

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

Prepared for

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Suite 7000
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Prepared by

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June 2017
Project No.: 150C265.1047

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A handwritten signature in black ink, appearing to read "C. E. McLeod, Jr.".

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

27 June 2017

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 recharging to the ground surface in the southwest corner of the site. The site remedy has been operating as designed 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. The remedy was designed 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?

As noted during the previous remedy review site inspection with NYSDEC personnel on 18 April 2016, post-closure sampling data has been collected for 15 years with no significant changes in the concentrations. The Groundwater Collection and Treatment System (GCTS) has been performing as intended. Based on the GCTS performance, and the relatively stable groundwater concentrations, the following changes to the sampling program were approved by NYSDEC in a letter dated 28 October 2016:

- 1) Eliminate the bi-annual surface water sampling and modify the quarterly effluent sampling to include parameters previously sampled in bi-annual surface water sampling.
- 2) Reduce GW sampling to every 5 years as part of the preparation of the 5 year review report. Annual groundwater elevations will be collected to support the 5 year review process.

To reduce long term project costs a pilot test for groundwater diversion is currently being completed to assess whether alternative groundwater control scenarios can be used to maintain the protectiveness of the remedy and reduce long term costs.

1. INTRODUCTION

Greenstar Environmental Solutions, LLC (Greenstar) on behalf of Linde, LLC has prepared this Periodic Review Report (PRR) for the Airco Parcel located in Niagara Falls, New York. The purpose of the PRR is to document the implementation of, and compliance with, site specific site management requirements. Section 6.3(b) of DER-10 Technical Guidance for Site Investigation and Remediation (available online at <http://www.dec.ny.gov/regulations/67386.html>) provides guidance regarding the information that must be included in the PRR

The methods, findings, and conclusions of the review are documented in this report. The report also identifies recommendations for the site for the next review period, if required.

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 on Figure 1. The Vanadium Site includes three Operable Units (OU), which are aligned in a roughly west to east fashion, and are shown on Figure 2.

- 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 Airco Properties, Inc. (Airco Parcel).
- 3) OU-3 is a 53-acre parcel owned by Niagara Mohawk Power Corporation/New York Power Authority (NMPC/NYPA Parcel).

The Vanadium Site is currently 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.

This report addresses only the Airco Parcel (OU-2), although information from the other OUs is used 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 area is light industrial and commercial, with residential areas approximately 0.75 miles to the south. The Airco Parcel itself is currently fenced and gated. A 24-acre modified 6 NYCRR Part 360 cap (Cap) has been constructed over the former disposal area as part of an interim remedial measure (IRM) at the Site.

There are no current users of groundwater at the Vanadium Site. Regionally, 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. On 24 November 2014 the NYSDEC lowered the classification in the Registry for the Airco Parcel to a Class 4 inactive hazardous waste site.

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 flows of groundwater discharging to surface water in the eastern and southwest portions of the site were evident. The groundwater contained concentrations of calcium, chromium and hexavalent chromium, and exhibited a pH above normal background levels.

Remedial measures include operation and maintenance of the Cap to prevent exposure to waste materials, and operation and maintenance of the Groundwater Collection and Treatment System (GCTS) to prevent the release of untreated groundwater. Exposure pathways are controlled since public water is available adjacent to and in the vicinity of the site. 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.

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 provided that they continue to be operated and 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:

- All drainage structures and ditches must be maintained to prevent ponding of water and erosion of the final landfill soil cap.
- Routine inspections of the engineered wetland to assess the presence of mosquito larva.
- Soil cover integrity, slopes, cover vegetation, drainage structures, and the perimeter road must be maintained during the post-closure monitoring and maintenance period.
- Environmental monitoring points must be maintained and sampled during the post-closure period. Bi-annual summary reports must be submitted 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.
- A vegetative cover must be maintained 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.
- The GCTS must be operated and maintained to effectively mitigate the release of groundwater recharging to surface water in the southwest corner of the Airco Parcel.
- Records must be maintained of all sampling and analysis results.

3. EVALUATE REMEDY PERFORMANCE, EFFECTIVENESS, AND PROTECTIVENESS

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.

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, the Remedial Action Objectives (RAOs) for the site do not include restoring the groundwater to drinking water standards. The remedy was designed to prevent exposure pathways and to prevent the release of untreated groundwater. The remedy has eliminated the exposure pathways through capping of the former landfill and impacted groundwater control. Reductions and improvements in concentrations of the predominant COC in groundwater and surface water, (hexavalent chromium) were noted during the 2006 through 2011 reporting period. Over the last five years, the hexavalent chromium concentrations were significantly reduced in the surface water samples, and a reducing trend was noted in MW-7B. In the remaining monitoring wells, a slight increasing trend was noted in MW-2B, while concentrations remained stable within the other 6 monitoring wells.

The remedy is functioning as intended and no modifications to the remedy are necessary. Inspection of the cap indicated no deficiencies. 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 pilot test is currently being completed to assess whether alternative groundwater control scenarios can be used to maintain the protectiveness of the remedy and reduce long term 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 that would allow for the shutdown of the on-site GCTS in the future. This pilot test was approved by NYSDEC in an email correspondence dated 14 October 2011. Initial results were summarized in a letter dated 8 January 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 is scheduled run through December 2017.

4. IC/EC PLAN COMPLIANCE REPORT

The remedy for the Site includes a variety of institutional controls (IC) and engineering controls (EC). The Post-Closure Monitoring and Facility Maintenance Plan¹ includes the ICs for the site:

- Soil Management Plan
- Site Management Plan
- O&M Plan
- Monitoring Plan

The Soil and Site management plans are designed to prevent future development of the site, or restrict site usage or excavation activities which would permit exposing the waste layer. The annual engineering inspection of the cap system is performed to ensure that the capping components are operated according to the design intent, and that no penetrations through the cap have occurred. Although not discussed in the Post-Closure plan, land use restrictions are also in place and recorded on the deed to prevent future site use and development. The O&M and monitoring plans, which are sections of the Post-Closure plan, detail the current required operations, maintenance and monitoring activities required to meet the approved plan. This PRR summarizes the annual activities performed to be compliant with the approved plans.

The ECs for the site include the following:

- Landfill Cover System
- Fencing/Access Control
- Groundwater Containment
- Groundwater Treatment System

The ECs are all discussed in the Post-Closure plan regarding routine inspection and operation and maintenance that is required to maintain their effectiveness. 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 normally would recharge to the surface and provide an exposure pathway that could impact both human health and the environment. Attachment E provide GCTS performance data and discusses operation and maintenance activities performed throughout the year to maintain the system to meet the objectives as an engineering control.

Currently the IC/ECs listed for the site are in force and are meeting their intended purpose. No changes or modifications to the IC/ECs for the next reporting period. Other than routine maintenance to the ECs, no modifications to the ECs occurred during the report period.

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 semi-annual and annual monitoring events for 2016 were completed on 18 April 2016 and 27-28 September 2016, respectively. Surface water is sampled during both the semi-annual and annual events, while groundwater is sampled only during the annual event. The frequency of monitoring events was consistent with 2015.

As noted in the 3rd Remedy Review Report², sampling data has been collected post-closure from 2000 through 2016 with no significant changes in groundwater or surface water concentrations of COCs. The GCTS has been performing as intended. Based on the GCTS performance, and the relatively stable groundwater concentrations, the following changes to the sampling program starting in 2017 were approved by NYSDEC in a letter dated 28 October 2016:

1. Eliminate the bi-annual surface water sampling and modify the current GCTS discharge sampling to include the additional parameters not included in the GCTS monitoring parameter list including Silicon and Sulfate;
2. Reduce the frequency of groundwater sampling to once every 5 years. The next groundwater sampling event will be scheduled in 2021.

5.1 Monitoring Well Gauging

The site monitoring wells and piezometers, Figure 2, were gauged on 27 September 2016 prior to sampling. Gauging data are summarized in the table below:

27 September 2016 Groundwater Gauging Data

Well ID	Depth to Water (ft TOC)	Well Elevation (ft AMSL)	Well Depth (ft BGS)	Water Elevation (ft AMSL)
MW-1B	14.50	617.77	27.83	603.27
MW-2B	19.41	615.88	27.31	596.47
MW-3B	14.62	611.22	18.41	596.60
MW-4B	14.90	606.68	15.08	591.78
MW-5B	13.35	605.48	14.22	592.13
MW-6B	5.38	603.47	23.02	598.09
MW-7B	12.45	609.48	21.79	597.03
MW-8B	15.51	611.62	15.51	596.11
Notes: TOC = Top of Casing. AMSL = Above Mean Sea Level. BGS = Below Ground Surface.				

Figure 3 shows the inferred groundwater flow direction at the site based on the 27 September 2016 gauging data. The data indicates groundwater flow is roughly from north to south, consistent with previously collected site data.

² Greenstar Environmental Solutions, LLC, 2016. Remedy Review Report for Site No. 932001 Airco Properties, Inc., Airco Parcel, Niagara Falls, New York. June

The groundwater flow pattern depicted for 2016 is consistent with past years. 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. The groundwater elevations inside the capped landfill are not monitored directly although elevations are believed to have been reduced due to placement of the impermeable cap. Based on groundwater data collected at the site monitoring wells a groundwater divide appears to be located within the landfill extending between MW-1B and MW-5B.

5.2 Groundwater and Surface Water 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, three surface water samples, and GCTS discharge samples for 2016. Sample locations are shown on Figure 3. The data generated from these monitoring locations most accurately reflect current groundwater and surface water conditions since the remedy was completed.

5.2.1 Groundwater Sampling

Monitoring wells were sampled on 27-28 September 2016. Groundwater samples were collected from seven of the eight on-site monitoring wells during the annual 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, were allowed to stabilize prior to sample collection. Monitoring well MW-4B had insufficient water for sampling after a full day of recharge and therefore no sample was collected. Monitoring well locations are shown on Figure 2.

5.2.2 Surface Water Sampling

Surface water samples were collected from the drainage swales in the southwest corner of the site on 18 April 2016 from two of the sampling locations, SS-01 and SS-03. SS-02 was dry. All three sample locations were dry in September 2016 due to drought conditions. Sample locations include the discharge point from the property (SS-01), from along the eastern swale about halfway between MW-6B and MW-5B (SS-02), and upstream of the discharge where the swale turns northeast (SS-03). The surface water sample locations are shown on Figure 2. Surface water samples were collected by directly filling sample containers.

5.3 Laboratory Analysis

Groundwater and surface water samples were delivered in coolers with ice at 4⁰ C to TestAmerica Laboratories of Amherst, New York for analysis of 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

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 compared to applicable NYSDEC AWQS are included in Attachment A, and tag maps illustrating analytical results are provided as Figure 4 and 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 and surface water results were generally consistent with previous sampling events.**

5.5.1 Metals

Unfiltered surface water samples were collected from the surface-water sampling locations in April and September 2016. No analytes were detected in excess of the NYSDEC AWQS in any of the surface water samples.

Unfiltered groundwater samples were collected from 7 of 8 monitoring wells for metals analyses. As noted above, well MW-4B did not recover sufficiently to allow sampling. Significant results included the following:

- Chromium, hexavalent chromium, iron, magnesium, manganese, and sodium were detected in one or more of the groundwater samples at concentrations in excess of NYSDEC AWQS.
- Chromium was detected in excess of the NYSDEC AWQS in MW-2B and MW-8B at concentrations of 0.3 mg/L and 0.052 mg/L, respectively.
- Hexavalent chromium was detected in excess of the NYSDEC AWQS in MW-2B and MW-8B at concentrations of 0.358 mg/L and 0.0581 mg/L, respectively.
- Iron was detected in excess of the NYSDEC AWQS in MW-5B and MW-6B at concentrations of 2.7 mg/L and 0.44 mg/L, respectively.

- Magnesium was detected in excess of the NYSDEC AWQS in MW-1B, MW-5B, MW-6B and MW-8B at concentrations ranging from 58.7 mg/L (MW-1B) to 93.3 mg/L (MW-5B).
- Manganese was detected in excess of the NYSDEC AWQS in MW-1B at concentration of 0.59B mg/L.
- Sodium was detected in excess of the NYSDEC AWQS in all 7 monitoring wells at concentrations ranging from 42.2 mg/L (MW-5B) to 178 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 not detected in excess of the NYSDEC AWQS in any of the groundwater samples.
- Sulfate was detected in excess of the NYSDEC AWQS in MW-6B at a concentration of 331 mg/L.
- pH measurements were measured outside the NYSDEC AWQS of 6.5-8.5 standard pH units in monitoring wells MW-2B (12.49), MW-3B (9.18) and MW-5B (6.39).
- There were no water quality parameters above NYSDEC AWQC for the surface water samples collected in April or September 2016.

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

Linde, LLC 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 (Greenstar 2017).

The primary remedial activity at the Airco Parcel involved the construction of a 6 NYCRR Part 360 cap. 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, therefore, 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 2016 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. The replacement of system components, including pumps, pressure transmitters, and pH probes is also scheduled and performed during the routine visits.

6.1 System Operations and Maintenance (January to December 2016)

The GCTS was operated throughout the period of 1 January to 31 December 2016. 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 100 percent of year pumping 2,204,252 gallons at an average flow rate of 4 gallons per minute (gpm). The system utilized the T8 emergency overflow containment pond as necessary during several events in 2016 as detailed in Attachment E. 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 where bypassing the GCTS is required for scheduled or unscheduled shutdowns. There were no uncontrolled releases of impacted water during 2016.

GCTS sampling occurred monthly during 2016. 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 CO₂ 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 analyzed in the field, and separate quarterly samples were sent for off-site laboratory analysis at Test America Laboratories of Amherst, New York for required discharge criteria. During the 2016 reporting period, field analysis of the GCTS discharge samples collected from the SS-01 location in the southwest corner of the site noted 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:

- First quarter pH result (8.10) was slightly above NYSDEC discharge guidance values (6-8 pH units).
- The third quarter total suspended solids value (123 mg/L) was above the NYSDEC discharge guidance value (10 mg/L).
- The third quarter dissolved oxygen value (3.4 mg/L) was slightly below the NYSDEC discharge guidance value (7 mg/L).
- The third quarter hexavalent chromium value (17.3 mg/L) was above the NYSDEC discharge guidance value (11 mg/L).
- The third quarter iron value (3.98 mg/L) was above the NYSDEC discharge guidance value (0.3 mg/L).

The third quarter exceedances are likely due to the extreme drought conditions. Sample was collected from the effluent of the pipe leaving the engineered wetland and not where it discharges from the site. No discharge from the site was occurring. At this time, and therefore those values would not qualify as an exceedance of the discharge guidance values. 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 2016)

No system modifications were performed during the report period. Repairs to the T8 liner were completed in order to maintain the integrity of the liner. Other site activities were limited to routine operations and maintenance and emergency response mobilization to alarm conditions. Routine site maintenance included repairs to pumps, variable frequency drives, and pH probes and routine tank and line cleaning. Attachment E summarizes monthly operation and maintenance and emergency response in detail for the period January through December 2016, as well as provides details of any proposed operation and maintenance projects and modification improvements to be implemented in 2017.

7. OVERALL PRR CONCLUSIONS AND RECOMMENDATIONS

According to 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 to minimize the migration of contaminants to groundwater and to eliminate environmental and human exposure. 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 and is operating as designed. The perimeter fence around the site is intact and in good repair. The GCTS is functioning as designed. The GCTS has been collecting, treating and discharging groundwater that has come into contact with the landfill waste to prevent the uncontrolled discharge of impacted groundwater recharging to surface water.

As previously noted, a pilot study was initiated in May 2017 which is scheduled to be completed in December 2017 to evaluate the potential viability of a groundwater diversion remedy to limit the amount of landfill leachate that requires treatment. The data will be reviewed and reported in the 2017 PRR.

As noted during the 3rd Remedy Review Report³, sampling data has been collected post-closure from 2000 through 2016 with no significant changes in groundwater or surface water concentrations of COCs. The GCTS has been performing as intended. Based on the GCTS performance, and the relatively stable groundwater concentrations, the following changes to the sampling program starting in 2017 were approved by NYSDEC in a letter dated 28 October 2016:

1. Eliminate the bi-annual surface water sampling and modify the current GCTS discharge sampling to include the additional parameters not included in the GCTS monitoring parameter list;
2. Reduce the frequency of groundwater sampling to once every 5 years. Therefore, the next planned groundwater sampling will be performed in 2021.

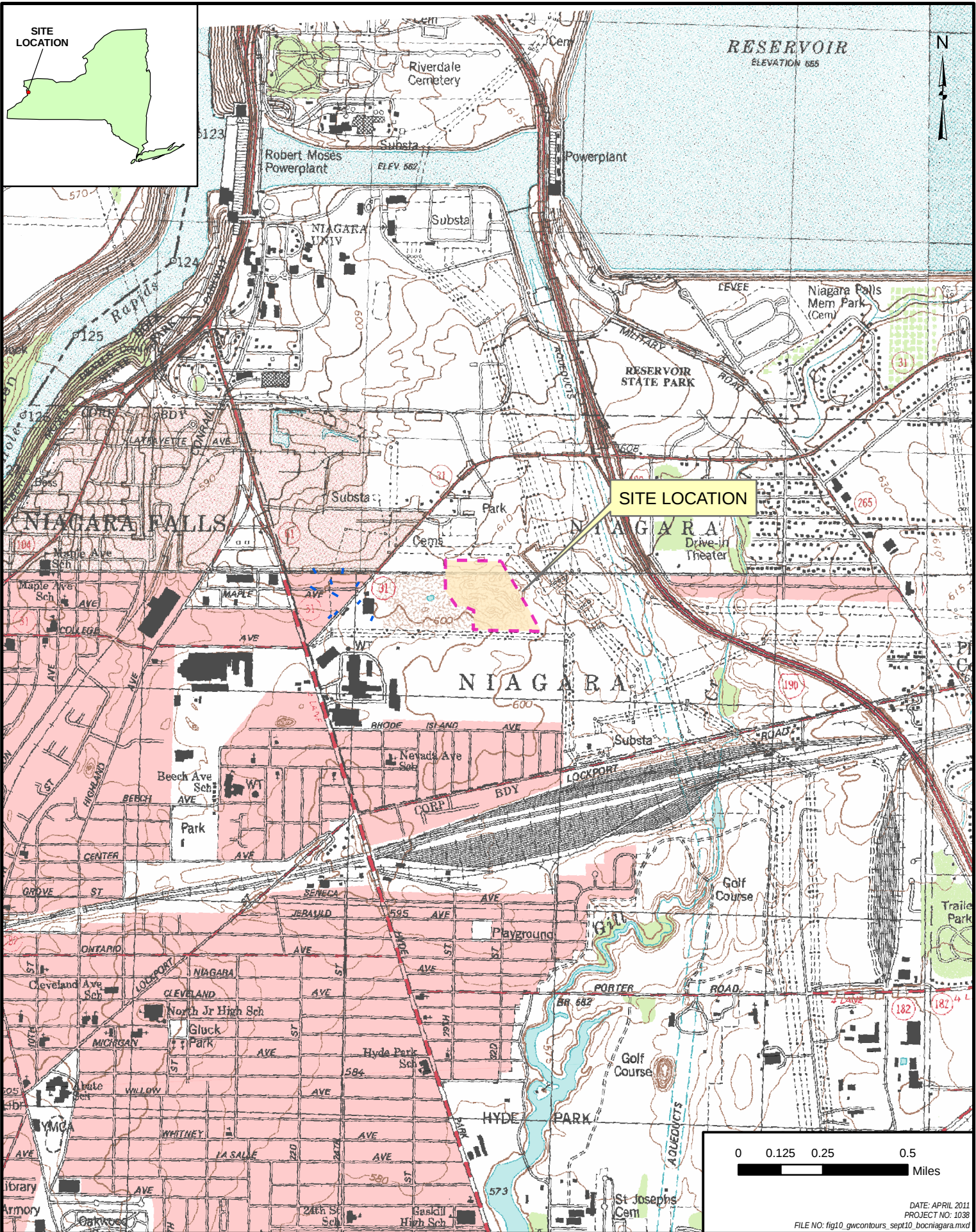
³ Greenstar Environmental Solutions, LLC, 2016. Remedy Review Report for Site No. 932001 Airco Properties, Inc., Airco Parcel, Niagara Falls, New York. June

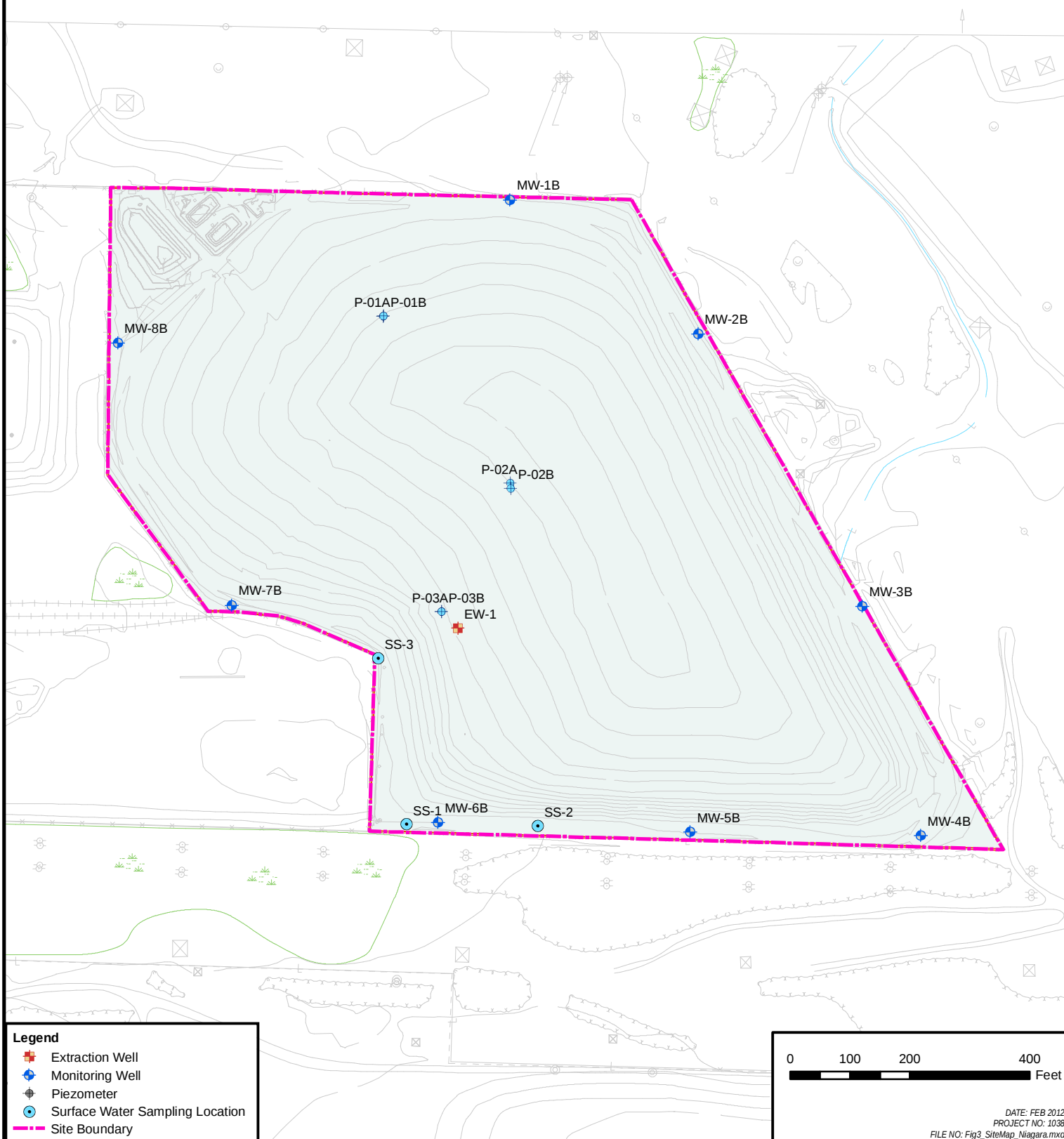
TABLE 1 ROUTINE GCTS FIELD SAMPLING RESULTS
1 JANUARY – 31 DECEMBER 2016
AIRCO PARCEL, NIAGARA FALLS, NEW YORK

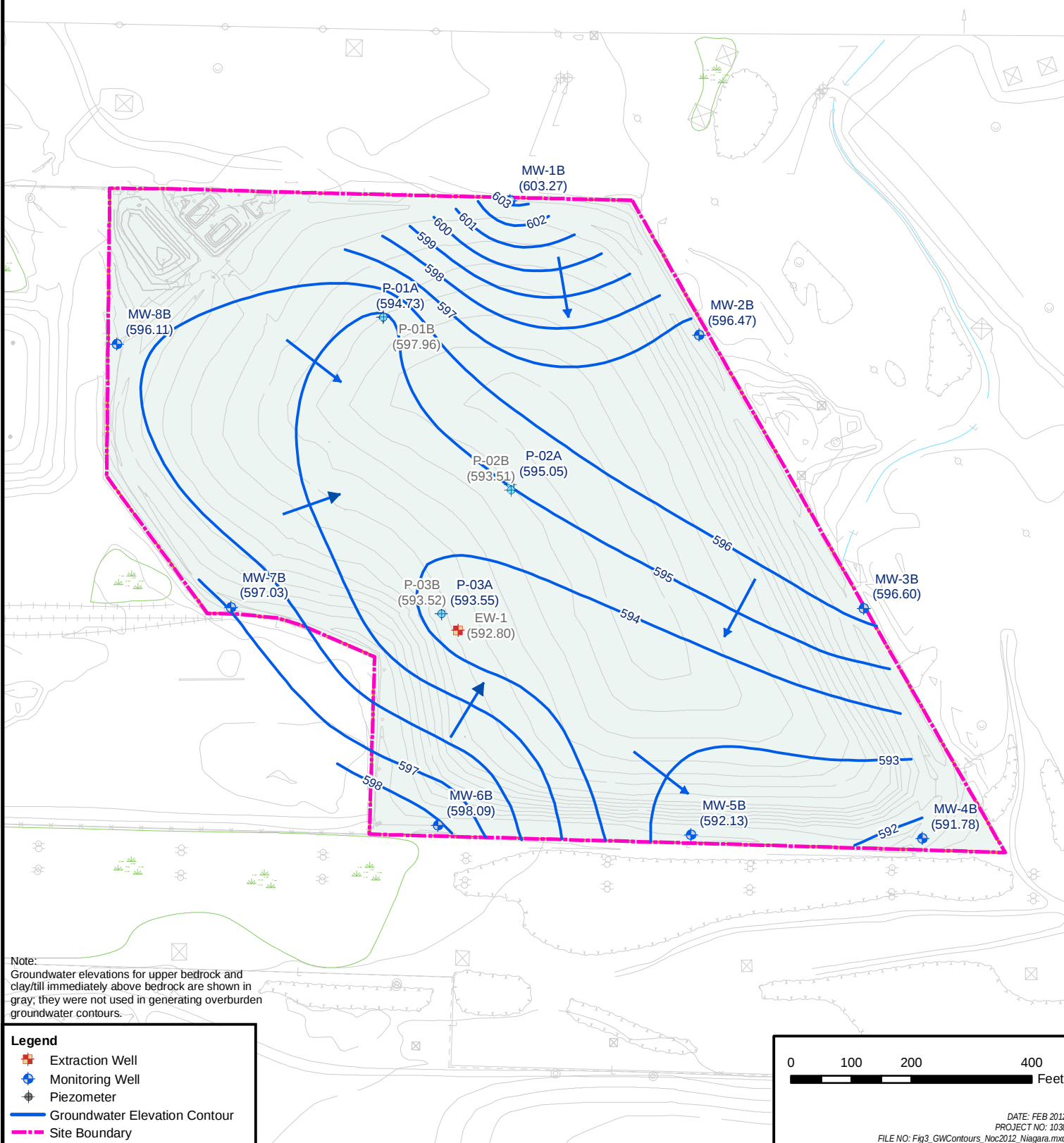
	Calcium Tank 3B		Iron Tank 6B		Engineered Wetland		Southwest Corner	
Date	Total Chromium	Hexavalent Chromium	Total Chromium	Hexavalent Chromium	Total Chromium	Hexavalent Chromium	Total Chromium	Hexavalent Chromium
1/11/16	39 µg/L	10 µg/L	0 µg/L	1 µg/L	0 µg/L	10 µg/L	<6 µg/L	<3U µg/L
2/15/16	17 µg/L	0 µg/L	33 µg/L	10 µg/L	0 µg/L	0 µg/L	NS – Ice	NS – Ice
3/9/16	0 µg/L	25 µg/L	103 µg/L	5 µg/L	14 µg/L	0 µg/L	7 µg/L	11 µg/L
4/18/16	41 µg/L	10 µg/L	0 µg/L	0 µg/L	0 µg/L	0 µg/L	11 µg/L	0 µg/L
5/18/16	32 µg/L	14 µg/L	0 µg/L	0 µg/L	0 µg/L	0 µg/L	20 µg/L	10 µg/L
6/22/16	32 µg/L	15 µg/L	0 µg/L	0 µg/L	1 µg/L	0 µg/L	8 µg/L	0 µg/L
7/12/16	47 µg/L	10 µg/L	0 µg/L	0 µg/L	1 µg/L	0 µg/L	1 µg/L	2 µg/L
8/1/16	33 µg/L	9 µg/L	<6 µg/L	0 µg/L	0 µg/L	<3U µg/L	0 µg/L	1 µg/L
9/26/16	53 µg/L	10 µg/L	0 µg/L	0 µg/L	0 µg/L	2 µg/L	NS	NS
10/24/16	47 µg/L	9 µg/L	0 µg/L	6 µg/L	0 µg/L	0 µg/L	NS	NS
11/14/16	42 µg/L	9 µg/L	0 µg/L	0 µg/L	1 µg/L	5 µg/L	0 µg/L	0 µg/L
12/19/16	57 µg/L	<3U µg/L	<6 µg/L	0 µg/L	2 µg/L	<3U µg/L	1 µg/L	0 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.								

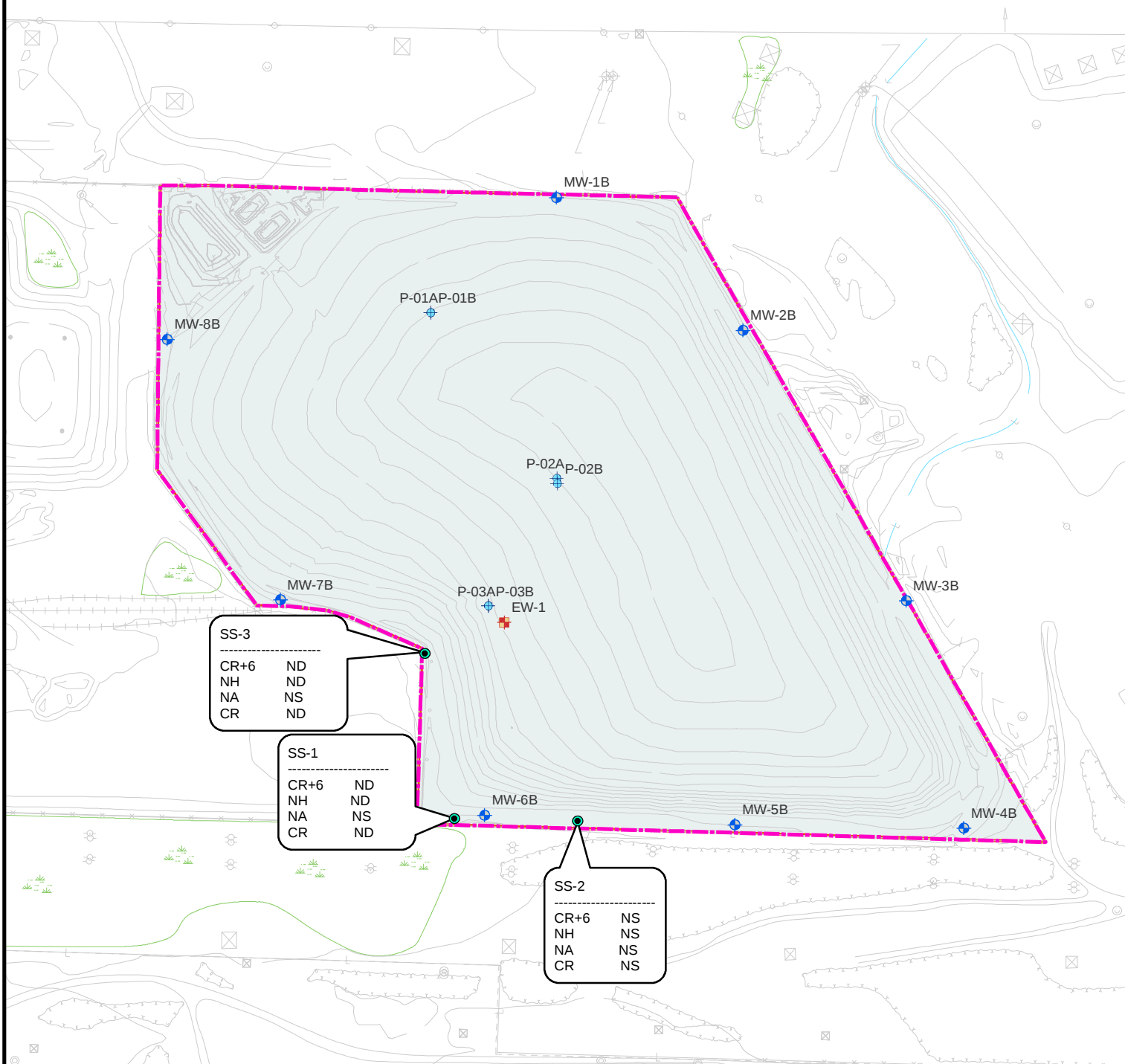
TABLE 2 QUARTERLY GCTS DISCHARGE SAMPLING RESULTS
1 JANUARY – 31 DECEMBER 2016
AIRCO PARCEL, NIAGARA FALLS, NEW YORK

Parameter	1 January 2016	18 April 2016	27 September 2016	19 December 2016	New York State Department of Environmental Conservation Discharge Criteria
pH	8.10H	7.77H	6.95H	7.80	6-8
Total suspended solids	<4.0U	5.6	123	20.8	10 mg/L
Dissolved Oxygen	9.7	8.8	3.4	8.6	7 mg/L
Ammonia as N	0.043	<0.009U	0.081	<0.009U	9.2 mg/L
Total Kjeldahl nitrogen	0.47	0.25	1.9	0.31F1	Monitor (mg/L)
Total Recoverable Phenolics	0.0055J	<0.005U	<0.005U	5.1J	0.008 mg/L
Biochemical oxygen demand	<2.0U	<2.0U	4.4b	3.3b	5.0 mg/L
1,1-Dichloroethane	<0.59U	<0.59U	<0.59U	<0.59U	5.0 µg/L
Trichloroethene	<0.59U	<0.59U	<0.59U	<0.59U	5.0 µg/L
Nickel	0.0015J	0.0016J	0.0025J	<0.0013U	0.07 mg/L
Copper	0.0022J	0.0039JB	<0.0016U	<0.0016U	0.0147 mg/L
Barium	0.0554	0.101	0.197	0.166	2 mg/L
Total chromium	0.001J	<0.001U	<0.001U	<0.001U	0.1 mg/L
Hexavalent chromium	<0.010U	<0.005U	0.0173	<0.005U	0.011 mg/L
Iron	0.102	0.194	3.98	<0.0193U	0.3 mg/L
Selenium	<0.0044U	<0.0044U	<0.0044U	<0.0044U	0.0046 mg/L
Thallium	<0.004U	0.000027J	0.000041JB	0.00003J	0.004 mg/L
Zinc	<0.0045J	0.0017J	0.008J	2.0J	0.115 mg/L
Nitrate as N	0.25	1.5	<0.020U	1.7	Monitor (mg/L-N)
Nitrite as N	0.022JB	<0.020U	<0.020U	<0.020U	Monitor (mg/L-N)
Chemical oxygen demand	18.7F1	5.4J	16.8	10.9	40 mg/L
Total dissolved solids	417	514	591	719	Monitor (mg/L)
Values in BOLD were out of the discharge guidance values range for that parameter. U = Compound not detected at the reporting limit shown. F1 = MS and/or MSD Recovery is outside acceptance limits. B = Compound was detected in the blank sample. b = Result Detected in the Unseeded Control blank (USB). H = Sample was prepped or analyzed beyond the specified holding time. 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.					



