsville	Sampling Event	Semi-Annual Groundwater	Meas. Device ID	
State	NY	Project Manager	Mark Ramsdell	Depth Units	Feet
Client Name	CooperVision	Field Representative	Jonathan Sanger	Sampling Company	HANY
Weather					

Well Name	Area of Interest	Measure Date	Measure Time	Well Dry?	Meas. Point Elev.	Screened Formation	Depth to LNAPL	Depth to Water	GW Elevation	Depth to DNAPL	Meas. Well Depth	Remarks
MW-3	-	4/25/2017	08:26	N	574.45	-	-	4.01	570.44	-	-	-
MW-403	-	4/25/2017	08:28	N	574.42	-	-	3.9	570.52	-	44	-
BAP-02	-	4/25/2017	08:32	N	570.14	-	-	5.29	564.85	-	18.8	-
BAP-01	-	4/25/2017	08:40	N	571.07	-	-	5.8	565.27	-	19.3	-
MW-402	-	4/25/2017	08:42	N	572.56	-	-	2.03	570.53	-	43.3	-
MW-202	-	4/25/2017	08:45	N	573.25	-	-	5.76	567.49	-	18.95	-
OWS-303D	-	4/25/2017	08:47	N	574.69	-	-	4.65	570.04	-	25.3	-
MW-201	-	4/25/2017	08:52	N	580.11	-	-	1.45	578.66	-	-	-
OWS-303S	-	4/25/2017	17:00	N	574.42	-	-	4.35	570.07	-	-	-
MW-502	-	4/25/2017	08:58	N	577.46	-	-	4.02	573.44	-	32.39	-
MW-501	-	4/25/2017	09:04	N	576.55	-	-	3.5	573.05	-	10.31	-
OWS-302	-	4/25/2017	09:09	N	577.13	-	-	2.65	574.48	-	14.56	-
MW-401	-	4/25/2017	09:14	N	576.89	-	-	5.64	571.25	-	46.01	-
MW-205	-	4/25/2017	09:18	N	579.03	-	-	3.39	575.64	-	27.67	-
OW-305	-	4/25/2017	09:22	N	572.6	-	-	6.41	566.19	-	10.32	-
OW-306	-	4/25/2017	09:22	N	568.64	-	-	2.55	566.09	-	13.46	-
MW-204	-	4/25/2017	09:23	N	571.12	-	-	4.9	566.22	-	19.15	-
MW-203	-	4/25/2017	09:24	N	576.35	-	-	2.75	573.6	-	19.94	-
OW-304	-	4/25/2017	09:24	N	576.56	-	-	2.8	573.76	-	13.36	-



For Haley & Aldrich, Inc.

Coopervision

1

MW-3

Date: 4/25
Start Time: 11:03
Finished Time:
Sample Time:

Initial Depth to Water:	
Well Depth:	9.8
Depth to top of screen:	unknown
Depth to bottom of screen:	unknown
Depth of Intake:	9.3

Purging Device: Waterra w/Hydrolift
Tubing in well: No
Tubing Type: HDPE

PID (ppm):

[illegible]

VOCs (3 vials), RSK-175 (3 vials), NO₂/NO₃/Cl/SO₄ (1 plastic), Sulfide (1 plastic), Alkalinity (1 plastic), Fe unfiltered (1 plastic), Fe filtered (1 plastic)

Will likely pump dry

Job Number:

70665-

Well ID:

MW-203

Field Crew:

Date:

4/25

Start Time:

16:00

Finished Time:

Sample Time:

Initial Depth to Water:

2.67

Well Depth:

19.45

Depth to top of screen: unknown

unknown

Depth to bottom of screen: unknown

unknown

Depth of Intake:

19.0

Purging Device: Waterra w/Hydrolift

Tubing in well: No

Tubing Type: HDPE

PID (ppm):

[illegible]

Comments:

VOCs (3 vials)

Coopervision

Job Number:

70665-

Well ID:

MW-205

Field Crew:

Date: 4/25/17

Start Time: 1455

Finished Time: _____

Sample Time: _____

Initial Depth to Water:

Well Depth: 27.6

Depth to top of screen: unknown

Depth to bottom of screen: unkown

Depth of Intake: 27.1

Purging Device: Waterra w/Hydrolift

Tubing in well: No

Tubing Type: HDPE

PID (ppm):

[illegible]

Comments:

VOCs (3 vials), RSK-175 (3 vials), Alkalinity (1 plastic), $\text{NO}_2/\text{NO}_3/\text{Cl}/\text{SO}_4$ (1 plastic), Sulfide (1 plastic), Organic Acids (1 amber glass), Fe filtered (1 plastic), Fe unfiltered (1 plastic)

This one tends to read moderately high on PID and tends to have a strong odor.

Location (Site/Facility Name):

Sample Order

2

WELL ID:

MW-502

Job Number:

70665-

Well ID:

MW-502

Field Crew:

Date:

Start Time:

Finished Time:

Sample Time:

Initial Depth to Water:

Well Depth:

Depth to top of screen:

Depth to bottom of screen:

Depth of Intake:

Purging Device: Waterra w/Hydrolift

Tubing in well: No

Tubing Type: HDPE

PID (ppm):

[illegible]

Comments:

VOCs (3 vials)

Has purged dry (occasionally)

Location (Site/Facility Name):

Coopervision

Sample Order

5

WELL ID:

MW-501

Job Number:

70665-

Well ID:

MW-501

Field Crew:

Date:

Initial Depth to Water:

Purging Device: Waterra w/Hydrolift

Start Time:

Well Depth:

Tubing in well: No

Finished Time:

Depth to top of screen:

Tubing Type: HDPE

Sample Time:

Depth to bottom of screen:

Depth of Intake:

PID (ppm):

[illegible]

Comments:

VOCs (3 vials)

Location (Site/Facility Name):

Coopervision

Sample Order

7

WELL ID:

BAP-2

Job Number:

70665-

Well ID:

BAP-2

Field Crew:

Date:

Start Time:

Finished Time:

Sample Time:

Initial Depth to Water:

Well Depth:

Depth to top of screen:

Depth to bottom of screen:

Depth of Intake:

Purging Device: Waterra w/Hydrolift

Tubing in well: No

Tubing Type: HDPE

PID (ppm):

[illegible]

Comments:

VOCs (3 vials), TOC (3 vials), RSK-175 (3 vials), Alkalinity (1 plastic), NO₂/NO₃/Cl/SO₄ (1 plastic), Sulfide (1 plastic), Organic Acids (1 amber glass)

Fe filtered (1 plastic), Fe unfiltered (1 plastic)

Keep tubing off the bottom to avoid clogging valve with sediment/sand. May purge dry.

Coopervision

Job Number:

70665-

Well ID:

MW-204

Field Crew:

Date:

Start Time:

Finished Time:

Sample Time:

Initial Depth to Water:

Well Depth: 19.12

Depth to top of screen: unknown

Depth to bottom of screen: unkown

Depth of Intake: 18.6

Purging Device: Waterra w/Hydrolift

Tubing in well: No

Tubing Type: HDPE

PID (ppm):

[illegible]

Comments:

VOCs (3 vials)

Location (Site/Facility Name):

Sample Order

6

WELL ID:

BAP-1

Job Number:

70665-

Well ID:

BAP-1

Field Crew:

Date:

Start Time:

Finished Time:

Sample Time:

Initial Depth to Water:

Well Depth: 20.16

Depth to top of screen: unknown

Depth to bottom of screen: unkown

Depth of Intake: 19.7

Purging Device: Waterra w/Hydrolift

Tubing in well: No

Tubing Type: HDPE

PID (ppm):

Comments:
VOCs (3 vials), TOC (3 vials), RSK-175 (3 vials), Alkalinity (1 plastic), NO ₂ /NO ₃ /Cl/SO ₄ (1 plastic), Sulfide (1 plastic), Organic Acids (1 amber glass)
Fe filtered (1 plastic), Fe unfiltered (1 plastic)
Keep tubing off the bottom to avoid clogging valve with sediment/sand. May purge dry.

Location (Site/Facility Name):

Coopervision

Sample Order

8

WELL ID:

MW-202

Job Number:

70665-

Well ID:

MW-202

Field Crew:

Date:

Date: 4/26
Time: 11:45

Start Time:

Finished Time:

Sample Time:

Initial Depth to Water:

Well Depth:

18.9

Depth to top of screen:

unknown

Depth to bottom of screen:

unknown

Depth of Intake:

18.4

Purging Device: Waterra w/Hydrolift

Tubing in well: No

Tubing Type: HDPE

PID (ppm):

[illegible]

Comments:

VOCs (3 vials), TOC (3 vials), RSK-175 (3 vials), Alkalinity (1 plastic), NO₂/NO₃/Cl/SO₄ (1 plastic), Fe (1 plastic), Sulfide (1 plastic), Organic Acids (1 amber glass)

Fe unfiltered (1 plastic), Fe filtered (1 plastic)

Location (Site/Facility Name):

Coopervision

Sample Order

10

WELL ID:

OW-306

Job Number: 70665-

Well ID: OW-306

Field Crew:

Date: 4/26

Start Time: 13:54

Finished Time: 12:27

Sample Time: _____

Initial Depth to Water:

Well Depth: 13.36

Depth to top of screen: unknown

Depth to bottom of screen: unknown

Depth of Intake: 12.9

Purging Device: Waterra w/Hydrolift

Tubing in well: No

Tubing Type: HDPE

PID (ppm):

[illegible]

Comments:

VOCs (3 vials)

APPENDIX I

Historical Analytical Data

TABLE I
COOPERVISION, INC
SUMMARY OF VOLATILE GASES AND DISSOLVED GASES
SOURCE AREA WELLS

Location Sample ID Sample Date Sample Type Sample Depth (bgs)	NYSDEC TOGS AMBIENT WATER Class GA	MW-205			OWS-302	
		MW-205_040215	MW-205_100615	MW-205-040716-1315	OWS-302_100615	OWS-302-040716-1130
		04/02/2015	10/06/2015	04/07/2016	10/06/2015	04/07/2016
		N	N	N	N	N
		21.2 - 28 (ft)	21.2 - 28 (ft)	21.2 - 28 (ft)	13 - 17.8 (ft)	13 - 17.8 (ft)
Volatile Organic Compounds (ug/L)						
1,1,1-Trichloroethane	5	61000 ^[A]	43000 ^[A]	57000 ^[A]	ND (1300)	ND (500)
1,1,2,2-Tetrachloroethane	5	ND (10000)	ND (10000)	ND (5000) J	ND (1300)	ND (500) J
1,1,2-Trichloroethane	1	ND (10000)	ND (10000)	ND (5000) J	ND (1300)	ND (500) J
1,1-Dichloroethane	5	240000 ^[A]	200000 ^[A]	200000 J- ^[A]	ND (1300)	ND (500) J
1,1-Dichloroethene	5	1900 J ^[A]	ND (10000)	ND (5000) J	ND (1300)	ND (500) J
1,2-Dichloroethane	0.6	ND (10000)	ND (10000)	ND (5000)	ND (1300)	ND (500)
1,2-Dichloropropane	1	ND (10000)	ND (10000)	ND (5000) J	ND (1300)	ND (500) J
2-Butanone (Methyl Ethyl Ketone)	50	ND (20000)	ND (20000)	ND (10000)	ND (2500)	ND (1000)
2-Hexanone	50	ND (20000)	ND (20000)	ND (10000)	ND (2500)	ND (1000)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)		ND (20000)	ND (20000)	ND (10000)	ND (2500)	ND (1000)
Acetone	50	ND (20000)	ND (20000)	ND (10000)	ND (2500)	ND (1000)
Benzene	1	ND (10000)	ND (10000)	ND (5000) J	ND (1300)	ND (500) J
Bromodichloromethane	50	ND (10000)	ND (10000)	ND (5000) J	ND (1300)	ND (500) J
Bromoform	50	ND (10000)	ND (10000)	ND (5000)	ND (1300)	ND (500)
Bromomethane (Methyl Bromide)	5	ND (10000)	ND (10000)	ND (5000) J	ND (1300)	ND (500) J
Carbon disulfide	60	ND (20000)	ND (20000)	ND (10000)	ND (2500)	ND (1000)
Carbon tetrachloride	5	ND (10000)	ND (10000)	ND (5000)	ND (1300)	ND (500)
Chlorobenzene	5	ND (10000)	ND (10000)	ND (5000) J	ND (1300)	ND (500) J
Chloroethane	5	960 J ^[A]	ND (10000)	ND (5000) J	41000 ^[A]	15000 J- ^[A]
Chloroform (Trichloromethane)	7	ND (10000)	ND (10000)	ND (5000) J	ND (1300)	ND (500) J
Chloromethane (Methyl Chloride)	5	ND (10000)	ND (10000)	ND (5000)	ND (1300)	ND (500)
cis-1,2-Dichloroethene	5	ND (10000)	ND (10000)	ND (5000)	ND (1300)	ND (500)
cis-1,3-Dichloropropene	0.4	ND (10000)	ND (10000)	ND (5000) J	ND (1300)	ND (500) J
Dibromochloromethane	50	ND (10000)	ND (10000)	ND (5000) J	ND (1300)	ND (500) J
Ethylbenzene	5	ND (10000)	ND (10000)	ND (5000) J	ND (1300)	ND (500) J
m,p-Xylenes	5	ND (10000)	ND (10000)	ND (5000) J	ND (1300)	ND (500) J
Methylene chloride	5	ND (10000)	ND (10000)	ND (5000) J	ND (1300)	ND (500) J
o-Xylene	5	ND (10000)	ND (10000)	ND (5000) J	ND (1300)	ND (500) J
Styrene	5	ND (10000)	ND (10000)	ND (5000) J	ND (1300)	ND (500) J
Tetrachloroethene	5	ND (10000)	ND (10000)	ND (5000) J	ND (1300)	ND (500) J
Toluene	5	ND (10000)	ND (10000)	ND (5000) J	ND (1300)	ND (500) J
trans-1,2-Dichloroethene	5	ND (10000)	ND (10000)	ND (5000) J	ND (1300)	ND (500) J
trans-1,3-Dichloropropene	0.4	ND (10000)	ND (10000)	ND (5000) J	ND (1300)	ND (500) J
Trichloroethene	5	ND (10000)	ND (10000)	ND (5000)	ND (1300)	ND (500)
Vinyl chloride	2	ND (10000)	ND (10000)	ND (5000)	ND (1300)	ND (500)

TABLE I
COOPERVISION, INC
SUMMARY OF VOLATILE GASES AND DISSOLVED GASES
SOURCE AREA WELLS

Location Sample ID Sample Date Sample Type Sample Depth (bgs)	NYSDEC TOGS AMBIENT WATER Class GA	MW-205			OWS-302	
		MW-205_040215	MW-205_100615	MW-205-040716-1315	OWS-302_100615	OWS-302-040716-1130
		04/02/2015	10/06/2015	04/07/2016	10/06/2015	04/07/2016
		N	N	N	N	N
		21.2 - 28 (ft)	21.2 - 28 (ft)	21.2 - 28 (ft)	13 - 17.8 (ft)	13 - 17.8 (ft)
Other (mg/L)						
Acetic acid		940	1000	1200		
Alkalinity, Total (as CaCO3)		3400	3490	3310 J-	730	658 J-
Butanoic acid		3100	3100	2900		
Chloride		731	787	738	2660	2660
Lactic Acid		ND (25)	ND (50)	ND (25)		
Nitrate (as N)		ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Nitrite (as N)			ND (20)		ND (40)	
Propionic acid		770	750	830		
Pyruvic Acid		ND (13)	ND (25)	ND (13)		
Sulfate		8.9	10.2	15.2	ND (2)	ND (2)
Sulfide		ND (1)	ND (5)	ND (1)	1.1	ND (1)
Sulfide (Acid Soluble)			ND (5)	ND (1)	1.1	ND (1)
Other (ug/L)						
Ethane		ND (25)	ND (25)	17 J	ND (10)	ND (200)
Ethene		ND (25)	ND (25)	13 J	ND (10)	ND (200)
Methane		3000 D	4000	3300 J	14000	16000
Propane		ND (25)	ND (25)	ND (1) J	ND (10)	ND (200)
Inorganic Compounds (mg/L)						
Nitrite (as N)		0.056				
Inorganic Compounds (ug/L)						
Iron, Dissolved	300		118000 ^[A]	111000 ^[A]	14500 ^[A]	1730 ^[A]
Iron, Total	300		119000 ^[A]	117000 ^[A]	15600 ^[A]	7060 ^[A]

Notes:
Values in bold are detected analytical results
[A] - Results exceed the NYSDEC TOGS Aambient Water Class GA

