Periodic Review Report
for Site No. 932001
Airco Properties, Inc., Airco Parcel
Niagara Falls, New York

Prepared for

Linde Gas North America, LLC
425 Avenue P
Newark, NJ 07105

Prepared by

Greenstar Environmental Solutions, LLC
6 Gellatly Drive
Wappingers Falls, New York 12590
(845) 223-9944

March 2022
Project No.: 150C265.1047

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Charles E. McLeod, Jr., P.E.
Senior Engineer

31 March 2022
Date

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EXECUTIVE SUMMARY

The remedy for the Airco Parcel in Niagara Falls, New York included the construction of a modified Title 6 New York Codes of Rules and Regulations (NYCRR) Part 360 landfill cap and a collection and treatment system for groundwater which was discharging to the ground surface in the southwest corner of the site. The site remedy has been operating since 2000. Regular maintenance and system modifications have occurred on an as needed basis since the remedy was completed in 2000.

Has the remedy been operating as designed?

The periodic review of the remedy found that the remedy was constructed in accordance with the requirements of the Interim Remedial Measure (IRM). The remedy is functioning as designed and the threats at the site have been eliminated through capping of the waste and prevention of releases of untreated groundwater.

Have there been reductions/improvements in Constituents of Concern since remedy implementation?

Since the site is an unlined landfill, concentrations of Constituents of Concern **(**COCs) in shallow groundwater in contact with waste may remain above some water quality standards, however, there is no data to support this assumption. The overarching intent of the remedy is to prevent exposure pathways, and to prevent the release of untreated groundwater. The remedy has significantly reduced the exposure pathways through capping of the former landfill and prevented leachate discharge to ground surface. The landfill cap is functioning as intended and has minimized the migration of contaminants to groundwater and eliminated environmental and human exposure. There have been no changes in the physical conditions of the site that would affect the protectiveness of the remedy.

What, if any, issues have been raised, and what modification are recommended?

The Groundwater Collection and Treatment System (GCTS) has been performing as intended. Based on the GCTS performance, and the stable groundwater concentrations, no issues were identified, and no modifications are recommended. In a letter dated October 5, 2021 summarizing the Five-Year Review site walk, New York State Department of Environmental Conservation (NYSDEC) personnel requested that the old Post-Closure Operations and Maintenance Manual be converted to the Site Management Plan format. This conversion will be completed during 2022.

1. INTRODUCTION

Greenstar Environmental Solutions, LLC (Greenstar) on behalf of Linde Gas North America, LLC (Linde) has prepared this 2020 Periodic Review Report (PRR) for the Airco Parcel located in the Town of Niagara, New York. As per Section 6.3(b) of the Division of Environmental Remediation (DER), DER-10 Technical Guidance for Site Investigation and Remediation, the purpose of the annual PRR is to document the implementation of, and compliance with, site-specific site management requirements. The methods, findings, and conclusions of the review are documented in this report. The report also identifies recommendations for the site for the next annual review period.

2. BACKGROUND

2.1 Site Physical Characteristics

The Airco Parcel is a part of the Vanadium Corporation of America Site which has been placed on the New York State Department of Environmental Conservation (NYSDEC) New York State Registry of Inactive Hazardous Waste Sites. The site location is shown in Figure 1. The Vanadium Site includes three Operable Units (OU), which are aligned in a roughly west to east orientation as shown in Figure 2. The OU sizes and responsible parties are listed below:

1) OU-1 is a 37-acre parcel owned by SKW Alloys, Inc. (SKW Parcel).
2) OU-2 is a 25-acre parcel owned by Linde (Airco Parcel).
3) OU-3 is a 53-acre parcel owned by National Grid (acquired Niagara Mohawk Power Corporation/New York Power Authority) (NMPC/NYPA Parcel).

The entire Vanadium Site (i.e., OU-1 through OU-3) is listed as a Class 4 site in the New York State Registry of Inactive Hazardous Waste Sites (Site No. 932001). This classification indicates the site has been properly closed but requires continued management.

Linde is responsible for OU-2, this report addresses only the Airco Parcel (OU-2). However, information from the other OUs is included when necessary to develop a complete understanding of the issues at the Airco Parcel.

2.2 Land and Resource Use

The current land use for the site and surrounding areas is for light industrial and commercial uses. The nearest residential areas are located approximately 0.20 miles to the northeast and 0.30 miles to the south. The perimeter of the Airco Parcel is fenced and gated. A 24-acre modified Title 6 of the New York Codes, Rules and Regulations NYCRR Part 360 cap was constructed over the former disposal area as part of an interim remedial measure (IRM) was completed in 2000.

There are no current users of groundwater at the Vanadium Site. Regional groundwater yields from overburden deposits are too low for domestic or industrial purposes. The bedrock has the capability to produce higher yields; however, the bedrock groundwater is typically highly mineralized and is not used as a drinking water source in the area.

2.3 Basis of Actions

In 1985, the NYSDEC first listed the Vanadium Site as a Class 2a site in the Registry of Inactive Hazardous Waste Disposal Sites in New York (the Registry). Class 2a is a temporary classification assigned to a site that has inadequate and/or insufficient data for inclusion in any of the other classifications. In 1995, the NYSDEC listed the Vanadium Site as a Class 2 site in the Registry. A Class 2 site is a site where the NYSDEC has determined hazardous waste presents a significant threat to the public health or the environment and action is required. The NYSDEC lowered the classification for the Airco Parcel to a Class 4 inactive hazardous waste site on 24 November 2014, after remedial measures were completed on OU-1 through OU-3.

2.4 Basis for Taking Action at The Airco Parcel

The Airco Parcel was historically used to dispose of a wide variety of waste materials derived from the metallurgic industry. Prior to commencement of remedial activities at the Airco Parcel, approximately 80 percent of the site was largely exposed waste and groundwater was recharging to surface water in the eastern and southwest portions of the site via seeps. The groundwater contained concentrations of calcium, chromium and hexavalent chromium with pH above background levels.

The remedy selected for the Airco Parcel included installation of a landfill cap to limit infiltration of water into the waste material thereby reducing the amount of impacted groundwater or surface water. Since the Airco Parcel had been permitted as a 6 NYCRR Part 360 landfill, the remedy was required to conform to the provisions of 6 NYCRR Part 360, Solid Waste Management Facilities (NYSDEC 1998).

Ongoing remedial measures at the Airco parcel include operation and maintenance of the cap to prevent direct exposure to waste materials and operation and maintenance of the Groundwater Collection and Treatment System (GCTS) to prevent the release of untreated groundwater. Potential exposure pathways at the Airco Parcel are being addressed through the capping of the landfill, the installation of the fence, and operation and maintenance of the GCTS. Public water is available to adjacent areas surrounding the site.

As noted in the Proposed Remedial Action Plan (PRAP) and Record of Decision (ROD) developed for the Vanadium Site (NYSDEC 2006), the IRM for the Airco Parcel has accomplished the remedial action objectives. The remedial measures have operated and been maintained in a manner consistent with the design and approved Operation, Maintenance, and Monitoring Plans.

The following are required as part of post-closure monitoring and facility maintenance:

- Maintenance of all drainage structures and ditches to prevent ponding of water and erosion of the final landfill soil cap.
- Inspections of the engineered wetland to assess the presence of mosquito larva.
- Maintenance of the soil cover integrity, slopes, cover vegetation, drainage structures, and the perimeter road during the post-closure monitoring and maintenance period.
- Maintenance and sampling of environmental monitoring points during the post-closure period. A Periodic Review Report must be submitted annually to the NYSDEC Division of Solid and Hazardous Materials, Region 9, the State of New York Department of Health in Albany, New York; and to the document repository located at the Town of Niagara Town Clerk's Office.
- Maintenance of the vegetative cover on all exposed final cover material, and adequate measures must be taken to ensure the integrity of the final vegetated cover, topsoil layer, and underlying barrier protection layer.
- Operation and maintenance of the GCTS to effectively mitigate the release of groundwater recharging to surface water in the southwest corner of the Airco Parcel.
- Maintenance of records from all sampling and analysis results.

3. EVALUATION OF REMEDY PERFORMANCE, EFFECTIVENESS, AND PROTECTIVENESS

The 2021 periodic review of the remedy found that the remedy was constructed in accordance with the requirements of the Interim Remedial Measure (IRM). The remedy is functioning as designed and the threats at the site are being managed through capping of the waste and prevention of releases of untreated groundwater.

Since the site is an unlined landfill, concentrations of Constituents of Concern **(**COCs) in shallow groundwater in contact with waste may remain above some water quality standards. The remedy was designed to prevent exposure pathways and to prevent the release of untreated groundwater, restoration of groundwater to drinking water standards does not apply for the site Remedial Action Objectives (RAOs). The remedy has eliminated the exposure pathways through capping of the former landfill and collection and treatment of impacted groundwater recharging to the ground surface. Reductions and improvements in concentrations of the predominant COC in groundwater and surface water, (hexavalent chromium) were noted during the 2016 through 2021 reporting period. Over the last five years, the hexavalent chromium concentrations were stable in all but one monitoring well. In An increasing trend was noted in MW-2B. However, this is likely a result of the cap limiting infiltration which would reduce dilution of near surface groundwater in the vicinity of MW-2B.

The remedy is functioning as intended and no modification of the remedy is necessary. Inspection of the cap indicated no problems related to erosion, desiccation cracking, vegetative cover, etc. The treatment system is operating as designed and operational data is presented in Attachment E. Trend Graphs are provided in Attachment F.

To reduce long term project costs a groundwater extraction pilot test was initiated in 2012 to test whether pumping from bedrock may lower water elevations within the Airco waste to a level to allow for the shutdown of the on-site GCTS in the future. This pilot test was approved by NYSDEC in an email correspondence dated October 14, 2011. Initial results were summarized in a letter dated January 8, 2014 issued to the NYSDEC. The pilot study was suspended between 2012 and 2017 pending resolution of regional groundwater quality issues. The pilot study was reactivated in May 2017 and ran through December 2017 utilizing activated carbon for treatment of the extracted water. The third phase of the Pilot Test was conducted in 2019. A draft Work Plan was submitted to NYSDEC on October 29, 2018. NYSDEC provided comments to the draft Work Plan in a letter dated December 18, 2018. A revised Work Plan was provided to the NYSDEC on dated January 18, 2019. NYSDEC provided comments to the revised Work Plan in a letter dated February 1, 2019. The final Work Plan was provided to NYSDEC on February 15, 2019. The pilot test was approved by the NYSDEC in a letter dated February 20, 2019. The third phase of the pilot study ran from June 17. 2019 through December 17, 2019. Findings were summarized to the NYSDEC in a letter report dated March 19, 2020.

4. IC/EC PLAN COMPLIANCE REPORT

The remedy for the Site includes institutional controls (IC) and engineering controls (EC). The Post-Closure Monitoring and Facility Maintenance Plan[1] includes the following ICs for the site:

- Soil Management Plan which is intended to restrict site usage or excavation activities which would permit exposing the waste layer.
- Site Management Plan which is intended to restrict future development of the site.
- The Operations and Monitoring (O&M) plans, which are sections of the post-Closure plan that detail the required operations, maintenance, and monitoring activities. This includes an annual engineering inspection of the cap system (See Attachment D) to ensure the cap components are maintained and that no penetrations of the cap have occurred.
- Although not discussed in the post-Closure plan, an environmental easement including land use restrictions are also in place and recorded on the deed to prevent future site use and development (September 2014).

The ECs for the site include the following:

- Landfill Cover System
- Fencing/Access Control
- Groundwater Collection and Treatment System (GCTS)

The ECs are discussed in the post-Closure plan which specifies the routine inspection, operation and maintenance that is required. The engineering controls each have a specific intended purpose. The landfill capping system is designed to prevent infiltration of precipitation that could mobilize and transport contaminants into the groundwater. The fencing provides site security and limits access to the site reducing the potential of unauthorized personnel from possible exposure to contaminants or to groundwater treatment operations. The GCTS is designed to intercept, collect, and treat groundwater that could discharge to the surface water and provide an exposure pathway.

Attachments E through E.2 provide a summary of the monthly operations and maintenance details for 2021 which were completed to maintain the system to meet the EC.

The data collected during 2021 demonstrates the IC/ECs in place are meeting their intended objectives. There were no modifications to the ECs during the reporting period; only routine maintenance (pump repairs, cleaning of tanks lines and equipment, etc.) were required. There are no changes or modifications to the IC recommended at this time. NYSDEC did request a transition from the older post-Closure plan to NYSDEC's current Site Management Plan format. Therefore, a Site Management Plan will be prepared and issued to NYSDEC in 2022.

1 Greenstar Environmental Solutions, LLC, 2017. Post-Closure Monitoring and Facility Maintenance Plan for the Airco Parcel, Niagara Falls, New York. February

5. MONITORING PLAN COMPLIANCE REPORT

The Post-Closure Monitoring and Facility Maintenance Plan requires quarterly GCTS discharge sampling, routine maintenance of the cap and groundwater sampling every five years.

5.1 Monitoring Well Gauging

The site monitoring wells and piezometers, Figure 3, were gauged on 28 September 2021 prior to sampling. Gauging data are summarized in the table below:

28 September 2021 Groundwater Gauging Data

Well ID	Depth to Water (ft TOC)	Well Elevation (ft AMSL)	Well Depth (ft BGS)	Water Elevation (ft AMSL)
MW-1B	11.34	617.77	27.83	606.43
MW-2B	14.41	615.88	27.31	601.47
MW-3B	11.00	611.22	18.41	600.22
MW-4B	8.24	606.68	15.08	598.44
MW-5B	12.61	605.48	14.22	592.87
MW-6B	4.02	603.47	23.02	599.45
MW-7B	11.13	609.48	21.79	598.35
MW-8B	4.91	611.62	15.51	606.71

Notes: TOC = Top of Casing.
AMSL = Above Mean Sea Level.
BGS = Below Ground Surface.

Figure 4 shows the inferred groundwater flow direction at the site based on the 28 September 2021 gauging data. The data indicates groundwater flow is roughly from north to south, consistent with previously collected site data.

The general groundwater flow pattern depicted for 2021 is consistent with past years. However, precipitation prior to gauging caused higher than normal surface water elevations in the wetlands to the south of the site, resulting in an apparent northward flow of groundwater along the southern site boundary. However, this data is interpreted to be a temporary condition and is not indicative of typical groundwater flow patterns. In general, groundwater elevations are highest near MW-1B located along the northern property boundary. No significant seasonal changes in groundwater flow direction have been noted in historic groundwater gauging data.

5.2 Groundwater Monitoring

Groundwater monitoring has been conducted in accordance with the post-closure monitoring and facility maintenance plan since December 2000. The data evaluation for this remedy review is limited to evaluating the data from the eight monitoring wells and GCTS discharge samples for 2021 in comparison to the same data set from 2016. Sample locations are shown on Figure 3. The data generated from these monitoring locations most accurately reflects current groundwater conditions.

5.2.1 Groundwater Sampling

Monitoring wells were sampled on September 28 and 29, 2021. Groundwater samples were collected from the eight on-site monitoring wells during the Five-Year review sampling event. Monitoring wells MW-2B and MW-5B, which exhibited limited well yield, were purged dry and allowed to recharge prior to sample collection. Monitoring wells MW-1B, MW-3B, MW-6B, MW-7B and MW-8B have adequate groundwater yield for low flow sampling utilizing a peristaltic pump. Water quality readings, including pH, temperature, conductivity, dissolved oxygen, and turbidity, which were monitored to demonstrate stabilization prior to sample collection. Monitoring well locations are shown on Figure 3.

5.3 Laboratory Analysis

Groundwater samples were placed in coolers on ice and maintained at 4^0 C. The coolers were delivered in accordance to chain of custody protocols to the Alpha Analytical Service Center in Tonawanda, New York. At the Alpha Analytical laboratory in Westborough, MA samples were analyzed for phenolics by U.S. Environmental Protection Agency (EPA) Method 420.2, sulfate by EPA Method 375.3, ammonia (expressed as nitrogen) by EPA Method 350.2, and Target Analyte List metals by EPA Series 6010/6020, including hexavalent chromium.

5.4 Regulatory Criteria

As per the approved Post-Closure Monitoring and Facility Maintenance Plan[2], groundwater sampling results were compared to NYSDEC Ambient Water Quality Standards (AWQS) (NYSDEC 1999) and guidance values for Class GA waters. Class GA groundwater is used as a source of drinking water. Surface water samples were compared to NYSDEC AWQS for Class D surface waters. Class D waters are used for fishing but are not conducive to fish propagation. If no Class D standards were applicable for a particular compound, analytical results were compared to the more stringent Class C standards. Class C waters are suitable for fishing and fish propagation.

5.5 Analytical Results

Summary tables listing analytical results, for the last four 5-year review periods, compared to applicable NYSDEC AWQS are included in Attachment A. A tag map illustrating analytical results for the September 2021 monitoring well sampling event is provided on Figure 5. Copies of the well gauging, purging, and sampling forms are provided in Attachment B. A copy of the laboratory data package for GCTS effluent, groundwater and surface water sampling is included in Attachment C. Groundwater results were generally consistent with previous sampling events.

2 Greenstar Environmental Solutions, LLC, 2017. Post-Closure Monitoring and Facility Maintenance Plan for the Airco Parcel, Niagara Falls, New York. February

5.5.1 Metals

Unfiltered groundwater samples were collected from 8 monitoring wells for metals analyses. Significant results included the following:

- Cadmium, chromium, hexavalent chromium, iron, lead, magnesium, manganese, selenium, and sodium were detected in one or more of the groundwater samples at concentrations exceeding NYSDEC AWQS.
- Cadmium was detected in excess of the NYSDEC AWQS in MW-7B at a concentration of 0.01J mg/L. It should be noted that turbidity was elevated in the sample, which may affect sample quality. See Attachment B, Well Gauging, Purging, and Sampling Forms.
- Chromium was detected in excess of the NYSDEC AWQS in MW-2B, MW-4B and MW-8B at concentrations ranging from 0.272 mg/L to 3.2 mg/L (MW-7B).
- Hexavalent chromium was detected in excess of the NYSDEC AWQS in MW-2B and MW-4B at concentrations of 0.809 mg/L and 0.238 mg/L, respectively.
- Iron was detected in excess of the NYSDEC AWQS in MW-3B through MW-8B at concentrations ranging from .0.653 mg/L (MW-8B) to 97.6 mg/L (MW-7B).
- Lead was detected in excess of the NYSDEC AWQS in MW-7B at a concentration of 0.097 mg/L. It should be noted that turbidity was elevated in the sample, which may affect sample quality. See Attachment B, Well Gauging, Purging, and Sampling Forms.
- Magnesium was detected in excess of the NYSDEC AWQS in MW-1B, MW-4B, MW-5B, MW-6B, MW-7B and MW-8B at concentrations ranging from 54.4 mg/L (MW-1B) to 100.0 mg/L (MW-4B).
- Manganese was detected in excess of the NYSDEC AWQS in MW-1B, MW-7B and MW-8B at concentration ranging from 0.334 mg/L(MW-8B) to 4.5 mg/L (MW-7B).
- Selenium was detected in excess of the NYSDEC AWQS in MW-7B at a concentration of 0.091J mg/L. It should be noted that turbidity was elevated in the sample, which may affect sample quality. See Attachment B, Well Gauging, Purging, and Sampling Forms.
- Sodium was detected in excess of the NYSDEC AWQS in all 8 monitoring wells at concentrations ranging from 31.8 mg/L (MW-5B) to 170 mg/L (MW-1B).

As noted above, these results were consistent with past results.

5.5.2 Water Quality Parameters

Water quality parameters, including pH, temperature, conductivity, dissolved oxygen, and turbidity were collected in the field. These values are included on the forms in Attachment B. In addition, water quality parameters, including ammonia (expressed as N), phenolics, and sulfate, were analyzed by the laboratory. Notable results for the seven groundwater monitoring wells and surface water samples included the following:

- Ammonia (expressed as N) and Phenolics were detected in excess of the NYSDEC AWQS in MW-2B at concentrations of 2.6 mg/L and 0.006J mg/L, respectively.
- Sulfate was detected in excess of the NYSDEC AWQS in MW-4B, MW-6B and MW-8B at concentration ranging from 272 mg/L (MW-8B) to 302 mg/L (MW-6B).
- pH measurements were measured outside the NYSDEC AWQS of 6.5-8.5 standard pH units in monitoring wells MW-2B (12.65), MW-3B (10.65), and MW-4B (9.18).

6. OPERATION & MAINTENANCE (O&M) PLAN COMPLIANCE REPORT

Linde has the responsibility for conducting operation and maintenance activities at the Airco Parcel. These activities are being conducted in accordance with the Post-Closure Monitoring and Facility Maintenance Plan[3].

The primary remedial activity at the Airco Parcel involved the construction of a 6 NYCRR Part 360 cap consisting of:

- Bedding layer (6-in.)
- Low permeability layer (40-mil VFPE geomembrane)
- Drainage layer (geocomposite drainage net)
- Barrier protection layer (12 in.)
- Topsoil (6 in.).

The landfill cap was designed to eliminate the flow of water through the landfill by providing an impermeable layer which prevents precipitation from infiltrating into the landfill thereby producing leachate. The cap effectively removes a major source of the on-going groundwater contamination by reducing leachate generation. Current activities have been focused on operation and maintenance of the treatment system, monitoring groundwater at the site perimeter monitoring wells, and inspections and maintenance of the cap and fence around the site.

During 2021 routine operations and maintenance of the GCTS was performed during monthly site visits. Activities performed include data collection, cleaning and calibration of pH probes, cleaning of pressure transmitters, operational parameter adjustments based on observed site conditions, and as needed site maintenance tasks (pump repairs and/or probe replacement). The replacement of system components, including pumps, pressure transmitters, and pH probes was also scheduled and performed during the routine visits. Details of these activities are presented in Attachment E The collection trench was evaluated in 2021 and was found to be impacted by calcium and was subsequently replaced to improve system collection and treatment.

6.1 System Operations and Maintenance (January to December 2021)

The GCTS was operated throughout the period of January 1 to December 31, 2021. System monitoring and data logging was conducted throughout the operation period. Attachment E provides details of any issues encountered and implemented solutions.

During the reporting period, the GCTS operated consistently throughout the year pumping 3,503,914 gallons at an average flow rate of 6.67 gallons per minute (gpm). The T8 emergency overflow containment pond is a lined pond where flow is diverted in the event of an alarm conditions that prohibits water from being processed by the GCTS. It allows the system to continue to collect and store the untreated water during periods when bypassing the GCTS is required for scheduled or unscheduled shutdowns. The T8 emergency overflow containment pond was needed during several events in 2021 as detailed in Attachment E. There were no

3 Greenstar Environmental Solutions, LLC, 2017. Post-Closure Monitoring and Facility Maintenance Plan for the Airco Parcel, Niagara Falls, New York. February

uncontrolled releases of impacted water during 2021.

GCTS sampling occurred monthly during 2021. Samples were collected at various locations within the system to evaluate treatment system performance and compliance with discharge criteria. Samples were collected from the following locations: within the GCTS system at T3B after CO_2 aeration; T6B after treatment via the zero-valence iron tank; after the engineered wetland (T7); and at the point where the drainage swale exits the site in the southwest corner. The samples were analyzed in the field for total chromium and hexavalent chromium using a HACH DR4000® spectrophotometer. The HACH DR4000® spectrophotometer field method is EPA approved for reporting water and wastewater analyses within a detection limit of 0.006 mg/L for hexavalent chromium, and 0.003 mg/L for total chromium.

The GCTS discharge samples were sent for off-site laboratory analysis at a New York State accredited environmental laboratory. During the 2021 reporting period, field analysis of the GCTS discharge samples collected from the AP-EWE-01 location in the southwest corner of the site had no hexavalent chromium or total chromium concentrations in excess of the NYSDEC discharge guidance values of 11 µg/L and 50 µg/L, respectively. Field sampling results for total and hexavalent chromium are summarized in Table 1 and results of the quarterly GCTS discharge samples are summarized in Table 2. The Laboratory data package for the GCTS discharge sampling can be found in Attachment C.

Analytical results for the quarterly discharge sampling were in compliance with NYSDEC discharge values with the following exceptions:

- The second and third quarter dissolved oxygen values, 4.6 and 4.4 mg/L, respectively, were below the NYSDEC discharge guidance value (7 mg/L). This is due to the use of zero valent iron treatment which removes oxygen as part of the treatment process. This water is then discharged to an engineered wetland and flow along a swale prior to discharge. The low dissolved oxygen values are likely due to increased biologic activity within the wetlands during the second and third quarters which may correspondingly reduce the amount of oxygen which is absorbed by treated water. This lower-than-expected result is not considered significant as further oxygenation will occur as the water flows along the swale prior to discharge.

No discharge from the site occurred in the first quarter and therefore no sampling was performed. The field sampling indicated Total and hexavalent chromium levels within acceptable limits. The treatment system is operating as intended and no changes are required.

6.2 GCTS Modifications (January to December 2021)

No system modifications occurred during 2021. System modifications and improvements completed during this five-year review were performed in 2020. These included upgrades to the control system including a complete replacement of the main control panel, upgrades to the hardware in the T6A/B control panel including the T3B VFD, replacement of the pH controller and probes for T3B and T-6B, installation of a new pH controller and probe in T3A, replacement of the T1 control panel, including VFDs, and replacement of the local area network radios communicating between the southwest corner T1 panel and the main portion of the GCTS.

7. OVERALL PRR CONCLUSIONS AND RECOMMENDATIONS

As demonstrated by the data reviewed and the annual site inspection, the cap is functioning as intended by the IRM for the Airco Parcel. The capping of the landfill achieved the RAOs by eliminating migration of contaminants into groundwater via infiltration and by eliminating environmental and human exposure pathways. There have been no changes in the physical conditions of the site that would affect the protectiveness of the remedy. The cap and surrounding area were undisturbed, the cap is operating as designed. The perimeter fence around the site is intact and in good condition. The GCTS is functioning as designed. The GCTS collects, treats and discharges groundwater to prevent the uncontrolled discharge of impacted groundwater recharging to surface water.

The NYSDEC has requested that the old post-closure plan be updated into the new Site Management Plan format. This will be completed during 2022. No other recommendations are suggested at this time.

TABLE 1 ROUTINE GCTS FIELD SAMPLING RESULTS
1 JANUARY – 31 DECEMBER 2021
AIRCO PARCEL, NIAGARA FALLS, NEW YORK

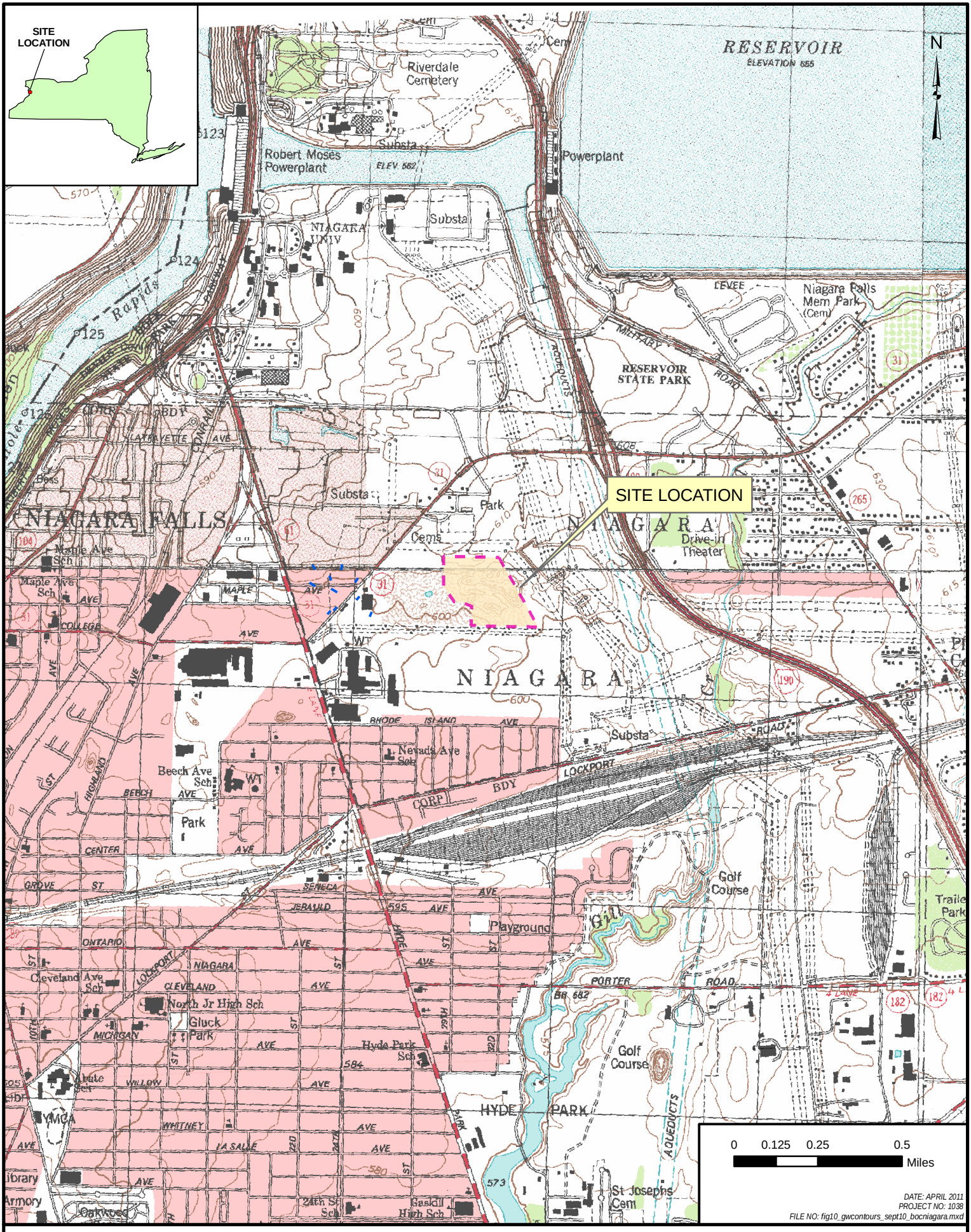
	Calcium Tank 3B		Iron Tank 6B		Engineered Wetland		Southwest Corner	
Date	Total Chromium	Hexavalent Chromium	Total Chromium	Hexavalent Chromium	Total Chromium	Hexavalent Chromium	Total Chromium	Hexavalent Chromium
1/7/21	18 µg/L	11 µg/L	1 µg/L	0 µg/L	NS	NS	NS	NS
2/15/21	NS	NS	NS	NS	NS	NS	NS	NS-Ice
3/22/21	ND	19 µg/L	11 µg/L	ND	NS	NS	NS	NS
4/15/21	16 µg/L	3 µg/L	ND	ND	5 µg/L	6 µg/L	ND	ND
5/11/21	6 µg/L	11 µg/L	1 µg/L	6 µg/L	NS	NS	NS	NS
6/29/21	11 µg/L	6 µg/L	5 µg/L	2 µg/L	NS	NS	NS	NS
7/14/21	41 µg/L	2 µg/L	ND	2 µg/L	ND	ND	9 µg/L	ND
8/26/21	8 µg/L	11 µg/L	ND	ND	ND	ND	10 µg/L	9 µg/L
9/27/21	52 µg/L	6 µg/L	ND	ND	3 µg/L	12 µg/L	12 µg/L	5 µg/L
10/12/21	49 µg/L	6 µg/L	ND	ND	5 µg/L	11 µg/L	12 µg/L	4 µg/L
11/29/21	45 µg/L	11 µg/L	ND	ND	1 µg/L	10 µg/L	9 µg/L	3 µg/L
12/14/21	52 µg/L	26 µg/L	ND	ND	6 µg/L	3 µg/L	10 µg/L	5 µg/L

NOTE: NS – Insufficient water.
NS – Ice = Not Sampled due to winter weather conditions.
Bold field sample results were in excess of SPDES discharge guidance values.
Field samples analyzed using a HACH DR4000® Spectrophotometer.
Hach Methods 8023 for Hexavalent Chromium and Hach Method 8084 for Total Chromium.

TABLE 2
QUARTERLY GCTS DISCHARGE SAMPLING RESULTS
1 JANUARY – 31 DECEMBER 2021
AIRCO PARCEL, TOWN OF NIAGARA, NEW YORK

Parameter	1st Quarter	16 April 2021	20 July 2021	12 October 2021	New York State Department of Environmental Conservation Discharge Criteria
pH	NS	7.5	7.6	7.5	6.5-8.5
Total suspended solids	NS	1.5	1.9	1.9	10 mg/L
Dissolved Oxygen	NS	8	**4.6**	**4.4**	>7 mg/L
Ammonia as N	NS	0.102	.329	>0.024U	5.0 mg/L
Total Kjeldahl nitrogen	NS	0.721	.808	>.022U	Monitor (mg/L)
Total Recoverable Phenolics	NS	<0.006U	<0.006U	<0.006U	0.008 mg/L
Biochemical oxygen demand	NS	<2.0U	<2.0U	<2.0U	5.0 mg/L
1,1-Dichloroethane	NS	<0.40U	<0.40U	<0.40U	5.0 µg/L
Trichloroethene	NS	<0.33U	<0.33U	<0.33U	5.0 µg/L
Nickel	NS	<0.00055U	.00149J	.00076J	0.07 mg/L
Copper	NS	0.00157	.0084J	<0.00038U	0.0147 mg/L
Barium	NS	0.06446J	0.1128	0.1230	2 mg/L
Total chromium	NS	0.00036J	.0058J	.00068J	0.1 mg/L
Hexavalent chromium	NS	<0.003U	<0.003U	<0.003U	0.011 mg/L
Iron	NS	0.0678J	.0683	.0568	0.3 mg/L
Selenium	NS	<0.00173U	<0.00173U	<0.0073U	0.0046 mg/L
Thallium	NS	0.00022J	.00039J	0.00018J	0.004 mg/L
Zinc	NS	0.01861J	.01792	0.01098	0.115 mg/L
Nitrate as N	NS	0.044J	.32	.15	Monitor (mg/L-N)
Nitrite as N	NS	0.016J	.072	<0.014U	Monitor (mg/L-N)
Chemical oxygen demand	NS	8.7J	20	11	40 mg/L
Total dissolved solids	NS	440	740	620	Monitor (mg/L)

Values in **BOLD** were out of the discharge guidance values range for that parameter.
NS = Not Sampled. No discharge from the site occurred during the 1st Quarter.
U = Compound not detected at the minimum laboratory detection limit shown.
J = Result is less than the reporting limit but greater than or equal to the minimum detection limit and the concentration is an approximate value.



GREENSTAR
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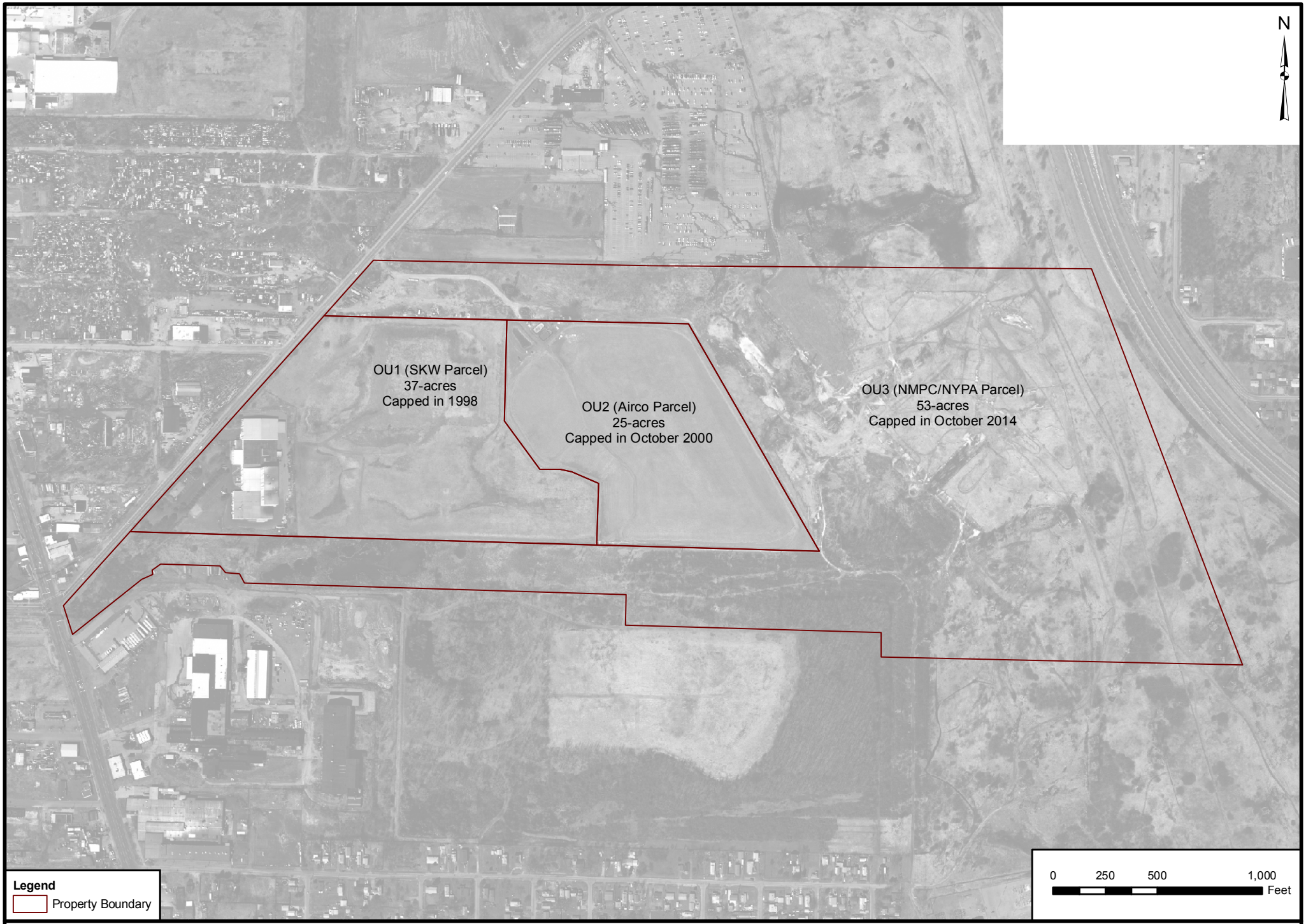
AIRCO PARCEL
NIAGARA FALLS, NEW YORK

FIGURE 1
SITE LOCATION



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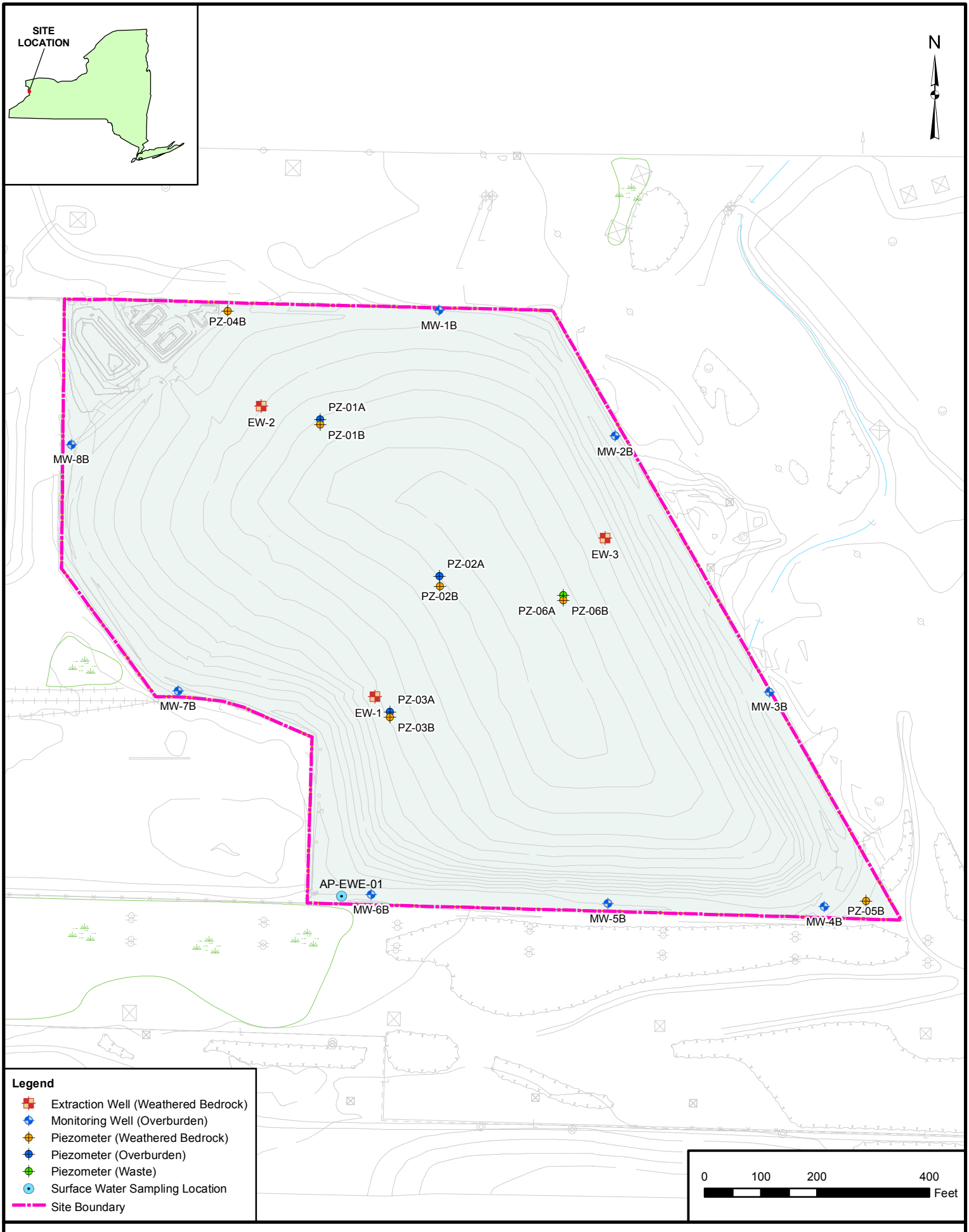
AIRCO PARCEL
NIAGARA FALLS, NEW YORK