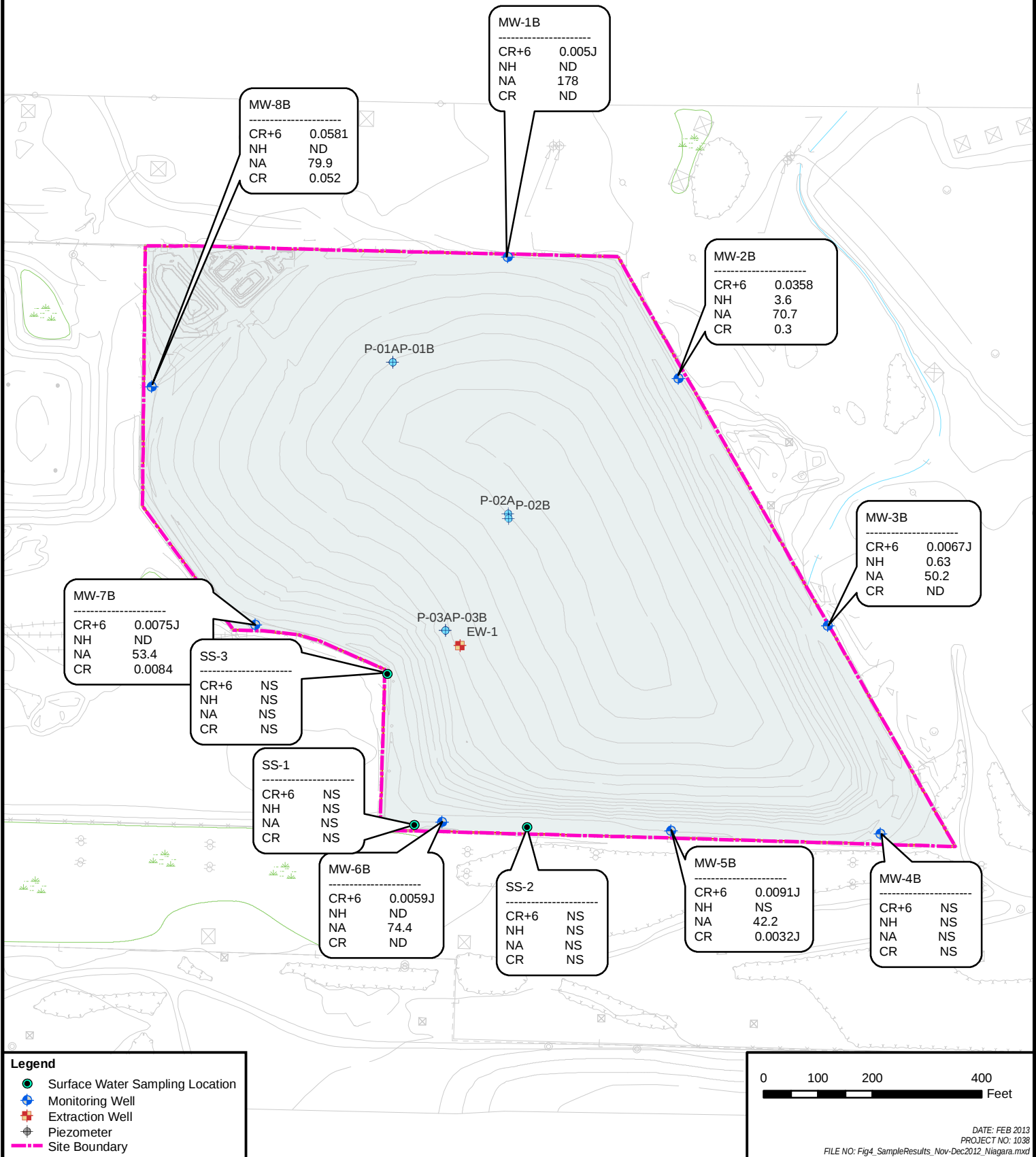






Legend	
	Surface Water Sampling Location
	Monitoring Well
	Extraction Well
	Piezometer
	Site Boundary

0	100	200	400
Feet			
DATE: FEB 2013			
PROJECT NO: 1038			
FILE NO: Fig4_SampleResults_Nov-Dec2012_Niagara.mxd			



Attachment A

Summary of Analytical Results Groundwater and Surface Water Samples April and September 2016

ATTACHMENT A

SUMMARY OF ANALYTICAL RESULTS OF SURFACE WATER AND GROUNDWATER SAMPLES COLLECTED IN APRIL AND SEPTEMBER, 2016 AIRCO PARCEL, NIAGARA FALLS, NEW YORK

Groundwater

Baseline Metals by EPA Method 200.7 (mg/L)

Total (Unfiltered)

		MW-1B	MW-2B	MW-3B	MW-5B	MW-6B	MW-6B (Dup)	MW-7B	MW-8B
		9/27/16	9/28/16	9/28/16	9/28/16	9/27/16	9/27/16	9/27/16	9/28/16
Analyte	AWQS								
Cadmium	0.005	0.00054J	(<0.0005U)	(<0.0005U)	0.00095J	(<0.0005U)	(<0.0005U)	(<0.0005U)	0.00071J
Chromium	0.05	(<0.001U)	0.3	(<0.001U)	0.0032J	(<0.001U)	(<0.001U)	0.0084	0.052
Chromium, hexavalent	0.05	0.005J	0.358	0.0067J	0.0091J	0.0059J	0.0083J	0.0075J	0.0581
Iron	0.3	0.094	0.25	0.12	2.7	0.44	0.42	0.21	0.13
Lead	0.025	(<0.003U)	0.0034J	(<0.003U)	0.012	(<0.003U)	(<0.003U)	(<0.003U)	(<0.003U)
Magnesium	35*	58.7	0.083J	2.9	93.3	61.6	60.1	8.6	68.4
Manganese	0.3	0.59 B	0.014 B	0.0053 B	0.069 B	0.12 B	0.12 B	0.14 B	0.1 B
Selenium	0.01	(<0.0087U)	(<0.0087U)	(<0.0087U)	(<0.0087U)	(<0.0087U)	(<0.0087U)	(<0.0087U)	(<0.0087U)
Silicon	---	6.8	2.8	8.1	13.8	5.9	5.8	4.8	7.5
Sodium	20	178	70.7	50.2	42.2	74.4	71.8	53.4	79.9
Thallium	0.0005*	(<0.01U)	(<0.01U)	(<0.01U)	(<0.01U)	(<0.01U)	(<0.01U)	(<0.01U)	(<0.01U)
Zinc	2*	0.46	0.0033J	0.01	0.13	0.0059J	0.024	0.0062J	0.14

Water Quality Parameters (mg/L)

		MW-1B	MW-2B	MW-3B	MW-5B	MW-6B	MW-6B (Dup)	MW-7B	MW-8B
		9/27/16	9/28/16	9/28/16	9/28/16	9/27/16	9/27/16	9/27/16	9/28/16
Analyte	AWQS								
Ammonia as N	---	(<0.009U)	3.6 B	0.63 B		(<0.009U)	(<0.009U)	(<0.009U)	(<0.009U)
Phenolics, Total Recoverable	---	(<0.005U)	0.0273	(<0.005U)		(<0.005U)	(<0.005U)	(<0.005U)	(<0.005U)
Sulfate	250	179	32.9	52.9	152	331	327	25.6	206

Surface Water**Volatile Organic Compounds by EPA Method 624 (µg/L)**

		SS-01
		4/18/16
Analyte	AWQS	
1,1-Dichloroethane	---	(<0.59U)
Trichloroethene	40	(<0.6U)

Baseline Metals by EPA Method 200.7 (mg/L)**Total (Unfiltered)**

		SS-01	SS-03
		4/18/16	4/18/16
Analyte	AWQS		
Barium	---	0.101	0.105
Chromium	---	(<0.001U)	(<0.001U)
Chromium, hexavalent	0.016	(<0.005U)	(<0.005U)
Copper	---	0.0039J B	0.0038J B
Iron	0.3	0.194	0.238
Nickel	---	0.0016J	0.0019J
Selenium	0.0046	(<0.00044U)	
Thallium	0.02	0.000027J	
Zinc	---	0.0017J	0.0015J

Water Quality Parameters (mg/L)

		SS-01	SS-03
		4/18/16	4/18/16
Analyte	AWQS		
Ammonia as N	---	(<0.009U)	(<0.009U)
Biochemical Oxygen Demand	---	(<2U)	
Chemical Oxygen Demand	---	5.4J	
Nitrate as N	---	1.5	
Nitrite as N	---	(<0.02U)	
Oxygen, Dissolved	---	8.8 HF	
pH	---	7.77 HF	
Phenolics, Total Recoverable	---	(<0.005U)	0.0123
Sulfate	---	40.3 B	37 B F1
Total Dissolved Solids	---	514	
Total Kjeldahl Nitrogen	---	0.25	
Total Suspended Solids	---	5.6	

QA/QC**Volatile Organic Compounds by EPA Method 624 (µg/L)**

		Trip Blank	
		4/18/16	9/27/16
Analyte	AWQS		
1,1-Dichloroethane	---	(<0.59U)	(<0.59U)
Trichloroethene	---	(<0.6U)	(<0.6U)

TABLE NOTES

AWQS	=	New York State Ambient Water Quality Standards and Guidance Values from Water Quality Regulations, Title 6, Chapter X Parts 700-706 August 1999.
*	=	Indicates guidance value.
U	=	Not detected. Sample quantitation limits shown as ($\leq$ U).
B	=	The reported value is less than the Contract Required Detection Limit but greater than the Instrument Detection Limit.
J	=	Reported value is estimated.

Only those analytes detected in at least one of the samples is shown on this table.

Results shaded and in boldface indicate concentrations in excess of New York State Ambient Water Quality Standards or Guidance Values.

Analytical Methods for Water Quality Parameters

Ammonia (expressed as Nitrogen)	=	EPA 350.2
Phenolics	=	EPA 420.2
Silica	=	EPA 6010
Sulfate	=	EPA 375.3

Attachment B

Well Gauging, Purging, and Sampling Forms September 2016

WELL GAUGING, PURGING AND SAMPLING FORM

Well I.D.: AP-MW-1B	Personnel: LO	Client: Linde, LLC
Location: Niagara Falls	Well Condition: Locked	Weather: Rain 70*
Sounding Method: WLI	Gauge Date: 9/27/2016	Measurement Ref: TOC
Stick Up/Down (ft): UP	Gauge Time: 920	Well Diameter (in): 2"

Purge Date: 9/27/16	Purge Time: 35 Mins
Purge Method: Peri Pump	Greenstar Personnel: LO

Well Volume		
A. Well Depth (ft): 27.83	D. Well Volume (gal): 2.16	Depth/Height of Top of PVC:
B. Depth to Water (ft): 14.50	E. Well Volume (L) 8.19	Pump Type: Peristaltic
C. Liquid Depth (ft) (A-B): 13.33		

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)
940	15.32	4	0.20	6.67	0.69	0.0	0.09	14.90	-14
945	15.32	8	0.20	6.70	0.69	0.0	7.25	14.63	-32
950	15.32	10	0.20	6.70	0.69	0.0	7.28	14.59	-38
955	15.32	12	0.20	6.70	0.69	0.0	7.27	14.52	-40

Total Quantity of Water Removed: 12 L	Sampling Time: 955
Samplers: LO	Split Sample With:
Sampling Date: 9/27/16	Sample Parameters: Stable

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

WELL GAUGING, PURGING AND SAMPLING FORM

Well I.D.: AP-MW-2B	Personnel: LO	Client: Linde, LLC
Location: Niagara Falls	Well Condition: Locked	Weather: Rain 70*
Sounding Method: WLI	Gauge Date: 9/27/2016	Measurement Ref: TOC
Stick Up/Down (ft): UP	Gauge Time: 950	Well Diameter (in): 2"

Purge Date: 9/27/16	Purge Time: 15 Mins
Purge Method: Peri Pump	Greenstar Personnel: LO

Well Volume		
A. Well Depth (ft): 27.31	D. Well Volume (gal): 1.28	Depth/Height of Top of PVC:
B. Depth to Water (ft): 19.41	E. Well Volume (L): 4.85	Pump Type: Peristaltic
C. Liquid Depth (ft) (A-B): 7.90		

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)
1010	24.00	4	0.10	12.48	1.86	0.0	4.73	12.40	-143
1015	24.50	6	0.10	12.49	1.84	0.0	5.02	14.45	-147

Total Quantity of Water Removed: 6 L	Sampling Time: 825
Samplers: LO	Split Sample With:
Sampling Date: 9/28/16	Sample Parameters:

COMMENTS AND OBSERVATIONS: Sample ID AP-MW-2B 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. Dedicated 3/8" tubing in well for future sampling. If Needed use 1/4" diameter tubing to sample, fits with no issue, well went dry, well allowed to recharge for 24 hrs, sampled via grab.

WELL GAUGING, PURGING AND SAMPLING FORM

Well I.D.: AP-MW-3B	Personnel: LO	Client: Linde, LLC
Location: Niagara Falls	Well Condition: Locked	Weather: Rain 70*
Sounding Method: WLI	Gauge Date: 9/27/2016	Measurement Ref: TOC
Stick Up/Down (ft): UP	Gauge Time: 12:00:00 AM	Well Diameter (in): 2"

Purge Date: 9/27/16	Purge Time: 5 Min
Purge Method: Bailer	Greenstar Personnel: LO

Well Volume		
A. Well Depth (ft): 18.41	D. Well Volume (gal): 1.20	Depth/Height of Top of PVC:
B. Depth to Water (ft): 14.62	E. Well Volume (L): 2.33	Pump Type: Bailer
C. Liquid Depth (ft) (A-B): 3.79		

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)
1025	14.62	2	Bail	9.18	0.411	0.0	16.60	13.10	-44
Dry Aafter	one volume								

Total Quantity of Water Removed: 2 L	Sampling Time: 800
Samplers: LO	Split Sample With:
Sampling Date: 9/28/16	Sample Parameters: N/A

COMMENTS AND OBSERVATIONS: Sample ID AP-MW-3B collected for Silicon, Total Metals, Ammonia as N, Sulfate, Phenolics and Hexavalent Chrome.

WELL GAUGING, PURGING AND SAMPLING FORM

Well I.D.: AP-MW-4B	Personnel: LO	Client: Linde, LLC
Location: Niagara Falls	Well Condition: Locked	Weather: Rain 70*
Sounding Method: WLI	Gauge Date: 9/27/2016	Measurement Ref: TOC
Stick Up/Down (ft): UP	Gauge Time: 1030	Well Diameter (in): 2"

Purge Date: 9/27/16	Purge Time: 5 Mins
Purge Method: Bailer	Greenstar Personnel: LO

Well Volume		
A. Well Depth (ft): 15.08	D. Well Volume (gal): 0.57	Depth/Height of Top of PVC:
B. Depth to Water (ft): 14.9	E. Well Volume (L):	Pump Type: Bailer
C. Liquid Depth (ft) (A-B): 0.18		

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)
1035				7.96	1.010	0.0	8.92	15.01	-48

Total Quantity of Water Removed: 250 ml	Sampling Time:
Samplers: LO	Split Sample With:
Sampling Date:	Sample Parameters: N/A

COMMENTS AND OBSERVATIONS: Only 250 ml in well. Well was allowed to recharge however there was not enough water in well to collect a sample.

WELL GAUGING, PURGING AND SAMPLING FORM

Well I.D.: AP-MW-5B	Personnel: LO	Client: Linde, LLC
Location: Niagara Falls	Well Condition: Locked	Weather: Rain 70*
Sounding Method: WLI	Gauge Date: 9/27/2016	Measurement Ref: TOC
Stick Up/Down (ft): UP	Gauge Time: 1040	Well Diameter (in): 2"

Purge Date: 9/27/16	Purge Time: 5 Mins
Purge Method: Bailer	Greenstar Personnel: LO

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): 13.35	E. Well Volume (L): 0.53	Pump Type: Hand Bail
C. Liquid Depth (ft) (A-B): 0.87		

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)
1045				6.39	113.000	0.0	13.15	17.79	-60

Total Quantity of Water Removed: 250 ml	Sampling Time: 820
Samplers: LO	Split Sample With:
Sampling Date: 9/28/16	Sample Type: GRAB
COMMENTS AND OBSERVATIONS: Sample ID AP-MW-5B collected for Silicon, Sulfate, Hexavalent Chrome.	

WELL GAUGING, PURGING AND SAMPLING FORM

Well I.D.: AP-MW-6B	Personnel: PN	Client: Linde, LLC
Location: Niagara Falls	Well Condition: Locked	Weather: Rain 70*
Sounding Method: WLI	Gauge Date: 9/27/2016	Measurement Ref: TOC
Stick Up/Down (ft): UP	Gauge Time: 1100	Well Diameter (in): 2"

Purge Date: 9/27/16	Purge Time: 30 Mins
Purge Method: Low Flow	Greenstar Personnel: LO

Well Volume		
A. Well Depth (ft): 23.02	D. Well Volume (gal): 2.85	Depth/Height of Top of PVC:
B. Depth to Water (ft): 5.38	E. Well Volume (L): 10.84	Pump Type: Peristaltic
C. Liquid Depth (ft) (A-B): 17.64		

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	7.12	1.00	0.0	0.00	16.42	-189
1120	10.10	5	0.10	7.10	0.99	0.0	0.00	16.37	-191
1125	12.20	7	0.10	7.10	0.99	0.0	0.00	16.40	-192
1130	12.30	10.0	0.10	7.09	0.99	0.0	0.00	16.41	-192

Total Quantity of Water Removed:	10 L	Sampling Time:	1130
Samplers:	LO	Split Sample With:	
Sampling Date:	9/27/16	Sample Type:	Stable

COMMENTS AND OBSERVATIONS: Sample ID AP-MW-6B collected for Silicon, Total Metals, Ammonia as N, Sulfate, Phenolics and Hexavalent Chrome. DUP-01 also collected at this well

WELL GAUGING, PURGING AND SAMPLING FORM

Well I.D.: AP-MW-7B	Personnel: PN	Client: Linde, LLC
Location: Niagara Falls	Well Condition: Locked	Weather: Rain 70*
Sounding Method: WLI	Gauge Date: 9/27/2016	Measurement Ref: TOC
Stick Up/Down (ft): UP	Gauge Time: 1220	Well Diameter (in): 2"

Purge Date: 9/27/16	Purge Time: 25 Mins
Purge Method: Low Flow	Greenstar Personnel: LO

Well Volume		
A. Well Depth (ft): 21.79	D. Well Volume (gal): 1.51	Depth/Height of Top of PVC:
B. Depth to Water (ft): 12.45	E. Well Volume (L): 5.74	Pump Type: Peristaltic Pump
C. Liquid Depth (ft) (A-B): 9.34		

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)
1235	16.01	2	0.10	7.92	0.395	0.00	0.68	15.58	-208
1240	16.10	2	0.10	7.90	0.390	0.00	0.44	15.60	-207
1245	16.20	4	0.10	7.88	0.388	0.00	0.41	15.64	-220
1250	16.33	4	0.10	7.87	0.387	0.00	0.40	15.65	-220

Total Quantity of Water Removed: 4 L	Sampling Time: 1250
Samplers: LO	Split Sample With:
Sampling Date: 9/27/16	Sample Type:
COMMENTS AND OBSERVATIONS: Sample ID AP-MW-7B collected for Silicon, Total Metals, Ammonia as N, Sulfate, Phenolics and Hexavalent Chrome.	

WELL GAUGING, PURGING AND SAMPLING FORM

Well I.D.: AP-MW-8B	Personnel: LO	Client: Linde, LLC
Location: Niagara Falls	Well Condition: Locked	Weather: Rain 70*
Sounding Method: WLI	Gauge Date: 9/27/2016	Measurement Ref: TOC
Stick Up/Down (ft): UP	Gauge Time: 12:00:00 AM	Well Diameter (in): 2"

Purge Date: 9/27/16	Purge Time: 5 Mins
Purge Method: Bailer	Greenstar Personnel: LO

Well Volume		
A. Well Depth (ft): 15.51	D. Well Volume (gal): 1.03	Depth/Height of Top of PVC:
B. Depth to Water (ft): 9.15	E. Well Volume (L): 3.91	Pump Type: Peristaltic
C. Liquid Depth (ft) (A-B): 6.36		

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)
1300				6.98	1.260	0.0	13.30	17.74	-51

Total Quantity of Water Removed:	4 L	Sampling Time:	845
Samplers:	LO	Split Sample With:	
Sampling Date:	9/28/16	Sample Parameters:	Grab

COMMENTS AND OBSERVATIONS: Sample ID AP-MW-8B collected for Silicon, Total Metals, Ammonia as N, Sulfate, Phenolics and Hexavalent Chrome. Purged 4 L well went dry allowed to recharge over night

SURFACE WATER SAMPLING FORM

Project Name: AIRCO Parcel	Project No.: 1047	Date: 9/27/2016
Property Address: 4201 Witmer Road, Niagara Falls, NY		
Personnel: L Oliveira		Time: 745

Sample Locations:
AP-SS-01 - SW corner of site, at culvert prior to site discharge.
AP-SS-02 - Along the southern drainage swale half way between MW-6B and MW-5B, if present
AP-SS-03 - Eastern swale due north of SS-01 at bend in fence.

Parameter	AP-EWE-01/SS-01	AP-SS-02	AP-SS-03
pH (pH units)	7.43	NA	NA
Specific Conductivity (us/cm)	1.03 ms/cm	NA	NA
Turbidity (ntu)	259	NA	NA
Dissolved Oxygen (ug/L)	1.44 mg/L	NA	NA
Temperature (°C)	16.78 °C	NA	NA
ORP (mV)	37mV	NA	NA

Sample ID:	AP-EWE-01	AP-SS-02	AP-SS-03
Sample Time:	745	NS	NS
Split Sample With:			
Sampling Parameters:	See Comments	See Comments	See Comments
COMMENTS AND OBSERVATIONS: AP-SS-1 parameters combined to include bi-annual sampling and quarterly discharge sampling and includes: Silicon, Sulfate, Ammonia as N, Metals, Total Phenolics, Hexavalent Chromium, Total Kjeldahl Nitrogen, COD, BOD, TDS, TSS, DO, Nitrate as N, Nitrite as N, and VOAs. AP-SS-02 and AP-SS-03 standard bi-annual sampling and includes: Silicon, Sulfate, Ammonia as N, Metals, Total Phenolics, Hexavalent Chromium. No AP-SS-02 sample collected. The swale was dry.			

Attachment C

Laboratory Analytical Results Quarterly Discharge, Bi-Annual Surface Water and Annual Monitoring Well Sampling

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Buffalo

10 Hazelwood Drive

Amherst, NY 14228-2298

Tel: (716)691-2600

TestAmerica Job ID: 480-93776-1

Client Project/Site: Greenstar Environmental Solutions, LLC

Sampling Event: Quarterly Discharge Monitoring (3,6,9,12

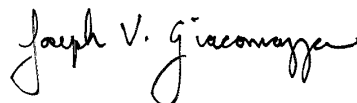
For:

Greenstar Environmental Solutions, LLC

6 Gellatly Drive

Wappingers Falls, New York 12590

Attn: Charles E McLeod, Jr.



Authorized for release by:

1/18/2016 11:49:36 AM

Joe Giacomazza, Project Management Assistant II

joe.giacomazza@testamericainc.com

Designee for

Judy Stone, Senior Project Manager

(484)685-0868

judy.stone@testamericainc.com

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-93776-1

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F1	MS and/or MSD Recovery is outside acceptance limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-93776-1

Job ID: 480-93776-1

Laboratory: TestAmerica Buffalo

Narrative

Job Narrative 480-93776-1

Receipt

The samples were received on 1/11/2016 5:38 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.8° C.

GC/MS VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry

Method(s) 9040C, SM 4500 H+ B: This analysis is normally performed in the field and has a method-defined holding time of 15 minutes. The following sample has been qualified with the "HF" flag to indicate analysis was performed in the laboratory outside the 15 minute timeframe: AP-EWE-01 (480-93776-1).

Method(s) SM 4500 O G: This analysis is normally performed in the field and has a method-defined holding time of 15 minutes. The following sample has been qualified with the "HF" flag to indicate analysis was performed in the laboratory outside the 15 minute timeframe: AP-EWE-01 (480-93776-1).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-93776-1

Client Sample ID: AP-EWE-01

Lab Sample ID: 480-93776-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	55.4		2.0	0.70	ug/L	1		200.7 Rev 4.4	Total/NA
Chromium	1.0	J	4.0	1.0	ug/L	1		200.7 Rev 4.4	Total/NA
Copper	2.2	J	10.0	1.6	ug/L	1		200.7 Rev 4.4	Total/NA
Iron	102		50.0	19.3	ug/L	1		200.7 Rev 4.4	Total/NA
Nickel	1.5	J	10.0	1.3	ug/L	1		200.7 Rev 4.4	Total/NA
Ammonia as N	0.043		0.020	0.0090	mg/L as N	1		350.1	Total/NA
Total Kjeldahl Nitrogen	0.47		0.20	0.15	mg/L as N	1		351.2	Total/NA
Nitrate as N	0.25		0.050	0.020	mg/L	1		353.2	Total/NA
Nitrite as N	0.022	J B	0.050	0.020	mg/L	1		353.2	Total/NA
Chemical Oxygen Demand	18.7	F1	10.0	5.0	mg/L	1		410.4	Total/NA
Phenolics, Total Recoverable	5.5	J	10.0	5.0	ug/L	1		420.1	Total/NA
Total Dissolved Solids	417		10.0	4.0	mg/L	1		SM 2540C	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	8.10	HF	0.100	0.100	SU	1		9040C	Total/NA
Oxygen, Dissolved	9.7	HF	0.050	0.050	mg/L	1		SM 4500 O G	Total/NA

Client Sample ID: TRIP BLANK

Lab Sample ID: 480-93776-2

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Buffalo

Client Sample Results

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-93776-1

Client Sample ID: AP-EWE-01

Date Collected: 01/11/16 15:00

Date Received: 01/11/16 17:38

Lab Sample ID: 480-93776-1

Matrix: Water

Method: 624 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		5.0	0.59	ug/L			01/12/16 13:45	1
Trichloroethene	ND		5.0	0.60	ug/L			01/12/16 13:45	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		72 - 130					01/12/16 13:45	1
4-Bromofluorobenzene (Surr)	100		69 - 121					01/12/16 13:45	1
Toluene-d8 (Surr)	100		70 - 123					01/12/16 13:45	1
Dibromofluoromethane (Surr)	102		70 - 130					01/12/16 13:45	1

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	55.4		2.0	0.70	ug/L		01/13/16 08:00	01/13/16 16:12	1
Chromium	1.0	J	4.0	1.0	ug/L		01/13/16 08:00	01/13/16 16:12	1
Copper	2.2	J	10.0	1.6	ug/L		01/13/16 08:00	01/13/16 16:12	1
Iron	102		50.0	19.3	ug/L		01/15/16 08:30	01/15/16 14:28	1
Nickel	1.5	J	10.0	1.3	ug/L		01/13/16 08:00	01/13/16 16:12	1
Zinc	ND		10.0	1.5	ug/L		01/13/16 08:00	01/13/16 16:12	1

Method: 200.8 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	ND		1.0	0.44	ug/L		01/14/16 08:16	01/14/16 17:49	1
Thallium	ND		0.20	0.019	ug/L		01/14/16 08:16	01/14/16 17:49	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N	0.043		0.020	0.0090	mg/L as N			01/13/16 18:34	1
Total Kjeldahl Nitrogen	0.47		0.20	0.15	mg/L as N		01/12/16 14:11	01/13/16 10:25	1
Nitrate as N	0.25		0.050	0.020	mg/L			01/12/16 14:47	1
Nitrite as N	0.022	J B	0.050	0.020	mg/L			01/12/16 14:47	1
Chemical Oxygen Demand	18.7	F1	10.0	5.0	mg/L			01/13/16 10:52	1
Phenolics, Total Recoverable	5.5	J	10.0	5.0	ug/L		01/13/16 07:00	01/14/16 10:34	1
Chromium, hexavalent	ND		10.0	5.0	ug/L			01/12/16 08:38	1
Total Dissolved Solids	417		10.0	4.0	mg/L			01/13/16 23:09	1
Biochemical Oxygen Demand	ND		2.0	2.0	mg/L			01/12/16 20:58	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	8.10	HF	0.100	0.100	SU			01/13/16 11:28	1
Total Suspended Solids	ND		4.0	4.0	mg/L			01/14/16 11:47	1
Oxygen, Dissolved	9.7	HF	0.050	0.050	mg/L			01/12/16 09:33	1

Client Sample ID: TRIP BLANK

Date Collected: 01/11/16 00:00

Date Received: 01/11/16 17:38

Lab Sample ID: 480-93776-2

Matrix: Water

Method: 624 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		5.0	0.59	ug/L			01/12/16 14:12	1
Trichloroethene	ND		5.0	0.60	ug/L			01/12/16 14:12	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		72 - 130					01/12/16 14:12	1

TestAmerica Buffalo

Client Sample Results

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-93776-1

Client Sample ID: TRIP BLANK

Date Collected: 01/11/16 00:00

Date Received: 01/11/16 17:38

Lab Sample ID: 480-93776-2

Matrix: Water

Method: 624 - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		69 - 121		01/12/16 14:12	1
Toluene-d8 (Surr)	101		70 - 123		01/12/16 14:12	1
Dibromofluoromethane (Surr)	102		70 - 130		01/12/16 14:12	1

Surrogate Summary

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-93776-1

Method: 624 - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	12DCE (72-130)	BFB (69-121)	TOL (70-123)	DBFM (70-130)
480-93776-1	AP-EWE-01	104	100	100	102
480-93776-2	TRIP BLANK	104	100	101	102
LCS 480-283031/19	Lab Control Sample	98	101	97	100
MB 480-283031/21	Method Blank	102	99	100	101

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

TOL = Toluene-d8 (Surr)

DBFM = Dibromofluoromethane (Surr)

QC Sample Results

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-93776-1

Method: 624 - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 480-283031/21

Matrix: Water

Analysis Batch: 283031

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		5.0	0.59	ug/L			01/12/16 00:52	1
Trichloroethene	ND		5.0	0.60	ug/L			01/12/16 00:52	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		72 - 130					01/12/16 00:52	1
4-Bromofluorobenzene (Surr)	99		69 - 121					01/12/16 00:52	1
Toluene-d8 (Surr)	100		70 - 123					01/12/16 00:52	1
Dibromofluoromethane (Surr)	101		70 - 130					01/12/16 00:52	1

Lab Sample ID: LCS 480-283031/19

Matrix: Water

Analysis Batch: 283031

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethane	20.0	20.6		ug/L		103	59 - 155
Trichloroethene	20.0	21.8		ug/L		109	71 - 157
Surrogate	%Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	98		72 - 130				
4-Bromofluorobenzene (Surr)	101		69 - 121				
Toluene-d8 (Surr)	97		70 - 123				
Dibromofluoromethane (Surr)	100		70 - 130				

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 480-283314/1-A

Matrix: Water

Analysis Batch: 283533

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 283314

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	ND		2.0	0.70	ug/L		01/13/16 08:00	01/13/16 16:05	1
Chromium	ND		4.0	1.0	ug/L		01/13/16 08:00	01/13/16 16:05	1
Copper	ND		10.0	1.6	ug/L		01/13/16 08:00	01/13/16 16:05	1
Nickel	ND		10.0	1.3	ug/L		01/13/16 08:00	01/13/16 16:05	1
Zinc	ND		10.0	1.5	ug/L		01/13/16 08:00	01/13/16 16:05	1

Lab Sample ID: LCS 480-283314/2-A

Matrix: Water

Analysis Batch: 283533

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 283314

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Barium	200	195.9		ug/L		98	85 - 115
Chromium	200	202.0		ug/L		101	85 - 115
Copper	200	198.2		ug/L		99	85 - 115
Nickel	200	192.2		ug/L		96	85 - 115
Zinc	200	194.0		ug/L		97	85 - 115

TestAmerica Buffalo

QC Sample Results

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-93776-1

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: MB 480-283679/1-A

Matrix: Water

Analysis Batch: 283897

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 283679

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		50.0	19.3	ug/L		01/15/16 08:30	01/15/16 13:34	1

Lab Sample ID: LCS 480-283679/2-A

Matrix: Water

Analysis Batch: 283897

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 283679

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	10000	10140		ug/L		101	85 - 115

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 480-283487/1-A

Matrix: Water

Analysis Batch: 283753

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 283487

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	ND		1.0	0.44	ug/L		01/14/16 08:16	01/14/16 16:56	1
Thallium	ND		0.20	0.019	ug/L		01/14/16 08:16	01/14/16 16:56	1

Lab Sample ID: LCS 480-283487/2-A

Matrix: Water

Analysis Batch: 283753

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 283487

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Selenium	20.0	19.00		ug/L		95	85 - 115
Thallium	20.0	20.50		ug/L		103	85 - 115

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 480-283467/27

Matrix: Water

Analysis Batch: 283467

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N	ND		0.020	0.0090	mg/L as N			01/13/16 18:27	1

Lab Sample ID: MB 480-283467/3

Matrix: Water

Analysis Batch: 283467

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N	ND		0.020	0.0090	mg/L as N			01/13/16 18:06	1

Lab Sample ID: LCS 480-283467/28

Matrix: Water

Analysis Batch: 283467

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia as N	1.00	1.08		mg/L as N		108	90 - 110

TestAmerica Buffalo

QC Sample Results

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-93776-1

Method: 350.1 - Nitrogen, Ammonia (Continued)

Lab Sample ID: LCS 480-283467/4

Matrix: Water

Analysis Batch: 283467

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia as N	1.00	1.07		mg/L as N		107	90 - 110

Lab Sample ID: 480-93776-1 MS

Matrix: Water

Analysis Batch: 283467

Client Sample ID: AP-EWE-01

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia as N	0.043		0.200	0.222		mg/L as N		90	90 - 110

Method: 351.2 - Nitrogen, Total Kjeldahl

Lab Sample ID: MB 480-283222/1-A

Matrix: Water

Analysis Batch: 283401

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 283222

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Kjeldahl Nitrogen	ND		0.20	0.15	mg/L as N		01/12/16 14:11	01/13/16 09:48	1

Lab Sample ID: LCS 480-283222/2-A

Matrix: Water

Analysis Batch: 283401

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 283222

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Kjeldahl Nitrogen	2.50	2.29		mg/L as N		92	90 - 110

Method: 353.2 - Nitrogen, Nitrite

Lab Sample ID: MB 480-283241/3

Matrix: Water

Analysis Batch: 283241

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	0.0299	J	0.050	0.020	mg/L			01/12/16 14:45	1

Lab Sample ID: LCS 480-283241/4

Matrix: Water

Analysis Batch: 283241

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrite as N	1.50	1.51		mg/L		101	90 - 110

TestAmerica Buffalo

QC Sample Results

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-93776-1

Method: 410.4 - COD

Lab Sample ID: MB 480-283473/3

Matrix: Water

Analysis Batch: 283473

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		10.0	5.0	mg/L			01/13/16 10:52	1

Lab Sample ID: LCS 480-283473/4

Matrix: Water

Analysis Batch: 283473

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	25.0	23.75		mg/L		95	90 - 110

Lab Sample ID: 480-93776-1 MS

Matrix: Water

Analysis Batch: 283473

Client Sample ID: AP-EWE-01

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	18.7	F1	50.0	83.65	F1	mg/L		130	75 - 125

Method: 420.1 - Phenolics, Total Recoverable

Lab Sample ID: MB 480-283384/1-A

Matrix: Water

Analysis Batch: 283582

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 283384

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenolics, Total Recoverable	ND		10.0	5.0	ug/L		01/13/16 07:00	01/14/16 10:02	1

Lab Sample ID: LCS 480-283384/2-A

Matrix: Water

Analysis Batch: 283582

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 283384

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phenolics, Total Recoverable	100	94.63		ug/L		95	90 - 110

Method: 7196A - Chromium, Hexavalent

Lab Sample ID: MB 480-283269/3

Matrix: Water

Analysis Batch: 283269

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		10.0	5.0	ug/L			01/12/16 08:38	1

Lab Sample ID: LCS 480-283269/4

Matrix: Water

Analysis Batch: 283269

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	50.0	50.92		ug/L		102	85 - 115

TestAmerica Buffalo

QC Sample Results

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-93776-1

Method: 7196A - Chromium, Hexavalent (Continued)

Lab Sample ID: 480-93776-1 MS

Matrix: Water

Analysis Batch: 283269

Client Sample ID: AP-EWE-01

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	ND		50.0	54.19		ug/L		108	85 - 115

Lab Sample ID: 480-93776-1 DU

Matrix: Water

Analysis Batch: 283269

Client Sample ID: AP-EWE-01

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chromium, hexavalent	ND		ND		ug/L		NC	20

Method: 9040C - pH

Lab Sample ID: LCS 480-283419/1

Matrix: Water

Analysis Batch: 283419

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.010		SU		100	99 - 101

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 480-283472/1

Matrix: Water

Analysis Batch: 283472

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10.0	4.0	mg/L			01/13/16 23:09	1

Lab Sample ID: LCS 480-283472/2

Matrix: Water

Analysis Batch: 283472

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	501	534.0		mg/L		107	85 - 115

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 480-283579/1

Matrix: Water

Analysis Batch: 283579

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		1.0	1.0	mg/L			01/14/16 11:47	1

TestAmerica Buffalo

QC Sample Results

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-93776-1

Method: SM 2540D - Solids, Total Suspended (TSS) (Continued)

Lab Sample ID: LCS 480-283579/2

Matrix: Water

Analysis Batch: 283579

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	255	253.6		mg/L		99	88 - 110

Method: SM 4500 O G - Oxygen, Dissolved

Lab Sample ID: 480-93776-1 DU

Matrix: Water

Analysis Batch: 283161

Client Sample ID: AP-EWE-01

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Oxygen, Dissolved	9.7	HF	9.71		mg/L		0.1	20

Method: SM 5210B - BOD, 5-Day

Lab Sample ID: USB 480-283301/1

Matrix: Water

Analysis Batch: 283301

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	USB Result	USB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	ND		2.0	2.0	mg/L			01/12/16 20:58	1

Lab Sample ID: LCS 480-283301/2

Matrix: Water

Analysis Batch: 283301

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Biochemical Oxygen Demand	198	189.9		mg/L		96	85 - 115

QC Association Summary

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-93776-1

GC/MS VOA

Analysis Batch: 283031

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-93776-1	AP-EWE-01	Total/NA	Water	624	
480-93776-2	TRIP BLANK	Total/NA	Water	624	
LCS 480-283031/19	Lab Control Sample	Total/NA	Water	624	
MB 480-283031/21	Method Blank	Total/NA	Water	624	

Metals

Prep Batch: 283314

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-93776-1	AP-EWE-01	Total/NA	Water	200.7	
LCS 480-283314/2-A	Lab Control Sample	Total/NA	Water	200.7	
MB 480-283314/1-A	Method Blank	Total/NA	Water	200.7	

Prep Batch: 283487

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-93776-1	AP-EWE-01	Total/NA	Water	200.8	
LCS 480-283487/2-A	Lab Control Sample	Total/NA	Water	200.8	
MB 480-283487/1-A	Method Blank	Total/NA	Water	200.8	

Analysis Batch: 283533

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-93776-1	AP-EWE-01	Total/NA	Water	200.7 Rev 4.4	283314
LCS 480-283314/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	283314
MB 480-283314/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	283314

Prep Batch: 283679

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-93776-1	AP-EWE-01	Total/NA	Water	200.7	
LCS 480-283679/2-A	Lab Control Sample	Total/NA	Water	200.7	
MB 480-283679/1-A	Method Blank	Total/NA	Water	200.7	

Analysis Batch: 283753

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-93776-1	AP-EWE-01	Total/NA	Water	200.8	283487
LCS 480-283487/2-A	Lab Control Sample	Total/NA	Water	200.8	283487
MB 480-283487/1-A	Method Blank	Total/NA	Water	200.8	283487

Analysis Batch: 283897

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-93776-1	AP-EWE-01	Total/NA	Water	200.7 Rev 4.4	283679
LCS 480-283679/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	283679
MB 480-283679/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	283679

General Chemistry

Analysis Batch: 283161

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-93776-1	AP-EWE-01	Total/NA	Water	SM 4500 O G	
480-93776-1 DU	AP-EWE-01	Total/NA	Water	SM 4500 O G	

TestAmerica Buffalo

QC Association Summary

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-93776-1

General Chemistry (Continued)

Prep Batch: 283222

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-93776-1	AP-EWE-01	Total/NA	Water	351.2	
LCS 480-283222/2-A	Lab Control Sample	Total/NA	Water	351.2	
MB 480-283222/1-A	Method Blank	Total/NA	Water	351.2	

Analysis Batch: 283241

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-93776-1	AP-EWE-01	Total/NA	Water	353.2	
LCS 480-283241/4	Lab Control Sample	Total/NA	Water	353.2	
MB 480-283241/3	Method Blank	Total/NA	Water	353.2	

Analysis Batch: 283249

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-93776-1	AP-EWE-01	Total/NA	Water	353.2	

Analysis Batch: 283269

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-93776-1	AP-EWE-01	Total/NA	Water	7196A	
480-93776-1 DU	AP-EWE-01	Total/NA	Water	7196A	
480-93776-1 MS	AP-EWE-01	Total/NA	Water	7196A	
LCS 480-283269/4	Lab Control Sample	Total/NA	Water	7196A	
MB 480-283269/3	Method Blank	Total/NA	Water	7196A	

Analysis Batch: 283301

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-93776-1	AP-EWE-01	Total/NA	Water	SM 5210B	
LCS 480-283301/2	Lab Control Sample	Total/NA	Water	SM 5210B	
USB 480-283301/1	Method Blank	Total/NA	Water	SM 5210B	

Prep Batch: 283384

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-93776-1	AP-EWE-01	Total/NA	Water	Distill/Phenol	
LCS 480-283384/2-A	Lab Control Sample	Total/NA	Water	Distill/Phenol	
MB 480-283384/1-A	Method Blank	Total/NA	Water	Distill/Phenol	

Analysis Batch: 283401

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-93776-1	AP-EWE-01	Total/NA	Water	351.2	283222
LCS 480-283222/2-A	Lab Control Sample	Total/NA	Water	351.2	283222
MB 480-283222/1-A	Method Blank	Total/NA	Water	351.2	283222

Analysis Batch: 283419

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-93776-1	AP-EWE-01	Total/NA	Water	9040C	
LCS 480-283419/1	Lab Control Sample	Total/NA	Water	9040C	

Analysis Batch: 283467

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-93776-1	AP-EWE-01	Total/NA	Water	350.1	
480-93776-1 MS	AP-EWE-01	Total/NA	Water	350.1	
LCS 480-283467/28	Lab Control Sample	Total/NA	Water	350.1	
LCS 480-283467/4	Lab Control Sample	Total/NA	Water	350.1	

TestAmerica Buffalo

QC Association Summary

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-93776-1

General Chemistry (Continued)

Analysis Batch: 283467 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 480-283467/27	Method Blank	Total/NA	Water	350.1	
MB 480-283467/3	Method Blank	Total/NA	Water	350.1	

Analysis Batch: 283472

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-93776-1	AP-EWE-01	Total/NA	Water	SM 2540C	
LCS 480-283472/2	Lab Control Sample	Total/NA	Water	SM 2540C	
MB 480-283472/1	Method Blank	Total/NA	Water	SM 2540C	

Analysis Batch: 283473

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-93776-1	AP-EWE-01	Total/NA	Water	410.4	
480-93776-1 MS	AP-EWE-01	Total/NA	Water	410.4	
LCS 480-283473/4	Lab Control Sample	Total/NA	Water	410.4	
MB 480-283473/3	Method Blank	Total/NA	Water	410.4	

Analysis Batch: 283579

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-93776-1	AP-EWE-01	Total/NA	Water	SM 2540D	
LCS 480-283579/2	Lab Control Sample	Total/NA	Water	SM 2540D	
MB 480-283579/1	Method Blank	Total/NA	Water	SM 2540D	

Analysis Batch: 283582

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-93776-1	AP-EWE-01	Total/NA	Water	420.1	283384
LCS 480-283384/2-A	Lab Control Sample	Total/NA	Water	420.1	283384
MB 480-283384/1-A	Method Blank	Total/NA	Water	420.1	283384