TABLE II
COOPERVISION, INC.
SUMMARY OF VOLATILE GASES AND DISSOLVED GASES
MID-GRADIENT WELLS

Location	Sample ID	NYSDEC TOGS	BAP-01_040215	BAP-01_100615	BAP-01-040816-0900	BAP-02_040215	BAP-02_100615	BAP-02-040816-1030	MW-3_040115	MW-3_100515	MW-3-040716-1630
	Sample Date	AMBIENT WATER Class	04/02/2015	10/06/2015	04/08/2016	04/02/2015	10/06/2015	04/08/2016	04/01/2015	10/05/2015	04/07/2016
	Sample Type		N	N	N	N	N	N	N	N	N
	Sample Depth (bgs)	GA	10 - 20 (ft)	10 - 20 (ft)	10 - 20 (ft)	10 - 20 (ft)	10 - 20 (ft)	10 - 20 (ft)	3 - 10 (ft)	3 - 10 (ft)	3 - 10 (ft)
Volatile Organic Compounds (ug/L)											
1,1,1-Trichloroethane	5		ND (100)	ND (50)	ND (50)	ND (10)	ND (13)	ND (13)	1.9 J	ND (25) J	ND (13)
1,1,2,2-Tetrachloroethane	5		ND (100)	ND (50)	ND (50) J	ND (10)	ND (13)	ND (13) J	ND (5)	ND (25) J	ND (13) J
1,1,2-Trichloroethane	1		ND (100)	ND (50)	ND (50) J	ND (10)	ND (13)	ND (13) J	ND (5)	ND (25) J	ND (13) J
1,1-Dichloroethane	5		1800 [A]	1300 [A]	2000 J- [A]	210 [A]	320 [A]	430 J- [A]	25 [A]	70 J [A]	61 J- [A]
1,1-Dichloroethene	5		1800 [A]	1200 [A]	1100 J- [A]	57 [A]	67 [A]	82 J- [A]	ND (5)	ND (25) J	ND (13) J
1,2-Dichloroethane	0.6		8.6 J [A]	ND (50)	ND (50)	ND (10)	ND (13)	ND (13)	ND (5)	ND (25) J	ND (13)
1,2-Dichloropropane	1		ND (100)	ND (50)	ND (50) J	ND (10)	ND (13)	ND (13) J	ND (5)	ND (25) J	ND (13) J
2-Butanone (Methyl Ethyl Ketone)	50		ND (200)	ND (100)	ND (100)	ND (20)	ND (25)	ND (25)	ND (10)	ND (50) J	ND (25)
2-Hexanone	50		ND (200)	ND (100)	ND (100)	ND (20)	ND (25)	ND (25)	ND (10)	ND (50) J	ND (25)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)			ND (200)	ND (100)	ND (100)	ND (20)	ND (25)	ND (25)	ND (10)	ND (50) J	ND (25)
Acetone	50		ND (200)	ND (100)	ND (100)	3.3 J	ND (25)	ND (25)	2.7 J	ND (50) J	ND (25)
Benzene	1		ND (100)	ND (50)	ND (50) J	ND (10)	ND (13)	ND (13) J	ND (5)	ND (25) J	ND (13) J
Bromodichloromethane	50		ND (100)	ND (50)	ND (50) J	ND (10)	ND (13)	ND (13) J	ND (5)	ND (25) J	ND (13) J
Bromoform	50		ND (100)	ND (50)	ND (50)	ND (10)	ND (13)	ND (13)	ND (5)	ND (25) J	ND (13)
Bromomethane (Methyl Bromide)	5		ND (100)	ND (50)	ND (50) J	ND (10)	ND (13)	ND (13) J	ND (5)	ND (25) J	ND (13) J
Carbon disulfide	60		ND (200)	ND (100)	ND (100)	0.54 J	ND (25)	ND (25)	ND (10)	ND (50) J	ND (25)
Carbon tetrachloride	5		ND (100)	ND (50)	ND (50)	ND (10)	ND (13)	ND (13)	ND (5)	ND (25) J	ND (13)
Chlorobenzene	5		ND (100)	ND (50)	ND (50) J	ND (10)	ND (13)	ND (13) J	ND (5)	ND (25) J	ND (13) J
Chloroethane	5		240 [A]	250 [A]	300 J- [A]	7.8 J [A]	22 [A]	14 J- [A]	110 [A]	580 J [A]	310 J- [A]
Chloroform (Trichloromethane)	7		ND (100)	ND (50)	ND (50) J	ND (10)	ND (13)	ND (13) J	ND (5)	ND (25) J	ND (13) J
Chloromethane (Methyl Chloride)	5		ND (100)	ND (50)	ND (50)	ND (10)	ND (13)	ND (13)	ND (5)	ND (25) J	ND (13)
cis-1,2-Dichloroethene	5		8.2 J [A]	ND (50)	ND (50)	ND (10)	ND (13)	ND (13)	ND (5)	ND (25) J	ND (13)
cis-1,3-Dichloropropene	0.4		ND (100)	ND (50)	ND (50) J	ND (10)	ND (13)	ND (13) J	ND (5)	ND (25) J	ND (13) J
Dibromochloromethane	50		ND (100)	ND (50)	ND (50) J	ND (10)	ND (13)	ND (13) J	ND (5)	ND (25) J	ND (13) J
Ethylbenzene	5		ND (100)	ND (50)	ND (50) J	ND (10)	ND (13)	ND (13) J	ND (5)	ND (25) J	ND (13) J
m,p-Xylenes	5		ND (100)	ND (50)	ND (50) J	ND (10)	ND (13)	ND (13) J	ND (5)	ND (25) J	ND (13) J
Methylene chloride	5		ND (100)	ND (50)	ND (50) J	ND (10)	ND (13)	ND (13) J	ND (5)	ND (25) J	ND (13) J
o-Xylene	5		ND (100)	ND (50)	ND (50) J	ND (10)	ND (13)	ND (13) J	ND (5)	ND (25) J	ND (13) J
Styrene	5		ND (100)	ND (50)	ND (50) J	ND (10)	ND (13)	ND (13) J	ND (5)	ND (25) J	ND (13) J
Tetrachloroethene	5		ND (100)	ND (50)	ND (50) J	ND (10)	ND (13)	ND (13) J	ND (5)	ND (25) J	ND (13) J
Toluene	5		ND (100)	ND (50)	ND (50) J	ND (10)	ND (13)	ND (13) J	ND (5)	ND (25) J	ND (13) J
trans-1,2-Dichloroethene	5		ND (100)	ND (50)	ND (50) J	ND (10)	ND (13)	ND (13) J	ND (5)	ND (25) J	ND (13) J
trans-1,3-Dichloropropene	0.4		ND (100)	ND (50)	ND (50) J	ND (10)	ND (13)	ND (13) J	ND (5)	ND (25) J	ND (13) J
Trichloroethene	5		25 J [A]	ND (50)	ND (50)	0.56 J	ND (13)	ND (13)	0.31 J	ND (25) J	ND (13)
Vinyl chloride	2		94 J [A]	110 [A]	770 [A]	2.5 J [A]	150 [A]	87 [A]	4 J [A]	54 J [A]	24 [A]

TABLE II
COOPERVISION, INC.
SUMMARY OF VOLATILE GASES AND DISSOLVED GASES
MID-GRADIENT WELLS

Location			BAP-01		BAP-02			MW-3			
Sample ID			BAP-01_040215	BAP-1_100615	BAP-01-040816-0900	BAP-02_040215	BAP-2_100615	BAP-02-040816-1030	MW-3_040115	MW-3_100515	MW-3-040716-1630
Sample Date	NYSDEC TOGS		04/02/2015	10/06/2015	04/08/2016	04/02/2015	10/06/2015	04/08/2016	04/01/2015	10/05/2015	04/07/2016
Sample Type	AMBIENT WATER Class		N	N	N	N	N	N	N	N	N
Sample Depth (bgs)	GA		10 - 20 (ft)	10 - 20 (ft)	10 - 20 (ft)	10 - 20 (ft)	10 - 20 (ft)	10 - 20 (ft)	3 - 10 (ft)	3 - 10 (ft)	3 - 10 (ft)
Other (mg/L)											
Acetic acid			5.5	10	43	ND (1)	1.8	2.9			
Alkalinity, Total (as CaCO3)			261	261	328 J-	258	276	287 J-		263 J	240 J-
Butanoic acid			ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)			
Carbon			6.5	10.1	26.7	6.6	4.3	11.6			
Chloride			496	419	551	580	1410	1020	530	371 J	259
Lactic Acid			ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)			
Nitrate (as N)			ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1) J	ND (1)
Nitrite (as N)				ND (10)			ND (30)			ND (10) J	ND (1)
Propionic acid			ND (1)	2.2	9	ND (1)	ND (1)	ND (1)			
Pyruvic Acid			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)			
Sulfate			189	276	33.3	178	62.3	44.1	20.9	14.8 J	21.7
Sulfide			3.3	9	4	2.4	ND (5)	ND (1)	ND (1)	ND (5)	ND (1)
Sulfide (Acid Soluble)				9	4		ND (5)	ND (1)		ND (5) J	ND (1)
Total Organic Carbon (TOC)				10.1	26.7		4.3	11.6			
Other (ug/L)											
Ethane			ND (5)	ND (5)	ND (25)	4	ND (5)	ND (10)	ND (10)	ND (20) J	ND (25)
Ethene			ND (5)	7.2	ND (25)	ND (1)	ND (5)	ND (10)	25	42 J	29
Methane			280	360	940	71	750	2500	760	1700 J	1300
Propane			ND (5)	ND (5)	ND (25)	1.4	ND (5)	ND (10)	ND (10)	ND (20) J	ND (25)
Inorganic Compounds (mg/L)											
Nitrite (as N)			0.021			0.055			0.142		
Inorganic Compounds (ug/L)											
Iron, Dissolved	300			370 [A]	610 [A]		630 [A]	780 [A]		ND (100) J	ND (100)
Iron, Total	300			247000 [A]	1370 [A]		184000 [A]	38600 [A]		41600 J [A]	9790 [A]

Notes:
Values in bold are detected analytical results
[A] - Results exceed the NYSDEC TOGS Aambient Water Class GA

TABLE II
COOPERVISION, INC.
SUMMARY OF VOLATILE GASES AND DISSOLVED GASES
MID-GRADIENT WELLS

Location		MW-501			MW-502		
Sample ID		MW-501_040215	MW-501_100615	MW-501-040716-1430	MW-502_040215	MW-502_100615	MW-502-040716-1020
Sample Date	NYSDEC TOGS	04/02/2015	10/06/2015	04/07/2016	04/02/2015	10/06/2015	04/07/2016
Sample Type	AMBIENT WATER Class	N	N	N	N	N	N
Sample Depth (bgs)	GA	20 - 25 (ft)	20 - 25 (ft)	20 - 25 (ft)	30 - 35 (ft)	30 - 35 (ft)	30 - 35 (ft)
Volatile Organic Compounds (ug/L)							
1,1,1-Trichloroethane	5	ND (50)	ND (50)	ND (5)	ND (130)	ND (130)	ND (100)
1,1,2,2-Tetrachloroethane	5	ND (50)	ND (50)	ND (5) J	ND (130)	ND (130)	ND (100) J
1,1,2-Trichloroethane	1	ND (50)	ND (50)	ND (5) J	ND (130)	ND (130)	ND (100) J
1,1-Dichloroethane	5	140 ^[A]	71 ^[A]	37 J- ^[A]	89 J ^[A]	ND (130)	ND (100) J
1,1-Dichloroethene	5	ND (50)	ND (50)	ND (5) J	ND (130)	ND (130)	ND (100) J
1,2-Dichloroethane	0.6	ND (50)	ND (50)	ND (5)	ND (130)	ND (130)	ND (100)
1,2-Dichloropropane	1	ND (50)	ND (50)	ND (5) J	ND (130)	ND (130)	ND (100) J
2-Butanone (Methyl Ethyl Ketone)	50	ND (100)	ND (100)	ND (10)	ND (250)	ND (250)	ND (200)
2-Hexanone	50	ND (100)	ND (100)	ND (10)	ND (250)	ND (250)	ND (200)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)		ND (100)	ND (100)	ND (10)	ND (250)	ND (250)	ND (200)
Acetone	50	ND (100)	ND (100)	ND (10)	ND (250)	ND (250)	ND (200)
Benzene	1	ND (50)	ND (50)	ND (5) J	ND (130)	ND (130)	ND (100) J
Bromodichloromethane	50	ND (50)	ND (50)	ND (5) J	ND (130)	ND (130)	ND (100) J
Bromoform	50	ND (50)	ND (50)	ND (5)	ND (130)	ND (130)	ND (100)
Bromomethane (Methyl Bromide)	5	ND (50)	ND (50)	ND (5) J	ND (130)	ND (130)	ND (100) J
Carbon disulfide	60	ND (100)	ND (100)	ND (10)	ND (250)	ND (250)	ND (200)
Carbon tetrachloride	5	ND (50)	ND (50)	ND (5)	ND (130)	ND (130)	ND (100)
Chlorobenzene	5	ND (50)	ND (50)	ND (5) J	ND (130)	ND (130)	ND (100) J
Chloroethane	5	1200 ^[A]	990 ^[A]	110 J- ^[A]	3500 ^[A]	4700 ^[A]	2200 J- ^[A]
Chloroform (Trichloromethane)	7	ND (50)	ND (50)	ND (5) J	ND (130)	ND (130)	ND (100) J
Chloromethane (Methyl Chloride)	5	ND (50)	ND (50)	ND (5)	ND (130)	ND (130)	ND (100)
cis-1,2-Dichloroethene	5	ND (50)	ND (50)	ND (5)	ND (130)	ND (130)	ND (100)
cis-1,3-Dichloropropene	0.4	ND (50)	ND (50)	ND (5) J	ND (130)	ND (130)	ND (100) J
Dibromochloromethane	50	ND (50)	ND (50)	ND (5) J	ND (130)	ND (130)	ND (100) J
Ethylbenzene	5	ND (50)	ND (50)	ND (5) J	ND (130)	ND (130)	ND (100) J
m,p-Xylenes	5	ND (50)	ND (50)	ND (5) J	ND (130)	ND (130)	ND (100) J
Methylene chloride	5	ND (50)	ND (50)	ND (5) J	ND (130)	ND (130)	ND (100) J
o-Xylene	5	ND (50)	ND (50)	ND (5) J	ND (130)	ND (130)	ND (100) J
Styrene	5	ND (50)	ND (50)	ND (5) J	ND (130)	ND (130)	ND (100) J
Tetrachloroethene	5	ND (50)	ND (50)	ND (5) J	ND (130)	ND (130)	ND (100) J
Toluene	5	ND (50)	ND (50)	ND (5) J	ND (130)	ND (130)	ND (100) J
trans-1,2-Dichloroethene	5	ND (50)	ND (50)	ND (5) J	ND (130)	ND (130)	ND (100) J
trans-1,3-Dichloropropene	0.4	ND (50)	ND (50)	ND (5) J	ND (130)	ND (130)	ND (100) J
Trichloroethene	5	ND (50)	ND (50)	ND (5)	ND (130)	ND (130)	ND (100)
Vinyl chloride	2	88 ^[A]	96 ^[A]	27 ^[A]	270 ^[A]	420 ^[A]	190 ^[A]

TABLE II
COOPERVISION, INC.
SUMMARY OF VOLATILE GASES AND DISSOLVED GASES
MID-GRADIENT WELLS

Location Sample ID Sample Date Sample Type Sample Depth (bgs)	NYSDEC TOGS AMBIENT WATER Class GA	MW-501			MW-502		
		MW-501_040215	MW-501_100615	MW-501-040716-1430	MW-502_040215	MW-502_100615	MW-502-040716-1020
		04/02/2015	10/06/2015	04/07/2016	04/02/2015	10/06/2015	04/07/2016
		N	N	N	N	N	N
		20 - 25 (ft)	20 - 25 (ft)	20 - 25 (ft)	30 - 35 (ft)	30 - 35 (ft)	30 - 35 (ft)
Other (mg/L)							
Acetic acid							
Alkalinity, Total (as CaCO3)		293	379	216 J-	445	446	422 J-
Butanoic acid							
Carbon							
Chloride		5590	3960	5290	780	777	694
Lactic Acid							
Nitrate (as N)		ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Nitrite (as N)			ND (100)			ND (20)	
Propionic acid							
Pyruvic Acid							
Sulfate		92	82.6	103	2.7	3	5.4
Sulfide		1.1	ND (1)	ND (1)	1.3	ND (5)	ND (1)
Sulfide (Acid Soluble)			ND (1)	ND (1)		ND (5)	ND (1)
Total Organic Carbon (TOC)							
Other (ug/L)							
Ethane		ND (50)	ND (50)	ND (250)	ND (250)	ND (250)	ND (250)
Ethene		ND (50)	ND (50)	ND (250)	ND (250)	ND (250)	ND (250)
Methane		16000 D	9000	16000	15000	20000	23000
Propane		ND (50)	ND (50)	ND (250)	ND (250)	ND (250)	ND (250)
Inorganic Compounds (mg/L)							
Nitrite (as N)		0.011			ND (0.01)		
Inorganic Compounds (ug/L)							
Iron, Dissolved	300		2160 ^[A]	1050 ^[A]		6870 ^[A]	3820 ^[A]
Iron, Total	300		5760 ^[A]	7900 ^[A]	88400 ^[A]	51700 ^[A]	15500 ^[A]