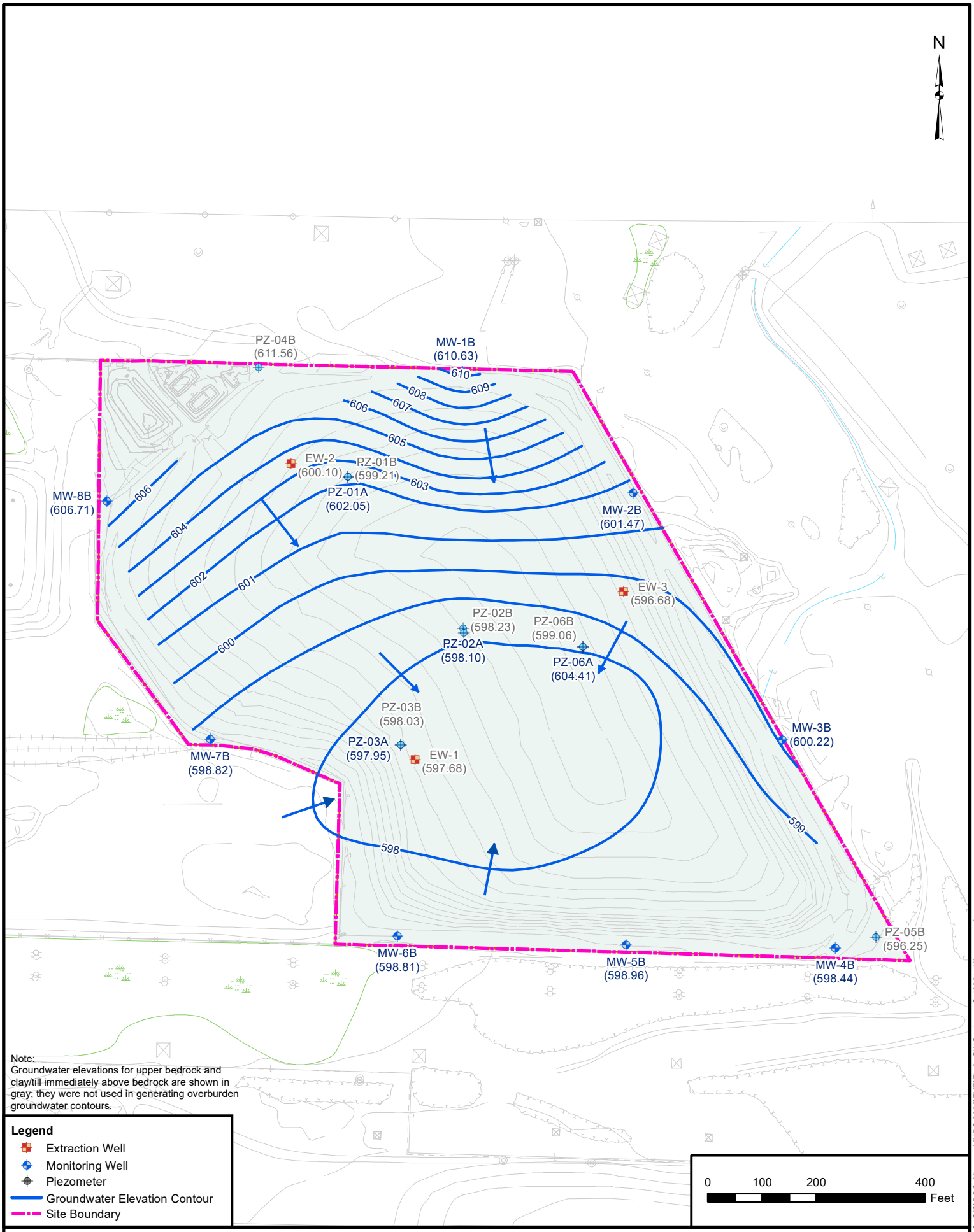
FIGURE 2
VANADIUM SITE
OPERABLE UNITS



GREENSTAR Environmental Solutions, LLC

AIRCO PARCEL
NIAGARA FALLS, NEW YORK

FIGURE 3
SITE MAP

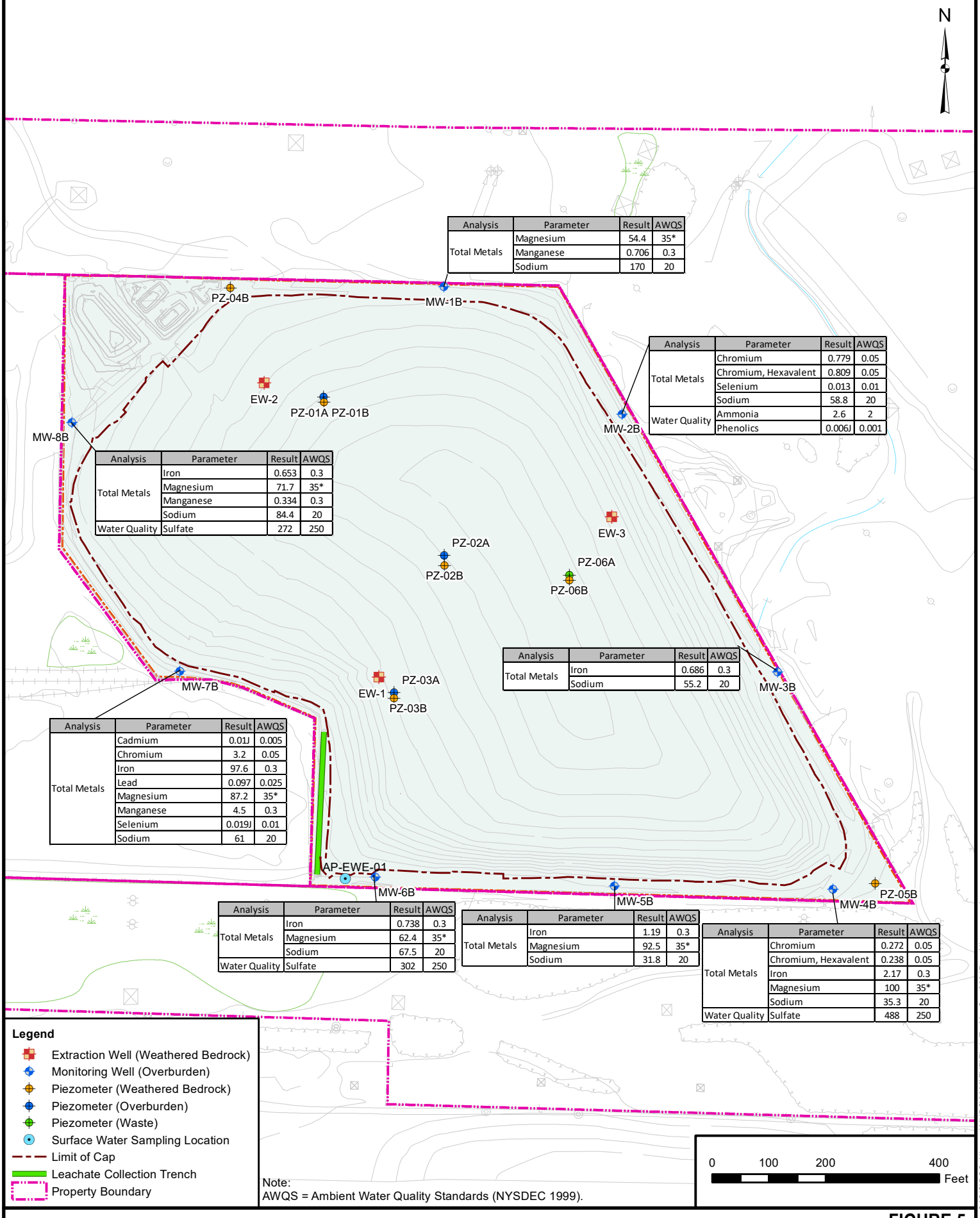


GREENSTAR Environmental Solutions, LLC

AIRCO PARCEL
NIAGARA FALLS, NEW YORK

FIGURE 4
GROUNDWATER CONTOURS
SEPTEMBER 2021

Document Path: C:\GIS\BOC_Niagara\MXDS\2022\FYR\Fig3_GWContours_Oct2021_Niagara.mxd



Analysis	Parameter	Result	AWQS
Total Metals	Magnesium	54.4	35*
	Manganese	0.706	0.3
	Sodium	170	20

Analysis	Parameter	Result	AWQS
Total Metals	Chromium	0.779	0.05
	Chromium, Hexavalent	0.809	0.05
	Selenium	0.013	0.01
	Sodium	58.8	20
Water Quality	Ammonia	2.6	2
	Phenolics	0.006J	0.001

Analysis	Parameter	Result	AWQS
Total Metals	Iron	0.653	0.3
	Magnesium	71.7	35*
	Manganese	0.334	0.3
	Sodium	84.4	20
Water Quality	Sulfate	272	250

Analysis	Parameter	Result	AWQS
Total Metals	Iron	0.686	0.3
	Sodium	55.2	20

Analysis	Parameter	Result	AWQS
Total Metals	Cadmium	0.01J	0.005
	Chromium	3.2	0.05
	Iron	97.6	0.3
	Lead	0.097	0.025
	Magnesium	87.2	35*
	Manganese	4.5	0.3
	Selenium	0.019J	0.01
	Sodium	61	20

Analysis	Parameter	Result	AWQS
Total Metals	Iron	0.738	0.3
	Magnesium	62.4	35*
	Sodium	67.5	20
Water Quality	Sulfate	302	250

Analysis	Parameter	Result	AWQS
Total Metals	Iron	1.19	0.3
	Magnesium	92.5	35*
	Sodium	31.8	20

Analysis	Parameter	Result	AWQS
Total Metals	Chromium	0.272	0.05
	Chromium, Hexavalent	0.238	0.05
	Iron	2.17	0.3
	Magnesium	100	35*
	Sodium	35.3	20
Water Quality	Sulfate	488	250

GREENSTAR Environmental Solutions, LLC

AIRCO PARCEL
NIAGARA FALLS, NEW YORK

FIGURE 5
GROUNDWATER SAMPLE RESULTS
SEPTEMBER 2021

Document Path: C:\GIS\BOC_Niagara\MXDS\2022\FYR\Fig4_TagMapSept2021Rez_Niagara.mxd

Attachment A

Summary of Analytical Results Groundwater Samples 2006 Through 2021

ATTACHMENT A
SUMMARY OF ANALYTICAL RESULTS, GROUNDWATER SAMPLES, 2006 THROUGH 2021
AIRCO PARCEL, NIAGARA FALLS, NEW YORK

			MW-1B			
Analyte Group	Analyte	AWQS	10/10/2006	10/18/2011	9/27/2016	9/28/2021
Total Metals (mg/L)	Cadmium	0.005	(<0.001U)	0.00099J	0.00054J	(<0.005U)
	Chromium	0.05	(<0.004U)	0.0013J	(<0.001U)	(<0.01U)
	Chromium, hexavalent	0.05	(<0.011U)	(<0.005U)	0.005J	(<0.01U)
	Iron	0.3	0.17	0.12	0.094	0.254
	Lead	0.025	(<0.005U)	(<0.003U)	(<0.003U)	0.003J
	Magnesium	35*	63.5	62.2	58.7	54.4
	Manganese	0.3	0.7	0.66	0.59 B	0.706
	Selenium	0.01	(<0.015U)	(<0.0087U)	(<0.0087U)	(<0.01U)
	Silica	---	7510	6.91B		
	Silicon	---			6.8	6.85
	Sodium	20	112	125	178	170
	Thallium	0.0005*	(<0.02U)	(<0.01U)	(<0.01U)	(<0.02U)
	Zinc	2*	0.48	0.56	0.46	0.477
Water Quality Parameters (mg/L)	Ammonia (expressed as N)	2	(<9.2U)	(<0.009U)	(<0.009U)	0.033J
	Phenolics	0.001	(<0.008U)	0.0056J	(<0.005U)	(<0.03U)
	Sulfate	250	230	186	179	214

			MW-2B			
Analyte Group	Analyte	AWQS	10/10/2006	10/18/2011	9/28/2016	9/28/2021
Total Metals (mg/L)	Cadmium	0.005	(<0.001U)	(<0.00033U)	(<0.0005U)	(<0.005U)
	Chromium	0.05	0.5	0.77	0.3	0.779
	Chromium, Hexavalent	0.05	0.332	0.754	0.358	0.809
	Iron	0.3	(<0.05U)	(<0.019U)	0.25	0.032J
	Lead	0.025	(<0.005U)	(<0.003U)	0.0034J	0.005J
	Magnesium	35*	(<0.2U)	(<0.043U)	0.083J	0.049J
	Manganese	0.3	(<0.003U)	(<0.0003U)	0.014 B	(<0.01U)
	Selenium	0.01	(<0.015U)	0.0097J	(<0.0087U)	0.013
	Silica	---	522B	0.509B		
	Silicon	---			2.8	0.812
	Sodium	20	56.7	40.5	70.7	58.8
	Thallium	0.0005*	(<0.02U)	(<0.01U)	(<0.01U)	(<0.02U)
	Zinc	2*	(<0.01U)	(<0.0017U)	0.0033J	0.011J
Water Quality Parameters (mg/L)	Ammonia (expressed as N)	2	(<9.2U)	1.6	3.6 B	2.6
	Phenolics	0.001	0.008	0.0105	0.0273	0.006J
	Sulfate	250	18.7	21.5	32.9	77.3

			MW-3B			
Analyte Group	Analyte	AWQS	10/10/2006	10/17/2011	9/28/2016	9/28/2021
Total Metals (mg/L)	Cadmium	0.005	(<0.001U)	(<0.00033U)	(<0.0005U)	(<0.005U)
	Chromium	0.05	(<0.004U)	(<0.00087U)	(<0.001U)	(<0.01U)
	Chromium, Hexavalent	0.05	(<0.011U)	(<0.005U)	0.0067J	(<0.01U)
	Iron	0.3	(<0.05U)	0.042J	0.12	0.686
	Lead	0.025	(<0.005U)	(<0.003U)	(<0.003U)	(<0.01U)
	Magnesium	35*	2.7	5.8	2.9	4.55
	Manganese	0.3	(<0.003U)	0.0059	0.0053 B	0.016
	Selenium	0.01	(<0.015U)	(<0.0087U)	(<0.0087U)	(<0.01U)
	Silica	---	8960	8.26B		
	Silicon	---			8.1	9.11
	Sodium	20	76.9	54.4	50.2	55.2
	Thallium	0.0005*	(<0.02U)	(<0.01U)	(<0.01U)	(<0.02U)
	Zinc	2*	(<0.01U)	0.0069J	0.01	0.065
Water Quality Parameters (mg/L)	Ammonia (expressed as N)	2	(<9.2U)	1.2	0.63 B	0.998
	Phenolics	0.001	(<0.008U)	(<0.005U)	(<0.005U)	(<0.03U)
	Sulfate	250	102	66.7	52.9	77.1

Analyte Group	Analyte	AWQS	MW-4B 10/10/2006	MW-4B 10/17/2011	MW-4B 9/28/2021
Total Metals (mg/L)	Cadmium	0.005	(<0.001U)	0.00085J	0.001J
	Chromium	0.05	0.22	0.12	0.272
	Chromium, Hexavalent	0.05	0.172	0.0762	0.238
	Iron	0.3	0.96	5.4	2.17
	Lead	0.025	(<0.005U)	(<0.003U)	0.006J
	Magnesium	35*	41.8	57.7	100
	Manganese	0.3	0.022	0.11	0.042
	Selenium	0.01	(<0.015U)	(<0.0087U)	0.006J
	Silica	---	7730	36B	
	Silicon	---			9.68
	Sodium	20	93.3	71.2	35.3
	Thallium	0.0005*	(<0.02U)	(<0.01U)	(<0.02U)
	Zinc	2*	0.025	0.06	0.128
Water Quality Parameters (mg/L)	Ammonia (expressed as N)	2	(<9.2U)	(<0.009U)	0.064J
	Phenolics	0.001	(<0.008U)	(<0.005U)	(<0.03U)
	Sulfate	250	159	153	488

Analyte Group	Analyte	AWQS	MW-5B 10/10/2006	MW-5B 10/17/2011	MW-5B 9/28/2016	MW-5B 9/28/2021
Total Metals (mg/L)	Cadmium	0.005	(<0.001U)	0.00034J	0.00095J	(<0.005U)
	Chromium	0.05	0.0042	0.0039J	0.0032J	0.004J
	Chromium, Hexavalent	0.05	(<0.011U)	(<0.005U)	0.0091J	(<0.01U)
	Iron	0.3	0.78	0.6	2.7	1.19
	Lead	0.025	(<0.005U)	(<0.003U)	0.012	0.005J
	Magnesium	35*	73.3	82.3	93.3	92.5
	Manganese	0.3	0.045	0.021	0.069 B	0.051
	Selenium	0.01	(<0.015U)	(<0.0087U)	(<0.0087U)	(<0.01U)
	Silica	---	9650	16.8B		
	Silicon	---			13.8	12.6
	Sodium	20	44.4	31.2	42.2	31.8
	Thallium	0.0005*	(<0.02U)	(<0.01U)	(<0.01U)	(<0.02U)
	Zinc	2*	0.057	0.025	0.13	0.076
Water Quality Parameters (mg/L)	Ammonia (expressed as N)	2	(<9.2U)	(<0.009U)		0.029J
	Phenolics	0.001	(<0.008U)	(<0.005U)		(<0.03U)
	Sulfate	250	154	150	152	144

Analyte Group	Analyte	AWQS	MW-6B 10/10/2006	MW-6B 10/18/2011	MW-6B 9/27/2016	MW-6B 9/28/2021
Total Metals (mg/L)	Cadmium	0.005	(<0.001U)	(<0.00033U)	(<0.0005U)	(<0.005U)
	Chromium	0.05	(<0.004U)	(<0.00087U)	(<0.001U)	(<0.01U)
	Chromium, hexavalent	0.05	(<0.011U)	(<0.005U)	0.0059J	(<0.01U)
	Iron	0.3	0.14	0.28	0.44	0.738
	Lead	0.025	(<0.005U)	(<0.003U)	(<0.003U)	0.003J
	Magnesium	35*	79.5	73.1	61.6	62.4
	Manganese	0.3	0.15	0.14	0.12 B	0.209
	Selenium	0.01	(<0.015U)	(<0.0087U)	(<0.0087U)	(<0.01U)
	Silica	---	7000	5.95B		
	Silicon	---			5.9	6.81
	Sodium	20	70.2	76.8	74.4	67.5
	Thallium	0.0005*	(<0.02U)	(<0.01U)	(<0.01U)	(<0.02U)
	Zinc	2*	(<0.01U)	0.002J	0.0059J	0.013J
Water Quality Parameters (mg/L)	Ammonia (expressed as N)	2	(<9.2U)	0.03	(<0.009U)	0.031J
	Phenolics	0.001	(<0.008U)	(<0.005U)	(<0.005U)	(<0.03U)
	Sulfate	250	337	363	331	302

Analyte Group	Analyte	AWQS	MW-7B			
			10/10/2006	10/18/2011	9/27/2016	9/28/2021
Total Metals (mg/L)	Cadmium	0.005	(<0.001U)	(<0.00033U)	(<0.0005U)	0.01J
	Chromium	0.05	0.088	0.0026J	0.0084	3.2
	Chromium, Hexavalent	0.05	(<0.011U)	(<0.005U)	0.0075J	0.006J
	Iron	0.3	6.9	0.095	0.21	97.6
	Lead	0.025	(<0.005U)	(<0.003U)	(<0.003U)	0.097
	Magnesium	35*	11.1	8.3	8.6	87.2
	Manganese	0.3	0.14	0.037	0.14 B	4.5
	Selenium	0.01	(<0.015U)	(<0.0087U)	(<0.0087U)	0.019J
	Silica	---	9220	4.96B		
	Silicon	---			4.8	79.8
	Sodium	20	56.5	54.1	53.4	61
	Thallium	0.0005*	(<0.02U)	(<0.01U)	(<0.01U)	(<0.1U)
	Zinc	2*	0.032	0.0023J	0.0062J	0.644
Water Quality Parameters (mg/L)	Ammonia (expressed as N)	2	(<9.2U)	0.66	(<0.009U)	0.522
	Phenolics	0.001	0.009	0.0111	(<0.005U)	(<0.03U)
	Sulfate	250	45	30.4	25.6	65

Analyte Group	Analyte	AWQS	MW-8B			
			10/10/2006	10/17/2011	9/28/2016	9/28/2021
Total Metals (mg/L)	Cadmium	0.005	(<0.001U)	0.00065J	0.00071J	(<0.005U)
	Chromium	0.05	0.18	0.076	0.052	0.018
	Chromium, Hexavalent	0.05	0.116	0.0762	0.0581	(<0.01U)
	Iron	0.3	1.7	0.47	0.13	0.653
	Lead	0.025	(<0.005U)	(<0.003U)	(<0.003U)	(<0.01U)
	Magnesium	35*	51.4	68.3	68.4	71.7
	Manganese	0.3	0.14	0.23	0.1 B	0.334
	Selenium	0.01	0.077	0.012J	(<0.0087U)	0.005J
	Silica	---	8260	7.55B		
	Silicon	---			7.5	8.62
	Sodium	20	157	73.5	79.9	84.4
	Thallium	0.0005*	(<0.02U)	(<0.01U)	(<0.01U)	(<0.02U)
	Zinc	2*	0.052	0.12	0.14	0.094
Water Quality Parameters (mg/L)	Ammonia (expressed as N)	2	(<9.2U)	0.043	(<0.009U)	0.04J
	Phenolics	0.001	(<0.008U)	(<0.005U)	(<0.005U)	(<0.03U)
	Sulfate	250	328	193	206	272

TABLE NOTES

Groundwater sampling results were compared to NYSDEC Ambient Water Quality Standards (AWQS) (NYSDEC 1999) and guidance values for Class GA waters. Class GA groundwater is used as a source of drinking water. Surface water samples were compared to NYSDEC AWQS for Class D surface waters. Class D waters are used for fishing but are not conducive to fish propagation. If no Class D standards were applicable for a particular compound, analytical results were compared to the more stringent Class C standards. Class C waters are suitable for fishing and fish propagation.

* = Indicates guidance value.
U = Not detected. Sample quantitation limits shown as (<__U).

Results shaded indicate concentrations above the New York State Ambient Water Quality Standards or Guidance Values.

Attachment B

Well Gauging, Purging, and Sampling Forms
September 2021

GREENSTAR
Environmental Solutions, LLC

WELL GAUGING, PURGING AND SAMPLING FORM

Well I.D.:	Personnel:	Client:
AP-MW-1B	NC	Linde, LLC
Location:	**Well Condition:**	**Weather:**
Niagara Falls	Locked	Sunny 65
Sounding Method:	**Gauge Date:**	**Measurement Ref:**
WLI	9/28/2021	TOC
Stick Up/Down (ft):	**Gauge Time:**	**Well Diameter (in):**
UP	902	2"

Purge Date: 9/28/21	Purge Time: 35 Mins
Purge Method:	**Greenstar Personnel:**
Peri Pump	NC

Well Volume

A. Well Depth (ft):	D. Well Volume (gal):	Depth/Height of Top of PVC:
27.83	2.67	
B. Depth to Water (ft):	**E. Well Volume (L)**	**Pump Type:**
11.34	10.13	Peristaltic
C. Liquid Depth (ft) (A-B):		
16.49		

Water Quality Parameters

Time (hrs)	DTW (ft btoc)	Volume (liters)	Rate (Lpm)	pH (pH units)	Conduct. (mS/cm)	Turbidity (NTU)	D.O. (mg/L)	Temp. (° C)	ORP (mv)
910	12.45	4	0.20	6.86	1.92	27,5	7.05	13.15	-8
915	12.45	8	0.20	6.83	1.61	18.7	7.31	13.17	-8
920	12.45	10	0.20	6.82	1.58	10.1	7.32	13.17	-8
925	12.45	12	0.20	6.81	1.57	8.8	7.31	13.18	-9
930	12.45	14	0.20	6.82	1.55	8.7	7.32	13.17	-9

Total Quantity of Water Removed:	14 L	Sampling Time:	950
Samplers:	NC	Split Sample With:	
Sampling Date:	9/28/21	Sample Parameters:	Stable

COMMENTS AND OBSERVATIONS: Sample ID AP-MW-1B collected for Silicon, Total Metals, Ammonia as N, Sulfate, Phenolics and Hexavalent Chrome.

GREENSTAR
Environmental Solutions, LLC

WELL GAUGING, PURGING AND SAMPLING FORM

Well I.D.:	Personnel:	Client:
AP-MW-2B	NC	Linde, LLC
Location:	**Well Condition:**	**Weather:**
Niagara Falls	Locked	Sunny 65
Sounding Method:	**Gauge Date:**	**Measurement Ref:**
WLI	9/28/2021	TOC
Stick Up/Down (ft):	**Gauge Time:**	**Well Diameter (in):**
UP	1015	2"

Purge Date:	9/28/21	**Purge Time:**	30 min
Purge Method:	Peri Pump	**Greenstar Personnel:**	NC

Well Volume

A. Well Depth (ft):	D. Well Volume (gal):	Depth/Height of Top of PVC:
27.31	2.09	
B. Depth to Water (ft):	**E. Well Volume (L):**	**Pump Type:**
14.41	7.92	Peristaltic
C. Liquid Depth (ft) (A-B):		
12.90		

Water Quality Parameters

Time (hrs)	DTW (ft btoc)	Volume (liters)	Rate (Lpm)	pH (pH units)	Conduct. (mS/cm)	Turbidity (NTU)	D.O. (mg/L)	Temp. (° C)	ORP (mv)
1020	15.21	4	0.10	12.67	4.12	0.7	10.12	14.55	-186
1025	15.21	6	0.10	12.68	2.97	0.0	8.97	14.45	-186
1030	15.21	8	0.20	12.65	1.98	0.0	8.67	14.44	-186
1035	15.21	10	0.20	12.65	1.98	0.0	8.61	14.45	-186

Total Quantity of Water Removed:	10 L	**Sampling Time:**	1050
Samplers:	NC	**Split Sample With:**	
Sampling Date:	9/28/21	**Sample Parameters:**	

COMMENTS AND OBSERVATIONS: Sample ID AP-MW-1B collected for Silicon, Total Metals, Ammonia as N, Sulfate, Phenolics and Hexavalent Chrome. Phenolics and Hex Chrome. Well is obstructed at 15.52 ft toc. Very difficult to feed tubing and WL meter. Thousands of ants purged with water, clogging peri pump tubing.

GREENSTAR
Environmental Solutions, LLC

WELL GAUGING, PURGING AND SAMPLING FORM

Well I.D.:	Personnel:	Client:
AP-MW-3B	BQ	Linde, LLC
Location:	**Well Condition:**	**Weather:**
Niagara Falls	Locked	Sunny 65
Sounding Method:	**Gauge Date:**	**Measurement Ref:**
WLI	9/28/2021	TOC
Stick Up/Down (ft):	**Gauge Time:**	**Well Diameter (in):**
UP	12:00:00 AM	2"

Purge Date:	9/28/21	**Purge Time:**	5 Min
Purge Method:	Bailer	**Greenstar Personnel:**	BQ

Well Volume

A. Well Depth (ft):	D. Well Volume (gal):	Depth/Height of Top of PVC:
18.41	1.20	
B. Depth to Water (ft):	**E. Well Volume (L):**	**Pump Type:**
11	4.55	Bailer
C. Liquid Depth (ft) (A-B):		
7.41		

Water Quality Parameters

Time (hrs)	DTW (ft btoc)	Volume (gal)	Rate (Lpm)	pH (pH units)	Conduct. (mS/cm)	Turbidity (NTU)	D.O. (mg/L)	Temp. (° C)	ORP (mv)
900	11.00	2	Bail	10.65	0.490	24.2	9.28	14.77	-175
Dry Aafter	one volume								
7L									

Total Quantity of Water Removed:	2 L	**Sampling Time:**	910
Samplers:	BQ	**Split Sample With:**	
Sampling Date:	9/28/21	**Sample Parameters:**	N/A

COMMENTS AND OBSERVATIONS: Sample ID AP-MW-1B collected for Silicon, Total Metals, Ammonia as N, Sulfate, Phenolics and Hexavalent Chrome.

GREENSTAR
Environmental Solutions, LLC

WELL GAUGING, PURGING AND SAMPLING FORM

Well I.D.:	Personnel:	Client:
AP-MW-4B	BQ	Linde, LLC
Location:	**Well Condition:**	**Weather:**
Niagara Falls	Locked	Sunny 65
Sounding Method:	**Gauge Date:**	**Measurement Ref:**
WLI	9/28/2021	TOC
Stick Up/Down (ft):	**Gauge Time:**	**Well Diameter (in):**
UP		2"

Purge Date:	9/28/21	**Purge Time:**	5 Mins
Purge Method:	Bailer	**Greenstar Personnel:**	BQ

Well Volume

A. Well Depth (ft):	D. Well Volume (gal):	Depth/Height of Top of PVC:
15.08	0.57	
B. Depth to Water (ft):	**E. Well Volume (L):**	**Pump Type:** Bailer
8.24		
C. Liquid Depth (ft) (A-B):		
6.84		

Water Quality Parameters

Time (hrs)	DTW (ft btoc)	Volume (gal)	Rate (Lpm)	pH (pH units)	Conduct. (mS/cm)	Turbidity (NTU)	D.O. (mg/L)	Temp. (° C)	ORP (mv)
920			Bail	9.18	1.210	98.6	10.84	15.13	1

Total Quantity of Water Removed:	7L	**Sampling Time:**	930
Samplers:	BQ	**Split Sample With:**	
Sampling Date:		**Sample Parameters:**	

COMMENTS AND OBSERVATIONS: Sample ID AP-MW-4B collected for Silicon, Total Metals, Ammonia as N, Sulfate, Phenolics and Hexavalent Chrome.

GREENSTAR
Environmental Solutions, LLC

WELL GAUGING, PURGING AND SAMPLING FORM

Well I.D.:	Personnel:	Client:
AP-MW-5B	BQ	Linde, LLC
Location:	**Well Condition:**	**Weather:**
Niagara Falls	Locked	Sunny 65
Sounding Method:	**Gauge Date:**	**Measurement Ref:**
WLI	9/28/2021	TOC
Stick Up/Down (ft):	**Gauge Time:**	**Well Diameter (in):**
UP		2"

Purge Date:	9/28/21	**Purge Time:**	5 Mins
Purge Method:	Bailer	**Greenstar Personnel:**	BQ

Well Volume

A. Well Depth (ft): 14.22	**D. Well Volume (gal):** 0.90	**Depth/Height of Top of PVC:**
B. Depth to Water (ft): 12.61	**E. Well Volume (L):** 0.99	**Pump Type:** Hand Bail
C. Liquid Depth (ft) (A-B): 1.61		

Water Quality Parameters

Time (hrs)	DTW (ft btoc)	Volume (liters)	Rate (Lpm)	pH (pH units)	Conduct. (mS/cm)	Turbidity (NTU)	D.O. (mg/L)	Temp. (° C)	ORP (mv)
945			Bail	8.20	1.130	97.3	9.72	16.84	34

Total Quantity of Water Removed:	5L	**Sampling Time:**	950
Samplers:	BQ	**Split Sample With:**	
Sampling Date:	9/28/21	**Sample Type:**	

COMMENTS AND OBSERVATIONS: Sample ID AP-MW-5B collected for Silicon, Total Metals, Ammonia as N, Sulfate, Phenolics and Hexavalent Chrome.

GREENSTAR
Environmental Solutions, LLC

WELL GAUGING, PURGING AND SAMPLING FORM

Well I.D.:	Personnel:	Client:
AP-MW-6B	NC/BQ	Linde, LLC
Location:	**Well Condition:**	**Weather:**
Niagara Falls	Locked	Sunny 65
Sounding Method:	**Gauge Date:**	**Measurement Ref:**
WLI	9/28/2021	TOC
Stick Up/Down (ft):	**Gauge Time:**	**Well Diameter (in):**
UP	1100	2"

Purge Date:	9/27/16	**Purge Time:**	30 Mins
Purge Method:	Low Flow	**Greenstar Personnel:**	NC/BQ

Well Volume

A. Well Depth (ft):	D. Well Volume (gal):	Depth/Height of Top of PVC:
23.02	3.07	
B. Depth to Water (ft):	**E. Well Volume (L):**	**Pump Type:**
4.02	11.67	Peristaltic
C. Liquid Depth (ft) (A-B):		
19.00		

Water Quality Parameters

Time (hrs)	DTW (ft btoc)	Volume (liters)	Rate (Lpm)	pH (pH units)	Conduct. (mS/cm)	Turbidity (NTU)	D.O. (mg/L)	Temp. (° C)	ORP (mv)
1115	8.70	3	0.10	8.41	0.97	4.3	12.15	17.13	-145
1120	10.10	5	0.10	8.31	0.95	0.0	8.94	16.98	-145
1125	12.20	7	0.10	8.28	0.95	0.0	8.78	16.99	-145
1130	12.30	10.0	0.10	8.27	0.95	0.0	8.77	16.99	-145

Total Quantity of Water Removed:	10 L	**Sampling Time:**	1145
Samplers:	BQ	**Split Sample With:**	
Sampling Date:	9/28/21	**Sample Type:**	Stable

COMMENTS AND OBSERVATIONS: Sample ID AP-MW-1B collected for Silicon, Total Metals, Ammonia as N, Sulfate, Phenolics and Hexavalent Chrome. DUP-01 also collected at this well **(sampled 1200-BQ)**

GREENSTAR
Environmental Solutions, LLC

WELL GAUGING, PURGING AND SAMPLING FORM

Well I.D.:	Personnel:	Client:
AP-MW-7B	NC/BQ	Linde, LLC
Location:	**Well Condition:**	**Weather:**
Niagara Falls	Locked	Sunny 65
Sounding Method:	**Gauge Date:**	**Measurement Ref:**
WLI	9/28/2021	TOC
Stick Up/Down (ft):	**Gauge Time:**	**Well Diameter (in):**
UP		2"

Purge Date:	9/28/21	**Purge Time:**	25 Mins
Purge Method:	Low Flow	**Greenstar Personnel:**	NC/BQ

Well Volume

A. Well Depth (ft):	D. Well Volume (gal):	Depth/Height of Top of PVC:
21.79	1.80	
B. Depth to Water (ft):	**E. Well Volume (L):**	**Pump Type:** Peristaltic Pump
10.66	6.84	
C. Liquid Depth (ft) (A-B):		
11.13		

Water Quality Parameters

Time (hrs)	DTW (ft btoc)	Volume (liters)	Rate (Lpm)	pH (pH units)	Conduct. (mS/cm)	Turbidity (NTU)	D.O. (mg/L)	Temp. (° C)	ORP (mv)
1155	11.41	2	0.10	8.59	0.464	0.00	9.64	20.12	36
1200	11.45	2	0.10	8.50	0.464	0.00	8.99	20.08	36
1205	18.67	4	0.10	8.50	0.464	0.00	8.87	20.08	36
1210	20.00	4	0.10	8.50	0.464	0.00	8.78	20.08	36

Total Quantity of Water Removed:	4 L	**Sampling Time:**	1215
Samplers:	BQ	**Split Sample With:**	
Sampling Date:	9/27/21	**Sample Type:**	

COMMENTS AND OBSERVATIONS: Sample ID AP-MW-7B collected for Silicon, Total Metals, Ammonia as N, Sulfate, Phenolics and Hexavalent Chrome. Well ran dry, very turbid at time of sample, horiba still read 0.0 NTUs

GREENSTAR
Environmental Solutions, LLC

WELL GAUGING, PURGING AND SAMPLING FORM

Well I.D.:	Personnel:	Client:
AP-MW-8B	BQ	Linde, LLC
Location:	**Well Condition:**	**Weather:**
Niagara Falls	Locked	Sunny 65
Sounding Method:	**Gauge Date:**	**Measurement Ref:**
WLI	9/28/2021	TOC
Stick Up/Down (ft):	**Gauge Time:**	**Well Diameter (in):**
UP	12:00:00 AM	2"

Purge Date:	9/28/21	**Purge Time:**	5 Mins
Purge Method:	Bailer	**Greenstar Personnel:**	BQ

Well Volume

A. Well Depth (ft): 15.51	**D. Well Volume (gal):** 1.72	**Depth/Height of Top of PVC:**
B. Depth to Water (ft): 4.91	**E. Well Volume (L):** 6.51	**Pump Type:** Peristaltic
C. Liquid Depth (ft) (A-B): 10.60		

Water Quality Parameters

Time (hrs)	DTW (ft btoc)	Volume (gal)	Rate (Lpm)	pH (pH units)	Conduct. (mS/cm)	Turbidity (NTU)	D.O. (mg/L)	Temp. (° C)	ORP (mv)
955			Bail	8.04	1.370	46.3	9.88	18.23	36

Total Quantity of Water Removed:	8.5L	**Sampling Time:**	1005
Samplers:	BQ	**Split Sample With:**	
Sampling Date:	9/28/21	**Sample Parameters:**	Grab

COMMENTS AND OBSERVATIONS: Sample ID AP-MW-8B collected for Silicon, Total Metals, Ammonia as N, Sulfate, Phenolics and Hexavalent Chrome.

Attachment C

Laboratory Analytical Results Quarterly Discharge, Five-Year Review Monitoring Well Sampling

ANALYTICAL REPORT

Lab Number:	L2119570
Client:	Greenstar Environmental Solutions, LLC 6 Gellatly Drive Wappingers Falls, NY 12590
ATTN:	Pete Nimmer
Phone:	(845) 223-9944
Project Name:	SPDES
Project Number:	Not Specified
Report Date:	04/29/21

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: SPDES
Project Number: Not Specified

Lab Number: L2119570
Report Date: 04/29/21

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2119570-01	AP-EWE-01	WATER	NIAGARA FALLS, NY	04/16/21 10:00	04/16/21
L2119570-02	TB-01	WATER	NIAGARA FALLS, NY	04/16/21 00:00	04/16/21

Project Name:	SPDES	**Lab Number:**	L2119570
Project Number:	Not Specified	**Report Date:**	04/29/21

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name: SPDES
Project Number: Not Specified
Lab Number: L2119570
Report Date: 04/29/21

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Total Metals

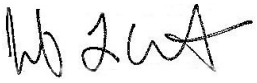
The WG1489579-3 MS recovery for silicon (0%), performed on L2119570-01, does not apply because the sample concentration is greater than four times the spike amount added.

The WG1489606-4 Laboratory Duplicate RPD for iron (25%), performed on L2119570-01, is above the acceptance criteria; however, the sample and duplicate results are less than five times the reporting limit. Therefore, the RPD is valid.

Dissolved Oxygen

L2119570-01 was analyzed with the method required holding time exceeded.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Jennifer L Clements

Title: Technical Director/Representative Date: 04/29/21

ORGANICS

VOLATILES

Project Name: SPDES
Project Number: Not Specified
Lab Number: L2119570
Report Date: 04/29/21

SAMPLE RESULTS

Lab ID: L2119570-01
Client ID: AP-EWE-01
Sample Location: NIAGARA FALLS, NY
Date Collected: 04/16/21 10:00
Date Received: 04/16/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 128,624.1
Analytical Date: 04/19/21 20:02
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,1-Dichloroethane	ND		ug/l	1.5	0.40	1
Trichloroethene	ND		ug/l	1.0	0.33	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	109		60-140
Fluorobenzene	97		60-140
4-Bromofluorobenzene	94		60-140

Project Name: SPDES
Project Number: Not Specified
Lab Number: L2119570
Report Date: 04/29/21

SAMPLE RESULTS

Lab ID: L2119570-02
Client ID: TB-01
Sample Location: NIAGARA FALLS, NY

Date Collected: 04/16/21 00:00
Date Received: 04/16/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 128,624.1
Analytical Date: 04/19/21 19:25
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,1-Dichloroethane	ND		ug/l	1.5	0.40	1
Trichloroethene	ND		ug/l	1.0	0.33	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	108		60-140
Fluorobenzene	96		60-140
4-Bromofluorobenzene	93		60-140

Project Name: SPDES
Project Number: Not Specified

Lab Number: L2119570
Report Date: 04/29/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 128,624.1
Analytical Date: 04/19/21 17:09
Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1488341-4					
1,1-Dichloroethane	ND		ug/l	1.5	0.40
Trichloroethene	ND		ug/l	1.0	0.33

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	107		60-140
Fluorobenzene	96		60-140
4-Bromofluorobenzene	92		60-140

Lab Control Sample Analysis
Batch Quality Control

Project Name: SPDES
Project Number: Not Specified

Lab Number: L2119570
Report Date: 04/29/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1488341-3								
1,1-Dichloroethane	90		-		50-150	-		49
Trichloroethene	95		-		65-135	-		48

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Pentafluorobenzene	108				60-140
Fluorobenzene	96				60-140
4-Bromofluorobenzene	92				60-140

METALS

Project Name: SPDES
Project Number: Not Specified
Lab Number: L2119570
Report Date: 04/29/21

SAMPLE RESULTS

Lab ID: L2119570-01
Client ID: AP-EWE-01
Sample Location: NIAGARA FALLS, NY
Sample Depth:
Matrix: Water

Date Collected: 04/16/21 10:00
Date Received: 04/16/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Barium, Total	0.06446		mg/l	0.00050	0.00017	1	04/26/21 09:29	04/29/21 11:01	EPA 3005A	1,6020B	CD
Cadmium, Total	ND		mg/l	0.00020	0.00005	1	04/26/21 09:29	04/29/21 11:01	EPA 3005A	1,6020B	CD
Chromium, Total	0.00036	J	mg/l	0.00100	0.00017	1	04/26/21 09:29	04/29/21 11:01	EPA 3005A	1,6020B	CD
Copper, Total	0.00157		mg/l	0.00100	0.00038	1	04/26/21 09:29	04/29/21 11:01	EPA 3005A	1,6020B	CD
Iron, Total	0.0678		mg/l	0.0500	0.0191	1	04/26/21 09:29	04/29/21 11:01	EPA 3005A	1,6020B	CD
Lead, Total	ND		mg/l	0.00100	0.00034	1	04/26/21 09:29	04/29/21 11:01	EPA 3005A	1,6020B	CD
Magnesium, Total	19.3		mg/l	0.0700	0.0242	1	04/26/21 09:29	04/29/21 11:01	EPA 3005A	1,6020B	CD
Manganese, Total	0.00985		mg/l	0.00100	0.00044	1	04/26/21 09:29	04/29/21 11:01	EPA 3005A	1,6020B	CD
Nickel, Total	0.00072	J	mg/l	0.00200	0.00055	1	04/26/21 09:29	04/29/21 11:01	EPA 3005A	1,6020B	CD
Selenium, Total	ND		mg/l	0.00500	0.00173	1	04/26/21 09:29	04/29/21 11:01	EPA 3005A	1,6020B	CD
Silicon, Total	5.20		mg/l	0.500	0.007	1	04/26/21 09:29	04/28/21 20:43	EPA 3005A	1,6010D	SV
Sodium, Total	15.1		mg/l	0.100	0.0293	1	04/26/21 09:29	04/29/21 11:01	EPA 3005A	1,6020B	CD
Thallium, Total	0.00022	J	mg/l	0.00100	0.00014	1	04/26/21 09:29	04/29/21 11:01	EPA 3005A	1,6020B	CD
Zinc, Total	0.01861		mg/l	0.01000	0.00341	1	04/26/21 09:29	04/29/21 11:01	EPA 3005A	1,6020B	CD

Project Name: SPDES
Project Number: Not Specified
Lab Number: L2119570
Report Date: 04/29/21

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1489579-1										
Silicon, Total	ND		mg/l	0.500	0.007	1	04/26/21 09:29	04/28/21 21:03	1,6010D	SV

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1489606-1										
Barium, Total	ND		mg/l	0.00050	0.00017	1	04/26/21 09:29	04/29/21 10:42	1,6020B	CD
Cadmium, Total	ND		mg/l	0.00020	0.00005	1	04/26/21 09:29	04/29/21 10:42	1,6020B	CD
Chromium, Total	ND		mg/l	0.00100	0.00017	1	04/26/21 09:29	04/29/21 10:42	1,6020B	CD
Copper, Total	ND		mg/l	0.00100	0.00038	1	04/26/21 09:29	04/29/21 10:42	1,6020B	CD
Iron, Total	ND		mg/l	0.0500	0.0191	1	04/26/21 09:29	04/29/21 10:42	1,6020B	CD
Lead, Total	ND		mg/l	0.00100	0.00034	1	04/26/21 09:29	04/29/21 10:42	1,6020B	CD
Magnesium, Total	ND		mg/l	0.0700	0.0242	1	04/26/21 09:29	04/29/21 10:42	1,6020B	CD
Manganese, Total	0.00046	J	mg/l	0.00100	0.00044	1	04/26/21 09:29	04/29/21 10:42	1,6020B	CD
Nickel, Total	ND		mg/l	0.00200	0.00055	1	04/26/21 09:29	04/29/21 10:42	1,6020B	CD
Selenium, Total	ND		mg/l	0.00500	0.00173	1	04/26/21 09:29	04/29/21 10:42	1,6020B	CD
Sodium, Total	ND		mg/l	0.100	0.0293	1	04/26/21 09:29	04/29/21 10:42	1,6020B	CD
Thallium, Total	0.00016	J	mg/l	0.00100	0.00014	1	04/26/21 09:29	04/29/21 10:42	1,6020B	CD
Zinc, Total	ND		mg/l	0.01000	0.00341	1	04/26/21 09:29	04/29/21 10:42	1,6020B	CD

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis

Batch Quality Control

Project Name: SPDES

Project Number: Not Specified

Lab Number: L2119570

Report Date: 04/29/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1489579-2								
Silicon, Total	103		-		80-120	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1489606-2								
Barium, Total	105		-		80-120	-		
Cadmium, Total	104		-		80-120	-		
Chromium, Total	102		-		80-120	-		
Copper, Total	101		-		80-120	-		
Iron, Total	106		-		80-120	-		
Lead, Total	106		-		80-120	-		
Magnesium, Total	107		-		80-120	-		
Manganese, Total	101		-		80-120	-		
Nickel, Total	96		-		80-120	-		
Selenium, Total	108		-		80-120	-		
Sodium, Total	107		-		80-120	-		
Thallium, Total	104		-		80-120	-		
Zinc, Total	108		-		80-120	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: SPDES
Project Number: Not Specified

Lab Number: L2119570
Report Date: 04/29/21

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1489579-3 QC Sample: L2119570-01 Client ID: AP-EWE-01												
Silicon, Total	5.20	1	3.60	**0**	Q	-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1489606-3 QC Sample: L2119570-01 Client ID: AP-EWE-01												
Barium, Total	0.06446	2	2.120	103		-	-		75-125	-		20
Cadmium, Total	ND	0.051	0.05329	104		-	-		75-125	-		20
Chromium, Total	0.00036J	0.2	0.2039	102		-	-		75-125	-		20
Copper, Total	0.00157	0.25	0.2529	100		-	-		75-125	-		20
Iron, Total	0.0678	1	1.19	112		-	-		75-125	-		20
Lead, Total	ND	0.51	0.5371	105		-	-		75-125	-		20
Magnesium, Total	19.3	10	30.5	112		-	-		75-125	-		20
Manganese, Total	0.00985	0.5	0.5003	98		-	-		75-125	-		20
Nickel, Total	0.00072J	0.5	0.4757	95		-	-		75-125	-		20
Selenium, Total	ND	0.12	0.134	112		-	-		75-125	-		20
Sodium, Total	15.1	10	26.0	109		-	-		75-125	-		20
Thallium, Total	0.00022J	0.12	0.1280	107		-	-		75-125	-		20
Zinc, Total	0.01861	0.5	0.5532	107		-	-		75-125	-		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: SPDES
Project Number: Not Specified

Lab Number: L2119570
Report Date: 04/29/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1489579-4 QC Sample: L2119570-01 Client ID: AP-EWE-01						
Silicon, Total	5.20	5.36	mg/l	3		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1489606-4 QC Sample: L2119570-01 Client ID: AP-EWE-01						
Barium, Total	0.06446	0.06821	mg/l	6		20
Cadmium, Total	ND	ND	mg/l	NC		20
Chromium, Total	0.00036J	0.00039J	mg/l	NC		20
Copper, Total	0.00157	0.00141	mg/l	10		20
Iron, Total	0.0678	0.0876	mg/l	**25**	Q	20
Lead, Total	ND	ND	mg/l	NC		20
Magnesium, Total	19.3	20.8	mg/l	7		20
Manganese, Total	0.00985	0.01136	mg/l	14		20
Nickel, Total	0.00072J	0.00088J	mg/l	NC		20
Selenium, Total	ND	ND	mg/l	NC		20
Sodium, Total	15.1	16.1	mg/l	6		20
Thallium, Total	0.00022J	0.00064J	mg/l	NC		20
Zinc, Total	0.01861	0.01807	mg/l	3		20