Lab Chronicle

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-93776-1

Client Sample ID: AP-EWE-01

Date Collected: 01/11/16 15:00

Date Received: 01/11/16 17:38

Lab Sample ID: 480-93776-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624		1	283031	01/12/16 13:45	NMD1	TAL BUF
Total/NA	Prep	200.7			283314	01/13/16 08:00	KJ1	TAL BUF
Total/NA	Analysis	200.7 Rev 4.4		1	283533	01/13/16 16:12	AMH	TAL BUF
Total/NA	Prep	200.7			283679	01/15/16 08:30	KJ1	TAL BUF
Total/NA	Analysis	200.7 Rev 4.4		1	283897	01/15/16 14:28	AMH	TAL BUF
Total/NA	Prep	200.8			283487	01/14/16 08:16	KJ1	TAL BUF
Total/NA	Analysis	200.8		1	283753	01/14/16 17:49	MTM2	TAL BUF
Total/NA	Analysis	350.1		1	283467	01/13/16 18:34	CEA	TAL BUF
Total/NA	Prep	351.2			283222	01/12/16 14:11	CLT	TAL BUF
Total/NA	Analysis	351.2		1	283401	01/13/16 10:25	ELR	TAL BUF
Total/NA	Analysis	353.2		1	283241	01/12/16 14:47	LED	TAL BUF
Total/NA	Analysis	353.2		1	283249	01/12/16 14:47	LED	TAL BUF
Total/NA	Analysis	410.4		1	283473	01/13/16 10:52	CDC	TAL BUF
Total/NA	Prep	Distill/Phenol			283384	01/13/16 07:00	LED	TAL BUF
Total/NA	Analysis	420.1		1	283582	01/14/16 10:34	ELR	TAL BUF
Total/NA	Analysis	7196A		1	283269	01/12/16 08:38	EKB	TAL BUF
Total/NA	Analysis	9040C		1	283419	01/13/16 11:28	JJK	TAL BUF
Total/NA	Analysis	SM 2540C		1	283472	01/13/16 23:09	CDC	TAL BUF
Total/NA	Analysis	SM 2540D		1	283579	01/14/16 11:47	EKB	TAL BUF
Total/NA	Analysis	SM 4500 O G		1	283161	01/12/16 09:33	MDL	TAL BUF
Total/NA	Analysis	SM 5210B		1	283301	01/12/16 20:58	CDC	TAL BUF

Client Sample ID: TRIP BLANK

Date Collected: 01/11/16 00:00

Date Received: 01/11/16 17:38

Lab Sample ID: 480-93776-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624		1	283031	01/12/16 14:12	NMD1	TAL BUF

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

TestAmerica Buffalo

Certification Summary

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-93776-1

Laboratory: TestAmerica Buffalo

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
New York	NELAP	2	10026	03-31-16

The following analytes are included in this report, but certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
9040C		Water	pH
SM 4500 O G		Water	Oxygen, Dissolved

Method Summary

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-93776-1

Method	Method Description	Protocol	Laboratory
624	Volatile Organic Compounds (GC/MS)	40CFR136A	TAL BUF
200.7 Rev 4.4	Metals (ICP)	EPA	TAL BUF
200.8	Metals (ICP/MS)	EPA	TAL BUF
350.1	Nitrogen, Ammonia	MCAWW	TAL BUF
351.2	Nitrogen, Total Kjeldahl	MCAWW	TAL BUF
353.2	Nitrogen, Nitrite	MCAWW	TAL BUF
353.2	Nitrate	EPA	TAL BUF
410.4	COD	MCAWW	TAL BUF
420.1	Phenolics, Total Recoverable	MCAWW	TAL BUF
7196A	Chromium, Hexavalent	SW846	TAL BUF
9040C	pH	SW846	TAL BUF
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL BUF
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL BUF
SM 4500 O G	Oxygen, Dissolved	SM	TAL BUF
SM 5210B	BOD, 5-Day	SM	TAL BUF

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Sample Summary

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-93776-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-93776-1	AP-EWE-01	Water	01/11/16 15:00	01/11/16 17:38
480-93776-2	TRIP BLANK	Water	01/11/16 00:00	01/11/16 17:38

Chain of Custody Record

Client Information Client Contact: <u>Lucas Oliveira</u> Address: <u>Greenstar Environmental Solutions, LLC</u> City: <u>Wappingers Falls</u> State, Zip: <u>NY, 12590</u> Phone: <u>845-223-9944 (Tel)</u> Email: <u>luc@oliveira.com</u> Project Name: <u>Greenstar Environmental Solutions, LLC/G Event Desc: Quarterly</u> Site: <u>New York</u>		Sample: <u>L. Oliveira</u> Lab P/N: <u>Stone, Judy L</u> Phone: <u>845-223-9944</u> E-Mail: <u>judy.stone@testamericainc.com</u>		COC No.: <u>480-77576-14529-1</u> Page: <u>Page 1 of 1</u> Job #:	
Due Date Requested: TAT Requested (days): <u>Standard</u>		Analysis Requested			
PO #: <u>1047-2014</u> WO #: <u>1047-2014</u> Project #: <u>48002405</u> SSOW#:		Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:			
Sample Identification AP-EWE-01 TRIP BLANK		Sample Date <u>11/11/16</u> <u>12/29/16</u>		Sample Type (C=Comp, G=grab) <u>G</u> <u>W</u>	
Matrix (W=water, S=solid, O=organic, A=air) <u>Water</u> <u>W</u>		Field Filtered Sample (Yes or No) 350.1, 351.2, 410.4 200.7, 200.8 624.6ml (MOD) Local Method 5210B - Biochemical Oxygen Demand 2540D - Total Suspended Solids 2540C - Calcd - Total Dissolved Solids 353.2, 353.2, Nitrite, Nitrate, Calc 7196A - Chromium, hexavalent 9040C - pH 5M4500 O.G - Oxygen, Dissolved 420.1 - Phenols, Total Recoverable			
Total Number of Containers Special Instructions/Note:		Total Number of Containers Special Instructions/Note:			
Possible Hazard Identification ☐ Non-Hazard ☐ Flammable ☒ Skin Irritant Deliverable Requested: I, II, III, IV, Other (specify)					
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) ☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months					
Special Instructions/QC Requirements:					
Empty Kit Relinquished by:		Date: _____ Time: _____			
Relinquished by: <u>Lucas Oliveira</u>		Date/Time: <u>11/11/16 15:15</u>		Company: _____	
Relinquished by:		Date/Time:		Company:	
Relinquished by:		Date/Time:		Company:	
Custody Seals Intact: <u>Yes</u>		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: <u>1.8 #2</u>	

Login Sample Receipt Checklist

Client: Greenstar Environmental Solutions, LLC

Job Number: 480-93776-1

Login Number: 93776

List Source: TestAmerica Buffalo

List Number: 1

Creator: Williams, Christopher S

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	GREENSTAR
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	N/A	
Chlorine Residual checked.	False	LAB TO CHECK RC

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Buffalo

10 Hazelwood Drive

Amherst, NY 14228-2298

Tel: (716)691-2600

TestAmerica Job ID: 480-98500-1

Client Project/Site: Greenstar Environmental Solutions, LLC

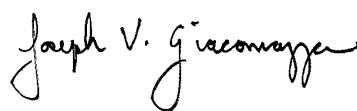
For:

Greenstar Environmental Solutions, LLC

6 Gellatly Drive

Wappingers Falls, New York 12590

Attn: Charles E McLeod, Jr.



Authorized for release by:

5/2/2016 9:18:04 AM

Joe Giacomazza, Project Management Assistant II

joe.giacomazza@testamericainc.com

Designee for

Judy Stone, Senior Project Manager

(484)685-0868

judy.stone@testamericainc.com

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-98500-1

Qualifiers

Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.
F1	MS and/or MSD Recovery is outside acceptance limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-98500-1

Job ID: 480-98500-1

Laboratory: TestAmerica Buffalo

Narrative

Job Narrative 480-98500-1

Receipt

The samples were received on 4/18/2016 6:40 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.5° C.

GC/MS VOA

Method(s) 624: The following sample were diluted to bring the concentration of target analytes within the calibration range: (480-98546-A-2 MS) and (480-98546-A-2 MSD). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

HPLC/IC

Method(s) 300.0: The following sample was diluted to bring the concentration of target analytes within the calibration range: AP-SS-03 (480-98500-2). Elevated reporting limits (RLs) are provided.

Method(s) 300.0: The method blank for analytical batch 480-299171 contained chloride above the reporting limit (RL). The associated sample were not re-analyzed because results were greater than 10X the value found in the method blank.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry

Method(s) 9040C, SM 4500 H+ B: This analysis is normally performed in the field and has a method-defined holding time of 15 minutes. The following sample has been qualified with the "HF" flag to indicate analysis was performed in the laboratory outside the 15 minute timeframe: AP-SS-01 (480-98500-1).

Method(s) SM 4500 O G: This analysis is normally performed in the field and has a method-defined holding time of 15 minutes. The following sample has been qualified with the "HF" flag to indicate analysis was performed in the laboratory outside the 15 minute timeframe: AP-SS-01 (480-98500-1).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-98500-1

Client Sample ID: AP-SS-01

Lab Sample ID: 480-98500-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	101		2.0	0.70	ug/L	1		200.7 Rev 4.4	Total/NA
Copper	3.9	J B	10.0	1.6	ug/L	1		200.7 Rev 4.4	Total/NA
Iron	194		50.0	19.3	ug/L	1		200.7 Rev 4.4	Total/NA
Nickel	1.6	J	10.0	1.3	ug/L	1		200.7 Rev 4.4	Total/NA
Zinc	1.7	J	10.0	1.5	ug/L	1		200.7 Rev 4.4	Total/NA
Thallium	0.027	J	0.20	0.019	ug/L	1		200.8	Total/NA
SiO2	4.9		1.1	0.13	mg/L	1		6010C	Total/NA
Sulfate	40.3	B	2.0	0.35	mg/L	1		300.0	Total/NA
Total Kjeldahl Nitrogen	0.25		0.20	0.15	mg/L as N	1		351.2	Total/NA
Nitrate as N	1.5		0.050	0.020	mg/L	1		353.2	Total/NA
Chemical Oxygen Demand	5.4	J	10.0	5.0	mg/L	1		410.4	Total/NA
Total Dissolved Solids	514		10.0	4.0	mg/L	1		SM 2540C	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.77	HF	0.100	0.100	SU	1		9040C	Total/NA
Total Suspended Solids	5.6		4.0	4.0	mg/L	1		SM 2540D	Total/NA
Oxygen, Dissolved	8.8	HF	0.050	0.050	mg/L	1		SM 4500 O G	Total/NA

Client Sample ID: AP-SS-03

Lab Sample ID: 480-98500-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	105		2.0	0.70	ug/L	1		200.7 Rev 4.4	Total/NA
Copper	3.8	J B	10.0	1.6	ug/L	1		200.7 Rev 4.4	Total/NA
Iron	238		50.0	19.3	ug/L	1		200.7 Rev 4.4	Total/NA
Nickel	1.9	J	10.0	1.3	ug/L	1		200.7 Rev 4.4	Total/NA
Zinc	1.5	J	10.0	1.5	ug/L	1		200.7 Rev 4.4	Total/NA
SiO2	5.5		1.1	0.13	mg/L	1		6010C	Total/NA
Sulfate	37.0	B F1	2.0	0.35	mg/L	1		300.0	Total/NA
Phenolics, Total Recoverable	12.3		10.0	5.0	ug/L	1		420.1	Total/NA

Client Sample ID: TRIP BLANK

Lab Sample ID: 480-98500-3

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Buffalo

Client Sample Results

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-98500-1

Client Sample ID: AP-SS-01

Lab Sample ID: 480-98500-1

Date Collected: 04/18/16 16:15

Matrix: Water

Date Received: 04/18/16 18:40

Method: 624 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		5.0	0.59	ug/L			04/20/16 15:04	1
Trichloroethene	ND		5.0	0.60	ug/L			04/20/16 15:04	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	125		72 - 130					04/20/16 15:04	1
4-Bromofluorobenzene (Surr)	102		69 - 121					04/20/16 15:04	1
Toluene-d8 (Surr)	90		70 - 123					04/20/16 15:04	1
Dibromofluoromethane (Surr)	121		70 - 130					04/20/16 15:04	1

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	101		2.0	0.70	ug/L		04/20/16 07:40	04/20/16 18:53	1
Chromium	ND		4.0	1.0	ug/L		04/20/16 07:40	04/20/16 18:53	1
Copper	3.9	J B	10.0	1.6	ug/L		04/20/16 07:40	04/20/16 18:53	1
Iron	194		50.0	19.3	ug/L		04/20/16 07:40	04/20/16 18:53	1
Nickel	1.6	J	10.0	1.3	ug/L		04/20/16 07:40	04/20/16 18:53	1
Zinc	1.7	J	10.0	1.5	ug/L		04/20/16 07:40	04/20/16 18:53	1

Method: 200.8 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	ND		1.0	0.44	ug/L		04/21/16 07:25	04/29/16 03:34	1
Thallium	0.027	J	0.20	0.019	ug/L		04/21/16 07:25	04/29/16 03:34	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
SiO2	4.9		1.1	0.13	mg/L		04/20/16 07:40	04/21/16 01:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	40.3	B	2.0	0.35	mg/L			04/22/16 13:33	1
Ammonia as N	ND		0.020	0.0090	mg/L as N			04/19/16 14:36	1
Total Kjeldahl Nitrogen	0.25		0.20	0.15	mg/L as N		04/21/16 10:36	04/21/16 18:42	1
Nitrate as N	1.5		0.050	0.020	mg/L			04/19/16 10:54	1
Nitrite as N	ND		0.050	0.020	mg/L			04/19/16 13:13	1
Chemical Oxygen Demand	5.4	J	10.0	5.0	mg/L			04/21/16 03:41	1
Phenolics, Total Recoverable	ND		10.0	5.0	ug/L		04/27/16 14:25	04/28/16 07:46	1
Chromium, hexavalent	ND		10.0	5.0	ug/L			04/18/16 21:44	1
Total Dissolved Solids	514		10.0	4.0	mg/L			04/21/16 16:40	1
Biochemical Oxygen Demand	ND		2.0	2.0	mg/L			04/20/16 05:12	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.77	HF	0.100	0.100	SU			04/19/16 15:06	1
Total Suspended Solids	5.6		4.0	4.0	mg/L			04/21/16 14:53	1
Oxygen, Dissolved	8.8	HF	0.050	0.050	mg/L			04/20/16 10:14	1

TestAmerica Buffalo

Client Sample Results

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-98500-1

Client Sample ID: AP-SS-03

Lab Sample ID: 480-98500-2

Date Collected: 04/18/16 16:25

Matrix: Water

Date Received: 04/18/16 18:40

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	105		2.0	0.70	ug/L		04/20/16 07:40	04/20/16 18:56	1
Chromium	ND		4.0	1.0	ug/L		04/20/16 07:40	04/20/16 18:56	1
Copper	3.8	J B	10.0	1.6	ug/L		04/20/16 07:40	04/20/16 18:56	1
Iron	238		50.0	19.3	ug/L		04/20/16 07:40	04/20/16 18:56	1
Nickel	1.9	J	10.0	1.3	ug/L		04/20/16 07:40	04/20/16 18:56	1
Zinc	1.5	J	10.0	1.5	ug/L		04/20/16 07:40	04/20/16 18:56	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
SiO2	5.5		1.1	0.13	mg/L		04/20/16 07:40	04/21/16 01:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	37.0	B F1	2.0	0.35	mg/L			04/30/16 10:09	1
Ammonia as N	ND		0.020	0.0090	mg/L as N			04/19/16 14:37	1
Phenolics, Total Recoverable	12.3		10.0	5.0	ug/L		04/26/16 13:50	04/27/16 06:58	1
Chromium, hexavalent	ND		10.0	5.0	ug/L			04/18/16 21:44	1

Client Sample ID: TRIP BLANK

Lab Sample ID: 480-98500-3

Date Collected: 04/18/16 00:00

Matrix: Water

Date Received: 04/18/16 18:40

Method: 624 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		5.0	0.59	ug/L			04/20/16 15:32	1
Trichloroethene	ND		5.0	0.60	ug/L			04/20/16 15:32	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	126		72 - 130					04/20/16 15:32	1
4-Bromofluorobenzene (Surr)	103		69 - 121					04/20/16 15:32	1
Toluene-d8 (Surr)	92		70 - 123					04/20/16 15:32	1
Dibromofluoromethane (Surr)	125		70 - 130					04/20/16 15:32	1

Surrogate Summary

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-98500-1

Method: 624 - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		12DCE (72-130)	BFB (69-121)	TOL (70-123)	DBFM (70-130)
480-98500-1	AP-SS-01	125	102	90	121
480-98500-3	TRIP BLANK	126	103	92	125
LCS 480-296985/7	Lab Control Sample	121	103	93	120
MB 480-296985/9	Method Blank	122	104	93	119

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

TOL = Toluene-d8 (Surr)

DBFM = Dibromofluoromethane (Surr)

QC Sample Results

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-98500-1

Method: 624 - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 480-296985/9

Matrix: Water

Analysis Batch: 296985

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		5.0	0.59	ug/L			04/20/16 11:43	1
Trichloroethene	ND		5.0	0.60	ug/L			04/20/16 11:43	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	122		72 - 130					04/20/16 11:43	1
4-Bromofluorobenzene (Surr)	104		69 - 121					04/20/16 11:43	1
Toluene-d8 (Surr)	93		70 - 123					04/20/16 11:43	1
Dibromofluoromethane (Surr)	119		70 - 130					04/20/16 11:43	1

Lab Sample ID: LCS 480-296985/7

Matrix: Water

Analysis Batch: 296985

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethane	20.0	18.3		ug/L		91	59 - 155
Trichloroethene	20.0	22.0		ug/L		110	71 - 157
Surrogate	%Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	121		72 - 130				
4-Bromofluorobenzene (Surr)	103		69 - 121				
Toluene-d8 (Surr)	93		70 - 123				
Dibromofluoromethane (Surr)	120		70 - 130				

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 480-296865/1-A

Matrix: Water

Analysis Batch: 297335

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 296865

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	ND		2.0	0.70	ug/L		04/20/16 07:40	04/20/16 18:24	1
Chromium	ND		4.0	1.0	ug/L		04/20/16 07:40	04/20/16 18:24	1
Copper	3.02	J	10.0	1.6	ug/L		04/20/16 07:40	04/20/16 18:24	1
Iron	ND		50.0	19.3	ug/L		04/20/16 07:40	04/20/16 18:24	1
Nickel	ND		10.0	1.3	ug/L		04/20/16 07:40	04/20/16 18:24	1
Zinc	ND		10.0	1.5	ug/L		04/20/16 07:40	04/20/16 18:24	1

Lab Sample ID: LCS 480-296865/2-A

Matrix: Water

Analysis Batch: 297335

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 296865

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Barium	200	204.8		ug/L		102	85 - 115
Chromium	200	217.9		ug/L		109	85 - 115
Copper	200	206.5		ug/L		103	85 - 115
Iron	10000	10690		ug/L		107	85 - 115
Nickel	200	206.1		ug/L		103	85 - 115

TestAmerica Buffalo

QC Sample Results

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-98500-1

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCS 480-296865/2-A

Matrix: Water

Analysis Batch: 297335

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 296865

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Zinc	200	199.5		ug/L		100	85 - 115

Lab Sample ID: 480-98500-2 MS

Matrix: Water

Analysis Batch: 297335

Client Sample ID: AP-SS-03

Prep Type: Total/NA

Prep Batch: 296865

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Barium	105		200	310.9		ug/L		103	70 - 130
Chromium	ND		200	219.3		ug/L		110	70 - 130
Copper	3.8	J B	200	211.0		ug/L		104	70 - 130
Iron	238		10000	10860		ug/L		106	70 - 130
Nickel	1.9	J	200	215.6		ug/L		107	70 - 130
Zinc	1.5	J	200	201.4		ug/L		100	70 - 130

Lab Sample ID: 480-98500-2 MSD

Matrix: Water

Analysis Batch: 297335

Client Sample ID: AP-SS-03

Prep Type: Total/NA

Prep Batch: 296865

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Barium	105		200	298.5		ug/L		97	70 - 130	4	20
Chromium	ND		200	206.8		ug/L		103	70 - 130	6	20
Copper	3.8	J B	200	199.1		ug/L		98	70 - 130	6	20
Iron	238		10000	10230		ug/L		100	70 - 130	6	20
Nickel	1.9	J	200	202.9		ug/L		100	70 - 130	6	20
Zinc	1.5	J	200	190.7		ug/L		95	70 - 130	5	20

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 480-297192/1-A

Matrix: Water

Analysis Batch: 297739

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 297192

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	ND		1.0	0.44	ug/L		04/21/16 07:25	04/22/16 14:51	1
Thallium	ND		0.20	0.019	ug/L		04/21/16 07:25	04/22/16 14:51	1

Lab Sample ID: LCS 480-297192/2-A

Matrix: Water

Analysis Batch: 297739

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 297192

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Selenium	20.0	20.38		ug/L		102	85 - 115
Thallium	20.0	20.63		ug/L		103	85 - 115

TestAmerica Buffalo

QC Sample Results

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-98500-1

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: 480-98500-1 MS

Matrix: Water

Analysis Batch: 299028

Client Sample ID: AP-SS-01

Prep Type: Total/NA

Prep Batch: 297192

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Selenium	ND		20.0	22.26		ug/L		111	70 - 130
Thallium	0.027	J	20.0	21.77		ug/L		109	70 - 130

Lab Sample ID: 480-98500-1 MSD

Matrix: Water

Analysis Batch: 299028

Client Sample ID: AP-SS-01

Prep Type: Total/NA

Prep Batch: 297192

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Selenium	ND		20.0	22.24		ug/L		111	70 - 130	0	20
Thallium	0.027	J	20.0	21.88		ug/L		109	70 - 130	1	20

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 480-296818/1-A

Matrix: Water

Analysis Batch: 297313

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 296818

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
SiO2	ND		1.1	0.13	mg/L		04/20/16 07:40	04/21/16 00:12	1

Lab Sample ID: LCS 480-296818/2-A

Matrix: Water

Analysis Batch: 297313

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 296818

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
SiO2	21.4	19.68		mg/L		92	80 - 120

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 480-297558/4

Matrix: Water

Analysis Batch: 297558

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	0.945	J	2.0	0.35	mg/L			04/22/16 09:25	1

Lab Sample ID: LCS 480-297558/3

Matrix: Water

Analysis Batch: 297558

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	50.0	48.50		mg/L		97	90 - 110

Lab Sample ID: MB 480-299171/4

Matrix: Water

Analysis Batch: 299171

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	0.633	J	2.0	0.35	mg/L			04/30/16 09:54	1

TestAmerica Buffalo

QC Sample Results

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-98500-1

Lab Sample ID: LCS 480-299171/3

Matrix: Water

Analysis Batch: 299171

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	50.0	49.63		mg/L		99	90 - 110

Lab Sample ID: 480-98500-2 MS

Matrix: Water

Analysis Batch: 299171

Client Sample ID: AP-SS-03

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	37.0	B F1	25.0	59.83		mg/L		91	80 - 120

Lab Sample ID: 480-98500-2 MSD

Matrix: Water

Analysis Batch: 299171

Client Sample ID: AP-SS-03

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	37.0	B F1	25.0	56.80	F1	mg/L		79	80 - 120	5	20

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 480-296861/3

Matrix: Water

Analysis Batch: 296861

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N	ND		0.020	0.0090	mg/L as N			04/19/16 14:22	1

Lab Sample ID: LCS 480-296861/4

Matrix: Water

Analysis Batch: 296861

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia as N	1.00	1.05		mg/L as N		105	90 - 110

Method: 351.2 - Nitrogen, Total Kjeldahl

Lab Sample ID: MB 480-297416/1-A

Matrix: Water

Analysis Batch: 297546

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 297416

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Kjeldahl Nitrogen	ND		0.20	0.15	mg/L as N		04/21/16 10:36	04/21/16 18:11	1

Lab Sample ID: LCS 480-297416/2-A

Matrix: Water

Analysis Batch: 297546

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 297416

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Kjeldahl Nitrogen	2.50	2.40		mg/L as N		96	90 - 110

TestAmerica Buffalo

QC Sample Results

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-98500-1

Method: 353.2 - Nitrogen, Nitrite

Lab Sample ID: MB 480-296833/27

Matrix: Water

Analysis Batch: 296833

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	ND		0.050	0.020	mg/L			04/19/16 13:30	1

Lab Sample ID: MB 480-296833/3

Matrix: Water

Analysis Batch: 296833

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	ND		0.050	0.020	mg/L			04/19/16 13:04	1

Lab Sample ID: LCS 480-296833/28

Matrix: Water

Analysis Batch: 296833

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrite as N	1.50	1.47		mg/L		98	90 - 110

Lab Sample ID: LCS 480-296833/4

Matrix: Water

Analysis Batch: 296833

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrite as N	1.50	1.49		mg/L		99	90 - 110

Method: 410.4 - COD

Lab Sample ID: MB 480-297258/27

Matrix: Water

Analysis Batch: 297258

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		10.0	5.0	mg/L			04/21/16 03:41	1

Lab Sample ID: LCS 480-297258/28

Matrix: Water

Analysis Batch: 297258

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	25.0	25.05		mg/L		100	90 - 110

Method: 420.1 - Phenolics, Total Recoverable

Lab Sample ID: MB 480-298296/1-A

Matrix: Water

Analysis Batch: 298454

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 298296

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenolics, Total Recoverable	ND		10.0	5.0	ug/L		04/26/16 13:50	04/27/16 05:57	1

TestAmerica Buffalo

QC Sample Results

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-98500-1

Method: 420.1 - Phenolics, Total Recoverable (Continued)

Lab Sample ID: LCS 480-298296/2-A

Matrix: Water

Analysis Batch: 298454

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 298296

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phenolics, Total Recoverable	100	105.5		ug/L		105	90 - 110

Lab Sample ID: 480-98500-2 MS

Matrix: Water

Analysis Batch: 298454

Client Sample ID: AP-SS-03

Prep Type: Total/NA

Prep Batch: 298296

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Phenolics, Total Recoverable	12.3		100	103.7		ug/L		91	90 - 110

Lab Sample ID: MB 480-298571/2-A

Matrix: Water

Analysis Batch: 298714

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 298571

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenolics, Total Recoverable	ND		10.0	5.0	ug/L		04/27/16 14:25	04/28/16 06:52	1

Lab Sample ID: LCS 480-298571/1-A

Matrix: Water

Analysis Batch: 298714

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 298571

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phenolics, Total Recoverable	100	102.0		ug/L		102	90 - 110

Method: 7196A - Chromium, Hexavalent

Lab Sample ID: MB 480-296757/3

Matrix: Water

Analysis Batch: 296757

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		10.0	5.0	ug/L			04/18/16 21:44	1

Lab Sample ID: LCS 480-296757/4

Matrix: Water

Analysis Batch: 296757

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	50.0	44.22		ug/L		88	85 - 115

Lab Sample ID: 480-98500-1 MS

Matrix: Water

Analysis Batch: 296757

Client Sample ID: AP-SS-01

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	ND		50.0	45.13		ug/L		90	85 - 115

TestAmerica Buffalo

QC Sample Results

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-98500-1

Method: 7196A - Chromium, Hexavalent (Continued)

Lab Sample ID: 480-98500-1 DU

Matrix: Water

Analysis Batch: 296757

Client Sample ID: AP-SS-01

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Chromium, hexavalent	ND		ND		ug/L		NC	20

Method: 9040C - pH

Lab Sample ID: LCS 480-296894/1

Matrix: Water

Analysis Batch: 296894

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.010		SU		100	99 - 101

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 480-297472/1

Matrix: Water

Analysis Batch: 297472

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10.0	4.0	mg/L			04/21/16 16:40	1

Lab Sample ID: LCS 480-297472/2

Matrix: Water

Analysis Batch: 297472

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	515	489.0		mg/L		95	85 - 115

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 480-297444/1

Matrix: Water

Analysis Batch: 297444

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		1.0	1.0	mg/L			04/21/16 14:53	1

Lab Sample ID: LCS 480-297444/2

Matrix: Water

Analysis Batch: 297444

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	261	256.8		mg/L		98	88 - 110

TestAmerica Buffalo

QC Sample Results

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-98500-1

Method: SM 2540D - Solids, Total Suspended (TSS) (Continued)

Lab Sample ID: 480-98500-1 DU

Matrix: Water

Analysis Batch: 297444

Client Sample ID: AP-SS-01

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	5.6		5.60		mg/L		0	10

Method: SM 4500 O G - Oxygen, Dissolved

Lab Sample ID: 480-98500-1 DU

Matrix: Water

Analysis Batch: 297079

Client Sample ID: AP-SS-01

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Oxygen, Dissolved	8.8	HF	8.83		mg/L		0.1	20

Method: SM 5210B - BOD, 5-Day

Lab Sample ID: USB 480-297027/1

Matrix: Water

Analysis Batch: 297027

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	USB Result	USB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	ND		2.0	2.0	mg/L			04/20/16 05:12	1

Lab Sample ID: LCS 480-297027/2

Matrix: Water

Analysis Batch: 297027

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Biochemical Oxygen Demand	198	213.8		mg/L		108	85 - 115

QC Association Summary

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-98500-1

GC/MS VOA

Analysis Batch: 296985

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-98500-1	AP-SS-01	Total/NA	Water	624	
480-98500-3	TRIP BLANK	Total/NA	Water	624	
LCS 480-296985/7	Lab Control Sample	Total/NA	Water	624	
MB 480-296985/9	Method Blank	Total/NA	Water	624	

Metals

Prep Batch: 296818

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-98500-1	AP-SS-01	Total/NA	Water	3005A	
480-98500-2	AP-SS-03	Total/NA	Water	3005A	
LCS 480-296818/2-A	Lab Control Sample	Total/NA	Water	3005A	
MB 480-296818/1-A	Method Blank	Total/NA	Water	3005A	

Prep Batch: 296865

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-98500-1	AP-SS-01	Total/NA	Water	200.7	
480-98500-2	AP-SS-03	Total/NA	Water	200.7	
480-98500-2 MS	AP-SS-03	Total/NA	Water	200.7	
480-98500-2 MSD	AP-SS-03	Total/NA	Water	200.7	
LCS 480-296865/2-A	Lab Control Sample	Total/NA	Water	3005A	
MB 480-296865/1-A	Method Blank	Total/NA	Water	3005A	

Prep Batch: 297192

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-98500-1	AP-SS-01	Total/NA	Water	200.8	
480-98500-1 MS	AP-SS-01	Total/NA	Water	200.8	
480-98500-1 MSD	AP-SS-01	Total/NA	Water	200.8	
LCS 480-297192/2-A	Lab Control Sample	Total/NA	Water	200.8	
MB 480-297192/1-A	Method Blank	Total/NA	Water	200.8	

Analysis Batch: 297313

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-98500-1	AP-SS-01	Total/NA	Water	6010C	296818
480-98500-2	AP-SS-03	Total/NA	Water	6010C	296818
LCS 480-296818/2-A	Lab Control Sample	Total/NA	Water	6010C	296818
MB 480-296818/1-A	Method Blank	Total/NA	Water	6010C	296818

Analysis Batch: 297335

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-98500-1	AP-SS-01	Total/NA	Water	200.7 Rev 4.4	296865
480-98500-2	AP-SS-03	Total/NA	Water	200.7 Rev 4.4	296865
480-98500-2 MS	AP-SS-03	Total/NA	Water	200.7 Rev 4.4	296865
480-98500-2 MSD	AP-SS-03	Total/NA	Water	200.7 Rev 4.4	296865
LCS 480-296865/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	296865
MB 480-296865/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	296865

Analysis Batch: 297739

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 480-297192/2-A	Lab Control Sample	Total/NA	Water	200.8	297192

TestAmerica Buffalo

QC Association Summary

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-98500-1

Metals (Continued)

Analysis Batch: 297739 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 480-297192/1-A	Method Blank	Total/NA	Water	200.8	297192

Analysis Batch: 299028

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-98500-1	AP-SS-01	Total/NA	Water	200.8	297192
480-98500-1 MS	AP-SS-01	Total/NA	Water	200.8	297192
480-98500-1 MSD	AP-SS-01	Total/NA	Water	200.8	297192

General Chemistry

Analysis Batch: 296757

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-98500-1	AP-SS-01	Total/NA	Water	7196A	
480-98500-1 DU	AP-SS-01	Total/NA	Water	7196A	
480-98500-1 MS	AP-SS-01	Total/NA	Water	7196A	
480-98500-2	AP-SS-03	Total/NA	Water	7196A	
LCS 480-296757/4	Lab Control Sample	Total/NA	Water	7196A	
MB 480-296757/3	Method Blank	Total/NA	Water	7196A	

Analysis Batch: 296833

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-98500-1	AP-SS-01	Total/NA	Water	353.2	
LCS 480-296833/28	Lab Control Sample	Total/NA	Water	353.2	
LCS 480-296833/4	Lab Control Sample	Total/NA	Water	353.2	
MB 480-296833/27	Method Blank	Total/NA	Water	353.2	
MB 480-296833/3	Method Blank	Total/NA	Water	353.2	

Analysis Batch: 296855

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-98500-1	AP-SS-01	Total/NA	Water	353.2	

Analysis Batch: 296861

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-98500-1	AP-SS-01	Total/NA	Water	350.1	
480-98500-2	AP-SS-03	Total/NA	Water	350.1	
LCS 480-296861/4	Lab Control Sample	Total/NA	Water	350.1	
MB 480-296861/3	Method Blank	Total/NA	Water	350.1	

Analysis Batch: 296894

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-98500-1	AP-SS-01	Total/NA	Water	9040C	
LCS 480-296894/1	Lab Control Sample	Total/NA	Water	9040C	

Analysis Batch: 297027

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-98500-1	AP-SS-01	Total/NA	Water	SM 5210B	
LCS 480-297027/2	Lab Control Sample	Total/NA	Water	SM 5210B	
USB 480-297027/1	Method Blank	Total/NA	Water	SM 5210B	

TestAmerica Buffalo

QC Association Summary

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-98500-1

General Chemistry (Continued)

Analysis Batch: 297079

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-98500-1	AP-SS-01	Total/NA	Water	SM 4500 O G	
480-98500-1 DU	AP-SS-01	Total/NA	Water	SM 4500 O G	

Analysis Batch: 297258

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-98500-1	AP-SS-01	Total/NA	Water	410.4	
LCS 480-297258/28	Lab Control Sample	Total/NA	Water	410.4	
MB 480-297258/27	Method Blank	Total/NA	Water	410.4	

Prep Batch: 297416

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-98500-1	AP-SS-01	Total/NA	Water	351.2	
LCS 480-297416/2-A	Lab Control Sample	Total/NA	Water	351.2	
MB 480-297416/1-A	Method Blank	Total/NA	Water	351.2	

Analysis Batch: 297444

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-98500-1	AP-SS-01	Total/NA	Water	SM 2540D	
480-98500-1 DU	AP-SS-01	Total/NA	Water	SM 2540D	
LCS 480-297444/2	Lab Control Sample	Total/NA	Water	SM 2540D	
MB 480-297444/1	Method Blank	Total/NA	Water	SM 2540D	

Analysis Batch: 297472

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-98500-1	AP-SS-01	Total/NA	Water	SM 2540C	
LCS 480-297472/2	Lab Control Sample	Total/NA	Water	SM 2540C	
MB 480-297472/1	Method Blank	Total/NA	Water	SM 2540C	

Analysis Batch: 297546

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-98500-1	AP-SS-01	Total/NA	Water	351.2	297416
LCS 480-297416/2-A	Lab Control Sample	Total/NA	Water	351.2	297416
MB 480-297416/1-A	Method Blank	Total/NA	Water	351.2	297416

Analysis Batch: 297558

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-98500-1	AP-SS-01	Total/NA	Water	300.0	
LCS 480-297558/3	Lab Control Sample	Total/NA	Water	300.0	
MB 480-297558/4	Method Blank	Total/NA	Water	300.0	

Prep Batch: 298296

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-98500-2	AP-SS-03	Total/NA	Water	Distill/Phenol	
480-98500-2 MS	AP-SS-03	Total/NA	Water	Distill/Phenol	
LCS 480-298296/2-A	Lab Control Sample	Total/NA	Water	Distill/Phenol	
MB 480-298296/1-A	Method Blank	Total/NA	Water	Distill/Phenol	

Analysis Batch: 298454

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-98500-2	AP-SS-03	Total/NA	Water	420.1	298296
480-98500-2 MS	AP-SS-03	Total/NA	Water	420.1	298296

TestAmerica Buffalo

QC Association Summary

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-98500-1

General Chemistry (Continued)

Analysis Batch: 298454 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 480-298296/2-A	Lab Control Sample	Total/NA	Water	420.1	298296
MB 480-298296/1-A	Method Blank	Total/NA	Water	420.1	298296

Prep Batch: 298571

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-98500-1	AP-SS-01	Total/NA	Water	Distill/Phenol	
LCS 480-298571/1-A	Lab Control Sample	Total/NA	Water	Distill/Phenol	
MB 480-298571/2-A	Method Blank	Total/NA	Water	Distill/Phenol	

Analysis Batch: 298714

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-98500-1	AP-SS-01	Total/NA	Water	420.1	298571
LCS 480-298571/1-A	Lab Control Sample	Total/NA	Water	420.1	298571
MB 480-298571/2-A	Method Blank	Total/NA	Water	420.1	298571

Analysis Batch: 299171

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-98500-2	AP-SS-03	Total/NA	Water	300.0	
480-98500-2 MS	AP-SS-03	Total/NA	Water	300.0	
480-98500-2 MSD	AP-SS-03	Total/NA	Water	300.0	
LCS 480-299171/3	Lab Control Sample	Total/NA	Water	300.0	
MB 480-299171/4	Method Blank	Total/NA	Water	300.0	

Lab Chronicle

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-98500-1

Client Sample ID: AP-SS-01

Date Collected: 04/18/16 16:15

Date Received: 04/18/16 18:40

Lab Sample ID: 480-98500-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624		1	296985	04/20/16 15:04	RJF	TAL BUF
Total/NA	Prep	200.7			296865	04/20/16 07:40	CMM	TAL BUF
Total/NA	Analysis	200.7 Rev 4.4		1	297335	04/20/16 18:53	AMH	TAL BUF
Total/NA	Prep	200.8			297192	04/21/16 07:25	CMM	TAL BUF
Total/NA	Analysis	200.8		1	299028	04/29/16 03:34	MTM2	TAL BUF
Total/NA	Prep	3005A			296818	04/20/16 07:40	CMM	TAL BUF
Total/NA	Analysis	6010C		1	297313	04/21/16 01:22	AMH	TAL BUF
Total/NA	Analysis	300.0		1	297558	04/22/16 13:33	CAV	TAL BUF
Total/NA	Analysis	350.1		1	296861	04/19/16 14:36	ZRJ	TAL BUF
Total/NA	Prep	351.2			297416	04/21/16 10:36	DCB	TAL BUF
Total/NA	Analysis	351.2		1	297546	04/21/16 18:42	CLT	TAL BUF
Total/NA	Analysis	353.2		1	296855	04/19/16 10:54	LED	TAL BUF
Total/NA	Analysis	353.2		1	296833	04/19/16 13:13	LED	TAL BUF
Total/NA	Analysis	410.4		1	297258	04/21/16 03:41	CDC	TAL BUF
Total/NA	Prep	Distill/Phenol			298571	04/27/16 14:25	ZRJ	TAL BUF
Total/NA	Analysis	420.1		1	298714	04/28/16 07:46	EKB	TAL BUF
Total/NA	Analysis	7196A		1	296757	04/18/16 21:44	JJK	TAL BUF
Total/NA	Analysis	9040C		1	296894	04/19/16 15:06	KMF	TAL BUF
Total/NA	Analysis	SM 2540C		1	297472	04/21/16 16:40	MGH	TAL BUF
Total/NA	Analysis	SM 2540D		1	297444	04/21/16 14:53	MGH	TAL BUF
Total/NA	Analysis	SM 4500 O G		1	297079	04/20/16 10:14	MDL	TAL BUF
Total/NA	Analysis	SM 5210B		1	297027	04/20/16 05:12	LAW	TAL BUF

Client Sample ID: AP-SS-03

Date Collected: 04/18/16 16:25

Date Received: 04/18/16 18:40

Lab Sample ID: 480-98500-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			296865	04/20/16 07:40	CMM	TAL BUF
Total/NA	Analysis	200.7 Rev 4.4		1	297335	04/20/16 18:56	AMH	TAL BUF
Total/NA	Prep	3005A			296818	04/20/16 07:40	CMM	TAL BUF
Total/NA	Analysis	6010C		1	297313	04/21/16 01:26	AMH	TAL BUF
Total/NA	Analysis	300.0		1	299171	04/30/16 10:09	CAV	TAL BUF
Total/NA	Analysis	350.1		1	296861	04/19/16 14:37	ZRJ	TAL BUF
Total/NA	Prep	Distill/Phenol			298296	04/26/16 13:50	ZRJ	TAL BUF
Total/NA	Analysis	420.1		1	298454	04/27/16 06:58	EKB	TAL BUF
Total/NA	Analysis	7196A		1	296757	04/18/16 21:44	JJK	TAL BUF

TestAmerica Buffalo

Lab Chronicle

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-98500-1

Client Sample ID: TRIP BLANK
Date Collected: 04/18/16 00:00
Date Received: 04/18/16 18:40