Notes:
Values in bold are detected analytical results
[A] - Results exceed the NYSDEC TOGS Aambient Water Class GA

TABLE III
COOPERVISION, INC.
SUMMARY OF VOLATILE GASES AND DISSOLVED GASES
DOWN-GRADIENT WELLS

Location		MW-202			MW-203			MW-204			OW-306		
Sample ID		MW-202_040115	MW-202_100515	MW-202-040716-1550	MW-203_040115	MW-203_100515	MW-203-040816-1500	MW-204_040115	MW-204_100615	MW-204-040816-1410	OW-306_040115	OW-306_100515	OW-306-040816-1320
Sample Date	NYSDEC TOGS AMBIENT WATER Class	04/01/2015	10/05/2015	04/07/2016	04/01/2015	10/05/2015	04/08/2016	04/01/2015	10/06/2015	04/08/2016	04/01/2015	10/05/2015	04/08/2016
Sample Type	GA	N	N	N	N	N	N	N	N	N	N	N	N
Sample Depth (bgs)		10.1 - 20.3 (ft)	10.1 - 20.3 (ft)	10.2 - 20.3 (ft)	9.8 - 20 (ft)	9.8 - 20 (ft)	9.8 - 20 (ft)	9.8 - 20 (ft)	9.8 - 20 (ft)	9.8 - 20 (ft)	4 - 14 (ft)	4 - 14 (ft)	4 - 14 (ft)
Volatile Organic Compounds (ug/L)													
1,1,1-Trichloroethane	5	1.7 J	ND (5) J	ND (5)	ND (5)	ND (5) J	ND (5)	6.6 [A]	ND (5)	ND (5)	ND (5)	ND (5) J	ND (5)
1,1,2,2-Tetrachloroethane	5	ND (5)	ND (5) J	ND (5) J	ND (5)	ND (5) J	ND (5) J	ND (5)	ND (5)	ND (5) J	ND (5)	ND (5) J	ND (5) J
1,1,2-Trichloroethane	1	ND (5)	ND (5) J	ND (5) J	ND (5)	ND (5) J	ND (5) J	ND (5)	ND (5)	ND (5) J	ND (5)	ND (5) J	ND (5) J
1,1-Dichloroethane	5	64 [A]	72 J [A]	43 J- [A]	ND (5)	ND (5) J	ND (5) J	8.9 [A]	7 [A]	5.3 J- [A]	0.21 J	ND (5) J	ND (5) J
1,1-Dichloroethene	5	50 [A]	59 J [A]	32 J- [A]	ND (5)	ND (5) J	ND (5) J	8.8 [A]	6 [A]	ND (5) J	ND (5)	ND (5) J	ND (5) J
1,2-Dichloroethane	0.6	ND (5)	ND (5) J	ND (5)	ND (5)	ND (5) J	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5) J	ND (5)
1,2-Dichloropropane	1	ND (5)	ND (5) J	ND (5) J	ND (5)	ND (5) J	ND (5) J	ND (5)	ND (5)	ND (5) J	ND (5)	ND (5) J	ND (5) J
2-Butanone (Methyl Ethyl Ketone)	50	ND (10)	ND (10) J	ND (10)	ND (10)	ND (10) J	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10) J	ND (10)
2-Hexanone	50	ND (10)	ND (10) J	ND (10)	ND (10)	ND (10) J	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10) J	ND (10)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)		ND (10)	ND (10) J	ND (10)	ND (10)	ND (10) J	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10) J	ND (10)
Acetone	50	ND (10)	ND (10) J	ND (10)	ND (10)	ND (10) J	ND (10)	ND (10)	ND (10)	ND (10)	2.7 J	ND (10) J	ND (10)
Benzene	1	ND (5)	ND (5) J	ND (5) J	ND (5)	ND (5) J	ND (5) J	ND (5)	ND (5) J	ND (5) J	0.21 J	ND (5) J	ND (5) J
Bromodichloromethane	50	ND (5)	ND (5) J	ND (5) J	ND (5)	ND (5) J	ND (5) J	ND (5)	ND (5)	ND (5) J	ND (5)	ND (5) J	ND (5) J
Bromoform	50	ND (5)	ND (5) J	ND (5)	ND (5)	ND (5) J	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5) J	ND (5)
Bromomethane (Methyl Bromide)	5	ND (5)	ND (5) J	ND (5) J	ND (5)	ND (5) J	ND (5) J	ND (5)	ND (5)	ND (5) J	ND (5)	ND (5) J	ND (5) J
Carbon disulfide	60	ND (10)	ND (10) J	ND (10)	ND (10)	ND (10) J	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10) J	ND (10)
Carbon tetrachloride	5	ND (5)	ND (5) J	ND (5)	ND (5)	ND (5) J	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5) J	ND (5)
Chlorobenzene	5	ND (5)	ND (5) J	ND (5) J	ND (5)	ND (5) J	ND (5) J	ND (5)	ND (5)	ND (5) J	ND (5)	ND (5) J	ND (5) J
Chloroethane	5	1.3 J	ND (5) J	ND (5) J	ND (5)	ND (5) J	ND (5) J	ND (5)	ND (5)	ND (5) J	ND (5)	ND (5) J	ND (5) J
Chloroform (Trichloromethane)	7	ND (5)	ND (5) J	ND (5) J	ND (5)	ND (5) J	ND (5) J	ND (5)	ND (5)	ND (5) J	ND (5)	ND (5) J	ND (5) J
Chloromethane (Methyl Chloride)	5	ND (5)	ND (5) J	ND (5)	ND (5)	ND (5) J	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5) J	ND (5)
cis-1,2-Dichloroethene	5	ND (5)	ND (5) J	ND (5)	ND (5)	ND (5) J	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5) J	ND (5)
cis-1,3-Dichloropropene	0.4	ND (5)	ND (5) J	ND (5) J	ND (5)	ND (5) J	ND (5) J	ND (5)	ND (5)	ND (5) J	ND (5)	ND (5) J	ND (5) J
Dibromochloromethane	50	ND (5)	ND (5) J	ND (5) J	ND (5)	ND (5) J	ND (5) J	ND (5)	ND (5)	ND (5) J	ND (5)	ND (5) J	ND (5) J
Ethylbenzene	5	ND (5)	ND (5) J	ND (5) J	ND (5)	ND (5) J	ND (5) J	ND (5)	ND (5)	ND (5) J	ND (5)	ND (5) J	ND (5) J
m,p-Xylenes	5	ND (5)	ND (5) J	ND (5) J	ND (5)	ND (5) J	ND (5) J	ND (5)	ND (5)	ND (5) J	0.37 J	ND (5) J	ND (5) J
Methylene chloride	5	ND (5)	ND (5) J	ND (5) J	ND (5)	ND (5) J	ND (5) J	ND (5)	ND (5)	ND (5) J	ND (5)	ND (5) J	ND (5) J
o-Xylene	5	ND (5)	ND (5) J	ND (5) J	ND (5)	ND (5) J	ND (5) J	ND (5)	ND (5)	ND (5) J	ND (5)	ND (5) J	ND (5) J
Styrene	5	ND (5)	ND (5) J	ND (5) J	ND (5)	ND (5) J	ND (5) J	ND (5)	ND (5)	ND (5) J	ND (5)	ND (5) J	ND (5) J
Tetrachloroethene	5	ND (5)	ND (5) J	ND (5) J	ND (5)	ND (5) J	ND (5) J	ND (5)	ND (5)	ND (5) J	ND (5)	ND (5) J	ND (5) J
Toluene	5	ND (5)	ND (5) J	ND (5) J	ND (5)	ND (5) J	ND (5) J	ND (5)	ND (5)	ND (5) J	0.4 J	ND (5) J	ND (5) J
trans-1,2-Dichloroethene	5	ND (5)	ND (5) J	ND (5) J	ND (5)	ND (5) J	ND (5) J	ND (5)	ND (5)	ND (5) J	ND (5)	ND (5) J	ND (5) J
trans-1,3-Dichloropropene	0.4	ND (5)	ND (5) J	ND (5) J	ND (5)	ND (5) J	ND (5) J	ND (5)	ND (5)	ND (5) J	ND (5)	ND (5) J	ND (5) J
Trichloroethene	5	0.63 J	ND (5) J	ND (5)	ND (5)	ND (5) J	ND (5)	2.1 J	ND (5)	ND (5)	ND (5)	ND (5) J	ND (5)
Vinyl chloride	2	ND (5)	ND (5) J	ND (5)	ND (5)	ND (5) J	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5) J	ND (5)

TABLE III
COOPERVISION, INC.
SUMMARY OF VOLATILE GASES AND DISSOLVED GASES
DOWN-GRADIENT WELLS

Location			MW-202			MW-203			MW-204			OW-306		
Sample ID			MW-202_040115	MW-202_100515	MW-202-040716-1550	MW-203_040115	MW-203_100515	MW-203-040816-1500	MW-204_040115	MW-204_100615	MW-204-040816-1410	OW-306_040115	OW-306_100515	OW-306-040816-1320
Sample Date	NYSDEC TOGS AMBIENT WATER Class		04/01/2015	10/05/2015	04/07/2016	04/01/2015	10/05/2015	04/08/2016	04/01/2015	10/06/2015	04/08/2016	04/01/2015	10/05/2015	04/08/2016
Sample Type	GA		N	N	N	N	N	N	N	N	N	N	N	N
Sample Depth (bgs)			10.1 - 20.3 (ft)	10.1 - 20.3 (ft)	10.2 - 20.3 (ft)	9.8 - 20 (ft)	9.8 - 20 (ft)	9.8 - 20 (ft)	9.8 - 20 (ft)	9.8 - 20 (ft)	9.8 - 20 (ft)	4 - 14 (ft)	4 - 14 (ft)	4 - 14 (ft)
Other (mg/L)														
Acetic acid			ND (1)	ND (1) J	ND (1)									
Alkalinity, Total (as CaCO3)			160	136 J	128 J-									
Butanoic acid			ND (2)	ND (2) J	ND (2)									
Carbon			ND (1)	ND (1)	2.8									
Chloride			3800	1540 J	2180									
Lactic Acid			ND (1)	ND (1) J	ND (1)									
Nitrate (as N)			2.6	ND (1) J	1.2									
Nitrite (as N)				ND (40) J										
Propionic acid			ND (1)	ND (1) J	ND (1)									
Pyruvic Acid			ND (0.5)	ND (0.5) J	ND (0.5)									
Sulfate			404	476 J	473									
Sulfide			ND (1)	1	ND (1)									
Sulfide (Acid Soluble)				1 J	ND (1)									
Total Organic Carbon (TOC)				ND (1) J	ND (2)									
Other (ug/L)														
Ethane			ND (1)	ND (1) J	ND (1)									
Ethene			ND (1)	ND (1) J	ND (1)									
Methane			ND (1)	5.6 J	ND (1)									
Propane			ND (1)	ND (1) J	ND (1)									
Inorganic Compounds (mg/L)														
Nitrite (as N)			0.011											
Inorganic Compounds (ug/L)														
Iron, Dissolved	300			ND (100) J	ND (100)									
Iron, Total	300		920 [A]	110 J	120									

Notes:
Values in bold are detected analytical results
[A] - Results exceed the NYSDEC TOGS Aambient Water Class GA

TABLE I
COOPERVISION, INC.
SUMMARY OF VOLATILE GASES AND DISSOLVED GASES
SOURCE AREA WELLS

All values expressed in mg/L (ppm)

Sample ID: Well Screen Interval (ft): Date Sampled:	OWS-302S 13.0 - 14.0										MW-205 21.2 - 28.0										
Compound:	4/21/10	10/18/10	4/13/11	10/14/11	4/13/12	10/19/12	4/12/13	10/3/13	4/2/14	4/20/15	4/21/10	10/18/10	4/13/11	10/14/11	4/13/12	10/19/12	4/26/13	10/3/13	4/2/14	10/13/14	4/2/15
	500x Dil.	500x Dil.	500x Dil.	500x Dil.	500x Dil.	500x Dil.	500x Dil.	250x Dil.	250x Dil.	250x Dil.	1000x Dil.	2000x Dil.	2000x Dil.	2500x Dil.	2000x Dil.	2000x Dil.	2000x Dil.	2000x Dil.	2000x Dil.	2000x Dil.	2000x Dil.
VOLATILE ORGANICS																					
Acetone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	56	10	220 D	ND	ND	ND	0.47	ND	ND	ND	230 D	220	300	230	250	250	240	230	220	200	240
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.9 J
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	140	160	130	110	120	210	140	110	75	60	61
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	30	74	7.5	72	52	41	45	36	29	23	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.96 J
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	ND	ND	ND	ND	ND	ND	0.052	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dioxane	NA	NA	NA	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SEMI-VOLATILE ORGANICS																					
Bis(2-ethylhexyl) phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DISSOLVED GASES	10x Dil.	20x Dil.		125x Dil.	125x Dil.	125x Dil.	100x Dil.	200x Dil.	100x Dil.	10x Dil.							5x Dil.	10x Dil.	25x Dil.	20x Dil.	50x Dil.
Methane	0.93	1.3	0.054	11	13	17	6.6	14	8.8	0.46	0.011	0.006	0.130	0.024	0.021	0.015	0.520	1.000	2.200	2.0	3.0
Ethane	ND	ND	0.018	0.0057	ND	ND	ND	ND	ND	ND	0.013	0.006	0.011	0.024	0.021	0.012	0.014	0.010	ND	0.13	ND
Ethene	ND	ND	0.026	0.0052	ND	ND	ND	ND	ND	ND	0.012	0.0062	0.0077	0.017	0.014	0.012	0.011	0.01	ND	0.12	ND

Notes & Abbreviations:

ND: Not Detected
NA: Not Analyzed
DRY: Insufficient Recharge
D: Diluted Result
J: Estimated Result
B: Blank Contamination

1. The tables represent all data as reported from the lab in concentration format (mg/L).

2. The time-trend graphs concentrations have been converted to mmol/L to provide better stoichiometric representation of relative mass of parent (TCA) to daughter (DCA, chloroethane, etc.) compounds. Also note that scale may vary between graphs in order to depict ranges of values for each well.