INORGANICS
&
MISCELLANEOUS

Project Name: SPDES
Project Number: Not Specified

Lab Number: L2119570
Report Date: 04/29/21

SAMPLE RESULTS

Lab ID: L2119570-01
Client ID: AP-EWE-01
Sample Location: NIAGARA FALLS, NY

Date Collected: 04/16/21 10:00
Date Received: 04/16/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total Dissolved	440		mg/l	10	3.1	1	-	04/22/21 09:25	121,2540C	DW
Solids, Total Suspended	1.5		mg/l	1.0	NA	1	-	04/22/21 14:40	121,2540D	AC
pH (H)	7.5		SU	-	NA	1	-	04/20/21 01:08	1,9040C	AW
Nitrogen, Ammonia	0.102		mg/l	0.075	0.024	1	04/26/21 17:30	04/28/21 11:17	121,4500NH3-BH	JO
Nitrogen, Nitrite	ND		mg/l	0.050	0.013	1	-	04/17/21 07:32	121,4500NO3-F	MR
Nitrogen, Nitrate	0.163		mg/l	0.100	0.022	1	-	04/17/21 07:32	121,4500NO3-F	MR
Nitrogen, Total Kjeldahl	0.721		mg/l	0.300	0.066	1	04/26/21 16:40	04/28/21 12:06	121,4500NH3-H	JO
Dissolved Oxygen	8.0		mg/l	0.10	0.10	1	-	04/17/21 18:25	121,4500O-C	SH
Sulfate	34.		mg/l	20	2.7	2	04/21/21 17:11	04/21/21 17:11	121,4500SO4-E	JB
Chemical Oxygen Demand	8.7	J	mg/l	20	6.0	1	04/23/21 18:30	04/23/21 20:59	121,5220D	TL
BOD, 5 day	ND		mg/l	2.0	NA	1	04/17/21 14:05	04/22/21 14:00	121,5210B	JT
Phenolics, Total	ND		mg/l	0.030	0.006	1	04/20/21 07:05	04/20/21 10:02	4,420.1	KP
Chromium, Hexavalent	ND		mg/l	0.010	0.003	1	04/17/21 09:40	04/17/21 09:53	1,7196A	AW

Project Name: SPDES
Project Number: Not Specified
Lab Number: L2119570
Report Date: 04/29/21

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1487452-1										
Nitrogen, Nitrate	ND		mg/l	0.100	0.022	1	-	04/17/21 04:36	121,4500NO3-F	MR
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1487453-1										
Nitrogen, Nitrite	ND		mg/l	0.050	0.013	1	-	04/17/21 04:38	121,4500NO3-F	MR
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1487498-1										
Chromium, Hexavalent	ND		mg/l	0.010	0.003	1	04/17/21 09:40	04/17/21 09:52	1,7196A	AW
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1487577-1										
BOD, 5 day	ND		mg/l	2.0	NA	1	04/17/21 14:05	04/22/21 14:00	121,5210B	JT
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1488262-1										
Phenolics, Total	ND		mg/l	0.030	0.006	1	04/20/21 07:05	04/20/21 09:54	4,420.1	KP
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1488976-1										
Sulfate	2.0	J	mg/l	10	1.4	1	04/21/21 17:11	04/21/21 17:11	121,4500SO4-E	JB
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1489221-1										
Solids, Total Dissolved	ND		mg/l	10	3.1	1	-	04/22/21 09:25	121,2540C	DW
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1489508-1										
Solids, Total Suspended	ND		mg/l	1.0	NA	1	-	04/22/21 14:40	121,2540D	AC
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1490087-1										
Chemical Oxygen Demand	ND		mg/l	20	6.0	1	04/23/21 18:30	04/23/21 20:58	121,5220D	TL
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1490938-1										
Nitrogen, Ammonia	0.044	J	mg/l	0.075	0.024	1	04/26/21 17:30	04/28/21 10:39	121,4500NH3-BH	JO
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1490978-1										
Nitrogen, Total Kjeldahl	0.134	J	mg/l	0.300	0.022	1	04/26/21 16:40	04/28/21 11:40	121,4500NH3-H	JO

Lab Control Sample Analysis

Batch Quality Control

Project Name: SPDES
Project Number: Not Specified

Lab Number: L2119570
Report Date: 04/29/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1487452-2								
Nitrogen, Nitrate	95		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1487453-2								
Nitrogen, Nitrite	97		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1487498-2								
Chromium, Hexavalent	98		-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1487577-2								
BOD, 5 day	102		-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1488200-1								
pH	101		-		99-101	-		5
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1488262-2								
Phenolics, Total	103		-		70-130	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1488976-2								
Sulfate	95		-		90-110	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: SPDES

Project Number: Not Specified

Lab Number: L2119570

Report Date: 04/29/21

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1489221-2					
Solids, Total Dissolved	91	-	80-120	-	
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1489508-2					
Solids, Total Suspended	94	-	80-120	-	
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1490087-2					
Chemical Oxygen Demand	101	-	90-110	-	
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1490938-2					
Nitrogen, Ammonia	92	-	80-120	-	20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1490978-2					
Nitrogen, Total Kjeldahl	100	-	78-122	-	

Matrix Spike Analysis
Batch Quality Control

Project Name: SPDES
Project Number: Not Specified

Lab Number: L2119570
Report Date: 04/29/21

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1487452-4 QC Sample: L2119570-01 Client ID: AP-EWE-01												
Nitrogen, Nitrate	0.163	4	4.48	108		-	-		83-113	-		17
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1487453-4 QC Sample: L2119570-01 Client ID: AP-EWE-01												
Nitrogen, Nitrite	ND	4	4.38	110		-	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1487498-4 QC Sample: L2119570-01 Client ID: AP-EWE-01												
Chromium, Hexavalent	ND	0.1	0.091	91		-	-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1487577-4 QC Sample: L2116521-114 Client ID: MS Sample												
BOD, 5 day	10.	100	120	106		-	-		50-145	-		35
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1488262-4 QC Sample: L2117713-06 Client ID: MS Sample												
Phenolics, Total	0.025J	0.4	0.059	**15**	Q	-	-		70-130	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1488976-4 QC Sample: L2118938-01 Client ID: MS Sample												
Sulfate	110	200	340	116		-	-		55-147	-		14
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1490087-3 QC Sample: L2120215-01 Client ID: MS Sample												
Chemical Oxygen Demand	240	238	420	**77**	Q	-	-		84-120	-		12
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1490938-4 QC Sample: L2120807-05 Client ID: MS Sample												
Nitrogen, Ammonia	1.12	4	5.18	102		-	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1490978-4 QC Sample: L2120807-06 Client ID: MS Sample												
Nitrogen, Total Kjeldahl	0.152J	8	6.56	82		-	-		77-111	-		24

Lab Duplicate Analysis
Batch Quality Control

Project Name: SPDES
Project Number: Not Specified

Lab Number: L2119570
Report Date: 04/29/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1487452-3 QC Sample: L2119570-01 Client ID: AP-EWE-01						
Nitrogen, Nitrate	0.163	0.180	mg/l	10		17
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1487453-3 QC Sample: L2119570-01 Client ID: AP-EWE-01						
Nitrogen, Nitrite	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1487498-3 QC Sample: L2119570-01 Client ID: AP-EWE-01						
Chromium, Hexavalent	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1487577-3 QC Sample: L2116521-114 Client ID: DUP Sample						
BOD, 5 day	10.	9.7	mg/l	3		35
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1487596-2 QC Sample: L2119570-01 Client ID: AP-EWE-01						
Dissolved Oxygen	8.0	7.5	mg/l	6		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1488200-2 QC Sample: L2119700-03 Client ID: DUP Sample						
pH	6.3	6.3	SU	0		5
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1488262-3 QC Sample: L2117713-06 Client ID: DUP Sample						
Phenolics, Total	0.025J	0.025J	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1488976-3 QC Sample: L2118938-01 Client ID: DUP Sample						
Sulfate	110	130	mg/l	**17**	Q	14
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1489221-3 QC Sample: L2119371-01 Client ID: DUP Sample						
Solids, Total Dissolved	56.	56	mg/l	0		10

Lab Duplicate Analysis

Batch Quality Control

Project Name: SPDES
Project Number: Not Specified

Lab Number: L2119570
Report Date: 04/29/21

Parameter	Native Sample	Duplicate Sample	Units	RPD		RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1489508-3 QC Sample: L2119450-01 Client ID: DUP Sample						
Solids, Total Suspended	25.	26	mg/l	4		29
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1490087-4 QC Sample: L2120215-01 Client ID: DUP Sample						
Chemical Oxygen Demand	240	200	mg/l	**18**	Q	12
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1490938-3 QC Sample: L2120807-05 Client ID: DUP Sample						
Nitrogen, Ammonia	1.12	1.24	mg/l	10		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1490978-3 QC Sample: L2120807-06 Client ID: DUP Sample						
Nitrogen, Total Kjeldahl	0.152J	0.281J	mg/l	NC		24

Project Name: SPDES
Project Number: Not Specified

Lab Number: L2119570
Report Date: 04/29/21

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2119570-01A	Vial Na2S2O3 preserved	A	NA		3.2	Y	Absent		624.1(7)
L2119570-01B	Vial Na2S2O3 preserved	A	NA		3.2	Y	Absent		624.1(7)
L2119570-01C	Vial Na2S2O3 preserved	A	NA		3.2	Y	Absent		624.1(7)
L2119570-01D	Plastic 250ml unpreserved	A	7	7	3.2	Y	Absent		SO4-4500(28),HEXCR-7196(1),PH-9040(1),NO3-4500(2),NO2-4500NO3(2),BOD-5210(2),TDS-2540(7)
L2119570-01E	Plastic 250ml HNO3 preserved	A	<2	<2	3.2	Y	Absent		FE-6020T(180),TL-6020T(180),BA-6020T(180),SE-6020T(180),NI-6020T(180),CR-6020T(180),ZN-6020T(180),SI-TI(180),CU-6020T(180),NA-6020T(180),PB-6020T(180),MN-6020T(180),CD-6020T(180),MG-6020T(180)
L2119570-01F	BOD bottle Powder Pillow preserved	A	NA		3.2	Y	Absent		DO-4500(.3)
L2119570-01G	BOD bottle Powder Pillow preserved	A	NA		3.2	Y	Absent		DO-4500(.3)
L2119570-01H	Plastic 500ml H2SO4 preserved	A	<2	<2	3.2	Y	Absent		TKN-4500(28),COD-5220(28),NH3-4500(28)
L2119570-01J	Plastic 950ml unpreserved	A	7	7	3.2	Y	Absent		SO4-4500(28),HEXCR-7196(1),PH-9040(1),NO3-4500(2),NO2-4500NO3(2),BOD-5210(2),TDS-2540(7)
L2119570-01K	Plastic 950ml unpreserved	A	7	7	3.2	Y	Absent		TSS-2540-LOW(7)
L2119570-01L	Amber 1000ml H2SO4 preserved	A	<2	<2	3.2	Y	Absent		NY-TPHENOL-420(28)
L2119570-02A	Vial Na2S2O3 preserved	A	NA		3.2	Y	Absent		624.1(7)
L2119570-02B	Vial Na2S2O3 preserved	A	NA		3.2	Y	Absent		624.1(7)

*Values in parentheses indicate holding time in days

Project Name:	SPDES	**Lab Number:**	L2119570
Project Number:	Not Specified	**Report Date:**	04/29/21

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Project Name:	SPDES	**Lab Number:**	L2119570
Project Number:	Not Specified	**Report Date:**	04/29/21

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. (Note: 'PFAS, Total (6)' is applicable to MassDEP DW compliance analysis only.). If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers

Project Name:	SPDES	**Lab Number:**	L2119570
Project Number:	Not Specified	**Report Date:**	04/29/21

Data Qualifiers

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Project Name:	SPDES	**Lab Number:**	L2119570
Project Number:	Not Specified	**Report Date:**	04/29/21

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

4 Methods for Chemical Analysis of Water and Wastes. EPA 600/4-79-020. Revised March 1983.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

128 Method 624.1: Purgeables by GC/MS, EPA 821-R-16-008, December 2016.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

NEW YORK CHAIN OF CUSTODY

ALPHA ANALYTICAL

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 1 of 1

Date Rec'd in Lab: 04/17/20

ALPHA Job #: L2119570

Project Information

Project Name: SPDES
Project Location: Niagara Falls, NY
Project #
(Use Project name as Project #) ☐
Project Manager:
ALPHAQuote #:

Turn-Around Time

Standard ☐
Rush (only if pre approved) ☐
Due Date:
# of Days:

Client Information

Client: Greenstar
Address: 6 Gellatly Drive
Wappingers Falls, NY 12590
Phone: 845-223-9944
Fax:
Email: cmcleod@greenstarsolutions.com

Deliverables

☐ ASP-A ☐ ASP-B
☐ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Billing Information

☐ Same as Client Info
PO #

Regulatory Requirement

☐ NY TOGS ☐ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Disposal Site Information

Please identify below location of applicable disposal facilities.

Disposal Facility:
☐ NJ ☐ NY
☐ Other: NA

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

*metals-NI, CU, BA, CR, FE, SE, TL, ZN, SI, CD, PB, MG, MN, NA **VOC-1,1-dichloroethane, trichloroethene

Please specify Metals or TAL.

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	T. Phenol	Dissolved Oxygen	TSS	T. Metals*	NH3/TKN/COD	VOC**	CR+6, pH, TDS, BOD	SO4, NO3, NO2	Sample Specific Comments	Total Bottles
19570-01	AP-EWE-01	4/16/21	1000	SW	NC	X	X	X	X	X	X	X	X		11
-02	TB-01	—	—								X				
Container Type						G	O	P	P	P	P	P			
Preservative						D		A	C	D	A	A			

Preservative Code	Container Code
A = None	P = Plastic
B = HCl	A = Amber Glass
C = HNO_3	V = Vial
D = H_2SO_4	G = Glass
E = NaOH	B = Bacteria Cup
F = MeOH	C = Cube
G = $NaHSO_4$	O = Other
H = $Na_2S_2O_3$	E = Encore
K/E = Zn Ac/NaOH	D = BOD Bottle
O = Other	

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Relinquished By:	Date/Time	Received By:	Date/Time
Nick Cor[illegible]	4/16 1111	[signature] (AAL)	4/16/21 11:11
[signature] (AAL)	4/16/21 11:11	[signature]	4/17/21 01:00

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS.

Form No: 01-25 (rev. 30-Sept-2013)

ANALYTICAL REPORT

Lab Number:	L2138829
Client:	Greenstar Environmental Solutions, LLC 6 Gellatly Drive Wappingers Falls, NY 12590
ATTN:	Pete Nimmer
Phone:	(845) 223-9944
Project Name:	SPDES
Project Number:	Not Specified
Report Date:	08/16/21

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: SPDES
Project Number: Not Specified

Lab Number: L2138829
Report Date: 08/16/21

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2138829-01	AP-EWE-01	WATER	NIAGARA FALLS, NY	07/20/21 10:00	07/20/21

Project Name:	SPDES	**Lab Number:**	L2138829
Project Number:	Not Specified	**Report Date:**	08/16/21

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name: SPDES **Lab Number:** L2138829
Project Number: Not Specified **Report Date:** 08/16/21

Case Narrative (continued)

Report Submission

August 16, 2021: This final report includes the results of all requested analyses.

July 29, 2021: This is a preliminary report.

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Volatile Organics

L2138829-01: The pH of the sample was greater than two; however, the sample was analyzed within the method required holding time.

Total Metals

The WG1527554-3 MS recovery for silicon (256%), performed on L2138829-01, does not apply because the sample concentration is greater than four times the spike amount added.

Dissolved Oxygen

L2138829-01 was analyzed with the method required holding time exceeded.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Michelle M. Morris

Title: Technical Director/Representative Date: 08/16/21

ORGANICS

VOLATILES

Project Name: SPDES
Project Number: Not Specified
Lab Number: L2138829
Report Date: 08/16/21

SAMPLE RESULTS

Lab ID: L2138829-01
Client ID: AP-EWE-01
Sample Location: NIAGARA FALLS, NY
Date Collected: 07/20/21 10:00
Date Received: 07/20/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/24/21 19:59
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Trichloroethene	ND		ug/l	0.50	0.18	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	111		70-130

Project Name: SPDES
Project Number: Not Specified

Lab Number: L2138829
Report Date: 08/16/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/24/21 12:55
Analyst: TMS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1527939-5					
1,1-Dichloroethane	ND		ug/l	2.5	0.70
Trichloroethene	ND		ug/l	0.50	0.18

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	91		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	104		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: SPDES
Project Number: Not Specified

Lab Number: L2138829
Report Date: 08/16/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1527939-3 WG1527939-4								
1,1-Dichloroethane	93		90		70-130	3		20
Trichloroethene	90		87		70-130	3		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	97		97		70-130
Toluene-d8	100		102		70-130
4-Bromofluorobenzene	98		98		70-130
Dibromofluoromethane	108		107		70-130

METALS

Project Name: SPDES
Project Number: Not Specified
Lab Number: L2138829
Report Date: 08/16/21

SAMPLE RESULTS

Lab ID: L2138829-01
Client ID: AP-EWE-01
Sample Location: NIAGARA FALLS, NY
Sample Depth:
Matrix: Water

Date Collected: 07/20/21 10:00
Date Received: 07/20/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Barium, Total	0.1128		mg/l	0.00050	0.00017	1	07/24/21 19:58	08/13/21 10:51	EPA 3005A	1,6020B	CD
Cadmium, Total	ND		mg/l	0.00020	0.00005	1	07/24/21 19:58	08/13/21 10:51	EPA 3005A	1,6020B	CD
Chromium, Total	0.00058	J	mg/l	0.00100	0.00017	1	07/24/21 19:58	08/13/21 10:51	EPA 3005A	1,6020B	CD
Copper, Total	0.00084	J	mg/l	0.00100	0.00038	1	07/24/21 19:58	08/13/21 10:51	EPA 3005A	1,6020B	CD
Iron, Total	0.0683		mg/l	0.0500	0.0191	1	07/24/21 19:58	08/13/21 10:51	EPA 3005A	1,6020B	CD
Lead, Total	ND		mg/l	0.00100	0.00034	1	07/24/21 19:58	08/13/21 10:51	EPA 3005A	1,6020B	CD
Magnesium, Total	16.3		mg/l	0.0700	0.0242	1	07/24/21 19:58	08/13/21 10:51	EPA 3005A	1,6020B	CD
Manganese, Total	0.1975		mg/l	0.00100	0.00044	1	07/24/21 19:58	08/13/21 10:51	EPA 3005A	1,6020B	CD
Nickel, Total	0.00149	J	mg/l	0.00200	0.00055	1	07/24/21 19:58	08/13/21 10:51	EPA 3005A	1,6020B	CD
Selenium, Total	ND		mg/l	0.00500	0.00173	1	07/24/21 19:58	08/13/21 10:51	EPA 3005A	1,6020B	CD
Silicon, Total	6.09		mg/l	0.500	0.007	1	07/24/21 19:58	08/05/21 16:46	EPA 3005A	1,6010D	PS
Sodium, Total	53.8		mg/l	0.100	0.0293	1	07/24/21 19:58	08/13/21 10:51	EPA 3005A	1,6020B	CD
Thallium, Total	0.00039	J	mg/l	0.00100	0.00014	1	07/24/21 19:58	08/13/21 10:51	EPA 3005A	1,6020B	CD
Zinc, Total	0.01792		mg/l	0.01000	0.00341	1	07/24/21 19:58	08/13/21 10:51	EPA 3005A	1,6020B	CD

Project Name: SPDES
Project Number: Not Specified
Lab Number: L2138829
Report Date: 08/16/21

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1527553-1										
Barium, Total	ND		mg/l	0.00050	0.00017	1	07/24/21 19:58	08/13/21 10:22	1,6020B	CD
Cadmium, Total	ND		mg/l	0.00020	0.00005	1	07/24/21 19:58	08/13/21 10:22	1,6020B	CD
Chromium, Total	ND		mg/l	0.00100	0.00017	1	07/24/21 19:58	08/13/21 10:22	1,6020B	CD
Copper, Total	ND		mg/l	0.00100	0.00038	1	07/24/21 19:58	08/13/21 10:22	1,6020B	CD
Iron, Total	ND		mg/l	0.0500	0.0191	1	07/24/21 19:58	08/13/21 10:22	1,6020B	CD
Lead, Total	ND		mg/l	0.00100	0.00034	1	07/24/21 19:58	08/13/21 10:22	1,6020B	CD
Magnesium, Total	ND		mg/l	0.0700	0.0242	1	07/24/21 19:58	08/13/21 10:22	1,6020B	CD
Manganese, Total	ND		mg/l	0.00100	0.00044	1	07/24/21 19:58	08/13/21 10:22	1,6020B	CD
Nickel, Total	ND		mg/l	0.00200	0.00055	1	07/24/21 19:58	08/13/21 10:22	1,6020B	CD
Selenium, Total	ND		mg/l	0.00500	0.00173	1	07/24/21 19:58	08/13/21 10:22	1,6020B	CD
Sodium, Total	ND		mg/l	0.100	0.0293	1	07/24/21 19:58	08/13/21 10:22	1,6020B	CD
Thallium, Total	ND		mg/l	0.00100	0.00014	1	07/24/21 19:58	08/13/21 10:22	1,6020B	CD
Zinc, Total	ND		mg/l	0.01000	0.00341	1	07/24/21 19:58	08/13/21 10:22	1,6020B	CD

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1527554-1										
Silicon, Total	ND		mg/l	0.500	0.007	1	07/24/21 19:58	08/05/21 16:29	1,6010D	PS

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis

Batch Quality Control

Project Name: SPDES

Project Number: Not Specified

Lab Number: L2138829

Report Date: 08/16/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1527553-2								
Barium, Total	100		-		80-120	-		
Cadmium, Total	108		-		80-120	-		
Chromium, Total	103		-		80-120	-		
Copper, Total	103		-		80-120	-		
Iron, Total	102		-		80-120	-		
Lead, Total	102		-		80-120	-		
Magnesium, Total	102		-		80-120	-		
Manganese, Total	99		-		80-120	-		
Nickel, Total	91		-		80-120	-		
Selenium, Total	104		-		80-120	-		
Sodium, Total	103		-		80-120	-		
Thallium, Total	110		-		80-120	-		
Zinc, Total	107		-		80-120	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1527554-2								
Silicon, Total	96		-		80-120	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: SPDES
Project Number: Not Specified

Lab Number: L2138829
Report Date: 08/16/21

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1527553-3 QC Sample: L2138829-01 Client ID: AP-EWE-01												
Barium, Total	0.1128	2	2.065	98		-	-		75-125	-		20
Cadmium, Total	ND	0.053	0.05506	104		-	-		75-125	-		20
Chromium, Total	0.00058J	0.2	0.2064	103		-	-		75-125	-		20
Copper, Total	0.00084J	0.25	0.2588	104		-	-		75-125	-		20
Iron, Total	0.0683	1	1.12	105		-	-		75-125	-		20
Lead, Total	ND	0.53	0.5493	104		-	-		75-125	-		20
Magnesium, Total	16.3	10	26.6	103		-	-		75-125	-		20
Manganese, Total	0.1975	0.5	0.7008	101		-	-		75-125	-		20
Nickel, Total	0.00149J	0.5	0.4580	92		-	-		75-125	-		20
Selenium, Total	ND	0.12	0.121	101		-	-		75-125	-		20
Sodium, Total	53.8	10	61.3	75		-	-		75-125	-		20
Thallium, Total	0.00039J	0.12	0.1339	112		-	-		75-125	-		20
Zinc, Total	0.01792	0.5	0.5586	108		-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1527554-3 QC Sample: L2138829-01 Client ID: AP-EWE-01												
Silicon, Total	6.09	1	8.65	**256**	Q	-	-		75-125	-		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: SPDES
Project Number: Not Specified

Lab Number: L2138829
Report Date: 08/16/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1527553-4 QC Sample: L2138829-01 Client ID: AP-EWE-01						
Barium, Total	0.1128	0.1117	mg/l	1		20
Cadmium, Total	ND	ND	mg/l	NC		20
Chromium, Total	0.00058J	0.00056J	mg/l	NC		20
Copper, Total	0.00084J	0.00083J	mg/l	NC		20
Iron, Total	0.0683	0.0758	mg/l	10		20
Lead, Total	ND	ND	mg/l	NC		20
Magnesium, Total	16.3	16.5	mg/l	1		20
Manganese, Total	0.1975	0.1961	mg/l	1		20
Nickel, Total	0.00149J	0.00170J	mg/l	NC		20
Selenium, Total	ND	ND	mg/l	NC		20
Sodium, Total	53.8	55.4	mg/l	3		20
Thallium, Total	0.00039J	0.00092J	mg/l	NC		20
Zinc, Total	0.01792	0.01782	mg/l	1		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1527554-4 QC Sample: L2138829-01 Client ID: AP-EWE-01						
Silicon, Total	6.09	6.19	mg/l	2		20

Project Name: SPDES
Project Number: Not Specified

Lab Serial Dilution Analysis
Batch Quality Control

Lab Number: L2138829
Report Date: 08/16/21

Parameter	Native Sample	Serial Dilution	Units	% D	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1527553-6 QC Sample: L2138829-01 Client ID: AP-EWE-01						
Barium, Total	0.1128	0.1111	mg/l	2		20
Magnesium, Total	16.3	16.4	mg/l	1		20
Manganese, Total	0.1975	0.1935	mg/l	2		20
Sodium, Total	53.8	53.2	mg/l	1		20

INORGANICS
&
MISCELLANEOUS

Project Name: SPDES
Project Number: Not Specified

Lab Number: L2138829
Report Date: 08/16/21

SAMPLE RESULTS

Lab ID: L2138829-01
Client ID: AP-EWE-01
Sample Location: NIAGARA FALLS, NY

Date Collected: 07/20/21 10:00
Date Received: 07/20/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total Dissolved	740		mg/l	10	3.1	1	-	07/26/21 07:30	121,2540C	DW
Solids, Total Suspended	1.9		mg/l	1.0	NA	1	-	07/23/21 12:05	121,2540D	AC
pH (H)	7.6		SU	-	NA	1	-	07/21/21 07:43	121,4500H+-B	KP
Nitrogen, Ammonia	0.329		mg/l	0.075	0.024	1	07/27/21 02:00	07/27/21 20:17	121,4500NH3-BH	AT
Nitrogen, Nitrite	0.072		mg/l	0.050	0.014	1	-	07/21/21 11:09	44,353.2	EL
Nitrogen, Nitrate	0.32		mg/l	0.10	0.023	1	-	07/21/21 11:09	44,353.2	EL
Nitrogen, Total Kjeldahl	0.808		mg/l	0.300	0.066	1	07/26/21 22:35	07/28/21 21:12	121,4500NH3-H	AT
Dissolved Oxygen	4.6		mg/l	0.10	0.10	1	-	07/21/21 11:10	121,4500O-C	JT
Sulfate	38.		mg/l	10	1.4	1	07/26/21 13:21	07/26/21 13:21	121,4500SO4-E	JB
Chemical Oxygen Demand	20.		mg/l	10	2.7	1	07/21/21 21:10	07/21/21 23:52	44,410.4	TL
BOD, 5 day	ND		mg/l	2.0	NA	1	07/21/21 22:45	07/26/21 18:27	121,5210B	JD
Phenolics, Total	ND		mg/l	0.030	0.006	1	07/21/21 06:59	07/21/21 10:45	4,420.1	KP
Chromium, Hexavalent	ND		mg/l	0.010	0.003	1	07/21/21 02:50	07/21/21 03:08	1,7196A	KA

Project Name: SPDES
Project Number: Not Specified
Lab Number: L2138829
Report Date: 08/16/21

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1526088-1										
Nitrogen, Nitrate	ND		mg/l	0.10	0.023	1	-	07/21/21 07:12	44,353.2	EL
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1526089-1										
Nitrogen, Nitrite	ND		mg/l	0.050	0.014	1	-	07/21/21 07:14	44,353.2	EL
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1526097-1										
Chromium, Hexavalent	ND		mg/l	0.010	0.003	1	07/21/21 02:50	07/21/21 03:06	1,7196A	KA
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1526142-1										
Phenolics, Total	ND		mg/l	0.030	0.006	1	07/21/21 06:59	07/21/21 10:41	4,420.1	KP
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1526439-1										
Chemical Oxygen Demand	ND		mg/l	10	2.7	1	07/21/21 21:10	07/21/21 23:49	44,410.4	TL
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1526467-1										
BOD, 5 day	ND		mg/l	2.0	NA	1	07/21/21 22:45	07/26/21 18:27	121,5210B	JD
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1527178-1										
Sulfate	ND		mg/l	10	1.4	1	07/26/21 13:21	07/26/21 13:21	121,4500SO4-E	JB
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1527212-1										
Solids, Total Suspended	ND		mg/l	1.0	NA	1	-	07/23/21 12:05	121,2540D	AC
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1527738-1										
Solids, Total Dissolved	ND		mg/l	10	3.1	1	-	07/26/21 07:30	121,2540C	DW
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1528088-1										
Nitrogen, Total Kjeldahl	0.106	J	mg/l	0.300	0.022	1	07/26/21 22:35	07/28/21 20:59	121,4500NH3-H	AT
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1528102-1										
Nitrogen, Ammonia	ND		mg/l	0.075	0.024	1	07/27/21 02:00	07/27/21 20:14	121,4500NH3-BH	AT

Lab Control Sample Analysis

Batch Quality Control

Project Name: SPDES

Project Number: Not Specified

Lab Number: L2138829

Report Date: 08/16/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1526088-2								
Nitrogen, Nitrate	104		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1526089-2								
Nitrogen, Nitrite	98		-		90-110	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1526097-2								
Chromium, Hexavalent	106		-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1526142-2								
Phenolics, Total	100		-		70-130	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1526180-1								
pH	100		-		99-101	-		5
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1526439-2								
Chemical Oxygen Demand	98		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1526467-2								
BOD, 5 day	104		-		85-115	-		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: SPDES

Project Number: Not Specified

Lab Number: L2138829

Report Date: 08/16/21

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1527178-2					
Sulfate	90	-	90-110	-	
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1527212-2					
Solids, Total Suspended	104	-	80-120	-	
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1527738-2					
Solids, Total Dissolved	98	-	80-120	-	
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1528088-2					
Nitrogen, Total Kjeldahl	101	-	78-122	-	
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1528102-2					
Nitrogen, Ammonia	102	-	80-120	-	20

Matrix Spike Analysis
Batch Quality Control

Project Name: SPDES
Project Number: Not Specified

Lab Number: L2138829
Report Date: 08/16/21

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1526088-4 QC Sample: L2138779-03 Client ID: MS Sample												
Nitrogen, Nitrate	180	4	180	**0**	Q	-	-		83-113	-		6
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1526089-4 QC Sample: L2138779-03 Client ID: MS Sample												
Nitrogen, Nitrite	1.5	4	5.3	95		-	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1526097-4 QC Sample: L2138829-01 Client ID: AP-EWE-01												
Chromium, Hexavalent	ND	0.1	0.105	105		-	-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1526142-4 QC Sample: L2138829-01 Client ID: AP-EWE-01												
Phenolics, Total	ND	0.4	0.35	87		-	-		70-130	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1526439-3 QC Sample: L2137917-01 Client ID: MS Sample												
Chemical Oxygen Demand	27.	47.6	76	103		-	-		90-110	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1526467-4 QC Sample: L2138829-01 Client ID: AP-EWE-01												
BOD, 5 day	ND	100	110	107		-	-		50-145	-		35
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1527178-4 QC Sample: L2139452-01 Client ID: MS Sample												
Sulfate	24.	40	57	82		-	-		55-147	-		14
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1528088-4 QC Sample: L2137562-01 Client ID: MS Sample												
Nitrogen, Total Kjeldahl	0.873	8	8.30	93		-	-		77-111	-		24
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1528102-4 QC Sample: L2136469-07 Client ID: MS Sample												
Nitrogen, Ammonia	0.070J	4	3.79	95		-	-		80-120	-		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: SPDES
Project Number: Not Specified

Lab Number: L2138829
Report Date: 08/16/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1526088-3 QC Sample: L2138779-03 Client ID: DUP Sample						
Nitrogen, Nitrate	180	190	mg/l	5		6
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1526089-3 QC Sample: L2138779-03 Client ID: DUP Sample						
Nitrogen, Nitrite	1.5	1.5	mg/l	0		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1526097-3 QC Sample: L2138829-01 Client ID: AP-EWE-01						
Chromium, Hexavalent	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1526142-3 QC Sample: L2138829-01 Client ID: AP-EWE-01						
Phenolics, Total	ND	0.013J	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1526180-2 QC Sample: L2138778-01 Client ID: DUP Sample						
pH	6.7	6.7	SU	0		5
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1526439-4 QC Sample: L2137917-01 Client ID: DUP Sample						
Chemical Oxygen Demand	27.	27	mg/l	0		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1526467-3 QC Sample: L2138829-01 Client ID: AP-EWE-01						
BOD, 5 day	ND	ND	mg/l	NC		35
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1527178-3 QC Sample: L2139452-01 Client ID: DUP Sample						
Sulfate	24.	22	mg/l	9		14
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1527212-3 QC Sample: L2139218-01 Client ID: DUP Sample						
Solids, Total Suspended	450	470	mg/l	4		29

Lab Duplicate Analysis
Batch Quality Control

Project Name: SPDES
Project Number: Not Specified

Lab Number: L2138829
Report Date: 08/16/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1527436-1 QC Sample: L2138829-01 Client ID: AP-EWE-01					
Dissolved Oxygen	4.6	3.8	mg/l	19	20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1527738-3 QC Sample: L2138941-01 Client ID: DUP Sample					
Solids, Total Dissolved	290	300	mg/l	3	10
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1528088-3 QC Sample: L2137562-01 Client ID: DUP Sample					
Nitrogen, Total Kjeldahl	0.873	1.08	mg/l	21	24
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1528102-3 QC Sample: L2136469-07 Client ID: DUP Sample					
Nitrogen, Ammonia	0.070J	0.061J	mg/l	NC	20

Project Name: SPDES
Project Number: Not Specified

Lab Number: L2138829
Report Date: 08/16/21

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2138829-01A	Vial HCl preserved	A	NA		3.8	Y	Absent		NYTCL-8260(14)
L2138829-01B	Vial HCl preserved	A	NA		3.8	Y	Absent		NYTCL-8260(14)
L2138829-01C	Vial HCl preserved	A	NA		3.8	Y	Absent		NYTCL-8260(14)
L2138829-01D	Plastic 250ml unpreserved	A	7	7	3.8	Y	Absent		SO4-4500(28),HEXCR-7196(1),NO2-353(2),PH-4500(.01),TDS-2540(7),BOD-5210(2),NO3-353(2)
L2138829-01E	Plastic 250ml HNO3 preserved	A	<2	<2	3.8	Y	Absent		TL-6020T(180),FE-6020T(180),SE-6020T(180),BA-6020T(180),NI-6020T(180),CR-6020T(180),CU-6020T(180),ZN-6020T(180),SI-TI(180),NA-6020T(180),PB-6020T(180),MN-6020T(180),MG-6020T(180),CD-6020T(180)
L2138829-01F	Plastic 500ml H2SO4 preserved	A	<2	<2	3.8	Y	Absent		TKN-4500(28),COD-410-LOW(28),NH3-4500(28)
L2138829-01G	BOD bottle Powder Pillow preserved	A	NA		3.8	Y	Absent		DO-4500(.3)
L2138829-01H	BOD bottle Powder Pillow preserved	A	NA		3.8	Y	Absent		DO-4500(.3)
L2138829-01J	Plastic 950ml unpreserved	A	7	7	3.8	Y	Absent		TSS-2540-LOW(7)
L2138829-01K	Plastic 950ml unpreserved	A	7	7	3.8	Y	Absent		SO4-4500(28),HEXCR-7196(1),NO2-353(2),PH-4500(.01),TDS-2540(7),BOD-5210(2),NO3-353(2)
L2138829-01L	Amber 1000ml H2SO4 preserved	A	<2	<2	3.8	Y	Absent		NY-TPHENOL-420(28)

*Values in parentheses indicate holding time in days

Project Name:	SPDES	**Lab Number:**	L2138829
Project Number:	Not Specified	**Report Date:**	08/16/21

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Project Name:	SPDES	**Lab Number:**	L2138829
Project Number:	Not Specified	**Report Date:**	08/16/21

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers

Project Name:	SPDES	**Lab Number:**	L2138829
Project Number:	Not Specified	**Report Date:**	08/16/21

Data Qualifiers

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Project Name:	SPDES	**Lab Number:**	L2138829
Project Number:	Not Specified	**Report Date:**	08/16/21

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

4 Methods for Chemical Analysis of Water and Wastes. EPA 600/4-79-020. Revised March 1983.

44 Methods for the Determination of Inorganic Substances in Environmental Samples, EPA/600/R-93/100, August 1993.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

NEW YORK CHAIN OF CUSTODY

ALPHA ANALYTICAL

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 1 of 1

Date Rec'd in Lab: 7/21/21

ALPHA Job #: L2138829

Client Information

Client: Greenstar
Address: 6 Gellatly Drive
Wappingers Falls, NY 12590
Phone: 845-223-9944
Fax:
Email: cmcleod@greenstarsolutions.com

Project Information

Project Name: SPDES
Project Location: Niagara Falls, NY
Project #
(Use Project name as Project #) ☐
Project Manager:
ALPHAQuote #:

Turn-Around Time

Standard ☑ Due Date: * HCK Chrome
Rush (only if pre approved) ☐ # of Days: W/ 24hr TAT

Deliverables

☐ ASP-A ☐ ASP-B
☐ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Regulatory Requirement

☐ NY TOGS ☐ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Billing Information

☐ Same as Client Info
PO #

Disposal Site Information

Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☐ NY
☐ Other: NA

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

*metals-NI, CU, BA, CR, FE, SE, TL, ZN, SI, CD, PB, MG, MN, NA **VOC-1,1-dichloroethane, trichloroethene

Please specify Metals or TAL.

ANALYSIS

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	T. Phenol	Dissolved Oxygen	TSS	T. Metals*	NH3/TKN/COD	VOC**	CR+6, pH, TDS, BOD	SO4, NO3, NO2	Sample Specific Comments	Total Bottle
38829-01	[redacted] AP-EWE-01	7/20	1000	AQ	NL	X	X	X	X	X	X	X	X		11

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

Container Type	G	O	P	P	P	P	P	
Preservative	D		A	C	D	A	A	

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Relinquished By:	Date/Time	Received By:	Date/Time
Michael Cormier	7/20/21 1150	[signature]	07/20/21 1150
[signature]	7/20/21 1150	[signature]	7/21/21 00:50

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS.

Form No: 01-25 (rev. 30-Sept-2013)

ANALYTICAL REPORT

Lab Number:	L2155685
Client:	Greenstar Environmental Solutions, LLC 6 Gellatly Drive Wappingers Falls, NY 12590
ATTN:	Pete Nimmer
Phone:	(845) 223-9944
Project Name:	SPDES
Project Number:	Not Specified
Report Date:	10/26/21

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: SPDES
Project Number: Not Specified

Lab Number: L2155685
Report Date: 10/26/21

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2155685-01	AP-EWE-01	WATER	NIAGARA FALLS, NY	10/12/21 14:30	10/12/21

Project Name:	SPDES	**Lab Number:**	L2155685
Project Number:	Not Specified	**Report Date:**	10/26/21

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name: SPDES **Lab Number:** L2155685
Project Number: Not Specified **Report Date:** 10/26/21

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Total Metals

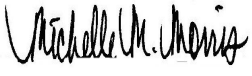
L2155685-01: The sample has an elevated detection limit for silicon due to the dilution required by the limited sample volume available for analysis.

The WG1558047-3 MS recovery for sodium (56%), performed on L2155685-01, does not apply because the sample concentration is greater than four times the spike amount added.