Lab Sample ID: 480-98500-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624		1	296985	04/20/16 15:32	RJF	TAL BUF

Laboratory References:
TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

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Certification Summary

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-98500-1

Laboratory: TestAmerica Buffalo

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
New York	NELAP	2	10026	03-31-17

The following analytes are included in this report, but certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
6010C	3005A	Water	SiO2
9040C		Water	pH
SM 4500 O G		Water	Oxygen, Dissolved

Method Summary

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-98500-1

Method	Method Description	Protocol	Laboratory
624	Volatile Organic Compounds (GC/MS)	40CFR136A	TAL BUF
200.7 Rev 4.4	Metals (ICP)	EPA	TAL BUF
200.8	Metals (ICP/MS)	EPA	TAL BUF
6010C	Metals (ICP)	SW846	TAL BUF
300.0	Anions, Ion Chromatography	MCAWW	TAL BUF
350.1	Nitrogen, Ammonia	MCAWW	TAL BUF
351.2	Nitrogen, Total Kjeldahl	MCAWW	TAL BUF
353.2	Nitrogen, Nitrite	MCAWW	TAL BUF
353.2	Nitrate	EPA	TAL BUF
410.4	COD	MCAWW	TAL BUF
420.1	Phenolics, Total Recoverable	MCAWW	TAL BUF
7196A	Chromium, Hexavalent	SW846	TAL BUF
9040C	pH	SW846	TAL BUF
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL BUF
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL BUF
SM 4500 O G	Oxygen, Dissolved	SM	TAL BUF
SM 5210B	BOD, 5-Day	SM	TAL BUF

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Sample Summary

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-98500-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-98500-1	AP-SS-01	Water	04/18/16 16:15	04/18/16 18:40
480-98500-2	AP-SS-03	Water	04/18/16 16:25	04/18/16 18:40
480-98500-3	TRIP BLANK	Water	04/18/16 00:00	04/18/16 18:40

TestAmerica Buffalo

10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Fax (716) 691-7991

Chain of Custody Record

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Client Information Client Contact: Charles McLeod, Jr. Company: Greenstar Environmental Solutions, LLC Address: 6 Gellatly Drive City: Wappingers Falls State, Zip: NY, 12590 Phone: 845-223-9944 (Tel) Email: cmcleod@greenstarsolutions.com Project Name: Greenstar Environmental Solutions, LLC Site: New York		Sampler: L. Oliver Lab PM: Stone, Judy L. Phone: 862-579 9911 E-Mail: judy.stone@testamericainc.com		Carrier Tracking No(s): COC No: 480-82189-12953.1 Page: Page 1 of 2 Job #:						
Due Date Requested: TAT Requested (days): Standard PO #: 1047 2016 WO #: 48002405 Project #: 48002405 SSOW#:		Analysis Requested 420.4 - Phenolics, Total Recoverable 624.5 ml - (MOD) Local Method 6210B - Biochemical Oxygen Demand 2540D - Total Suspended Solids 2540C - Calcd - Total Dissolved Solids 353.2, 353.2 Nitrite, Nitrate, Calc 7196A - Chromium, hexavalent 9040C - pH 6010C - Silicon SM400.0 - O ₂ - Oxygen, Dissolved Total Number of Containers								
Sample Identification AP-SS-01 AP-SS-02 AP-SS-03		Sample Date 4/10/16 4/10/16	Sample Time 1615 1625	Sample Type (C=comp, G=grab) G G	Matrix (Liquid, Solid, Other) Water Water Water	Field Filtered Sample (Yes or No) X X X	Potentiometric MS/MSD (Yes or No) X X X	300.0, 28D - Sulfate 350.1, 351.2, 410.4 200.7, 200.8 420.4 - Phenolics, Total Recoverable 624.5 ml - (MOD) Local Method 6210B - Biochemical Oxygen Demand 2540D - Total Suspended Solids 2540C - Calcd - Total Dissolved Solids 353.2, 353.2 Nitrite, Nitrate, Calc 7196A - Chromium, hexavalent 9040C - pH 6010C - Silicon SM400.0 - O ₂ - Oxygen, Dissolved Total Number of Containers	Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO ₄ F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other: M - Hexane N - None O - AsNaO ₂ P - Na ₂ O ₄ S Q - Na ₂ SO ₃ R - Na ₂ SO ₃ S - H ₂ SO ₄ T - TSP Dodecahydrate U - Acetone V - MCAA W - ph 4-5 Z - other (specify)	Spec 480-98500 Chain of Custody
Possible Hazard Identification ☐ Non-Hazard ☐ Flammable ☒ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological Deliverable Requested: I, II, III, IV, Other (specify)										
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) ☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months										
Special Instructions/QC Requirements:										
Empty Kit Relinquished by:		Date:		Method of Shipment:						
Relinquished by:		Date/Time: 4/10/16 @ 1240		Date/Time: 4/10/16 1840						
Relinquished by:		Date/Time:		Date/Time:						
Relinquished by:		Date/Time:		Date/Time:						
Custody Seals Intact: Δ Yes Δ No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 2.5 #1						

TestAmerica Buffalo

10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Fax (716) 691-7991

Chain of Custody Record

TestAmerica

THE CHAIN OF CUSTODY RECORD

Client Information Client Contact: Charles McLeod, Jr. Phone: 862-519-9411 E-Mail: judy.stone@testamericainc.com		Lab PM: Stone, Judy L. Carrier Tracking No(s): COC No: 480-82189-12953.2 Page: Page 2 of 2 Job #:	
Company: Greenstar Environmental Solutions, LLC Address: 6 Gellatly Drive City: Wappingers Falls State, Zip: NY, 12590 Phone: 845-223-9944 (Tel) Email: cmcleod@greenstarsolutions.com Project Name: Greenstar Environmental Solutions, LLC Site: New York		Analysis Requested Due Date Requested: TAT Requested (days): PO #: 1047-1004 2016 WO #: Project #: 48002405 SSOW#:	
Sample Identification AP-SS-01 AP-SS-02 AP-SS-03	Sample Type (C=Comp, G=grab) Sample Time Sample Date Matrix (W=water, S=solid, O=other, L=liquid, T=tissue, A=air)	Field Filtered Sample (Yes or No) 350.1 - Ammonia as N 200.7 - (MOD) Local Method	Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other: M - Hexane N - None O - AsMeO2 P - Na2O4S Q - Na2SO3 R - Na2SO4 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - ph 4-5 Z - other (specify)
Possible Hazard Identification ☐ Non-Hazard ☐ Flammable ☒ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) ☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months	
Empty Kit Relinquished by:		Special Instructions/QC Requirements:	
Relinquished by:		Date:	
Relinquished by:		Date:	
Relinquished by:		Date:	
Custody Seals Intact ☐ Yes ☐ No		Custody Seal No.:	
Cooler Temperature(s) °C and Other Remarks:		2.5 #1	

Login Sample Receipt Checklist

Client: Greenstar Environmental Solutions, LLC

Job Number: 480-98500-1

Login Number: 98500

List Source: TestAmerica Buffalo

List Number: 1

Creator: Williams, Christopher S

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	False	60ml UP for 7196 and 300.0_28D.
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	GREENSTAR
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	N/A	
Chlorine Residual checked.	False	LAB TO CHECK RC

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Buffalo

10 Hazelwood Drive

Amherst, NY 14228-2298

Tel: (716)691-2600

TestAmerica Job ID: 480-106590-1

Client Project/Site: Greenstar Environmental Solutions, LLC

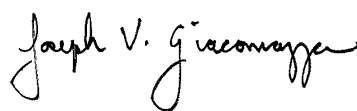
For:

Greenstar Environmental Solutions, LLC

6 Gellatly Drive

Wappingers Falls, New York 12590

Attn: Charles E McLeod, Jr.



Authorized for release by:

10/4/2016 10:43:41 AM

Joe Giacomazza, Project Management Assistant II

joe.giacomazza@testamericainc.com

Designee for

Judy Stone, Senior Project Manager

(484)685-0868

judy.stone@testamericainc.com

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-106590-1

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.

General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
b	Result Detected in the Unseeded Control blank (USB).

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-106590-1

Job ID: 480-106590-1

Laboratory: TestAmerica Buffalo

Narrative

Job Narrative 480-106590-1

Receipt

The samples were received on 9/27/2016 2:09 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.6° C.

Receipt Exceptions

The chain of custody listed 300.0 sulfate and method 6010, however, these analyses are not required on this sample per the client.

GC/MS VOA

Method(s) 624: The following sample contained residual chlorine upon receipt: AP-EWE-01 (480-106590-1).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry

Method(s) SM 2540D: Due to the matrix, the initial volume(s) used for the following sample deviated from the standard procedure: AP-EWE-01 (480-106590-1). The reporting limits (RLs) have been adjusted proportionately.

Method(s) 9040C, SM 4500 H+ B: This analysis is normally performed in the field and has a method-defined holding time of 15 minutes. The following sample has been qualified with the "HF" flag to indicate analysis was performed in the laboratory outside the 15 minute timeframe: AP-EWE-01 (480-106590-1).

Method(s) SM 4500 O G: This analysis is normally performed in the field and has a method-defined holding time of 15 minutes. The following sample has been qualified with the "HF" flag to indicate analysis was performed in the laboratory outside the 15 minute timeframe: AP-EWE-01 (480-106590-1).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-106590-1

Client Sample ID: AP-EWE-01

Lab Sample ID: 480-106590-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	197		2.0	0.70	ug/L	1		200.7 Rev 4.4	Total/NA
Iron	3980		50.0	19.3	ug/L	1		200.7 Rev 4.4	Total/NA
Nickel	2.5	J	10.0	1.3	ug/L	1		200.7 Rev 4.4	Total/NA
Zinc	8.0	J	10.0	1.5	ug/L	1		200.7 Rev 4.4	Total/NA
Thallium	0.041	J B	0.20	0.019	ug/L	1		200.8	Total/NA
Ammonia as N	0.81		0.020	0.0090	mg/L as N	1		350.1	Total/NA
Total Kjeldahl Nitrogen	1.9		0.20	0.15	mg/L as N	1		351.2	Total/NA
Chemical Oxygen Demand	16.8		10.0	5.0	mg/L	1		410.4	Total/NA
Chromium, hexavalent	17.3		10.0	5.0	ug/L	1		7196A	Total/NA
Total Dissolved Solids	591		10.0	4.0	mg/L	1		SM 2540C	Total/NA
Biochemical Oxygen Demand	4.4	b	2.0	2.0	mg/L	1		SM 5210B	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	6.95	HF	0.100	0.100	SU	1		9040C	Total/NA
Total Suspended Solids	123		7.1	7.1	mg/L	1		SM 2540D	Total/NA
Oxygen, Dissolved	3.4	HF	0.050	0.050	mg/L	1		SM 4500 O G	Total/NA

Client Sample ID: TRIP BLANK

Lab Sample ID: 480-106590-2

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Buffalo

Client Sample Results

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-106590-1

Client Sample ID: AP-EWE-01

Lab Sample ID: 480-106590-1

Date Collected: 09/27/16 07:45

Matrix: Water

Date Received: 09/27/16 14:09

Method: 624 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		5.0	0.59	ug/L			09/27/16 22:55	1
Trichloroethene	ND		5.0	0.60	ug/L			09/27/16 22:55	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		80 - 120					09/27/16 22:55	1
4-Bromofluorobenzene (Surr)	93		80 - 120					09/27/16 22:55	1
Toluene-d8 (Surr)	91		77 - 120					09/27/16 22:55	1
Dibromofluoromethane (Surr)	98		78 - 120					09/27/16 22:55	1

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	197		2.0	0.70	ug/L		09/28/16 09:02	09/28/16 16:37	1
Chromium	ND		4.0	1.0	ug/L		09/28/16 09:02	09/28/16 16:37	1
Copper	ND		10.0	1.6	ug/L		09/28/16 09:02	09/28/16 16:37	1
Iron	3980		50.0	19.3	ug/L		09/28/16 09:02	09/28/16 16:37	1
Nickel	2.5	J	10.0	1.3	ug/L		09/28/16 09:02	09/28/16 16:37	1
Zinc	8.0	J	10.0	1.5	ug/L		09/28/16 09:02	09/28/16 16:37	1

Method: 200.8 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	ND		1.0	0.44	ug/L		09/30/16 09:39	09/30/16 17:18	1
Thallium	0.041	J B	0.20	0.019	ug/L		09/30/16 09:39	09/30/16 17:18	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N	0.81		0.020	0.0090	mg/L as N			09/28/16 14:07	1
Total Kjeldahl Nitrogen	1.9		0.20	0.15	mg/L as N		09/28/16 01:15	09/28/16 09:38	1
Nitrate as N	ND		0.050	0.020	mg/L			09/27/16 17:26	1
Nitrite as N	ND		0.050	0.020	mg/L			09/27/16 17:26	1
Chemical Oxygen Demand	16.8		10.0	5.0	mg/L			09/27/16 17:16	1
Phenolics, Total Recoverable	ND		10.0	5.0	ug/L		09/28/16 09:51	09/29/16 10:52	1
Chromium, hexavalent	17.3		10.0	5.0	ug/L			09/27/16 17:35	1
Total Dissolved Solids	591		10.0	4.0	mg/L			09/27/16 18:32	1
Biochemical Oxygen Demand	4.4	b	2.0	2.0	mg/L			09/28/16 10:07	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.95	HF	0.100	0.100	SU			09/28/16 14:12	1
Total Suspended Solids	123		7.1	7.1	mg/L			09/28/16 09:49	1
Oxygen, Dissolved	3.4	HF	0.050	0.050	mg/L			09/27/16 18:41	1

Client Sample ID: TRIP BLANK

Lab Sample ID: 480-106590-2

Date Collected: 09/27/16 00:00

Matrix: Water

Date Received: 09/27/16 14:09

Method: 624 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		5.0	0.59	ug/L			09/27/16 23:18	1
Trichloroethene	ND		5.0	0.60	ug/L			09/27/16 23:18	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		80 - 120					09/27/16 23:18	1

TestAmerica Buffalo

Client Sample Results

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-106590-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 480-106590-2

Date Collected: 09/27/16 00:00

Matrix: Water

Date Received: 09/27/16 14:09

Method: 624 - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		80 - 120		09/27/16 23:18	1
Toluene-d8 (Surr)	94		77 - 120		09/27/16 23:18	1
Dibromofluoromethane (Surr)	99		78 - 120		09/27/16 23:18	1

Surrogate Summary

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-106590-1

Method: 624 - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		12DCE (80-120)	BFB (80-120)	TOL (77-120)	DBFM (78-120)
480-106590-1	AP-EWE-01	94	93	91	98
480-106590-2	TRIP BLANK	94	95	94	99
LCS 480-322558/5	Lab Control Sample	91	94	93	95
MB 480-322558/7	Method Blank	95	93	93	98

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

TOL = Toluene-d8 (Surr)

DBFM = Dibromofluoromethane (Surr)

QC Sample Results

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-106590-1

Method: 624 - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 480-322558/7

Matrix: Water

Analysis Batch: 322558

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		5.0	0.59	ug/L			09/27/16 19:48	1
Trichloroethene	ND		5.0	0.60	ug/L			09/27/16 19:48	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		80 - 120					09/27/16 19:48	1
4-Bromofluorobenzene (Surr)	93		80 - 120					09/27/16 19:48	1
Toluene-d8 (Surr)	93		77 - 120					09/27/16 19:48	1
Dibromofluoromethane (Surr)	98		78 - 120					09/27/16 19:48	1

Lab Sample ID: LCS 480-322558/5

Matrix: Water

Analysis Batch: 322558

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethane	20.0	19.7		ug/L		99	59 - 155
Trichloroethene	20.0	20.6		ug/L		103	71 - 157
Surrogate	%Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	91		80 - 120				
4-Bromofluorobenzene (Surr)	94		80 - 120				
Toluene-d8 (Surr)	93		77 - 120				
Dibromofluoromethane (Surr)	95		78 - 120				

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 480-322752/1-A

Matrix: Water

Analysis Batch: 322965

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 322752

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	ND		2.0	0.70	ug/L		09/28/16 09:02	09/28/16 15:52	1
Chromium	ND		4.0	1.0	ug/L		09/28/16 09:02	09/28/16 15:52	1
Copper	ND		10.0	1.6	ug/L		09/28/16 09:02	09/28/16 15:52	1
Iron	ND		50.0	19.3	ug/L		09/28/16 09:02	09/28/16 15:52	1
Nickel	ND		10.0	1.3	ug/L		09/28/16 09:02	09/28/16 15:52	1
Zinc	ND		10.0	1.5	ug/L		09/28/16 09:02	09/28/16 15:52	1

Lab Sample ID: LCS 480-322752/2-A

Matrix: Water

Analysis Batch: 322965

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 322752

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Barium	200	202.7		ug/L		101	85 - 115
Chromium	200	196.6		ug/L		98	85 - 115
Copper	200	191.3		ug/L		96	85 - 115
Iron	10000	10210		ug/L		102	85 - 115
Nickel	200	186.5		ug/L		93	85 - 115

TestAmerica Buffalo

QC Sample Results

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-106590-1

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCS 480-322752/2-A

Matrix: Water

Analysis Batch: 322965

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 322752

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Zinc	200	199.1		ug/L		100	85 - 115

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 480-323201/1-A

Matrix: Water

Analysis Batch: 323300

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 323201

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	ND		1.0	0.44	ug/L		09/30/16 09:39	09/30/16 14:48	1
Thallium	0.0227	J	0.20	0.019	ug/L		09/30/16 09:39	09/30/16 14:48	1

Lab Sample ID: LCS 480-323201/2-A

Matrix: Water

Analysis Batch: 323300

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 323201

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Selenium	20.0	20.47		ug/L		102	85 - 115
Thallium	20.0	20.68		ug/L		103	85 - 115

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 480-322882/27

Matrix: Water

Analysis Batch: 322882

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N	ND		0.020	0.0090	mg/L as N			09/28/16 14:12	1

Lab Sample ID: MB 480-322882/3

Matrix: Water

Analysis Batch: 322882

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N	ND		0.020	0.0090	mg/L as N			09/28/16 13:51	1

Lab Sample ID: LCS 480-322882/28

Matrix: Water

Analysis Batch: 322882

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia as N	1.00	1.04		mg/L as N		104	90 - 110

Lab Sample ID: LCS 480-322882/4

Matrix: Water

Analysis Batch: 322882

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia as N	1.00	1.04		mg/L as N		104	90 - 110

TestAmerica Buffalo

QC Sample Results

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-106590-1

Method: 351.2 - Nitrogen, Total Kjeldahl

Lab Sample ID: MB 480-322722/1-A

Matrix: Water

Analysis Batch: 322834

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 322722

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Kjeldahl Nitrogen	ND		0.20	0.15	mg/L as N		09/28/16 01:15	09/28/16 08:47	1

Lab Sample ID: LCS 480-322722/2-A

Matrix: Water

Analysis Batch: 322834

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 322722

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Kjeldahl Nitrogen	2.50	2.59		mg/L as N		104	90 - 110

Lab Sample ID: 480-106590-1 MS

Matrix: Water

Analysis Batch: 322834

Client Sample ID: AP-EWE-01

Prep Type: Total/NA

Prep Batch: 322722

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Kjeldahl Nitrogen	1.9		1.00	2.81		mg/L as N		95	90 - 110

Method: 410.4 - COD

Lab Sample ID: MB 480-322712/27

Matrix: Water

Analysis Batch: 322712

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		10.0	5.0	mg/L			09/27/16 17:16	1

Lab Sample ID: MB 480-322712/3

Matrix: Water

Analysis Batch: 322712

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		10.0	5.0	mg/L			09/27/16 17:16	1

Lab Sample ID: LCS 480-322712/28

Matrix: Water

Analysis Batch: 322712

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	25.0	25.28		mg/L		101	90 - 110

Lab Sample ID: LCS 480-322712/4

Matrix: Water

Analysis Batch: 322712

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	25.0	23.46		mg/L		94	90 - 110

TestAmerica Buffalo

QC Sample Results

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-106590-1

Method: 420.1 - Phenolics, Total Recoverable

Lab Sample ID: MB 480-322809/1-A

Matrix: Water

Analysis Batch: 323069

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 322809

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenolics, Total Recoverable	ND		10.0	5.0	ug/L		09/28/16 09:51	09/29/16 09:46	1

Lab Sample ID: LCS 480-322809/2-A

Matrix: Water

Analysis Batch: 323069

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 322809

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phenolics, Total Recoverable	100	97.42		ug/L		97	90 - 110

Method: 7196A - Chromium, Hexavalent

Lab Sample ID: MB 480-322710/3

Matrix: Water

Analysis Batch: 322710

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		10.0	5.0	ug/L			09/27/16 17:35	1

Lab Sample ID: LCS 480-322710/4

Matrix: Water

Analysis Batch: 322710

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	50.0	48.29		ug/L		97	85 - 115

Lab Sample ID: 480-106590-1 DU

Matrix: Water

Analysis Batch: 322710

Client Sample ID: AP-EWE-01

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chromium, hexavalent	17.3		18.92		ug/L		9	20

Method: 9040C - pH

Lab Sample ID: LCS 480-322869/1

Matrix: Water

Analysis Batch: 322869

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	6.930		SU		99	99 - 101

TestAmerica Buffalo

QC Sample Results

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-106590-1

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: LCS 480-322703/2

Matrix: Water

Analysis Batch: 322703

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	505	500.0		mg/L		99	85 - 115

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 480-322807/1

Matrix: Water

Analysis Batch: 322807

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		1.0	1.0	mg/L			09/28/16 09:49	1

Lab Sample ID: LCS 480-322807/2

Matrix: Water

Analysis Batch: 322807

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	248	245.6		mg/L		99	88 - 110

Method: SM 4500 O G - Oxygen, Dissolved

Lab Sample ID: 480-106590-1 DU

Matrix: Water

Analysis Batch: 322718

Client Sample ID: AP-EWE-01

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Oxygen, Dissolved	3.4	HF	4.06		mg/L		19	20

Method: SM 5210B - BOD, 5-Day

Lab Sample ID: USB 480-322835/1

Matrix: Water

Analysis Batch: 322835

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	USB Result	USB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	ND		2.0	2.0	mg/L			09/28/16 10:07	1

Lab Sample ID: LCS 480-322835/2

Matrix: Water

Analysis Batch: 322835

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Biochemical Oxygen Demand	198	204.3		mg/L		103	85 - 115

TestAmerica Buffalo

QC Association Summary

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-106590-1

GC/MS VOA

Analysis Batch: 322558

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-106590-1	AP-EWE-01	Total/NA	Water	624	
480-106590-2	TRIP BLANK	Total/NA	Water	624	
MB 480-322558/7	Method Blank	Total/NA	Water	624	
LCS 480-322558/5	Lab Control Sample	Total/NA	Water	624	

Metals

Prep Batch: 322752

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-106590-1	AP-EWE-01	Total/NA	Water	200.7	
MB 480-322752/1-A	Method Blank	Total/NA	Water	200.7	
LCS 480-322752/2-A	Lab Control Sample	Total/NA	Water	200.7	

Analysis Batch: 322965

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-106590-1	AP-EWE-01	Total/NA	Water	200.7 Rev 4.4	322752
MB 480-322752/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	322752
LCS 480-322752/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	322752

Prep Batch: 323201

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-106590-1	AP-EWE-01	Total/NA	Water	200.8	
MB 480-323201/1-A	Method Blank	Total/NA	Water	200.8	
LCS 480-323201/2-A	Lab Control Sample	Total/NA	Water	200.8	

Analysis Batch: 323300

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 480-323201/1-A	Method Blank	Total/NA	Water	200.8	323201
LCS 480-323201/2-A	Lab Control Sample	Total/NA	Water	200.8	323201

Analysis Batch: 323327

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-106590-1	AP-EWE-01	Total/NA	Water	200.8	323201

General Chemistry

Analysis Batch: 322703

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-106590-1	AP-EWE-01	Total/NA	Water	SM 2540C	
LCS 480-322703/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 322708

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-106590-1	AP-EWE-01	Total/NA	Water	353.2	

Analysis Batch: 322709

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-106590-1	AP-EWE-01	Total/NA	Water	353.2	

TestAmerica Buffalo

QC Association Summary

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-106590-1

General Chemistry (Continued)

Analysis Batch: 322710

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-106590-1	AP-EWE-01	Total/NA	Water	7196A	
MB 480-322710/3	Method Blank	Total/NA	Water	7196A	
LCS 480-322710/4	Lab Control Sample	Total/NA	Water	7196A	
480-106590-1 DU	AP-EWE-01	Total/NA	Water	7196A	

Analysis Batch: 322712

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-106590-1	AP-EWE-01	Total/NA	Water	410.4	
MB 480-322712/27	Method Blank	Total/NA	Water	410.4	
MB 480-322712/3	Method Blank	Total/NA	Water	410.4	
LCS 480-322712/28	Lab Control Sample	Total/NA	Water	410.4	
LCS 480-322712/4	Lab Control Sample	Total/NA	Water	410.4	

Analysis Batch: 322718

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-106590-1	AP-EWE-01	Total/NA	Water	SM 4500 O G	
480-106590-1 DU	AP-EWE-01	Total/NA	Water	SM 4500 O G	

Prep Batch: 322722

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-106590-1	AP-EWE-01	Total/NA	Water	351.2	
MB 480-322722/1-A	Method Blank	Total/NA	Water	351.2	
LCS 480-322722/2-A	Lab Control Sample	Total/NA	Water	351.2	
480-106590-1 MS	AP-EWE-01	Total/NA	Water	351.2	

Analysis Batch: 322807

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-106590-1	AP-EWE-01	Total/NA	Water	SM 2540D	
MB 480-322807/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 480-322807/2	Lab Control Sample	Total/NA	Water	SM 2540D	

Prep Batch: 322809

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-106590-1	AP-EWE-01	Total/NA	Water	Distill/Phenol	
MB 480-322809/1-A	Method Blank	Total/NA	Water	Distill/Phenol	
LCS 480-322809/2-A	Lab Control Sample	Total/NA	Water	Distill/Phenol	

Analysis Batch: 322834

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-106590-1	AP-EWE-01	Total/NA	Water	351.2	322722
MB 480-322722/1-A	Method Blank	Total/NA	Water	351.2	322722
LCS 480-322722/2-A	Lab Control Sample	Total/NA	Water	351.2	322722
480-106590-1 MS	AP-EWE-01	Total/NA	Water	351.2	322722

Analysis Batch: 322835

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-106590-1	AP-EWE-01	Total/NA	Water	SM 5210B	
USB 480-322835/1	Method Blank	Total/NA	Water	SM 5210B	
LCS 480-322835/2	Lab Control Sample	Total/NA	Water	SM 5210B	

TestAmerica Buffalo

QC Association Summary

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-106590-1

General Chemistry (Continued)

Analysis Batch: 322869

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-106590-1	AP-EWE-01	Total/NA	Water	9040C	
LCS 480-322869/1	Lab Control Sample	Total/NA	Water	9040C	

Analysis Batch: 322882

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-106590-1	AP-EWE-01	Total/NA	Water	350.1	
MB 480-322882/27	Method Blank	Total/NA	Water	350.1	
MB 480-322882/3	Method Blank	Total/NA	Water	350.1	
LCS 480-322882/28	Lab Control Sample	Total/NA	Water	350.1	
LCS 480-322882/4	Lab Control Sample	Total/NA	Water	350.1	

Analysis Batch: 323069

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-106590-1	AP-EWE-01	Total/NA	Water	420.1	322809
MB 480-322809/1-A	Method Blank	Total/NA	Water	420.1	322809
LCS 480-322809/2-A	Lab Control Sample	Total/NA	Water	420.1	322809

Lab Chronicle

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-106590-1

Client Sample ID: AP-EWE-01

Lab Sample ID: 480-106590-1

Date Collected: 09/27/16 07:45

Matrix: Water

Date Received: 09/27/16 14:09

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624		1	322558	09/27/16 22:55	RJF	TAL BUF
Total/NA	Prep	200.7			322752	09/28/16 09:02	MVZ	TAL BUF
Total/NA	Analysis	200.7 Rev 4.4		1	322965	09/28/16 16:37	AMH	TAL BUF
Total/NA	Prep	200.8			323201	09/30/16 09:39	MVZ	TAL BUF
Total/NA	Analysis	200.8		1	323327	09/30/16 17:18	MTM2	TAL BUF
Total/NA	Analysis	350.1		1	322882	09/28/16 14:07	CEA	TAL BUF
Total/NA	Prep	351.2			322722	09/28/16 01:15	DCB	TAL BUF
Total/NA	Analysis	351.2		1	322834	09/28/16 09:38	CLT	TAL BUF
Total/NA	Analysis	353.2		1	322708	09/27/16 17:26	ELR	TAL BUF
Total/NA	Analysis	353.2		1	322709	09/27/16 17:26	ELR	TAL BUF
Total/NA	Analysis	410.4		1	322712	09/27/16 17:16	CDC	TAL BUF
Total/NA	Prep	Distill/Phenol			322809	09/28/16 09:51	JCL	TAL BUF
Total/NA	Analysis	420.1		1	323069	09/29/16 10:52	ELR	TAL BUF
Total/NA	Analysis	7196A		1	322710	09/27/16 17:35	CDC	TAL BUF
Total/NA	Analysis	9040C		1	322869	09/28/16 14:12	KMF	TAL BUF
Total/NA	Analysis	SM 2540C		1	322703	09/27/16 18:32	CDC	TAL BUF
Total/NA	Analysis	SM 2540D		1	322807	09/28/16 09:49	EKB	TAL BUF
Total/NA	Analysis	SM 4500 O G		1	322718	09/27/16 18:41	DSC	TAL BUF
Total/NA	Analysis	SM 5210B		1	322835	09/28/16 10:07	MDL	TAL BUF

Client Sample ID: TRIP BLANK

Lab Sample ID: 480-106590-2

Date Collected: 09/27/16 00:00

Matrix: Water

Date Received: 09/27/16 14:09

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624		1	322558	09/27/16 23:18	RJF	TAL BUF

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Certification Summary

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-106590-1

Laboratory: TestAmerica Buffalo

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
New York	NELAP	2	10026	03-31-17

The following analytes are included in this report, but certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
9040C		Water	pH
SM 4500 O G		Water	Oxygen, Dissolved

Method Summary

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-106590-1

Method	Method Description	Protocol	Laboratory
624	Volatile Organic Compounds (GC/MS)	40CFR136A	TAL BUF
200.7 Rev 4.4	Metals (ICP)	EPA	TAL BUF
200.8	Metals (ICP/MS)	EPA	TAL BUF
350.1	Nitrogen, Ammonia	MCAWW	TAL BUF
351.2	Nitrogen, Total Kjeldahl	MCAWW	TAL BUF
353.2	Nitrogen, Nitrite	MCAWW	TAL BUF
353.2	Nitrate	EPA	TAL BUF
410.4	COD	MCAWW	TAL BUF
420.1	Phenolics, Total Recoverable	MCAWW	TAL BUF
7196A	Chromium, Hexavalent	SW846	TAL BUF
9040C	pH	SW846	TAL BUF
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL BUF
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL BUF
SM 4500 O G	Oxygen, Dissolved	SM	TAL BUF
SM 5210B	BOD, 5-Day	SM	TAL BUF

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Sample Summary

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-106590-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-106590-1	AP-EWE-01	Water	09/27/16 07:45	09/27/16 14:09
480-106590-2	TRIP BLANK	Water	09/27/16 00:00	09/27/16 14:09

Chain of Custody Record

Temperature on Receipt _____

Drinking Water? Yes ☐ No ☒

TAL-4124 (1007)

Client: Greenspring Env. Solutions

Address C Gellatly Dr

City	Wappinger Falls	State	NY	Zip Code	12590
------	-----------------	-------	----	----------	-------

Project Name and Location (State)
Arco Fuel Niagara Falls, NY

Contract/Purchase Order/Quote No. 1047

Project Manager

Ch. 8 mci ted

Phone Number (Area Code)/Fax Number

Site Contact

July Spire

Carrier/Waybill Number

Date _____

9/27/16

Lab Number

Chain of Custody Number

274372

Page 2 of 2

Analysis (Attach list if more space is needed)

Special Instructions/
Conditions of Receipt[illegible]

Possible Hazard Identification

☐ Non-Hazard	☐ Flammable	☒ Skin Irritant
-------------------------------------	------------------------------------	---

Turn Around Time Received

☐ Turn Around Time Required

☐ 24 Hours ☐ 48 Hours

1. Relinquished By

Σ

2. Relinquished By

2. Delinearisation B.

by Heinrich Heine

Comments

DISTRIBUTION: *WHITE* - Returned to Client with Report; *CANARY* - Stays with the Sample; *PINK* - Field Copy

Login Sample Receipt Checklist

Client: Greenstar Environmental Solutions, LLC

Job Number: 480-106590-1

Login Number: 106590

List Source: TestAmerica Buffalo

List Number: 1

Creator: Wallace, Cameron

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	GREENSTAR ENVIRONMENTAL SOLUTIONS
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	False	LAB CHECK RC

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Buffalo

10 Hazelwood Drive

Amherst, NY 14228-2298

Tel: (716)691-2600

TestAmerica Job ID: 480-111300-1

Client Project/Site: Greenstar Environmental Solutions, LLC

Sampling Event: Quarterly Discharge Monitoring (3,6,9,12

For:

Greenstar Environmental Solutions, LLC

6 Gellatly Drive

Wappingers Falls, New York 12590

Attn: Charles E McLeod, Jr.

Peggy Gray - Erdmann

Authorized for release by:

12/28/2016 12:20:07 PM

Peggy Gray-Erdmann, Client Relations Manager

(716)504-9829

peggy.gray-erdmann@testamericainc.com

Designee for

Orlette Johnson, Senior Project Manager

(484)685-0864

orlette.johnson@testamericainc.com

LINKS

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www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-111300-1

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
b	Result Detected in the Unseeded Control blank (USB).
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-111300-1

Job ID: 480-111300-1

Laboratory: TestAmerica Buffalo

Narrative

Job Narrative 480-111300-1

Comments

No additional comments.

Receipt

The samples were received on 12/19/2016 4:30 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.5° C.

GC/MS VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry

Method(s) 9040C, SM 4500 H+ B: This analysis is normally performed in the field and has a method-defined holding time of 15 minutes. The following sample has been qualified with the "HF" flag to indicate analysis was performed in the laboratory outside the 15 minute timeframe: AP-EWE-01 (480-111300-1).

Method(s) SM 4500 O G: This analysis is normally performed in the field and has a method-defined holding time of 15 minutes. The following sample has been qualified with the "HF" flag to indicate analysis was performed in the laboratory outside the 15 minute timeframe: AP-EWE-01 (480-111300-1).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-111300-1

Client Sample ID: AP-EWE-01

Lab Sample ID: 480-111300-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Barium	166		2.0	0.70	ug/L	1			200.7 Rev 4.4	Total/NA
Zinc	2.0	J	10.0	1.5	ug/L	1			200.7 Rev 4.4	Total/NA
Thallium	0.030	J	0.20	0.019	ug/L	1			200.8	Total/NA
Total Kjeldahl Nitrogen	0.31	F1	0.20	0.15	mg/L as N	1			351.2	Total/NA
Nitrate as N	1.7		0.050	0.020	mg/L	1			353.2	Total/NA
Chemical Oxygen Demand	10.9		10.0	5.0	mg/L	1			410.4	Total/NA
Phenolics, Total Recoverable	5.1	J	10.0	5.0	ug/L	1			420.1	Total/NA
Total Dissolved Solids	719		10.0	4.0	mg/L	1			SM 2540C	Total/NA
Biochemical Oxygen Demand	3.3	b	2.0	2.0	mg/L	1			SM 5210B	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil	Fac	D	Method	Prep Type
pH	7.80		0.100	0.100	SU	1			9040C	Total/NA
Total Suspended Solids	20.8		4.0	4.0	mg/L	1			SM 2540D	Total/NA
Oxygen, Dissolved	8.6	HF	0.050	0.050	mg/L	1			SM 4500 O G	Total/NA

Client Sample ID: TRIP BLANK

Lab Sample ID: 480-111300-2

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Buffalo

Client Sample Results

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-111300-1

Client Sample ID: AP-EWE-01

Date Collected: 12/19/16 13:00

Date Received: 12/19/16 16:30

Lab Sample ID: 480-111300-1

Matrix: Water

Method: 624 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		5.0	0.59	ug/L			12/20/16 14:18	1
Trichloroethene	ND		5.0	0.60	ug/L			12/20/16 14:18	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		80 - 120					12/20/16 14:18	1
4-Bromofluorobenzene (Surr)	113		80 - 120					12/20/16 14:18	1
Toluene-d8 (Surr)	103		77 - 120					12/20/16 14:18	1
Dibromofluoromethane (Surr)	113		78 - 120					12/20/16 14:18	1

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	166		2.0	0.70	ug/L		12/21/16 09:30	12/21/16 22:26	1
Chromium	ND		4.0	1.0	ug/L		12/21/16 09:30	12/21/16 22:26	1
Copper	ND		10.0	1.6	ug/L		12/21/16 09:30	12/21/16 22:26	1
Iron	ND		50.0	19.3	ug/L		12/21/16 09:30	12/21/16 22:26	1
Nickel	ND		10.0	1.3	ug/L		12/21/16 09:30	12/21/16 22:26	1
Zinc	2.0	J	10.0	1.5	ug/L		12/21/16 09:30	12/21/16 22:26	1

Method: 200.8 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	ND		1.0	0.44	ug/L		12/20/16 09:25	12/21/16 03:02	1
Thallium	0.030	J	0.20	0.019	ug/L		12/20/16 09:25	12/21/16 03:02	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N	ND		0.020	0.0090	mg/L as N			12/20/16 13:57	1
Total Kjeldahl Nitrogen	0.31	F1	0.20	0.15	mg/L as N		12/22/16 09:20	12/23/16 11:01	1
Nitrate as N	1.7		0.050	0.020	mg/L			12/20/16 23:24	1
Nitrite as N	ND		0.050	0.020	mg/L			12/20/16 23:24	1
Chemical Oxygen Demand	10.9		10.0	5.0	mg/L			12/20/16 18:22	1
Phenolics, Total Recoverable	5.1	J	10.0	5.0	ug/L		12/27/16 16:40	12/28/16 02:32	1
Chromium, hexavalent	ND		10.0	5.0	ug/L			12/20/16 12:30	1
Total Dissolved Solids	719		10.0	4.0	mg/L			12/21/16 21:36	1
Biochemical Oxygen Demand	3.3	b	2.0	2.0	mg/L			12/21/16 05:38	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.80		0.100	0.100	SU			12/20/16 10:48	1
Total Suspended Solids	20.8		4.0	4.0	mg/L			12/21/16 06:02	1
Oxygen, Dissolved	8.6	HF	0.050	0.050	mg/L			12/21/16 16:23	1

Client Sample ID: TRIP BLANK

Date Collected: 12/19/16 00:00

Date Received: 12/19/16 16:30

Lab Sample ID: 480-111300-2

Matrix: Water

Method: 624 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		5.0	0.59	ug/L			12/20/16 14:42	1
Trichloroethene	ND		5.0	0.60	ug/L			12/20/16 14:42	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		80 - 120					12/20/16 14:42	1

TestAmerica Buffalo

Client Sample Results

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-111300-1

Client Sample ID: TRIP BLANK

Date Collected: 12/19/16 00:00

Date Received: 12/19/16 16:30

Lab Sample ID: 480-111300-2

Matrix: Water

Method: 624 - Volatile Organic Compounds (GC/MS) (Continued)

<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
4-Bromofluorobenzene (Surr)	107		80 - 120		12/20/16 14:42	1
Toluene-d8 (Surr)	102		77 - 120		12/20/16 14:42	1
Dibromofluoromethane (Surr)	110		78 - 120		12/20/16 14:42	1

Surrogate Summary

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-111300-1

Method: 624 - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	12DCE (80-120)	BFB (80-120)	TOL (77-120)	DBFM (78-120)
480-111300-1	AP-EWE-01	110	113	103	113
480-111300-2	TRIP BLANK	111	107	102	110
LCS 480-337265/5	Lab Control Sample	106	108	103	106
MB 480-337265/7	Method Blank	111	111	101	114

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

TOL = Toluene-d8 (Surr)

DBFM = Dibromofluoromethane (Surr)

QC Sample Results

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-111300-1

Method: 624 - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 480-337265/7

Matrix: Water

Analysis Batch: 337265

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		5.0	0.59	ug/L			12/20/16 12:07	1
Trichloroethene	ND		5.0	0.60	ug/L			12/20/16 12:07	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		80 - 120					12/20/16 12:07	1
4-Bromofluorobenzene (Surr)	111		80 - 120					12/20/16 12:07	1
Toluene-d8 (Surr)	101		77 - 120					12/20/16 12:07	1
Dibromofluoromethane (Surr)	114		78 - 120					12/20/16 12:07	1