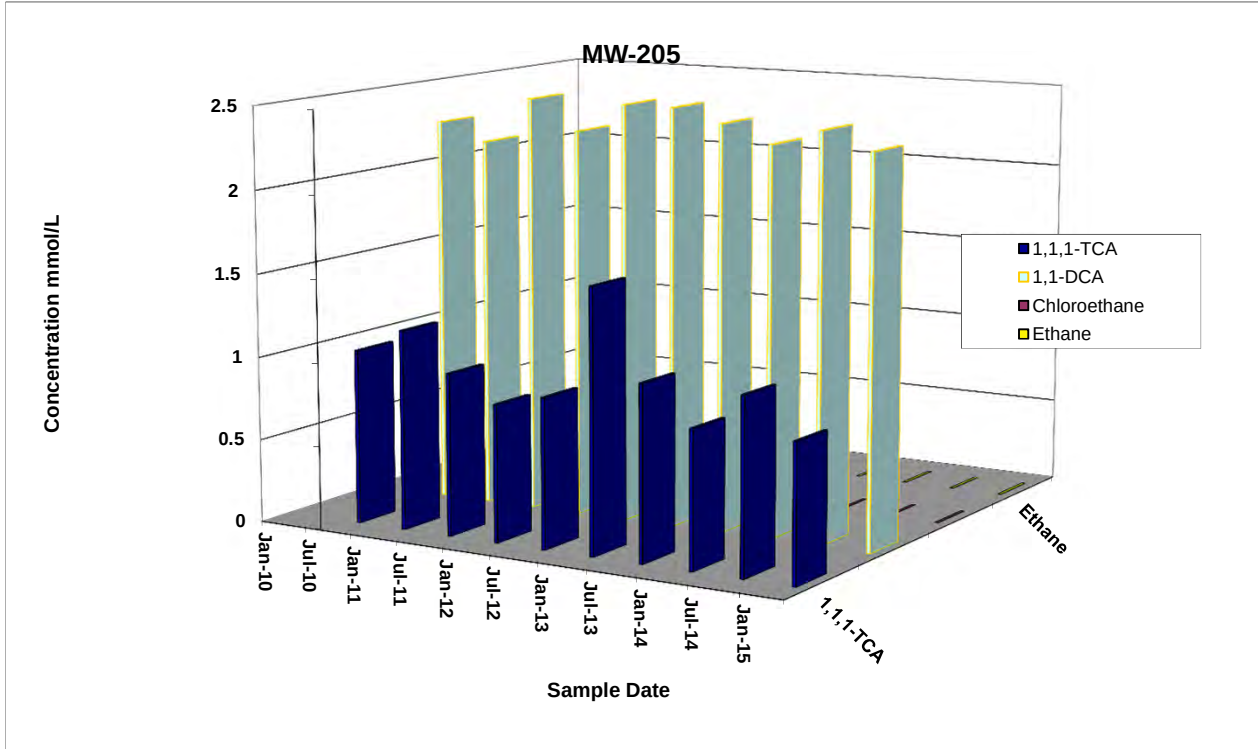
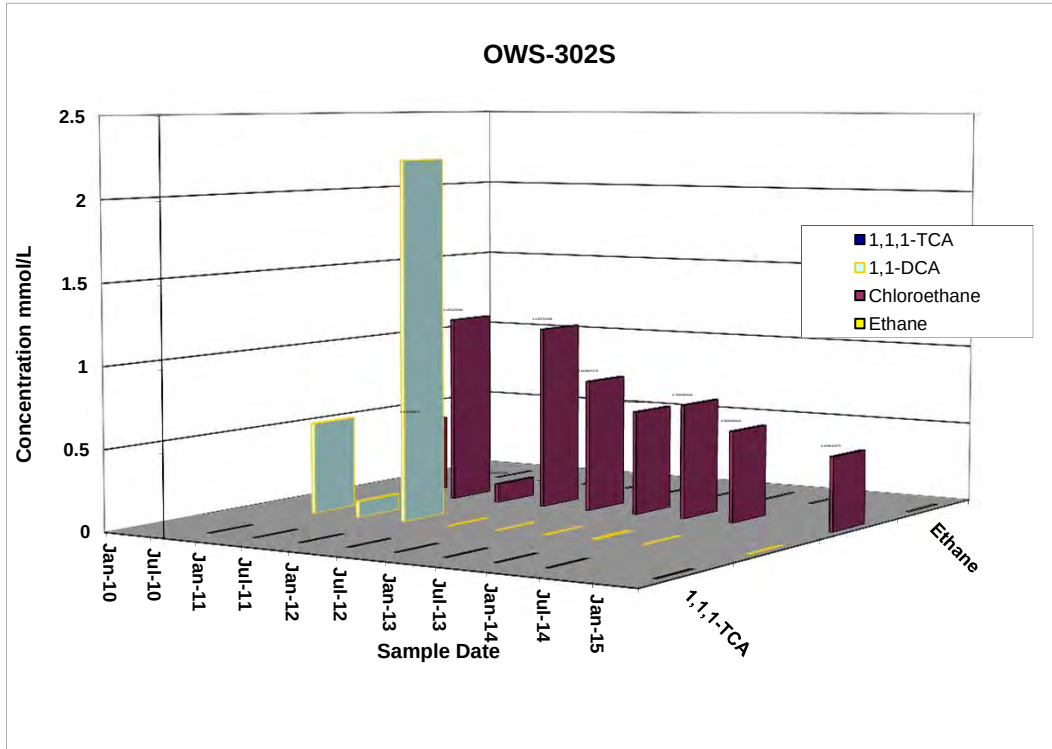


TABLE II
COOPERVISION, INC.
SUMMARY OF VOLATILE ORGANICS AND DISSOLVED GASES
MID-GRADIENT WELLS

All values expressed in mg/l (ppm)

Sample ID: Well Screen Interval (ft):												MW-501 20.0 - 25.0											
Date Sampled:	4/21/2010	10/19/2010	4/12/2011	10/14/2011	4/13/2012	10/19/2012	4/11/2013	10/3/2013	4/1/2014	10/13/2014	4/1/2015	4/21/2010	10/18/2010	4/13/2011	10/14/2011	4/13/2012	10/19/2012	4/12/2013	10/3/2013	4/2/2014	10/13/2014	4/2/2015	
Compound:																							
	MW-3 3.0 - 10.0											MW-501 20.0 - 25.0											
	4/21/2010	10/19/2010	4/12/2011	10/14/2011	4/13/2012	10/19/2012	4/11/2013	10/3/2013	4/1/2014	10/13/2014	4/1/2015	4/21/2010	10/18/2010	4/13/2011	10/14/2011	4/13/2012	10/19/2012	4/12/2013	10/3/2013	4/2/2014	10/13/2014	4/2/2015	
VOLATILE ORGANICS	10x Dil.	10x Dil.	10x Dil.	10x Dil.	10x Dil.	10x Dil.	5x Dil.	10x Dil.	5x Dil.	5x Dil.		2.5x Dil.	2.5x Dil.	5x Dil.	5x Dil.	5x Dil.	5x Dil.	5x Dil.	10x Dil.	2x Dil.	10x Dil.	10x Dil.	
Acetone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0027J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1,1-Dichloroethane	0.1	0.16	0.098	0.052	0.096	0.067	0.077	0.093	0.074	0.062	0.025	0.088	0.089	0.15	0.1	0.17	0.16	0.076	0.13	0.063	0.090	0.14	
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00031J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Chloroethane	1.0	1.7	1.5	1.1	1.7	1.0	0.94	1.2	0.99	0.82	0.11	0.46	0.49 D	1.2 D	0.9 D	0.98 D	1.4 D	0.59	1.4	0.34	1.0	1.2	
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Methylene Chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
2-Butanone (MEK)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Vinyl Chloride	0.25	0.38	0.32	0.19	0.29	0.14	0.15	0.14	0.083	0.050	0.004J	0.065	0.095	0.1	0.084	0.079	0.09	0.094	0.093	0.055	ND	0.088	
1,4-Dioxane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
DISSOLVED GASES	10x Dil.	10x Dil.	25x Dil.	25x Dil.			25x Dil.	25x Dil.	25x Dil.			250x Dil.	125x Dil.	250x Dil.	250x Dil.	250x Dil.	250x Dil.	200x Dil.	200x Dil.	200x Dil.	100x Dil.	250x Dil.	
Methane	0.93	1.6 D	1.4	2.4	4.3	3.5	1.7	2.2	1.6	0.44	0.76	15	9.7	19	13	17	12	12	12	10	2.4	16	
Ethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Ethene	0.020	0.031	0.032	0.053	0.110	0.083	0.048	0.070	0.058	0.042	0.010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	

Notes & Abbreviations:

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1. The tables represent all data as reported from the lab in concentration format (mg/L).

2. The time-trend graphs concentrations have been converted to mmol/L to provide better stoichiometric representation of relative mass of parent (TCA) to daughter (DCA, chloroethane, etc.) compounds. Also note that scale may vary between graphs in order to depict ranges of values for each well.

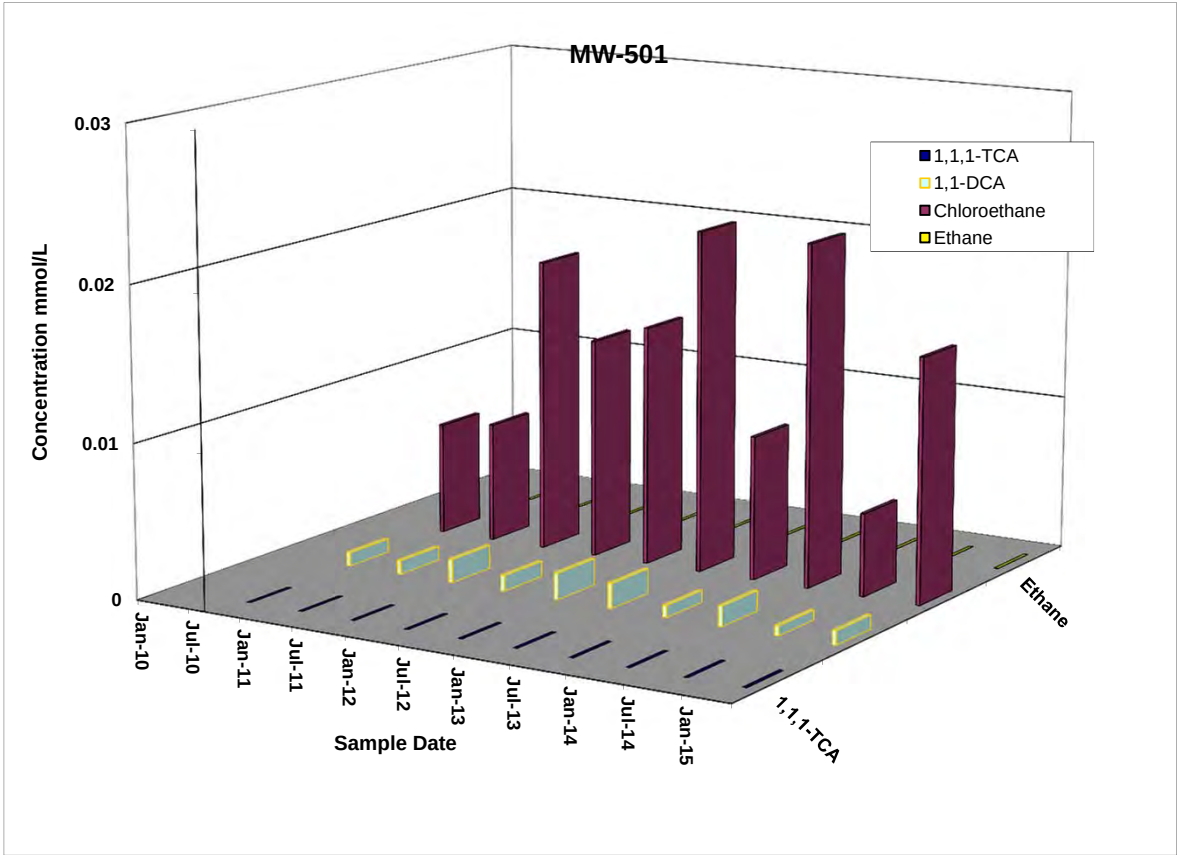
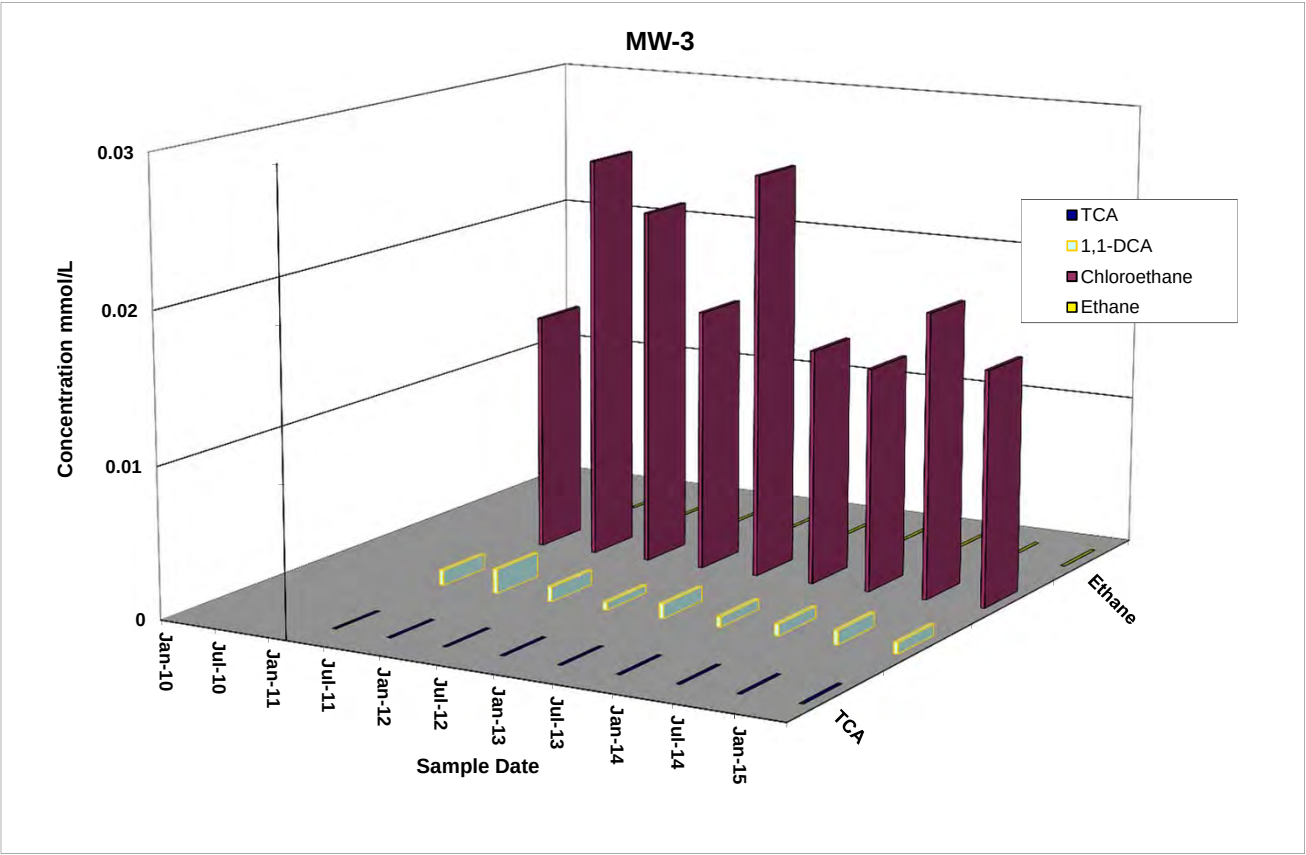


TABLE II
COOPERVISION, INC.
SUMMARY OF VOLATILE ORGANICS AND DISSOLVED GASES
MID-GRADIENT WELLS

All values expressed in mg/l (ppm)

Sample ID: Well Screen Interval (ft):												MW-502 30.0 - 35.0												BAP-01 10.0 - 20.0			BAP-02 10.0 - 20.0		
Date Sampled:	4/21/2010	10/18/2010	4/12/2011	10/14/2011	4/13/2012	10/19/2012	4/12/2013	10/3/2013	4/2/2014	10/9/2014	4/2/2015	4/2/2014	10/14/2014	4/2/2015	4/2/2014	10/13/2014	4/2/2015												
Compound:																													
VOLATILE ORGANICS	50x Dil.	100x Dil.	100x Dil.	100x Dil.	100x Dil.	100x Dil.	25x Dil.	50x Dil.	25x Dil.	25x Dil.	25x Dil.	20x Dil.	20x Dil.	20x Dil.	2x Dil.	2x Dil.	2x Dil.												
Acetone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND												
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.089 J	1.3	1.6	1.8	0.25	0.35	0.21												
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.3	2.7	1.8	0.18	0.27	0.057												
cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0082 J	ND	ND	ND												
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.019	ND	ND												
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.025 J	ND	ND	ND												
Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.25 J	ND	ND	0.00056 J												
Chloroethane	11 D	13	17	16	15	11	4.9	7.2	4.4	5.0	3.5	0.16	0.28	0.24	0.012	0.019	0.0078 J												
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0086 J	ND	ND	ND												
Methylene Chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND												
2-Butanone (MEK)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND												
Vinyl Chloride	ND	ND	ND	ND	0.6	ND	0.28	0.54	0.36	0.29	0.27	0.065	ND	0.094 J	ND	ND	0.0025 J												
1,4-Dioxane	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	ND	NA	ND	ND												
DISSOLVED GASES	200x Dil.	200x Dil.	200x Dil.	250x Dil.	250x Dil.	250x Dil.	125x Dil.	250x Dil.	250x Dil.			5x Dil.				10x Dil.													
Methane	15	11	18	17	20	21	8.8	22	16	14	15	0.33	0.39	0.28	0.061	0.33	0.071												
Ethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0011	ND	ND	0.0072	0.0023	0.004												
Ethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0072	0.0088	ND	0.002	0.0023	ND												

Notes & Abbreviations:
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1. The tables represent all data as reported from the lab in concentration format (mg/L).

2. The time-trend graphs concentrations have been converted to mmol/L to provide better stoichiometric representation of relative mass of parent (TCA) to daughter (DCA, chloroethane, etc.) compounds. Also note that scale may vary between graphs in order to depict ranges of values for each well.