Dissolved Oxygen

L2155685-01: The sample was analyzed with the method required holding time exceeded.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Michelle M. Morris

Title: Technical Director/Representative Date: 10/26/21

ORGANICS

VOLATILES

Project Name: SPDES
Lab Number: L2155685
Project Number: Not Specified
Report Date: 10/26/21

SAMPLE RESULTS

Lab ID: L2155685-01
Client ID: AP-EWE-01
Sample Location: NIAGARA FALLS, NY

Date Collected: 10/12/21 14:30
Date Received: 10/12/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 128,624.1
Analytical Date: 10/14/21 12:47
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,1-Dichloroethane	ND		ug/l	1.5	0.40	1
Trichloroethene	ND		ug/l	1.0	0.33	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	86		60-140
Fluorobenzene	95		60-140
4-Bromofluorobenzene	111		60-140

Project Name: SPDES
Project Number: Not Specified

Lab Number: L2155685
Report Date: 10/26/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 128,624.1
Analytical Date: 10/14/21 06:26
Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1558694-4					
1,1-Dichloroethane	ND		ug/l	1.5	0.40
Trichloroethene	ND		ug/l	1.0	0.33

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	86		60-140
Fluorobenzene	94		60-140
4-Bromofluorobenzene	123		60-140

Lab Control Sample Analysis
Batch Quality Control

Project Name: SPDES
Project Number: Not Specified

Lab Number: L2155685
Report Date: 10/26/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1558694-3								
1,1-Dichloroethane	90		-		50-150	-		49
Trichloroethene	115		-		65-135	-		48

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Pentafluorobenzene	87				60-140
Fluorobenzene	100				60-140
4-Bromofluorobenzene	117				60-140

METALS

Project Name: SPDES
Project Number: Not Specified
Lab Number: L2155685
Report Date: 10/26/21

SAMPLE RESULTS

Lab ID: L2155685-01
Client ID: AP-EWE-01
Sample Location: NIAGARA FALLS, NY
Sample Depth:
Matrix: Water

Date Collected: 10/12/21 14:30
Date Received: 10/12/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Barium, Total	0.1230		mg/l	0.00050	0.00017	1	10/14/21 09:32	10/15/21 19:16	EPA 3005A	1,6020B	PS
Cadmium, Total	ND		mg/l	0.00020	0.00005	1	10/14/21 09:32	10/15/21 19:16	EPA 3005A	1,6020B	PS
Chromium, Total	0.00097	J	mg/l	0.00100	0.00017	1	10/14/21 09:32	10/15/21 19:16	EPA 3005A	1,6020B	PS
Copper, Total	ND		mg/l	0.00100	0.00038	1	10/14/21 09:32	10/15/21 19:16	EPA 3005A	1,6020B	PS
Iron, Total	0.0568		mg/l	0.0500	0.0191	1	10/14/21 09:32	10/15/21 19:16	EPA 3005A	1,6020B	PS
Lead, Total	ND		mg/l	0.00100	0.00034	1	10/14/21 09:32	10/15/21 19:16	EPA 3005A	1,6020B	PS
Magnesium, Total	5.34		mg/l	0.0700	0.0242	1	10/14/21 09:32	10/15/21 19:16	EPA 3005A	1,6020B	PS
Manganese, Total	0.01718		mg/l	0.00100	0.00044	1	10/14/21 09:32	10/15/21 19:16	EPA 3005A	1,6020B	PS
Nickel, Total	0.00076	J	mg/l	0.00200	0.00055	1	10/14/21 09:32	10/15/21 19:16	EPA 3005A	1,6020B	PS
Selenium, Total	ND		mg/l	0.00500	0.00173	1	10/14/21 09:32	10/15/21 19:16	EPA 3005A	1,6020B	PS
Silicon, Total	3.74	J	mg/l	5.00	0.074	1	10/15/21 14:10	10/19/21 22:46	EPA 3005A	1,6010D	DL
Sodium, Total	83.5		mg/l	0.100	0.0293	1	10/14/21 09:32	10/15/21 19:16	EPA 3005A	1,6020B	PS
Thallium, Total	0.00018	J	mg/l	0.00100	0.00014	1	10/14/21 09:32	10/15/21 19:16	EPA 3005A	1,6020B	PS
Zinc, Total	0.01098		mg/l	0.01000	0.00341	1	10/14/21 09:32	10/15/21 19:16	EPA 3005A	1,6020B	PS

Project Name: SPDES
Project Number: Not Specified
Lab Number: L2155685
Report Date: 10/26/21

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1558047-1										
Barium, Total	ND		mg/l	0.00050	0.00017	1	10/14/21 09:32	10/15/21 17:33	1,6020B	PS
Cadmium, Total	ND		mg/l	0.00020	0.00005	1	10/14/21 09:32	10/15/21 17:33	1,6020B	PS
Chromium, Total	0.00068	J	mg/l	0.00100	0.00017	1	10/14/21 09:32	10/15/21 17:33	1,6020B	PS
Copper, Total	ND		mg/l	0.00100	0.00038	1	10/14/21 09:32	10/15/21 17:33	1,6020B	PS
Iron, Total	ND		mg/l	0.0500	0.0191	1	10/14/21 09:32	10/15/21 17:33	1,6020B	PS
Lead, Total	ND		mg/l	0.00100	0.00034	1	10/14/21 09:32	10/15/21 17:33	1,6020B	PS
Magnesium, Total	ND		mg/l	0.0700	0.0242	1	10/14/21 09:32	10/15/21 17:33	1,6020B	PS
Manganese, Total	0.00058	J	mg/l	0.00100	0.00044	1	10/14/21 09:32	10/15/21 17:33	1,6020B	PS
Nickel, Total	ND		mg/l	0.00200	0.00055	1	10/14/21 09:32	10/15/21 17:33	1,6020B	PS
Selenium, Total	ND		mg/l	0.00500	0.00173	1	10/14/21 09:32	10/15/21 17:33	1,6020B	PS
Sodium, Total	ND		mg/l	0.100	0.0293	1	10/14/21 09:32	10/15/21 17:33	1,6020B	PS
Thallium, Total	0.00014	J	mg/l	0.00100	0.00014	1	10/14/21 09:32	10/15/21 17:33	1,6020B	PS
Zinc, Total	ND		mg/l	0.01000	0.00341	1	10/14/21 09:32	10/15/21 17:33	1,6020B	PS

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1558620-1										
Silicon, Total	ND		mg/l	0.500	0.007	1	10/15/21 14:10	10/19/21 22:25	1,6010D	DL

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis

Batch Quality Control

Project Name: SPDES

Project Number: Not Specified

Lab Number: L2155685

Report Date: 10/26/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1558047-2								
Barium, Total	103		-		80-120	-		
Cadmium, Total	103		-		80-120	-		
Chromium, Total	94		-		80-120	-		
Copper, Total	96		-		80-120	-		
Iron, Total	99		-		80-120	-		
Lead, Total	103		-		80-120	-		
Magnesium, Total	101		-		80-120	-		
Manganese, Total	98		-		80-120	-		
Nickel, Total	94		-		80-120	-		
Selenium, Total	99		-		80-120	-		
Sodium, Total	99		-		80-120	-		
Thallium, Total	104		-		80-120	-		
Zinc, Total	97		-		80-120	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1558620-2								
Silicon, Total	102		-		80-120	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: SPDES
Project Number: Not Specified

Lab Number: L2155685
Report Date: 10/26/21

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1558047-3 QC Sample: L2155685-01 Client ID: AP-EWE-01												
Barium, Total	0.1230	4	4.282	104		-	-		75-125	-		20
Cadmium, Total	ND	0.106	0.1105	104		-	-		75-125	-		20
Chromium, Total	0.00097J	0.4	0.3932	98		-	-		75-125	-		20
Copper, Total	ND	0.5	0.5091	102		-	-		75-125	-		20
Iron, Total	0.0568	2	2.05	100		-	-		75-125	-		20
Lead, Total	ND	1.06	1.128	106		-	-		75-125	-		20
Magnesium, Total	5.34	20	25.4	100		-	-		75-125	-		20
Manganese, Total	0.01718	1	1.040	102		-	-		75-125	-		20
Nickel, Total	0.00076J	1	0.9707	97		-	-		75-125	-		20
Selenium, Total	ND	0.24	0.263	110		-	-		75-125	-		20
Sodium, Total	83.5	20	94.8	**56**	Q	-	-		75-125	-		20
Thallium, Total	0.00018J	0.24	0.2595	108		-	-		75-125	-		20
Zinc, Total	0.01098	1	1.010	100		-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1558620-3 QC Sample: L2155685-01 Client ID: AP-EWE-01												
Silicon, Total	3.74J	100	109	109		-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: SPDES
Project Number: Not Specified

Lab Number: L2155685
Report Date: 10/26/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1558047-4 QC Sample: L2155685-01 Client ID: AP-EWE-01						
Barium, Total	0.1230	0.1239	mg/l	1		20
Cadmium, Total	ND	ND	mg/l	NC		20
Chromium, Total	0.00097J	0.00103	mg/l	NC		20
Copper, Total	ND	ND	mg/l	NC		20
Iron, Total	0.0568	0.0693	mg/l	20		20
Lead, Total	ND	ND	mg/l	NC		20
Magnesium, Total	5.34	5.39	mg/l	1		20
Manganese, Total	0.01718	0.01738	mg/l	1		20
Nickel, Total	0.00076J	0.00105J	mg/l	NC		20
Selenium, Total	ND	ND	mg/l	NC		20
Sodium, Total	83.5	82.9	mg/l	1		20
Thallium, Total	0.00018J	0.00065J	mg/l	NC		20
Zinc, Total	0.01098	0.01030	mg/l	6		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1558620-4 QC Sample: L2155685-01 Client ID: AP-EWE-01						
Silicon, Total	3.74J	3.76J	mg/l	NC		20

INORGANICS
&
MISCELLANEOUS

Project Name: SPDES
Project Number: Not Specified

Lab Number: L2155685
Report Date: 10/26/21

SAMPLE RESULTS

Lab ID: L2155685-01
Client ID: AP-EWE-01
Sample Location: NIAGARA FALLS, NY

Date Collected: 10/12/21 14:30
Date Received: 10/12/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total Dissolved	620		mg/l	10	3.1	1	-	10/15/21 09:50	121,2540C	DW
Solids, Total Suspended	1.9		mg/l	1.0	NA	1	-	10/19/21 15:30	121,2540D	AC
pH (H)	7.5		SU	-	NA	1	-	10/13/21 17:24	121,4500H+-B	AS
Nitrogen, Ammonia	0.232		mg/l	0.075	0.024	1	10/21/21 22:15	10/22/21 21:01	121,4500NH3-BH	AT
Nitrogen, Nitrite	ND		mg/l	0.050	0.014	1	-	10/13/21 04:26	44,353.2	MR
Nitrogen, Nitrate	0.14		mg/l	0.10	0.023	1	-	10/13/21 04:26	44,353.2	MR
Nitrogen, Total Kjeldahl	0.718		mg/l	0.300	0.066	1	10/20/21 22:05	10/21/21 22:39	121,4500NH3-H	AT
Dissolved Oxygen	4.4		mg/l	0.10	0.10	1	-	10/14/21 14:30	121,4500O-C	JT
Sulfate	ND		mg/l	10	1.4	1	10/15/21 12:52	10/15/21 12:53	121,4500SO4-E	JB
Chemical Oxygen Demand	11.		mg/l	10	2.7	1	10/19/21 18:20	10/19/21 20:59	44,410.4	TL
BOD, 5 day	ND		mg/l	2.0	NA	1	10/14/21 00:10	10/18/21 18:10	121,5210B	JD
Phenolics, Total	ND		mg/l	0.030	0.006	1	10/20/21 07:10	10/22/21 10:15	4,420.1	KP
Chromium, Hexavalent	ND		mg/l	0.010	0.003	1	10/13/21 05:33	10/13/21 05:55	1,7196A	VA

Project Name: SPDES
Project Number: Not Specified

Lab Number: L2155685
Report Date: 10/26/21

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1557820-1										
Nitrogen, Nitrate	ND		mg/l	0.10	0.023	1	-	10/13/21 03:43	44,353.2	MR
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1557821-1										
Nitrogen, Nitrite	ND		mg/l	0.050	0.014	1	-	10/13/21 03:46	44,353.2	MR
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1557877-1										
Chromium, Hexavalent	ND		mg/l	0.010	0.003	1	10/13/21 05:33	10/13/21 05:51	1,7196A	VA
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1558309-1										
BOD, 5 day	ND		mg/l	2.0	NA	1	10/14/21 00:10	10/18/21 18:10	121,5210B	JD
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1558517-1										
Sulfate	ND		mg/l	10	1.4	1	10/15/21 12:52	10/15/21 12:53	121,4500SO4-E	JB
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1558959-1										
Solids, Total Dissolved	ND		mg/l	10	3.1	1	-	10/15/21 09:50	121,2540C	DW
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1560547-1										
Solids, Total Suspended	ND		mg/l	1.0	NA	1	-	10/19/21 15:30	121,2540D	AC
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1560625-1										
Chemical Oxygen Demand	ND		mg/l	10	2.7	1	10/19/21 18:20	10/19/21 20:56	44,410.4	TL
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1560798-1										
Phenolics, Total	ND		mg/l	0.030	0.006	1	10/20/21 07:10	10/22/21 10:07	4,420.1	KP
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1561182-1										
Nitrogen, Total Kjeldahl	ND		mg/l	0.300	0.022	1	10/20/21 22:05	10/21/21 22:33	121,4500NH3-H	AT
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1561731-1										
Nitrogen, Ammonia	ND		mg/l	0.075	0.024	1	10/21/21 22:15	10/22/21 20:22	121,4500NH3-BH	AT

Lab Control Sample Analysis

Batch Quality Control

Project Name: SPDES
Project Number: Not Specified

Lab Number: L2155685
Report Date: 10/26/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1557820-2								
Nitrogen, Nitrate	94		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1557821-2								
Nitrogen, Nitrite	98		-		90-110	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1557877-2								
Chromium, Hexavalent	106		-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1558262-1								
pH	100		-		99-101	-		5
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1558309-2								
BOD, 5 day	107		-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1558517-2								
Sulfate	105		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1558959-2								
Solids, Total Dissolved	88		-		80-120	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: SPDES

Project Number: Not Specified

Lab Number: L2155685

Report Date: 10/26/21

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1560547-2					
Solids, Total Suspended	102	-	80-120	-	
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1560625-2					
Chemical Oxygen Demand	102	-	90-110	-	
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1560798-2					
Phenolics, Total	75	-	70-130	-	
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1561182-2					
Nitrogen, Total Kjeldahl	102	-	78-122	-	
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1561731-2					
Nitrogen, Ammonia	101	-	80-120	-	20

Matrix Spike Analysis
Batch Quality Control

Project Name: SPDES
Project Number: Not Specified

Lab Number: L2155685
Report Date: 10/26/21

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1557820-4 QC Sample: L2155459-01 Client ID: MS Sample												
Nitrogen, Nitrate	0.081J	4	7.1	**178**	Q	-	-		83-113	-		6
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1557821-4 QC Sample: L2155459-01 Client ID: MS Sample												
Nitrogen, Nitrite	0.044J	4	4.5	112		-	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1557877-4 QC Sample: L2155685-01 Client ID: AP-EWE-01												
Chromium, Hexavalent	ND	0.1	0.107	107		-	-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1558309-4 QC Sample: L2155685-01 Client ID: AP-EWE-01												
BOD, 5 day	ND	100	100	104		-	-		50-145	-		35
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1558517-4 QC Sample: L2155631-01 Client ID: MS Sample												
Sulfate	ND	20	28	140		-	-		55-147	-		14
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1560625-3 QC Sample: L2155275-01 Client ID: MS Sample												
Chemical Oxygen Demand	4.8J	47.6	51	107		-	-		90-110	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1560798-4 QC Sample: L2155485-02 Client ID: MS Sample												
Phenolics, Total	ND	0.4	0.27	**67**	Q	-	-		70-130	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1561182-4 QC Sample: L2155453-02 Client ID: MS Sample												
Nitrogen, Total Kjeldahl	1.59	8	8.90	91		-	-		77-111	-		24
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1561731-4 QC Sample: L2155486-02 Client ID: MS Sample												
Nitrogen, Ammonia	0.039J	4	3.50	88		-	-		80-120	-		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: SPDES
Project Number: Not Specified

Lab Number: L2155685
Report Date: 10/26/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1557820-3 QC Sample: L2155459-01 Client ID: DUP Sample						
Nitrogen, Nitrate	0.081J	0.064J	mg/l	NC		6
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1557821-3 QC Sample: L2155459-01 Client ID: DUP Sample						
Nitrogen, Nitrite	0.044J	0.036J	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1557877-3 QC Sample: L2155685-01 Client ID: AP-EWE-01						
Chromium, Hexavalent	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1558262-2 QC Sample: L2155558-05 Client ID: DUP Sample						
pH	7.2	7.2	SU	0		5
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1558309-3 QC Sample: L2155685-01 Client ID: AP-EWE-01						
BOD, 5 day	ND	ND	mg/l	NC		35
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1558517-3 QC Sample: L2155631-01 Client ID: DUP Sample						
Sulfate	ND	ND	mg/l	NC		14
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1558959-3 QC Sample: L2156339-11 Client ID: DUP Sample						
Solids, Total Dissolved	490	490	mg/l	0		10
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1559523-1 QC Sample: L2155685-01 Client ID: AP-EWE-01						
Dissolved Oxygen	4.4	3.6	mg/l	20		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1560547-3 QC Sample: L2155792-01 Client ID: DUP Sample						
Solids, Total Suspended	89.	89	mg/l	0		29

Lab Duplicate Analysis
Batch Quality Control

Project Name: SPDES
Project Number: Not Specified

Lab Number: L2155685
Report Date: 10/26/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1560625-4 QC Sample: L2155275-01 Client ID: DUP Sample					
Chemical Oxygen Demand	4.8J	ND	mg/l	NC	20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1560798-3 QC Sample: L2155485-02 Client ID: DUP Sample					
Phenolics, Total	ND	ND	mg/l	NC	20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1561182-3 QC Sample: L2155453-02 Client ID: DUP Sample					
Nitrogen, Total Kjeldahl	1.59	1.83	mg/l	14	24
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1561731-3 QC Sample: L2155486-02 Client ID: DUP Sample					
Nitrogen, Ammonia	0.039J	0.094	mg/l	NC	20

Project Name: SPDES
Project Number: Not Specified

Lab Number: L2155685
Report Date: 10/26/21

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2155685-01A	Vial Na2S2O3 preserved	A	NA		3.1	Y	Absent		624.1(7)
L2155685-01B	Vial Na2S2O3 preserved	A	NA		3.1	Y	Absent		624.1(7)
L2155685-01C	Vial Na2S2O3 preserved	A	NA		3.1	Y	Absent		624.1(7)
L2155685-01D	Plastic 250ml unpreserved	A	7	7	3.1	Y	Absent		SO4-4500(28),HEXCR-7196(1),NO2-353(2),PH-4500(.01),TDS-2540(7),BOD-5210(2),NO3-353(2)
L2155685-01E	Plastic 250ml HNO3 preserved	A	<2	<2	3.1	Y	Absent		TL-6020T(180),SE-6020T(180),BA-6020T(180),FE-6020T(180),CR-6020T(180),NI-6020T(180),SI-TI(180),ZN-6020T(180),NA-6020T(180),CU-6020T(180),PB-6020T(180),MN-6020T(180),MG-6020T(180),CD-6020T(180)
L2155685-01F	BOD bottle Powder Pillow preserved	A	NA		3.1	Y	Absent		DO-4500(.3)
L2155685-01G	BOD bottle Powder Pillow preserved	A	NA		3.1	Y	Absent		DO-4500(.3)
L2155685-01H	Plastic 500ml H2SO4 preserved	A	<2	<2	3.1	Y	Absent		TKN-4500(28),COD-410-LOW(28),NH3-4500(28)
L2155685-01I	Plastic 950ml unpreserved	A	7	7	3.1	Y	Absent		SO4-4500(28),HEXCR-7196(1),NO2-353(2),PH-4500(.01),TDS-2540(7),BOD-5210(2),NO3-353(2)
L2155685-01J	Plastic 950ml unpreserved	A	7	7	3.1	Y	Absent		TSS-2540-LOW(7)
L2155685-01K	Amber 1000ml H2SO4 preserved	A	<2	<2	3.1	Y	Absent		NY-TPHENOL-420(28)

*Values in parentheses indicate holding time in days

Project Name:	SPDES	**Lab Number:**	L2155685
Project Number:	Not Specified	**Report Date:**	10/26/21

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Project Name:	SPDES	**Lab Number:**	L2155685
Project Number:	Not Specified	**Report Date:**	10/26/21

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers

Project Name:	SPDES	**Lab Number:**	L2155685
Project Number:	Not Specified	**Report Date:**	10/26/21

Data Qualifiers

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: DU Report with 'J' Qualifiers

Project Name:	SPDES	**Lab Number:**	L2155685
Project Number:	Not Specified	**Report Date:**	10/26/21

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

4 Methods for Chemical Analysis of Water and Wastes. EPA 600/4-79-020. Revised March 1983.

44 Methods for the Determination of Inorganic Substances in Environmental Samples, EPA/600/R-93/100, August 1993.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

128 Method 624.1: Purgeables by GC/MS, EPA 821-R-16-008, December 2016.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

NEW YORK CHAIN OF CUSTODY

ALPHA ANALYTICAL

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 1 of 1

Date Rec'd in Lab: 10/13/21

ALPHA Job #: L2155685

Client Information

Client: Greenstar
Address: 6 Gellatly Drive
Wappingers Falls, NY 12590
Phone: 845-223-9944
Fax:
Email: cmcleod@greenstarsolutions.com

Project Information

Project Name: SPDES
Project Location: Niagara Falls, NY
Project #
(Use Project name as Project #) ☐
Project Manager:
ALPHAQuote #:

Turn-Around Time

Standard ☒ Due Date:
Rush (only if pre approved) ☐ # of Days:

Deliverables

☐ ASP-A ☐ ASP-B
☐ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Regulatory Requirement

☐ NY TOGS ☒ NY Part 375
☒ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☒ Other NY Part 360
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Billing Information

☐ Same as Client Info
PO #

Disposal Site Information

Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☐ NY
☐ Other: NA

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments: containg 1tex chrome w/ 24 hr TAT

*metals-NI, CU, BA, CR, FE, SE, TL, ZN, SI, CD, PB, MG, MN, NA **VOC-1,1-dichloroethane, trichloroethene

Please specify Metals or TAL.

ANALYSIS

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	T. Phenol	Dissolved Oxygen	TSS	T. Metals*	NH3/TKN/COD	VOC**	CR+6, pH, TDS, BOD	SO4, NO3, NO2	Sample Specific Comments	Total Bottle
SS685-01	AP-EWE-01	10/12	1430	AQ	NC	X	X	X	X	X	X	X	X		11

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

Container Type	G	O	P	P	P	P	P	
Preservative	D		A	C	D	A	A	

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Relinquished By:	Date/Time	Received By:	Date/Time
	10/12/21 1530		10/12/21 1530
	10/12/21 1530		10/13/21 0630

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS.

Form No: 01-25 (rev. 30-Sept-2013)

ANALYTICAL REPORT

Lab Number:	L2152669
Client:	Greenstar Environmental Solutions, LLC 6 Gellatly Drive Wappingers Falls, NY 12590
ATTN:	Pete Nimmer
Phone:	(845) 223-9944
Project Name:	NF 5 YEAR SAMPLING
Project Number:	1047
Report Date:	10/13/21

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: NF 5 YEAR SAMPLING
Project Number: 1047

Lab Number: L2152669
Report Date: 10/13/21

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2152669-01	AP-MW-1B	WATER	NF AIRCO PARCEL	09/28/21 09:50	09/28/21
L2152669-02	AP-MW-2B	WATER	NF AIRCO PARCEL	09/28/21 10:50	09/28/21
L2152669-03	AP-MW-3B	WATER	NF AIRCO PARCEL	09/28/21 09:10	09/28/21
L2152669-04	AP-MW-4B	WATER	NF AIRCO PARCEL	09/28/21 09:30	09/28/21
L2152669-05	AP-MW-5B	WATER	NF AIRCO PARCEL	09/28/21 09:50	09/28/21
L2152669-06	AP-MW-6B	WATER	NF AIRCO PARCEL	09/28/21 11:45	09/28/21
L2152669-07	DUP-01	WATER	NF AIRCO PARCEL	09/28/21 12:00	09/28/21
L2152669-08	AP-MW-7B	WATER	NF AIRCO PARCEL	09/28/21 12:15	09/28/21
L2152669-09	AP-MW-8B	WATER	NF AIRCO PARCEL	09/28/21 10:05	09/28/21
L2152669-10	TRIP BLANK	WATER	NF AIRCO PARCEL	09/28/21 00:00	09/28/21

Project Name:	NF 5 YEAR SAMPLING	**Lab Number:**	L2152669
Project Number:	1047	**Report Date:**	10/13/21

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name: NF 5 YEAR SAMPLING **Lab Number:** L2152669
Project Number: 1047 **Report Date:** 10/13/21

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Total Metals

L2152669-08: The sample has elevated detection limits due to the prep dilution required by the sample matrix.

The WG1553319-3 MS recovery for silicon (18%), performed on L2152669-01, does not apply because the sample concentration is greater than four times the spike amount added.

The WG1553319-3 MS recovery for sodium (40%), performed on L2152669-01, does not apply because the sample concentration is greater than four times the spike amount added.

Anions by Ion Chromatography

The WG1556848-3 MS recovery, performed on L2152669-08, is outside the acceptance criteria for sulfate (72%); however, the associated LCS recovery is within criteria. No further action was taken.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Caitlin Walukevich

Title: Technical Director/Representative Date: 10/13/21

METALS

Project Name: NF 5 YEAR SAMPLING **Lab Number:** L2152669

Project Number: 1047 **Report Date:** 10/13/21

SAMPLE RESULTS

Lab ID: L2152669-01 Date Collected: 09/28/21 09:50

Client ID: AP-MW-1B Date Received: 09/28/21

Sample Location: NF AIRCO PARCEL Field Prep: Not Specified

Sample Depth:

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Cadmium, Total	ND		mg/l	0.005	0.001	1	09/30/21 05:26	10/04/21 13:11	EPA 3005A	19,200.7	GD
Chromium, Total	ND		mg/l	0.010	0.002	1	09/30/21 05:26	10/04/21 13:11	EPA 3005A	19,200.7	GD
Iron, Total	0.254		mg/l	0.050	0.009	1	09/30/21 05:26	10/04/21 13:11	EPA 3005A	19,200.7	GD
Lead, Total	0.003	J	mg/l	0.010	0.003	1	09/30/21 05:26	10/04/21 13:11	EPA 3005A	19,200.7	GD
Magnesium, Total	54.4		mg/l	0.100	0.015	1	09/30/21 05:26	10/04/21 13:11	EPA 3005A	19,200.7	GD
Manganese, Total	0.706		mg/l	0.010	0.002	1	09/30/21 05:26	10/04/21 13:11	EPA 3005A	19,200.7	GD
Selenium, Total	ND		mg/l	0.010	0.004	1	09/30/21 05:26	10/04/21 13:11	EPA 3005A	19,200.7	GD
Silicon, Total	6.85		mg/l	0.500	0.007	1	09/30/21 05:26	10/04/21 13:11	EPA 3005A	19,200.7	GD
Sodium, Total	170		mg/l	2.00	0.120	1	09/30/21 05:26	10/04/21 13:11	EPA 3005A	19,200.7	GD
Thallium, Total	ND		mg/l	0.020	0.003	1	09/30/21 05:26	10/04/21 13:11	EPA 3005A	19,200.7	GD
Zinc, Total	0.477		mg/l	0.050	0.002	1	09/30/21 05:26	10/04/21 13:11	EPA 3005A	19,200.7	GD

Project Name: NF 5 YEAR SAMPLING
Project Number: 1047
Lab Number: L2152669
Report Date: 10/13/21

SAMPLE RESULTS

Lab ID: L2152669-02
Client ID: AP-MW-2B
Sample Location: NF AIRCO PARCEL
Date Collected: 09/28/21 10:50
Date Received: 09/28/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Cadmium, Total	ND		mg/l	0.005	0.001	1	09/30/21 05:26	10/04/21 14:03	EPA 3005A	19,200.7	GD
Chromium, Total	0.779		mg/l	0.010	0.002	1	09/30/21 05:26	10/04/21 14:03	EPA 3005A	19,200.7	GD
Iron, Total	0.032	J	mg/l	0.050	0.009	1	09/30/21 05:26	10/04/21 14:03	EPA 3005A	19,200.7	GD
Lead, Total	0.005	J	mg/l	0.010	0.003	1	09/30/21 05:26	10/04/21 14:03	EPA 3005A	19,200.7	GD
Magnesium, Total	0.049	J	mg/l	0.100	0.015	1	09/30/21 05:26	10/04/21 14:03	EPA 3005A	19,200.7	GD
Manganese, Total	ND		mg/l	0.010	0.002	1	09/30/21 05:26	10/04/21 14:03	EPA 3005A	19,200.7	GD
Selenium, Total	0.013		mg/l	0.010	0.004	1	09/30/21 05:26	10/04/21 14:03	EPA 3005A	19,200.7	GD
Silicon, Total	0.812		mg/l	0.500	0.007	1	09/30/21 05:26	10/04/21 14:03	EPA 3005A	19,200.7	GD
Sodium, Total	58.8		mg/l	2.00	0.120	1	09/30/21 05:26	10/04/21 14:03	EPA 3005A	19,200.7	GD
Thallium, Total	ND		mg/l	0.020	0.003	1	09/30/21 05:26	10/04/21 14:03	EPA 3005A	19,200.7	GD
Zinc, Total	0.011	J	mg/l	0.050	0.002	1	09/30/21 05:26	10/04/21 14:03	EPA 3005A	19,200.7	GD

Project Name: NF 5 YEAR SAMPLING
Lab Number: L2152669
Project Number: 1047
Report Date: 10/13/21

SAMPLE RESULTS

Lab ID: L2152669-03
Client ID: AP-MW-3B
Sample Location: NF AIRCO PARCEL
Date Collected: 09/28/21 09:10
Date Received: 09/28/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Cadmium, Total	ND		mg/l	0.005	0.001	1	09/30/21 05:26	10/04/21 14:07	EPA 3005A	19,200.7	GD
Chromium, Total	ND		mg/l	0.010	0.002	1	09/30/21 05:26	10/04/21 14:07	EPA 3005A	19,200.7	GD
Iron, Total	0.686		mg/l	0.050	0.009	1	09/30/21 05:26	10/04/21 14:07	EPA 3005A	19,200.7	GD
Lead, Total	ND		mg/l	0.010	0.003	1	09/30/21 05:26	10/04/21 14:07	EPA 3005A	19,200.7	GD
Magnesium, Total	4.55		mg/l	0.100	0.015	1	09/30/21 05:26	10/04/21 14:07	EPA 3005A	19,200.7	GD
Manganese, Total	0.016		mg/l	0.010	0.002	1	09/30/21 05:26	10/04/21 14:07	EPA 3005A	19,200.7	GD
Selenium, Total	ND		mg/l	0.010	0.004	1	09/30/21 05:26	10/04/21 14:07	EPA 3005A	19,200.7	GD
Silicon, Total	9.11		mg/l	0.500	0.007	1	09/30/21 05:26	10/04/21 14:07	EPA 3005A	19,200.7	GD
Sodium, Total	55.2		mg/l	2.00	0.120	1	09/30/21 05:26	10/04/21 14:07	EPA 3005A	19,200.7	GD
Thallium, Total	ND		mg/l	0.020	0.003	1	09/30/21 05:26	10/04/21 14:07	EPA 3005A	19,200.7	GD
Zinc, Total	0.065		mg/l	0.050	0.002	1	09/30/21 05:26	10/04/21 14:07	EPA 3005A	19,200.7	GD

Project Name: NF 5 YEAR SAMPLING
Project Number: 1047
Lab Number: L2152669
Report Date: 10/13/21

SAMPLE RESULTS

Lab ID: L2152669-04
Client ID: AP-MW-4B
Sample Location: NF AIRCO PARCEL
Date Collected: 09/28/21 09:30
Date Received: 09/28/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Cadmium, Total	0.001	J	mg/l	0.005	0.001	1	09/30/21 05:26	10/04/21 14:12	EPA 3005A	19,200.7	GD
Chromium, Total	0.272		mg/l	0.010	0.002	1	09/30/21 05:26	10/04/21 14:12	EPA 3005A	19,200.7	GD
Iron, Total	2.17		mg/l	0.050	0.009	1	09/30/21 05:26	10/04/21 14:12	EPA 3005A	19,200.7	GD
Lead, Total	0.006	J	mg/l	0.010	0.003	1	09/30/21 05:26	10/04/21 14:12	EPA 3005A	19,200.7	GD
Magnesium, Total	100		mg/l	0.100	0.015	1	09/30/21 05:26	10/04/21 14:12	EPA 3005A	19,200.7	GD
Manganese, Total	0.042		mg/l	0.010	0.002	1	09/30/21 05:26	10/04/21 14:12	EPA 3005A	19,200.7	GD
Selenium, Total	0.006	J	mg/l	0.010	0.004	1	09/30/21 05:26	10/04/21 14:12	EPA 3005A	19,200.7	GD
Silicon, Total	9.68		mg/l	0.500	0.007	1	09/30/21 05:26	10/04/21 14:12	EPA 3005A	19,200.7	GD
Sodium, Total	35.3		mg/l	2.00	0.120	1	09/30/21 05:26	10/04/21 14:12	EPA 3005A	19,200.7	GD
Thallium, Total	ND		mg/l	0.020	0.003	1	09/30/21 05:26	10/04/21 14:12	EPA 3005A	19,200.7	GD
Zinc, Total	0.128		mg/l	0.050	0.002	1	09/30/21 05:26	10/04/21 14:12	EPA 3005A	19,200.7	GD

Project Name: NF 5 YEAR SAMPLING
Lab Number: L2152669
Project Number: 1047
Report Date: 10/13/21

SAMPLE RESULTS

Lab ID: L2152669-05
Client ID: AP-MW-5B
Sample Location: NF AIRCO PARCEL
Date Collected: 09/28/21 09:50
Date Received: 09/28/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Cadmium, Total	ND		mg/l	0.005	0.001	1	09/30/21 05:26	10/04/21 14:16	EPA 3005A	19,200.7	GD
Chromium, Total	0.004	J	mg/l	0.010	0.002	1	09/30/21 05:26	10/04/21 14:16	EPA 3005A	19,200.7	GD
Iron, Total	1.19		mg/l	0.050	0.009	1	09/30/21 05:26	10/04/21 14:16	EPA 3005A	19,200.7	GD
Lead, Total	0.005	J	mg/l	0.010	0.003	1	09/30/21 05:26	10/04/21 14:16	EPA 3005A	19,200.7	GD
Magnesium, Total	92.5		mg/l	0.100	0.015	1	09/30/21 05:26	10/04/21 14:16	EPA 3005A	19,200.7	GD
Manganese, Total	0.051		mg/l	0.010	0.002	1	09/30/21 05:26	10/04/21 14:16	EPA 3005A	19,200.7	GD
Selenium, Total	ND		mg/l	0.010	0.004	1	09/30/21 05:26	10/04/21 14:16	EPA 3005A	19,200.7	GD
Silicon, Total	12.6		mg/l	0.500	0.007	1	09/30/21 05:26	10/04/21 14:16	EPA 3005A	19,200.7	GD
Sodium, Total	31.8		mg/l	2.00	0.120	1	09/30/21 05:26	10/04/21 14:16	EPA 3005A	19,200.7	GD
Thallium, Total	ND		mg/l	0.020	0.003	1	09/30/21 05:26	10/04/21 14:16	EPA 3005A	19,200.7	GD
Zinc, Total	0.076		mg/l	0.050	0.002	1	09/30/21 05:26	10/04/21 14:16	EPA 3005A	19,200.7	GD

Project Name: NF 5 YEAR SAMPLING **Lab Number:** L2152669

Project Number: 1047 **Report Date:** 10/13/21

SAMPLE RESULTS

Lab ID: L2152669-06 Date Collected: 09/28/21 11:45

Client ID: AP-MW-6B Date Received: 09/28/21

Sample Location: NF AIRCO PARCEL Field Prep: Not Specified

Sample Depth:

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Cadmium, Total	ND		mg/l	0.005	0.001	1	09/30/21 05:26	10/04/21 14:20	EPA 3005A	19,200.7	GD
Chromium, Total	ND		mg/l	0.010	0.002	1	09/30/21 05:26	10/04/21 14:20	EPA 3005A	19,200.7	GD
Iron, Total	0.738		mg/l	0.050	0.009	1	09/30/21 05:26	10/04/21 14:20	EPA 3005A	19,200.7	GD
Lead, Total	0.003	J	mg/l	0.010	0.003	1	09/30/21 05:26	10/04/21 14:20	EPA 3005A	19,200.7	GD
Magnesium, Total	62.4		mg/l	0.100	0.015	1	09/30/21 05:26	10/04/21 14:20	EPA 3005A	19,200.7	GD
Manganese, Total	0.209		mg/l	0.010	0.002	1	09/30/21 05:26	10/04/21 14:20	EPA 3005A	19,200.7	GD
Selenium, Total	ND		mg/l	0.010	0.004	1	09/30/21 05:26	10/04/21 14:20	EPA 3005A	19,200.7	GD
Silicon, Total	6.81		mg/l	0.500	0.007	1	09/30/21 05:26	10/04/21 14:20	EPA 3005A	19,200.7	GD
Sodium, Total	67.5		mg/l	2.00	0.120	1	09/30/21 05:26	10/04/21 14:20	EPA 3005A	19,200.7	GD
Thallium, Total	ND		mg/l	0.020	0.003	1	09/30/21 05:26	10/04/21 14:20	EPA 3005A	19,200.7	GD
Zinc, Total	0.013	J	mg/l	0.050	0.002	1	09/30/21 05:26	10/04/21 14:20	EPA 3005A	19,200.7	GD

Project Name: NF 5 YEAR SAMPLING
Project Number: 1047
Lab Number: L2152669
Report Date: 10/13/21

SAMPLE RESULTS

Lab ID: L2152669-07
Client ID: DUP-01
Sample Location: NF AIRCO PARCEL
Date Collected: 09/28/21 12:00
Date Received: 09/28/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Cadmium, Total	ND		mg/l	0.005	0.001	1	09/30/21 05:26	10/04/21 14:25	EPA 3005A	19,200.7	GD
Chromium, Total	ND		mg/l	0.010	0.002	1	09/30/21 05:26	10/04/21 14:25	EPA 3005A	19,200.7	GD
Iron, Total	0.621		mg/l	0.050	0.009	1	09/30/21 05:26	10/04/21 14:25	EPA 3005A	19,200.7	GD
Lead, Total	ND		mg/l	0.010	0.003	1	09/30/21 05:26	10/04/21 14:25	EPA 3005A	19,200.7	GD
Magnesium, Total	60.9		mg/l	0.100	0.015	1	09/30/21 05:26	10/04/21 14:25	EPA 3005A	19,200.7	GD
Manganese, Total	0.228		mg/l	0.010	0.002	1	09/30/21 05:26	10/04/21 14:25	EPA 3005A	19,200.7	GD
Selenium, Total	ND		mg/l	0.010	0.004	1	09/30/21 05:26	10/04/21 14:25	EPA 3005A	19,200.7	GD
Silicon, Total	6.76		mg/l	0.500	0.007	1	09/30/21 05:26	10/04/21 14:25	EPA 3005A	19,200.7	GD
Sodium, Total	66.6		mg/l	2.00	0.120	1	09/30/21 05:26	10/04/21 14:25	EPA 3005A	19,200.7	GD
Thallium, Total	ND		mg/l	0.020	0.003	1	09/30/21 05:26	10/04/21 14:25	EPA 3005A	19,200.7	GD
Zinc, Total	0.011	J	mg/l	0.050	0.002	1	09/30/21 05:26	10/04/21 14:25	EPA 3005A	19,200.7	GD

Project Name: NF 5 YEAR SAMPLING
Project Number: 1047
Lab Number: L2152669
Report Date: 10/13/21

SAMPLE RESULTS

Lab ID: L2152669-08
Client ID: AP-MW-7B
Sample Location: NF AIRCO PARCEL
Date Collected: 09/28/21 12:15
Date Received: 09/28/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Cadmium, Total	0.010	J	mg/l	0.025	0.005	1	09/30/21 05:26	10/04/21 14:47	EPA 3005A	19,200.7	GD
Chromium, Total	3.20		mg/l	0.050	0.011	1	09/30/21 05:26	10/04/21 14:47	EPA 3005A	19,200.7	GD
Iron, Total	97.6		mg/l	0.250	0.045	1	09/30/21 05:26	10/04/21 14:47	EPA 3005A	19,200.7	GD
Lead, Total	0.097		mg/l	0.050	0.014	1	09/30/21 05:26	10/04/21 14:47	EPA 3005A	19,200.7	GD
Magnesium, Total	87.2		mg/l	0.500	0.077	1	09/30/21 05:26	10/04/21 14:47	EPA 3005A	19,200.7	GD
Manganese, Total	4.50		mg/l	0.050	0.008	1	09/30/21 05:26	10/04/21 14:47	EPA 3005A	19,200.7	GD
Selenium, Total	0.019	J	mg/l	0.050	0.018	1	09/30/21 05:26	10/04/21 14:47	EPA 3005A	19,200.7	GD
Silicon, Total	79.8		mg/l	2.50	0.037	1	09/30/21 05:26	10/04/21 14:47	EPA 3005A	19,200.7	GD
Sodium, Total	61.0		mg/l	10.0	0.600	1	09/30/21 05:26	10/04/21 14:47	EPA 3005A	19,200.7	GD
Thallium, Total	ND		mg/l	0.100	0.013	1	09/30/21 05:26	10/04/21 14:47	EPA 3005A	19,200.7	GD
Zinc, Total	0.644		mg/l	0.250	0.011	1	09/30/21 05:26	10/04/21 14:47	EPA 3005A	19,200.7	GD

Project Name: NF 5 YEAR SAMPLING
Project Number: 1047
Lab Number: L2152669
Report Date: 10/13/21

SAMPLE RESULTS

Lab ID: L2152669-09
Client ID: AP-MW-8B
Sample Location: NF AIRCO PARCEL
Date Collected: 09/28/21 10:05
Date Received: 09/28/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Cadmium, Total	ND		mg/l	0.005	0.001	1	09/30/21 05:26	10/04/21 14:51	EPA 3005A	19,200.7	GD
Chromium, Total	0.018		mg/l	0.010	0.002	1	09/30/21 05:26	10/04/21 14:51	EPA 3005A	19,200.7	GD
Iron, Total	0.653		mg/l	0.050	0.009	1	09/30/21 05:26	10/04/21 14:51	EPA 3005A	19,200.7	GD
Lead, Total	ND		mg/l	0.010	0.003	1	09/30/21 05:26	10/04/21 14:51	EPA 3005A	19,200.7	GD
Magnesium, Total	71.7		mg/l	0.100	0.015	1	09/30/21 05:26	10/04/21 14:51	EPA 3005A	19,200.7	GD
Manganese, Total	0.334		mg/l	0.010	0.002	1	09/30/21 05:26	10/04/21 14:51	EPA 3005A	19,200.7	GD
Selenium, Total	0.005	J	mg/l	0.010	0.004	1	09/30/21 05:26	10/04/21 14:51	EPA 3005A	19,200.7	GD
Silicon, Total	8.62		mg/l	0.500	0.007	1	09/30/21 05:26	10/04/21 14:51	EPA 3005A	19,200.7	GD
Sodium, Total	84.4		mg/l	2.00	0.120	1	09/30/21 05:26	10/04/21 14:51	EPA 3005A	19,200.7	GD
Thallium, Total	ND		mg/l	0.020	0.003	1	09/30/21 05:26	10/04/21 14:51	EPA 3005A	19,200.7	GD
Zinc, Total	0.094		mg/l	0.050	0.002	1	09/30/21 05:26	10/04/21 14:51	EPA 3005A	19,200.7	GD

Project Name: NF 5 YEAR SAMPLING
Project Number: 1047
Lab Number: L2152669
Report Date: 10/13/21

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-09 Batch: WG1553319-1										
Cadmium, Total	ND		mg/l	0.005	0.001	1	09/30/21 05:26	10/04/21 13:45	19,200.7	GD
Chromium, Total	ND		mg/l	0.010	0.002	1	09/30/21 05:26	10/04/21 13:45	19,200.7	GD
Iron, Total	ND		mg/l	0.050	0.009	1	09/30/21 05:26	10/04/21 13:45	19,200.7	GD
Lead, Total	ND		mg/l	0.010	0.003	1	09/30/21 05:26	10/04/21 13:45	19,200.7	GD
Magnesium, Total	ND		mg/l	0.100	0.015	1	09/30/21 05:26	10/04/21 13:45	19,200.7	GD
Manganese, Total	ND		mg/l	0.010	0.002	1	09/30/21 05:26	10/04/21 13:45	19,200.7	GD
Selenium, Total	ND		mg/l	0.010	0.004	1	09/30/21 05:26	10/04/21 13:45	19,200.7	GD
Silicon, Total	0.007	J	mg/l	0.500	0.007	1	09/30/21 05:26	10/04/21 13:45	19,200.7	GD
Sodium, Total	0.261	J	mg/l	2.00	0.120	1	09/30/21 05:26	10/04/21 13:45	19,200.7	GD
Thallium, Total	ND		mg/l	0.020	0.003	1	09/30/21 05:26	10/04/21 13:45	19,200.7	GD
Zinc, Total	ND		mg/l	0.050	0.002	1	09/30/21 05:26	10/04/21 13:45	19,200.7	GD

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis

Batch Quality Control

Project Name: NF 5 YEAR SAMPLING

Project Number: 1047

Lab Number: L2152669

Report Date: 10/13/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-09 Batch: WG1553319-2								
Cadmium, Total	106		-		85-115	-		
Chromium, Total	103		-		85-115	-		
Iron, Total	96		-		85-115	-		
Lead, Total	102		-		85-115	-		
Magnesium, Total	105		-		85-115	-		
Manganese, Total	95		-		85-115	-		
Selenium, Total	112		-		85-115	-		
Silicon, Total	101		-		85-115	-		
Sodium, Total	107		-		85-115	-		
Thallium, Total	107		-		85-115	-		
Zinc, Total	110		-		85-115	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: NF 5 YEAR SAMPLING
Project Number: 1047

Lab Number: L2152669
Report Date: 10/13/21

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-09 QC Batch ID: WG1553319-3 QC Sample: L2152669-01 Client ID: AP-MW-1B												
Cadmium, Total	ND	0.053	0.056	106		-	-		75-125	-		20
Chromium, Total	ND	0.2	0.201	100		-	-		75-125	-		20
Iron, Total	0.254	1	1.18	93		-	-		75-125	-		20
Lead, Total	0.003J	0.53	0.518	98		-	-		75-125	-		20
Magnesium, Total	54.4	10	62.4	80		-	-		75-125	-		20
Manganese, Total	0.706	0.5	1.14	87		-	-		75-125	-		20
Selenium, Total	ND	0.12	0.146	122		-	-		75-125	-		20
Silicon, Total	6.85	1	7.03	**18**	Q	-	-		75-125	-		20
Sodium, Total	170	10	174	**40**	Q	-	-		75-125	-		20
Thallium, Total	ND	0.12	0.117	98		-	-		75-125	-		20
Zinc, Total	0.477	0.5	1.01	107		-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: NF 5 YEAR SAMPLING

Project Number: 1047

Lab Number: L2152669

Report Date: 10/13/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-09 QC Batch ID: WG1553319-4 QC Sample: L2152669-01 Client ID: AP-MW-1B						
Cadmium, Total	ND	ND	mg/l	NC		20
Chromium, Total	ND	ND	mg/l	NC		20
Iron, Total	0.254	0.247	mg/l	3		20
Lead, Total	0.003J	ND	mg/l	NC		20
Magnesium, Total	54.4	54.0	mg/l	1		20
Manganese, Total	0.706	0.696	mg/l	1		20
Selenium, Total	ND	0.005J	mg/l	NC		20
Silicon, Total	6.85	6.82	mg/l	0		20
Sodium, Total	170	170	mg/l	0		20
Thallium, Total	ND	ND	mg/l	NC		20
Zinc, Total	0.477	0.476	mg/l	0		20

INORGANICS
&
MISCELLANEOUS

Project Name: NF 5 YEAR SAMPLING
Project Number: 1047
Lab Number: L2152669
Report Date: 10/13/21

SAMPLE RESULTS

Lab ID: L2152669-01
Client ID: AP-MW-1B
Sample Location: NF AIRCO PARCEL
Sample Depth:
Matrix: Water
Date Collected: 09/28/21 09:50
Date Received: 09/28/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Nitrogen, Ammonia	0.033	J	mg/l	0.075	0.024	1	10/12/21 10:00	10/12/21 22:14	44,350.1	AT
Phenolics, Total	ND		mg/l	0.030	0.006	1	10/12/21 07:15	10/12/21 11:56	4,420.1	KP
Chromium, Hexavalent	ND		mg/l	0.010	0.003	1	09/29/21 05:00	09/29/21 05:19	1,7196A	KA
Anions by Ion Chromatography - Westborough Lab										
Sulfate	214.		mg/l	10.0	4.54	10	-	10/10/21 17:20	44,300.0	SH

Project Name: NF 5 YEAR SAMPLING
Project Number: 1047
Lab Number: L2152669
Report Date: 10/13/21

SAMPLE RESULTS

Lab ID: L2152669-02
Client ID: AP-MW-2B
Sample Location: NF AIRCO PARCEL
Sample Depth:
Matrix: Water

Date Collected: 09/28/21 10:50
Date Received: 09/28/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Nitrogen, Ammonia	2.60		mg/l	0.075	0.024	1	10/12/21 10:00	10/12/21 22:17	44,350.1	AT
Phenolics, Total	0.006	J	mg/l	0.030	0.006	1	10/12/21 07:15	10/12/21 12:01	4,420.1	KP
Chromium, Hexavalent	0.809		mg/l	0.020	0.006	2	09/29/21 05:00	09/29/21 05:20	1,7196A	KA
Anions by Ion Chromatography - Westborough Lab										
Sulfate	77.3		mg/l	1.00	0.454	1	-	10/10/21 12:42	44,300.0	SH

Project Name: NF 5 YEAR SAMPLING
Project Number: 1047
Lab Number: L2152669
Report Date: 10/13/21

SAMPLE RESULTS

Lab ID: L2152669-03
Client ID: AP-MW-3B
Sample Location: NF AIRCO PARCEL
Sample Depth:
Matrix: Water

Date Collected: 09/28/21 09:10
Date Received: 09/28/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Nitrogen, Ammonia	0.998		mg/l	0.075	0.024	1	10/12/21 10:00	10/12/21 22:18	44,350.1	AT
Phenolics, Total	ND		mg/l	0.030	0.006	1	10/12/21 07:15	10/12/21 12:01	4,420.1	KP
Chromium, Hexavalent	ND		mg/l	0.010	0.003	1	09/29/21 05:00	09/29/21 05:21	1,7196A	KA
Anions by Ion Chromatography - Westborough Lab										
Sulfate	77.1		mg/l	1.00	0.454	1	-	10/10/21 12:54	44,300.0	SH