Lab Sample ID: LCS 480-337265/5

Matrix: Water

Analysis Batch: 337265

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethane	20.0	21.7		ug/L		108	59 - 155
Trichloroethene	20.0	20.8		ug/L		104	71 - 157
Surrogate	%Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	106		80 - 120				
4-Bromofluorobenzene (Surr)	108		80 - 120				
Toluene-d8 (Surr)	103		77 - 120				
Dibromofluoromethane (Surr)	106		78 - 120				

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 480-337463/1-A

Matrix: Water

Analysis Batch: 337704

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 337463

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	ND		2.0	0.70	ug/L		12/21/16 09:30	12/21/16 21:28	1
Chromium	ND		4.0	1.0	ug/L		12/21/16 09:30	12/21/16 21:28	1
Copper	ND		10.0	1.6	ug/L		12/21/16 09:30	12/21/16 21:28	1
Iron	ND		50.0	19.3	ug/L		12/21/16 09:30	12/21/16 21:28	1
Nickel	ND		10.0	1.3	ug/L		12/21/16 09:30	12/21/16 21:28	1
Zinc	ND		10.0	1.5	ug/L		12/21/16 09:30	12/21/16 21:28	1

Lab Sample ID: LCS 480-337463/2-A

Matrix: Water

Analysis Batch: 337704

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 337463

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Barium	200	198.1		ug/L		99	85 - 115
Chromium	200	200.9		ug/L		100	85 - 115
Copper	200	211.4		ug/L		106	85 - 115
Iron	10000	10560		ug/L		106	85 - 115
Nickel	200	197.2		ug/L		99	85 - 115

TestAmerica Buffalo

QC Sample Results

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-111300-1

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCS 480-337463/2-A
Matrix: Water
Analysis Batch: 337704

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 337463

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Zinc	200	209.8		ug/L		105	85 - 115

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 480-337256/1-A
Matrix: Water
Analysis Batch: 337511

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 337256

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	ND		1.0	0.44	ug/L		12/20/16 09:25	12/21/16 00:31	1
Thallium	ND		0.20	0.019	ug/L		12/20/16 09:25	12/21/16 00:31	1

Lab Sample ID: LCS 480-337256/2-A
Matrix: Water
Analysis Batch: 337511

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 337256

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Selenium	20.0	19.65		ug/L		98	85 - 115
Thallium	20.0	19.82		ug/L		99	85 - 115

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 480-337366/3
Matrix: Water
Analysis Batch: 337366

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N	ND		0.020	0.0090	mg/L as N			12/20/16 13:55	1

Lab Sample ID: LCS 480-337366/4
Matrix: Water
Analysis Batch: 337366

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia as N	1.00	1.03		mg/L as N		103	90 - 110

Method: 351.2 - Nitrogen, Total Kjeldahl

Lab Sample ID: MB 480-337746/1-A
Matrix: Water
Analysis Batch: 337945

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 337746

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Kjeldahl Nitrogen	ND		0.20	0.15	mg/L as N		12/22/16 09:20	12/23/16 09:42	1

TestAmerica Buffalo

QC Sample Results

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-111300-1

Method: 351.2 - Nitrogen, Total Kjeldahl (Continued)

Lab Sample ID: LCS 480-337746/2-A
Matrix: Water
Analysis Batch: 337945

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 337746

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Kjeldahl Nitrogen	2.50	2.36		mg/L as N		94	90 - 110

Lab Sample ID: 480-111300-1 MS
Matrix: Water
Analysis Batch: 337945

Client Sample ID: AP-EWE-01
Prep Type: Total/NA
Prep Batch: 337746

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Kjeldahl Nitrogen	0.31	F1	1.00	1.57	F1	mg/L as N		126	90 - 110

Method: 353.2 - Nitrogen, Nitrite

Lab Sample ID: MB 480-337434/3
Matrix: Water
Analysis Batch: 337434

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	ND		0.050	0.020	mg/L			12/20/16 23:18	1

Lab Sample ID: LCS 480-337434/4
Matrix: Water
Analysis Batch: 337434

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrite as N	1.50	1.52		mg/L		101	90 - 110

Method: 410.4 - COD

Lab Sample ID: MB 480-337422/27
Matrix: Water
Analysis Batch: 337422

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		10.0	5.0	mg/L			12/20/16 18:22	1

Lab Sample ID: MB 480-337422/3
Matrix: Water
Analysis Batch: 337422

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		10.0	5.0	mg/L			12/20/16 18:22	1

Lab Sample ID: MB 480-337422/51
Matrix: Water
Analysis Batch: 337422

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		10.0	5.0	mg/L			12/20/16 18:22	1

TestAmerica Buffalo

QC Sample Results

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-111300-1

Method: 410.4 - COD (Continued)

Lab Sample ID: LCS 480-337422/28

Matrix: Water

Analysis Batch: 337422

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	25.0	26.06		mg/L		104	90 - 110

Lab Sample ID: LCS 480-337422/4

Matrix: Water

Analysis Batch: 337422

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	25.0	27.05		mg/L		108	90 - 110

Lab Sample ID: LCS 480-337422/52

Matrix: Water

Analysis Batch: 337422

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	25.0	22.77		mg/L		91	90 - 110

Method: 420.1 - Phenolics, Total Recoverable

Lab Sample ID: MB 480-338119/1-A

Matrix: Water

Analysis Batch: 338137

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 338119

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenolics, Total Recoverable	ND		10.0	5.0	ug/L		12/27/16 16:40	12/28/16 01:55	1

Lab Sample ID: LCS 480-338119/2-A

Matrix: Water

Analysis Batch: 338137

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 338119

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phenolics, Total Recoverable	100	98.55		ug/L		99	90 - 110

Lab Sample ID: 480-111300-1 MS

Matrix: Water

Analysis Batch: 338137

Client Sample ID: AP-EWE-01

Prep Type: Total/NA

Prep Batch: 338119

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Phenolics, Total Recoverable	5.1	J	100	102.3		ug/L		97	90 - 110

Method: 7196A - Chromium, Hexavalent

Lab Sample ID: MB 480-337354/3

Matrix: Water

Analysis Batch: 337354

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		10.0	5.0	ug/L			12/20/16 12:30	1

TestAmerica Buffalo

QC Sample Results

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-111300-1

Method: 7196A - Chromium, Hexavalent (Continued)

Lab Sample ID: LCS 480-337354/4

Matrix: Water

Analysis Batch: 337354

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	50.0	51.75		ug/L		103	85 - 115

Lab Sample ID: 480-111300-1 MS

Matrix: Water

Analysis Batch: 337354

Client Sample ID: AP-EWE-01

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	ND		50.0	44.84		ug/L		90	85 - 115

Lab Sample ID: 480-111300-1 DU

Matrix: Water

Analysis Batch: 337354

Client Sample ID: AP-EWE-01

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chromium, hexavalent	ND		ND		ug/L		NC	20

Method: 9040C - pH

Lab Sample ID: LCS 480-337309/23

Matrix: Water

Analysis Batch: 337309

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.010		SU		100	99 - 101

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 480-337637/1

Matrix: Water

Analysis Batch: 337637

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10.0	4.0	mg/L			12/21/16 21:36	1

Lab Sample ID: LCS 480-337637/2

Matrix: Water

Analysis Batch: 337637

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	506	513.0		mg/L		101	85 - 115

TestAmerica Buffalo

QC Sample Results

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-111300-1

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 480-337440/1

Matrix: Water

Analysis Batch: 337440

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		1.0	1.0	mg/L			12/21/16 06:02	1

Lab Sample ID: LCS 480-337440/2

Matrix: Water

Analysis Batch: 337440

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	269	265.2		mg/L		99	88 - 110

Method: SM 4500 O G - Oxygen, Dissolved

Lab Sample ID: 480-111300-1 DU

Matrix: Water

Analysis Batch: 337599

Client Sample ID: AP-EWE-01

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Oxygen, Dissolved	8.6	HF	8.77		mg/L		2	20

Method: SM 5210B - BOD, 5-Day

Lab Sample ID: USB 480-337567/1

Matrix: Water

Analysis Batch: 337567

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	USB Result	USB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	ND		2.0	2.0	mg/L			12/21/16 05:38	1

Lab Sample ID: LCS 480-337567/2

Matrix: Water

Analysis Batch: 337567

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Biochemical Oxygen Demand	198	202.8		mg/L		102	85 - 115

TestAmerica Buffalo

QC Association Summary

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-111300-1

GC/MS VOA

Analysis Batch: 337265

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-111300-1	AP-EWE-01	Total/NA	Water	624	
480-111300-2	TRIP BLANK	Total/NA	Water	624	
MB 480-337265/7	Method Blank	Total/NA	Water	624	
LCS 480-337265/5	Lab Control Sample	Total/NA	Water	624	

Metals

Prep Batch: 337256

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-111300-1	AP-EWE-01	Total/NA	Water	200.8	
MB 480-337256/1-A	Method Blank	Total/NA	Water	200.8	
LCS 480-337256/2-A	Lab Control Sample	Total/NA	Water	200.8	

Prep Batch: 337463

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-111300-1	AP-EWE-01	Total/NA	Water	200.7	
MB 480-337463/1-A	Method Blank	Total/NA	Water	200.7	
LCS 480-337463/2-A	Lab Control Sample	Total/NA	Water	200.7	

Analysis Batch: 337511

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-111300-1	AP-EWE-01	Total/NA	Water	200.8	337256
MB 480-337256/1-A	Method Blank	Total/NA	Water	200.8	337256
LCS 480-337256/2-A	Lab Control Sample	Total/NA	Water	200.8	337256

Analysis Batch: 337704

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-111300-1	AP-EWE-01	Total/NA	Water	200.7 Rev 4.4	337463
MB 480-337463/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	337463
LCS 480-337463/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	337463

General Chemistry

Analysis Batch: 337309

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-111300-1	AP-EWE-01	Total/NA	Water	9040C	
LCS 480-337309/23	Lab Control Sample	Total/NA	Water	9040C	

Analysis Batch: 337354

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-111300-1	AP-EWE-01	Total/NA	Water	7196A	
MB 480-337354/3	Method Blank	Total/NA	Water	7196A	
LCS 480-337354/4	Lab Control Sample	Total/NA	Water	7196A	
480-111300-1 MS	AP-EWE-01	Total/NA	Water	7196A	
480-111300-1 DU	AP-EWE-01	Total/NA	Water	7196A	

Analysis Batch: 337366

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-111300-1	AP-EWE-01	Total/NA	Water	350.1	
MB 480-337366/3	Method Blank	Total/NA	Water	350.1	

TestAmerica Buffalo

QC Association Summary

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-111300-1

General Chemistry (Continued)

Analysis Batch: 337366 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 480-337366/4	Lab Control Sample	Total/NA	Water	350.1	

Analysis Batch: 337422

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-111300-1	AP-EWE-01	Total/NA	Water	410.4	
MB 480-337422/27	Method Blank	Total/NA	Water	410.4	
MB 480-337422/3	Method Blank	Total/NA	Water	410.4	
MB 480-337422/51	Method Blank	Total/NA	Water	410.4	
LCS 480-337422/28	Lab Control Sample	Total/NA	Water	410.4	
LCS 480-337422/4	Lab Control Sample	Total/NA	Water	410.4	
LCS 480-337422/52	Lab Control Sample	Total/NA	Water	410.4	

Analysis Batch: 337434

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-111300-1	AP-EWE-01	Total/NA	Water	353.2	
MB 480-337434/3	Method Blank	Total/NA	Water	353.2	
LCS 480-337434/4	Lab Control Sample	Total/NA	Water	353.2	

Analysis Batch: 337436

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-111300-1	AP-EWE-01	Total/NA	Water	353.2	

Analysis Batch: 337440

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-111300-1	AP-EWE-01	Total/NA	Water	SM 2540D	
MB 480-337440/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 480-337440/2	Lab Control Sample	Total/NA	Water	SM 2540D	

Analysis Batch: 337567

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-111300-1	AP-EWE-01	Total/NA	Water	SM 5210B	
USB 480-337567/1	Method Blank	Total/NA	Water	SM 5210B	
LCS 480-337567/2	Lab Control Sample	Total/NA	Water	SM 5210B	

Analysis Batch: 337599

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-111300-1	AP-EWE-01	Total/NA	Water	SM 4500 O G	
480-111300-1 DU	AP-EWE-01	Total/NA	Water	SM 4500 O G	

Analysis Batch: 337637

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-111300-1	AP-EWE-01	Total/NA	Water	SM 2540C	
MB 480-337637/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 480-337637/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Prep Batch: 337746

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-111300-1	AP-EWE-01	Total/NA	Water	351.2	
MB 480-337746/1-A	Method Blank	Total/NA	Water	351.2	
LCS 480-337746/2-A	Lab Control Sample	Total/NA	Water	351.2	
480-111300-1 MS	AP-EWE-01	Total/NA	Water	351.2	

TestAmerica Buffalo

QC Association Summary

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-111300-1

Analysis Batch: 337945

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-111300-1	AP-EWE-01	Total/NA	Water	351.2	337746
MB 480-337746/1-A	Method Blank	Total/NA	Water	351.2	337746
LCS 480-337746/2-A	Lab Control Sample	Total/NA	Water	351.2	337746
480-111300-1 MS	AP-EWE-01	Total/NA	Water	351.2	337746

Prep Batch: 338119

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-111300-1	AP-EWE-01	Total/NA	Water	Distill/Phenol	
MB 480-338119/1-A	Method Blank	Total/NA	Water	Distill/Phenol	
LCS 480-338119/2-A	Lab Control Sample	Total/NA	Water	Distill/Phenol	
480-111300-1 MS	AP-EWE-01	Total/NA	Water	Distill/Phenol	

Analysis Batch: 338137

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-111300-1	AP-EWE-01	Total/NA	Water	420.1	338119
MB 480-338119/1-A	Method Blank	Total/NA	Water	420.1	338119
LCS 480-338119/2-A	Lab Control Sample	Total/NA	Water	420.1	338119
480-111300-1 MS	AP-EWE-01	Total/NA	Water	420.1	338119

Lab Chronicle

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-111300-1

Client Sample ID: AP-EWE-01

Date Collected: 12/19/16 13:00

Date Received: 12/19/16 16:30

Lab Sample ID: 480-111300-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624		1	337265	12/20/16 14:18	SWO	TAL BUF
Total/NA	Prep	200.7			337463	12/21/16 09:30	MVZ	TAL BUF
Total/NA	Analysis	200.7 Rev 4.4		1	337704	12/21/16 22:26	AMH	TAL BUF
Total/NA	Prep	200.8			337256	12/20/16 09:25	MVZ	TAL BUF
Total/NA	Analysis	200.8		1	337511	12/21/16 03:02	JRK	TAL BUF
Total/NA	Analysis	350.1		1	337366	12/20/16 13:57	CEA	TAL BUF
Total/NA	Prep	351.2			337746	12/22/16 09:20	CLT	TAL BUF
Total/NA	Analysis	351.2		1	337945	12/23/16 11:01	ELR	TAL BUF
Total/NA	Analysis	353.2		1	337434	12/20/16 23:24	ELR	TAL BUF
Total/NA	Analysis	353.2		1	337436	12/20/16 23:24	ELR	TAL BUF
Total/NA	Analysis	410.4		1	337422	12/20/16 18:22	CDC	TAL BUF
Total/NA	Prep	Distill/Phenol			338119	12/27/16 16:40	DCB	TAL BUF
Total/NA	Analysis	420.1		1	338137	12/28/16 02:32	KMB	TAL BUF
Total/NA	Analysis	7196A		1	337354	12/20/16 12:30	CLT	TAL BUF
Total/NA	Analysis	9040C		1	337309	12/20/16 10:48	CEA	TAL BUF
Total/NA	Analysis	SM 2540C		1	337637	12/21/16 21:36	CDC	TAL BUF
Total/NA	Analysis	SM 2540D		1	337440	12/21/16 06:02	KMB	TAL BUF
Total/NA	Analysis	SM 4500 O G		1	337599	12/21/16 16:23	MDL	TAL BUF
Total/NA	Analysis	SM 5210B		1	337567	12/21/16 05:38	LAW	TAL BUF

Client Sample ID: TRIP BLANK

Date Collected: 12/19/16 00:00

Date Received: 12/19/16 16:30

Lab Sample ID: 480-111300-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624		1	337265	12/20/16 14:42	SWO	TAL BUF

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Certification Summary

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-111300-1

Laboratory: TestAmerica Buffalo

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
New York	NELAP	2	10026	03-31-17

The following analytes are included in this report, but certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
9040C		Water	pH
SM 4500 O G		Water	Oxygen, Dissolved

Method Summary

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-111300-1

Method	Method Description	Protocol	Laboratory
624	Volatile Organic Compounds (GC/MS)	40CFR136A	TAL BUF
200.7 Rev 4.4	Metals (ICP)	EPA	TAL BUF
200.8	Metals (ICP/MS)	EPA	TAL BUF
350.1	Nitrogen, Ammonia	MCAWW	TAL BUF
351.2	Nitrogen, Total Kjeldahl	MCAWW	TAL BUF
353.2	Nitrogen, Nitrite	MCAWW	TAL BUF
353.2	Nitrate	EPA	TAL BUF
410.4	COD	MCAWW	TAL BUF
420.1	Phenolics, Total Recoverable	MCAWW	TAL BUF
7196A	Chromium, Hexavalent	SW846	TAL BUF
9040C	pH	SW846	TAL BUF
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL BUF
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL BUF
SM 4500 O G	Oxygen, Dissolved	SM	TAL BUF
SM 5210B	BOD, 5-Day	SM	TAL BUF

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Sample Summary

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar Environmental Solutions, LLC

TestAmerica Job ID: 480-111300-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-111300-1	AP-EWE-01	Water	12/19/16 13:00	12/19/16 16:30
480-111300-2	TRIP BLANK	Water	12/19/16 00:00	12/19/16 16:30

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[illegible]

Login Sample Receipt Checklist

Client: Greenstar Environmental Solutions, LLC

Job Number: 480-111300-1

Login Number: 111300

List Source: TestAmerica Buffalo

List Number: 1

Creator: Williams, Christopher S

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	GES
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	N/A	
Chlorine Residual checked.	False	LAB TO CHECK RC

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Buffalo

10 Hazelwood Drive

Amherst, NY 14228-2298

Tel: (716)691-2600

TestAmerica Job ID: 480-106591-1

Client Project/Site: Greenstar - Airco Parcel Niagara Falls

Sampling Event: Semi-Annual groundwater Monitoring 4,10

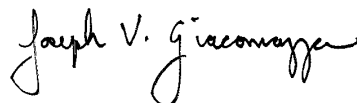
For:

Greenstar Environmental Solutions, LLC

6 Gellatly Drive

Wappingers Falls, New York 12590

Attn: Charles E McLeod, Jr.



Authorized for release by:

10/6/2016 12:44:55 PM

Joe Giacomazza, Project Management Assistant II

joe.giacomazza@testamericainc.com

Designee for

Judy Stone, Senior Project Manager

(484)685-0868

judy.stone@testamericainc.com

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar - Airco Parcel Niagara Falls

TestAmerica Job ID: 480-106591-1

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.

General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar - Airco Parcel Niagara Falls

TestAmerica Job ID: 480-106591-1

Job ID: 480-106591-1

Laboratory: TestAmerica Buffalo

Narrative

Job Narrative 480-106591-1

Receipt

The samples were received on 9/27/2016 2:10 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.6° C.

Receipt Exceptions

Logged in ID's according to bottles, which reflects the ID's programmed in TALS

HPLC/IC

Method(s) 300.0, SM 4110B: The following samples were diluted to bring the concentration of target analytes within the calibration range: AP-MW-1B (480-106591-1) and AP-MW-6B (480-106591-2). Elevated reporting limits (RLs) are provided.

Method(s) 300.0: The following sample was diluted to bring the concentration of target analytes within the calibration range: AP-MW-DUP-01 (480-106591-4). Elevated reporting limits (RLs) are provided.

Method(s) 300.0, SM 4110B: The results reported for the following sample do not concur with results previously reported for this site: AP-MW-DUP-01 (480-106591-4). Reanalysis was performed, and the result(s) confirmed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar - Airco Parcel Niagara Falls

TestAmerica Job ID: 480-106591-1

Client Sample ID: AP-MW-1B

Lab Sample ID: 480-106591-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium	0.00054	J	0.0020	0.00050	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.094		0.050	0.019	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	58.7		0.20	0.043	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.59	B	0.0030	0.00040	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	178		1.0	0.32	mg/L	1		200.7 Rev 4.4	Total/NA
Zinc	0.46		0.010	0.0015	mg/L	1		200.7 Rev 4.4	Total/NA
Silicon	6.8		0.50	0.060	mg/L	1		200.7 Rev 4.4	Total/NA
Sulfate	179		10.0	1.7	mg/L	5		300.0	Total/NA
Chromium, hexavalent	5.0	J	10.0	5.0	ug/L	1		7196A	Total/NA

Client Sample ID: AP-MW-6B

Lab Sample ID: 480-106591-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.44		0.050	0.019	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	61.6		0.20	0.043	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.12	B	0.0030	0.00040	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	74.4		1.0	0.32	mg/L	1		200.7 Rev 4.4	Total/NA
Zinc	0.0059	J	0.010	0.0015	mg/L	1		200.7 Rev 4.4	Total/NA
Silicon	5.9		0.50	0.060	mg/L	1		200.7 Rev 4.4	Total/NA
Sulfate	331		20.0	3.5	mg/L	10		300.0	Total/NA
Chromium, hexavalent	5.9	J	10.0	5.0	ug/L	1		7196A	Total/NA

Client Sample ID: AP-MW-7B

Lab Sample ID: 480-106591-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	0.0084		0.0040	0.0010	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.21		0.050	0.019	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	8.6		0.20	0.043	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.14	B	0.0030	0.00040	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	53.4		1.0	0.32	mg/L	1		200.7 Rev 4.4	Total/NA
Zinc	0.0062	J	0.010	0.0015	mg/L	1		200.7 Rev 4.4	Total/NA
Silicon	4.8		0.50	0.060	mg/L	1		200.7 Rev 4.4	Total/NA
Sulfate	25.6		2.0	0.35	mg/L	1		300.0	Total/NA
Chromium, hexavalent	7.5	J	10.0	5.0	ug/L	1		7196A	Total/NA

Client Sample ID: AP-MW-DUP-01

Lab Sample ID: 480-106591-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.42		0.050	0.019	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	60.1		0.20	0.043	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.12	B	0.0030	0.00040	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	71.8		1.0	0.32	mg/L	1		200.7 Rev 4.4	Total/NA
Zinc	0.024		0.010	0.0015	mg/L	1		200.7 Rev 4.4	Total/NA
Silicon	5.8		0.50	0.060	mg/L	1		200.7 Rev 4.4	Total/NA
Sulfate	327		10.0	1.7	mg/L	5		300.0	Total/NA
Chromium, hexavalent	8.3	J	10.0	5.0	ug/L	1		7196A	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Buffalo

Client Sample Results

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar - Airco Parcel Niagara Falls

TestAmerica Job ID: 480-106591-1

Client Sample ID: AP-MW-1B

Lab Sample ID: 480-106591-1

Date Collected: 09/27/16 09:55

Matrix: Water

Date Received: 09/27/16 14:10

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.00054	J	0.0020	0.00050	mg/L		09/28/16 09:02	09/28/16 16:41	1
Chromium	ND		0.0040	0.0010	mg/L		09/28/16 09:02	09/28/16 16:41	1
Iron	0.094		0.050	0.019	mg/L		09/28/16 09:02	09/28/16 16:41	1
Lead	ND		0.010	0.0030	mg/L		09/28/16 09:02	09/28/16 16:41	1
Magnesium	58.7		0.20	0.043	mg/L		09/28/16 09:02	09/28/16 16:41	1
Manganese	0.59	B	0.0030	0.00040	mg/L		09/28/16 09:02	09/28/16 16:41	1
Selenium	ND		0.025	0.0087	mg/L		09/28/16 09:02	09/28/16 16:41	1
Sodium	178		1.0	0.32	mg/L		09/28/16 09:02	09/28/16 16:41	1
Thallium	ND		0.020	0.010	mg/L		09/28/16 09:02	09/28/16 16:41	1
Zinc	0.46		0.010	0.0015	mg/L		09/28/16 09:02	09/28/16 16:41	1
Silicon	6.8		0.50	0.060	mg/L		09/28/16 09:02	09/28/16 16:41	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	179		10.0	1.7	mg/L			09/28/16 19:40	5
Ammonia as N	ND		0.020	0.0090	mg/L as N			09/28/16 14:08	1
Phenolics, Total Recoverable	ND		10.0	5.0	ug/L		09/28/16 09:51	09/29/16 10:52	1
Chromium, hexavalent	5.0	J	10.0	5.0	ug/L			09/27/16 17:35	1

Client Sample ID: AP-MW-6B

Lab Sample ID: 480-106591-2

Date Collected: 09/27/16 11:30

Matrix: Water

Date Received: 09/27/16 14:10

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		0.0020	0.00050	mg/L		09/28/16 09:02	09/28/16 16:44	1
Chromium	ND		0.0040	0.0010	mg/L		09/28/16 09:02	09/28/16 16:44	1
Iron	0.44		0.050	0.019	mg/L		09/28/16 09:02	09/28/16 16:44	1
Lead	ND		0.010	0.0030	mg/L		09/28/16 09:02	09/28/16 16:44	1
Magnesium	61.6		0.20	0.043	mg/L		09/28/16 09:02	09/28/16 16:44	1
Manganese	0.12	B	0.0030	0.00040	mg/L		09/28/16 09:02	09/28/16 16:44	1
Selenium	ND		0.025	0.0087	mg/L		09/28/16 09:02	09/28/16 16:44	1
Sodium	74.4		1.0	0.32	mg/L		09/28/16 09:02	09/28/16 16:44	1
Thallium	ND		0.020	0.010	mg/L		09/28/16 09:02	09/28/16 16:44	1
Zinc	0.0059	J	0.010	0.0015	mg/L		09/28/16 09:02	09/28/16 16:44	1
Silicon	5.9		0.50	0.060	mg/L		09/28/16 09:02	09/28/16 16:44	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	331		20.0	3.5	mg/L			09/28/16 19:48	10
Ammonia as N	ND		0.020	0.0090	mg/L as N			09/28/16 14:09	1
Phenolics, Total Recoverable	ND		10.0	5.0	ug/L		09/28/16 09:51	09/29/16 10:52	1
Chromium, hexavalent	5.9	J	10.0	5.0	ug/L			09/27/16 17:35	1

TestAmerica Buffalo

Client Sample Results

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar - Airco Parcel Niagara Falls

TestAmerica Job ID: 480-106591-1

Client Sample ID: AP-MW-7B

Lab Sample ID: 480-106591-3

Date Collected: 09/27/16 12:50

Matrix: Water

Date Received: 09/27/16 14:10

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		0.0020	0.00050	mg/L		09/28/16 09:02	09/28/16 16:48	1
Chromium	0.0084		0.0040	0.0010	mg/L		09/28/16 09:02	09/28/16 16:48	1
Iron	0.21		0.050	0.019	mg/L		09/28/16 09:02	09/28/16 16:48	1
Lead	ND		0.010	0.0030	mg/L		09/28/16 09:02	09/28/16 16:48	1
Magnesium	8.6		0.20	0.043	mg/L		09/28/16 09:02	09/28/16 16:48	1
Manganese	0.14	B	0.0030	0.00040	mg/L		09/28/16 09:02	09/28/16 16:48	1
Selenium	ND		0.025	0.0087	mg/L		09/28/16 09:02	09/28/16 16:48	1
Sodium	53.4		1.0	0.32	mg/L		09/28/16 09:02	09/28/16 16:48	1
Thallium	ND		0.020	0.010	mg/L		09/28/16 09:02	09/28/16 16:48	1
Zinc	0.0062	J	0.010	0.0015	mg/L		09/28/16 09:02	09/28/16 16:48	1
Silicon	4.8		0.50	0.060	mg/L		09/28/16 09:02	09/28/16 16:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	25.6		2.0	0.35	mg/L			09/28/16 19:56	1
Ammonia as N	ND		0.020	0.0090	mg/L as N			09/28/16 14:14	1
Phenolics, Total Recoverable	ND		10.0	5.0	ug/L		09/29/16 10:58	09/30/16 09:45	1
Chromium, hexavalent	7.5	J	10.0	5.0	ug/L			09/27/16 17:35	1

Client Sample ID: AP-MW-DUP-01

Lab Sample ID: 480-106591-4

Date Collected: 09/27/16 00:00

Matrix: Water

Date Received: 09/27/16 14:10

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		0.0020	0.00050	mg/L		09/28/16 09:02	09/28/16 16:51	1
Chromium	ND		0.0040	0.0010	mg/L		09/28/16 09:02	09/28/16 16:51	1
Iron	0.42		0.050	0.019	mg/L		09/28/16 09:02	09/28/16 16:51	1
Lead	ND		0.010	0.0030	mg/L		09/28/16 09:02	09/28/16 16:51	1
Magnesium	60.1		0.20	0.043	mg/L		09/28/16 09:02	09/28/16 16:51	1
Manganese	0.12	B	0.0030	0.00040	mg/L		09/28/16 09:02	09/28/16 16:51	1
Selenium	ND		0.025	0.0087	mg/L		09/28/16 09:02	09/28/16 16:51	1
Sodium	71.8		1.0	0.32	mg/L		09/28/16 09:02	09/28/16 16:51	1
Thallium	ND		0.020	0.010	mg/L		09/28/16 09:02	09/28/16 16:51	1
Zinc	0.024		0.010	0.0015	mg/L		09/28/16 09:02	09/28/16 16:51	1
Silicon	5.8		0.50	0.060	mg/L		09/28/16 09:02	09/28/16 16:51	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	327		10.0	1.7	mg/L			10/04/16 18:37	5
Ammonia as N	ND		0.020	0.0090	mg/L as N			09/28/16 14:15	1
Phenolics, Total Recoverable	ND		10.0	5.0	ug/L		09/29/16 10:58	09/30/16 09:45	1
Chromium, hexavalent	8.3	J	10.0	5.0	ug/L			09/27/16 17:35	1

TestAmerica Buffalo

QC Sample Results

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar - Airco Parcel Niagara Falls

TestAmerica Job ID: 480-106591-1

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 480-322752/1-A

Matrix: Water

Analysis Batch: 322965

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 322752

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		0.0020	0.00050	mg/L		09/28/16 09:02	09/28/16 15:52	1
Chromium	ND		0.0040	0.0010	mg/L		09/28/16 09:02	09/28/16 15:52	1
Iron	ND		0.050	0.019	mg/L		09/28/16 09:02	09/28/16 15:52	1
Lead	ND		0.010	0.0030	mg/L		09/28/16 09:02	09/28/16 15:52	1
Magnesium	ND		0.20	0.043	mg/L		09/28/16 09:02	09/28/16 15:52	1
Manganese	0.00171	J	0.0030	0.00040	mg/L		09/28/16 09:02	09/28/16 15:52	1
Selenium	ND		0.025	0.0087	mg/L		09/28/16 09:02	09/28/16 15:52	1
Sodium	ND		1.0	0.32	mg/L		09/28/16 09:02	09/28/16 15:52	1
Thallium	ND		0.020	0.010	mg/L		09/28/16 09:02	09/28/16 15:52	1
Zinc	ND		0.010	0.0015	mg/L		09/28/16 09:02	09/28/16 15:52	1
Silicon	ND		0.50	0.060	mg/L		09/28/16 09:02	09/28/16 15:52	1

Lab Sample ID: LCS 480-322752/2-A

Matrix: Water

Analysis Batch: 322965

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 322752

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	0.200	0.187		mg/L		93	85 - 115
Chromium	0.200	0.197		mg/L		98	85 - 115
Iron	10.0	10.21		mg/L		102	85 - 115
Lead	0.200	0.196		mg/L		98	85 - 115
Magnesium	10.0	10.08		mg/L		101	85 - 115
Manganese	0.200	0.199		mg/L		100	85 - 115
Selenium	0.200	0.194		mg/L		97	85 - 115
Sodium	10.0	9.68		mg/L		97	85 - 115
Thallium	0.200	0.198		mg/L		99	85 - 115
Zinc	0.200	0.199		mg/L		100	85 - 115
Silicon	10.0	10.00		mg/L		100	85 - 115

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 480-322788/53

Matrix: Water

Analysis Batch: 322788

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		2.0	0.35	mg/L			09/28/16 17:30	1

Lab Sample ID: LCS 480-322788/52

Matrix: Water

Analysis Batch: 322788

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	50.0	50.29		mg/L		101	90 - 110

TestAmerica Buffalo

QC Sample Results

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar - Airco Parcel Niagara Falls

TestAmerica Job ID: 480-106591-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 480-323748/4

Matrix: Water

Analysis Batch: 323748

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		2.0	0.35	mg/L			10/04/16 16:35	1

Lab Sample ID: LCS 480-323748/3

Matrix: Water

Analysis Batch: 323748

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	50.0	53.66		mg/L		107	90 - 110

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 480-322882/27

Matrix: Water

Analysis Batch: 322882

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N	ND		0.020	0.0090	mg/L as N			09/28/16 14:12	1

Lab Sample ID: MB 480-322882/3

Matrix: Water

Analysis Batch: 322882

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N	ND		0.020	0.0090	mg/L as N			09/28/16 13:51	1

Lab Sample ID: LCS 480-322882/28

Matrix: Water

Analysis Batch: 322882

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia as N	1.00	1.04		mg/L as N		104	90 - 110

Lab Sample ID: LCS 480-322882/4

Matrix: Water

Analysis Batch: 322882

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia as N	1.00	1.04		mg/L as N		104	90 - 110

Lab Sample ID: 480-106591-2 MS

Matrix: Water

Analysis Batch: 322882

Client Sample ID: AP-MW-6B

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia as N	ND		0.200	0.191		mg/L as N		96	90 - 110

TestAmerica Buffalo

QC Sample Results

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar - Airco Parcel Niagara Falls

TestAmerica Job ID: 480-106591-1

Method: 420.1 - Phenolics, Total Recoverable

Lab Sample ID: MB 480-322809/1-A
Matrix: Water
Analysis Batch: 323069

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 322809

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenolics, Total Recoverable	ND		10.0	5.0	ug/L		09/28/16 09:51	09/29/16 09:46	1

Lab Sample ID: LCS 480-322809/2-A
Matrix: Water
Analysis Batch: 323069

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 322809

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phenolics, Total Recoverable	100	97.42		ug/L		97	90 - 110

Lab Sample ID: MB 480-323033/1-A
Matrix: Water
Analysis Batch: 323246

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 323033

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenolics, Total Recoverable	ND		10.0	5.0	ug/L		09/29/16 10:58	09/30/16 08:36	1

Lab Sample ID: LCS 480-323033/2-A
Matrix: Water
Analysis Batch: 323246

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 323033

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phenolics, Total Recoverable	100	99.23		ug/L		99	90 - 110

Method: 7196A - Chromium, Hexavalent

Lab Sample ID: MB 480-322710/3
Matrix: Water
Analysis Batch: 322710

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		10.0	5.0	ug/L			09/27/16 17:35	1

Lab Sample ID: LCS 480-322710/4
Matrix: Water
Analysis Batch: 322710

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	50.0	48.29		ug/L		97	85 - 115

Lab Sample ID: 480-106591-1 MS
Matrix: Water
Analysis Batch: 322710

Client Sample ID: AP-MW-1B
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	5.0	J	50.0	59.72		ug/L		109	85 - 115

TestAmerica Buffalo

QC Association Summary

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar - Airco Parcel Niagara Falls

TestAmerica Job ID: 480-106591-1

Metals

Prep Batch: 322752

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-106591-1	AP-MW-1B	Total/NA	Water	200.7	
480-106591-2	AP-MW-6B	Total/NA	Water	200.7	
480-106591-3	AP-MW-7B	Total/NA	Water	200.7	
480-106591-4	AP-MW-DUP-01	Total/NA	Water	200.7	
MB 480-322752/1-A	Method Blank	Total/NA	Water	200.7	
LCS 480-322752/2-A	Lab Control Sample	Total/NA	Water	200.7	

Analysis Batch: 322965

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-106591-1	AP-MW-1B	Total/NA	Water	200.7 Rev 4.4	322752
480-106591-2	AP-MW-6B	Total/NA	Water	200.7 Rev 4.4	322752
480-106591-3	AP-MW-7B	Total/NA	Water	200.7 Rev 4.4	322752
480-106591-4	AP-MW-DUP-01	Total/NA	Water	200.7 Rev 4.4	322752
MB 480-322752/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	322752
LCS 480-322752/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	322752

General Chemistry

Analysis Batch: 322710

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-106591-1	AP-MW-1B	Total/NA	Water	7196A	
480-106591-2	AP-MW-6B	Total/NA	Water	7196A	
480-106591-3	AP-MW-7B	Total/NA	Water	7196A	
480-106591-4	AP-MW-DUP-01	Total/NA	Water	7196A	
MB 480-322710/3	Method Blank	Total/NA	Water	7196A	
LCS 480-322710/4	Lab Control Sample	Total/NA	Water	7196A	
480-106591-1 MS	AP-MW-1B	Total/NA	Water	7196A	

Analysis Batch: 322788

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-106591-1	AP-MW-1B	Total/NA	Water	300.0	
480-106591-2	AP-MW-6B	Total/NA	Water	300.0	
480-106591-3	AP-MW-7B	Total/NA	Water	300.0	
MB 480-322788/53	Method Blank	Total/NA	Water	300.0	
LCS 480-322788/52	Lab Control Sample	Total/NA	Water	300.0	

Prep Batch: 322809

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-106591-1	AP-MW-1B	Total/NA	Water	Distill/Phenol	
480-106591-2	AP-MW-6B	Total/NA	Water	Distill/Phenol	
MB 480-322809/1-A	Method Blank	Total/NA	Water	Distill/Phenol	
LCS 480-322809/2-A	Lab Control Sample	Total/NA	Water	Distill/Phenol	

Analysis Batch: 322882

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-106591-1	AP-MW-1B	Total/NA	Water	350.1	
480-106591-2	AP-MW-6B	Total/NA	Water	350.1	
480-106591-3	AP-MW-7B	Total/NA	Water	350.1	
480-106591-4	AP-MW-DUP-01	Total/NA	Water	350.1	
MB 480-322882/27	Method Blank	Total/NA	Water	350.1	

TestAmerica Buffalo

QC Association Summary

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar - Airco Parcel Niagara Falls

TestAmerica Job ID: 480-106591-1

General Chemistry (Continued)

Analysis Batch: 322882 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 480-322882/3	Method Blank	Total/NA	Water	350.1	
LCS 480-322882/28	Lab Control Sample	Total/NA	Water	350.1	
LCS 480-322882/4	Lab Control Sample	Total/NA	Water	350.1	
480-106591-2 MS	AP-MW-6B	Total/NA	Water	350.1	

Prep Batch: 323033

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-106591-3	AP-MW-7B	Total/NA	Water	Distill/Phenol	
480-106591-4	AP-MW-DUP-01	Total/NA	Water	Distill/Phenol	
MB 480-323033/1-A	Method Blank	Total/NA	Water	Distill/Phenol	
LCS 480-323033/2-A	Lab Control Sample	Total/NA	Water	Distill/Phenol	

Analysis Batch: 323069

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-106591-1	AP-MW-1B	Total/NA	Water	420.1	322809
480-106591-2	AP-MW-6B	Total/NA	Water	420.1	322809
MB 480-322809/1-A	Method Blank	Total/NA	Water	420.1	322809
LCS 480-322809/2-A	Lab Control Sample	Total/NA	Water	420.1	322809

Analysis Batch: 323246

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-106591-3	AP-MW-7B	Total/NA	Water	420.1	323033
480-106591-4	AP-MW-DUP-01	Total/NA	Water	420.1	323033
MB 480-323033/1-A	Method Blank	Total/NA	Water	420.1	323033
LCS 480-323033/2-A	Lab Control Sample	Total/NA	Water	420.1	323033

Analysis Batch: 323748

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-106591-4	AP-MW-DUP-01	Total/NA	Water	300.0	
MB 480-323748/4	Method Blank	Total/NA	Water	300.0	
LCS 480-323748/3	Lab Control Sample	Total/NA	Water	300.0	

Lab Chronicle

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar - Airco Parcel Niagara Falls

TestAmerica Job ID: 480-106591-1

Client Sample ID: AP-MW-1B

Date Collected: 09/27/16 09:55

Date Received: 09/27/16 14:10

Lab Sample ID: 480-106591-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			322752	09/28/16 09:02	MVZ	TAL BUF
Total/NA	Analysis	200.7 Rev 4.4		1	322965	09/28/16 16:41	AMH	TAL BUF
Total/NA	Analysis	300.0		5	322788	09/28/16 19:40	DMR	TAL BUF
Total/NA	Analysis	350.1		1	322882	09/28/16 14:08	CEA	TAL BUF
Total/NA	Prep	Distill/Phenol			322809	09/28/16 09:51	JCL	TAL BUF
Total/NA	Analysis	420.1		1	323069	09/29/16 10:52	ELR	TAL BUF
Total/NA	Analysis	7196A		1	322710	09/27/16 17:35	CDC	TAL BUF

Client Sample ID: AP-MW-6B

Date Collected: 09/27/16 11:30

Date Received: 09/27/16 14:10

Lab Sample ID: 480-106591-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			322752	09/28/16 09:02	MVZ	TAL BUF
Total/NA	Analysis	200.7 Rev 4.4		1	322965	09/28/16 16:44	AMH	TAL BUF
Total/NA	Analysis	300.0		10	322788	09/28/16 19:48	DMR	TAL BUF
Total/NA	Analysis	350.1		1	322882	09/28/16 14:09	CEA	TAL BUF
Total/NA	Prep	Distill/Phenol			322809	09/28/16 09:51	JCL	TAL BUF
Total/NA	Analysis	420.1		1	323069	09/29/16 10:52	ELR	TAL BUF
Total/NA	Analysis	7196A		1	322710	09/27/16 17:35	CDC	TAL BUF

Client Sample ID: AP-MW-7B

Date Collected: 09/27/16 12:50

Date Received: 09/27/16 14:10

Lab Sample ID: 480-106591-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			322752	09/28/16 09:02	MVZ	TAL BUF
Total/NA	Analysis	200.7 Rev 4.4		1	322965	09/28/16 16:48	AMH	TAL BUF
Total/NA	Analysis	300.0		1	322788	09/28/16 19:56	DMR	TAL BUF
Total/NA	Analysis	350.1		1	322882	09/28/16 14:14	CEA	TAL BUF
Total/NA	Prep	Distill/Phenol			323033	09/29/16 10:58	JCL	TAL BUF
Total/NA	Analysis	420.1		1	323246	09/30/16 09:45	LED	TAL BUF
Total/NA	Analysis	7196A		1	322710	09/27/16 17:35	CDC	TAL BUF

Client Sample ID: AP-MW-DUP-01

Date Collected: 09/27/16 00:00

Date Received: 09/27/16 14:10

Lab Sample ID: 480-106591-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			322752	09/28/16 09:02	MVZ	TAL BUF
Total/NA	Analysis	200.7 Rev 4.4		1	322965	09/28/16 16:51	AMH	TAL BUF
Total/NA	Analysis	300.0		5	323748	10/04/16 18:37	CAV	TAL BUF

TestAmerica Buffalo

Lab Chronicle

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar - Airco Parcel Niagara Falls

TestAmerica Job ID: 480-106591-1

Client Sample ID: AP-MW-DUP-01

Lab Sample ID: 480-106591-4

Date Collected: 09/27/16 00:00

Matrix: Water

Date Received: 09/27/16 14:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	350.1		1	322882	09/28/16 14:15	CEA	TAL BUF
Total/NA	Prep	Distill/Phenol			323033	09/29/16 10:58	JCL	TAL BUF
Total/NA	Analysis	420.1		1	323246	09/30/16 09:45	LED	TAL BUF
Total/NA	Analysis	7196A		1	322710	09/27/16 17:35	CDC	TAL BUF

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Certification Summary

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar - Airco Parcel Niagara Falls

TestAmerica Job ID: 480-106591-1

Laboratory: TestAmerica Buffalo

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
New York	NELAP	2	10026	03-31-17

The following analytes are included in this report, but certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
200.7 Rev 4.4	200.7	Water	Silicon

Method Summary

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar - Airco Parcel Niagara Falls

TestAmerica Job ID: 480-106591-1

Method	Method Description	Protocol	Laboratory
200.7 Rev 4.4	Metals (ICP)	EPA	TAL BUF
300.0	Anions, Ion Chromatography	MCAWW	TAL BUF
350.1	Nitrogen, Ammonia	MCAWW	TAL BUF
420.1	Phenolics, Total Recoverable	MCAWW	TAL BUF
7196A	Chromium, Hexavalent	SW846	TAL BUF

Protocol References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

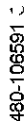
TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Sample Summary

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar - Airco Parcel Niagara Falls

TestAmerica Job ID: 480-106591-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-106591-1	AP-MW-1B	Water	09/27/16 09:55	09/27/16 14:10
480-106591-2	AP-MW-6B	Water	09/27/16 11:30	09/27/16 14:10
480-106591-3	AP-MW-7B	Water	09/27/16 12:50	09/27/16 14:10
480-106591-4	AP-MW-DUP-01	Water	09/27/16 00:00	09/27/16 14:10



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Client

GreenStar Equ. Solutions

Address
6 Gellatly Dr

City	State	Zip Code
Whippany Falls	NY	12590

Project Name and Location (State)	Airco Parcel Niagara Falls NY
Contract/Purchase Order/Quote No.	