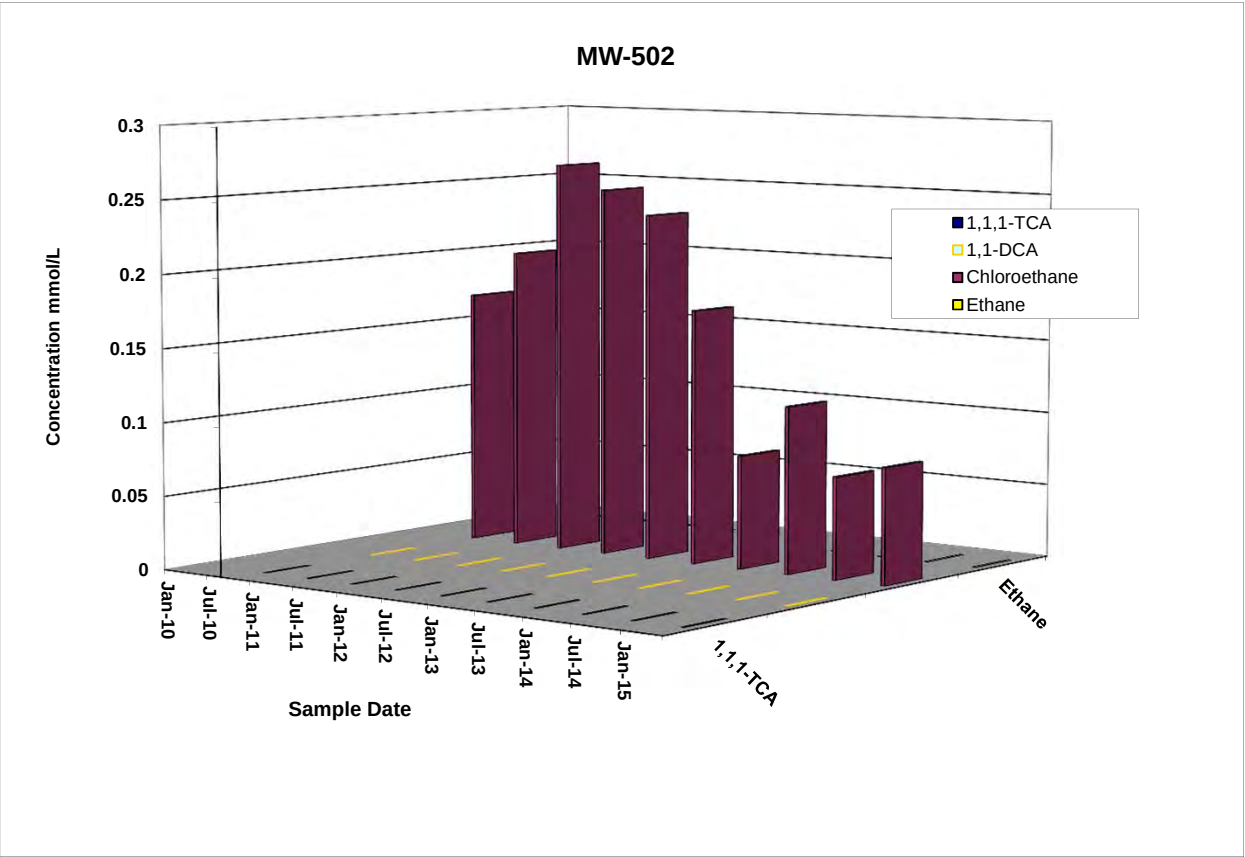


TABLE III
COOPERVISION, INC.
SUMMARY OF VOLATILE ORGANICS AND DISSOLVED GASES
DOWN-GRADIENT WELLS

All values expressed in mg/l (ppm)

Sample ID: Well Screen Interval (ft):	MW-202 10.1 - 20.3											MW-203 9.8 - 20.0										
Date Sampled:	4/21/10	10/19/10	4/12/11	10/13/11	4/12/12	10/19/12	4/11/13	10/3/13	4/1/14	10/9/14	4/1/15	4/21/10	10/19/10	4/11/11	10/13/11	4/12/12	10/18/12	4/11/13	10/3/13	4/1/14	10/9/14	4/1/15
Compound:																						
VOLATILE ORGANICS																						
Acetone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	0.0130	ND	0.0160	0.0300	0.0180	0.0510	0.0340	0.0300	0.0360	0.0360	0.064	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	0.0083	ND	0.0100	0.0200	0.0140	0.0400	0.0320	0.0260	0.0360	0.0350	0.050	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00170 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00063 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0013 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dioxane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DISSOLVED GASES																						
Methane	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.004	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethane	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethene	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes & Abbreviations:

ND: Not Detected

NA: Not Analyzed

DRY: Insufficient Recharge

D: Diluted Result

J: Estimated Result

B: Blank Contamination

E: Estimated Result

1. The tables represent all data as reported from the lab in concentration format (mg/L).

TABLE III
COOPERVISION, INC.
SUMMARY OF VOLATILE ORGANICS AND DISSOLVED GASES
DOWN-GRADIENT WELLS

All values expressed in mg/l (ppm)

Sample ID: Well Screen Interval (ft):	MW-204 9.8 - 20.0											OW-306 4.0 - 14.0									
Date Sampled:	4/21/10	10/19/10	4/12/11	10/14/11	4/12/12	10/19/12	4/11/13	10/3/13	4/2/14	10/9/14	4/1/15	4/21/10	10/19/10	4/11/11	10/13/11	4/12/12	10/18/12	4/11/13	10/2/13	4/1/14	10/9/14
Compound:																					
VOLATILE ORGANICS																					
Acetone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	0.0055	0.0130	0.0059	0.0077	0.0082	0.0071	0.0074	0.0074	0.0074	ND	0.0089	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00021 J
1,1-Dichloroethene	0.0053	0.0130	ND	0.0087	0.0084	0.0067	0.0092	0.0093	0.0094	0.0061	0.0088	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	0.0063	ND	ND	0.0051	ND	ND	ND	0.005	ND	0.0066	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0021 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dioxane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
DISSOLVED GASES																					
Methane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes & Abbreviations:
ND: Not Detected
NA: Not Analyzed
DRY: Insufficient Recharge
D: Diluted Result
J: Estimated Result
B: Blank Contamination
E: Estimated Result

1. The tables represent all data as reported from the lab in concentration format (mg/L).

TABLE IV
COOPERVISION INCORPORATED
ADDITIONAL ANALYTICAL
PARAMETER SUMMARY

Sample ID	MW-205											MW-3										
Analyte	4/24/10	10/18/10	4/13/11	10/14/11	4/13/12	10/19/12	4/26/13	10/3/13	4/2/14	10/13/14	4/2/15	4/21/10	10/19/10	4/12/11	10/14/11	4/13/12	10/19/12	4/11/13	10/3/13	4/1/14	10/14/14	4/1/15
INORGANICS (mg/L)																						
Nitrite Nitrogen	2	<0.05	<20	0.058	<20	<10	<20	<20	<20	<20	0.056	<0.50	<0.010	<0.010	<0.010	<0.1	<0.1	<10	<10	<10	<1	0.142
Nitrate/Nitrite Nitrogen	NA	NA	NA	<0.05	<0.01	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	<0.05	<0.010	<0.1	NA	NA	NA	NA	NA
Chloride	659	762	830	821	720	748	837	736	760	831	731	257	290	331	407	516	656	633	561	458	406	530
Dissolved Organic Carbon	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	-	-	-	-	-	-	-	-	NA	NA	NA	-	-	-	-	-	-	-	-	NA	NA	NA
Nitrate Nitrogen	<0.05	<4.0	<5.0	NA	NA	NA	<1	<1	<4	<1	<1	<0.50	<1.0	<1.0	NA	NA	NA	<1	<1	1 R	<1	<1
Total Alkalinity	2610	2750	<2.0	2900	2900	2980	2900	2900	3150	3300	3400	205	212	188	184	183	185	192	210	230	NA	NA
Sulfate	8.8	10.9	10.5	10	10.4	14.9	9.7	10.9	9.3	11.3	8.9	2.6	3.2	3.4	2.7	2.9	3.3	6.9	7.7	15	12.2	20.9
Total Sulfide	1.6	<1.0	<1.0	2.6	1.2	1.2	<1	<1	<1	1.6	<1	1.5	<1.0	<1.0	<1.0	<1.0	1.1	1.1	<1	<1	<1	<1.0
Total Iron	117	10.5	103	106	NA	NA	NA	99.1	NA	NA	NA	21.8	6.7	7.79	18.2	NA	NA	NA	15.2	NA	NA	NA
Total Manganese	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HRC COMPONENTS (mg/L)	20x Dil.		20x Dil	25x Dil																		
Lactic Acid (C3)	<20	<1.0	<20	<25	<25	<20	<25	<25	<100	<20	<25	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetic Acid (C2)	310	430 D	400	500	480	550	630	720	850	860	940	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Propionic Acid (C3)	820	850 D	700	730	790	860	810	890	1000	790	770	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyruvic Acid (C3)	<10	<0.5	<10	<13	<13	<10	<13	<13	<50	<10	<13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butyric Acid (C4)	1800	2600 D	2400	3000	2400	2500	3100	2900	2100	3000	3100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
FIELD PARAMETERS																						
Dissolved Oxygen (mg/L)	1	2.04	3.51	1.6	0.33	0.62	1.32	0.12	5.73	0.14	0.54	NA	NA	NA	NA	NA	NA	12.61	2.18	1.90	6.57	9.92
Redox (mV)	-113	-105	-82	-48	-105	-22	-40.7	-80.7	40.8	-139.2	-17.6	NA	NA	NA	NA	NA	NA	295.2	-94.4	73.6	81	108.8
Conductivity (mS)	12.9	6.75	6.98	0.81	10.52	7.19	7.28	6.86	0.387	7.67	7.53	NA	NA	NA	NA	NA	NA	2.13	1.93	1.94	1.78	1.7
Iron, dissolved (mg/L)	2.5	4.5	6	6	3	NA	5.5	6.5	4.5	5	1.25	0	0.3	NA	NA	NA	NA	0.5	0.0	0.5	0	0
Alkalinity (mg/L)	1460	1600	1840	2200	195	NA	NA	NA	NA	NA	NA	300	240	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Dioxide (mg/L)	NA	NA	470	NA	NA	NA	NA	NA	NA	NA	NA	136	80	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE IV
COOPERVISION INCORPORATED
ADDITIONAL ANALYTICAL
PARAMETER SUMMARY

Sample ID	MW-501											MW-502										
Analyte	7/19/01	10/18/10	4/13/11	10/14/11	4/13/12	10/19/12	4/12/13	10/3/13	4/2/14	10/13/14	4/2/15	4/21/10	10/18/10	4/12/11	10/14/11	4/12/12	10/19/12	4/12/13	10/3/13	4/2/14	10/9/14	4/2/15
INORGANICS (mg/L)																						
Nitrite Nitrogen	ND	<0.010	<0.100	<0.010	<60	<2.0	<100	<40	<200	<40	0.011	<0.50	<1.0	<1.0	<0.010	<20	<1.0	<20	<20	<20	<20	<0.010
Nitrate/Nitrite Nitrogen	0.063	NA	NA	<0.05	<1	<1.0	NA	NA	NA	NA	<1	NA	NA	NA	<0.050	<1	<1.0	NA	NA	NA	NA	NA
Chloride	355	1460	7500	1940	2820	1940	4260	1860	7090	2310	5590	562	606	693	676	744	884	862	1030	1030	935	780
Dissolved Organic Carbon	3.38	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	-	-	-	-	-	-	-	-	NA	NA	NA	-	-	-	-	-	-	-	-	NA	NA	NA
Nitrate Nitrogen	0.063	<1.0	<1.0	NA	NA	NA	<1	<1	4 R	<1	<1	<0.50	<0.010	<0.010	NA	NA	NA	<1	<1	1 R	<1	<1
Total Alkalinity	201	381	262	424	309	365	217	410	211	413	293	800	751	670	730	656	722	510	489	460	468	445
Sulfate	40.2	7.3	64.1	4.3	31.1	8.1	62.4	36.3	123	53.6	92	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	<2	<2	2.7
Total Sulfide	<1.00	1.4	<1.0	2.2	6.2	<1.0	1.8	1	<1	1.3	1.1	5.8	1.8	<1.0	<1.0	1.3	<1.0	1.4	<1	<1	<1	1.3
Total Iron	462	6.37	11.8	4.6	NA	NA	NA	21	NA	NA	NA	186	26	571	637	NA	NA	NA	11.5	NA	NA	88.4
Total Manganese	11.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HRC COMPONENTS (mg/L)																						
Lactic Acid (C3)	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetic Acid (C2)	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Propionic Acid (C3)	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyruvic Acid (C3)	<0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butyric Acid (C4)	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
FIELD PARAMETERS																						
Dissolved Oxygen (mg/L)	0.3	0.02	0	0.4	2.11	0.32	6.25	2.00	0.79	5.5	0.52	0	0.17	0	0.3	0.2	0.11	0.24	0.07	0.0	0.09	0.85
Redox (mV)	-280	-339	-122	-194	-82	-149	-34.9	-134.1	-48.2	-31	-13.4	-184	-131	-148	-157	-93	-102.5	-10.1	-143.6	-42.7	-100.7	-53.0
Conductivity (mS)	1.61	5.37	23.2	0.76	9.31	6.69	12.18	6.28	19.92	7.93	20.38	9.64	3.13	2.04	0.36	3.17	3.34	3.36	3.67	3.87	3.54	3.17
Iron, dissolved (mg/L)	ND	1.6	4.6	1	NA	NA	4.25	6.0	3.5	1.5	0.5	0	1	4.2	NA	1	NA	1.5	6.0	NA	NA	0
Alkalinity (mg/L)	920	400	270	500	60	NA	NA	NA	NA	NA	NA	2400	740	650	110	1820	NA	NA	NA	NA	NA	NA
Carbon Dioxide (mg/L)	34	225	194	37.9	217.5	NA	NA	NA	NA	NA	NA	624	NA	3838	NA	NA	NA	NA	NA	NA	NA	NA

TABLE IV
COOPERVISION INCORPORATED
ADDITIONAL ANALYTICAL
PARAMETER SUMMARY

Sample ID	OWS-302-S										MW-202			BAP-01			BAP-02		
Analyte	4/21/10	10/18/10	4/13/11	10/14/11	4/13/12	10/19/12	4/12/13	10/3/13	4/2/14	4/20/15	4/1/14	10/9/14	4/1/15	4/2/14	10/13/14	4/2/15	4/2/14	10/13/14	4/2/15
INORGANICS (mg/L)																			
Nitrite Nitrogen	<0.50	<1.0	<100	0.031	<1.0	<0.020	<50	<100	<100	<100	<100	<30	0.011	<10	<1	0.021	<10	<1	0.055
Nitrate/Nitrite Nitrogen	NA	NA	NA	<0.050	<0.060	<0.010	NA	NA	NA	NA	NA	<1	NA	NA	NA	NA	NA	NA	NA
Chloride	3070	2880	3670	3200	3300	3090	2630	2720	2790	2850	3560	1680	3800	406	466	6.5	434	574	580
Dissolved Organic Carbon	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	-	-	-	-	-	-	-	-	NA	NA	<1	NA	<1	6	NA	6.5	14.5	NA	6.6
Nitrate Nitrogen	<5.0	<0.020	<2.0	<0.050	NA	NA	<1	<1	<1	<1	1.7	<1	2.6	<1	<1	<1	<1	<1	<1
Total Alkalinity	1210	1150	622	958	772	608	676	669	749	762	150	125	160	230	219	261	260	275	258
Sulfate	44.9	2.2	8.7	<2.0	<2.0	<2.0	<2	<2	2.4	2.5	424	490	404	328	223	189	64.9	95.4	178
Total Sulfide	1.2	<1.0	4.2	<1.0	<1.0	<1.0	1.4	<1	<1	<1	<1	<1	<1	1.5	<1	3.3	1.4	<1	2.4
Total Iron	18.1	79.6	52.5	50.6	NA	NA	NA	NA	18.7	NA	NA	NA	0.92	NA	NA	NA	NA	NA	NA
Total Manganese	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HRC COMPONENTS (mg/L)																			
Lactic Acid (C3)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1
Acetic Acid (C2)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1	<1	<1	7.3	1	5.5	9.7	8.1	<1
Propionic Acid (C3)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1	<1	<1	6.5	<1	<1	1.6	1.1	<1
Pyruvic Acid (C3)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5
Butyric Acid (C4)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2	<2	<2	<2	<2.0	<2	<2	<2	<2
FIELD PARAMETERS																			
Dissolved Oxygen (mg/L)	0.86	3.08	4.66	0.7	4.71	0.48	0.64	0.08	0	2.03	1.26	0.84	2.03	0.67	0.15	2.45	0.04	0.14	6.99
Redox (mV)	-63	-100	-156	-128	-17	-71.8	-68.1	-136.3	-27	-37.6	157.2	90.3	215.8	-186.2	-107.1	-65.1	-210.5	-192.7	-87.8
Conductivity (mS)	9	12.8	17.6	1.2	7.12	9.84	3.52	8.50	9.27	9.39	12.02	6.3	10.97	2.22	2.21	2.28	2.08	2.38	2.56
Iron, dissolved (mg/L)	1.1	5.8	1.6	2.6	5	NA	4.25	7.0	3.5	2	0.0	0.0	0.0	0.0	1.5	NA	NA	NA	NA
Alkalinity (mg/L)	920	1000	900	1000	315	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Dioxide (mg/L)	526	589	1050	150	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes & Abbreviations

NS - Not Sampled

NA - Not analyzed or results not determined due to field conditions (e.g. - water too turbid to obtain field parameters).