Project Name: NF 5 YEAR SAMPLING
Project Number: 1047
Lab Number: L2152669
Report Date: 10/13/21

SAMPLE RESULTS

Lab ID: L2152669-04
Client ID: AP-MW-4B
Sample Location: NF AIRCO PARCEL
Sample Depth:
Matrix: Water

Date Collected: 09/28/21 09:30
Date Received: 09/28/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Nitrogen, Ammonia	0.064	J	mg/l	0.075	0.024	1	10/12/21 10:00	10/12/21 22:19	44,350.1	AT
Phenolics, Total	ND		mg/l	0.030	0.006	1	10/12/21 07:15	10/12/21 12:02	4,420.1	KP
Chromium, Hexavalent	0.238		mg/l	0.010	0.003	1	09/29/21 05:00	09/29/21 05:22	1,7196A	KA
Anions by Ion Chromatography - Westborough Lab										
Sulfate	488.		mg/l	10.0	4.54	10	-	10/10/21 17:32	44,300.0	SH

Project Name: NF 5 YEAR SAMPLING
Project Number: 1047
Lab Number: L2152669
Report Date: 10/13/21

SAMPLE RESULTS

Lab ID: L2152669-05
Client ID: AP-MW-5B
Sample Location: NF AIRCO PARCEL
Sample Depth:
Matrix: Water

Date Collected: 09/28/21 09:50
Date Received: 09/28/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Nitrogen, Ammonia	0.029	J	mg/l	0.075	0.024	1	10/12/21 10:00	10/12/21 22:20	44,350.1	AT
Phenolics, Total	ND		mg/l	0.030	0.006	1	10/12/21 07:15	10/12/21 12:03	4,420.1	KP
Chromium, Hexavalent	ND		mg/l	0.010	0.003	1	09/29/21 05:00	09/29/21 05:22	1,7196A	KA
Anions by Ion Chromatography - Westborough Lab										
Sulfate	144.		mg/l	10.0	4.54	10	-	10/10/21 17:44	44,300.0	SH

Project Name: NF 5 YEAR SAMPLING
Project Number: 1047
Lab Number: L2152669
Report Date: 10/13/21

SAMPLE RESULTS

Lab ID: L2152669-06
Client ID: AP-MW-6B
Sample Location: NF AIRCO PARCEL
Sample Depth:
Matrix: Water
Date Collected: 09/28/21 11:45
Date Received: 09/28/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Nitrogen, Ammonia	0.031	J	mg/l	0.075	0.024	1	10/12/21 10:00	10/12/21 22:21	44,350.1	AT
Phenolics, Total	ND		mg/l	0.030	0.006	1	10/12/21 07:15	10/12/21 12:04	4,420.1	KP
Chromium, Hexavalent	ND		mg/l	0.010	0.003	1	09/29/21 05:00	09/29/21 05:22	1,7196A	KA
Anions by Ion Chromatography - Westborough Lab										
Sulfate	302.		mg/l	10.0	4.54	10	-	10/10/21 17:56	44,300.0	SH

Project Name: NF 5 YEAR SAMPLING
Project Number: 1047
Lab Number: L2152669
Report Date: 10/13/21

SAMPLE RESULTS

Lab ID: L2152669-07
Client ID: DUP-01
Sample Location: NF AIRCO PARCEL
Sample Depth:
Matrix: Water

Date Collected: 09/28/21 12:00
Date Received: 09/28/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Nitrogen, Ammonia	0.037	J	mg/l	0.075	0.024	1	10/12/21 10:00	10/12/21 22:25	44,350.1	AT
Phenolics, Total	ND		mg/l	0.030	0.006	1	10/12/21 07:15	10/12/21 12:05	4,420.1	KP
Chromium, Hexavalent	ND		mg/l	0.010	0.003	1	09/29/21 05:00	09/29/21 05:23	1,7196A	KA
Anions by Ion Chromatography - Westborough Lab										
Sulfate	303.		mg/l	10.0	4.54	10	-	10/10/21 18:33	44,300.0	SH

Project Name: NF 5 YEAR SAMPLING
Project Number: 1047
Lab Number: L2152669
Report Date: 10/13/21

SAMPLE RESULTS

Lab ID: L2152669-08
Client ID: AP-MW-7B
Sample Location: NF AIRCO PARCEL
Sample Depth:
Matrix: Water

Date Collected: 09/28/21 12:15
Date Received: 09/28/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Nitrogen, Ammonia	0.522		mg/l	0.375	0.120	5	10/12/21 10:00	10/12/21 22:26	44,350.1	AT
Phenolics, Total	ND		mg/l	0.030	0.006	1	10/12/21 07:15	10/12/21 12:06	4,420.1	KP
Chromium, Hexavalent	0.006	J	mg/l	0.010	0.003	1	09/29/21 05:00	09/29/21 05:23	1,7196A	KA
Anions by Ion Chromatography - Westborough Lab										
Sulfate	65.0		mg/l	1.00	0.454	1	-	10/10/21 19:09	44,300.0	SH

Project Name: NF 5 YEAR SAMPLING
Project Number: 1047
Lab Number: L2152669
Report Date: 10/13/21

SAMPLE RESULTS

Lab ID: L2152669-09
Client ID: AP-MW-8B
Sample Location: NF AIRCO PARCEL
Sample Depth:
Matrix: Water

Date Collected: 09/28/21 10:05
Date Received: 09/28/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Nitrogen, Ammonia	0.040	J	mg/l	0.075	0.024	1	10/12/21 10:00	10/12/21 22:27	44,350.1	AT
Phenolics, Total	ND		mg/l	0.030	0.006	1	10/12/21 07:15	10/12/21 12:07	4,420.1	KP
Chromium, Hexavalent	ND		mg/l	0.010	0.003	1	09/29/21 05:00	09/29/21 05:24	1,7196A	KA
Anions by Ion Chromatography - Westborough Lab										
Sulfate	272.		mg/l	10.0	4.54	10	-	10/10/21 19:21	44,300.0	SH

Project Name: NF 5 YEAR SAMPLING **Lab Number:** L2152669

Project Number: 1047 **Report Date:** 10/13/21

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01-09 Batch: WG1552100-1										
Chromium, Hexavalent	ND		mg/l	0.010	0.003	1	09/29/21 05:00	09/29/21 05:13	1,7196A	KA
Anions by Ion Chromatography - Westborough Lab for sample(s): 01-09 Batch: WG1556848-1										
Sulfate	ND		mg/l	1.00	0.454	1	-	10/10/21 12:06	44,300.0	SH
General Chemistry - Westborough Lab for sample(s): 01-09 Batch: WG1557370-1										
Phenolics, Total	ND		mg/l	0.030	0.006	1	10/12/21 07:15	10/12/21 11:54	4,420.1	KP
General Chemistry - Westborough Lab for sample(s): 01-09 Batch: WG1557517-1										
Nitrogen, Ammonia	ND		mg/l	0.075	0.024	1	10/12/21 10:00	10/12/21 22:00	44,350.1	AT

Lab Control Sample Analysis

Batch Quality Control

Project Name: NF 5 YEAR SAMPLING

Project Number: 1047

Lab Number: L2152669

Report Date: 10/13/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-09 Batch: WG1552100-2								
Chromium, Hexavalent	104		-		85-115	-		20
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01-09 Batch: WG1556848-2								
Sulfate	92		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01-09 Batch: WG1557370-2								
Phenolics, Total	80		-		70-130	-		
General Chemistry - Westborough Lab Associated sample(s): 01-09 Batch: WG1557517-2								
Nitrogen, Ammonia	92		-		90-110	-		20

Matrix Spike Analysis
Batch Quality Control

Project Name: NF 5 YEAR SAMPLING
Project Number: 1047

Lab Number: L2152669
Report Date: 10/13/21

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-09 QC Batch ID: WG1552100-4 QC Sample: L2152669-03 Client ID: AP-MW-3B												
Chromium, Hexavalent	ND	0.1	0.102	102		-	-		85-115	-		20
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01-09 QC Batch ID: WG1556848-3 QC Sample: L2152669-08 Client ID: AP-MW-7B												
Sulfate	65.0	8	70.8	**72**	Q	-	-		90-110	-		20
General Chemistry - Westborough Lab Associated sample(s): 01-09 QC Batch ID: WG1557370-4 QC Sample: L2152669-01 Client ID: AP-MW-1B												
Phenolics, Total	ND	0.4	0.29	72		-	-		70-130	-		20
General Chemistry - Westborough Lab Associated sample(s): 01-09 QC Batch ID: WG1557517-4 QC Sample: L2152669-01 Client ID: AP-MW-1B												
Nitrogen, Ammonia	0.033J	4	3.67	92		-	-		90-110	-		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: NF 5 YEAR SAMPLING
Project Number: 1047

Lab Number: L2152669
Report Date: 10/13/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-09 QC Batch ID: WG1552100-3 QC Sample: L2152669-01 Client ID: AP-MW-1B						
Chromium, Hexavalent	ND	ND	mg/l	NC		20
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01-09 QC Batch ID: WG1556848-4 QC Sample: L2152669-08 Client ID: AP-MW-7B						
Sulfate	65.0	65.0	mg/l	0		20
General Chemistry - Westborough Lab Associated sample(s): 01-09 QC Batch ID: WG1557370-3 QC Sample: L2152669-01 Client ID: AP-MW-1B						
Phenolics, Total	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01-09 QC Batch ID: WG1557517-3 QC Sample: L2152669-01 Client ID: AP-MW-1B						
Nitrogen, Ammonia	0.033J	0.085	mg/l	NC		20

Project Name: NF 5 YEAR SAMPLING
Project Number: 1047

Lab Number: L2152669
Report Date: 10/13/21

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2152669-01A	Plastic 250ml unpreserved	B	7	7	2.8	Y	Absent		SO4-300(28),HEXCR-7196(1)
L2152669-01B	Plastic 250ml HNO3 preserved	B	<2	<2	2.8	Y	Absent		BA-6020T(180),SE-6020T(180),ZN-UI(180),CR-6020T(180),SI-UI(180),FE-UI(180),PB-6020T(180),MG-UI(180),SE-UI(180),AS-6020T(180),CD-UI(180),CR-UI(180),AG-6020T(180),NA-UI(180),MN-UI(180),CD-6020T(180),HG-T(28),TL-UI(180),PB-UI(180)
L2152669-01C	Plastic 500ml H2SO4 preserved	B	<2	<2	2.8	Y	Absent		NH3-350(28)
L2152669-01D	Amber 1000ml H2SO4 preserved	B	<2	<2	2.8	Y	Absent		NY-TPHENOL-420(28)
L2152669-02A	Plastic 250ml unpreserved	B	12	12	2.8	Y	Absent		SO4-300(28),HEXCR-7196(1)
L2152669-02B	Plastic 250ml HNO3 preserved	B	<2	<2	2.8	Y	Absent		SE-6020T(180),BA-6020T(180),SI-UI(180),ZN-UI(180),CR-6020T(180),SE-UI(180),PB-6020T(180),FE-UI(180),MG-UI(180),CD-UI(180),AS-6020T(180),HG-T(28),CD-6020T(180),MN-UI(180),NA-UI(180),AG-6020T(180),CR-UI(180),TL-UI(180),PB-UI(180)
L2152669-02C	Plastic 500ml H2SO4 preserved	B	<2	<2	2.8	Y	Absent		NH3-350(28)
L2152669-02D	Amber 1000ml H2SO4 preserved	B	<2	<2	2.8	Y	Absent		NY-TPHENOL-420(28)
L2152669-03A	Plastic 250ml unpreserved	A	8	8	3.7	Y	Absent		SO4-300(28),HEXCR-7196(1)
L2152669-03B	Plastic 250ml HNO3 preserved	A	<2	<2	3.7	Y	Absent		SE-6020T(180),BA-6020T(180),CR-6020T(180),ZN-UI(180),SI-UI(180),PB-6020T(180),FE-UI(180),MG-UI(180),SE-UI(180),CD-UI(180),AS-6020T(180),CR-UI(180),MN-UI(180),AG-6020T(180),HG-T(28),NA-UI(180),CD-6020T(180),TL-UI(180),PB-UI(180)
L2152669-03C	Plastic 500ml H2SO4 preserved	A	<2	<2	3.7	Y	Absent		NH3-350(28)
L2152669-03D	Amber 1000ml H2SO4 preserved	A	<2	<2	3.7	Y	Absent		NY-TPHENOL-420(28)
L2152669-04A	Plastic 250ml unpreserved	A	7	7	3.7	Y	Absent		SO4-300(28),HEXCR-7196(1)

*Values in parentheses indicate holding time in days

Project Name: NF 5 YEAR SAMPLING
Project Number: 1047

Lab Number: L2152669
Report Date: 10/13/21

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2152669-04B	Plastic 250ml HNO3 preserved	A	<2	<2	3.7	Y	Absent		SE-6020T(180),BA-6020T(180),SI-UI(180),CR-6020T(180),ZN-UI(180),MG-UI(180),PB-6020T(180),FE-UI(180),SE-UI(180),CD-UI(180),AS-6020T(180),AG-6020T(180),HG-T(28),MN-UI(180),CR-UI(180),NA-UI(180),CD-6020T(180),PB-UI(180),TL-UI(180)
L2152669-04C	Plastic 500ml H2SO4 preserved	A	<2	<2	3.7	Y	Absent		NH3-350(28)
L2152669-04D	Amber 1000ml H2SO4 preserved	A	<2	<2	3.7	Y	Absent		NY-TPHENOL-420(28)
L2152669-05A	Plastic 250ml unpreserved	A	7	7	3.7	Y	Absent		SO4-300(28),HEXCR-7196(1)
L2152669-05B	Plastic 250ml HNO3 preserved	A	<2	<2	3.7	Y	Absent		BA-6020T(180),SE-6020T(180),ZN-UI(180),CR-6020T(180),SI-UI(180),SE-UI(180),MG-UI(180),PB-6020T(180),FE-UI(180),AS-6020T(180),CD-UI(180),MN-UI(180),AG-6020T(180),CD-6020T(180),HG-T(28),CR-UI(180),NA-UI(180),PB-UI(180),TL-UI(180)
L2152669-05C	Plastic 500ml H2SO4 preserved	A	<2	<2	3.7	Y	Absent		NH3-350(28)
L2152669-05D	Amber 1000ml H2SO4 preserved	A	<2	<2	3.7	Y	Absent		NY-TPHENOL-420(28)
L2152669-06A	Plastic 250ml unpreserved	B	7	7	2.8	Y	Absent		SO4-300(28),HEXCR-7196(1)
L2152669-06B	Plastic 250ml HNO3 preserved	B	<2	<2	2.8	Y	Absent		SE-6020T(180),BA-6020T(180),CR-6020T(180),ZN-UI(180),SI-UI(180),PB-6020T(180),FE-UI(180),MG-UI(180),SE-UI(180),AS-6020T(180),CD-UI(180),CR-UI(180),AG-6020T(180),MN-UI(180),CD-6020T(180),HG-T(28),NA-UI(180),TL-UI(180),PB-UI(180)
L2152669-06C	Plastic 500ml H2SO4 preserved	B	<2	<2	2.8	Y	Absent		NH3-350(28)
L2152669-06D	Amber 1000ml H2SO4 preserved	B	<2	<2	2.8	Y	Absent		NY-TPHENOL-420(28)
L2152669-07A	Plastic 250ml unpreserved	B	7	7	2.8	Y	Absent		SO4-300(28),HEXCR-7196(1)
L2152669-07B	Plastic 250ml HNO3 preserved	B	<2	<2	2.8	Y	Absent		BA-6020T(180),SE-6020T(180),CR-6020T(180),SI-UI(180),ZN-UI(180),FE-UI(180),PB-6020T(180),MG-UI(180),SE-UI(180),AS-6020T(180),CD-UI(180),NA-UI(180),AG-6020T(180),MN-UI(180),HG-T(28),CD-6020T(180),CR-UI(180),TL-UI(180),PB-UI(180)
L2152669-07C	Plastic 500ml H2SO4 preserved	B	<2	<2	2.8	Y	Absent		NH3-350(28)
L2152669-07D	Amber 1000ml H2SO4 preserved	B	<2	<2	2.8	Y	Absent		NY-TPHENOL-420(28)
L2152669-08A	Plastic 250ml unpreserved	B	7	7	2.8	Y	Absent		SO4-300(28),HEXCR-7196(1)

*Values in parentheses indicate holding time in days

Project Name: NF 5 YEAR SAMPLING
Project Number: 1047

Lab Number: L2152669
Report Date: 10/13/21

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2152669-08B	Plastic 250ml HNO3 preserved	B	<2	<2	2.8	Y	Absent		BA-6020T(180),SE-6020T(180),ZN-UI(180),CR-6020T(180),SI-UI(180),FE-UI(180),PB-6020T(180),MG-UI(180),SE-UI(180),CD-UI(180),AS-6020T(180),CR-UI(180),NA-UI(180),MN-UI(180),AG-6020T(180),HG-T(28),CD-6020T(180),PB-UI(180),TL-UI(180)
L2152669-08C	Plastic 500ml H2SO4 preserved	B	<2	<2	2.8	Y	Absent		NH3-350(28)
L2152669-08D	Amber 1000ml H2SO4 preserved	B	<2	<2	2.8	Y	Absent		NY-TPHENOL-420(28)
L2152669-09A	Plastic 250ml unpreserved	A	7	7	3.7	Y	Absent		SO4-300(28),HEXCR-7196(1)
L2152669-09B	Plastic 250ml HNO3 preserved	A	<2	<2	3.7	Y	Absent		SE-6020T(180),BA-6020T(180),ZN-UI(180),SI-UI(180),CR-6020T(180),FE-UI(180),PB-6020T(180),SE-UI(180),MG-UI(180),AS-6020T(180),CD-UI(180),AG-6020T(180),HG-T(28),NA-UI(180),MN-UI(180),CR-UI(180),CD-6020T(180),PB-UI(180),TL-UI(180)
L2152669-09C	Plastic 500ml H2SO4 preserved	A	<2	<2	3.7	Y	Absent		NH3-350(28)
L2152669-09D	Amber 1000ml H2SO4 preserved	A	<2	<2	3.7	Y	Absent		NY-TPHENOL-420(28)
L2152669-10A	Vial HCl preserved	A	NA		3.7	Y	Absent		HOLD(14)
L2152669-10B	Vial HCl preserved	A	NA		3.7	Y	Absent		HOLD(14)

*Values in parentheses indicate holding time in days

Project Name:	NF 5 YEAR SAMPLING	**Lab Number:**	L2152669
Project Number:	1047	**Report Date:**	10/13/21

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Project Name:	NF 5 YEAR SAMPLING	**Lab Number:**	L2152669
Project Number:	1047	**Report Date:**	10/13/21

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers

Project Name:	NF 5 YEAR SAMPLING	**Lab Number:**	L2152669
Project Number:	1047	**Report Date:**	10/13/21

Data Qualifiers

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name:	NF 5 YEAR SAMPLING	**Lab Number:**	L2152669
Project Number:	1047	**Report Date:**	10/13/21

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

4 Methods for Chemical Analysis of Water and Wastes. EPA 600/4-79-020. Revised March 1983.

19 Inductively Coupled Plasma Atomic Emission Spectrometric Method for Trace Element Analysis of Water and Wastes. Appendix C, Part 136, 40 CFR (Code of Federal Regulations). July 1, 1999 edition.

44 Methods for the Determination of Inorganic Substances in Environmental Samples, EPA/600/R-93/100, August 1993.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

NEW YORK CHAIN OF CUSTODY

ALPHA ANALYTICAL

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 1 of 1

Date Rec'd in Lab: 9/29/21

ALPHA Job #: L2152669

Client Information

Client: Groenstar Env. Solutions
Address: 6 Gellatly Dr., Wappingers Falls, NY
Phone: 917-655-5123
Fax:
Email: Pjimmer@groenstarsolutions.com

Project Information

Project Name: NF 5 year sampling
Project Location: NF AIRCO Parcel
Project #: 1047
(Use Project name as Project #)
Project Manager: ~~Peter~~ Chris McLeod
ALPHAQuote #:

Turn-Around Time

Standard [X]
Rush (only if pre approved) [ ]
Due Date:
# of Days:

These samples have been previously analyzed by Alpha [ ]

Other project specific requirements/comments:

Analytes - Sulfate, IC, Total Silicon, Total RCRA8 metals, Ammonia Nitrogen, Total Phenol, Hex Chrom - 24hr TAT

Please specify Metals or TAL.

Deliverables

[ ] ASP-A [ ] ASP-B
[ ] EQuIS (1 File) [ ] EQuIS (4 File)
[ ] Other

Regulatory Requirement

[ ] NY TOGS [ ] NY Part 375
[ ] AWQ Standards [ ] NY CP-51
[ ] NY Restricted Use [ ] Other
[ ] NY Unrestricted Use
[ ] NYC Sewer Discharge

Billing Information

[ ] Same as Client Info
PO #

Disposal Site Information

Please identify below location of applicable disposal facilities.
Disposal Facility:
[ ] NJ [ ] NY
[ ] Other:

Sample Filtration

[ ] Done
[ ] Lab to do
Preservation
[ ] Lab to do
(Please Specify below)

Sample Specific Comments

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	TPHENOL 420	Hexcr SO4	Total Hg Total metals	NH3	Total Bottle
52669 -01	AP-MW-1B	9/28	950	AQ	NC	X	X	X	X	
-02	AP-MW-2B	9/28	1050	AQ	NC					
-03	AP-MW-3B	9/28	910	AQ	BQ					
-04	AP-MW-4B	9/28	930	AQ	BQ					
-05	AP-MW-5B	9/28	950	AQ	BQ					
-06	AP-MW-6B	9/28	1145	AQ	BQ					
-07	DUP-01	9/28	1200	AQ	BQ					
-08	AP-MW-7B	9/28	1215	AQ	BQ					
-09	AP-MW-8D	9/28	1005	AQ	BQ					
-10	Trip Blank	9/28	0000	AQ	NC					

Container Type: A P P P
Preservative: D A C D

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code:
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	9/28 1500	[signature]	9/29/21 15:00
[signature]	9/29/21 15:00	[signature]	9/29/21 1:30

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

Attachment D

Landfill Cap Inspection Checklist
September 2021

LANDFILL CAP INSPECTION CHECKLIST
AIRCO PARCEL, NIAGARA FALLS, NEW YORK

Personnel:	Chip Mcleod (Greenstar) Andrew Zwack (NYSDEC)
Date:	9/28/20
Weather:	Sunny, 70 degrees F

1. **Inspection of ground surface for exposure of geotextile cover (cap erosion):** None noted.

2. **Inspection of ground surface for differential settlement resulting in soil cracking or ponded water:** None noted.

3. **Identification of stressed vegetation:** None noted.

4. **Identification of seeps, rooted vegetation (trees), and/or animal burrows:** Cap mowing completed in September prior to inspection.

5. **Identification of deteriorating equipment (i.e., monitoring wells, fencing, or drainage structures):** AL-MW-02B riser kinked. Dedicated tubing installed to ensure future collection of groundwater sampling is still possible.

6. **Inspection of storm water drainage swales for erosion, sloughing, or flow-through:** None noted

7. **Inspection of east side of the landfill (Niagara Mohawk Power Corporation parcel) along the intermittent stream for the presence of erosion or sloughing:** None noted.

8. **Inspection of access roads:** All roads are in acceptable condition.

Attachment E

Monthly Operation and Maintenance Details
January – December 2021

1. INTRODUCTION

This report presents a summary of the ongoing operation and maintenance activities for the Airco Parcel, Niagara Falls, New York, from 1 January to 31 December 2021. It includes a summary of ongoing operations, system repairs, corrective actions, improvements, and an evaluation of the groundwater collection and treatment system (GCTS) performance.

2. ROUTINE OPERATION AND MAINTENANCE

The overall system average flow rate was 6.67 gallons per minute (gpm). The average daily flow rate during the reporting period was estimated to be 9,605 gallons per day. The flow rate of treated water exceeded the 36,000 gallon/day flow limit on July 17, 2021. The total flow that day was 38,113 gallons. This occurred the week following the replacement of the collection trench.

Tables 1 and 2 in the PRR provide a summary of the Total and Hexavalent Chromium field sampling and the quarterly effluent analytical data from the quarterly GCTS discharge sampling events, respectively. Routine operation and maintenance was completed throughout the report period. Field tasks included system checks, data collection, and field analysis of treatment water at various stages of the treatment process, component and full-system cleanings, component replacement and general site maintenance.

3. SYSTEM OPERATIONS AND EFFICIENCY

During this monitoring period, 3,503,914 gallons of groundwater was treated and discharged to the stormwater swale adjacent to the engineered wetlands. The system average flow rate was 6.67 gpm during the reporting period. The groundwater collection system was operational 100 percent of the reporting period. The emergency overflow pond (T-8) was utilized while tank and line cleaning was performed and during response to alarm conditions. No known releases to the environment occurred during the reporting period. The completed System Monitoring Checklists are provided in Attachment E.1. Monthly GCTS flow calculations are provided in Attachment E.2.

3.1 SYNOPSIS OF THE ANNUAL ACTIVITIES

January 2021

The system was operational for 31 days in January. No alarm conditions were reported during the month of January. No scheduled or unscheduled system shutdowns or system bypasses occurred. The following details the activities performed during January:

- January 6, 2021 – Replaced all three CO2 solenoid valves and flow controllers for CO2 distribution to T3A, T3B and T6B.
- January 7, 2021 – Replaced all three network cameras. Performed field chrome testing on T3B and T6B. No discharge from T7 wetland so no sampling at T7 outlet or SS-01. Rotated valves in T1. Checked mouse bait. Notified Linde/Praxair that a shutoff valve on the T2 outlet manifold was leaking gas.
- January 7, 2021 – Linde repaired the leaking valve.

February 2021

The system was operational for 28 days in February. A high pH alarm in T3A was responded to, probes were recalibrated and reinstalled. No scheduled or unscheduled system shutdowns or system bypasses occurred. The following details the activities performed during February:

- February 15, 2021 – Emergency response to high pH in T3A. Calibrated probe. Error code indicates possible probe failure, or failure due to cold temp. T6A/B Lab shed mouse problem has gotten as bad as T1 was. Will rip out insulation and install spray foam. No sampling. No discharge from system or site. No flow into system. Pulled pressure transducers from PZ-02B and MW-08.

March 2021

The system was operational for 31 days in March. No alarm conditions were reported during the month of March. No scheduled or unscheduled system shutdowns or system bypasses occurred. The following details the activities performed during March:

- March 22, 2021 – Routine site visit. Endress & Hauser on site to fix issues with pH controller. Performed field chrome testing on T3B and T6B. No discharge from T7 wetland so no sampling at T7 outlet or SS-01. Rotated valves in T1. Checked mouse bait. Contacted SCADA engineer for support to reboot remote PCs. Lab shed looks great with new spray foam insulation. Extreme ammonia smells no longer present. Need to order more pH solutions.

April 2021

The system was operational for 29 days in April. No alarm conditions were reported during the month of April. No scheduled or unscheduled system shutdowns or system bypasses occurred. The following details the activities performed during April:

- April 15, 2021 – Routine site visit. Performed field chrome testing on T3B, T6B, T7 and SS-01. Rotated valves in T1. Checked mouse bait. Need to order new eye wash station solutions. More mouse bait put out. Checked auto drain on air compressor. Looked at pump cycles to ensure check valves were operating properly. Added two 512 GB USB drives to the SCADA PLC for additional storage. Gravity lines from ZVI tanks are not draining properly. Need to pull the lids off the iron tanks and inspect the outlets.
- April 16, 2021 – Collected AP-EWE-01 quarterly discharge sample from the SS-01 location.
- April 25, 2021 – ZVI tank inspections occurred. Based on visual observation line cleaning scheduled for the May 2021 routine monthly visit.

May 2021

The system was operational for 31 days in May. No alarm conditions were reported during the month of May. No scheduled or unscheduled system shutdowns or system bypasses occurred. The following details the activities were performed during May:

- May 12, 2021 – Routine site visit. Performed field chrome testing on T3B and T6B. T7 and SS-01were dry. Rotated valves in T1. Checked mouse bait. Ordered replacement eye wash station solutions. More mouse bait put out. Checked auto drain on air compressor. Looked at pump cycles to ensure check valves were operating properly. Changed auto dialer programing and tested outputs. Spoke to contractor about leachate collection line replacement. ZVI effluent lines were cleaned. Installed new eyewash stations in the lab shed, T1 influent shed and T8 valve shed.

June 2021

The system was operational for 30 days in June. No alarm conditions were reported during the month of June. No scheduled or unscheduled system shutdowns or system bypasses occurred. The following details the activities performed during June:

- 29 June 2021 – Routine site visit. Performed field chrome testing on T3B and T6B. T7 and SS-01were dry. Rotated valves in T1. Checked mouse bait. Checked auto drain on air compressor. Looked at pump cycles to ensure check valves were operating properly. Checked southwest corner for leakage.

July 2021

The system was operational for 31 days in July. Multiple alarm conditions were reported during the month of July after the leachate collection trench was replaced. One scheduled system shutdown occurred. The following details the activities performed during July:

- July 10-11, 2021 – The leachate collection trench was replaced in the Southwest corner.
- July 12-14, 2021 – Mobilized to the site for system restart after the leachate trench replacement. During restart, we observed that pumps P-1A, P-1B, and P-5 were not operating within normal parameters and were replaced and sent out to be rebuilt. Additionally, pressure transmitters were replaced in T5 and T6B. pH probes in T3A and T6B were calibrated. T-6B was pressured washed and vacuumed out and a pipe camera was used to check for breaks in the pipe between T-6B and the iron sedimentation tanks. The line from the iron sedimentation tank was jetted clean and flow rate was improved.
- 20 July 2021 – Mobilized to the site to respond to alarm of P6 not starting. P6 was replaced and the existing pump sent out for repairs. Cleaned P6 check valve, calibrated T3 pH probe, performed chrome tests on T3, T6, T7, and SS-01. Collected AP-EWE-01 quarterly discharge sample from the SS-01 location. The system was operated manually daily for 4 weeks post leachate collection trench replacement to regulate and monitor the system, making adjustments to pump cycles and valve apertures gradually to avoid high level alarms.

August 2021

The system was operational for 31 days in August. No alarm conditions were reported during the month of August. No scheduled or unscheduled system shutdowns or system bypasses occurred. The following details the activities, which were performed during August:

- August 26, 2021 – Routine site visit. Performed field chrome testing on T3, T6, T7, and SW Corner. Rotated valves in T1. Checked mouse bait. Checked auto drain on air compressor. Looked at pump cycles to ensure check valves were operating properly.

September 2021

The system was operational for 30 days in September. No alarm conditions were reported during the month of September. No scheduled or unscheduled system shutdowns or system bypasses occurred. The following details the activities, which were performed during September:

- September 27, 2021 – On site with NYSDEC personnel to conduct the five-year review site walk. Routine site visit. Performed field chrome testing on T3, T6, T7, and SW Corner. Rotated valves in T1. Checked mouse bait. Checked auto drain on air compressor. Looked at pump cycles to ensure check valves were operating properly.
- September 28, 2021 – Completed groundwater sampling of the eight overburden monitoring wells as part of the five-year review report.

October 2021

The system was operational for 31 days in October. No alarm conditions were reported during the month of October. No scheduled or unscheduled system shutdowns or system bypasses occurred. The following details the activities, which were performed during October:

- October 12, 2021 – Routine site visit. Performed field chrome testing on T3, T6, T7, and SW Corner. Rotated valves in T1. Checked mouse bait. Checked auto drain on air compressor. Looked at pump cycles to ensure check valves were operating properly. Collected AP-EWE-01 quarterly discharge sample from the SS-01 location.

November 2021

The system was operational for 30 days in November. No alarm conditions were reported during the month of November. No scheduled or unscheduled system shutdowns or system bypasses occurred. The following details the activities, which were performed during November:

- November 29, 2021 – Routine site visit. Performed field chrome testing on T3, T6, T7, and SW Corner. Rotated valves in T1. Checked mouse bait. Checked auto drain on air compressor. Looked at pump cycles to ensure check valves were operating properly. Cleaned T3A influent line to restore T1 flowrate. T1 flow rates started being erratic just before arrival to the site. Opened T8 floor to access the influent flow meter for maintenance. Cleaned and lubricated the Doppler transducer. Normal flow readings were observed after cleaning and lubrication.

December 2021

The system was operational for 31 days in December. No alarm conditions were reported during the month of December. No scheduled or unscheduled system shutdowns. The following details the activities, which were performed during December:

- December 21, 2021 – Routine site visit. Cleaned and calibrated T3A, T3B, and T6B pH probes, pH returned to normal value. Performed field chrome testing on T3, T6, T7, and SW Corner. Rotated valves in T1. Checked mouse bait. Checked auto drain on air compressor. Looked at pump cycles to ensure check valves were operating properly. Removed vegetation from T7 outlet pipe.

4. MODIFICATIONS/IMPROVEMENTS AND RECOMMENDATIONS

4.1 SYSTEM MODIFICATION/IMPROVEMENTS

No system modifications and improvements were performed during the 2021 periodic review report period.

5. PROJECTED OPERATION AND MAINTENACE

5.1 JANUARY – DECEMBER 2022

During the 2022 periodic review report period, Greenstar anticipates performing routine operation and maintenance activities; a general site cleanup; and completion and submittal of the Site Management Plan. Routine activities during the reporting period will include routine cleaning and calibration, pump and other system component replacements, and other activities on an as-needed basis. Emergency response to alarm conditions will be completed as required.

6. SYSTEM MONITORING

6.1 ENVIRONMENTAL SAMPLING

Routine system sampling with field analysis will continue as needed to ensure chromium removal efficiency is maintained. Quarterly discharge samples will be collected from the GCTS to monitor the NYSDEC discharge permit guidelines and will also include parameters from the surface water analysis list.

Attachment E.1

GCTS Monitoring Checklists
January – December 2021

GCTS DATA RECORDING SHEET
AIRCO PARCEL, NIAGARA FALLS, NEW YORK

Date:1/7/21	Project No.: 1047	Greenstar Personnel: C. McLeod	Weather: 30 degrees, Cloudy
READING		*ITEM*	
597.1		T1 Water Level	
On/Cycling		Pump P1A Running Status	
On/Cycling		Pump P1BA Running Status	
241	9,250	T2 Pressure (220-235 psi)	T2 Level (lbs)
5.9	616.2	T3A pH Reading	T3A Water Elevation
6.7	612.2	T3B pH Reading	T3B Water Level
On/Cycling		Pump 3B Operational Status	
613.0		T5 Water Level	
On/Cycling		Pump 5 Operational Status	
616.2		T6A Water Elevation	
6.8	612.8	T6B pH	T6B Water Level
On/Cycling		Pump 6B Operational Status	
615.8		T7 Water Level Reading	
613.0	95.2	T8 Water Elevation	T8 Air Pressure (psi)
Auto		Pump P8 Operational Status	
76,522,458		Flow Meter Reading	
0.33		Average System Flow	

READING	*Standard*	*LOCATION/PARAMETER*
0.010	0.011 mg/L	Calcium Settling Pond Effluent (T3) Hexavalent Chromium
0.018	0.050 mg/L	Calcium Settling Pond Effluent (T3) Total Chromium
0.000	0.011 mg/L	Iron Settling Pond Effluent (T6) Hexavalent Chromium
0.001	0.050 mg/L	Iron Settling Pond Effluent (T6) Total Chromium
NS	0.011 mg/L	Engineered Wetland Effluent (T7) Hexavalent Chromium
NS	0.050 mg/L	Engineered Wetland Effluent (T7) Total Chromium
NS	0.011 mg/L	Southwest Corner Effluent (SS-1) Hexavalent Chromium
NS	0.050 mg/L	Southwest Corner Effluent (SS-1) Total Chromium

pH READING	*SAMPLE LOCATION*
6.86	Calcium Settling Pond Effluent (T3)
6.82	Iron Settling Pond Effluent (T6)
No GCTS Discharge	Engineered Wetland Effluent (T7)
No GCTS Discharge	Southwest Corner Effluent (SS-1)

Notes: Arrived 1/6/21: Replaced all three CO2 solenoid valves and flow controllers for CO2 distribution to T3A, T3B and T6B. 1/7/21: Replaced all three network cameras. Performed field chrome testing on T3B and T6B. No discharge from T7 wetland so no sampling at T7 outlet or SS-01. Rotated valves in T1.Checked mouse bait. Notified Linde/Praxair that a shutoff valve on the T2 outlet manifold was leaking gas. Valve repaired 1/7/21

GCTS DATA RECORDING SHEET
AIRCO PARCEL, NIAGARA FALLS, NEW YORK

Date:2/15/21	Project No.: 1047	Greenstar Personnel: C. Mcleod	Weather: 20 degrees, heavy snow
READING		*ITEM*	
597.1		T1 Water Level	
On/Cycling		Pump P1A Running Status	
On/Cycling		Pump P1BA Running Status	
242.4	7,466	T2 Pressure (220-235 psi)	T2 Level (lbs)
5.4	616.2	T3A pH Reading	T3A Water Elevation
6.9	612.6	T3B pH Reading	T3B Water Level
On/Cycling		Pump 3B Operational Status	
612.3		T5 Water Level	
On/Cycling		Pump 5 Operational Status	
616.0		T6A Water Elevation	
7.0	612.2	T6B pH	T6B Water Level
On/Cycling		Pump 6B Operational Status	
615.8		T7 Water Level Reading	
613.3	85.8	T8 Water Elevation	T8 Air Pressure (psi)
Auto		Pump P8 Operational Status	
76,533,453		Flow Meter Reading	
0.0		Average System Flow	

READING	*Standard*	*LOCATION/PARAMETER*
NS – No Flow	0.011 mg/L	Calcium Settling Pond Effluent (T3) Hexavalent Chromium
NS – No Flow	0.050 mg/L	Calcium Settling Pond Effluent (T3) Total Chromium
NS – No Flow	0.011 mg/L	Iron Settling Pond Effluent (T6) Hexavalent Chromium
NS – No Flow	0.050 mg/L	Iron Settling Pond Effluent (T6) Total Chromium
NS - Ice	0.011 mg/L	Engineered Wetland Effluent (T7) Hexavalent Chromium
NS - Ice	0.050 mg/L	Engineered Wetland Effluent (T7) Total Chromium
NS - Ice	0.011 mg/L	Southwest Corner Effluent (SS-1) Hexavalent Chromium
NS - Ice	0.050 mg/L	Southwest Corner Effluent (SS-1) Total Chromium

pH READING	*SAMPLE LOCATION*
NS – No Flow	Calcium Settling Pond Effluent (T3)
NS – No Flow	Iron Settling Pond Effluent (T6)
NS - Ice	Engineered Wetland Effluent (T7)
NS - Ice	Southwest Corner Effluent (SS-1)

Notes: Emergency response to high pH in T3A. Calibrated probe. Error code indicates possible probe failure, or failure due to cold temp. T6A/B Lab shed mouse problem has gotten as bad as T1 was. Will rip out insulation and install spray foam. No sampling. No discharge from system or site. No flow into system. Pulled pressure transducers from PZ-02B and MW-08.

GCTS DATA RECORDING SHEET
AIRCO PARCEL, NIAGARA FALLS, NEW YORK

Date: 3/22/21	Project No.: 1047	Greenstar Personnel: C. McLeod	Weather: Sunny, 60 Degrees
READING		*ITEM*	
597.1		T1 Water Level	
On/Cycling		Pump P1A Running Status	
On/Cycling		Pump P1BA Running Status	
243	7,206	T2 Pressure (220-235 psi)	T2 Level (lbs)
5.6	616.2	T3A pH Reading	T3A Water Elevation
6.8	612.6	T3B pH Reading	T3B Water Level
On/Cycling		Pump 3B Operational Status	
612.4		T5 Water Level	
On/Cycling		Pump 5 Operational Status	
616.2		T6A Water Elevation	
6.8	612.6	T6B pH	T6B Water Level
On/Cycling		Pump 6B Operational Status	
616.0		T7 Water Level Reading	
	84	T8 Water Elevation	T8 Air Pressure (psi)
Auto		Pump P8 Operational Status	
76,543,244		Flow Meter Reading	
<1		Average System Flow	

READING	*Standard*	*LOCATION/PARAMETER*
0.019	0.011 mg/L	Calcium Settling Pond Effluent (T3) Hexavalent Chromium
ND	0.050 mg/L	Calcium Settling Pond Effluent (T3) Total Chromium
ND	0.011 mg/L	Iron Settling Pond Effluent (T6) Hexavalent Chromium
0.011	0.050 mg/L	Iron Settling Pond Effluent (T6) Total Chromium
No Flow	0.011 mg/L	Engineered Wetland Effluent (T7) Hexavalent Chromium
No Flow	0.050 mg/L	Engineered Wetland Effluent (T7) Total Chromium
No Flow	0.011 mg/L	Southwest Corner Effluent (SS-1) Hexavalent Chromium
No Flow	0.050 mg/L	Southwest Corner Effluent (SS-1) Total Chromium

pH READING	*SAMPLE LOCATION*
6.63	Calcium Settling Pond Effluent (T3)
6.58	Iron Settling Pond Effluent (T6)
No Flow	Engineered Wetland Effluent (T7)
No Flow	Southwest Corner Effluent (SS-1)

Notes: Routine site visit. Endress & Hauser on site to fix issues with pH controller. Performed field chrome testing on T3B and T6B. No discharge from T7 wetland so no sampling at T7 outlet or SS-01. Rotated valves in T1. Checked mouse bait. Contacted SCADA engineer for support to reboot remote PCs. Lab shed looks great with new spray foam insulation. Extreme ammonia smell no longer present. Need to order more pH solutions.

GCTS DATA RECORDING SHEET
AIRCO PARCEL, NIAGARA FALLS, NEW YORK

Date: 4/15 – 4/16/21	Project No.: 1047	Greenstar Personnel: C. McLeod, N. Cornine	Weather: 37 cloudy and rain/snow

READING		*ITEM*	
587.2		T1 Water Level	
On/Cycling		Pump P1A Running Status	
On/Cycling		Pump P1BA Running Status	
239	3,890	T2 Pressure (220-235 psi)	T2 Level (lbs)
5.8	616.2	T3A pH Reading	T3A Water Elevation
6.7	612.1	T3B pH Reading	T3B Water Level
On/Cycling		Pump 3B Operational Status	
612.8		T5 Water Level	
On/Cycling		Pump 5 Operational Status	
616.2		T6A Water Elevation	
7.0	612.7	T6B pH	T6B Water Level
On/Cycling		Pump 6B Operational Status	
616.0		T7 Water Level Reading	
613.7	93.0	T8 Water Elevation	T8 Air Pressure (psi)
Auto		Pump P8 Operational Status	
76,624,867		Flow Meter Reading	
4.0		Average System Flow	

READING	*Standard*	*LOCATION/PARAMETER*
0.003	0.011 mg/L	Calcium Settling Pond Effluent (T3) Hexavalent Chromium
0.016	0.050 mg/L	Calcium Settling Pond Effluent (T3) Total Chromium
ND	0.011 mg/L	Iron Settling Pond Effluent (T6) Hexavalent Chromium
ND	0.050 mg/L	Iron Settling Pond Effluent (T6) Total Chromium
0.006	0.011 mg/L	Engineered Wetland Effluent (T7) Hexavalent Chromium
0.005	0.050 mg/L	Engineered Wetland Effluent (T7) Total Chromium
ND	0.011 mg/L	Southwest Corner Effluent (SS-1) Hexavalent Chromium
ND	0.050 mg/L	Southwest Corner Effluent (SS-1) Total Chromium

pH READING	*SAMPLE LOCATION*
5.62	Calcium Settling Pond Effluent (T3)
6.34	Iron Settling Pond Effluent (T6)
7.13	Engineered Wetland Effluent (T7)
7.72	Southwest Corner Effluent (SS-1)

Notes: Routine site visit. Performed field chrome testing on T3B, T6B, T7 and SS-01. Rotated valves in T1. Checked mouse bait. Need to order new eye wash station solutions. More mouse bait put out. Checked auto drain on air compressor. Looked at pump cycles to ensure check valves were operating properly. Added two 512 GB USB drives to the SCADA PLC for additional storage. Collected AP-EWE-01 quarterly discharge sample from the SS-01 location. Gravity lines from ZVI tanks are not draining properly. Need to pull the lids off the iron tanks and inspect the outlets. Line cleaning scheduled for 5/12/21. ZVI tank inspections will occur 4/25/21.