16247

Sample I.D. No. and Description
(Containers for each sample may be combined on one line)

AD-3-01

AP - mw - 86

Ap-mw-07

42-719-01

Page 18 of 19

10/6/2016

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

14

13

12

11

10

9

8



9



2



1

Login Sample Receipt Checklist

Client: Greenstar Environmental Solutions, LLC

Job Number: 480-106591-1

Login Number: 106591

List Source: TestAmerica Buffalo

List Number: 1

Creator: Conway, Curtis R

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	GREENSTAR ENV. SOLUTIONS
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	N/A	
Chlorine Residual checked.	N/A	

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Buffalo

10 Hazelwood Drive

Amherst, NY 14228-2298

Tel: (716)691-2600

TestAmerica Job ID: 480-106636-1

Client Project/Site: Greenstar - Airco Parcel Niagara Falls

Sampling Event: Semi-Annual groundwater Monitoring 4,10

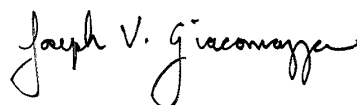
For:

Greenstar Environmental Solutions, LLC

6 Gellatly Drive

Wappingers Falls, New York 12590

Attn: Charles E McLeod, Jr.



Authorized for release by:

10/4/2016 12:06:02 PM

Joe Giacomazza, Project Management Assistant II

joe.giacomazza@testamericainc.com

Designee for

Judy Stone, Senior Project Manager

(484)685-0868

judy.stone@testamericainc.com

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar - Airco Parcel Niagara Falls

TestAmerica Job ID: 480-106636-1

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.

General Chemistry

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F1	MS and/or MSD Recovery is outside acceptance limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar - Airco Parcel Niagara Falls

TestAmerica Job ID: 480-106636-1

Job ID: 480-106636-1

Laboratory: TestAmerica Buffalo

Narrative

Job Narrative 480-106636-1

Receipt

The samples were received on 9/28/2016 10:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.7° C.

HPLC/IC

Method(s) 300.0: The following samples were diluted to bring the concentration of target analytes within the calibration range: AP-MW-5B (480-106636-3) and AP-MW-8B (480-106636-4). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar - Airco Parcel Niagara Falls

TestAmerica Job ID: 480-106636-1

Client Sample ID: AP-MW-2B

Lab Sample ID: 480-106636-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	0.30		0.0040	0.0010	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.25		0.050	0.019	mg/L	1		200.7 Rev 4.4	Total/NA
Lead	0.0034	J	0.010	0.0030	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	0.083	J	0.20	0.043	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.014	B	0.0030	0.00040	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	70.7		1.0	0.32	mg/L	1		200.7 Rev 4.4	Total/NA
Zinc	0.0033	J	0.010	0.0015	mg/L	1		200.7 Rev 4.4	Total/NA
Silicon	2.8		0.50	0.060	mg/L	1		200.7 Rev 4.4	Total/NA
Sulfate	32.9		2.0	0.35	mg/L	1		300.0	Total/NA
Ammonia as N	3.6	B	0.040	0.018	mg/L as N	2		350.1	Total/NA
Phenolics, Total Recoverable	27.3		10.0	5.0	ug/L	1		420.1	Total/NA
Chromium, hexavalent	358		10.0	5.0	ug/L	1		7196A	Total/NA

Client Sample ID: AP-MW-3B

Lab Sample ID: 480-106636-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.12		0.050	0.019	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	2.9		0.20	0.043	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.0053	B	0.0030	0.00040	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	50.2		1.0	0.32	mg/L	1		200.7 Rev 4.4	Total/NA
Zinc	0.010		0.010	0.0015	mg/L	1		200.7 Rev 4.4	Total/NA
Silicon	8.1		0.50	0.060	mg/L	1		200.7 Rev 4.4	Total/NA
Sulfate	52.9		2.0	0.35	mg/L	1		300.0	Total/NA
Ammonia as N	0.63	B	0.020	0.0090	mg/L as N	1		350.1	Total/NA
Chromium, hexavalent	6.7	J	10.0	5.0	ug/L	1		7196A	Total/NA

Client Sample ID: AP-MW-5B

Lab Sample ID: 480-106636-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium	0.00095	J	0.0020	0.00050	mg/L	1		200.7 Rev 4.4	Total/NA
Chromium	0.0032	J	0.0040	0.0010	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	2.7		0.050	0.019	mg/L	1		200.7 Rev 4.4	Total/NA
Lead	0.012		0.010	0.0030	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	93.3		0.20	0.043	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.069	B	0.0030	0.00040	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	42.2		1.0	0.32	mg/L	1		200.7 Rev 4.4	Total/NA
Zinc	0.13		0.010	0.0015	mg/L	1		200.7 Rev 4.4	Total/NA
Silicon	13.8		0.50	0.060	mg/L	1		200.7 Rev 4.4	Total/NA
Sulfate	152		10.0	1.7	mg/L	5		300.0	Total/NA
Chromium, hexavalent	9.1	J	10.0	5.0	ug/L	1		7196A	Total/NA

Client Sample ID: AP-MW-8B

Lab Sample ID: 480-106636-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium	0.00071	J	0.0020	0.00050	mg/L	1		200.7 Rev 4.4	Total/NA
Chromium	0.052		0.0040	0.0010	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.13		0.050	0.019	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	68.4		0.20	0.043	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.10	B	0.0030	0.00040	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	79.9		1.0	0.32	mg/L	1		200.7 Rev 4.4	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Buffalo

Detection Summary

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar - Airco Parcel Niagara Falls

TestAmerica Job ID: 480-106636-1

Client Sample ID: AP-MW-8B (Continued)

Lab Sample ID: 480-106636-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Zinc	0.14		0.010	0.0015	mg/L	1		200.7 Rev 4.4	Total/NA
Silicon	7.5		0.50	0.060	mg/L	1		200.7 Rev 4.4	Total/NA
Sulfate	206		10.0	1.7	mg/L	5		300.0	Total/NA
Chromium, hexavalent	58.1		10.0	5.0	ug/L	1		7196A	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Buffalo

Client Sample Results

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar - Airco Parcel Niagara Falls

TestAmerica Job ID: 480-106636-1

Client Sample ID: AP-MW-2B

Lab Sample ID: 480-106636-1

Date Collected: 09/28/16 08:25

Matrix: Water

Date Received: 09/28/16 10:00

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		0.0020	0.00050	mg/L		09/29/16 08:56	09/29/16 21:59	1
Chromium	0.30		0.0040	0.0010	mg/L		09/29/16 08:56	09/29/16 21:59	1
Iron	0.25		0.050	0.019	mg/L		09/29/16 08:56	09/29/16 21:59	1
Lead	0.0034	J	0.010	0.0030	mg/L		09/29/16 08:56	09/29/16 21:59	1
Magnesium	0.083	J	0.20	0.043	mg/L		09/29/16 08:56	09/29/16 21:59	1
Manganese	0.014	B	0.0030	0.00040	mg/L		09/29/16 08:56	09/29/16 21:59	1
Selenium	ND		0.025	0.0087	mg/L		09/29/16 08:56	09/29/16 21:59	1
Sodium	70.7		1.0	0.32	mg/L		09/29/16 08:56	09/29/16 21:59	1
Thallium	ND		0.020	0.010	mg/L		09/29/16 08:56	09/29/16 21:59	1
Zinc	0.0033	J	0.010	0.0015	mg/L		09/29/16 08:56	09/29/16 21:59	1
Silicon	2.8		0.50	0.060	mg/L		09/29/16 08:56	09/29/16 21:59	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	32.9		2.0	0.35	mg/L			10/01/16 01:32	1
Ammonia as N	3.6	B	0.040	0.018	mg/L as N			09/29/16 11:54	2
Phenolics, Total Recoverable	27.3		10.0	5.0	ug/L		09/29/16 10:58	09/30/16 09:45	1
Chromium, hexavalent	358		10.0	5.0	ug/L			09/28/16 17:31	1

Client Sample ID: AP-MW-3B

Lab Sample ID: 480-106636-2

Date Collected: 09/28/16 08:00

Matrix: Water

Date Received: 09/28/16 10:00

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		0.0020	0.00050	mg/L		09/29/16 08:56	09/29/16 22:02	1
Chromium	ND		0.0040	0.0010	mg/L		09/29/16 08:56	09/29/16 22:02	1
Iron	0.12		0.050	0.019	mg/L		09/29/16 08:56	09/29/16 22:02	1
Lead	ND		0.010	0.0030	mg/L		09/29/16 08:56	09/29/16 22:02	1
Magnesium	2.9		0.20	0.043	mg/L		09/29/16 08:56	09/29/16 22:02	1
Manganese	0.0053	B	0.0030	0.00040	mg/L		09/29/16 08:56	09/29/16 22:02	1
Selenium	ND		0.025	0.0087	mg/L		09/29/16 08:56	09/29/16 22:02	1
Sodium	50.2		1.0	0.32	mg/L		09/29/16 08:56	09/29/16 22:02	1
Thallium	ND		0.020	0.010	mg/L		09/29/16 08:56	09/29/16 22:02	1
Zinc	0.010		0.010	0.0015	mg/L		09/29/16 08:56	09/29/16 22:02	1
Silicon	8.1		0.50	0.060	mg/L		09/29/16 08:56	09/29/16 22:02	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	52.9		2.0	0.35	mg/L			10/01/16 01:47	1
Ammonia as N	0.63	B	0.020	0.0090	mg/L as N			09/29/16 11:33	1
Phenolics, Total Recoverable	ND		10.0	5.0	ug/L		09/29/16 10:58	09/30/16 09:45	1
Chromium, hexavalent	6.7	J	10.0	5.0	ug/L			09/28/16 17:31	1

TestAmerica Buffalo

Client Sample Results

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar - Airco Parcel Niagara Falls

TestAmerica Job ID: 480-106636-1

Client Sample ID: AP-MW-5B

Lab Sample ID: 480-106636-3

Date Collected: 09/28/16 08:20

Matrix: Water

Date Received: 09/28/16 10:00

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.00095	J	0.0020	0.00050	mg/L		09/29/16 08:56	09/29/16 22:05	1
Chromium	0.0032	J	0.0040	0.0010	mg/L		09/29/16 08:56	09/29/16 22:05	1
Iron	2.7		0.050	0.019	mg/L		09/29/16 08:56	09/29/16 22:05	1
Lead	0.012		0.010	0.0030	mg/L		09/29/16 08:56	09/29/16 22:05	1
Magnesium	93.3		0.20	0.043	mg/L		09/29/16 08:56	09/29/16 22:05	1
Manganese	0.069	B	0.0030	0.00040	mg/L		09/29/16 08:56	09/29/16 22:05	1
Selenium	ND		0.025	0.0087	mg/L		09/29/16 08:56	09/29/16 22:05	1
Sodium	42.2		1.0	0.32	mg/L		09/29/16 08:56	09/29/16 22:05	1
Thallium	ND		0.020	0.010	mg/L		09/29/16 08:56	09/29/16 22:05	1
Zinc	0.13		0.010	0.0015	mg/L		09/29/16 08:56	09/29/16 22:05	1
Silicon	13.8		0.50	0.060	mg/L		09/29/16 08:56	09/29/16 22:05	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	152		10.0	1.7	mg/L			10/01/16 02:01	5
Chromium, hexavalent	9.1	J	10.0	5.0	ug/L			09/28/16 17:31	1

Client Sample ID: AP-MW-8B

Lab Sample ID: 480-106636-4

Date Collected: 09/28/16 08:45

Matrix: Water

Date Received: 09/28/16 10:00

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.00071	J	0.0020	0.00050	mg/L		09/29/16 08:56	09/29/16 22:09	1
Chromium	0.052		0.0040	0.0010	mg/L		09/29/16 08:56	09/29/16 22:09	1
Iron	0.13		0.050	0.019	mg/L		09/29/16 08:56	09/29/16 22:09	1
Lead	ND		0.010	0.0030	mg/L		09/29/16 08:56	09/29/16 22:09	1
Magnesium	68.4		0.20	0.043	mg/L		09/29/16 08:56	09/29/16 22:09	1
Manganese	0.10	B	0.0030	0.00040	mg/L		09/29/16 08:56	09/29/16 22:09	1
Selenium	ND		0.025	0.0087	mg/L		09/29/16 08:56	09/29/16 22:09	1
Sodium	79.9		1.0	0.32	mg/L		09/29/16 08:56	09/29/16 22:09	1
Thallium	ND		0.020	0.010	mg/L		09/29/16 08:56	09/29/16 22:09	1
Zinc	0.14		0.010	0.0015	mg/L		09/29/16 08:56	09/29/16 22:09	1
Silicon	7.5		0.50	0.060	mg/L		09/29/16 08:56	09/29/16 22:09	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	206		10.0	1.7	mg/L			10/01/16 02:16	5
Ammonia as N	ND	F1	0.020	0.0090	mg/L as N			09/29/16 11:34	1
Phenolics, Total Recoverable	ND		10.0	5.0	ug/L		09/29/16 10:58	09/30/16 09:45	1
Chromium, hexavalent	58.1		10.0	5.0	ug/L			09/28/16 17:31	1

TestAmerica Buffalo

QC Sample Results

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar - Airco Parcel Niagara Falls

TestAmerica Job ID: 480-106636-1

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 480-322980/1-A

Matrix: Water

Analysis Batch: 323148

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 322980

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		0.0020	0.00050	mg/L		09/29/16 08:56	09/29/16 20:40	1
Chromium	ND		0.0040	0.0010	mg/L		09/29/16 08:56	09/29/16 20:40	1
Iron	ND		0.050	0.019	mg/L		09/29/16 08:56	09/29/16 20:40	1
Lead	ND		0.010	0.0030	mg/L		09/29/16 08:56	09/29/16 20:40	1
Magnesium	ND		0.20	0.043	mg/L		09/29/16 08:56	09/29/16 20:40	1
Manganese	0.000820	J	0.0030	0.00040	mg/L		09/29/16 08:56	09/29/16 20:40	1
Selenium	ND		0.025	0.0087	mg/L		09/29/16 08:56	09/29/16 20:40	1
Sodium	ND		1.0	0.32	mg/L		09/29/16 08:56	09/29/16 20:40	1
Thallium	ND		0.020	0.010	mg/L		09/29/16 08:56	09/29/16 20:40	1
Zinc	ND		0.010	0.0015	mg/L		09/29/16 08:56	09/29/16 20:40	1
Silicon	ND		0.50	0.060	mg/L		09/29/16 08:56	09/29/16 20:40	1

Lab Sample ID: LCS 480-322980/2-A

Matrix: Water

Analysis Batch: 323148

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 322980

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	0.200	0.199		mg/L		99	85 - 115
Chromium	0.200	0.198		mg/L		99	85 - 115
Iron	10.0	10.53		mg/L		105	85 - 115
Lead	0.200	0.203		mg/L		102	85 - 115
Magnesium	10.0	10.50		mg/L		105	85 - 115
Manganese	0.200	0.207		mg/L		103	85 - 115
Selenium	0.200	0.194		mg/L		97	85 - 115
Sodium	10.0	9.96		mg/L		99	85 - 115
Thallium	0.200	0.202		mg/L		101	85 - 115
Zinc	0.200	0.201		mg/L		100	85 - 115
Silicon	10.0	9.59		mg/L		96	85 - 115

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 480-323176/30

Matrix: Water

Analysis Batch: 323176

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		2.0	0.35	mg/L			09/30/16 18:13	1

Lab Sample ID: MB 480-323176/4

Matrix: Water

Analysis Batch: 323176

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		2.0	0.35	mg/L			09/30/16 09:53	1

TestAmerica Buffalo

QC Sample Results

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar - Airco Parcel Niagara Falls

TestAmerica Job ID: 480-106636-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 480-323176/58

Matrix: Water

Analysis Batch: 323176

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		2.0	0.35	mg/L			10/01/16 01:03	1

Lab Sample ID: LCS 480-323176/29

Matrix: Water

Analysis Batch: 323176

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	50.0	52.34		mg/L		105	90 - 110

Lab Sample ID: LCS 480-323176/3

Matrix: Water

Analysis Batch: 323176

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	50.0	50.16		mg/L		100	90 - 110

Lab Sample ID: LCS 480-323176/57

Matrix: Water

Analysis Batch: 323176

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	50.0	52.68		mg/L		105	90 - 110

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 480-323051/27

Matrix: Water

Analysis Batch: 323051

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N	0.0105	J	0.020	0.0090	mg/L as N			09/29/16 11:48	1

Lab Sample ID: MB 480-323051/3

Matrix: Water

Analysis Batch: 323051

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N	0.00936	J	0.020	0.0090	mg/L as N			09/29/16 11:27	1

Lab Sample ID: LCS 480-323051/28

Matrix: Water

Analysis Batch: 323051

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia as N	1.00	1.07		mg/L as N		107	90 - 110

TestAmerica Buffalo

QC Sample Results

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar - Airco Parcel Niagara Falls

TestAmerica Job ID: 480-106636-1

Method: 350.1 - Nitrogen, Ammonia (Continued)

Lab Sample ID: LCS 480-323051/4

Matrix: Water

Analysis Batch: 323051

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia as N	1.00	1.08		mg/L as N		108	90 - 110

Lab Sample ID: 480-106636-4 MS

Matrix: Water

Analysis Batch: 323051

Client Sample ID: AP-MW-8B

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia as N	ND	F1	0.200	0.139	F1	mg/L as N		70	90 - 110

Method: 420.1 - Phenolics, Total Recoverable

Lab Sample ID: MB 480-323033/1-A

Matrix: Water

Analysis Batch: 323246

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 323033

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenolics, Total Recoverable	ND		10.0	5.0	ug/L		09/29/16 10:58	09/30/16 08:36	1

Lab Sample ID: LCS 480-323033/2-A

Matrix: Water

Analysis Batch: 323246

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 323033

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phenolics, Total Recoverable	100	99.23		ug/L		99	90 - 110

Method: 7196A - Chromium, Hexavalent

Lab Sample ID: MB 480-322922/3

Matrix: Water

Analysis Batch: 322922

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		10.0	5.0	ug/L			09/28/16 17:31	1

Lab Sample ID: LCS 480-322922/4

Matrix: Water

Analysis Batch: 322922

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	50.0	49.93		ug/L		100	85 - 115

Lab Sample ID: 480-106636-2 MS

Matrix: Water

Analysis Batch: 322922

Client Sample ID: AP-MW-3B

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	6.7	J	50.0	57.27		ug/L		101	85 - 115

TestAmerica Buffalo

QC Sample Results

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar - Airco Parcel Niagara Falls

TestAmerica Job ID: 480-106636-1

Method: 7196A - Chromium, Hexavalent (Continued)

Lab Sample ID: 480-106636-1 DU

Matrix: Water

Analysis Batch: 322922

Client Sample ID: AP-MW-2B

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU		Unit	D	RPD	RPD Limit
			Result	Qualifier				
Chromium, hexavalent	358		356.7		ug/L		0.5	20

QC Association Summary

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar - Airco Parcel Niagara Falls

TestAmerica Job ID: 480-106636-1

Metals

Prep Batch: 322980

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-106636-1	AP-MW-2B	Total/NA	Water	200.7	
480-106636-2	AP-MW-3B	Total/NA	Water	200.7	
480-106636-3	AP-MW-5B	Total/NA	Water	200.7	
480-106636-4	AP-MW-8B	Total/NA	Water	200.7	
MB 480-322980/1-A	Method Blank	Total/NA	Water	200.7	
LCS 480-322980/2-A	Lab Control Sample	Total/NA	Water	200.7	

Analysis Batch: 323148

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-106636-1	AP-MW-2B	Total/NA	Water	200.7 Rev 4.4	322980
480-106636-2	AP-MW-3B	Total/NA	Water	200.7 Rev 4.4	322980
480-106636-3	AP-MW-5B	Total/NA	Water	200.7 Rev 4.4	322980
480-106636-4	AP-MW-8B	Total/NA	Water	200.7 Rev 4.4	322980
MB 480-322980/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	322980
LCS 480-322980/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	322980

General Chemistry

Analysis Batch: 322922

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-106636-1	AP-MW-2B	Total/NA	Water	7196A	
480-106636-2	AP-MW-3B	Total/NA	Water	7196A	
480-106636-3	AP-MW-5B	Total/NA	Water	7196A	
480-106636-4	AP-MW-8B	Total/NA	Water	7196A	
MB 480-322922/3	Method Blank	Total/NA	Water	7196A	
LCS 480-322922/4	Lab Control Sample	Total/NA	Water	7196A	
480-106636-2 MS	AP-MW-3B	Total/NA	Water	7196A	
480-106636-1 DU	AP-MW-2B	Total/NA	Water	7196A	

Prep Batch: 323033

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-106636-1	AP-MW-2B	Total/NA	Water	Distill/Phenol	
480-106636-2	AP-MW-3B	Total/NA	Water	Distill/Phenol	
480-106636-4	AP-MW-8B	Total/NA	Water	Distill/Phenol	
MB 480-323033/1-A	Method Blank	Total/NA	Water	Distill/Phenol	
LCS 480-323033/2-A	Lab Control Sample	Total/NA	Water	Distill/Phenol	

Analysis Batch: 323051

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-106636-1	AP-MW-2B	Total/NA	Water	350.1	
480-106636-2	AP-MW-3B	Total/NA	Water	350.1	
480-106636-4	AP-MW-8B	Total/NA	Water	350.1	
MB 480-323051/27	Method Blank	Total/NA	Water	350.1	
MB 480-323051/3	Method Blank	Total/NA	Water	350.1	
LCS 480-323051/28	Lab Control Sample	Total/NA	Water	350.1	
LCS 480-323051/4	Lab Control Sample	Total/NA	Water	350.1	
480-106636-4 MS	AP-MW-8B	Total/NA	Water	350.1	

TestAmerica Buffalo

QC Association Summary

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar - Airco Parcel Niagara Falls

TestAmerica Job ID: 480-106636-1

General Chemistry (Continued)

Analysis Batch: 323176

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-106636-1	AP-MW-2B	Total/NA	Water	300.0	
480-106636-2	AP-MW-3B	Total/NA	Water	300.0	
480-106636-3	AP-MW-5B	Total/NA	Water	300.0	
480-106636-4	AP-MW-8B	Total/NA	Water	300.0	
MB 480-323176/30	Method Blank	Total/NA	Water	300.0	
MB 480-323176/4	Method Blank	Total/NA	Water	300.0	
MB 480-323176/58	Method Blank	Total/NA	Water	300.0	
LCS 480-323176/29	Lab Control Sample	Total/NA	Water	300.0	
LCS 480-323176/3	Lab Control Sample	Total/NA	Water	300.0	
LCS 480-323176/57	Lab Control Sample	Total/NA	Water	300.0	

Analysis Batch: 323246

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-106636-1	AP-MW-2B	Total/NA	Water	420.1	323033
480-106636-2	AP-MW-3B	Total/NA	Water	420.1	323033
480-106636-4	AP-MW-8B	Total/NA	Water	420.1	323033
MB 480-323033/1-A	Method Blank	Total/NA	Water	420.1	323033
LCS 480-323033/2-A	Lab Control Sample	Total/NA	Water	420.1	323033

Lab Chronicle

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar - Airco Parcel Niagara Falls

TestAmerica Job ID: 480-106636-1

Client Sample ID: AP-MW-2B

Date Collected: 09/28/16 08:25

Date Received: 09/28/16 10:00

Lab Sample ID: 480-106636-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			322980	09/29/16 08:56	MVZ	TAL BUF
Total/NA	Analysis	200.7 Rev 4.4		1	323148	09/29/16 21:59	AMH	TAL BUF
Total/NA	Analysis	300.0		1	323176	10/01/16 01:32	DMR	TAL BUF
Total/NA	Analysis	350.1		2	323051	09/29/16 11:54	CEA	TAL BUF
Total/NA	Prep	Distill/Phenol			323033	09/29/16 10:58	JCL	TAL BUF
Total/NA	Analysis	420.1		1	323246	09/30/16 09:45	LED	TAL BUF
Total/NA	Analysis	7196A		1	322922	09/28/16 17:31	CDC	TAL BUF

Client Sample ID: AP-MW-3B

Date Collected: 09/28/16 08:00

Date Received: 09/28/16 10:00

Lab Sample ID: 480-106636-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			322980	09/29/16 08:56	MVZ	TAL BUF
Total/NA	Analysis	200.7 Rev 4.4		1	323148	09/29/16 22:02	AMH	TAL BUF
Total/NA	Analysis	300.0		1	323176	10/01/16 01:47	DMR	TAL BUF
Total/NA	Analysis	350.1		1	323051	09/29/16 11:33	CEA	TAL BUF
Total/NA	Prep	Distill/Phenol			323033	09/29/16 10:58	JCL	TAL BUF
Total/NA	Analysis	420.1		1	323246	09/30/16 09:45	LED	TAL BUF
Total/NA	Analysis	7196A		1	322922	09/28/16 17:31	CDC	TAL BUF

Client Sample ID: AP-MW-5B

Date Collected: 09/28/16 08:20

Date Received: 09/28/16 10:00

Lab Sample ID: 480-106636-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			322980	09/29/16 08:56	MVZ	TAL BUF
Total/NA	Analysis	200.7 Rev 4.4		1	323148	09/29/16 22:05	AMH	TAL BUF
Total/NA	Analysis	300.0		5	323176	10/01/16 02:01	DMR	TAL BUF
Total/NA	Analysis	7196A		1	322922	09/28/16 17:31	CDC	TAL BUF

Client Sample ID: AP-MW-8B

Date Collected: 09/28/16 08:45

Date Received: 09/28/16 10:00

Lab Sample ID: 480-106636-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			322980	09/29/16 08:56	MVZ	TAL BUF
Total/NA	Analysis	200.7 Rev 4.4		1	323148	09/29/16 22:09	AMH	TAL BUF
Total/NA	Analysis	300.0		5	323176	10/01/16 02:16	DMR	TAL BUF
Total/NA	Analysis	350.1		1	323051	09/29/16 11:34	CEA	TAL BUF
Total/NA	Prep	Distill/Phenol			323033	09/29/16 10:58	JCL	TAL BUF
Total/NA	Analysis	420.1		1	323246	09/30/16 09:45	LED	TAL BUF

TestAmerica Buffalo

Lab Chronicle

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar - Airco Parcel Niagara Falls

TestAmerica Job ID: 480-106636-1

Client Sample ID: AP-MW-8B

Date Collected: 09/28/16 08:45

Date Received: 09/28/16 10:00

Lab Sample ID: 480-106636-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7196A		1	322922	09/28/16 17:31	CDC	TAL BUF

Laboratory References:
TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Certification Summary

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar - Airco Parcel Niagara Falls

TestAmerica Job ID: 480-106636-1

Laboratory: TestAmerica Buffalo

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
New York	NELAP	2	10026	03-31-17

The following analytes are included in this report, but certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
200.7 Rev 4.4	200.7	Water	Silicon

Method Summary

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar - Airco Parcel Niagara Falls

TestAmerica Job ID: 480-106636-1

Method	Method Description	Protocol	Laboratory
200.7 Rev 4.4	Metals (ICP)	EPA	TAL BUF
300.0	Anions, Ion Chromatography	MCAWW	TAL BUF
350.1	Nitrogen, Ammonia	MCAWW	TAL BUF
420.1	Phenolics, Total Recoverable	MCAWW	TAL BUF
7196A	Chromium, Hexavalent	SW846	TAL BUF

Protocol References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Sample Summary

Client: Greenstar Environmental Solutions, LLC
Project/Site: Greenstar - Airco Parcel Niagara Falls

TestAmerica Job ID: 480-106636-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-106636-1	AP-MW-2B	Water	09/28/16 08:25	09/28/16 10:00
480-106636-2	AP-MW-3B	Water	09/28/16 08:00	09/28/16 10:00
480-106636-3	AP-MW-5B	Water	09/28/16 08:20	09/28/16 10:00
480-106636-4	AP-MW-8B	Water	09/28/16 08:45	09/28/16 10:00

Chain of Custody Record

Temperature on Receipt

THE LEADER IN ENVIRONMENTAL TESTING

Drinking Water? Yes ☐ No ☒

ITAL-4124 (1007)

Client	Greenstar Env. Solutions	Project Manager	Chip McLeod	Date	9/28/16	Chain of Custody Number	301139
Address	66 Giellatly Dr	Telephone Number (Area Code)/Fax Number	845-223-9944	Lab Number		Page	1 of 1

City	State	Zip Code	Site Contact	Lab Contact	Analysis (Attach list if more space is needed)
Wapponners Falls.	NY	12590		Tudy Stone	
Protect Name and Location (State)			Carrier/Waybill Number		

Arco Fuel Nagsen Falls NY	88	(Med)	Special In-
Contract/Purchase Order/Quote No.			On
			On

Matrix

Sample I.D. No. and Description

(Containers for each sample may be combined on one line)

[illegible][illegible]

Possible Hazard Identification ☐ Non-Hazard ☐ Flammable ☒ Skin Irritant ☐ Poison B ☐ Unknown		Sample Disposal ☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months	
(A fee may be assessed if samples are retained longer than 1 month)			

Turn Around Time Required	QC Requirements (Specify)

Date		Time		Date		Time	
1	Delivered By			1	Received By		

1. Requested By <i>[Signature]</i>	Date 09/28/16	Time 1000	2. Received By <i>[Signature]</i>	Date 09/28/16	Time 1000
---------------------------------------	------------------	--------------	--------------------------------------	------------------	--------------

3. Relinquished By		3. Received By	
Date	Time	Date	Time

[illegible]

DISTRIBUTION: WHITE - Returned to Client with Report: CANARY - Stays with the Sample: PINK - Field Copy

Login Sample Receipt Checklist

Client: Greenstar Environmental Solutions, LLC

Job Number: 480-106636-1

Login Number: 106636

List Source: TestAmerica Buffalo

List Number: 1

Creator: Janish, Carl M

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	greenstar
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	N/A	
Chlorine Residual checked.	N/A	

Attachment D

Landfill Cap Inspection Checklist September 2016

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

Personnel:	Lucas Oliveira
Date:	9/27/16
Weather:	Raining, 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. Animal burrow under shed near overflow pond and down at SW Cor. Musk rats noted living in T7 Pond.
5. **Identification of deteriorating equipment (i.e., monitoring wells, fencing, or drainage structures):** Cleanout enclosure in the SW corner requires repair/replacement; the box is out of square and will not close correctly. Entrance doors to all the sheds are not tight enough to keep rodents out, in the winter months rodents can overrun the sheds. AL-MW-02B riser kinked. Dedicated tubing installed to ensure future collection of groundwater sampling is still possible.
6. **Inspection of stormwater 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 2016

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 2016. 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 4.2 gallons per minute (gpm). The average daily flow rate during the reporting period was estimated to be 6,022 gallons per day. The flow rate of treated water did not exceed the 36,000 gallon daily flow limit during the reporting period.

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, 2,204,252 gallons of groundwater was treated and discharged to the stormwater swale adjacent to the engineered wetlands. The system average flow rate was 4.2 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 the tank and line cleaning was performed during the reporting period, 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 G.1. Monthly GCTS flow calculations are provided in Attachment G.2.

3.1 SYNOPSIS OF THE ANNUAL ACTIVITIES

January 2016

The system was operational for 31 days in January. One alarm condition pertaining to the pumps in the SW corner occurred. This resulted in replacing the pumps and sending them out to be repaired as noted below. No scheduled or unscheduled system shutdowns or system bypasses occurred. The following details the activities, which were performed during January:

- 11 January 2016 – Routine site visit. T3B, T6B and T7 pH probe would not calibrate. Multiple attempts were made. Will evaluate the probes for replacement and upgrade. Cleaned overflow pipes. Checked sheds for mouse activity. Did field tests for hex chrome and total chrome for T3, T6, T7, and EWE. Collected quarterly system effluent sample.
- One alarm condition was reported throughout the month of January. The pumps in the SW corner were intermittently failing to start. A contractor was mobilized on 22 January 2016 to install the standby pumps and new check valves. The existing pumps were dropped off and rebuilt.

February 2016

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

- 4 February 2016 – Routine site visit. Could not calibrate T3B or T7 (T7 pond is frozen) pH probe needs to be assessed further. May need new pH wire for T3B. Did not clean overflow pipes as tanks were covered in snow. Checked sheds for mouse activity. Performed field tests for hexavalent and total chrome for T3, T6, and T7. SW corner was frozen could not collect water for field test. Arrived on site and generator repair man on site. Linde personnel on site refill to refill the CO₂ tank. Rotated P1A and P1B valves to prevent calcification.

March 2016

The system was operational for 31 days in March. One alarm condition reported during the month of March. The pH in T7 was low, but the meters were not calibrated due to frozen conditions. No scheduled or unscheduled system shutdowns or system bypasses occurred. The following details the activities, which were performed during March:

- 9 March 2016 – Routine site visit. Performed field tests for hexavalent and total chrome for T3, T6, and T7. Cleaned overflow lines and calibrated accessible pH probes. Rotated P1A and P1B valves to prevent calcification.

April 2016

The system was operational for 30 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, which were performed during April:

- 18 April 2016 – Routine site visit. Calibrated T3B and T6B. T7 pH probe needs to be replaced. Checked sheds for mouse activity. Did field tests for hexavalent and total chrome for T3, T6, T7 and SW. Replaced two tarps over tanks (Two still need to be replaced due to bird nest in area). Rotated P1A and P1B valves to prevent calcification. Collected Bi-annual surface water samples and Quarterly GCTS discharge samples.
- 28 April 2016 – Emergency overflow pond cleaned. Sediment placed in the T3A chromium settling tanks and will be cleaned out and disposed of with the rest of the system cleaning sediments.

May 2016

The system was operational for 31 days in May. 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, which were performed during May:

- 18 May 2016 – Routine site visit. Calibrated T3B and T6B. Checked sheds for mouse activity. Did field tests for hexavalent and total chrome for T3, T6, T7 and SW. Two tarps that remained have been replaced over tanks. Rotated P1A and P1B valves to prevent calcification. Replaced PLC part and back up battery. The PLC has lost its date and time reference code during the part replacement. The Programmer was contacted and he was able to remotely login and restart the PLC programming on 19 May 2016.

June 2016

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, which were performed during June:

- 22 June 2016 – Routine visit. Calibrated T3B and T6B. Did field tests for hexavalent and total chrome for T3, T6, T7 and SW. Rotated P1A and P1B valves as to not allow valves to calcify. Mowed entire swale from T7 to SW shed. Mowed service road and all areas around sheds and tanks. Repairs to T8 liner completed.

July 2016

The system was operational for 31 days in July. One unscheduled system shutdowns or system bypasses occurred. The following details the activities, which were performed during July:

- 12 July 2016 – Routine site visit. Replaced all 3 pH probes on site and upgraded pH controllers for new digital probes. Checked sheds for mouse activity. Performed field tests for hexavalent and total chrome for T3, T6, T7 and SW. Rotated P1A and P1B valves as to not allow valves to calcify. Mowed around swale from T7 to SW shed. Weed wacked areas around sheds. Cleared T7 Pipe out to swale.
- 13-16 July 2016 – System in bypass mode due to failed 4-20 mA input card. PLC components shipped to programmer for analysis. New card installed 16 July and programmer remotely connected to restart PLC.

August 2016

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:

- 1 August 2016 – Routine site visit. Calibrated all three pH probes (T3, T6, and T7) Checked sheds for mouse activity. Performed field tests for hexavalent and total chrome for T3, T6, T7 and SW. Rotated P1A and P1B valves as to not allow valves to calcify. Weed wacked areas around sheds. Cleared T7 Pipe out to swale. Pumped water out from under T8. Picked up pumps from S&S electric in Seneca.