ND - Not detected in field tests

TOC - Total Organic Carbon

D - Diluted

R - Result rejected. See Data Usability Summary Report.

* - The dissolved oxygen values detected may be a result of malfunctioning field equipment and may not be indicative of actual aquifer conditions.

1. Due to the conditions at wells MW-3, OWD-302-D, OWS-302-S, and MW-501 (poor well recharge during purging), dissolved oxygen and redox values will appear variable and may not be indicative of actual aquifer conditions.

APPENDIX J

Mann-Kendall Analysis Results

Mann-Kendall Analysis: Results
 CooperVision, Inc.
 Scottsville, New York
 VCA V00157-8

	2004-2013		2005-2014		2006-2015		2007-2016	
	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall
Source Area								
MW-205								
1,1,1-TCA	No Trend	Increasing	No Trend	No Trend	No Trend	No Trend	No Trend	No Trend
1,1-DCA	No Trend	No Trend	No Trend	No Trend	No Trend	No Trend	No Trend	No Trend
1,1-DCE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Mid-Gradient Area								
MW-3								
1,1,1-TCA	Decreasing	Decreasing	Decreasing	Decreasing	No Trend	Decreasing	No Trend	Decreasing
1,1-DCA	Decreasing	Decreasing	Decreasing	Decreasing	Decreasing	Decreasing	Decreasing	Decreasing
1,1-DCE	Decreasing	Decreasing	Decreasing	Decreasing	Decreasing	Decreasing	Decreasing	Decreasing
MW-501								
1,1,1-TCA	No Trend	No Trend	No Trend	No Trend	No Trend	No Trend	No Trend	No Trend
1,1-DCA	Decreasing	Decreasing	Decreasing	No Trend	Decreasing	No Trend	Decreasing	No Trend
1,1-DCE	No Trend	No Trend	No Trend	No Trend	No Trend	No Trend	No Trend	No Trend
MW-502								
1,1,1-TCA	No Trend	No Trend	No Trend	No Trend	Decreasing	No Trend	Decreasing	No Trend
1,1-DCA	No Trend	No Trend	No Trend	No Trend	No Trend	No Trend	No Trend	No Trend
1,1-DCE	No Trend	No Trend	No Trend	No Trend	No Trend	No Trend	No Trend	No Trend
Down-Gradient Area								
MW-202								
1,1,1-TCA	No Trend	No Trend	No Trend	No Trend	No Trend	No Trend	No Trend	No Trend
1,1-DCA	Increasing	Increasing	Increasing	Increasing	Increasing	Increasing	Increasing	Increasing
1,1-DCE	Increasing	Increasing	Increasing	Increasing	Increasing	Increasing	Increasing	Increasing
MW-204								
1,1,1-TCA	No Trend	No Trend	No Trend	No Trend	No Trend	Decreasing	No Trend	Decreasing
1,1-DCA	No Trend	No Trend	Increasing	No Trend	No Trend	Decreasing	No Trend	Decreasing
1,1-DCE	No Trend	No Trend	Increasing	No Trend	No Trend	No Trend	No Trend	No Trend

Notes:

1. This analysis uses the Mann-Kendall test for trend. The test indicates if the data is increasing or decreasing at a 95% degree of confidence.
2. A result of "No Trend" is an indication that the data set is not increasing or decreasing at the degree of confidence evaluated, or that the data does not fit the statistical model of a stable trend, or it may indicate that the data is not sufficient to establish trend.

References:

1. EPA Practical Methods for Data Analysis, EPA QA/G-9 QA00 UPDATE, July 2000.

Mann-Kendall Analysis: 1,1,1-TCA
CooperVision, Inc.
Scottsville, New York
VCA V00157-8

Degree of Confidence (Alpha):

0.05

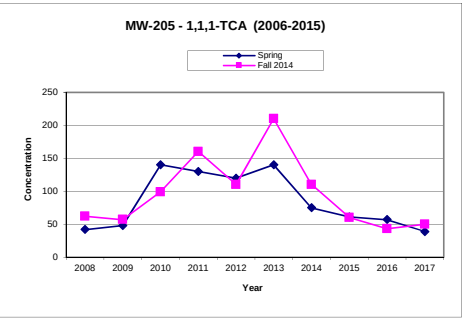
MW-205

S Value	
Neg	Pos
27	17
S Value	-10
n	10
P Value	0.019
Evaluation	Decreasing

Mann-Kendall Trend: Spring										
Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Data	42	48	140	130	120	140	75	61	57	39
42		6	98	88	78	98	33	19	15	-3
48			92	82	72	92	27	13	9	-9
140				-10	-20	0	-65	-79	-83	-101
130					-10	10	-55	-69	-73	-91
120						20	-45	-59	-63	-81
140							-65	-79	-83	-101
75								-14	-18	-36
61									-4	-22
57										-18
39										

S Value	
Neg	Pos
26	18
S Value	-8
n	10
P Value	0.242
Evaluation	No Trend

Mann-Kendall Trend: Fall										
Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Data	62	57	99	160	110	210	110	60	43	50
62		-5	37	98	48	148	48	-2	-19	-12
57			42	103	53	153	53	3	-14	-7
99				61	11	111	11	-39	-56	-49
160					-50	50	-50	-100	-117	-110
110						100	0	-50	-67	-60
210							-100	-150	-167	-160
110								-50	-67	-60
60									-17	-10
43										7
50										



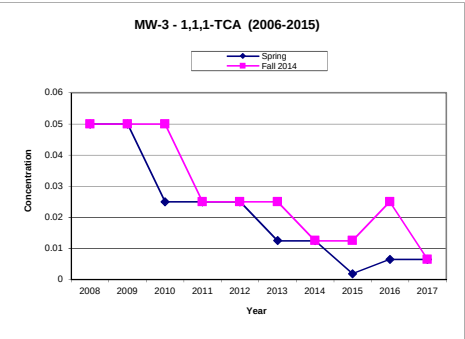
MW-3

S Value	
Neg	Pos
37	2
S Value	-35
n	10
P Value	0.00047
Evaluation	Decreasing

Mann-Kendall Trend: Spring										
Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Data	0.05	0.05	-0.025	-0.025	-0.025	-0.0375	-0.0375	-0.0481	-0.0435	-0.0435
0.05		0	-0.025	-0.025	-0.025	-0.0375	-0.0375	-0.0481	-0.0435	-0.0435
0.025				0	0	-0.0125	-0.0125	-0.0231	-0.0185	-0.0185
0.025					0	-0.0125	-0.0125	-0.0231	-0.0185	-0.0185
0.025						-0.0125	-0.0125	-0.0231	-0.0185	-0.0185
0.0125							0	-0.0106	-0.006	-0.006
0.0125								-0.0106	-0.006	-0.006
0.0019									0.0046	0.0046
0.0065										0
0.0065										

S Value	
Neg	Pos
33	2
S Value	-31
n	10
P Value	0.0023
Evaluation	Decreasing

Mann-Kendall Trend: Fall										
Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Data	0.05	0.05	0.05	-0.025	-0.025	-0.025	-0.0375	-0.0375	-0.025	-0.0435
0.05		0	0	-0.025	-0.025	-0.025	-0.0375	-0.0375	-0.025	-0.0435
0.05				-0.025	-0.025	-0.025	-0.0375	-0.0375	-0.025	-0.0435
0.025					0	0	-0.0125	-0.0125	0	-0.0185
0.025						0	-0.0125	-0.0125	0	-0.0185
0.025							-0.0125	-0.0125	0	-0.0185
0.0125								0	0.0125	-0.006
0.01									0.0125	-0.006
0.025										-0.0185
0.0065										



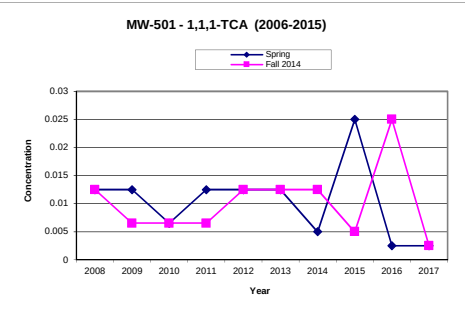
MW-501

S Value	
Neg	Pos
24	10
S Value	-14
n	10
P Value	0.108
Evaluation	No Trend

Mann-Kendall Trend: Spring										
Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Data	0.0125	0.0125	0.0065	0.0125	0.0125	0.0125	0.005	0.025	0.0025	0.0025
0.0125		0	-0.006	0	0	0	-0.0075	0.0125	-0.01	-0.01
0.0125			-0.006	0	0	0	-0.0075	0.0125	-0.01	-0.01
0.0065				0.006	0.006	0.006	-0.0015	0.0185	-0.004	-0.004
0.0125					0	0	-0.0075	0.0125	-0.01	-0.01
0.0125						0	-0.0075	0.0125	-0.01	-0.01
0.0125							-0.0075	0.0125	-0.01	-0.01
0.005								0.02	-0.0025	-0.0025
0.025									-0.0225	-0.0225
0.0025										0
0.0025										

S Value	
Neg	Pos
19	17
S Value	-2
n	10
P Value	0.431
Evaluation	No Trend

Mann-Kendall Trend: Fall										
Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Data	0.0125	0.0065	0.0065	0.0065	0.0125	0.0125	0.0125	0.005	0.025	0.0025
0.0125		-0.006	-0.006	-0.006	0	0	0	-0.0075	0.0125	-0.01
0.0065			0	0	0.006	0.006	0.006	-0.0015	0.0185	-0.004
0.0065				0	0.006	0.006	0.006	-0.0015	0.0185	-0.004
0.0065					0.006	0.006	0.006	-0.0015	0.0185	-0.004
0.0125						0	0	-0.0075	0.0125	-0.01
0.0125							0	-0.0075	0.0125	-0.01
0.0125								-0.0075	0.0125	-0.01
0.005									0.02	-0.0025
0.025										-0.0225
0.0025										



Mann-Kendall Analysis: 1,1,1-TCA
CooperVision, Inc.
Scottsville, New York
VCA V00157-8

Degree of Confidence (Alpha):

0.05

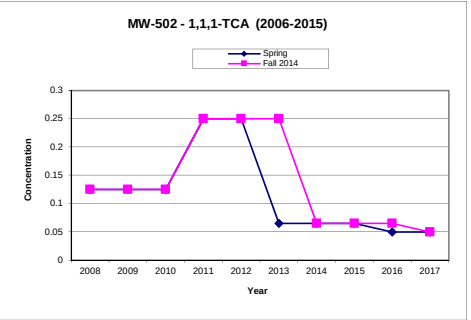
MW-502

S Value	
Neg	Pos
31	6
S Value	-25
n	10
P Value	0.014
Evaluation	Decreasing

Mann-Kendall Trend: Spring										
Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Data	0.125	0.125	0.125	0.25	0.25	0.065	0.065	0.065	0.05	0.05
0.125		0	0	0.125	0.125	-0.06	-0.06	-0.06	-0.075	-0.075
0.125			0	0.125	0.125	-0.06	-0.06	-0.06	-0.075	-0.075
0.125				0.125	0.125	-0.06	-0.06	-0.06	-0.075	-0.075
0.25					0	-0.185	-0.185	-0.185	-0.2	-0.2
0.25						-0.185	-0.185	-0.185	-0.2	-0.2
0.065							0	-0.015	-0.015	-0.015
0.065								0	-0.015	-0.015
0.05									0	0
0.05										0

S Value	
Neg	Pos
27	9
S Value	-18
n	10
P Value	0.054
Evaluation	No Trend

Mann-Kendall Trend: Fall										
Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Data	0.125	0.125	0.125	0.25	0.25	0.25	0.065	0.065	0.065	0.05
0.125		0	0	0.125	0.125	0.125	-0.06	-0.06	-0.06	-0.075
0.125			0	0.125	0.125	0.125	-0.06	-0.06	-0.06	-0.075
0.125				0.125	0.125	0.125	-0.06	-0.06	-0.06	-0.075
0.25					0	0	-0.185	-0.185	-0.185	-0.2
0.25						0	-0.185	-0.185	-0.185	-0.2
0.25							-0.185	-0.185	-0.185	-0.2
0.065								0	0	-0.015
0.065									0	-0.015
0.05										-0.015



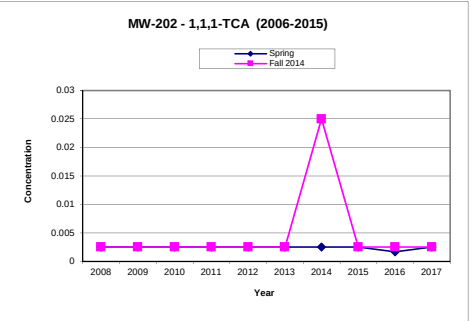
MW-202

S Value	
Neg	Pos
8	1
S Value	-7
n	10
P Value	0.3
Evaluation	No Trend

Mann-Kendall Trend: Spring										
Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Data	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0017	0.0025
0.0025		0	0	0	0	0	0	0	-0.0008	0
0.0025			0	0	0	0	0	0	-0.0008	0
0.0025				0	0	0	0	0	-0.0008	0
0.0025					0	0	0	0	-0.0008	0
0.0025						0	0	0	-0.0008	0
0.0025							0	0	-0.0008	0
0.0025								0	-0.0008	0
0.0025									-0.0008	0
0.0017										0.0008
0.0025										

S Value	
Neg	Pos
3	6
S Value	3
n	10
P Value	0.431
Evaluation	No Trend

Mann-Kendall Trend: Fall										
Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Data	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.025	0.0025	0.0025	0.0025
0.0025		0	0	0	0	0	0.0225	0	0	0
0.0025			0	0	0	0	0.0225	0	0	0
0.0025				0	0	0	0.0225	0	0	0
0.0025					0	0	0.0225	0	0	0
0.0025						0	0.0225	0	0	0
0.0025							0.0225	0	0	0
0.025								-0.0225	-0.0225	-0.0225
0.0025									0	0
0.0025										0
0.0025										0



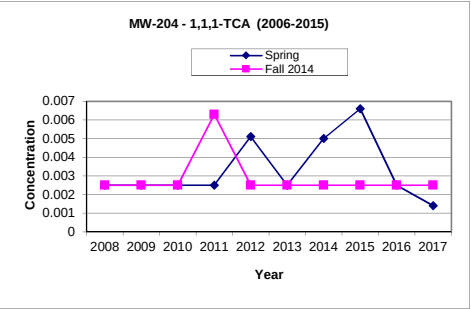
MW-204

S Value	
Neg	Pos
14	16
S Value	2
n	10
P Value	0.431
Evaluation	No Trend

Mann-Kendall Trend: Spring										
Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Data	0.0025	0.0025	0.0025	0.0025	0.0051	0.0025	0.005	0.0066	0.0025	0.0014
0.0025		0	0	0	0.0026	0	0.0025	0.0041	0	-0.0011
0.0025			0	0	0.0026	0	0.0025	0.0041	0	-0.0011
0.0025				0	0.0026	0	0.0025	0.0041	0	-0.0011
0.0025					0.0026	0	0.0025	0.0041	0	-0.0011
0.0051						-0.0026	-0.0001	0.0015	-0.0026	-0.0037
0.0025							0.0025	0.0041	0	-0.0011
0.005								0.0016	-0.0025	-0.0036
0.0066									-0.0041	-0.0052
0.0025										-0.0011
0.0014										

S Value	
Neg	Pos
6	3
S Value	-3
n	10
P Value	0.431
Evaluation	No Trend

Mann-Kendall Trend: Fall										
Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Data	0.0025	0.0025	0.0025	0.0063	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
0.0025		0	0	0.0038	0	0	0	0	0	0
0.0025			0	0.0038	0	0	0	0	0	0
0.0025				0.0038	0	0	0	0	0	0
0.0063					-0.0038	-0.0038	-0.0038	-0.0038	-0.0038	-0.0038
0.0025						0	0	0	0	0
0.0025							0	0	0	0
0.0025								0	0	0
0.0025									0	0
0.0025										0
0.0025										0