GCTS DATA RECORDING SHEET
AIRCO PARCEL, NIAGARA FALLS, NEW YORK

Date:5/12/21	Project No.: 1047	Greenstar Personnel: N. Cornine, C. Mcleod	Weather: Sunny 60

READING		*ITEM*	
597.5		T1 Water Level	
On/Cycling		Pump P1A Running Status	
On/Cycling		Pump P1BA Running Status	
251.9	11850	T2 Pressure (220-235 psi)	T2 Level (lbs)
5.8	616.2	T3A pH Reading	T3A Water Elevation
7.0	612.7	T3B pH Reading	T3B Water Level
On/Cycling		Pump 3B Operational Status	
612.7		T5 Water Level	
On/Cycling		Pump 5 Operational Status	
616.2		T6A Water Elevation	
6.8	612.6	T6B pH	T6B Water Level
On/Cycling		Pump 6B Operational Status	
615.9		T7 Water Level Reading	
612.2	97.4	T8 Water Elevation	T8 Air Pressure (psi)
Auto		Pump P8 Operational Status	
76,710,636		Flow Meter Reading	
0.0		Average System Flow	

READING	*Standard*	*LOCATION/PARAMETER*
.011	0.011 mg/L	Calcium Settling Pond Effluent (T3) Hexavalent Chromium
.006	0.050 mg/L	Calcium Settling Pond Effluent (T3) Total Chromium
.006	0.011 mg/L	Iron Settling Pond Effluent (T6) Hexavalent Chromium
.001	0.050 mg/L	Iron Settling Pond Effluent (T6) Total Chromium
ND	0.011 mg/L	Engineered Wetland Effluent (T7) Hexavalent Chromium
ND	0.050 mg/L	Engineered Wetland Effluent (T7) Total Chromium
ND	0.011 mg/L	Southwest Corner Effluent (SS-1) Hexavalent Chromium
ND	0.050 mg/L	Southwest Corner Effluent (SS-1) Total Chromium

pH READING	*SAMPLE LOCATION*
6.32	Calcium Settling Pond Effluent (T3)
6.41	Iron Settling Pond Effluent (T6)
ND	Engineered Wetland Effluent (T7)
ND	Southwest Corner Effluent (SS-1)

Notes: Routine site visit. Performed field chrome testing on T3B and T6B. T7 and SS-01were dry. Rotated valves in T1. Checked mouse bait. Need to order new eye wash station solutions. More mouse bait put out. Checked auto drain on air compressor. Looked at pump cycles to ensure check valves were operating properly. Changed auto dialer programing and tested outputs. Spoke to contractor about leachate collection line replacement. Checked the ZVI outlets to ensure they were clear. Installed new eyewash stations in the lab shed, T1 influent shed and T8 valve shed.

GCTS DATA RECORDING SHEET
AIRCO PARCEL, NIAGARA FALLS, NEW YORK

Date:6/29/21	Project No.: 1047	Greenstar Personnel: N. Cornine	Weather: Sunny 93
READING		*ITEM*	
596.8		T1 Water Level	
On/Cycling		Pump P1A Running Status	
On/Cycling		Pump P1BA Running Status	
252.3	11549	T2 Pressure (220-235 psi)	T2 Level (lbs)
5.9	616.1	T3A pH Reading	T3A Water Elevation
6.9	612.2	T3B pH Reading	T3B Water Level
On/Cycling		Pump 3B Operational Status	
612.1		T5 Water Level	
On/Cycling		Pump 5 Operational Status	
616.1		T6A Water Elevation	
6.9	611.5	T6B pH	T6B Water Level
On/Cycling		Pump 6B Operational Status	
615.5		T7 Water Level Reading	
612.4	98.9	T8 Water Elevation	T8 Air Pressure (psi)
Auto		Pump P8 Operational Status	
76,714,065		Flow Meter Reading	
0.0		Average System Flow	

READING	*Standard*	*LOCATION/PARAMETER*
.006	0.011 mg/L	Calcium Settling Pond Effluent (T3) Hexavalent Chromium
.011	0.050 mg/L	Calcium Settling Pond Effluent (T3) Total Chromium
.002	0.011 mg/L	Iron Settling Pond Effluent (T6) Hexavalent Chromium
.005	0.050 mg/L	Iron Settling Pond Effluent (T6) Total Chromium
NS	0.011 mg/L	Engineered Wetland Effluent (T7) Hexavalent Chromium
NS	0.050 mg/L	Engineered Wetland Effluent (T7) Total Chromium
NS	0.011 mg/L	Southwest Corner Effluent (SS-1) Hexavalent Chromium
NS	0.050 mg/L	Southwest Corner Effluent (SS-1) Total Chromium

pH READING	*SAMPLE LOCATION*
6.12	Calcium Settling Pond Effluent (T3)
5.91	Iron Settling Pond Effluent (T6)
NS	Engineered Wetland Effluent (T7)
NS	Southwest Corner Effluent (SS-1)

Notes: Routine site visit. Performed field chrome testing on T3B and T6B. T7 and SS-01were dry. Rotated valves in T1. Checked mouse bait. Checked auto drain on air compressor. Looked at pump cycles to ensure check valves were operating properly. Checked southwest corner for leakage.

GCTS DATA RECORDING SHEET
AIRCO PARCEL, NIAGARA FALLS, NEW YORK

Date: 7/12 – 7/14/21	Project No.: 1047	Greenstar Personnel: N. Cornine/C. Mcleod	Weather: Sunny 85

READING		*ITEM*	
598.4		T1 Water Level	
On/Cycling		Pump P1A Running Status	
On/Cycling		Pump P1BA Running Status	
236	9254	T2 Pressure (220-235 psi)	T2 Level (lbs)
6.7	616.2	T3A pH Reading	T3A Water Elevation
6.4	613..5	T3B pH Reading	T3B Water Level
On/Cycling		Pump 3B Operational Status	
613.7		T5 Water Level	
On/Cycling		Pump 5 Operational Status	
616.5		T6A Water Elevation	
6.4	612.7	T6B pH	T6B Water Level
On/Cycling		Pump 6B Operational Status	
615.9		T7 Water Level Reading	
615.5	98.9	T8 Water Elevation	T8 Air Pressure (psi)
Auto		Pump P8 Operational Status	
76,760,027		Flow Meter Reading	
17gpm		Average System Flow	

READING	*Standard*	*LOCATION/PARAMETER*
.002	0.011 mg/L	Calcium Settling Pond Effluent (T3) Hexavalent Chromium
.041	0.050 mg/L	Calcium Settling Pond Effluent (T3) Total Chromium
.002	0.011 mg/L	Iron Settling Pond Effluent (T6) Hexavalent Chromium
ND	0.050 mg/L	Iron Settling Pond Effluent (T6) Total Chromium
ND	0.011 mg/L	Engineered Wetland Effluent (T7) Hexavalent Chromium
ND	0.050 mg/L	Engineered Wetland Effluent (T7) Total Chromium
ND	0.011 mg/L	Southwest Corner Effluent (SS-1) Hexavalent Chromium
.009	0.050 mg/L	Southwest Corner Effluent (SS-1) Total Chromium

pH READING	*SAMPLE LOCATION*
6.43	Calcium Settling Pond Effluent (T3)
6.60	Iron Settling Pond Effluent (T6)
6.86	Engineered Wetland Effluent (T7)
7.58	Southwest Corner Effluent (SS-1)

Notes: Work was done on leachate collection system in the Southwest corner from Friday-Sunday. Due to issues with the treatment system after the work done in the SW corner, pumps P-1A, P-1B, and P-5 were replaced. Pressure transmitters were replaced in T5 and T6B. pH probes in T3A and T6B were calibrated. T-6B was pressured washed and vacuumed out and a pipe camera was used to check for breaks in the pipe between T-6B and the iron sedimentation tanks. The line from the iron sedimentation tank was jetted clean and flow rate was improved. 7/20/2021: responded to alarm of P6 not starting, changed pump and cleaned check valve, calibrated T3 pH probe, performed chrome tests on T3, T6, T7, and SS-01, took compliance samples from SW swale.

GCTS DATA RECORDING SHEET
AIRCO PARCEL, NIAGARA FALLS, NEW YORK

Date:8/26/21	Project No.: 1047	Greenstar Personnel: N. Cornine	Weather: Sunny 88
READING		*ITEM*	
597.3		T1 Water Level	
On/Cycling		Pump P1A Running Status	
On/Cycling		Pump P1BA Running Status	
240.5	11095	T2 Pressure (220-235 psi)	T2 Level (lbs)
6.6	616.3	T3A pH Reading	T3A Water Elevation
6.5	612.9	T3B pH Reading	T3B Water Level
On/Cycling		Pump 3B Operational Status	
612.2		T5 Water Level	
On/Cycling		Pump 5 Operational Status	
616.3		T6A Water Elevation	
6.5	612.7	T6B pH	T6B Water Level
On/Cycling		Pump 6B Operational Status	
615.9		T7 Water Level Reading	
612.1	93.3	T8 Water Elevation	T8 Air Pressure (psi)
Auto		Pump P8 Operational Status	
77,849,605		Flow Meter Reading	
14 gpm		Average System Flow	

READING	*Standard*	*LOCATION/PARAMETER*
.011	0.011 mg/L	Calcium Settling Pond Effluent (T3) Hexavalent Chromium
.008	0.050 mg/L	Calcium Settling Pond Effluent (T3) Total Chromium
ND	0.011 mg/L	Iron Settling Pond Effluent (T6) Hexavalent Chromium
ND	0.050 mg/L	Iron Settling Pond Effluent (T6) Total Chromium
ND	0.011 mg/L	Engineered Wetland Effluent (T7) Hexavalent Chromium
ND	0.050 mg/L	Engineered Wetland Effluent (T7) Total Chromium
.009	0.011 mg/L	Southwest Corner Effluent (SS-1) Hexavalent Chromium
.010	0.050 mg/L	Southwest Corner Effluent (SS-1) Total Chromium

pH READING	*SAMPLE LOCATION*
6.91	Calcium Settling Pond Effluent (T3)
7.05	Iron Settling Pond Effluent (T6)
7.03	Engineered Wetland Effluent (T7)
7.65	Southwest Corner Effluent (SS-1)

Notes: Routine site visit. Performed field chrome testing on T3, T6, T7, and SW Corner. Rotated valves in T1. Checked mouse bait. Checked auto drain on air compressor. Looked at pump cycles to ensure check valves were operating properly.

GCTS DATA RECORDING SHEET
AIRCO PARCEL, NIAGARA FALLS, NEW YORK

Date:9/27/21	Project No.: 1047	Greenstar Personnel: N. Cornine/B. Quinn	Weather: Sunny 65

READING		*ITEM*	
597.6		T1 Water Level	
On/Cycling		Pump P1A Running Status	
On/Cycling		Pump P1BA Running Status	
242.9	7749	T2 Pressure (220-235 psi)	T2 Level (lbs)
6.4	616.3	T3A pH Reading	T3A Water Elevation
6.3	612.5	T3B pH Reading	T3B Water Level
On/Cycling		Pump 3B Operational Status	
612.7		T5 Water Level	
On/Cycling		Pump 5 Operational Status	
616.3		T6A Water Elevation	
6.5	612.0	T6B pH	T6B Water Level
On/Cycling		Pump 6B Operational Status	
615.9		T7 Water Level Reading	
612.3	92.8	T8 Water Elevation	T8 Air Pressure (psi)
Auto		Pump P8 Operational Status	
78,365,521		Flow Meter Reading	
9.0		Average System Flow	

READING	*Standard*	*LOCATION/PARAMETER*
.006	0.011 mg/L	Calcium Settling Pond Effluent (T3) Hexavalent Chromium
.052	0.050 mg/L	Calcium Settling Pond Effluent (T3) Total Chromium
ND	0.011 mg/L	Iron Settling Pond Effluent (T6) Hexavalent Chromium
ND	0.050 mg/L	Iron Settling Pond Effluent (T6) Total Chromium
.012	0.011 mg/L	Engineered Wetland Effluent (T7) Hexavalent Chromium
.003	0.050 mg/L	Engineered Wetland Effluent (T7) Total Chromium
.005	0.011 mg/L	Southwest Corner Effluent (SS-1) Hexavalent Chromium
.012	0.050 mg/L	Southwest Corner Effluent (SS-1) Total Chromium

pH READING	*SAMPLE LOCATION*
6.51	Calcium Settling Pond Effluent (T3)
6.88	Iron Settling Pond Effluent (T6)
6.80	Engineered Wetland Effluent (T7)
7.53	Southwest Corner Effluent (SS-1)

Notes: On site for DEC 5 year review. Routine site visit. Performed field chrome testing on T3, T6, T7, and SW Corner. Rotated valves in T1. Checked mouse bait. Checked auto drain on air compressor. Looked at pump cycles to ensure check valves were operating properly.

GCTS DATA RECORDING SHEET
AIRCO PARCEL, NIAGARA FALLS, NEW YORK

Date: 10/12/21	Project No.: 1047	Greenstar Personnel: N. Cornine	Weather: Sunny 80
READING		*ITEM*	
975.5		T1 Water Level	
On/Cycling		Pump P1A Running Status	
On/Cycling		Pump P1BA Running Status	
241.1	11904	T2 Pressure (220-235 psi)	T2 Level (lbs)
6.4	616.3	T3A pH Reading	T3A Water Elevation
6.4	612.4	T3B pH Reading	T3B Water Level
On/Cycling		Pump 3B Operational Status	
612.6		T5 Water Level	
On/Cycling		Pump 5 Operational Status	
616.1		T6A Water Elevation	
6.5	612.1	T6B pH	T6B Water Level
On/Cycling		Pump 6B Operational Status	
615.9		T7 Water Level Reading	
612.8	93.7	T8 Water Elevation	T8 Air Pressure (psi)
Auto		Pump P8 Operational Status	
78,569,161		Flow Meter Reading	
9.0		Average System Flow	

READING	*Standard*	*LOCATION/PARAMETER*
.006	0.011 mg/L	Calcium Settling Pond Effluent (T3) Hexavalent Chromium
.054	0.050 mg/L	Calcium Settling Pond Effluent (T3) Total Chromium
ND	0.011 mg/L	Iron Settling Pond Effluent (T6) Hexavalent Chromium
ND	0.050 mg/L	Iron Settling Pond Effluent (T6) Total Chromium
.011	0.011 mg/L	Engineered Wetland Effluent (T7) Hexavalent Chromium
.005	0.050 mg/L	Engineered Wetland Effluent (T7) Total Chromium
.004	0.011 mg/L	Southwest Corner Effluent (SS-1) Hexavalent Chromium
.012	0.050 mg/L	Southwest Corner Effluent (SS-1) Total Chromium

pH READING	*SAMPLE LOCATION*
6.56	Calcium Settling Pond Effluent (T3)
6.91	Iron Settling Pond Effluent (T6)
6.84	Engineered Wetland Effluent (T7)
7.57	Southwest Corner Effluent (SS-1)

Notes: Routine site visit. Performed field chrome testing on T3, T6, T7, and SW Corner. Rotated valves in T1. Checked mouse bait. Checked auto drain on air compressor. Looked at pump cycles to ensure check valves were operating properly. Took quarterly AP-EWE-01 sample.

GCTS DATA RECORDING SHEET
AIRCO PARCEL, NIAGARA FALLS, NEW YORK

Date:11/29/21	Project No.: 1047	Greenstar Personnel: C. McLeod	Weather: 30, recent snow
READING		*ITEM*	
597.5		T1 Water Level	
On/Cycling		Pump P1A Running Status	
On/Cycling		Pump P1BA Running Status	
254	8,950	T2 Pressure (220-235 psi)	T2 Level (lbs)
6.5	613.3	T3A pH Reading	T3A Water Elevation
6.5	612.9	T3B pH Reading	T3B Water Level
On/Cycling		Pump 3B Operational Status	
612.2		T5 Water Level	
On/Cycling		Pump 5 Operational Status	
616.2		T6A Water Elevation	
6.6	612.9	T6B pH	T6B Water Level
On/Cycling		Pump 6B Operational Status	
616.0		T7 Water Level Reading	
614.2	95.8	T8 Water Elevation	T8 Air Pressure (psi)
Winter Mode (2 mins on/58 off)		Pump P8 Operational Status	
79,344,238		Flow Meter Reading	
12.0		Average System Flow	

READING	*Standard*	*LOCATION/PARAMETER*
.007	0.011 mg/L	Calcium Settling Pond Effluent (T3) Hexavalent Chromium
.045	0.050 mg/L	Calcium Settling Pond Effluent (T3) Total Chromium
ND	0.011 mg/L	Iron Settling Pond Effluent (T6) Hexavalent Chromium
ND	0.050 mg/L	Iron Settling Pond Effluent (T6) Total Chromium
.010	0.011 mg/L	Engineered Wetland Effluent (T7) Hexavalent Chromium
.001	0.050 mg/L	Engineered Wetland Effluent (T7) Total Chromium
.003	0.011 mg/L	Southwest Corner Effluent (SS-1) Hexavalent Chromium
.009	0.050 mg/L	Southwest Corner Effluent (SS-1) Total Chromium

pH READING	*SAMPLE LOCATION*
6.53	Calcium Settling Pond Effluent (T3)
6.72	Iron Settling Pond Effluent (T6)
6.81	Engineered Wetland Effluent (T7)
7.45	Southwest Corner Effluent (SS-1)

Notes Routine site visit. Performed field chrome testing on T3, T6, T7, and SW Corner. Rotated valves in T1. Checked mouse bait. Checked auto drain on air compressor. Looked at pump cycles to ensure check valves were operating properly. Cleaned T3A influent line to restore T1 flowrate. T1 flow rates started being erratic just before arrival to the site. Opened T8 floor to access the influent flow meter for maintenance. Cleaned and lubricated the Doppler transducer. Normal flow readings were observed after cleaning and lubrication.

GCTS DATA RECORDING SHEET
AIRCO PARCEL, NIAGARA FALLS, NEW YORK

Date:12/14/21	Project No.: 1047	Greenstar Personnel: C. McLeod	Weather: 45, sunny
READING		*ITEM*	
597.7		T1 Water Level	
On/Cycling		Pump P1A Running Status	
Off		Pump P1BA Running Status	
250	1,977	T2 Pressure (220-235 psi)	T2 Level (lbs)
6.3	616.2	T3A pH Reading	T3A Water Elevation
6.4	612.0	T3B pH Reading	T3B Water Level
On/Cycling		Pump 3B Operational Status	
612.6		T5 Water Level	
On/Cycling		Pump 5 Operational Status	
616.2		T6A Water Elevation	
6.6	612.8	T6B pH	T6B Water Level
On/Cycling		Pump 6B Operational Status	
616.0		T7 Water Level Reading	
614.7	87.6	T8 Water Elevation	T8 Air Pressure (psi)
Auto		Pump P8 Operational Status	
79,628,869		Flow Meter Reading	
14.0		Average System Flow	

READING	*Standard*	*LOCATION/PARAMETER*
.026	0.011 mg/L	Calcium Settling Pond Effluent (T3) Hexavalent Chromium
.052	0.050 mg/L	Calcium Settling Pond Effluent (T3) Total Chromium
ND	0.011 mg/L	Iron Settling Pond Effluent (T6) Hexavalent Chromium
ND	0.050 mg/L	Iron Settling Pond Effluent (T6) Total Chromium
.003	0.011 mg/L	Engineered Wetland Effluent (T7) Hexavalent Chromium
.006	0.050 mg/L	Engineered Wetland Effluent (T7) Total Chromium
.005	0.011 mg/L	Southwest Corner Effluent (SS-1) Hexavalent Chromium
.010	0.050 mg/L	Southwest Corner Effluent (SS-1) Total Chromium

pH READING	*SAMPLE LOCATION*
6.11	Calcium Settling Pond Effluent (T3)
6.25	Iron Settling Pond Effluent (T6)
6.45	Engineered Wetland Effluent (T7)
7.25	Southwest Corner Effluent (SS-1)

Notes: Emergency site visit. pH meter was reading a pH of 14. Cleaned all three pH probes. pH returned to normal. Performed field chrome testing on T3, T6, T7, and SW Corner. Rotated valves in T1. Checked mouse bait. Checked auto drain on air compressor. Looked at pump cycles to ensure check valves were operating properly. Cleaned cross over lines in T3. Removed vegetation from T7 outlet pipe. Generator inspection done by Penn Power. Block heater was shorted out and was replaced. P1B would not show that it was running. Contacted SCADA engineer to assess.

GCTS DATA RECORDING SHEET
AIRCO PARCEL, NIAGARA FALLS, NEW YORK

Date:12/21/21	Project No.: 1047	Greenstar Personnel: N. Cornine	Weather: 40, sunny
READING		*ITEM*	
597.5		T1 Water Level	
On/Cycling		Pump P1A Running Status	
Off		Pump P1BA Running Status	
241.6	10,098	T2 Pressure (220-235 psi)	T2 Level (lbs)
6.4	616.2	T3A pH Reading	T3A Water Elevation
6.4	612.0	T3B pH Reading	T3B Water Level
On/Cycling		Pump 3B Operational Status	
612.6		T5 Water Level	
On/Cycling		Pump 5 Operational Status	
616.1		T6A Water Elevation	
6.5	612.7	T6B pH	T6B Water Level
On/Cycling		Pump 6B Operational Status	
615.9		T7 Water Level Reading	
614.2	86.6	T8 Water Elevation	T8 Air Pressure (psi)
Auto		Pump P8 Operational Status	
79,781,268		Flow Meter Reading	
17.0		Average System Flow	

READING	*Standard*	*LOCATION/PARAMETER*
.022	0.011 mg/L	Calcium Settling Pond Effluent (T3) Hexavalent Chromium
.043	0.050 mg/L	Calcium Settling Pond Effluent (T3) Total Chromium
ND	0.011 mg/L	Iron Settling Pond Effluent (T6) Hexavalent Chromium
ND	0.050 mg/L	Iron Settling Pond Effluent (T6) Total Chromium
ND	0.011 mg/L	Engineered Wetland Effluent (T7) Hexavalent Chromium
ND	0.050 mg/L	Engineered Wetland Effluent (T7) Total Chromium
.009	0.011 mg/L	Southwest Corner Effluent (SS-1) Hexavalent Chromium
.038	0.050 mg/L	Southwest Corner Effluent (SS-1) Total Chromium

pH READING	*SAMPLE LOCATION*
6.72	Calcium Settling Pond Effluent (T3)
6.97	Iron Settling Pond Effluent (T6)
7.18	Engineered Wetland Effluent (T7)
7.40	Southwest Corner Effluent (SS-1)

Notes: Routine site visit. Cleaned and calibrated T3A, T3B, and T6B pH probes, pH returned to normal value. Performed field chrome testing on T3, T6, T7, and SW Corner. Rotated valves in T1. Checked mouse bait. Checked auto drain on air compressor. Looked at pump cycles to ensure check valves were operating properly.. Removed vegetation from T7 outlet pipe.

Attachment E.2

GCTS Monthly Flow Calculations
January – December 2021

Monthly Flow Calculations
January 2021

Date	Maximum Flow (gpm)	Average Flow Rate (gpm)	Total Daily Flow (Gal)	Total Gallons To Date (Gal)	Run Time (hours)	Run Time (minutes)
1/1/2021	45	0.33	477	76,519,326	24	0
1/2/2021	45	0.76	1,095	76,520,421	24	0
1/3/2021	45	0.34	495	76,520,916	24	0
1/4/2021	45	0.47	678	76,521,594	24	0
1/5/2021	45	0.29	413	76,522,007	24	0
1/6/2021	45	0.31	451	76,522,458	24	0
1/7/2021	45	0.16	232	76,522,690	24	0
1/8/2021	45	0.33	472	76,523,162	24	0
1/9/2021	45	0.16	225	76,523,387	24	0
1/10/2021	45	0.33	474	76,523,861	24	0
1/11/2021	45	0.50	725	76,524,586	24	0
1/12/2021	45	0.51	729	76,525,315	24	0
1/13/2021	45	0.34	491	76,525,806	24	0
1/14/2021	45	0.34	492	76,526,298	24	0
1/15/2021	45	0.48	693	76,526,991	24	0
1/16/2021	45	0.28	402	76,527,393	24	0
1/17/2021	45	0.15	218	76,527,611	24	0
1/18/2021	45	0.32	466	76,528,077	24	0
1/19/2021	45	0.17	238	76,528,315	24	0
1/20/2021	45	0.34	492	76,528,807	24	0
1/21/2021	45	0.34	483	76,529,290	24	0
1/22/2021	45	0.17	239	76,529,529	24	0
1/23/2021	45	0.32	465	76,529,994	24	0
1/24/2021	45	0.32	456	76,530,450	24	0
1/25/2021	45	0.16	225	76,530,675	24	0
1/26/2021	45	0.34	491	76,531,166	24	0
1/27/2021	45	0.32	455	76,531,621	24	0
1/28/2021	45	0.28	399	76,532,020	24	0
1/29/2021	45	0.14	200	76,532,220	24	0
1/30/2021	45	0.29	424	76,532,644	24	0
1/31/2021	45	0.14	199	76,532,843	24	0
	45.0	**0.31**	**13,994**	**76,532,843**	**31**	**100%**
	Daily Maximum (GPM)	Monitoring Period Average (GPM)	Monitoring Period Total (GAL)	Cumulative Total (GAL)	Runtime (Days)	Operational Percentage

Monthly Flow Calculations
February 2021

Date	Maximum Flow (gpm)	Average Flow Rate (gpm)	Total Daily Flow (Gal)	Total Gallons To Date (Gal)	Run Time (hours)	Run Time (minutes)
2/1/2021	45	0.14	200	76,533,043	24	0
2/2/2021	0	0.00	0	76,533,043	24	0
2/3/2021	0	0.00	0	76,533,043	24	0
2/4/2021	0	0.00	0	76,533,043	24	0
2/5/2021	0	0.00	0	76,533,043	24	0
2/6/2021	45	0.14	203	76,533,246	24	0
2/7/2021	45	0.13	191	76,533,437	24	0
2/8/2021	45	0.01	16	76,533,453	24	0
2/9/2021	0	0.00	0	76,533,453	24	0
2/10/2021	0	0.00	0	76,533,453	24	0
2/11/2021	0	0.00	0	76,533,453	24	0
2/12/2021	0	0.00	0	76,533,453	24	0
2/13/2021	0	0.00	0	76,533,453	24	0
2/14/2021	0	0.00	0	76,533,453	24	0
2/15/2021	0	0.00	0	76,533,453	24	0
2/16/2021	0	0.00	0	76,533,453	24	0
2/17/2021	0	0.00	0	76,533,453	24	0
2/18/2021	0	0.00	0	76,533,453	24	0
2/19/2021	0	0.00	0	76,533,453	24	0
2/20/2021	0	0.00	0	76,533,453	24	0
2/21/2021	0	0.00	0	76,533,453	24	0
2/22/2021	0	0.00	0	76,533,453	24	0
2/23/2021	0	0.00	0	76,533,453	24	0
2/24/2021	0	0.00	0	76,533,453	24	0
2/25/2021	45	0.13	193	76,533,646	24	0
2/26/2021	45	0.13	194	76,533,840	24	0
2/27/2021	45	0.34	485	76,534,325	24	0
2/28/2021	45	0.15	221	76,534,546	24	0
	45.0	**0.04**	**1,703**	**76,534,546**	**28**	**100%**
	Daily Maximum (GPM)	Monitoring Period Average (GPM)	Monitoring Period Total (GAL)	Cumulative Total (GAL)	Runtime (Days)	Operational Percentage

Monthly Flow Calculations
March 2021

Date	Maximum Flow (gpm)	Average Flow Rate (gpm)	Total Daily Flow (Gal)	Total Gallons To Date (Gal)	Run Time (hours)	Run Time (minutes)
3/1/2021	45	0.16	225	76,534,771	24	0
3/2/2021	45	0.51	736	76,535,507	24	0
3/3/2021	46	1.99	2,870	76,538,377	24	0
3/4/2021	45	0.70	1,014	76,539,391	24	0
3/5/2021	45	0.16	226	76,539,617	24	0
3/6/2021	45	0.15	215	76,539,832	24	0
3/7/2021	45	0.14	203	76,540,035	24	0
3/8/2021	0	0.00	0	76,540,035	24	0
3/9/2021	0	0.00	0	76,540,035	24	0
3/10/2021	0	0.00	0	76,540,035	24	0
3/11/2021	0	0.00	0	76,540,035	24	0
3/12/2021	45	0.13	194	76,540,229	24	0
3/13/2021	45	0.28	400	76,540,629	24	0
3/14/2021	45	0.14	207	76,540,836	24	0
3/15/2021	45	0.29	416	76,541,252	24	0
3/16/2021	45	0.29	424	76,541,676	24	0
3/17/2021	45	0.15	219	76,541,895	24	0
3/18/2021	45	0.29	419	76,542,314	24	0
3/19/2021	45	0.15	209	76,542,523	24	0
3/20/2021	45	0.14	203	76,542,726	24	0
3/21/2021	45	0.27	387	76,543,113	24	0
3/22/2021	45	0.18	262	76,543,375	24	0
3/23/2021	45	0.48	687	76,544,062	24	0
3/24/2021	45	0.32	455	76,544,517	24	0
3/25/2021	45	0.15	223	76,544,740	24	0
3/26/2021	45	0.61	884	76,545,624	24	0
3/27/2021	45	0.30	431	76,546,055	24	0
3/28/2021	45	0.44	639	76,546,694	24	0
3/29/2021	45	0.98	1,416	76,548,110	24	0
3/30/2021	45	1.18	1,703	76,549,813	24	0
3/31/2021	45	1.80	2,590	76,552,403	24	0
	46.0	**0.40**	**17,857**	**76,552,403**	**31**	**100%**
	Daily Maximum (GPM)	Monitoring Period Average (GPM)	Monitoring Period Total (GAL)	Cumulative Total (GAL)	Runtime (Days)	Operational Percentage

Monthly Flow Calculations
April 2021

Date	Maximum Flow (gpm)	Average Flow Rate (gpm)	Total Daily Flow (Gal)	Total Gallons To Date (Gal)	Run Time (hours)	Run Time (minutes)
4/1/2021	45	1.92	2,762	76,555,165	24	0
4/2/2021	45	2.30	3,313	76,558,478	24	0
4/3/2021	45	2.51	3,612	76,562,090	24	0
4/4/2021	45	2.55	3,671	76,565,761	24	0
4/5/2021	45	2.55	3,676	76,569,437	24	0
4/6/2021	45	2.83	4,077	76,573,514	24	0
4/7/2021	45	2.98	4,289	76,577,803	24	0
4/8/2021	45	3.26	4,698	76,582,501	24	0
4/9/2021	45	3.93	5,663	76,588,164	24	0
4/10/2021	45	4.50	6,475	76,594,639	24	0
4/11/2021	45	4.58	6,599	76,601,238	24	0
4/12/2021	45	5.05	7,270	76,608,508	24	0
4/13/2021	45	4.75	6,845	76,615,353	24	0
4/14/2021	45	4.13	5,949	76,621,302	24	0
4/15/2021	45	4.54	6,537	76,627,839	24	0
4/16/2021	45	4.90	7,053	76,634,892	24	0
4/17/2021	45	4.53	6,522	76,641,414	24	0
4/18/2021	45	2.31	3,331	76,644,745	24	0
4/19/2021	45	3.65	5,254	76,649,999	24	0
4/20/2021	45	3.55	5,105	76,655,104	24	0
4/21/2021	45	4.08	5,875	76,660,979	24	0
4/22/2021	45	5.63	8,111	76,669,090	24	0
4/23/2021	45	3.53	5,086	76,674,176	24	0
4/24/2021	45	3.43	4,937	76,679,113	24	0
4/25/2021	45	3.23	4,650	76,683,763	24	0
4/26/2021	45	3.22	4,642	76,688,405	24	0
4/27/2021	45	5.57	8,019	76,696,424	24	0
4/28/2021	45	3.05	4,395	76,700,819	24	0
4/29/2021	45	2.97	4,281	76,705,100	24	0
4/30/2021	45	1.17	1,678	76,706,778	24	0
	45.0	**3.57**	**154,375**	**76,706,778**	**30**	**100%**
	Daily Maximum (GPM)	Monitoring Period Average (GPM)	Monitoring Period Total (GAL)	Cumulative Total (GAL)	Runtime (Days)	Operational Percentage

Monthly Flow Calculations
May 2021

Date	Maximum Flow (gpm)	Average Flow Rate (gpm)	Total Daily Flow (Gal)	Total Gallons To Date (Gal)	Run Time (hours)	Run Time (minutes)
5/1/2021	0	0.00	0	76,706,778	24	0
5/2/2021	0	0.00	0	76,706,778	24	0
5/3/2021	0	0.00	0	76,706,778	24	0
5/4/2021	0	0.00	0	76,706,778	24	0
5/5/2021	0	0.00	0	76,706,778	24	0
5/6/2021	0	0.00	0	76,706,778	24	0
5/7/2021	45	1.41	2,031	76,708,809	24	0
5/8/2021	45	0.71	1,025	76,709,834	24	0
5/9/2021	45	0.42	610	76,710,444	24	0
5/10/2021	45	0.13	192	76,710,636	24	0
5/11/2021	0	0.00	0	76,710,636	24	0
5/12/2021	0	0.00	0	76,710,636	24	0
5/13/2021	0	0.00	0	76,710,636	24	0
5/14/2021	0	0.00	0	76,710,636	24	0
5/15/2021	0	0.00	0	76,710,636	24	0
5/16/2021	0	0.00	0	76,710,636	24	0
5/17/2021	0	0.00	0	76,710,636	24	0
5/18/2021	0	0.00	0	76,710,636	24	0
5/19/2021	0	0.00	0	76,710,636	24	0
5/20/2021	0	0.00	0	76,710,636	24	0
5/21/2021	0	0.00	0	76,710,636	24	0
5/22/2021	0	0.00	0	76,710,636	24	0
5/23/2021	0	0.00	0	76,710,636	24	0
5/24/2021	0	0.00	0	76,710,636	24	0
5/25/2021	0	0.00	0	76,710,636	24	0
5/26/2021	0	0.00	0	76,710,636	24	0
5/27/2021	0	0.00	0	76,710,636	24	0
5/28/2021	0	0.00	0	76,710,636	24	0
5/29/2021	0	0.00	0	76,710,636	24	0
5/30/2021	0	0.00	0	76,710,636	24	0
5/31/2021	0	0.00	0	76,710,636	24	0
	45.0	**0.09**	**3,858**	**76,710,636**	**31**	**100%**
	Daily Maximum (GPM)	Monitoring Period Average (GPM)	Monitoring Period Total (GAL)	Cumulative Total (GAL)	Runtime (Days)	Operational Percentage

Monthly Flow Calculations
June 2021

Date	Maximum Flow (gpm)	Average Flow Rate (gpm)	Total Daily Flow (Gal)	Total Gallons To Date (Gal)	Run Time (hours)	Run Time (minutes)
6/1/2021	0	0.00	0	76,710,636	24	0
6/2/2021	0	0.00	0	76,710,636	24	0
6/3/2021	0	0.00	0	76,710,636	24	0
6/4/2021	0	0.00	0	76,710,636	24	0
6/5/2021	0	0.00	0	76,710,636	24	0
6/6/2021	0	0.00	0	76,710,636	24	0
6/7/2021	0	0.00	0	76,710,636	24	0
6/8/2021	45	0.65	941	76,711,577	24	0
6/9/2021	0	0.00	0	76,711,577	24	0
6/10/2021	45	0.12	170	76,711,747	24	0
6/11/2021	47	0.23	333	76,712,080	24	0
6/12/2021	5	0.01	9	76,712,089	24	0
6/13/2021	0	0.00	0	76,712,089	24	0
6/14/2021	47	0.37	531	76,712,620	24	0
6/15/2021	45	0.12	174	76,712,794	24	0
6/16/2021	47	0.11	154	76,712,948	24	0
6/17/2021	0	0.00	0	76,712,948	24	0
6/18/2021	0	0.00	0	76,712,948	24	0
6/19/2021	0	0.00	0	76,712,948	24	0
6/20/2021	0	0.00	0	76,712,948	24	0
6/21/2021	47	0.65	935	76,713,883	24	0
6/22/2021	46	0.13	182	76,714,065	24	0
6/23/2021	0	0.00	0	76,714,065	24	0
6/24/2021	0	0.00	0	76,714,065	24	0
6/25/2021	0	0.00	0	76,714,065	24	0
6/26/2021	0	0.00	0	76,714,065	24	0
6/27/2021	0	0.00	0	76,714,065	24	0
6/28/2021	0	0.00	0	76,714,065	24	0
6/29/2021	0	0.00	0	76,714,065	24	0
6/30/2021	0	0.00	0	76,714,065	24	0
	47.0	**0.08**	**3,429**	**76,714,065**	**30**	**100%**
	Daily Maximum (GPM)	Monitoring Period Average (GPM)	Monitoring Period Total (GAL)	Cumulative Total (GAL)	Runtime (Days)	Operational Percentage

Monthly Flow Calculations
July 2021

Date	Maximum Flow (gpm)	Average Flow Rate (gpm)	Total Daily Flow (Gal)	Total Gallons To Date (Gal)	Run Time (hours)	Run Time (minutes)
7/1/2021	0	0.00	0	76,714,065	24	0
7/2/2021	0	0.00	0	76,714,065	24	0
7/3/2021	0	0.00	0	76,714,065	24	0
7/4/2021	0	0.00	0	76,714,065	24	0
7/5/2021	0	0.00	0	76,714,065	24	0
7/6/2021	0	0.00	0	76,714,065	24	0
7/7/2021	47	0.13	189	76,714,254	24	0
7/8/2021	45	2.38	3,434	76,717,688	24	0
7/9/2021	44	0.12	177	76,717,865	24	0
7/10/2021	45	0.13	187	76,718,052	24	0
7/11/2021	48	9.27	13,346	76,731,398	24	0
7/12/2021	46	10.70	15,402	76,746,800	24	0
7/13/2021	46	2.86	4,121	76,750,921	24	0
7/14/2021	45	18.98	27,330	76,778,251	24	0
7/15/2021	45	22.50	32,393	76,810,644	24	0
7/16/2021	45	23.84	34,332	76,844,976	24	0
7/17/2021	44	26.47	38,113	76,883,089	24	0
7/18/2021	44	16.68	24,023	76,907,112	24	0
7/19/2021	46	5.56	8,010	76,915,122	24	0
7/20/2021	46	24.70	35,572	76,950,694	24	0
7/21/2021	45	22.65	32,612	76,983,306	24	0
7/22/2021	45	14.71	21,189	77,004,495	24	0
7/23/2021	45	18.55	26,711	77,031,206	24	0
7/24/2021	44	18.47	26,591	77,057,797	24	0
7/25/2021	44	17.76	25,577	77,083,374	24	0
7/26/2021	44	20.47	29,471	77,112,845	24	0
7/27/2021	44	20.58	29,638	77,142,483	24	0
7/28/2021	44	21.30	30,675	77,173,158	24	0
7/29/2021	44	23.02	33,144	77,206,302	24	0
7/30/2021	44	22.11	31,836	77,238,138	24	0
7/31/2021	44	20.77	29,909	77,268,047	24	0
	48.0	**12.41**	**553,982**	**77,268,047**	**31**	**100%**
	Daily Maximum (GPM)	Monitoring Period Average (GPM)	Monitoring Period Total (GAL)	Cumulative Total (GAL)	Runtime (Days)	Operational Percentage

.

Monthly Flow Calculations
August 2021

Date	Maximum Flow (gpm)	Average Flow Rate (gpm)	Total Daily Flow (Gal)	Total Gallons To Date (Gal)	Run Time (hours)	Run Time (minutes)
8/1/2021	44	19.62	28,246	77,296,293	24	0
8/2/2021	44	17.63	25,387	77,321,680	24	0
8/3/2021	44	17.01	24,494	77,346,174	24	0
8/4/2021	44	20.10	28,941	77,375,115	24	0
8/5/2021	44	18.17	26,165	77,401,280	24	0
8/6/2021	44	17.52	25,230	77,426,510	24	0
8/7/2021	44	18.02	25,947	77,452,457	24	0
8/8/2021	44	16.80	24,197	77,476,654	24	0
8/9/2021	44	16.78	24,162	77,500,816	24	0
8/10/2021	44	16.65	23,982	77,524,798	24	0
8/11/2021	44	16.81	24,207	77,549,005	24	0
8/12/2021	44	16.33	23,511	77,572,516	24	0
8/13/2021	44	15.19	21,870	77,594,386	24	0
8/14/2021	44	14.29	20,575	77,614,961	24	0
8/15/2021	44	13.76	19,810	77,634,771	24	0
8/16/2021	44	13.31	19,173	77,653,944	24	0
8/17/2021	44	16.15	23,256	77,677,200	24	0
8/18/2021	44	15.31	22,045	77,699,245	24	0
8/19/2021	44	14.62	21,052	77,720,297	24	0
8/20/2021	44	14.14	20,360	77,740,657	24	0
8/21/2021	43	13.31	19,168	77,759,825	24	0
8/22/2021	43	12.75	18,357	77,778,182	24	0
8/23/2021	43	13.50	19,440	77,797,622	24	0
8/24/2021	43	13.98	20,138	77,817,760	24	0
8/25/2021	43	14.65	21,089	77,838,849	24	0
8/26/2021	43	14.75	21,247	77,860,096	24	0
8/27/2021	43	14.40	20,740	77,880,836	24	0
8/28/2021	43	13.62	19,617	77,900,453	24	0
8/29/2021	43	15.63	22,503	77,922,956	24	0
8/30/2021	43	13.25	19,084	77,942,040	24	0
8/31/2021	43	12.22	17,599	77,959,639	24	0
	44.0	**15.49**	**691,592**	**77,959,639**	**31**	**100%**
	Daily Maximum (GPM)	Monitoring Period Average (GPM)	Monitoring Period Total (GAL)	Cumulative Total (GAL)	Runtime (Days)	Operational Percentage

Monthly Flow Calculations
September 2021

Date	Maximum Flow (gpm)	Average Flow Rate (gpm)	Total Daily Flow (Gal)	Total Gallons To Date (Gal)	Run Time (hours)	Run Time (minutes)
9/1/2021	43	11.73	16,897	77,976,536	24	0
9/2/2021	43	11.30	16,279	77,992,815	24	0
9/3/2021	43	10.77	15,513	78,008,328	24	0
9/4/2021	43	10.85	15,628	78,023,956	24	0
9/5/2021	43	11.44	16,473	78,040,429	24	0
9/6/2021	43	10.09	14,527	78,054,956	24	0
9/7/2021	43	10.28	14,802	78,069,758	24	0
9/8/2021	42	17.00	24,486	78,094,244	24	0
9/9/2021	42	10.23	14,730	78,108,974	24	0
9/10/2021	42	9.74	14,021	78,122,995	24	0
9/11/2021	42	9.51	13,699	78,136,694	24	0
9/12/2021	42	10.51	15,137	78,151,831	24	0
9/13/2021	42	10.77	15,507	78,167,338	24	0
9/14/2021	42	11.63	16,742	78,184,080	24	0
9/15/2021	42	10.33	14,879	78,198,959	24	0
9/16/2021	42	9.28	13,366	78,212,325	24	0
9/17/2021	42	9.24	13,299	78,225,624	24	0
9/18/2021	42	9.09	13,089	78,238,713	24	0
9/19/2021	42	8.73	12,566	78,251,279	24	0
9/20/2021	42	8.88	12,785	78,264,064	24	0
9/21/2021	42	8.43	12,139	78,276,203	24	0
9/22/2021	42	11.71	16,856	78,293,059	24	0
9/23/2021	42	13.77	19,831	78,312,890	24	0
9/24/2021	42	11.75	16,919	78,329,809	24	0
9/25/2021	42	9.95	14,326	78,344,135	24	0
9/26/2021	42	9.41	13,551	78,357,686	24	0
9/27/2021	42	9.46	13,618	78,371,304	24	0
9/28/2021	42	9.26	13,337	78,384,641	24	0
9/29/2021	42	9.48	13,655	78,398,296	24	0
9/30/2021	42	9.14	13,167	78,411,463	24	0
	43.0	**10.46**	**451,824**	**78,411,463**	**30**	**100%**
	Daily Maximum (GPM)	Monitoring Period Average (GPM)	Monitoring Period Total (GAL)	Cumulative Total (GAL)	Runtime (Days)	Operational Percentage

Monthly Flow Calculations
October 2021

Date	Maximum Flow (gpm)	Average Flow Rate (gpm)	Total Daily Flow (Gal)	Total Gallons To Date (Gal)	Run Time (hours)	Run Time (minutes)
10/1/2021	42	9.00	12,964	78,424,427	24	0
10/2/2021	42	9.01	12,974	78,437,401	24	0
10/3/2021	42	9.13	13,146	78,450,547	24	0
10/4/2021	42	12.85	18,497	78,469,044	24	0
10/5/2021	42	10.00	14,405	78,483,449	24	0
10/6/2021	42	9.46	13,616	78,497,065	24	0
10/7/2021	42	9.26	13,330	78,510,395	24	0
10/8/2021	42	9.20	13,246	78,523,641	24	0
10/9/2021	41	8.89	12,805	78,536,446	24	0
10/10/2021	41	8.86	12,756	78,549,202	24	0
10/11/2021	41	8.77	12,622	78,561,824	24	0
10/12/2021	41	8.77	12,633	78,574,457	24	0
10/13/2021	41	8.51	12,258	78,586,715	24	0
10/14/2021	41	8.50	12,239	78,598,954	24	0
10/15/2021	41	10.27	14,786	78,613,740	24	0
10/16/2021	41	13.01	18,732	78,632,472	24	0
10/17/2021	41	9.84	14,163	78,646,635	24	0
10/18/2021	41	9.37	13,487	78,660,122	24	0
10/19/2021	41	9.05	13,029	78,673,151	24	0
10/20/2021	41	8.93	12,859	78,686,010	24	0
10/21/2021	41	8.90	12,809	78,698,819	24	0
10/22/2021	41	8.55	12,310	78,711,129	24	0
10/23/2021	41	8.50	12,239	78,723,368	24	0
10/24/2021	41	8.40	12,103	78,735,471	24	0
10/25/2021	41	10.52	15,144	78,750,615	24	0
10/26/2021	41	15.76	22,691	78,773,306	24	0
10/27/2021	41	13.97	20,118	78,793,424	24	0
10/28/2021	41	10.97	15,803	78,809,227	24	0
10/29/2021	41	14.31	20,611	78,829,838	24	0
10/30/2021	41	17.47	25,150	78,854,988	24	0
10/31/2021	41	13.91	20,031	78,875,019	24	0
	42.0	**10.38**	**463,556**	**78,875,019**	**31**	**100%**
	Daily Maximum (GPM)	Monitoring Period Average (GPM)	Monitoring Period Total (GAL)	Cumulative Total (GAL)	Runtime (Days)	Operational Percentage