September 2016

The system was operational for 30 days in September. 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 September:

- 26 September 2016 – Routine site visit. Cleaned and calibrated pH probes in T3B, T6B and T7. Cleaned outfall pipes in T3A and T6A. Checked sheds for mouse activity and rebated traps. Performed field tests for hexavalent and total chrome for T3, T6, T7 and SW. Performed bi-annual surface water, annual monitoring well and GCTS quarterly effluent sampling. Mowed and cleared vegetation from around T7 and T8, pipes, swale and sheds for easy access. Landfill cap mowed. Rotated P1A and P1B valves as to not allow valves to calcify. Pumped out water from under T8 liner.

October 2016

The system was operational for 31 days in October. 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 October:

- 24 October 2016 – Routine site visit. Cleaned and calibrated pH probes in T3B, T6B and T7. Cleaned outfall pipes in T3A and T6A. Checked sheds for mouse activity and rebated traps. Performed field tests for hexavalent and total chrome for T3, T6, and T7 (No water in SW corner). Rotated P1A and P1B valves as to not allow valves to calcify. Annual line cleaning done performed. T3 and T6 tanks vacuumed and lines cleaned, chromium and iron tanks lines. Cleaned T1 tank and influent line. Line into T7 cleaned. Lines in T1 taken apart and cleaned with CLR including all check valves and ball valves. Pump in T6 swapped for new one and old pump dropped off at S&S for repair. Water from under T8 pumped.

November 2016

The system was operational for 30 days in November. 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 November:

- 14 November 2016 – Routine site visit. Cleaned and calibrated pH probes in T3B, T6B and T7. Cleaned outfall pipes in T3A and T6A. Checked sheds for mouse activity and rebated traps. Performed field tests for hexavalent and total chrome for T3, T6, T7 and SW corner. Rotated P1A and P1B valves as to not allow valves to calcify. Annual tank cleaning performed on Chromium tanks and various pump stations. Influent and effluent pipes all cleaned including overflow pipes. Muskrats found nesting in T7. Set traps to remove them. None were caught but activity scared the vectors away.

December 2016

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:

- 19 December 2016 – Routine site visit. Cleaned and calibrated pH probes in T3B and T6B, T7 was frozen. Cleaned outfall pipes in T3A and T6A. Checked sheds for mouse activity and rebated traps. Performed field tests for hexavalent and total chrome for T3, T6, T7 and SW corner. Rotated P1A and P1B valves as to not allow valves to calcify. Water from under T8 pumped. Conducted quarterly GCTS effluent sampling.

4. MODIFICATIONS/IMPROVEMENTS AND RECOMMENDATIONS

4.1 SYSTEM MODIFICATION/IMPROVEMENTS

No system modifications and improvements were performed during the 2016 annual reporting period.

5. PROJECTED OPERATION AND MAINTENANCE

5.1 JANUARY – DECEMBER 2017

During the 2017 annual reporting period, Greenstar anticipates performing routine operation and maintenance activities; a general site cleanup; completion and submittal of an updated Post-Closure Monitoring and Facility Maintenance Plan, an updated GCTS O&M Manual, and a Site Health & Safety 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

The sampling scheme for the 2017 reporting period will be modified as approved by the NYSDEC in a letter dated 28 October 2016. 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 analysis list for surface water samples. Surface water sampling has been eliminated and the groundwater sampling frequency has been modified to once every 5 years with the next event scheduled for 2021.

Attachment E.1

GCTS Monitoring Checklists January – December 2016

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

Date:1/11/16	Project No.: 1047.001	Greenstar Personnel: L.Oliveira	Weather: Sunny 20°
READING		ITEM	
244		Carbon Dioxide Storage Tank Pressure (220-235 psi)	
4,057		Carbon Dioxide Tank Liquid Level	
598.9		T1 Water Level	
On/Cycling		Pump P1A Running Status	
On/Cycling		Pump P1BA Running Status	
616.2		T3A Water Elevation	
5.1		T3B pH Reading	
613.0		T3B Water Level	
On/Cycling		Pump 3B Operational Status	
613.6		T5 Water Level	
On/Cycling		Pump 5 Operational Status	
616.2		T6A Water Elevation	
6.3		T6B pH	
612.0		T6B Water Level	
On/Cycling		Pump 6B Operational Status	
615.9		T7 Water Level Reading	
6.5		T7 pH	
2.9		T8 Water Elevation	
N/A		Flow Meter Reading	
N/A		Average System Flow	
83		Generator Run Hours	
READING	Standard	LOCATION/PARAMETER	
0.010	0.011 mg/L	Calcium Settling Pond Effluent (T3) Hexavalent Chromium	
0.039	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	
0.000	0.011 mg/L	Engineered Wetland Effluent (T7) Hexavalent Chromium	
0.000	0.050 mg/L	Engineered Wetland Effluent (T7) Total Chromium	
-0.006	0.011 mg/L	Southwest Corner Effluent (SS-1) Hexavalent Chromium	
-0.001	0.050 mg/L	Southwest Corner Effluent (SS-1) Total Chromium	
pH READING		SAMPLE LOCATION	
5.40		Calcium Settling Pond Effluent (T3)	
6.45		Iron Settling Pond Effluent (T6)	
6.60		Engineered Wetland Effluent (T7)	
6.86		Southwest Corner Effluent (SS-1)	
Notes: Routine site visit. T3B, T6B and T7 pH probe would not calibrate. Multiple attempts were made. Will evaluate the probes for replacement and upgrade. Cleaned overflow pipes. Checked sheds for mouse activity. Did field tests for hex chrome and total chrome for T3, T6, T7, and EWE. Collected quarterly system effluent sample.			

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

Date:2/15/16	Project No.: 1047.001	Greenstar Personnel: L.Oliveira	Weather: Cloudy 11
READING		ITEM	
244		Carbon Dioxide Storage Tank Pressure (220-235 psi)	
11,597		Carbon Dioxide Tank Liquid Level	
598.9		T1 Water Level	
On/Cycling		Pump P1A Running Status	
On/Cycling		Pump P1BA Running Status	
616.1		T3A Water Elevation	
3.7		T3B pH Reading	
612.3		T3B Water Level	
On/Cycling		Pump 3B Operational Status	
614.0		T5 Water Level	
On/Cycling		Pump 5 Operational Status	
616.1		T6A Water Elevation	
6.1		T6B pH	
611.9		T6B Water Level	
On/Cycling		Pump 6B Operational Status	
615.9		T7 Water Level Reading	
6.8		T7 pH	
2.8		T8 Water Elevation	
N/A		Flow Meter Reading	
N/A		Average System Flow	
85		Generator Run Hours	
READING	Standard	LOCATION/PARAMETER	
0.017	0.011 mg/L	Calcium Settling Pond Effluent (T3) Hexavalent Chromium	
0.000	0.050 mg/L	Calcium Settling Pond Effluent (T3) Total Chromium	
0.033	0.011 mg/L	Iron Settling Pond Effluent (T6) Hexavalent Chromium	
0.010	0.050 mg/L	Iron Settling Pond Effluent (T6) Total Chromium	
0.010	0.011 mg/L	Engineered Wetland Effluent (T7) Hexavalent Chromium	
0.000	0.050 mg/L	Engineered Wetland Effluent (T7) Total Chromium	
N/A	0.011 mg/L	Southwest Corner Effluent (SS-1) Hexavalent Chromium	
N/A	0.050 mg/L	Southwest Corner Effluent (SS-1) Total Chromium	
pH READING		SAMPLE LOCATION	
6.37		Calcium Settling Pond Effluent (T3)	
6.60		Iron Settling Pond Effluent (T6)	
7.11		Engineered Wetland Effluent (T7)	
N/A		Southwest Corner Effluent (SS-1)	
Notes: Routine site visit. Could not calibrate T3B or T7 (T7 pond is frozen) pH probe needs to be assessed further. May need new pH wire for T3B. Did not clean overflow pipes as tanks were covered in snow. Checked sheds for mouse activity. Performed field tests for hexavalent and total chrome for T3, T6, and T7. SW corner was frozen could not collect water for field test. Arrived on site and generator repair man on site. Linde personnel on site refill to refill the CO2 tank. Rotated P1A and P1B valves to prevent calcification.			

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

Date: 3/9/16	Project No.: 1047.001	Greenstar Personnel: LO	Weather: Partly cloudy 72
READING		ITEM	
240		Carbon Dioxide Storage Tank Pressure (220-235 psi)	
9,369		Carbon Dioxide Tank Liquid Level	
598.9		T1 Water Level	
On/Cycling		Pump P1A Running Status ON	
On/Cycling		Pump P1BA Running Status ON	
616.3		T3A Water Elevation	
1.4		T3B pH Reading	
612.7		T3B Water Level	
On/Cycling		Pump 3B Operational Status ON	
612.8		T5 Water Level	
On/Cycling		Pump 5 Operational Status ON	
616.2		T6A Water Elevation	
6.2		T6B pH	
611.7		T6B Water Level	
On/Cycling		Pump 6B Operational Status ON	
615.9		T7 Water Level Reading	
8.2		T7 pH	
2.8		T8 Water Elevation	
N/A		Flow Meter Reading	
N/A		Average System Flow	
86		Generator Run Hours	
READING	Standard	LOCATION/PARAMETER	
0.025	0.011 mg/L	Calcium Settling Pond Effluent (T3) Hexavalent Chromium	
0.000	0.050 mg/L	Calcium Settling Pond Effluent (T3) Total Chromium	
0.005	0.011 mg/L	Iron Settling Pond Effluent (T6) Hexavalent Chromium	
0.103	0.050 mg/L	Iron Settling Pond Effluent (T6) Total Chromium	
0.014	0.011 mg/L	Engineered Wetland Effluent (T7) Hexavalent Chromium	
0.000	0.050 mg/L	Engineered Wetland Effluent (T7) Total Chromium	
0.011	0.011 mg/L	Southwest Corner Effluent (SS-1) Hexavalent Chromium	
0.007	0.050 mg/L	Southwest Corner Effluent (SS-1) Total Chromium	
pH READING		SAMPLE LOCATION	
6.07		Calcium Settling Pond Effluent (T3)	
6.20		Iron Settling Pond Effluent (T6)	
6.67		Engineered Wetland Effluent (T7)	
7.36		Southwest Corner Effluent (SS-1)	
Notes. Routine site visit. Performed field tests for hexavalent and total chrome for T3, T6, and T7. Cleaned overflow lines and calibrated pH probes. Rotated P1A and P1B valves to prevent calcification.			

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

Date:4/18/16	Project No.: 1047.001	Greenstar Personnel: LO/CM	Weather: 75 Sunny
READING		ITEM	
239		Carbon Dioxide Storage Tank Pressure (220-235 psi)	
6,875		Carbon Dioxide Tank Liquid Level	
598.6		T1 Water Level	
On/Cycling		Pump P1A Running Status	
On/Cycling		Pump P1BA Running Status	
616.2		T3A Water Elevation	
6.4		T3B pH Reading	
612.3		T3B Water Level	
On/Cycling		Pump 3B Operational Status	
612.0		T5 Water Level	
On/Cycling		Pump 5 Operational Status	
616.3		T6A Water Elevation	
6.2		T6B pH	
612.5		T6B Water Level	
On/Cycling		Pump 6B Operational Status	
616.0		T7 Water Level Reading	
5.4		T7 pH	
2.5		T8 Water Elevation	
N/A		Flow Meter Reading	
N/A		Average System Flow	
87		Generator Run Hours	
READING	Standard	LOCATION/PARAMETER	
0.010	0.011 mg/L	Calcium Settling Pond Effluent (T3) Hexavalent Chromium	
0.041	0.050 mg/L	Calcium Settling Pond Effluent (T3) Total Chromium	
0.000	0.011 mg/L	Iron Settling Pond Effluent (T6) Hexavalent Chromium	
0.000	0.050 mg/L	Iron Settling Pond Effluent (T6) Total Chromium	
0.000	0.011 mg/L	Engineered Wetland Effluent (T7) Hexavalent Chromium	
0.000	0.050 mg/L	Engineered Wetland Effluent (T7) Total Chromium	
0.000	0.011 mg/L	Southwest Corner Effluent (SS-1) Hexavalent Chromium	
0.011	0.050 mg/L	Southwest Corner Effluent (SS-1) Total Chromium	
pH READING		SAMPLE LOCATION	
6.27		Calcium Settling Pond Effluent (T3)	
6.39		Iron Settling Pond Effluent (T6)	
6.77		Engineered Wetland Effluent (T7)	
7.49		Southwest Corner Effluent (SS-1)	
Notes: Routine site visit. Calibrated T3B and T6B (T7 needs to be replaced) pH probe needs to be replaced. Checked sheds for mouse activity. Did field tests for hex chrome and total chrome for T3, T6, T7 and SW. Conducted Q2 sampling and service water samples. Replaced two tarps over tanks (Two still need to be replaced due to bird nest in area). Rotated P1A and P1B valves as to not allow valves to calcify			

GCTS DATA RECORDING SHEET

AIRCO PARCEL, NIAGARA FALLS, NEW YORK

Date:5/18/16	Project No.: 1047.001	Greenstar Personnel: L.Oliveira	Weather: Sunny 65
READING		ITEM	
244		Carbon Dioxide Storage Tank Pressure (220-235 psi)	
7,170		Carbon Dioxide Tank Liquid Level	
598.0		T1 Water Level	
On/Cycling		Pump P1A Running Status	
On/Cycling		Pump P1BA Running Status	
616.1		T3A Water Elevation	
6.8		T3B pH Reading	
611.9		T3B Water Level	
On/Cycling		Pump 3B Operational Status	
616.1		T5 Water Level	
On/Cycling		Pump 5 Operational Status	
616.0		T6A Water Elevation	
5.8		T6B pH	
614.7		T6B Water Level	
On/Cycling		Pump 6B Operational Status	
616.0		T7 Water Level Reading	
6.2		T7 pH	
0.0		T8 Water Elevation	
67,833,096		Flow Meter Reading	
5.2		Average System Flow	
89		Generator Run Hours	
READING	Standard	LOCATION/PARAMETER	
0.014	0.011 mg/L	Calcium Settling Pond Effluent (T3) Hexavalent Chromium	
0.032	0.050 mg/L	Calcium Settling Pond Effluent (T3) Total Chromium	
0.000	0.011 mg/L	Iron Settling Pond Effluent (T6) Hexavalent Chromium	
0.000	0.050 mg/L	Iron Settling Pond Effluent (T6) Total Chromium	
0.000	0.011 mg/L	Engineered Wetland Effluent (T7) Hexavalent Chromium	
0.000	0.050 mg/L	Engineered Wetland Effluent (T7) Total Chromium	
0.010	0.011 mg/L	Southwest Corner Effluent (SS-1) Hexavalent Chromium	
0.020	0.050 mg/L	Southwest Corner Effluent (SS-1) Total Chromium	
pH READING		SAMPLE LOCATION	
6.50		Calcium Settling Pond Effluent (T3)	
6.48		Iron Settling Pond Effluent (T6)	
6.73		Engineered Wetland Effluent (T7)	
7.47		Southwest Corner Effluent (SS-1)	
Notes: Routine site visit. Calibrated T3B and T6B. Checked sheds for mouse activity. Did field tests for hexavalent and total chrome for T3, T6, T7 and SW. Two tarps that remained have been replaced over tanks. Rotated P1A and P1B valves to prevent calcification. Replaced PLC part and back up battery. The PLC has lost its date and time reference code during the part replacement. The Programmer was contacted and he was able to remotely login and restart the PLC programming on 5/19/16.			

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

Date:6/22/16		Project No.: 1047.001	Greenstar Personnel: L.Oliveira	Weather: Sunny 83
<i>READING</i>			<i>ITEM</i>	
242			Carbon Dioxide Storage Tank Pressure (220-235 psi)	
9,738			Carbon Dioxide Tank Liquid Level	
598.1			T1 Water Level	
On/Cycling			Pump P1A Running Status	
On/Cycling			Pump P1BA Running Status	
616.2			T3A Water Elevation	
4.9			T3B pH Reading	
612.1			T3B Water Level	
On/Cycling			Pump 3B Operational Status	
612.1			T5 Water Level	
On/Cycling			Pump 5 Operational Status	
616.2			T6A Water Elevation	
6.4			T6B pH	
611.7			T6B Water Level	
On/Cycling			Pump 6B Operational Status	
616.0			T7 Water Level Reading	
5.9			T7 pH	
1.1			T8 Water Elevation	
N/A			Flow Meter Reading	
6.2			Average System Flow	
90			Generator Run Hours	
<i>READING</i>	<i>Standard</i>		<i>LOCATION/PARAMETER</i>	
0.015	0.011 mg/L		Calcium Settling Pond Effluent (T3) Hexavalent Chromium	
0.032	0.050 mg/L		Calcium Settling Pond Effluent (T3) Total Chromium	
0.000	0.011 mg/L		Iron Settling Pond Effluent (T6) Hexavalent Chromium	
0.000	0.050 mg/L		Iron Settling Pond Effluent (T6) Total Chromium	
0.000	0.011 mg/L		Engineered Wetland Effluent (T7) Hexavalent Chromium	
0.001	0.050 mg/L		Engineered Wetland Effluent (T7) Total Chromium	
0.000	0.011 mg/L		Southwest Corner Effluent (SS-1) Hexavalent Chromium	
0.008	0.050 mg/L		Southwest Corner Effluent (SS-1) Total Chromium	
<i>pH READING</i>			<i>SAMPLE LOCATION</i>	
6.37			Calcium Settling Pond Effluent (T3)	
6.45			Iron Settling Pond Effluent (T6)	
6.69			Engineered Wetland Effluent (T7)	
7.32			Southwest Corner Effluent (SS-1)	
Notes: Routine visit. Calibrated T3B and T6B. Did field tests for hexavalent and total chrome for T3, T6, T7 and SW. Rotated P1A and P1B valves as to not allow valves to calcify. Mowed entire swale from T7 to SW shed. Mowed service road and all areas around sheds and tanks. Repairs to T8 liner completed.				

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

Date: 7/12/16	Project No.: 1047.001	Greenstar Personnel: L.Oliveira	Weather: Sunny 80
READING		ITEM	
244		Carbon Dioxide Storage Tank Pressure (220-235 psi)	
6,433		Carbon Dioxide Tank Liquid Level	
598.5		T1 Water Level	
On/Cycling		Pump P1A Running Status	
On/Cycling		Pump P1BA Running Status	
616.1		T3A Water Elevation	
6.1		T3B pH Reading	
612.0		T3B Water Level	
On/Cycling		Pump 3B Operational Status	
612.3		T5 Water Level	
On/Cycling		Pump 5 Operational Status	
616.2		T6A Water Elevation	
6.5		T6B pH	
611.9		T6B Water Level	
On/Cycling		Pump 6B Operational Status	
616.0		T7 Water Level Reading	
6.1		T7 pH	
1.1		T8 Water Elevation	
68,333,136		Flow Meter Reading	
5.7		Average System Flow	
91		Generator Run Hours	
READING	Standard	LOCATION/PARAMETER	
0.010	0.011 mg/L	Calcium Settling Pond Effluent (T3) Hexavalent Chromium	
0.047	0.050 mg/L	Calcium Settling Pond Effluent (T3) Total Chromium	
0.000	0.011 mg/L	Iron Settling Pond Effluent (T6) Hexavalent Chromium	
0.000	0.050 mg/L	Iron Settling Pond Effluent (T6) Total Chromium	
0.000	0.011 mg/L	Engineered Wetland Effluent (T7) Hexavalent Chromium	
0.000	0.050 mg/L	Engineered Wetland Effluent (T7) Total Chromium	
0.002	0.011 mg/L	Southwest Corner Effluent (SS-1) Hexavalent Chromium	
0.001	0.050 mg/L	Southwest Corner Effluent (SS-1) Total Chromium	
pH READING		SAMPLE LOCATION	
6.10		Calcium Settling Pond Effluent (T3)	
6.44		Iron Settling Pond Effluent (T6)	
6.24		Engineered Wetland Effluent (T7)	
7.17		Southwest Corner Effluent (SS-1)	
Notes: Routine site visit. Replaced all 3 pH probes on site and upgraded pH controllers for new digital probes. Checked sheds for mouse activity. Performed field tests for hexavalent and total chrome for T3, T6, T7 and SW. Rotated P1A and P1B valves as to not allow valves to calcify. Mowed around swale from T7 to SW shed. Weed wacked areas around sheds. Cleared T7 Pipe out to swale. System in bypass mode due to failed 4-20 mA input card. PLC components shipped to programmer for analysis. New card installed 16 July and programmer remotely connected to restart PLC.			

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

Date:8/1/16	Project No.: 1047.001	Greenstar Personnel: L.Oliveira	Weather: Part Cloudy 85
READING		ITEM	
238		Carbon Dioxide Storage Tank Pressure (220-235 psi)	
5,134		Carbon Dioxide Tank Liquid Level	
598.5		T1 Water Level	
On/Cycling		Pump P1A Running Status	
On/Cycling		Pump P1BA Running Status	
616.1		T3A Water Elevation	
6.3		T3B pH Reading	
612.6		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	
6.4		T6B pH	
6.11.6		T6B Water Level	
On/Cycling		Pump 6B Operational Status	
616.0		T7 Water Level Reading	
6.9		T7 pH	
0.9		T8 Water Elevation	
68,450,256		Flow Meter Reading	
5.7		Average System Flow	
91		Generator Run Hours	
READING	Standard	LOCATION/PARAMETER	
0.009	0.011 mg/L	Calcium Settling Pond Effluent (T3) Hexavalent Chromium	
0.033	0.050 mg/L	Calcium Settling Pond Effluent (T3) Total Chromium	
0.000	0.011 mg/L	Iron Settling Pond Effluent (T6) Hexavalent Chromium	
-0.010	0.050 mg/L	Iron Settling Pond Effluent (T6) Total Chromium	
-0.009	0.011 mg/L	Engineered Wetland Effluent (T7) Hexavalent Chromium	
0.000	0.050 mg/L	Engineered Wetland Effluent (T7) Total Chromium	
0.001	0.011 mg/L	Southwest Corner Effluent (SS-1) Hexavalent Chromium	
0.000	0.050 mg/L	Southwest Corner Effluent (SS-1) Total Chromium	
pH READING		SAMPLE LOCATION	
6.24		Calcium Settling Pond Effluent (T3)	
6.72		Iron Settling Pond Effluent (T6)	
6.53		Engineered Wetland Effluent (T7)	
7.10		Southwest Corner Effluent (SS-1)	
Notes: Routine site visit. Calibrated all three pH probes (T3, T6, and T7) Checked sheds for mouse activity. Performed field tests for hexavalent and total chrome for T3, T6, T7 and SW. Rotated P1A and P1B valves as to not allow valves to calcify. Weed wacked areas around sheds. Cleared T7 Pipe out to swale. Pumped water out from under T8. Picked up pumps from S&S electric in Seneca.			

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

Date:9/26/16	Project No.: 1047.001	Greenstar Personnel: L.Oliveira	Weather: Cloudy 68
READING		ITEM	
239		Carbon Dioxide Storage Tank Pressure (220-235 psi)	
8,011		Carbon Dioxide Tank Liquid Level	
599.0		T1 Water Level	
On/Cycling		Pump P1A Running Status	
On/Cycling		Pump P1BA Running Status	
616.1		T3A Water Elevation	
5.9		T3B pH Reading	
612.1		T3B Water Level	
On/Cycling		Pump 3B Operational Status	
612.3		T5 Water Level	
On/Cycling		Pump 5 Operational Status	
616.2		T6A Water Elevation	
5.9		T6B pH	
611.8		T6B Water Level	
On/Cycling		Pump 6B Operational Status	
615.8		T7 Water Level Reading	
7.0		T7 pH	
1.0		T8 Water Elevation	
68,628,744		Flow Meter Reading	
0.3		Average System Flow	
94		Generator Run Hours	
READING	Standard	LOCATION/PARAMETER	
0.010	0.011 mg/L	Calcium Settling Pond Effluent (T3) Hexavalent Chromium	
0.053	0.050 mg/L	Calcium Settling Pond Effluent (T3) Total Chromium	
0.000	0.011 mg/L	Iron Settling Pond Effluent (T6) Hexavalent Chromium	
0.000	0.050 mg/L	Iron Settling Pond Effluent (T6) Total Chromium	
0.002	0.011 mg/L	Engineered Wetland Effluent (T7) Hexavalent Chromium	
0.000	0.050 mg/L	Engineered Wetland Effluent (T7) Total Chromium	
NA	0.011 mg/L	Southwest Corner Effluent (SS-1) Hexavalent Chromium	
NA	0.050 mg/L	Southwest Corner Effluent (SS-1) Total Chromium	
pH READING		SAMPLE LOCATION	
6.73		Calcium Settling Pond Effluent (T3)	
6.89		Iron Settling Pond Effluent (T6)	
7.27		Engineered Wetland Effluent (T7)	
NA		Southwest Corner Effluent (SS-1)	
Notes: Routine site visit. Cleaned and calibrated pH probes in T3B, T6B and T7. Cleaned outfall pipes in T3A and T6A. Checked sheds for mouse activity and rebated traps. Performed field tests for hexavalent and total chrome for T3, T6, T7 and SW. Performed bi-annual surface water, annual monitoring well and GCTS quarterly effluent sampling. Mowed and cleared vegetation from around T7 and T8, pipes, swale and sheds for easy access. Landfill cap mowed. Rotated P1A and P1B valves as to not allow valves to calcify. Pumped out water from under T8 liner.			

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

Date:10/24/16	Project No.: 1047.001	Greenstar Personnel: L.Oliveira	Weather: Part Cloudy 45
READING		ITEM	
249		Carbon Dioxide Storage Tank Pressure (220-235 psi)	
3,261		Carbon Dioxide Tank Liquid Level	
599.0		T1 Water Level	
On/Cycling		Pump P1A Running Status	
On/Cycling		Pump P1BA Running Status	
616.2		T3A Water Elevation	
6.1		T3B pH Reading	
612.1		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	
6.2		T6B pH	
616.2		T6B Water Level	
On/Cycling		Pump 6B Operational Status	
615.9		T7 Water Level Reading	
7.2		T7 pH	
1.1		T8 Water Elevation	
68,640,280		Flow Meter Reading	
.3		Average System Flow	
95		Generator Run Hours	
READING	Standard	LOCATION/PARAMETER	
0.009	0.011 mg/L	Calcium Settling Pond Effluent (T3) Hexavalent Chromium	
0.047	0.050 mg/L	Calcium Settling Pond Effluent (T3) Total Chromium	
0.006	0.011 mg/L	Iron Settling Pond Effluent (T6) Hexavalent Chromium	
0.000	0.050 mg/L	Iron Settling Pond Effluent (T6) Total Chromium	
0.000	0.011 mg/L	Engineered Wetland Effluent (T7) Hexavalent Chromium	
0.000	0.050 mg/L	Engineered Wetland Effluent (T7) Total Chromium	
NA	0.011 mg/L	Southwest Corner Effluent (SS-1) Hexavalent Chromium	
NA	0.050 mg/L	Southwest Corner Effluent (SS-1) Total Chromium	
pH READING		SAMPLE LOCATION	
6.79		Calcium Settling Pond Effluent (T3)	
6.92		Iron Settling Pond Effluent (T6)	
7.31		Engineered Wetland Effluent (T7)	
NA		Southwest Corner Effluent (SS-1)	
Notes: Routine site visit. Cleaned and calibrated pH probes in T3B, T6B and T7. Cleaned outfall pipes in T3A and T6A. Checked sheds for mouse activity and rebated traps. Performed field tests for hexavalent and total chrome for T3, T6, and T7 (No water in SW corner). Rotated P1A and P1B valves as to not allow valves to calcify. Annual line cleaning done performed. T3 and T6 tanks vacuumed and lines cleaned, chromium and iron tanks lines. Cleaned T1 tank and influent line. Line into T7 cleaned. Lines in T1 taken apart and cleaned with CLR including all check valves and ball valves. Pump in T6 swapped for new one and old pump dropped off at S&S for repair. Water from under T8 pumped.			

GCTS DATA RECORDING SHEET

AIRCO PARCEL, NIAGARA FALLS, NEW YORK

Date:11/14/16	Project No.: 1047.001	Greenstar Personnel: L.Oliveira	Weather: Sunny 55
READING		ITEM	
246		Carbon Dioxide Storage Tank Pressure (220-235 psi)	
11,523		Carbon Dioxide Tank Liquid Level	
599.1		T1 Water Level	
On/Cycling		Pump P1A Running Status	
On/Cycling		Pump P1BA Running Status	
616.1		T3A Water Elevation	
6.08		T3B pH Reading	
612.1		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	
6.24		T6B pH	
616.2		T6B Water Level	
On/Cycling		Pump 6B Operational Status	
616.1		T7 Water Level Reading	
7.09		T7 pH	
1.8		T8 Water Elevation	
68,734,848		Flow Meter Reading	
7.4		Average System Flow	
96		Generator Run Hours	
READING	Standard	LOCATION/PARAMETER	
0.009	0.011 mg/L	Calcium Settling Pond Effluent (T3) Hexavalent Chromium	
0.042	0.050 mg/L	Calcium Settling Pond Effluent (T3) Total Chromium	
0.000	0.011 mg/L	Iron Settling Pond Effluent (T6) Hexavalent Chromium	
0.000	0.050 mg/L	Iron Settling Pond Effluent (T6) Total Chromium	
0.005	0.011 mg/L	Engineered Wetland Effluent (T7) Hexavalent Chromium	
0.001	0.050 mg/L	Engineered Wetland Effluent (T7) Total Chromium	
0.000	0.011 mg/L	Southwest Corner Effluent (SS-1) Hexavalent Chromium	
0.000	0.050 mg/L	Southwest Corner Effluent (SS-1) Total Chromium	
pH READING		SAMPLE LOCATION	
6.21		Calcium Settling Pond Effluent (T3)	
6.33		Iron Settling Pond Effluent (T6)	
7.15		Engineered Wetland Effluent (T7)	
7.22		Southwest Corner Effluent (SS-1)	
Notes: Routine site visit. Cleaned and calibrated pH probes in T3B, T6B and T7. Cleaned outfall pipes in T3A and T6A. Checked sheds for mouse activity and rebated traps. Performed field tests for hexavalent and total chrome for T3, T6, T7 and SW corner. Rotated P1A and P1B valves as to not allow valves to calcify. Annual tank cleaning performed on Chromium tanks and various pump stations. Influent and effluent pipes all cleaned including overflow pipes. Muskrats found nesting in T7. Set traps none were caught but activity scared the vectors away.			

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

Date:12/19/16	Project No.: 1047.001	Greenstar Personnel: L.Oliveira	Weather: Sunny 21
READING		ITEM	
241		Carbon Dioxide Storage Tank Pressure (220-235 psi)	
6,005		Carbon Dioxide Tank Liquid Level	
598.5		T1 Water Level	
On/Cycling		Pump P1A Running Status	
On/Cycling		Pump P1BA Running Status	
616.1		T3A Water Elevation	
5.8		T3B pH Reading	
612.8		T3B Water Level	
On/Cycling		Pump 3B Operational Status	
612.1		T5 Water Level	
On/Cycling		Pump 5 Operational Status	
616.2		T6A Water Elevation	
6.3		T6B pH	
612.0		T6B Water Level	
On/Cycling		Pump 6B Operational Status	
6.6		T7 Water Level Reading	
616.1		T7 pH	
2.4		T8 Water Elevation	
68,795,168		Flow Meter Reading	
1.8		Average System Flow	
97		Generator Run Hours	
READING	Standard	LOCATION/PARAMETER	
-0.020	0.011 mg/L	Calcium Settling Pond Effluent (T3) Hexavalent Chromium	
0.057	0.050 mg/L	Calcium Settling Pond Effluent (T3) Total Chromium	
-0.010	0.011 mg/L	Iron Settling Pond Effluent (T6) Hexavalent Chromium	
0.000	0.050 mg/L	Iron Settling Pond Effluent (T6) Total Chromium	
-0.001	0.011 mg/L	Engineered Wetland Effluent (T7) Hexavalent Chromium	
0.002	0.050 mg/L	Engineered Wetland Effluent (T7) Total Chromium	
0.000	0.011 mg/L	Southwest Corner Effluent (SS-1) Hexavalent Chromium	
0.001	0.050 mg/L	Southwest Corner Effluent (SS-1) Total Chromium	
pH READING		SAMPLE LOCATION	
5.99		Calcium Settling Pond Effluent (T3)	
6.83		Iron Settling Pond Effluent (T6)	
6.91		Engineered Wetland Effluent (T7)	
7.73		Southwest Corner Effluent (SS-1)	
Notes: Routine site visit. Cleaned and calibrated pH probes in T3B and T6B, T7 was frozen. Cleaned outfall pipes in T3A and T6A. Checked sheds for mouse activity and rebated traps. Performed field tests for hexavalent and total chrome for T3, T6, T7 and SW corner. Rotated P1A and P1B valves as to not allow valves to calcify. Water from under T8 pumped. Conducted quarterly GCTS effluent sampling.			

Attachment E.2

GCTS Monthly Flow Calculations January – December 2016

Monthly Flow Calculations January 2016

Date	Maximum Flow (gpm)	Average Flow Rate (gpm)	Total Daily Flow (Gal)	Total Gallons To Date (Gal)	Run Time (hours)	Run Time (minutes)
1/1/2016	33	8	11,225	66,645,349	24	0
1/2/2016	33	6	8,171	66,642,295	24	0
1/3/2016	33	7	9,417	66,643,541	24	0
1/4/2016	33	10	14,052	66,648,176	24	0
1/5/2016	33	11	15,757	66,649,881	24	0
1/6/2016	33	8	10,886	66,645,010	24	0
1/7/2016	33	7	9,571	66,643,695	24	0
1/8/2016	33	8	11,313	66,645,437	24	0
1/9/2016	33	14	19,664	66,653,788	24	0
1/10/2016	33	13	19,134	66,653,258	24	0
1/11/2016	33	12	17,410	66,651,534	24	0
1/12/2016	33	11	15,263	66,649,387	24	0
1/13/2016	33	9	13,189	66,647,313	24	0
1/14/2016	33	7	9,844	66,643,968	24	0
1/15/2016	33	5	7,568	66,641,692	24	0
1/16/2016	33	5	7,177	66,641,301	24	0
1/17/2016	33	6	8,377	66,642,501	24	0
1/18/2016	33	6	8,557	66,642,681	24	0
1/19/2016	33	6	8,236	66,642,360	24	0
1/20/2016	33	7	10,261	66,644,385	24	0
1/21/2016	33	6	8,978	66,643,102	24	0
1/22/2016	33	6	8,252	66,642,376	24	0
1/23/2016	33	5	7,847	66,641,971	24	0
1/24/2016	33	6	8,152	66,642,276	24	0
1/25/2016	33	6	9,241	66,643,365	24	0
1/26/2016	33	6	8,578	66,642,702	24	0
1/27/2016	33	8	12,118	66,646,242	24	0
1/28/2016	33	8	12,037	66,646,161	24	0
1/29/2016	33	9	12,424	66,646,548	24	0
1/30/2016	33	7	9,625	66,643,749	24	0
1/31/2016	33	7	10,180	66,644,304	24	0
	33	7.7	342,503	66,644,304	31	100%
	Daily Maximum (GPM)	Monitoring Period Average (GPM)	Monitoring Period Total (GAL)	Cumulative Total (GAL)	Runtime (Days)	Operational Percentage

Monthly Flow Calculations February 2016

Date	Maximum Flow (gpm)	Average Flow Rate (gpm)	Total Daily Flow (Gal)	Total Gallons To Date (Gal)	Run Time (hours)	Run Time (minutes)
2/1/2016	33	8	11,663	66,655,968	24	0
2/2/2016	33	8	11,710	66,667,678	24	0
2/3/2016	33	8	11,442	66,679,120	24	0
2/4/2016	33	8	11,048	66,690,168	24	0
2/5/2016	33	8	11,322	66,701,490	24	0
2/6/2016	33	10	14,917	66,716,407	24	0
2/7/2016	33	8	12,202	66,728,608	24	0
2/8/2016	33	7	10,703	66,739,311	24	0
2/9/2016	33	5	6,728	66,746,040	24	0
2/10/2016	33	6	8,867	66,754,906	24	0
2/11/2016	33	7	9,849	66,764,755	24	0
2/12/2016	33	7	9,388	66,774,144	24	0
2/13/2016	33	5	7,587	66,781,731	24	0
2/14/2016	33	6	7,932	66,789,663	24	0
2/15/2016	33	6	8,947	66,798,610	24	0
2/16/2016	33	6	8,955	66,807,565	24	0
2/17/2016	33	6	8,815	66,816,379	24	0
2/18/2016	33	6	8,542	66,824,921	24	0
2/19/2016	33	6	8,708	66,833,629	24	0
2/20/2016	33	8	11,306	66,844,936	24	0
2/21/2016	33	6	9,241	66,854,176	24	0
2/22/2016	33	6	8,293	66,862,469	24	0
2/23/2016	33	6	8,957	66,871,426	24	0
2/24/2016	33	8	11,587	66,883,013	24	0
2/25/2016	33	8	11,696	66,894,709	24	0
2/26/2016	33	7	9,940	66,904,649	24	0
2/27/2016	33	7	10,441	66,915,090	24	0
2/28/2016	33	7	10,389	66,925,479	24	0
2/29/2016	33	7	10,632	66,936,111	24	0
	33	7.0	291.806	66,936,111	29	100%
	Daily Maximum (GPM)	Monitoring Period Average (GPM)	Monitoring Period Total (GAL)	Cumulative Total (GAL)	Runtime (Days)	Operational Percentage

Monthly Flow Calculations March 2016

Date	Maximum Flow (gpm)	Average Flow Rate (gpm)	Total Daily Flow (Gal)	Total Gallons To Date (Gal)	Run Time (hours)	Run Time (minutes)
3/1/2016	33	8	11,486	66,947,596	24	0
3/2/2016	33	8	11,138	66,958,734	24	0
3/3/2016	33	9	13,570	66,972,304	24	0
3/4/2016	33	10	14,152	66,986,457	24	0
3/5/2016	33	10	14,084	67,000,541	24	0
3/6/2016	33	13	18,472	67,019,013	24	0
3/7/2016	33	20	28,193	67,047,205	24	0
3/8/2016	33	22	31,724	67,078,930	24	0
3/9/2016	33	17	24,806	67,103,736	24	0
3/10/2016	33	4	5,539	67,109,274	24	0
3/11/2016	33	4	5,539	67,114,813	24	0
3/12/2016	33	4	5,539	67,120,352	24	0
3/13/2016	33	4	5,539	67,136,968	24	0
3/14/2016	33	7	9,640	67,146,608	24	0
3/15/2016	33	8	10,976	67,157,584	24	0
3/16/2016	34	7	10,456	67,168,040	24	0
3/17/2016	33	7	10,696	67,178,736	24	0
3/18/2016	33	6	9,256	67,187,992	24	0
3/19/2016	33	6	8,896	67,196,888	24	0
3/20/2016	33	6	8,616	67,205,504	24	0
3/21/2016	33	6	8,248	67,213,752	24	0
3/22/2016	33	6	8,288	67,222,040	24	0
3/23/2016	33	7	10,048	67,232,088	24	0
3/24/2016	33	9	12,448	67,244,536	24	0
3/25/2016	33	9	12,568	67,257,104	24	0
3/26/2016	33	7	9,752	67,266,856	24	0
3/27/2016	33	7	9,688	67,276,544	24	0
3/28/2016	33	7	10,328	67,286,872	24	0
3/29/2016	33	8	11,040	67,297,912	24	0
3/30/2016	33	6.8	9,736	67,307,648	24	0
3/31/2016	33	8.4	12,144	67,319,792	24	0
	34	8.1	383,681	67,319,792	31	100%
	Daily Maximum (GPM)	Monitoring Period Average (GPM)	Monitoring Period Total (GAL)	Cumulative Total (GAL)	Runtime (Days)	Operational Percentage