Mann-Kendall Analysis: 1,1-DCA
CooperVision, Inc.
Scottsville, New York
VCA V00157-8

Degree of Confidence (Alpha): 0.05

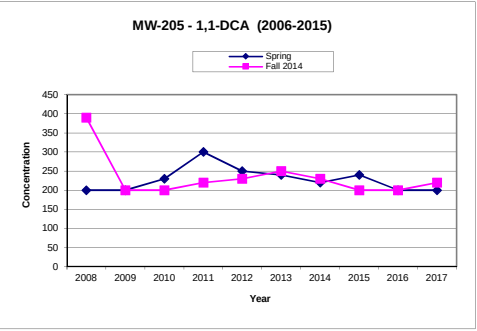
MW-205

S Value	
Neg	Pos
21	17
S Value	-4
n	10
P Value	0.364
Evaluation	No Trend

Mann-Kendall Trend: Spring										
Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Data	200	200	230	300	250	240	220	240	200	200
200		0	30	100	50	40	20	40	0	0
200			30	100	50	40	20	40	0	0
230				70	20	10	-10	10	-30	-30
300					-50	-60	-80	-60	-100	-100
250						-10	-30	-10	-50	-50
240							-20	0	-40	-40
220								20	-20	-20
240									-40	-40
200										0
200										20

S Value	
Neg	Pos
21	16
S Value	-5
n	10
P Value	0.364
Evaluation	No Trend

Mann-Kendall Trend: Fall										
Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Data	390	200	200	220	230	250	230	200	200	220
390		-190	-190	-170	-160	-140	-160	-190	-190	-170
200			0	20	30	50	30	0	0	20
200				20	30	50	30	0	0	20
220					10	30	10	-20	-20	0
230							20	0	-30	-10
250								-20	-50	-30
230									-30	-10
200									-30	-10
200									0	20
200										20
220										20



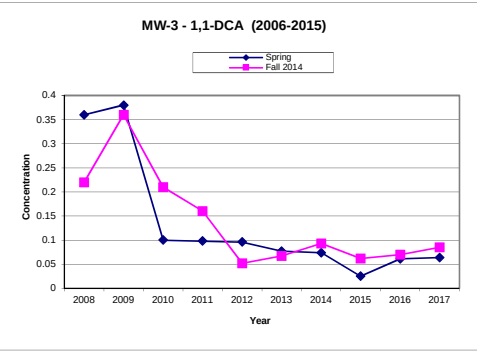
MW-3

S Value	
Neg	Pos
41	4
S Value	-37
n	10
P Value	0.00018
Evaluation	Decreasing

Mann-Kendall Trend: Spring										
Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Data	0.36	0.38	0.1	0.098	0.096	0.077	0.074	0.025	0.061	0.064
0.36		0.02	-0.26	-0.262	-0.264	-0.283	-0.286	-0.335	-0.299	-0.296
0.38			-0.28	-0.282	-0.284	-0.303	-0.306	-0.355	-0.319	-0.316
0.1				-0.002	-0.004	-0.023	-0.026	-0.075	-0.039	-0.036
0.098					-0.002	-0.021	-0.024	-0.073	-0.037	-0.034
0.096						-0.019	-0.022	-0.071	-0.035	-0.032
0.077							-0.003	-0.052	-0.016	-0.013
0.074								-0.049	-0.013	-0.01
0.025									0.036	0.039
0.061										0.003
0.064										

S Value	
Neg	Pos
33	12
S Value	-21
n	10
P Value	0.036
Evaluation	Decreasing

Mann-Kendall Trend: Fall										
Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Data	0.22	0.36	0.21	0.16	0.052	0.067	0.093	0.062	0.07	0.085
0.22		0.14	-0.01	-0.06	-0.168	-0.153	-0.127	-0.158	-0.15	-0.135
0.36			-0.15	-0.2	-0.308	-0.293	-0.267	-0.298	-0.29	-0.275
0.21				-0.05	-0.158	-0.143	-0.117	-0.148	-0.14	-0.125
0.16					-0.108	-0.093	-0.067	-0.098	-0.09	-0.075
0.052						0.015	0.041	0.01	0.018	0.033
0.067							0.026	-0.005	0.003	0.018
0.093								-0.031	-0.023	-0.008
0.062									0.008	0.023
0.07										0.015
0.085										



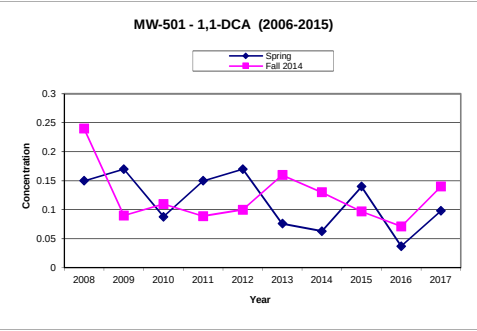
MW-501

S Value	
Neg	Pos
31	12
S Value	-19
n	10
P Value	0.054
Evaluation	No Trend

Mann-Kendall Trend: Spring										
Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Data	0.15	0.17	0.088	0.15	0.17	0.076	0.063	0.14	0.037	0.098
0.15		0.02	-0.062	0	0.02	-0.074	-0.087	-0.01	-0.113	-0.052
0.17			-0.082	-0.02	0	-0.094	-0.107	-0.03	-0.133	-0.072
0.088				0.062	0.082	-0.012	-0.025	0.052	-0.051	0.01
0.15					0.02	-0.074	-0.087	-0.01	-0.113	-0.052
0.17						-0.094	-0.107	-0.03	-0.133	-0.072
0.076							-0.013	0.064	-0.039	0.022
0.063								0.077	-0.026	0.035
0.14									-0.103	-0.042
0.037										0.061
0.098										

S Value	
Neg	Pos
25	20
S Value	-5
n	10
P Value	0.364
Evaluation	No Trend

Mann-Kendall Trend: Fall										
Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Data	0.24	0.09	0.11	0.089	0.1	0.16	0.13	0.097	0.071	0.14
0.24		-0.15	-0.13	-0.151	-0.14	-0.08	-0.11	-0.143	-0.169	-0.1
0.09			0.02	-0.001	0.01	0.07	0.04	0.007	-0.019	0.05
0.11				-0.021	-0.01	0.05	0.02	-0.013	-0.039	0.03
0.089					0.011	0.071	0.041	0.008	-0.018	0.051
0.1						0.06	0.03	-0.003	-0.029	0.04
0.16							-0.03	-0.063	-0.089	-0.02
0.13								-0.033	-0.059	0.01
0.097									-0.026	0.043
0.071										0.069
0.14										



MW-205

Mann-Kendall Trend: Spring

S Value	
Neg	Pos
0	0
S Value	0
n	10
P Value	0.5
Evaluation	No Trend

Mann-Kendall Trend: Fall

MW-205 - 1,1-DCE (2006-2015)

Year	Spring	Fall
2008	0.01	0.01
2009	0.01	0.01
2010	0.01	0.01
2011	0.01	0.01
2012	0.01	0.01
2013	0.01	0.01
2014	0.01	0.01
2015	0.01	0.01
2016	0.01	0.01
2017	0.01	0.01

S Value	
Neg	Pos
37	0
S Value	-37
n	10
P Value	0.00018
Evaluation	Decreasing

Mann-Kendall Trend: Spring

S Value	
Neg	Pos
33	2
S Value	-31
n	10
P Value	0.0023
Evaluation	Decreasing

Mann-Kendall Trend: Fall

MW-3 - 1,1-DCE (2006-2015)

Year	Spring	Fall 2014
2008	0.05	0.05
2009	0.05	0.05
2010	0.025	0.05
2011	0.025	0.025
2012	0.025	0.025
2013	0.012	0.025
2014	0.012	0.012
2015	0.012	0.012
2016	0.005	0.025
2017	0.005	0.005

S Value	
Neg	Pos
22	12
S Value	-10
n	10
P Value	0.019
Evaluation	Decreasing

Mann-Kendall Trend: Spring

S Value	
Neg	Pos
19	17
S Value	-2
n	10
P Value	0.431
Evaluation	No Trend

Mann-Kendall Trend: Fall

MW-501 - 1,1-DCE (2006-2015)

Year	Spring	Fall 2014
2008	0.012	0.012
2009	0.012	0.006
2010	0.006	0.006
2011	0.012	0.006
2012	0.012	0.012
2013	0.012	0.012
2014	0.005	0.012
2015	0.025	0.005
2016	0.002	0.025
2017	0.006	0.002

Mann-Kendall Analysis: 1,1-DCE
CooperVision, Inc.
Scottsville, New York
VCA V00157-8

Degree of Confidence (Alpha): 0.05

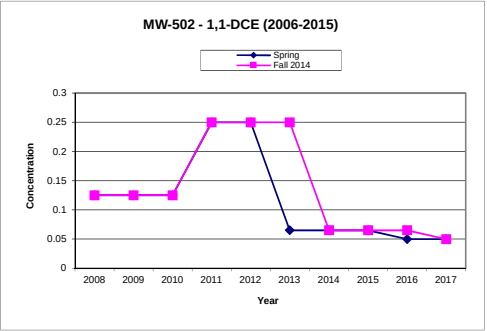
MW-502

S Value	
Neg	Pos
31	6
S Value	-25
n	10
P Value	0.014
Evaluation	Decreasing

Mann-Kendall Trend: Spring										
Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Data	0.125	0.125	0.125	0.25	0.25	0.065	0.065	0.065	0.05	0.05
0.125		0	0	0.125	0.125	-0.06	-0.06	-0.06	-0.075	-0.075
0.125			0	0.125	0.125	-0.06	-0.06	-0.06	-0.075	-0.075
0.125				0.125	0.125	-0.06	-0.06	-0.06	-0.075	-0.075
0.25					0	-0.185	-0.185	-0.185	-0.2	-0.2
0.25						-0.185	-0.185	-0.185	-0.2	-0.2
0.065							0	0	-0.015	-0.015
0.065								0	-0.015	-0.015
0.065									-0.015	-0.015
0.05										0
0.05										

S Value	
Neg	Pos
27	9
S Value	-18
n	10
P Value	0.054
Evaluation	No Trend

Mann-Kendall Trend: Fall										
Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Data	0.125	0.125	0.125	0.25	0.25	0.25	0.065	0.065	0.065	0.05
0.125		0	0	0.125	0.125	0.125	-0.06	-0.06	-0.06	-0.075
0.125			0	0.125	0.125	0.125	-0.06	-0.06	-0.06	-0.075
0.125				0.125	0.125	0.125	-0.06	-0.06	-0.06	-0.075
0.25					0	0	-0.185	-0.185	-0.185	-0.2
0.25						0	-0.185	-0.185	-0.185	-0.2
0.25							-0.185	-0.185	-0.185	-0.2
0.065								0	0	-0.015
0.065									0	-0.015
0.065										-0.015
0.05										



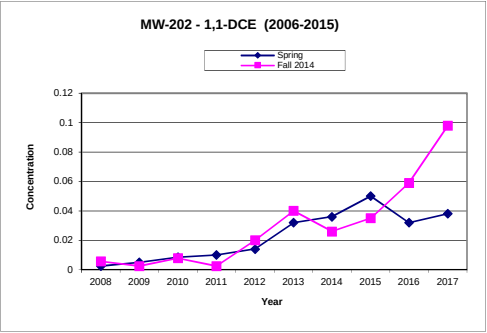
MW-202

S Value	
Neg	Pos
3	41
S Value	38
n	10
P Value	--
Evaluation	No Trend

Mann-Kendall Trend: Spring										
Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Data	0.0025	0.005	0.0085	0.01	0.014	0.032	0.036	0.05	0.032	0.038
0.0025		0.0025	0.006	0.0075	0.0115	0.0295	0.0335	0.0475	0.0295	0.0355
0.005			0.0035	0.005	0.009	0.027	0.031	0.045	0.027	0.033
0.0085				0.0015	0.0055	0.0235	0.0275	0.0415	0.0235	0.0295
0.01					0.004	0.022	0.026	0.04	0.022	0.028
0.014						0.018	0.022	0.036	0.018	0.024
0.032							0.004	0.018	0	0.006
0.036								0.014	-0.004	0.002
0.05									-0.018	-0.012
0.032										0.006
0.038										

S Value	
Neg	Pos
5	39
S Value	34
n	10
P Value	0.00047
Evaluation	Increasing

Mann-Kendall Trend: Fall										
Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Data	0.0056	0.0025	0.0078	0.0025	0.02	0.04	0.026	0.035	0.059	0.098
0.0056		-0.0031	0.0022	-0.0031	0.0144	0.0344	0.0204	0.0294	0.0534	0.0924
0.0025			0.0053	0	0.0175	0.0375	0.0235	0.0325	0.0565	0.0955
0.0078				-0.0053	0.0122	0.0322	0.0182	0.0272	0.0512	0.0902
0.0025					0.0175	0.0375	0.0235	0.0325	0.0565	0.0955
0.02						0.02	0.006	0.015	0.039	0.078
0.04							-0.014	-0.005	0.019	0.058
0.026								0.009	0.033	0.072
0.035									0.024	0.063
0.059										0.039
0.098										



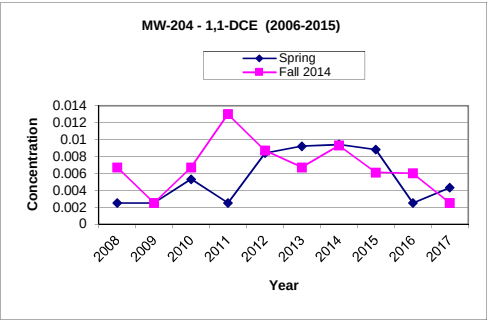
MW-204

S Value	
Neg	Pos
13	26
S Value	13
n	10
P Value	0.146
Evaluation	No Trend

Mann-Kendall Trend: Spring										
Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Data	0.0025	0.0025	0.0053	0.0025	0.0084	0.0092	0.0094	0.0088	0.0025	0.0043
0.0025		0	0.0028	0	0.0059	0.0067	0.0069	0.0063	0	0.0018
0.0025			0.0028	0	0.0059	0.0067	0.0069	0.0063	0	0.0018
0.0053				-0.0028	0.0031	0.0039	0.0041	0.0035	-0.0028	-0.001
0.0025					0.0059	0.0067	0.0069	0.0063	0	0.0018
0.0084						0.0008	0.001	0.0004	-0.0059	-0.0041
0.0092							0.0002	-0.0004	-0.0067	-0.0049
0.0094								-0.0006	-0.0069	-0.0051
0.0088									-0.0063	-0.0045
0.0025										0.0018
0.0043										

S Value	
Neg	Pos
26	15
S Value	-11
n	10
P Value	0.019
Evaluation	Decreasing

Mann-Kendall Trend: Fall										
Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Data	0.0067	0.0025	0.0067	0.013	0.0087	0.0067	0.0093	0.0061	0.006	0.0025
0.0067		-0.0042	0	0.0063	0.002	0	0.0026	-0.0006	-0.0007	-0.0042
0.0025			0.0042	0.0105	0.0062	0.0042	0.0068	0.0036	0.0035	0
0.0067				0.0063	0.002	0	0.0026	-0.0006	-0.0007	-0.0042
0.013					-0.0043	-0.0063	-0.0037	-0.0069	-0.007	-0.0105
0.0087						-0.002	0.0006	-0.0026	-0.0027	-0.0062
0.0067							0.0026	-0.0006	-0.0007	-0.0042
0.0093								-0.0032	-0.0033	-0.0068
0.0061									-0.0001	-0.0036
0.006										-0.0035
0.0025										



Mann-Kendall Analysis: 1,1-DCA
CooperVision, Inc.
Scottsville, New York
VCA V00157-8

Degree of Confidence (Alpha): 0.05

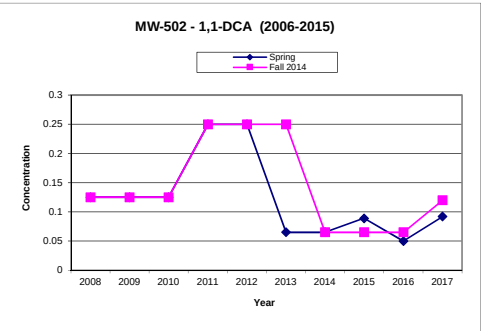
MW-502

S Value	
Neg	Pos
28	12
S Value	-16
n	10
P Value	0.078
Evaluation	No Trend

Mann-Kendall Trend: Spring										
Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Data	0.125	0.125	0.125	0.25	0.25	0.065	0.065	0.089	0.05	0.092
0.125		0	0	0.125	0.125	-0.06	-0.06	-0.036	-0.075	-0.033
0.125			0	0.125	0.125	-0.06	-0.06	-0.036	-0.075	-0.033
0.125				0.125	0.125	-0.06	-0.06	-0.036	-0.075	-0.033
0.25					0	-0.185	-0.185	-0.161	-0.2	-0.158
0.25						-0.185	-0.185	-0.161	-0.2	-0.158
0.065							0	0.024	-0.015	0.027
0.065								0.024	-0.015	0.027
0.089									-0.039	0.003
0.05										0.042
0.092										