Monthly Flow Calculations
November 2021

Date	Maximum Flow (gpm)	Average Flow Rate (gpm)	Total Daily Flow (Gal)	Total Gallons To Date (Gal)	Run Time (hours)	Run Time (minutes)
11/1/2021	41	11.60	16,709	78,891,728	24	0
11/2/2021	41	10.97	15,802	78,907,530	24	0
11/3/2021	41	10.36	14,922	78,922,452	24	0
11/4/2021	41	10.08	14,511	78,936,963	24	0
11/5/2021	41	9.81	14,131	78,951,094	24	0
11/6/2021	41	9.88	14,223	78,965,317	24	0
11/7/2021	41	9.91	14,271	78,979,588	24	0
11/8/2021	40	9.72	13,992	78,993,580	24	0
11/9/2021	40	9.76	14,048	79,007,628	24	0
11/10/2021	40	9.88	14,233	79,021,861	24	0
11/11/2021	40	10.15	14,616	79,036,477	24	0
11/12/2021	40	10.08	14,520	79,050,997	24	0
11/13/2021	40	12.65	18,210	79,069,207	24	0
11/14/2021	40	12.75	18,353	79,087,560	24	0
11/15/2021	40	15.18	21,855	79,109,415	24	0
11/15/2021	40	12.47	17,958	79,127,373	24	0
11/16/2021	40	12.25	17,645	79,145,018	24	0
11/17/2021	40	11.72	16,870	79,161,888	24	0
11/18/2021	40	11.43	16,459	79,178,347	24	0
11/19/2021	40	11.52	16,591	79,194,938	24	0
11/20/2021	40	11.88	17,100	79,212,038	24	0
11/21/2021	40	12.51	18,014	79,230,052	24	0
11/22/2021	40	11.65	16,782	79,246,834	24	0
11/23/2021	40	11.66	16,785	79,263,619	24	0
11/24/2021	40	12.15	17,492	79,281,111	24	0
11/25/2021	40	13.83	19,915	79,301,026	24	0
11/26/2021	40	12.53	18,043	79,319,069	24	0
11/27/2021	40	12.54	18,053	79,337,122	24	0
11/28/2021	40	8.53	12,288	79,349,410	24	0
11/29/2021	40	9.19	13,238	79,362,648	24	0
11/30/2021	41	11.60	16,709	78,891,728	24	0
	41.0	**11.29**	**487,629**	**79,362,648**	**30**	**100%**
	Daily Maximum (GPM)	Monitoring Period Average (GPM)	Monitoring Period Total (GAL)	Cumulative Total (GAL)	Runtime (Days)	Operational Percentage

Monthly Flow Calculations
December 2021

Date	Maximum Flow (gpm)	Average Flow Rate (gpm)	Total Daily Flow (Gal)	Total Gallons To Date (Gal)	Run Time (hours)	Run Time (minutes)
12/1/2021	40	16.10	23,185	79,385,833	24	0
12/2/2021	40	15.93	22,943	79,408,776	24	0
12/3/2021	40	13.19	18,988	79,427,764	24	0
12/4/2021	40	13.27	19,115	79,446,879	24	0
12/5/2021	40	13.68	19,699	79,466,578	24	0
12/6/2021	40	20.04	28,851	79,495,429	24	0
12/7/2021	40	15.09	21,731	79,517,160	24	0
12/8/2021	40	14.91	21,467	79,538,627	24	0
12/9/2021	40	14.06	20,247	79,558,874	24	0
12/10/2021	40	14.19	20,440	79,579,314	24	0
12/11/2021	40	13.07	18,824	79,598,138	24	0
12/12/2021	0	0.00	0	79,598,138	24	0
12/13/2021	39	11.26	16,215	79,614,353	24	0
12/14/2021	39	14.91	21,476	79,635,829	24	0
12/15/2021	39	16.35	23,540	79,659,369	24	0
12/16/2021	39	17.84	25,687	79,685,056	24	0
12/17/2021	39	6.16	8,865	79,693,921	24	0
12/18/2021	39	14.54	20,937	79,714,858	24	0
12/19/2021	39	17.49	25,182	79,740,040	24	0
12/20/2021	39	17.12	24,649	79,764,689	24	0
12/21/2021	39	16.96	24,421	79,789,110	24	0
12/22/2021	39	17.33	24,956	79,814,066	24	0
12/23/2021	39	17.41	25,077	79,839,143	24	0
12/24/2021	39	14.35	20,663	79,859,806	24	0
12/25/2021	39	19.28	27,760	79,887,566	24	0
12/26/2021	39	17.07	24,583	79,912,149	24	0
12/27/2021	39	16.80	24,197	79,936,346	24	0
12/28/2021	39	14.99	21,586	79,957,932	24	0
12/29/2021	38	14.79	21,298	79,979,230	24	0
12/30/2021	38	15.51	22,333	80,001,563	24	0
12/31/2021	39	14.72	21,200	80,022,763	24	0
	40.0	**14.79**	**660,115**	**80,022,763**	**31**	**100%**
	Daily Maximum (GPM)	Monitoring Period Average (GPM)	Monitoring Period Total (GAL)	Cumulative Total (GAL)	Runtime (Days)	Operational Percentage