S Value	
Neg	Pos
24	12
S Value	-12
n	10
P Value	0.146
Evaluation	No Trend

Mann-Kendall Trend: Fall										
Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Data	0.125	0.125	0.125	0.25	0.25	0.25	0.065	0.065	0.065	0.12
0.125		0	0	0.125	0.125	0.125	-0.06	-0.06	-0.06	-0.005
0.125			0	0.125	0.125	0.125	-0.06	-0.06	-0.06	-0.005
0.125				0.125	0.125	0.125	-0.06	-0.06	-0.06	-0.005
0.25					0	0	-0.185	-0.185	-0.185	-0.13
0.25						0	-0.185	-0.185	-0.185	-0.13
0.25							-0.185	-0.185	-0.185	-0.13
0.065								0	0	0.055
0.065									0	0.055
0.065										0.055
0.12										



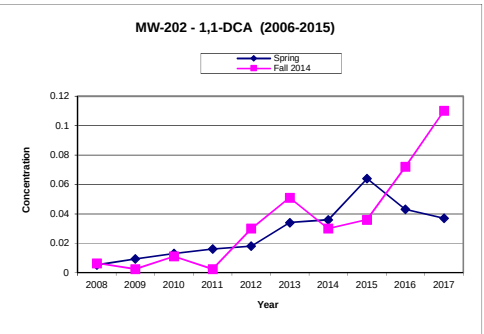
MW-202

S Value	
Neg	Pos
3	42
S Value	43
n	10
P Value	0.0000028
Evaluation	Increasing

Mann-Kendall Trend: Spring										
Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Data	0.0053	0.0093	0.013	0.016	0.018	0.034	0.036	0.064	0.043	0.037
0.0053		0.004	0.0077	0.0107	0.0127	0.0287	0.0307	0.0587	0.0377	0.0317
0.0093			0.0037	0.0067	0.0087	0.0247	0.0267	0.0547	0.0337	0.0277
0.013				0.003	0.005	0.021	0.023	0.051	0.03	0.024
0.016					0.002	0.018	0.02	0.048	0.027	0.021
0.018						0.016	0.018	0.046	0.025	0.019
0.034							0.002	0.03	0.009	0.003
0.036								0.028	0.007	0.001
0.064									-0.021	-0.027
0.043										-0.006
0.037										

S Value	
Neg	Pos
5	38
S Value	33
n	10
P Value	0.0011
Evaluation	Increasing

Mann-Kendall Trend: Fall										
Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Data	0.0064	0.0025	0.011	0.0025	0.03	0.051	0.03	0.036	0.072	0.11
0.0064		-0.0039	0.0046	-0.0039	0.0236	0.0446	0.0236	0.0296	0.0656	0.1036
0.0025			0.0085	0	0.0275	0.0485	0.0275	0.0335	0.0695	0.1075
0.011				-0.0085	0.019	0.04	0.019	0.025	0.061	0.099
0.0025					0.0275	0.0485	0.0275	0.0335	0.0695	0.1075
0.03						0.021	0	0.006	0.042	0.08
0.051							-0.021	-0.015	0.021	0.059
0.03								0.006	0.042	0.08
0.036									0.036	0.074
0.072										0.038
0.11										



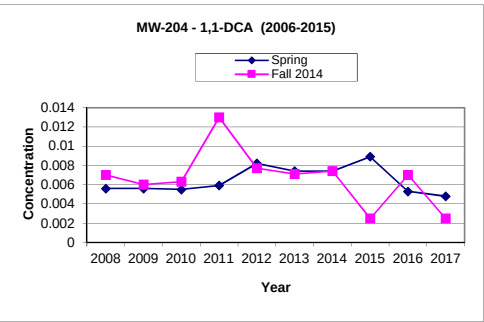
MW-204

S Value	
Neg	Pos
21	22
S Value	1
n	10
P Value	0.5
Evaluation	No Trend

Mann-Kendall Trend: Spring										
Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Data	0.0056	0.0056	0.0055	0.0059	0.0082	0.0074	0.0074	0.0089	0.0053	0.0048
0.0056		0	-0.0001	0.0003	0.0026	0.0018	0.0018	0.0033	-0.0003	-0.0008
0.0056			-0.0001	0.0003	0.0026	0.0018	0.0018	0.0033	-0.0003	-0.0008
0.0055				0.0004	0.0027	0.0019	0.0019	0.0034	-0.0002	-0.0007
0.0059					0.0023	0.0015	0.0015	0.003	-0.0006	-0.0011
0.0082						-0.0008	-0.0008	0.0007	-0.0029	-0.0034
0.0074							0	0.0015	-0.0021	-0.0026
0.0074								0.0015	-0.0021	-0.0026
0.0089									-0.0036	-0.0041
0.0053										-0.0005
0.0048										

S Value	
Neg	Pos
26	17
S Value	-9
n	10
P Value	0.242
Evaluation	No Trend

Mann-Kendall Trend: Fall										
Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Data	0.007	0.006	0.0063	0.013	0.0077	0.0071	0.0074	0.0025	0.007	0.0025
0.007		-0.001	-0.0007	0.006	0.0007	0.0001	0.0004	-0.0045	0	-0.0045
0.006			0.0003	0.007	0.0017	0.0011	0.0014	-0.0035	0.001	-0.0035
0.0063				0.0067	0.0014	0.0008	0.0011	-0.0038	0.0007	-0.0038
0.013					-0.0053	-0.0059	-0.0056	-0.0105	-0.006	-0.0105
0.0077						-0.0006	-0.0003	-0.0052	-0.0007	-0.0052
0.0071							0.0003	-0.0046	-0.0001	-0.0046
0.0074								-0.0049	-0.0004	-0.0049
0.0025									0.0045	0
0.007										-0.0045
0.0025										



APPENDIX K

SSD System Maintenance and Monitoring Documentation



TITLE: Monthly SSD System Monitoring

FORM NUMBER:

FM00916

REFERENCE SOP: SOP142-30

REVISION NUMBER: 3

Location (Site / Facility Name): CooperVision, Inc.
Location (Address): Scottsville, New York
Client: CooperVision, Inc.

Date	Initials	Vacuum Reading (in. w.c.)						Visual Inspection	Comments / Remarks
		S-1 Rochester	S-2 Honeoye Falls	S-3 Hilton	S-4/5 Palmyra	S-6 Spencerport	S-7 Brockport		
5-9-16	JDM	3.8	3.8	1.5	2.2	3.5	1.7	OK	

Notes:

Document monthly readings

Email results yearly to contacts

Readings are in inches of water column (in.w.c.)

Contacts:

Mark Ramsdell

Haley & Aldrich 321-4262

Mramsdell@HaleyAldrich.com

 CooperVision™	TITLE: Monthly SSD System Monitoring	FORM NUMBER: FM00916
	REFERENCE SOP: SOP142-30	REVISION NUMBER: 3

Location (Site / Facility Name): CooperVision, Inc.
Location (Address): Scottsville, New York
Client: CooperVision, Inc.

Date	Initials	Vacuum Reading (in. w.c.)						Visual Inspection	Comments / Remarks
		S-1 Rochester	S-2 Honeoye Falls	S-3 Hilton	S-4/5 Palmyra	S-6 Spencerport	S-7 Brockport		
6-8-16	DWP	3.8	3.7	1.5	2.2	3.7	1.7	Yes	All Good

Notes:
 Document monthly readings
 Email results yearly to contacts
 Readings are in inches of water column (in.w.c.)

Contacts:
 Mark Ramsdell
 Haley & Aldrich 321-4262
Mramsdell@HaleyAldrich.com

 CooperVision™	TITLE: Monthly SSD System Monitoring	FORM NUMBER: FM00916
	REFERENCE SOP: SOP142-30	REVISION NUMBER: 3

Location (Site / Facility Name): CooperVision, Inc.
Location (Address): Scottsville, New York
Client: CooperVision, Inc.

Date	Initials	Vacuum Reading (in. w.c.)						Visual Inspection	Comments / Remarks
		S-1 Rochester	S-2 Honeoye Falls	S-3 Hilton	S-4/5 Palmyra	S-6 Spencerport	S-7 Brockport		
7-8-16	DOP	3.8	3.6	1.5	2.2	3.7	1.7	YES	Looks good

Notes:
 Document monthly readings
 Email results yearly to contacts
 Readings are in inches of water column (in.w.c.)

Contacts:
 Mark Ramsdell
 Haley & Aldrich 321-4262
Mramsdell@HaleyAldrich.com



TITLE: Monthly SSD System Monitoring

FORM NUMBER:

FM00916

REFERENCE SOP: SOP142-30

REVISION NUMBER: 3

Location (Site / Facility Name): CooperVision, Inc.
Location (Address): Scottsville, New York
Client: CooperVision, Inc.

Vacuum Reading (in. w.c.)

Date	Initials	S-1	S-2	S-3	S-4/5	S-6	S-7	Visual Inspection	Comments / Remarks
		Rochester	Honeoye Falls	Hilton	Palmyra	Spencerport	Brockport		
8-1-16	JJK	3.8	3.6	1.5	2.1	3.8	1.5		All good.

Notes:

Document monthly readings
Email results yearly to contacts
Readings are in inches of water column (in.w.c.)

Contacts:

Mark Ramsdell
Haley & Aldrich 321-4262
Mramsdell@HaleyAldrich.com



TITLE: Monthly SSD System Monitoring

FORM NUMBER: FM00916

REFERENCE SOP: SOP142-30

REVISION NUMBER: 3

Location (Site / Facility Name): CooperVision, Inc.
Location (Address): Scottsville, New York
Client: CooperVision, Inc.

Date	Initials	Vacuum Reading (in. w.c.)						Visual Inspection	Comments / Remarks
		S-1 Rochester	S-2 Honeoye Falls	S-3 Hilton	S-4/5 Palmyra	S-6 Spencerport	S-7 Brockport		
8-31-16	D.W.R.	3.8	3.6	1.5	2.1	3.8	1.5	Yes	Good

Notes:

Document monthly readings
Email results yearly to contacts
Readings are in inches of water column (in.w.c.)

Contacts:

Mark Ramsdell
Haley & Aldrich 321-4262
Mramsdell@HaleyAldrich.com



 CooperVision™	TITLE: Monthly SSD System Monitoring	FORM NUMBER: FM00916
	REFERENCE SOP: SOP142-30	REVISION NUMBER: 3

Location (Site / Facility Name): CooperVision, Inc.
Location (Address): Scottsville, New York
Client: CooperVision, Inc.

Date	Initials	Vacuum Reading (in. w.c.)						Visual Inspection	Comments / Remarks
		S-1 Rochester	S-2 Honeoye Falls	S-3 Hilton	S-4/5 Palmyra	S-6 Spencerport	S-7 Brockport		
10-30-16	DWP	3.8	3.6	1.5	2.2	3.8	1.5	YES	Looks good

Notes:

Document monthly readings
 Email results yearly to contacts
 Readings are in inches of water column (in.w.c.)

Contacts:

Mark Ramsdell
 Haley & Aldrich 321-4262
Mramsdell@HaleyAldrich.com

	TITLE: Monthly SSD System Monitoring	FORM NUMBER: FM00916
	REFERENCE SOP: SOP142-30	REVISION NUMBER: 3

Location (Site / Facility Name): CooperVision, Inc.
Location (Address): Scottsville, New York
Client: CooperVision, Inc.

Date	Initials	Vacuum Reading (in. w.c.)						Visual Inspection	Comments / Remarks
		S-1 Rochester	S-2 Honeoye Falls	S-3 Hilton	S-4/5 Palmyra	S-6 Spencerport	S-7 Brockport		
11-29-16	DSP	3.8	3.6	1.5	2.2	3.8	1.5	YES	Looks Good

Notes:

Document monthly readings
 Email results yearly to contacts
 Readings are in inches of water column (in.w.c.)

Contacts:

Mark Ramsdell
 Haley & Aldrich 321-4262
Mramsdell@HaleyAldrich.com

 CooperVision™	TITLE: Monthly SSD System Monitoring	FORM NUMBER: FM00916
	REFERENCE SOP: SOP142-30	REVISION NUMBER: 3

Location (Site / Facility Name): CooperVision, Inc.
Location (Address): Scottsville, New York
Client: CooperVision, Inc.

Date	Initials	Vacuum Reading (in. w.c.)						Visual Inspection	Comments / Remarks
		S-1 Rochester	S-2 Honeoye Falls	S-3 Hilton	S-4/5 Palmyra	S-6 Spencerport	S-7 Brockport		
12-28-16	JK	3.8	3.6	1.5	2.2	3.8	1.5	yes	good

Notes:
 Document monthly readings
 Email results yearly to contacts
 Readings are in inches of water column (in.w.c.)

Contacts:
 Mark Ramsdell
 Haley & Aldrich 321-4262
Mramsdell@HaleyAldrich.com

 CooperVision™	TITLE: Monthly SSD System Monitoring	FORM NUMBER: FM00916
	REFERENCE SOP: SOP142-30	REVISION NUMBER: 3

Location (Site / Facility Name): CooperVision, Inc.
Location (Address): Scottsville, New York
Client: CooperVision, Inc.

Date	Initials	Vacuum Reading (in. w.c.)						Visual Inspection	Comments / Remarks
		S-1 Rochester	S-2 Honeoye Falls	S-3 Hilton	S-4/5 Palmyra	S-6 Spencerport	S-7 Brockport		
1-27-17	DWP	3.8	3.6	1.5	2.2	4.0	1.6	Yes	Looks Good

Notes:

Document monthly readings
 Email results yearly to contacts
 Readings are in inches of water column (in.w.c.)

Contacts:

Mark Ramsdell
 Haley & Aldrich 321-4262
Mramsdel@HaleyAldrich.com

 CooperVision™	TITLE: Monthly SSD System Monitoring	FORM NUMBER: FM00916
	REFERENCE SOP: SOP142-30	REVISION NUMBER: 3

Location (Site / Facility Name): CooperVision, Inc.
Location (Address): Scottsville, New York
Client: CooperVision, Inc.

Date	Initials	Vacuum Reading (in. w.c.)						Visual Inspection	Comments / Remarks
		S-1 Rochester	S-2 Honeoye Falls	S-3 Hilton	S-4/5 Palmyra	S-6 Spencerport	S-7 Brockport		
2-26-17	DWP	3.8	3.6	1.5	2.2	4.0	1.6	YES	Looks Good

Notes:
 Document monthly readings
 Email results yearly to contacts
 Readings are in inches of water column (in.w.c.)

Contacts:
 Mark Ramsdell
 Haley & Aldrich 321-4262
Mramsdell@HaleyAldrich.com



TITLE: Monthly SSD System Monitoring

FORM NUMBER:

FM00916

REFERENCE SOP: SOP142-30

REVISION NUMBER: 3

Location (Site / Facility Name): CooperVision, Inc.
Location (Address): Scottsville, New York
Client: CooperVision, Inc.

Date	Initials	Vacuum Reading (in. w.c.)						Visual Inspection	Comments / Remarks
		S-1 Rochester	S-2 Honeoye Falls	S-3 Hilton	S-4/5 Palmyra	S-6 Spencerport	S-7 Brockport		
3-27-17	DJR	3.8	3.6	1.5	2.2	4.0	1.6	OK	All Good.

Notes:

Document monthly readings
Email results yearly to contacts
Readings are in inches of water column (in.w.c.)

Contacts:

Mark Ramsdell
Haley & Aldrich 321-4262
Mramsdell@HaleyAldrich.com

	TITLE: Monthly SSD System Monitoring	FORM NUMBER: FM00916
	REFERENCE SOP: SOP142-30	REVISION NUMBER: 3

Location (Site / Facility Name): CooperVision, Inc.
Location (Address): Scottsville, New York
Client: CooperVision, Inc.

Date	Initials	Vacuum Reading (in. w.c.)						Visual Inspection	Comments / Remarks
		S-1 Rochester	S-2 Honeoye Falls	S-3 Hilton	S-4/5 Palmyra	S-6 Spencerport	S-7 Brockport		
4-27-17	JGK	3.8	3.6	1.5	2.2	4.0	1.6	Yes	good

Notes:
 Document monthly readings
 Email results yearly to contacts
 Readings are in inches of water column (in.w.c.)

Contacts:
 Mark Ramsdell
 Haley & Aldrich 321-4262
Mramsdell@HaleyAldrich.com