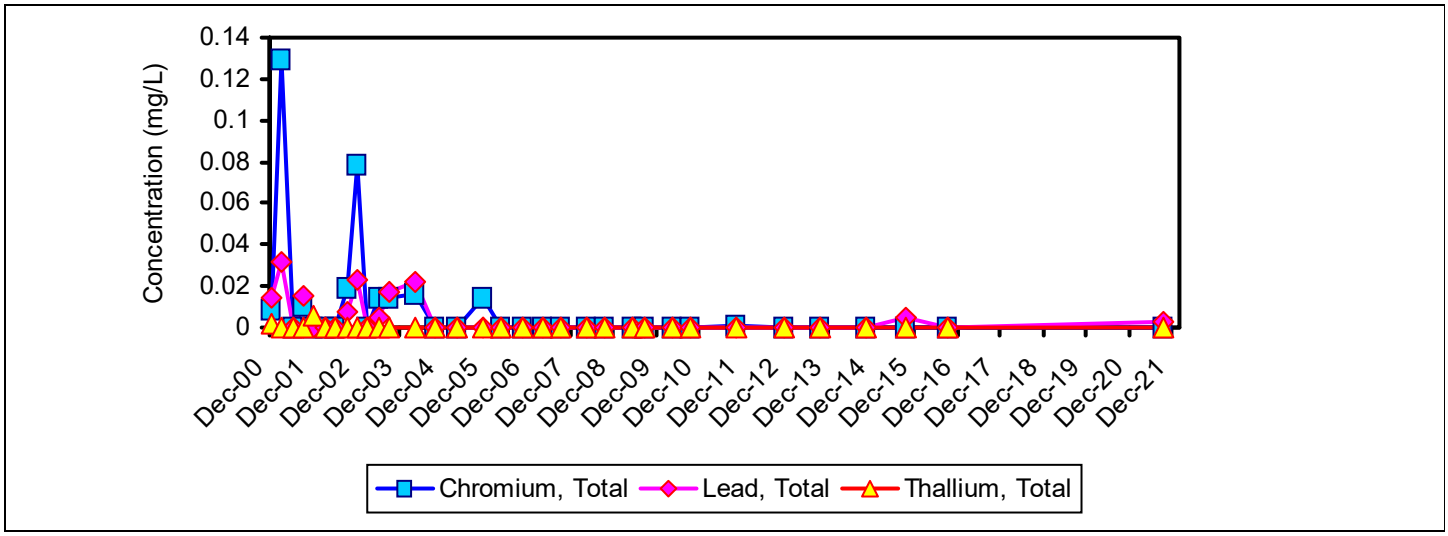
Attachment F

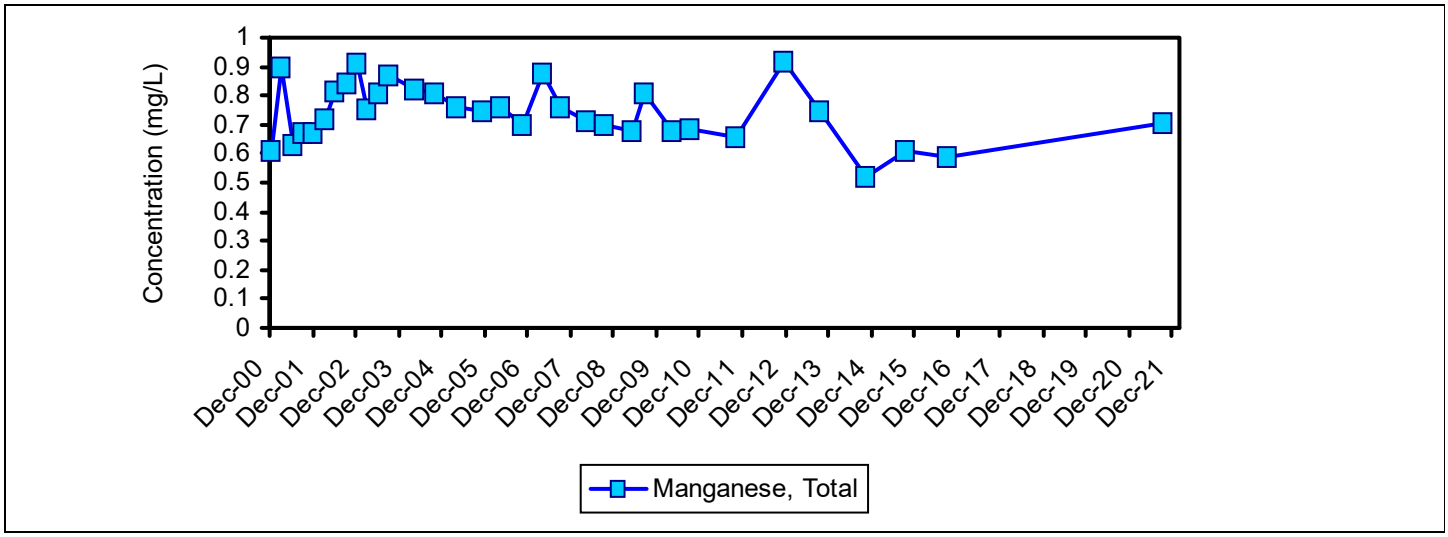
Trend Graphs

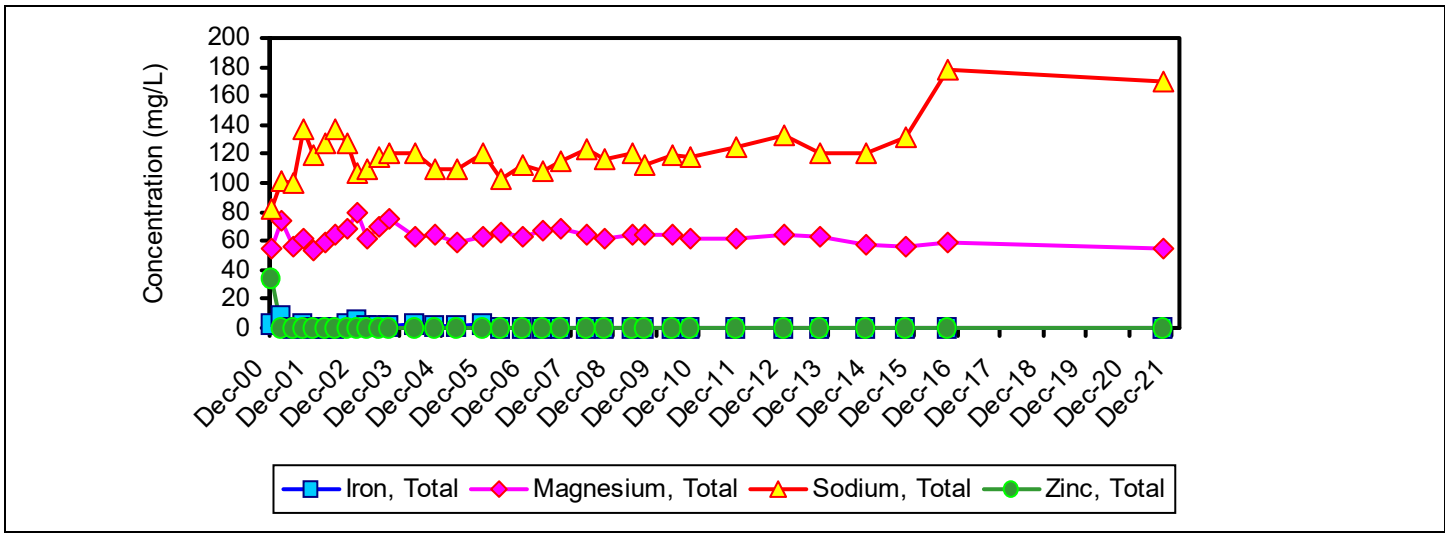
ATTACHMENT F, TREND CHARTS

Sample Location: MW-1B

Sample Matrix: Groundwater



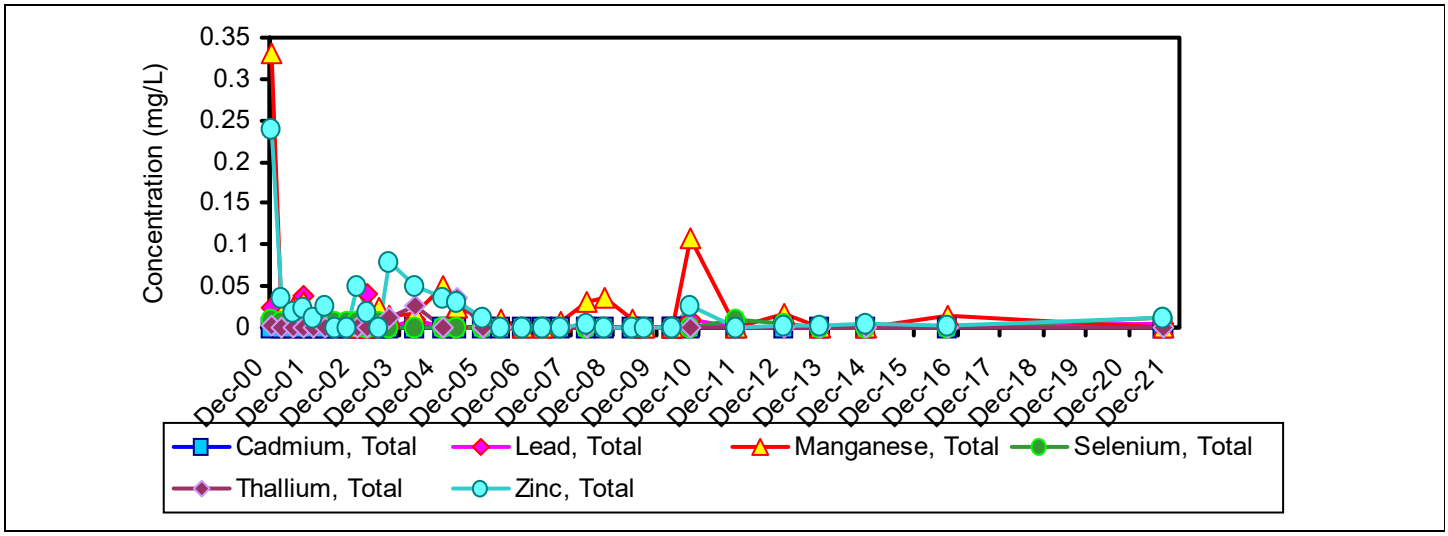


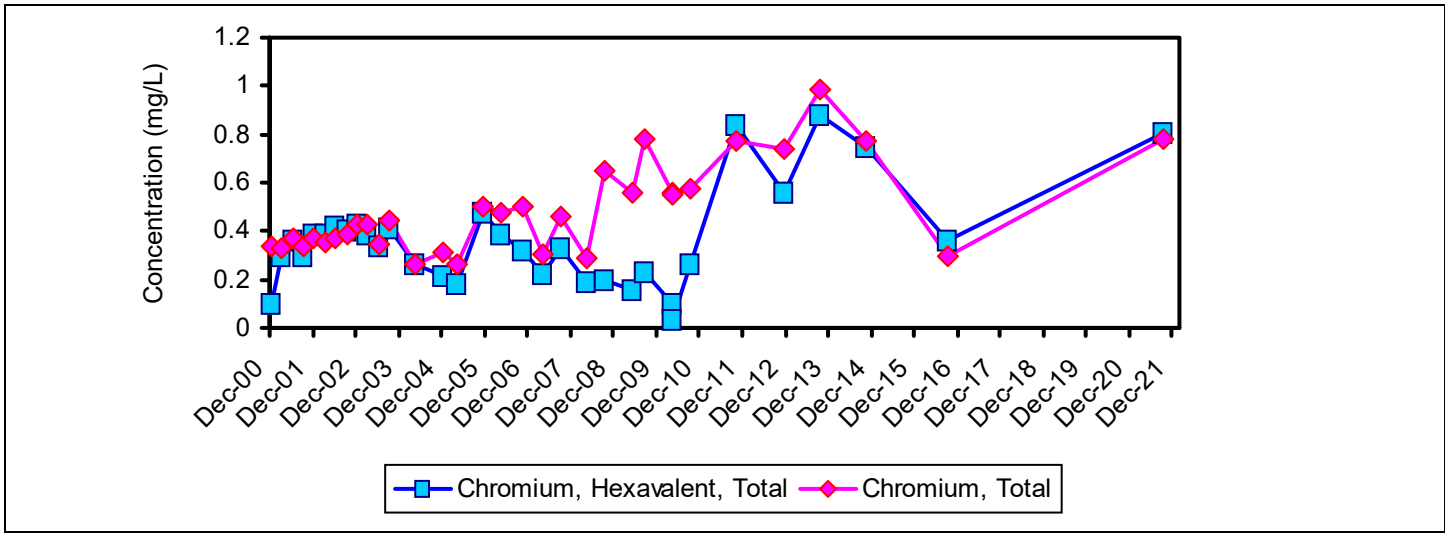


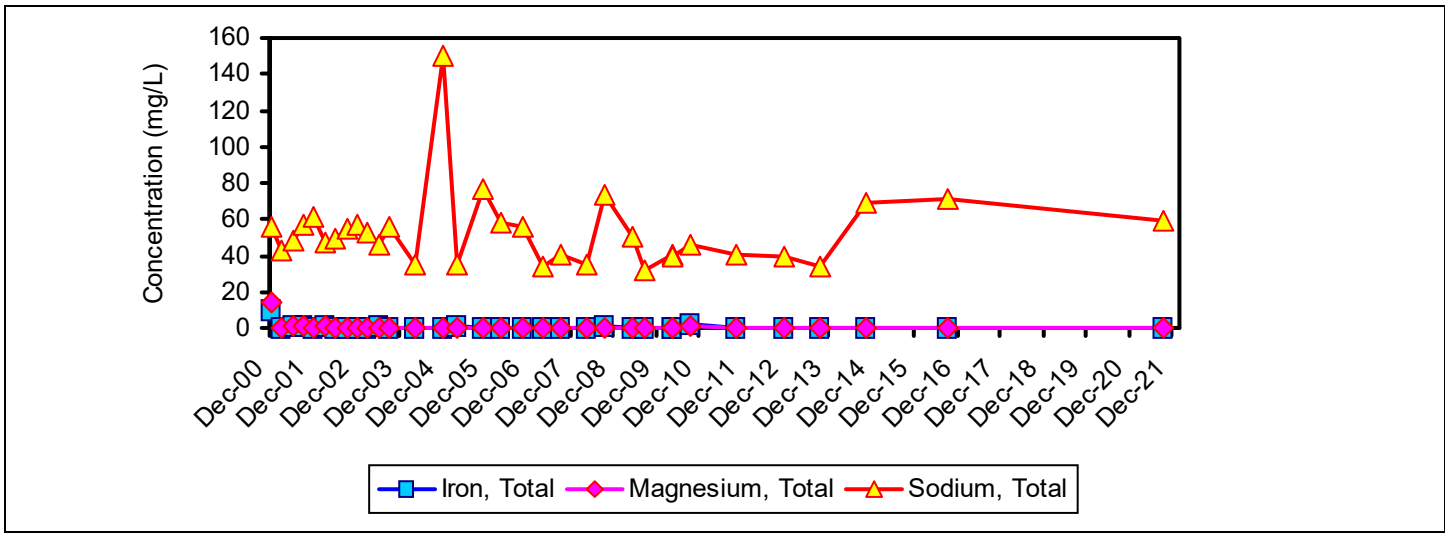
ATTACHMENT F, CONTINUED

Sample Location: MW-2B

Sample Matrix: Groundwater

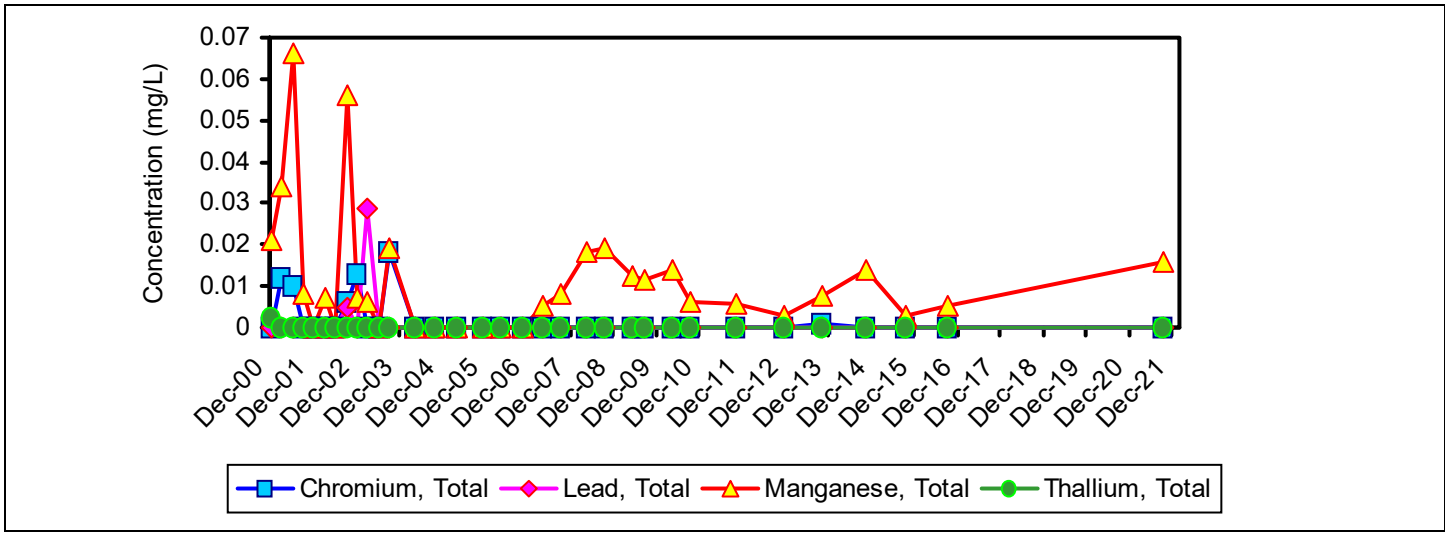


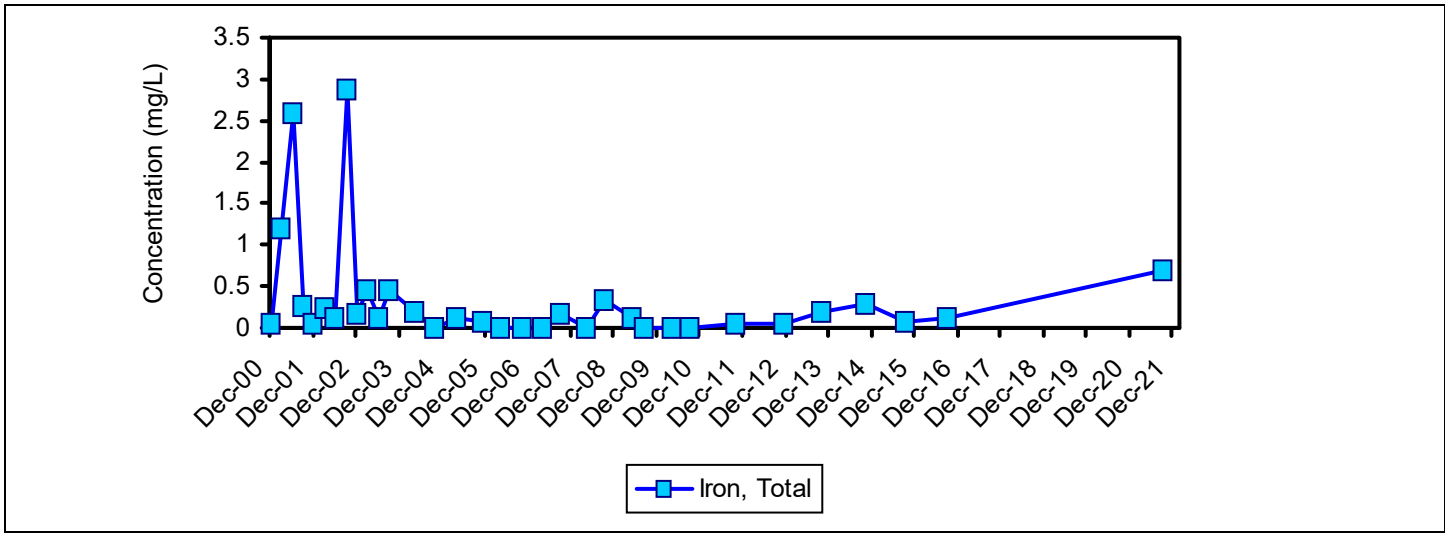


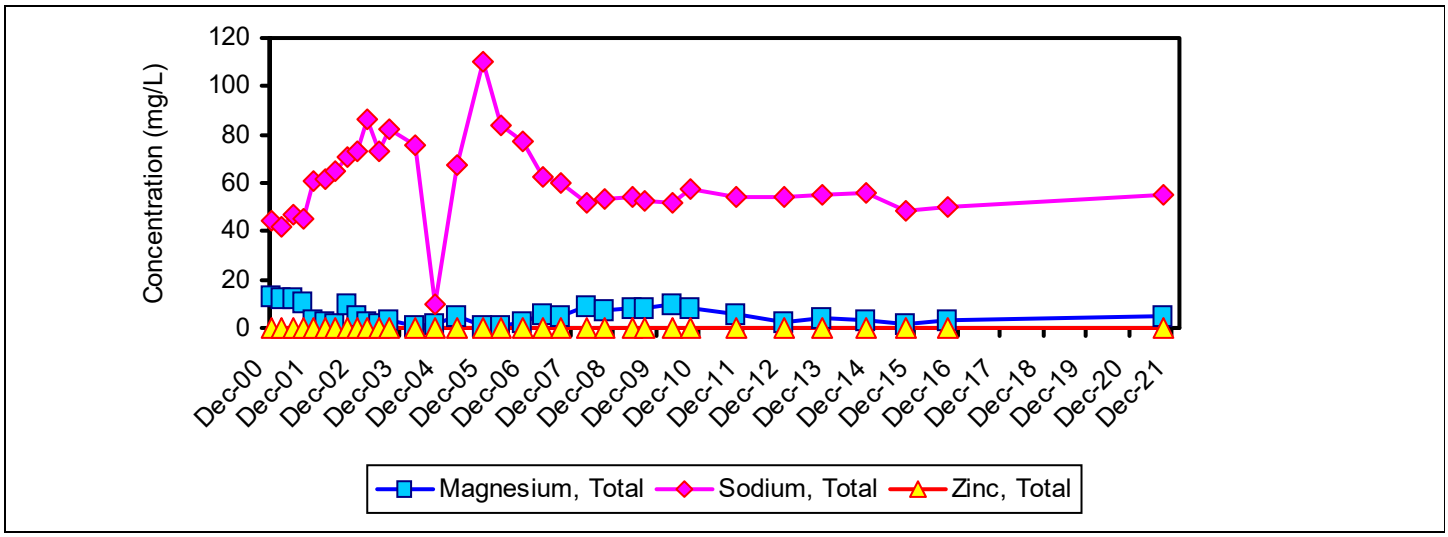


Sample Location: MW-3B

Sample Matrix: Groundwater



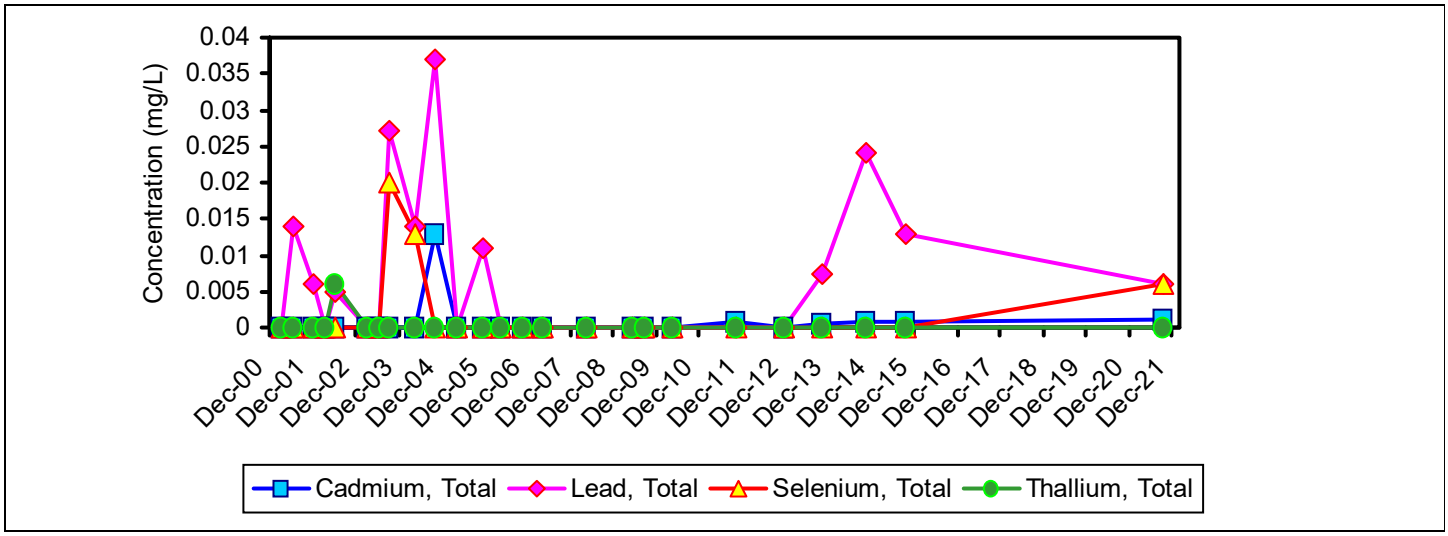


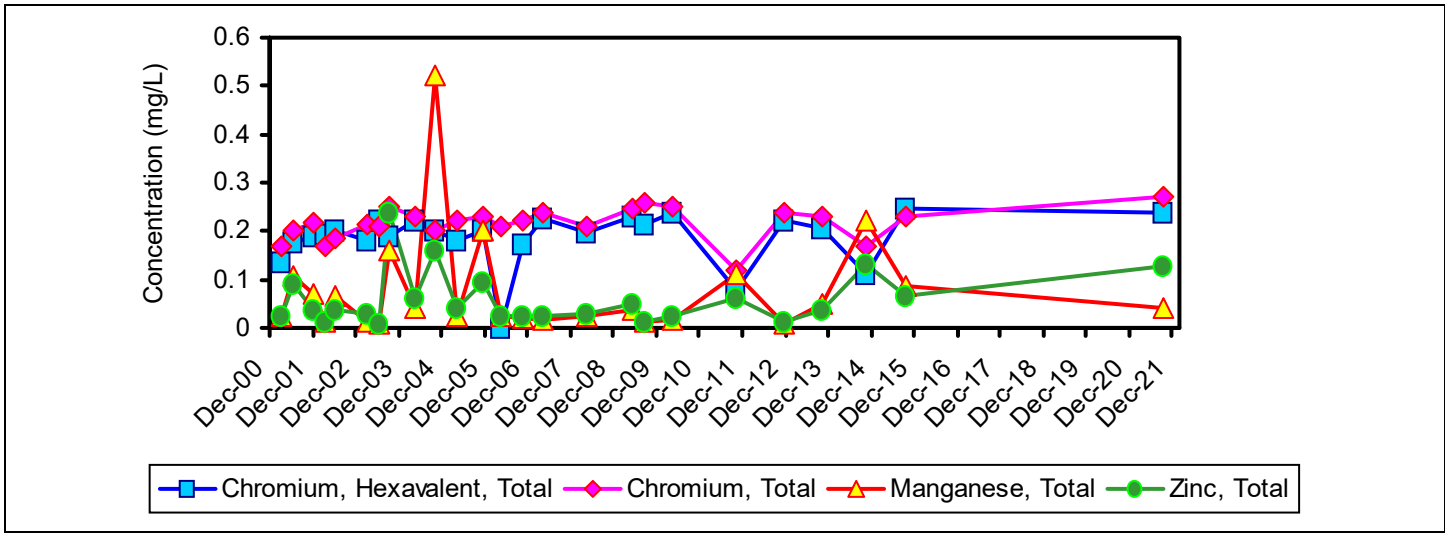


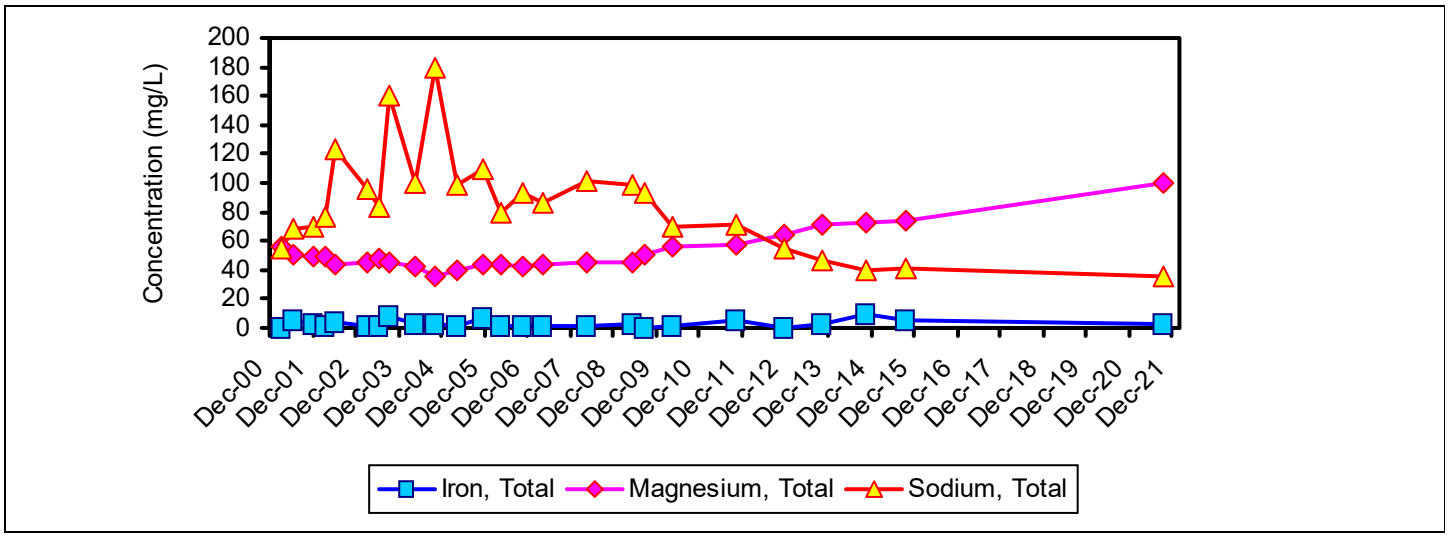
ATTACHMENT F, CONTINUED

Sample Location: MW-4B

Sample Matrix: Groundwater

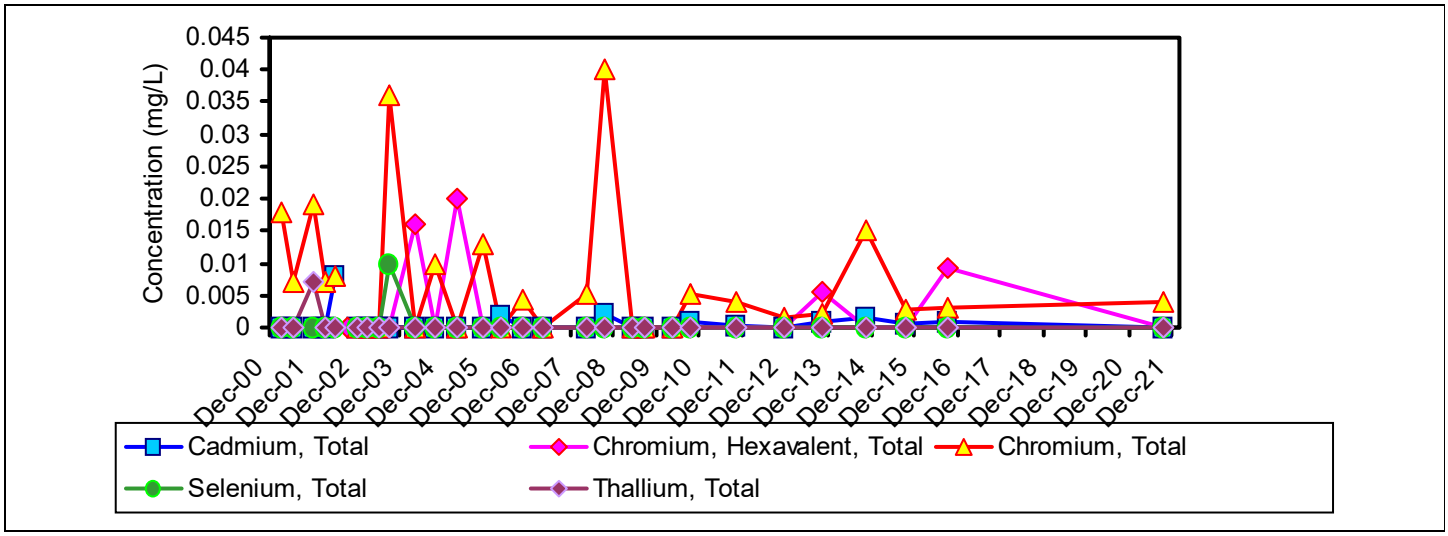


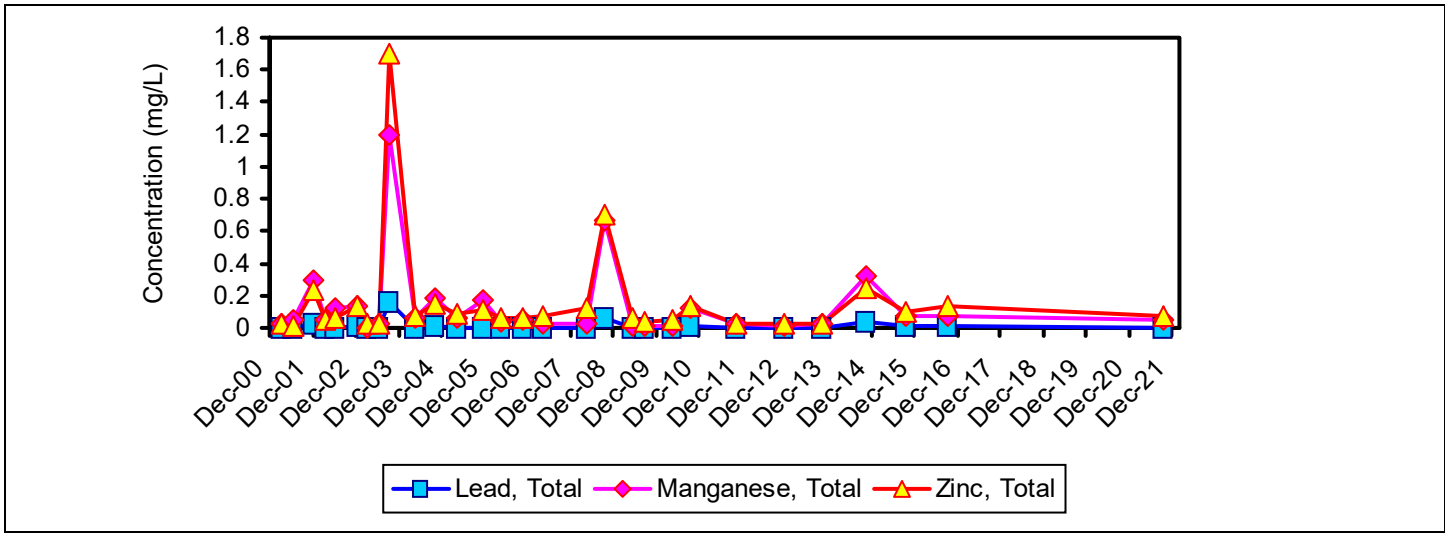


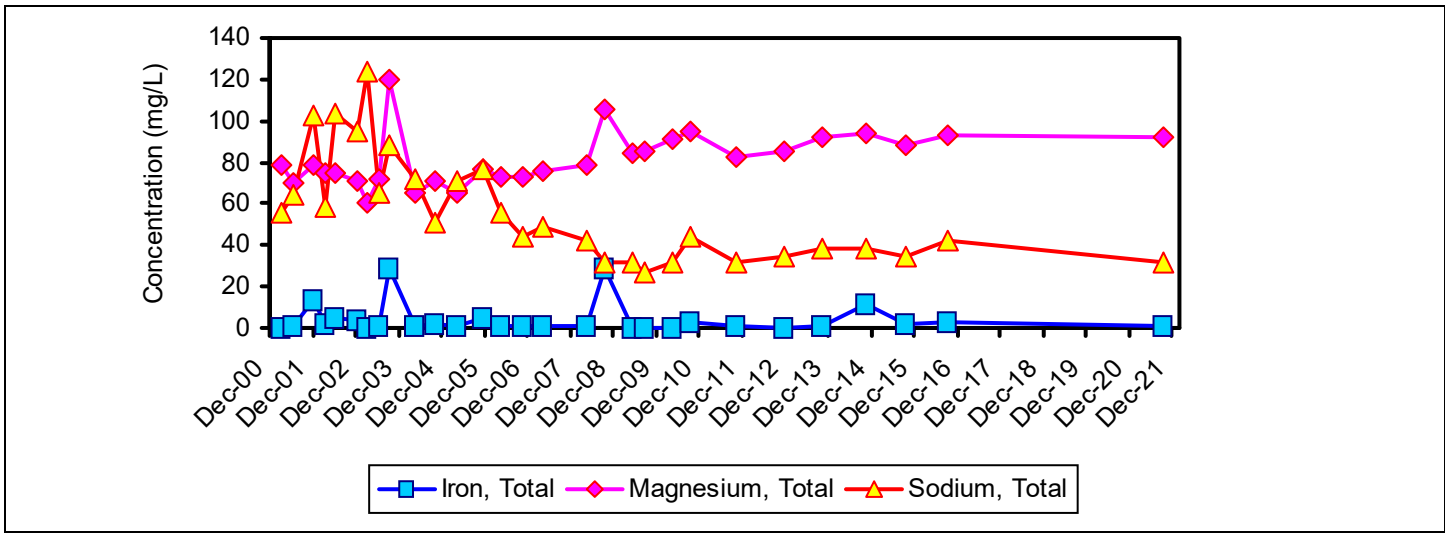


Sample Location: MW-5B

Sample Matrix: Groundwater



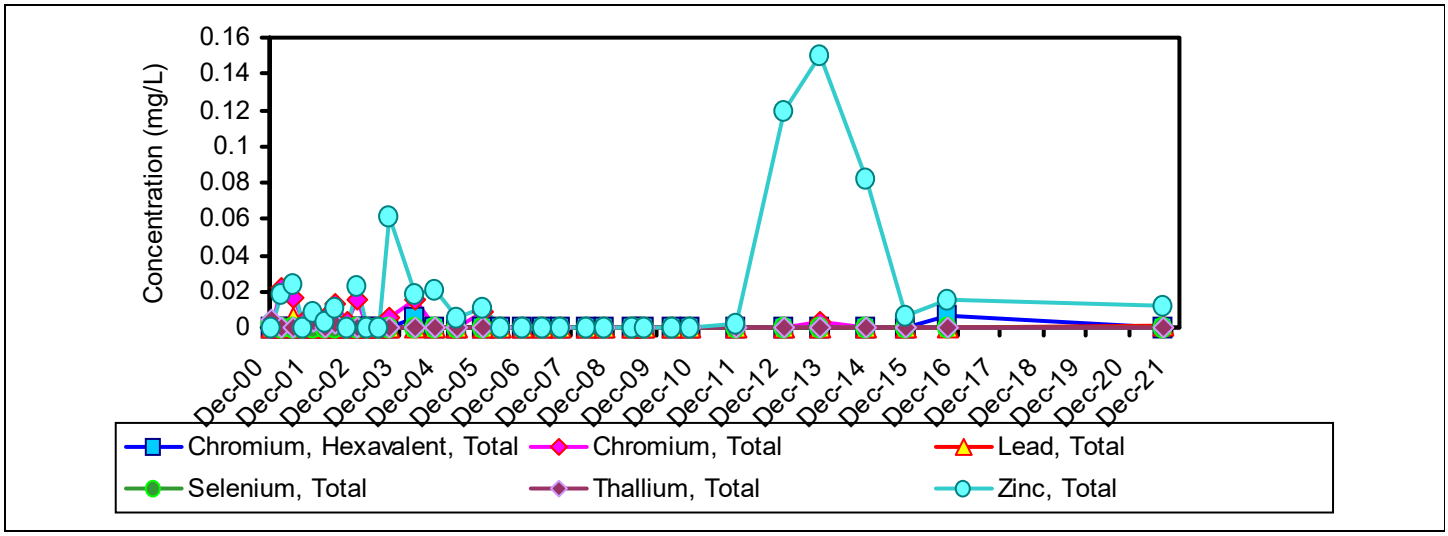


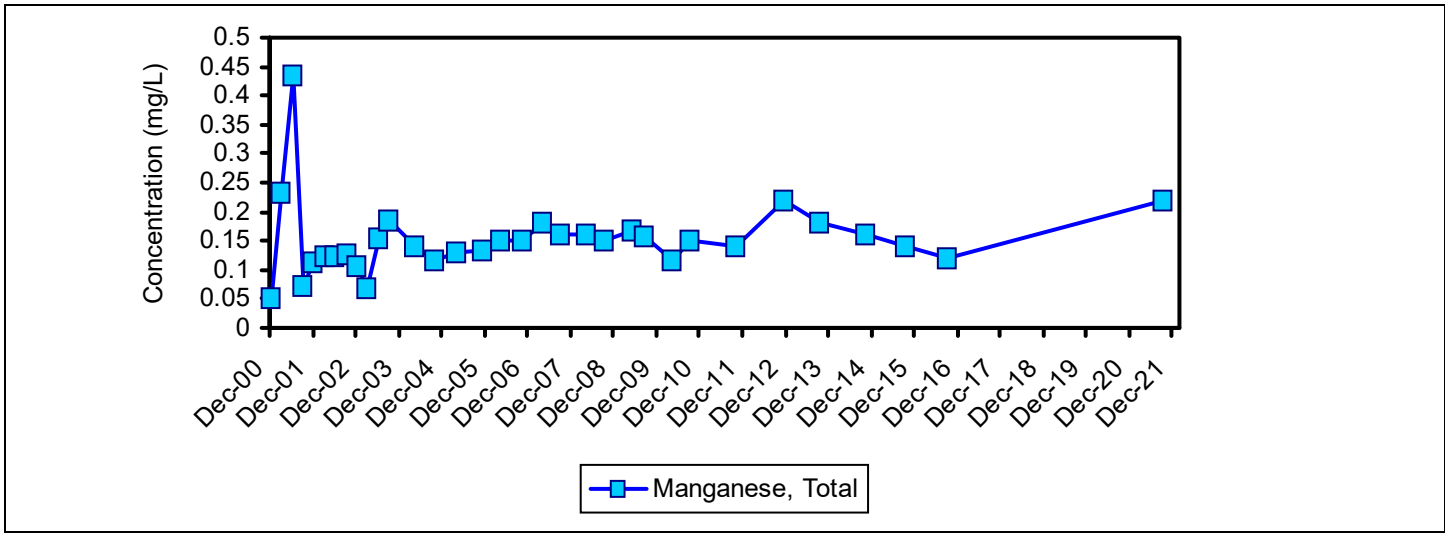


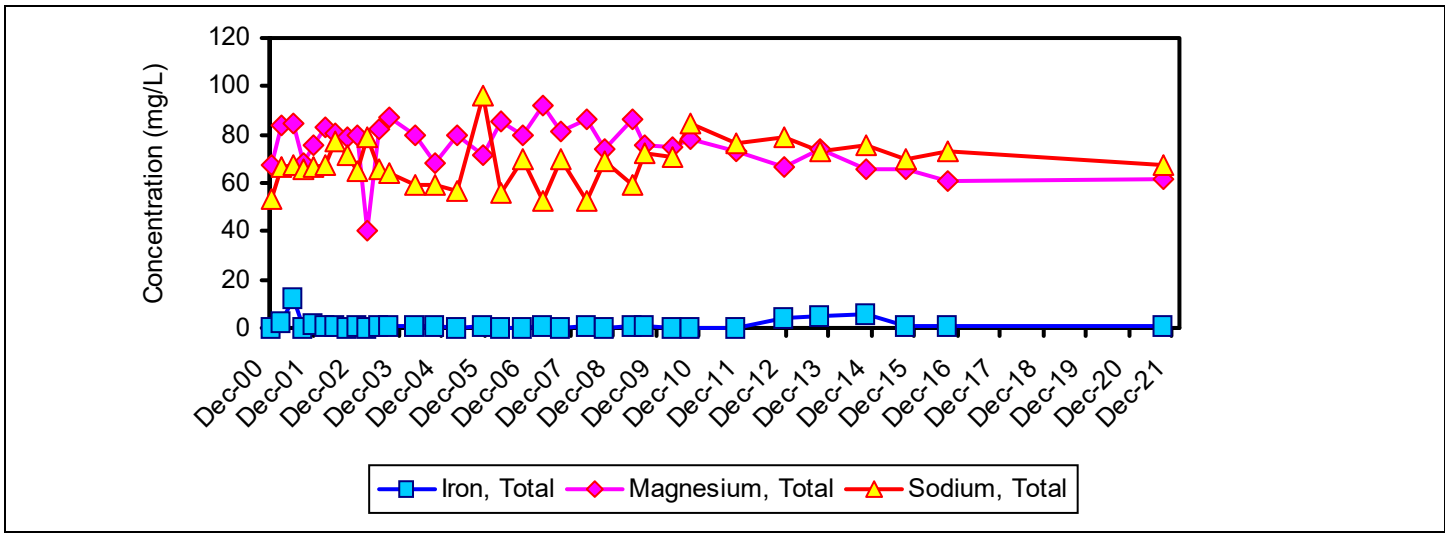
ATTACHMENT F, CONTINUED

Sample Location: MW-6B

Sample Matrix: Groundwater



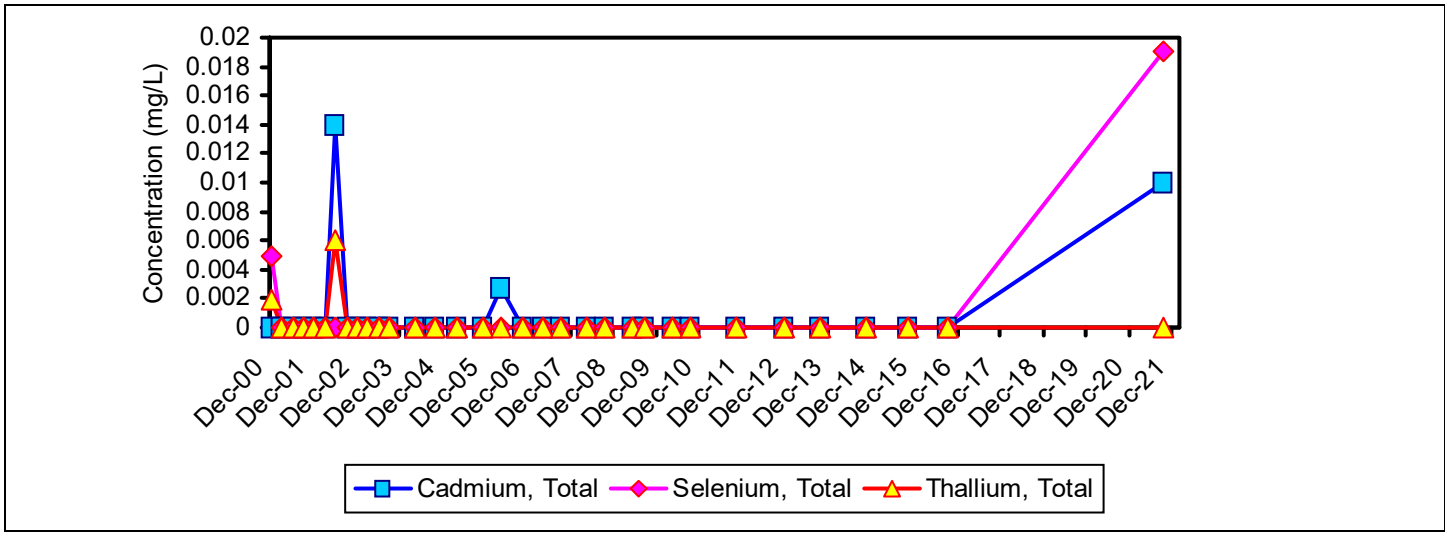


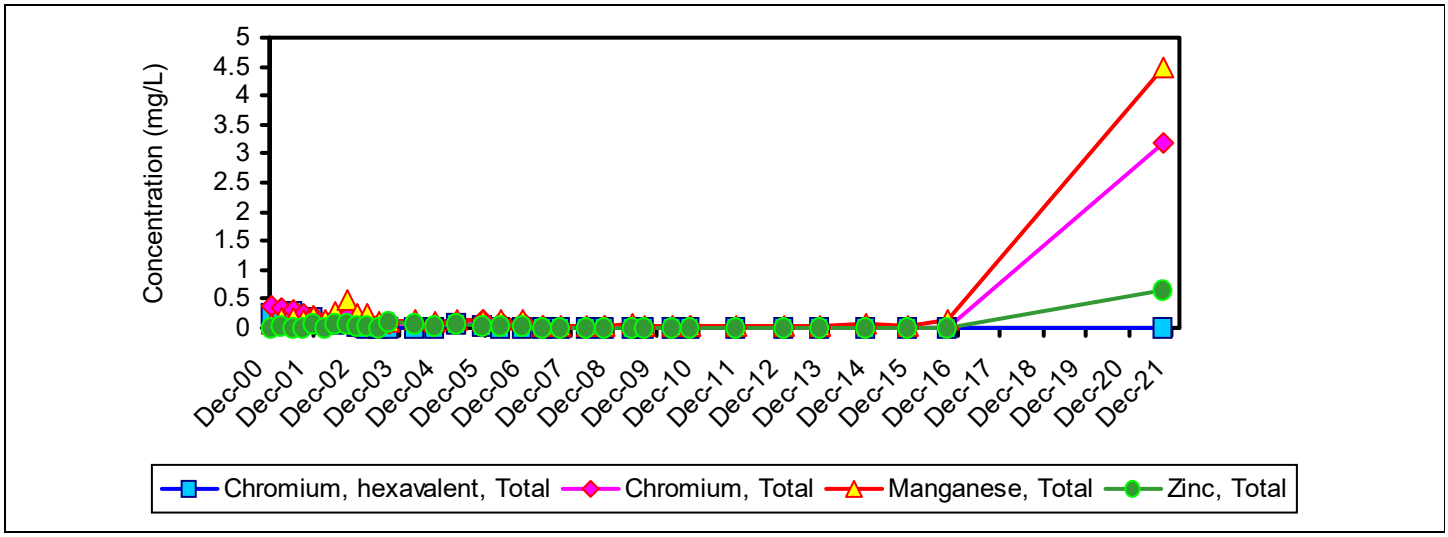


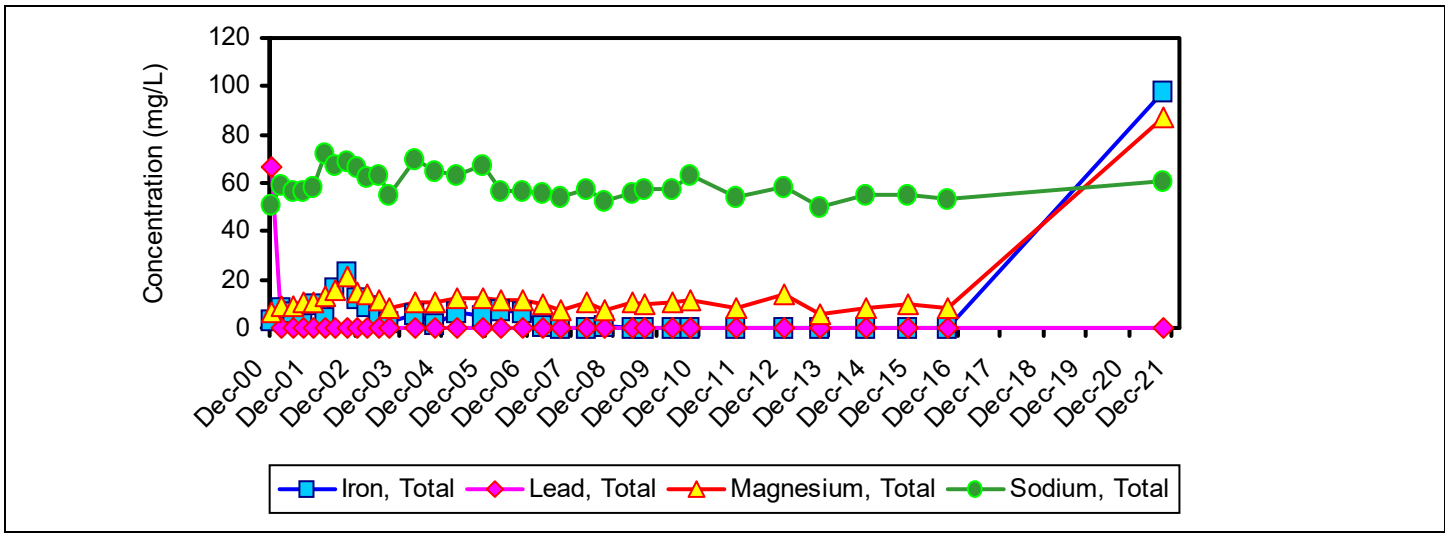
ATTACHMENT F, CONTINUED

Sample Location: MW-7B

Sample Matrix: Groundwater

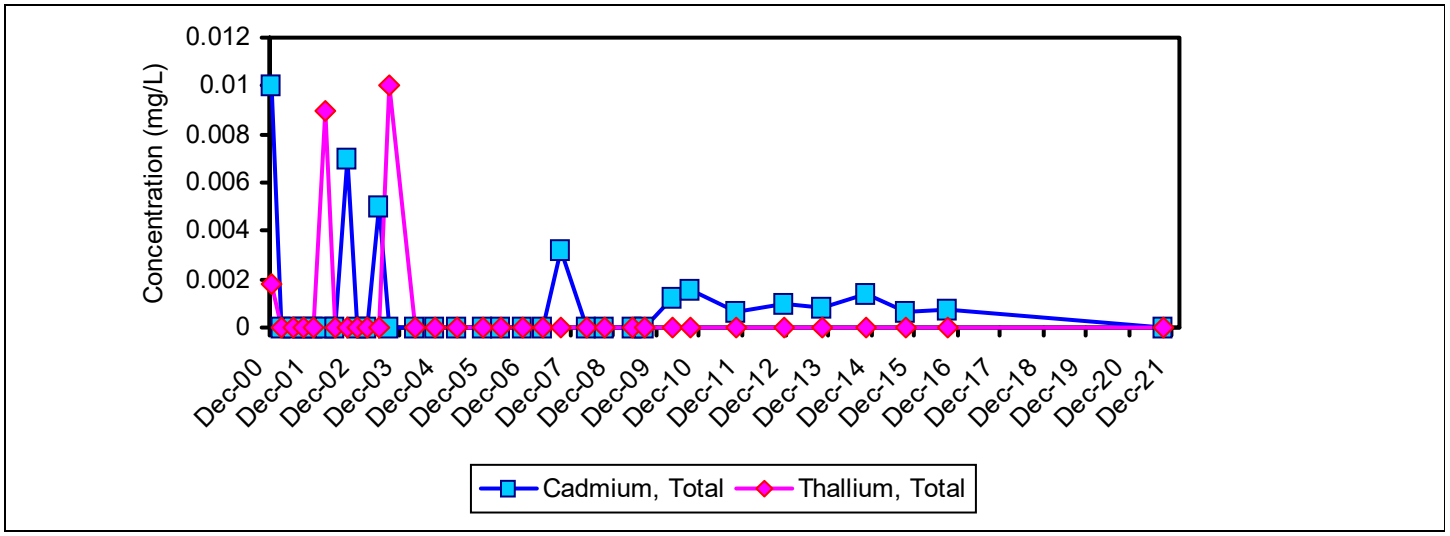


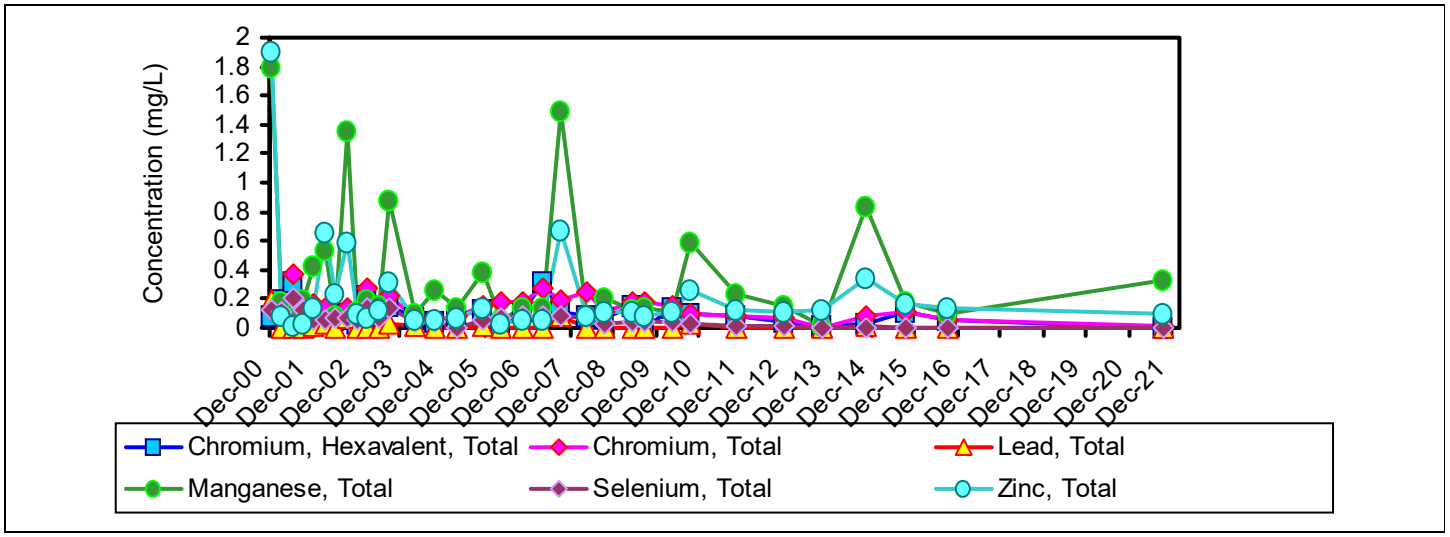


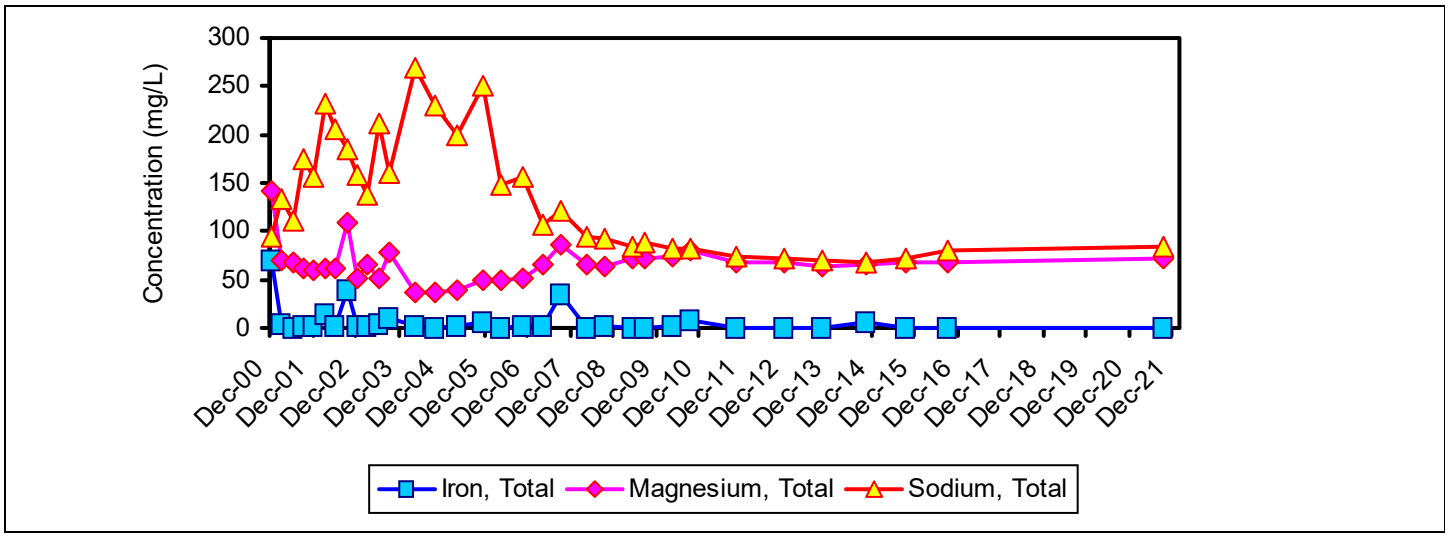


Sample Location: MW-8B

Sample Matrix: Groundwater



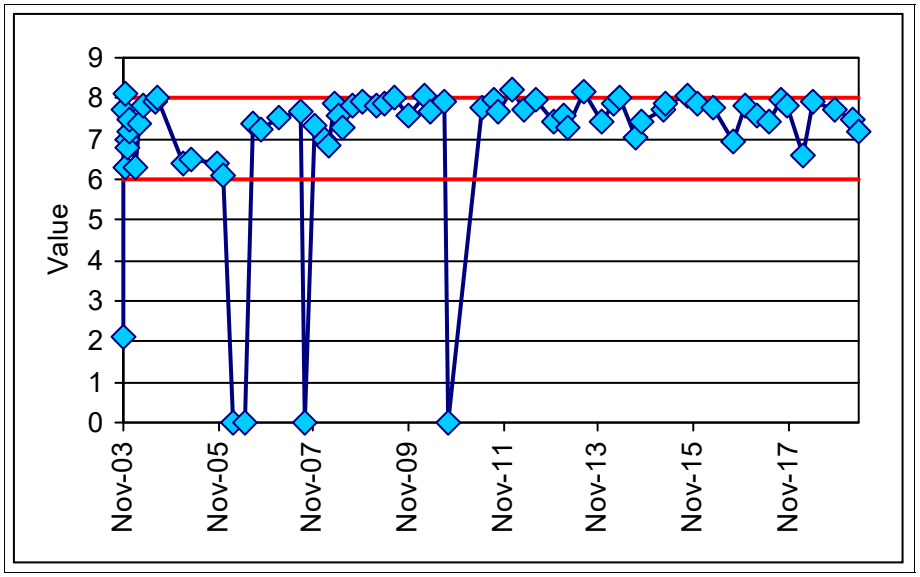




ATTACHMENT F, CONTINUED

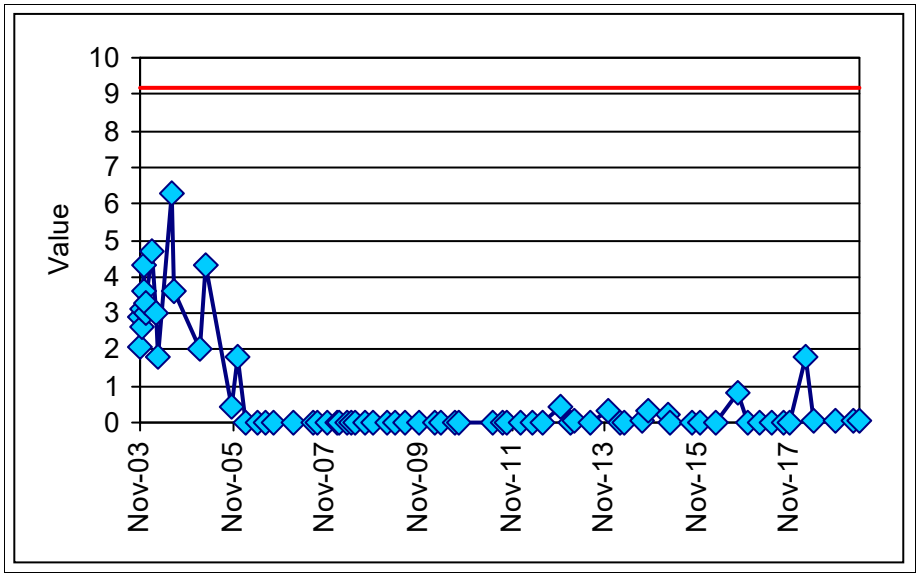
Parameter: pH

New York State Effluent Limit: 6-8 SU



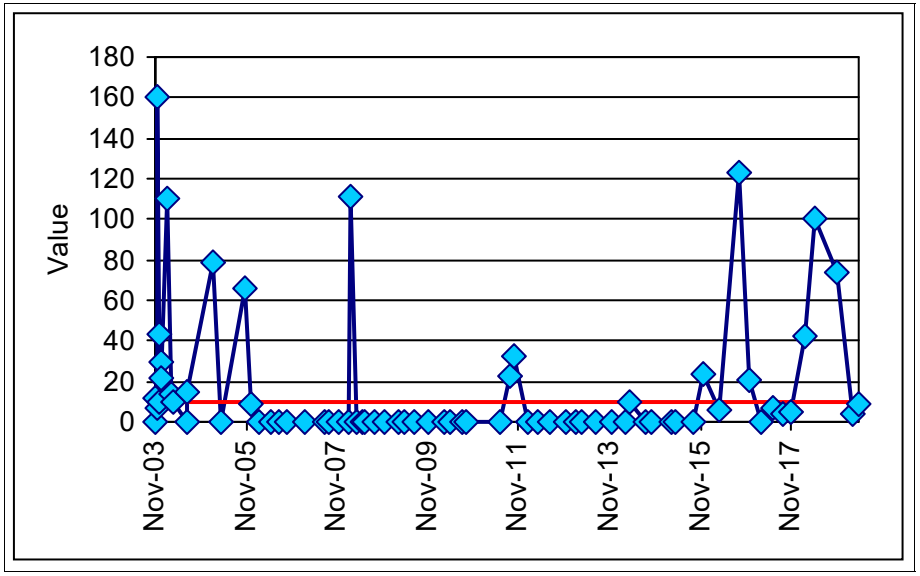
Parameter: Ammonia as N

New York State Effluent Limit: 9.2 mg/L



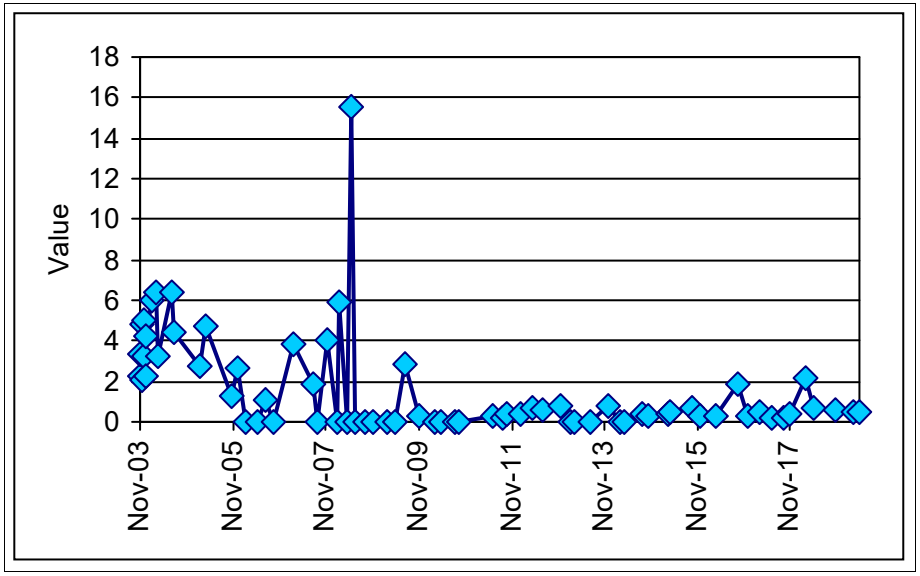
Parameter: Total suspended solids

New York State Effluent Limit: 10 mg/L



Parameter: Total Kjeldahl nitrogen

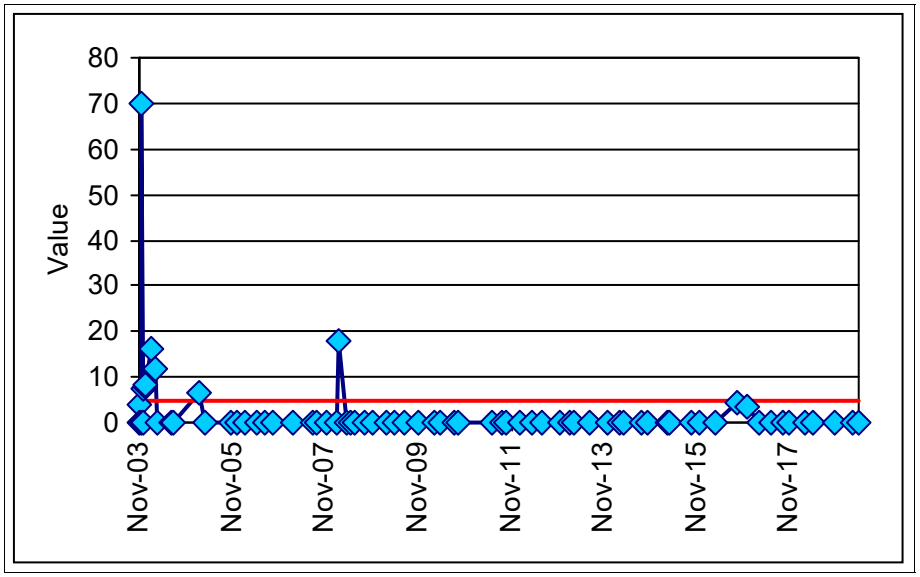
New York State Effluent Limit: Monitor



ATTACHMENT F, CONTINUED

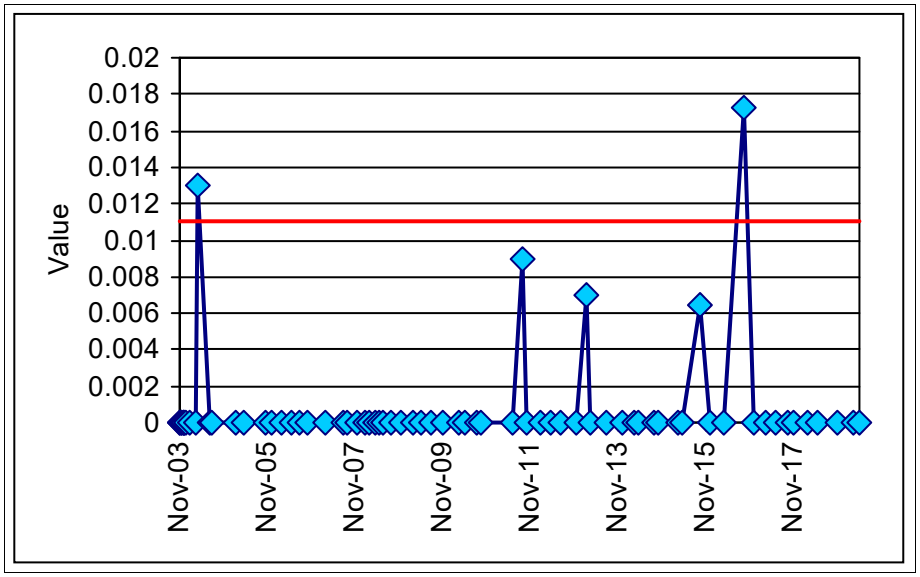
Parameter: Biochemical oxygen demand

New York State Effluent Limit: 5.0 mg/L



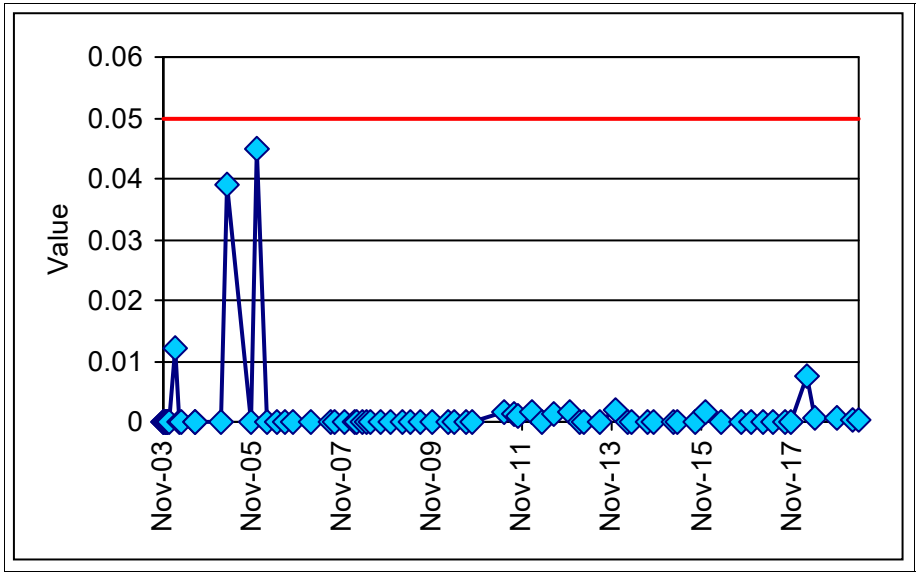
Parameter: Hexavalent chromium

New York State Effluent Limit: 0.011 mg/L



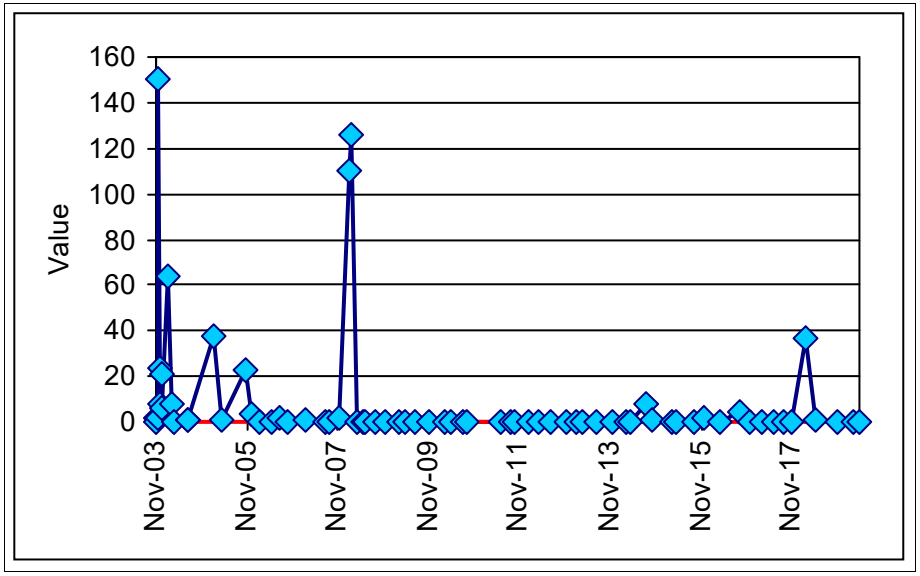
Parameter: Total chromium

New York State Effluent Limit: 0.05 mg/L



Parameter: Iron

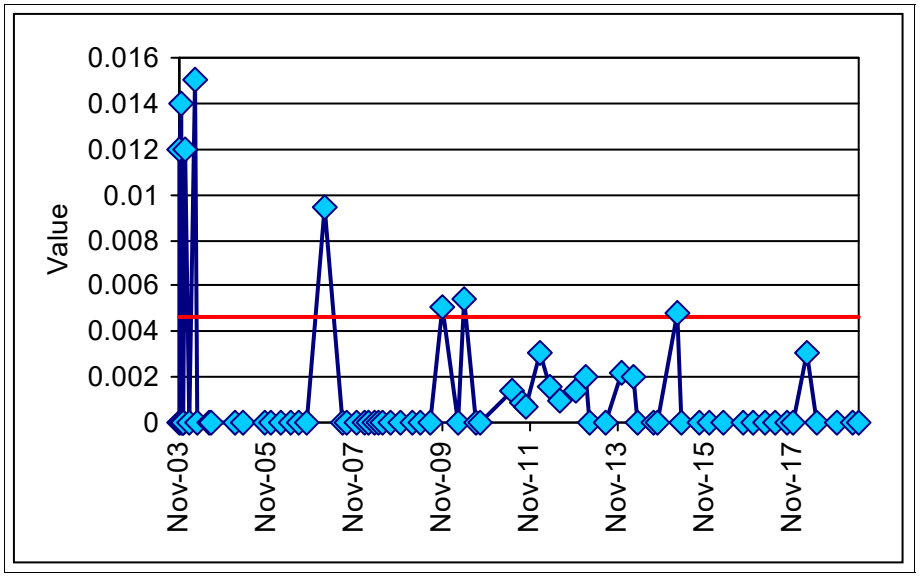
New York State Effluent Limit: 0.3 mg/L



ATTACHMENT F, CONTINUED

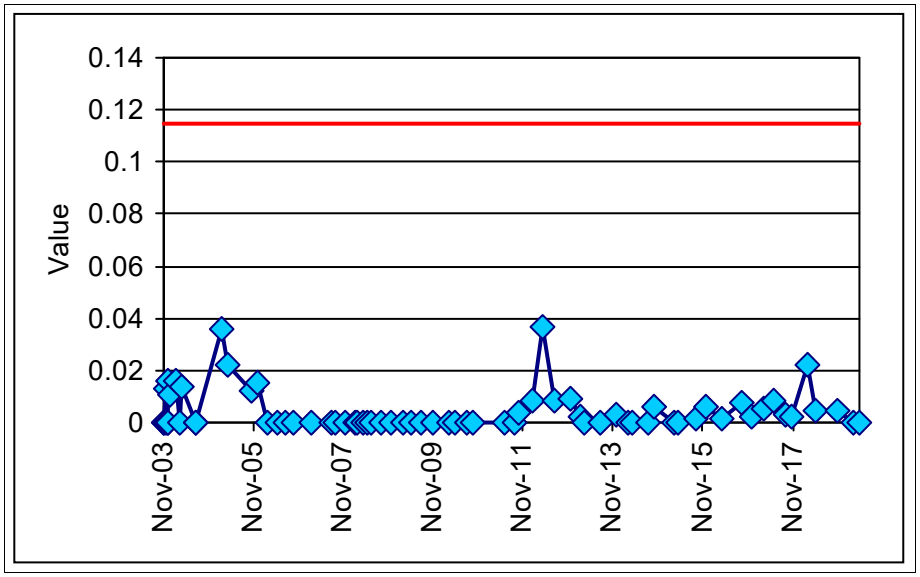
Parameter: Selenium

New York State Effluent Limit: 0.0046 mg/L



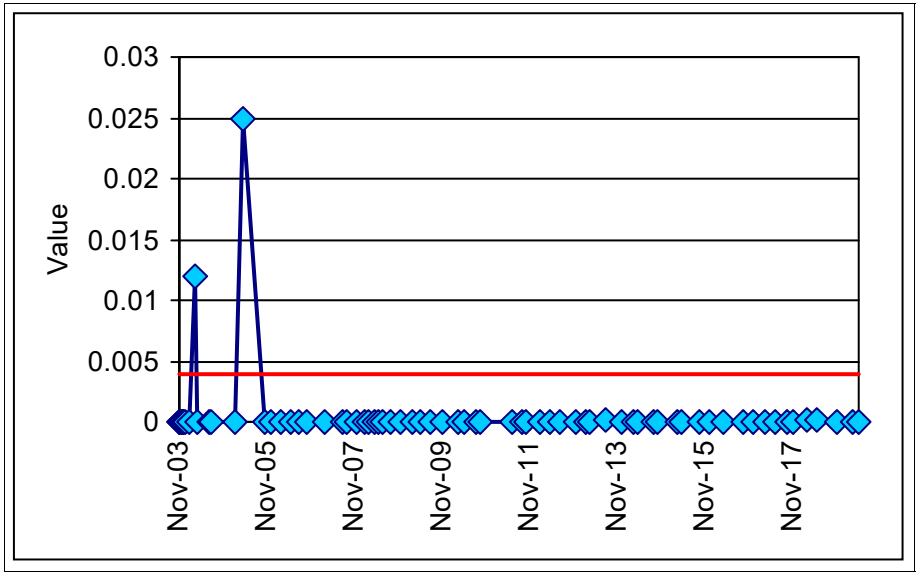
Parameter: Zinc

New York State Effluent Limit: 0.115 mg/L



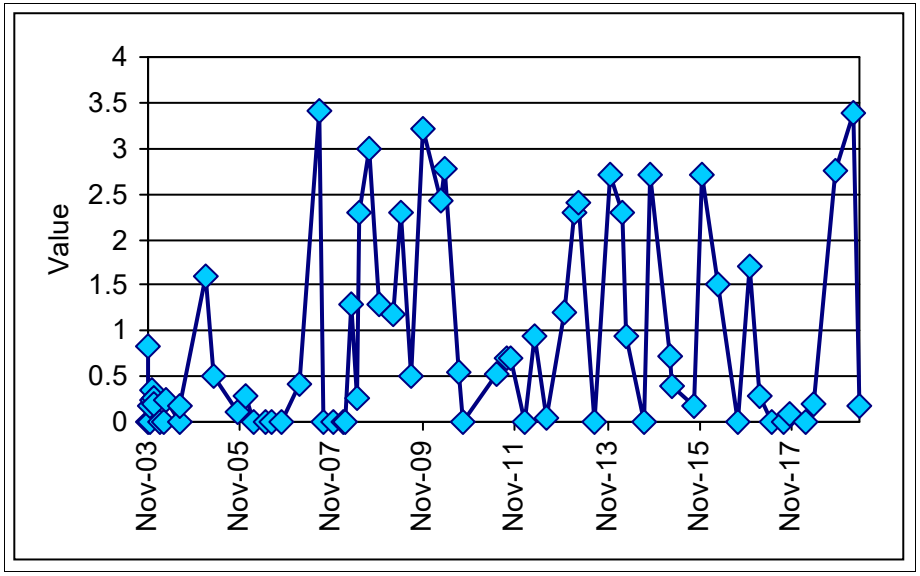
Parameter: Thallium

New York State Effluent Limit: 0.004 mg/L



Parameter: Nitrate as N

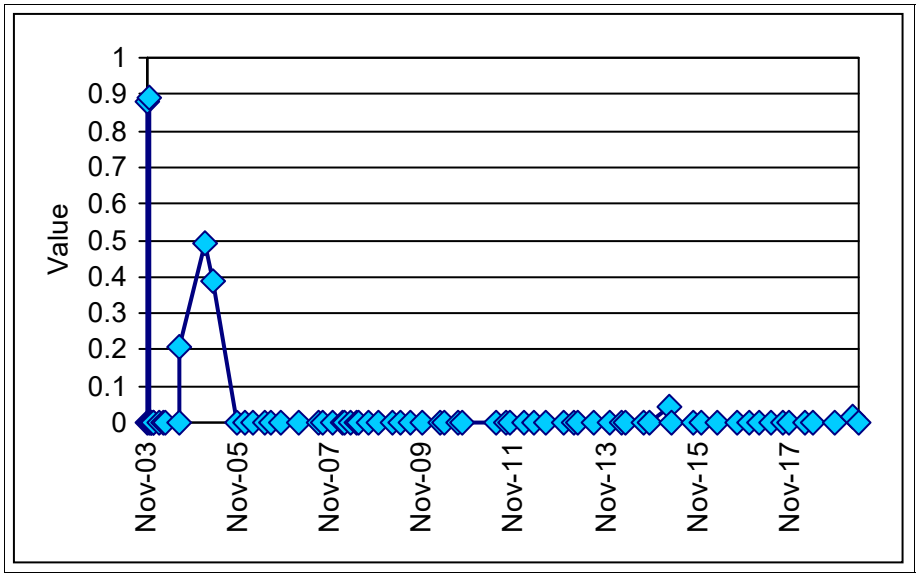
New York State Effluent Limit: Monitor



ATTACHMENT F, CONTINUED

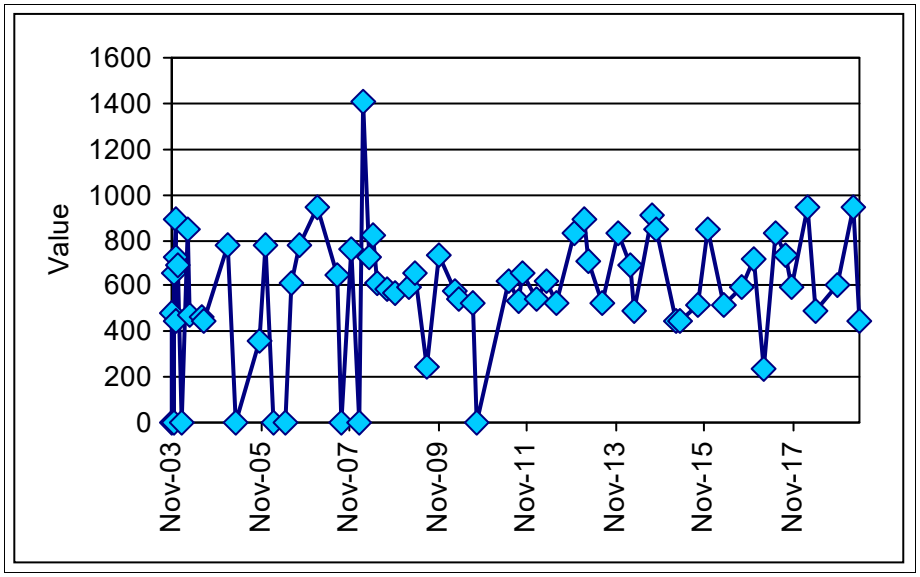
Parameter: Nitrite as N

New York State Effluent Limit: Monitor



Parameter: Total dissolved solids

New York State Effluent Limit: Monitor



Parameter: Chemical oxygen demand

New York State Effluent Limit: 40 mg/L