Monthly Flow Calculations April 2016

Date	Maximum Flow (gpm)	Average Flow Rate (gpm)	Total Daily Flow (Gal)	Total Gallons To Date (Gal)	Run Time (hours)	Run Time (minutes)
4/1/2016	33	9	12,832	67,332,624	24	0
4/2/2016	33	8	11,264	67,343,888	24	0
4/3/2016	33	7	10,584	67,354,472	24	0
4/4/2016	33	7	10,688	67,365,160	24	0
4/5/2016	33	8	11,360	67,376,520	24	0
4/6/2016	33	8	11,344	67,387,864	24	0
4/7/2016	33	9	12,496	67,400,360	24	0
4/8/2016	33	7	10,760	67,411,120	24	0
4/9/2016	33	7	10,384	67,421,504	24	0
4/10/2016	33	7	9,936	67,431,440	24	0
4/11/2016	33	10	14,224	67,445,664	24	0
4/12/2016	33	8	11,400	67,457,064	24	0
4/13/2016	33	8	10,920	67,467,984	24	0
4/14/2016	33	9	12,248	67,480,232	24	0
4/15/2016	33	7	10,328	67,490,560	24	0
4/16/2016	33	7	9,640	67,500,200	24	0
4/17/2016	33	7	9,552	67,509,752	24	0
4/18/2016	33	8	11,352	67,521,104	24	0
4/19/2016	33	6	9,344	67,530,448	24	0
4/20/2016	33	6	8,904	67,539,352	24	0
4/21/2016	33	6	9,152	67,548,504	24	0
4/22/2016	33	7	10,248	67,558,752	24	0
4/23/2016	33	7	9,368	67,568,120	24	0
4/24/2016	33	7	9,576	67,577,696	24	0
4/25/2016	33	7	9,536	67,587,232	24	0
4/26/2016	33	8	11,832	67,599,064	24	0
4/27/2016	33	7	10,416	67,609,480	24	0
4/28/2016	33	9	12,504	67,621,984	24	0
4/29/2016	33	3	3,808	67,625,792	24	0
4/30/2016	33	8	11,232	67,637,024	24	0
	33	7.3	317,232	67,637,024	30	100%
	Daily Maximum (GPM)	Monitoring Period Average (GPM)	Monitoring Period Total (GAL)	Cumulative Total (GAL)	Runtime (Days)	Operational Percentage

Monthly Flow Calculations May 2016

Date	Maximum Flow (gpm)	Average Flow Rate (gpm)	Total Daily Flow (Gal)	Total Gallons To Date (Gal)	Run Time (hours)	Run Time (minutes)
5/1/2016	33	8	11,352	67,648,376	24	0
5/2/2016	33	9	13,120	67,661,496	24	0
5/3/2016	33	8	11,768	67,673,264	24	0
5/4/2016	33	8	11,760	67,685,024	24	0
5/5/2016	32	8	11,392	67,696,416	24	0
5/6/2016	32	8	11,224	67,707,640	24	0
5/7/2016	32	8	11,256	67,718,896	24	0
5/8/2016	32	8	11,008	67,729,904	24	0
5/9/2016	32	8	10,808	67,740,712	24	0
5/10/2016	32	8	10,904	67,751,616	24	0
5/11/2016	32	7	10,760	67,762,376	24	0
5/12/2016	32	7	10,744	67,773,120	24	0
5/13/2016	32	8	11,344	67,784,464	24	0
5/14/2016	32	8	11,016	67,795,480	24	0
5/15/2016	32	7	10,600	67,806,080	24	0
5/16/2016	32	8	11,880	67,817,960	24	0
5/17/2016	32	7	10,696	67,828,656	24	0
5/18/2016	0	0	-	67,828,656	24	0
5/19/2016	32	3	4,266	67,832,922	24	0
5/20/2016	32	7	10,785	67,843,707	24	0
5/21/2016	32	8	10,840	67,854,547	24	0
5/22/2016	32	7	10,730	67,865,277	24	0
5/23/2016	32	7	10,634	67,875,911	24	0
5/24/2016	32	7	10,422	67,886,333	24	0
5/25/2016	32	7	10,558	67,896,891	24	0
5/26/2016	32	7	10,464	67,907,355	24	0
5/27/2016	32	7	10,411	67,917,766	24	0
5/28/2016	32	7	10,366	67,928,132	24	0
5/29/2016	32	7	10,370	67,938,502	24	0
5/30/2016	32	7	10,392	67,948,894	24	0
5/31/2016	32	7	10,362	67,959,256	24	0
	33	7.2	322,232	67,959,256	31	100%
	Daily Maximum (GPM)	Monitoring Period Average (GPM)	Monitoring Period Total (GAL)	Cumulative Total (GAL)	Runtime (Days)	Operational Percentage

Monthly Flow Calculations

June 2016

Date	Maximum Flow (gpm)	Average Flow Rate (gpm)	Total Daily Flow (Gal)	Total Gallons To Date (Gal)	Run Time (hours)	Run Time (minutes)
6/1/2016	32	7	10,167	67,969,423	24	0
6/2/2016	32	7	10,405	67,979,828	24	0
6/3/2016	32	7	10,354	67,990,182	24	0
6/4/2016	32	7	10,144	68,000,326	24	0
6/5/2016	32	8	11,237	68,011,563	24	0
6/6/2016	32	8	10,991	68,022,554	24	0
6/7/2016	32	7	10,356	68,032,910	24	0
6/8/2016	32	7	10,307	68,043,217	24	0
6/9/2016	32	7	9,830	68,053,047	24	0
6/10/2016	32	7	9,820	68,062,867	24	0
6/11/2016	32	7	9,943	68,072,810	24	0
6/12/2016	32	7	9,582	68,082,392	24	0
6/13/2016	32	7	9,734	68,092,126	24	0
6/14/2016	32	7	9,531	68,101,657	24	0
6/15/2016	32	7	9,440	68,111,097	24	0
6/16/2016	32	7	9,465	68,120,562	24	0
6/17/2016	32	7	9,503	68,130,065	24	0
6/18/2016	32	6	9,056	68,139,121	24	0
6/19/2016	32	6	9,250	68,148,371	24	0
6/20/2016	32	6	9,046	68,157,417	24	0
6/21/2016	32	6	9,040	68,166,457	24	0
6/22/2016	32	6	8,933	68,175,390	24	0
6/23/2016	32	6	8,744	68,184,134	24	0
6/24/2016	32	6	8,790	68,192,924	24	0
6/25/2016	32	6	8,460	68,201,384	24	0
6/26/2016	32	6	8,720	68,210,104	24	0
6/27/2016	32	6	8,552	68,218,656	24	0
6/28/2016	32	6	8,448	68,227,104	24	0
6/29/2016	32	6	8,216	68,235,320	24	0
6/30/2016	32	6	8,408	68,243,728	24	0
	32	6.6	284,472	68,243,728	30	100%
	Daily Maximum (GPM)	Monitoring Period Average (GPM)	Monitoring Period Total (GAL)	Cumulative Total (GAL)	Runtime (Days)	Operational Percentage

Monthly Flow Calculations July 2016

Date	Maximum Flow (gpm)	Average Flow Rate (gpm)	Total Daily Flow (Gal)	Total Gallons To Date (Gal)	Run Time (hours)	Run Time (minutes)
7/1/2016	32	6	8,240	68,251,968	24	0
7/2/2016	32	6	8,000	68,259,968	24	0
7/3/2016	31	6	8,168	68,268,136	24	0
7/4/2016	31	6	7,968	68,276,104	24	0
7/5/2016	31	5	7,736	68,283,840	24	0
7/6/2016	31	5	7,712	68,291,552	24	0
7/7/2016	31	5	7,736	68,299,288	24	0
7/8/2016	31	5	7,672	68,306,960	24	0
7/9/2016	31	5	7,504	68,314,464	24	0
7/10/2016	31	5	7,472	68,321,936	24	0
7/11/2016	31	5	7,808	68,329,744	24	0
7/12/2016	31	4	6,064	68,335,808	24	0
7/13/2016	0	0	-	68,335,808	24	0
7/14/2016	0	0	-	68,335,808	24	0
7/15/2016	0	0	-	68,335,808	24	0
7/16/2016	0	0	-	68,335,808	24	0
7/17/2016	32	6	8,616	68,344,424	24	0
7/18/2016	31	11	16,408	68,360,832	24	0
7/19/2016	31	7	10,112	68,370,944	24	0
7/20/2016	31	4	6,232	68,377,176	24	0
7/21/2016	31	4	6,120	68,383,296	24	0
7/22/2016	31	4	6,080	68,389,376	24	0
7/23/2016	31	4	5,928	68,395,304	24	0
7/24/2016	31	4	5,744	68,401,048	24	0
7/25/2016	31	5	6,534	68,407,582	24	0
7/26/2016	31	5	6,534	68,414,115	24	0
7/27/2016	31	5	6,534	68,420,649	24	0
7/28/2016	31	5	6,534	68,427,183	24	0
7/29/2016	31	5	6,534	68,433,717	24	0
7/30/2016	31	5	6,534	68,440,250	24	0
7/31/2016	31	5	6,534	68,446,784	24	0
	32	4.7	203,056	68,251,968	31	100%
	Daily Maximum (GPM)	Monitoring Period Average (GPM)	Monitoring Period Total (GAL)	Cumulative Total (GAL)	Runtime (Days)	Operational Percentage

Monthly Flow Calculations August 2016

Date	Maximum Flow (gpm)	Average Flow Rate (gpm)	Total Daily Flow (Gal)	Total Gallons To Date (Gal)	Run Time (hours)	Run Time (minutes)
8/1/2016	31	4	5,560	68,452,344	24	0
8/2/2016	31	4	5,464	68,457,808	24	0
8/3/2016	31	4	5,384	68,463,192	24	0
8/4/2016	31	4	5,296	68,468,488	24	0
8/5/2016	31	4	5,376	68,473,864	24	0
8/6/2016	31	4	5,088	68,478,952	24	0
8/7/2016	31	4	5,176	68,484,128	24	0
8/8/2016	31	4	5,040	68,489,168	24	0
8/9/2016	31	3	4,712	68,493,880	24	0
8/10/2016	31	3	4,952	68,498,832	24	0
8/11/2016	31	4	5,192	68,504,024	24	0
8/12/2016	31	3	4,648	68,508,672	24	0
8/13/2016	31	3	4,656	68,513,328	24	0
8/14/2016	31	3	4,600	68,517,928	24	0
8/15/2016	31	3	4,416	68,522,344	24	0
8/16/2016	31	4	5,224	68,527,568	24	0
8/17/2016	31	3	4,464	68,532,032	24	0
8/18/2016	31	3	4,168	68,536,200	24	0
8/19/2016	31	3	4,000	68,540,200	24	0
8/20/2016	31	3	4,024	68,544,224	24	0
8/21/2016	31	4	6,152	68,550,376	24	0
8/22/2016	31	3	3,960	68,554,336	24	0
8/23/2016	31	3	3,744	68,558,080	24	0
8/24/2016	31	2	3,536	68,561,616	24	0
8/25/2016	31	3	3,768	68,565,384	24	0
8/26/2016	31	3	4,080	68,569,464	24	0
8/27/2016	31	2	3,512	68,572,976	24	0
8/28/2016	31	4	5,080	68,578,056	24	0
8/29/2016	31	2	3,296	68,581,352	24	0
8/30/2016	31	2	3,128	68,584,480	24	0
8/31/2016	31	4	6,008	68,590,488	24	0
	31	3.2	143,704	68,590,488	31	100%
	Daily Maximum (GPM)	Monitoring Period Average (GPM)	Monitoring Period Total (GAL)	Cumulative Total (GAL)	Runtime (Days)	Operational Percentage

Monthly Flow Calculations September 2016

Date	Maximum Flow (gpm)	Average Flow Rate (gpm)	Total Daily Flow (Gal)	Total Gallons To Date (Gal)	Run Time (hours)	Run Time (minutes)
9/1/2016	31	3	3,152	68,593,640	24	0
9/2/2016	31	3	2,872	68,596,512	24	0
9/3/2016	31	3	2,856	68,599,368	24	0
9/4/2016	31	2	2,472	68,601,840	24	0
9/5/2016	31	2	2,632	68,604,472	24	0
9/6/2016	31	2	2,240	68,606,712	24	0
9/7/2016	31	2	2,224	68,608,936	24	0
9/8/2016	31	2	2,712	68,611,648	24	0
9/9/2016	31	2	1,816	68,613,464	24	0
9/10/2016	31	3	3,248	68,616,712	24	0
9/11/2016	31	2	2,104	68,618,816	24	0
9/12/2016	31	2	1,768	68,620,584	24	0
9/13/2016	31	1	784	68,621,368	24	0
9/14/2016	31	1	1,184	68,622,552	24	0
9/15/2016	31	1	584	68,623,136	24	0
9/16/2016	31	1	760	68,623,896	24	0
9/17/2016	31	2	1,736	68,625,632	24	0
9/18/2016	31	1	768	68,626,400	24	0
9/19/2016	31	0	376	68,626,776	24	0
9/20/2016	31	0	552	68,627,328	24	0
9/21/2016	31	1	584	68,627,912	24	0
9/22/2016	31	0	184	68,628,096	24	0
9/23/2016	0	0	-	68,628,096	24	0
9/24/2016	31	0	192	68,628,288	24	0
9/25/2016	31	0	192	68,628,480	24	0
9/26/2016	31	1	848	68,629,328	24	0
9/27/2016	31	0	400	68,629,728	24	0
9/28/2016	30	0	184	68,629,912	24	0
9/29/2016	0	0	-	68,629,912	24	0
9/30/2016	0	0	-	68,629,912	24	0
	31	1.2	39,424	68,629,912	30	100%
	Daily Maximum (GPM)	Monitoring Period Average (GPM)	Monitoring Period Total (GAL)	Cumulative Total (GAL)	Runtime (Days)	Operational Percentage

Monthly Flow Calculations October 2016

Date	Maximum Flow (gpm)	Average Flow Rate (gpm)	Total Daily Flow (Gal)	Total Gallons To Date (Gal)	Run Time (hours)	Run Time (minutes)
10/1/2016	0	0.0	-	68,629,912	24	0
10/2/2016	30	0.4	616	68,630,528	24	0
10/3/2016	30	0.1	184	68,630,712	24	0
10/4/2016	0	0.0	-	68,630,712	24	0
10/5/2016	0	0.0	-	68,630,712	24	0
10/6/2016	0	0.0	-	68,630,712	24	0
10/7/2016	0	0.0	-	68,630,712	24	0
10/8/2016	30	0.3	400	68,631,112	24	0
10/9/2016	0	0.0	-	68,631,112	24	0
10/10/2016	0	0.0	-	68,631,112	24	0
10/11/2016	0	0.0	-	68,631,112	24	0
10/12/2016	0	0.0	-	68,631,112	24	0
10/13/2016	30	0.4	576	68,631,688	24	0
10/14/2016	0	0.0	-	68,631,688	24	0
10/15/2016	0	0.0	-	68,631,688	24	0
10/16/2016	0	0.0	-	68,631,688	24	0
10/17/2016	0	0.0	-	68,631,688	24	0
10/18/2016	0	0.0	-	68,631,688	24	0
10/19/2016	0	0.0	-	68,631,688	24	0
10/20/2016	30	0.4	624	68,632,312	24	0
10/21/2016	30	2.9	4,128	68,636,440	24	0
10/22/2016	30	1.0	1,424	68,637,864	24	0
10/23/2016	30	0.7	1,064	68,638,928	24	0
10/24/2016	30	0.7	984	68,639,912	24	0
10/25/2016	30	0.3	368	68,640,280	24	0
10/26/2016	44	1.0	1,496	68,641,776	24	0
10/27/2016	42	3.1	4,528	68,646,304	24	0
10/28/2016	43	3.5	4,968	68,651,272	24	0
10/29/2016	44	2.4	3,520	68,654,792	24	0
10/30/2016	45	2.6	3,696	68,658,488	24	0
10/31/2016	45	2.3	3,288	68,661,776	24	0
	45	0.7	31,864	68,661,776	31	100%
	Daily Maximum (GPM)	Monitoring Period Average (GPM)	Monitoring Period Total (GAL)	Cumulative Total (GAL)	Runtime (Days)	Operational Percentage

Monthly Flow Calculations November 2016

Date	Maximum Flow (gpm)	Average Flow Rate (gpm)	Total Daily Flow (Gal)	Total Gallons To Date (Gal)	Run Time (hours)	Run Time (minutes)
11/1/2016	45	2.2	3,168	68,664,944	24	0
11/2/2016	44	3.3	4,816	68,669,760	24	0
11/3/2016	44	4.6	6,680	68,676,440	24	0
11/4/2016	44	2.8	4,016	68,680,456	24	0
11/5/2016	44	2.3	3,312	68,683,768	24	0
11/6/2016	45	2.9	4,112	68,687,880	24	0
11/7/2016	45	2.1	3,048	68,690,928	24	0
11/8/2016	45	2.9	4,136	68,695,064	24	0
11/9/2016	45	2.7	3,856	68,698,920	24	0
11/10/2016	45	2.1	3,032	68,701,952	24	0
11/11/2016	45	2.5	3,648	68,705,600	24	0
11/12/2016	45	2.3	3,280	68,708,880	24	0
11/13/2016	45	2.2	3,136	68,712,016	24	0
11/14/2016	45	4.3	6,248	68,718,264	24	0
11/15/2016	45	7.4	10,600	68,728,864	24	0
11/15/2016	45	7.4	10,600	68,728,864	24	0
11/16/2016	44	4.9	7,032	68,735,896	24	0
11/17/2016	0	0.0	-	68,735,896	24	0
11/18/2016	0	0.0	-	68,735,896	24	0
11/19/2016	0	0.0	-	68,735,896	24	0
11/20/2016	0	0.0	-	68,735,896	24	0
11/21/2016	0	0.0	-	68,735,896	24	0
11/22/2016	0	0.0	-	68,735,896	24	0
11/23/2016	0	0.0	-	68,735,896	24	0
11/24/2016	0	0.0	-	68,735,896	24	0
11/25/2016	0	0.0	-	68,735,896	24	0
11/26/2016	0	0.0	-	68,735,896	24	0
11/27/2016	0	0.0	-	68,735,896	24	0
11/28/2016	0	0.0	-	68,735,896	24	0
11/29/2016	44	1.5	2,184	68,738,080	24	0
	45	2.0	90,488	68,738,080	30	100%
	Daily Maximum (GPM)	Monitoring Period Average (GPM)	Monitoring Period Total (GAL)	Cumulative Total (GAL)	Runtime (Days)	Operational Percentage

Monthly Flow Calculations December 2016

Date	Maximum Flow (gpm)	Average Flow Rate (gpm)	Total Daily Flow (Gal)	Total Gallons To Date (Gal)	Run Time (hours)	Run Time (minutes)
12/1/2016	44	3.6	5,152	68,746,816	24	0
12/2/2016	44	2.0	2,944	68,749,760	24	0
12/3/2016	44	2.0	2,912	68,752,672	24	0
12/4/2016	44	2.0	2,832	68,755,504	24	0
12/5/2016	44	1.9	2,744	68,758,248	24	0
12/6/2016	44	2.1	2,952	68,761,200	24	0
12/7/2016	44	2.2	3,152	68,764,352	24	0
12/8/2016	44	2.0	2,824	68,767,176	24	0
12/9/2016	44	1.9	2,744	68,769,920	24	0
12/10/2016	44	1.9	2,744	68,772,664	24	0
12/11/2016	44	1.8	2,560	68,775,224	24	0
12/12/2016	44	2.8	3,976	68,779,200	24	0
12/13/2016	44	1.9	2,776	68,781,976	24	0
12/14/2016	44	1.9	2,800	68,784,776	24	0
12/18/2016	43	2.5	3,568	68,793,600	24	0
12/19/2016	43	1.6	2,336	68,795,936	24	0
12/20/2016	43	0.9	1,248	68,797,184	24	0
12/21/2016	43	0.7	1,032	68,798,216	24	0
12/22/2016	43	1.5	2,160	68,800,376	24	0
12/23/2016	44	1.3	1,936	68,802,312	24	0
12/24/2016	44	2.9	4,112	68,806,424	24	0
12/25/2016	43	2.9	4,200	68,810,624	24	0
12/26/2016	44	4.2	6,112	68,816,736	24	0
12/27/2016	44	4.2	6,072	68,822,808	24	0
12/28/2016	43	2.5	3,528	68,826,336	24	0
12/29/2016	44	3.2	4,584	68,830,920	24	0
12/30/2016	44	2.1	2,952	68,833,872	24	0
12/31/2016	44	3.1	4,504	68,838,376	24	0
12/1/2016	44	3.6	5,152	68,746,816	24	0
12/2/2016	44	2.0	2,944	68,749,760	24	0
12/3/2016	44	2.0	2,912	68,752,672	24	0
	44	2.3	91,456	68,752,672	31	100%
	Daily Maximum (GPM)	Monitoring Period Average (GPM)	Monitoring Period Total (GAL)	Cumulative Total (GAL)	Runtime (Days)	Operational Percentage

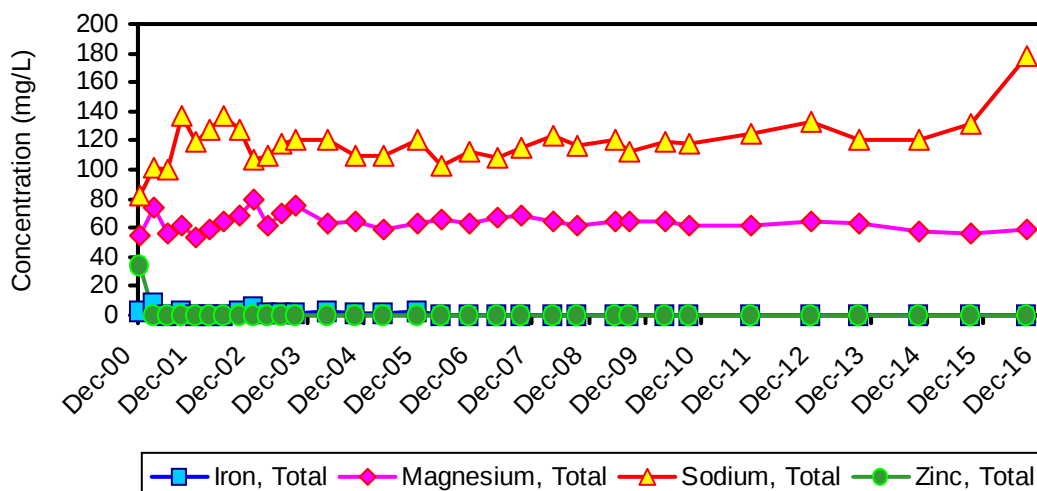
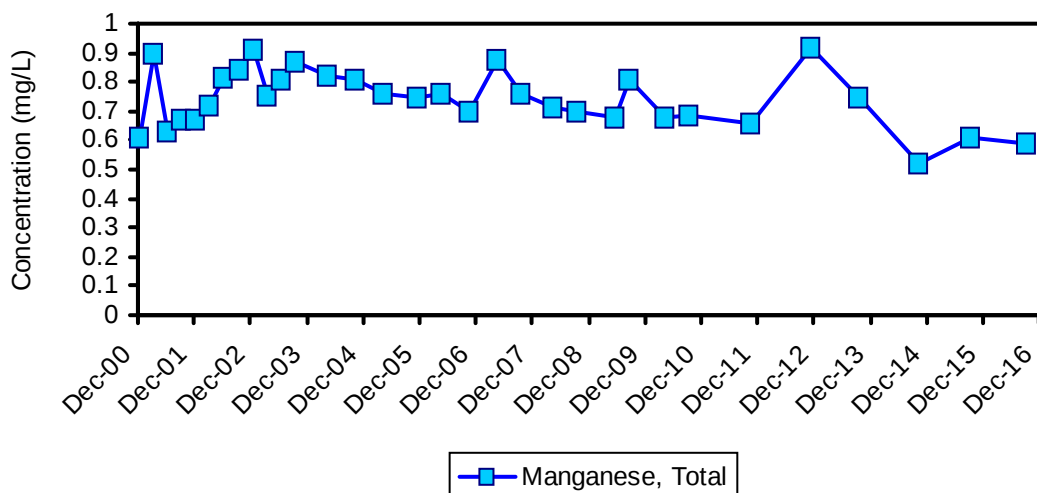
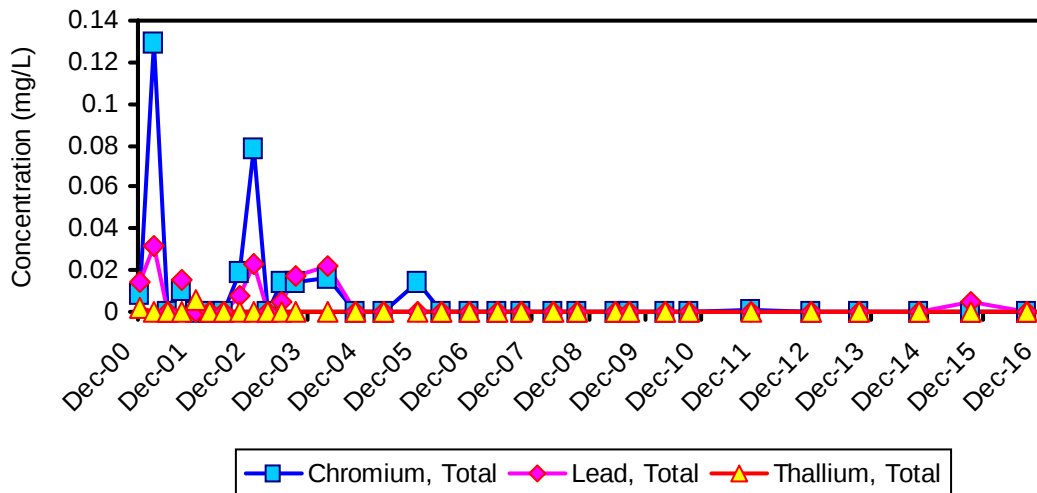
Attachment F

Trend Graphs

APPENDIX C MONITORING WELL TREND CHARTS

Sample Location: MW-1B

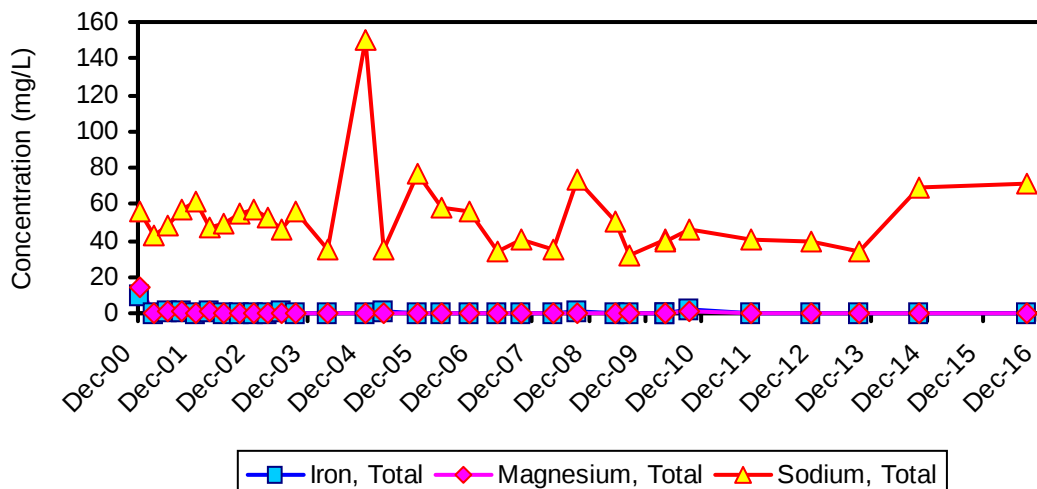
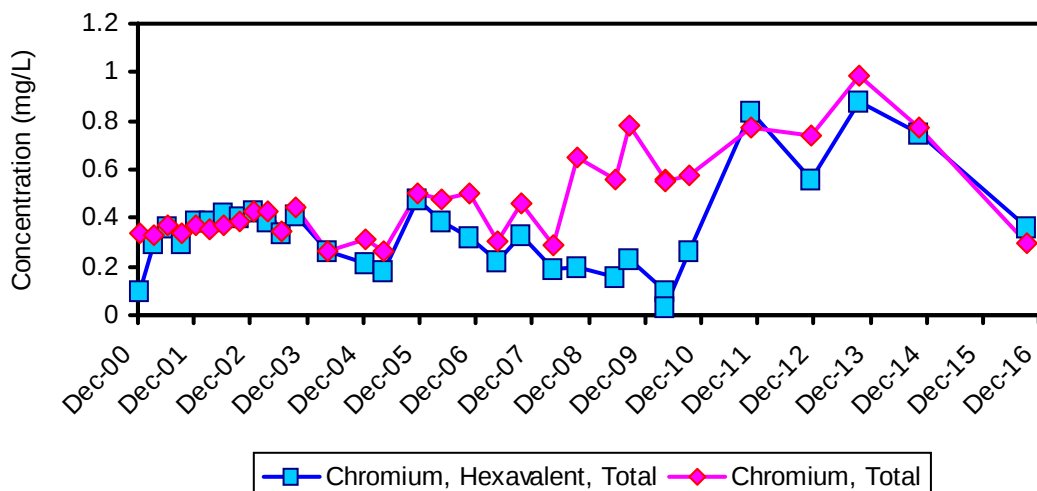
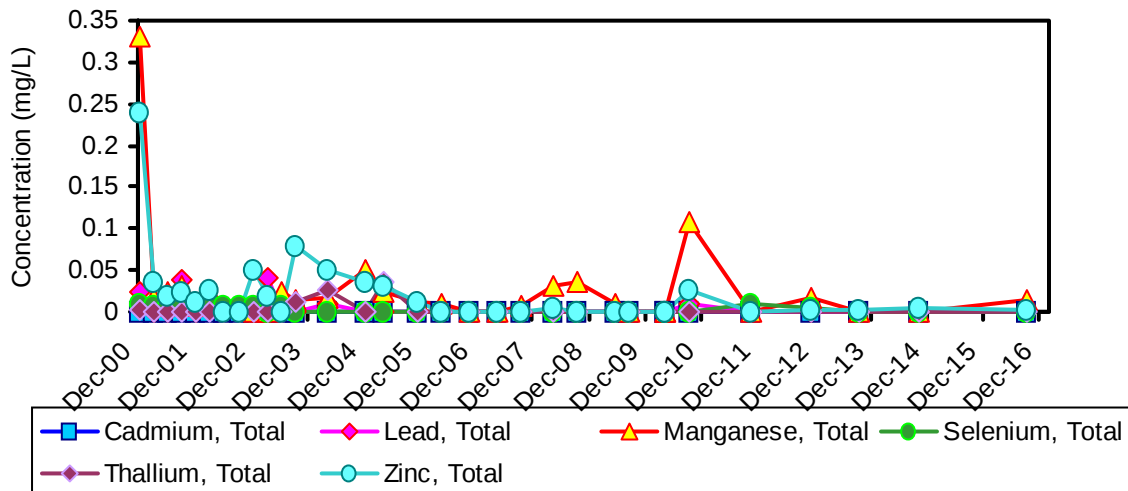
Sample Matrix: Groundwater



APPENDIX C, CONTINUED

Sample Location: MW-2B

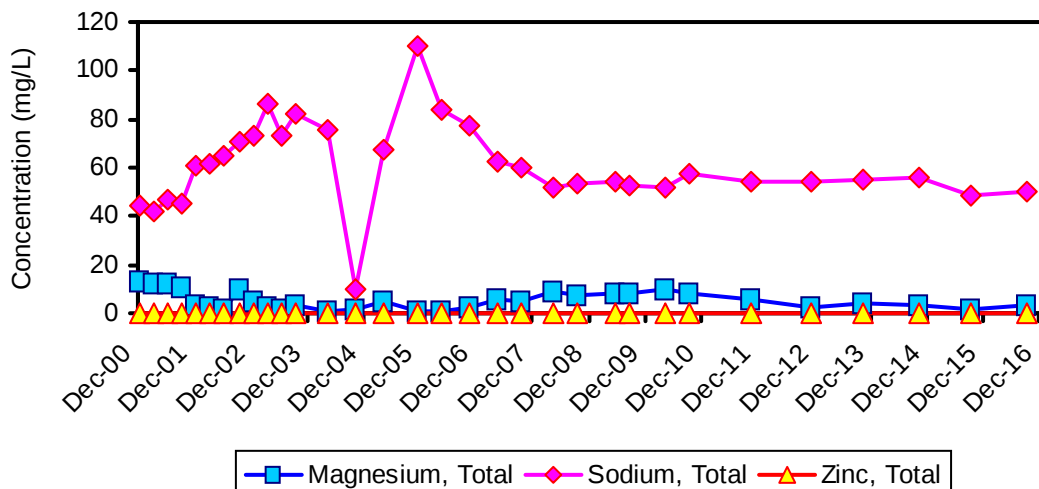
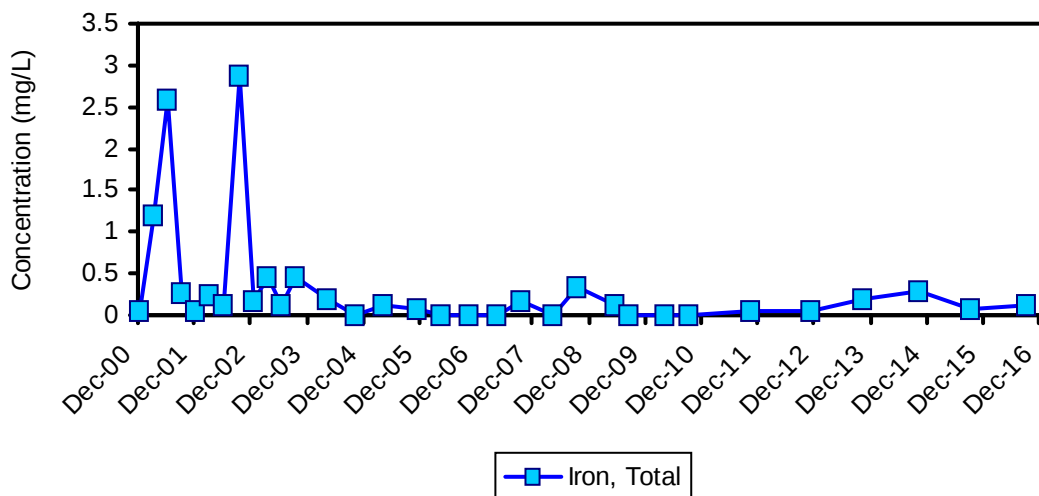
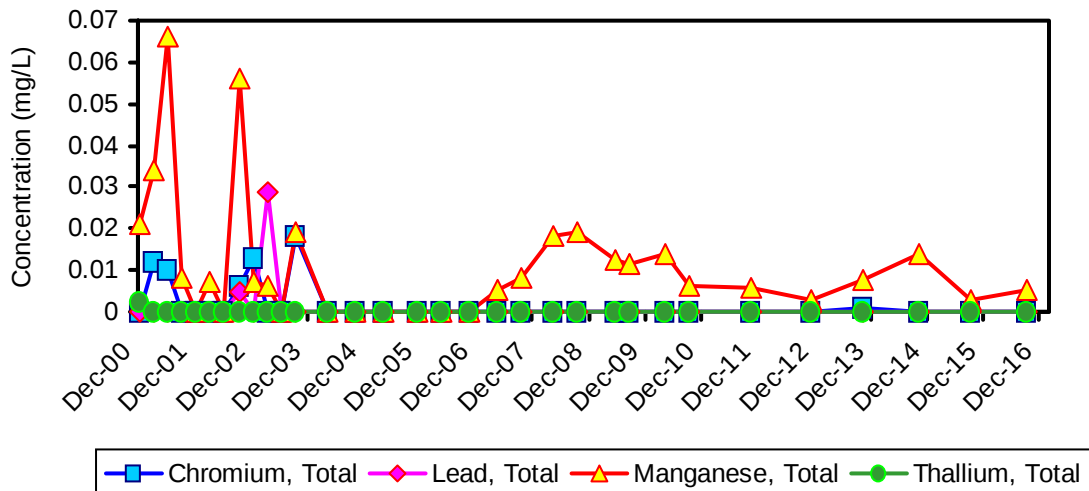
Sample Matrix: Groundwater



APPENDIX C, CONTINUED

Sample Location: MW-3B

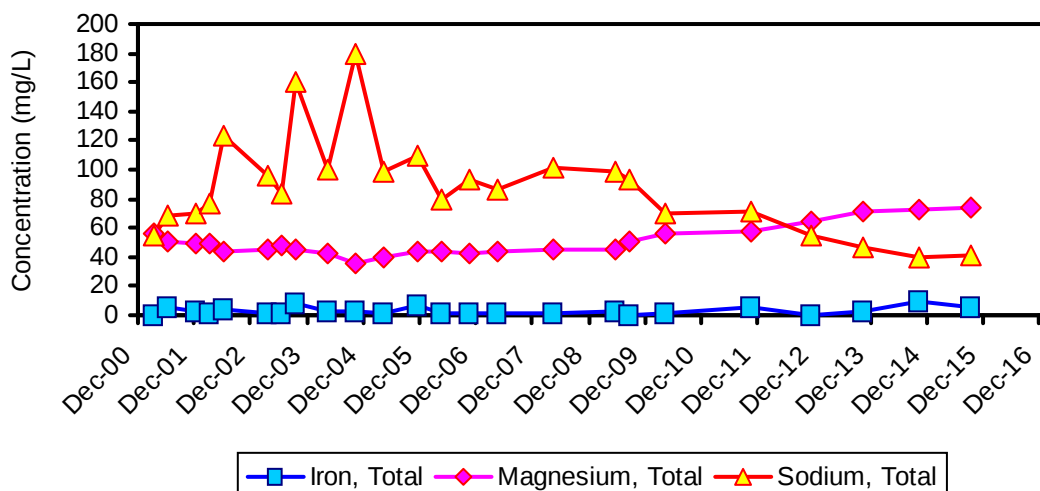
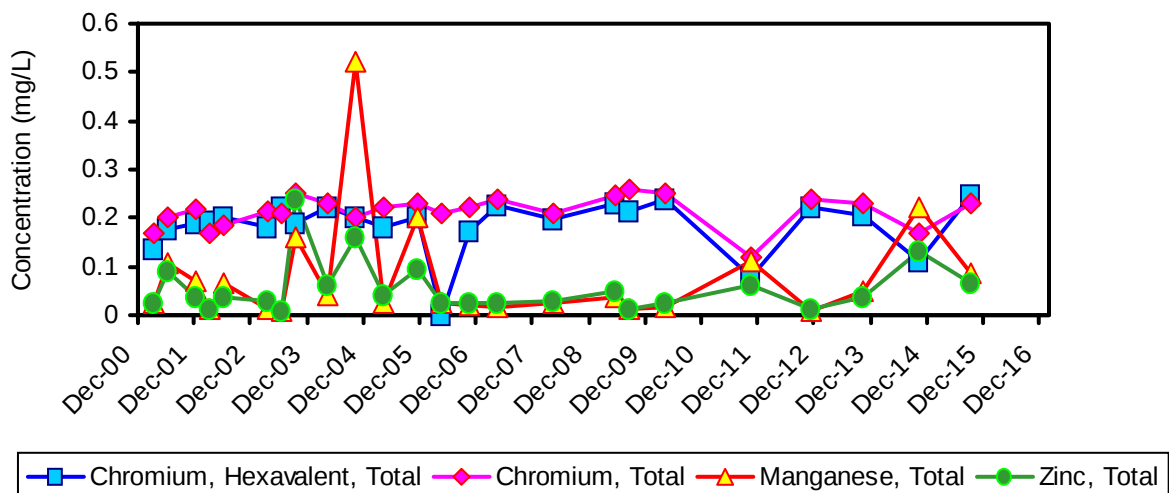
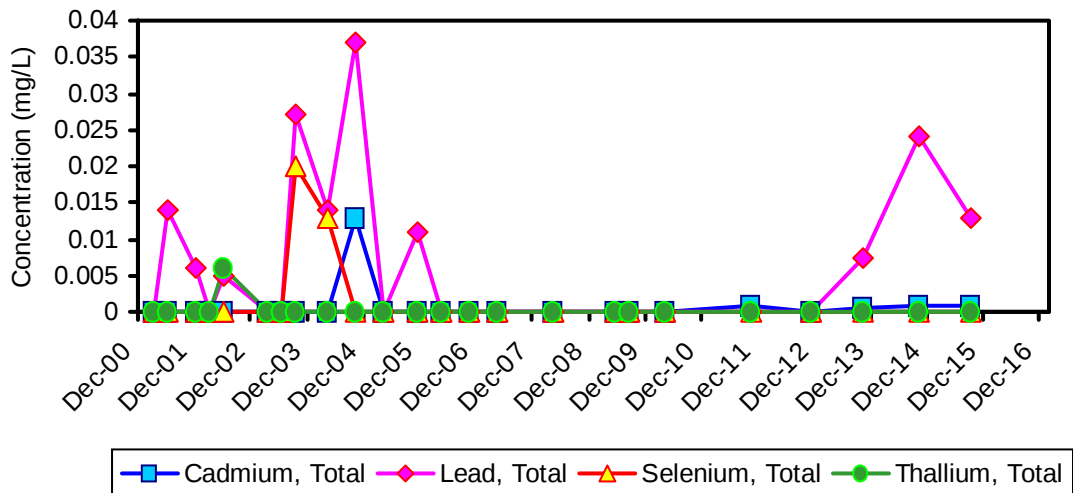
Sample Matrix: Groundwater



APPENDIX C, CONTINUED

Sample Location: MW-4B

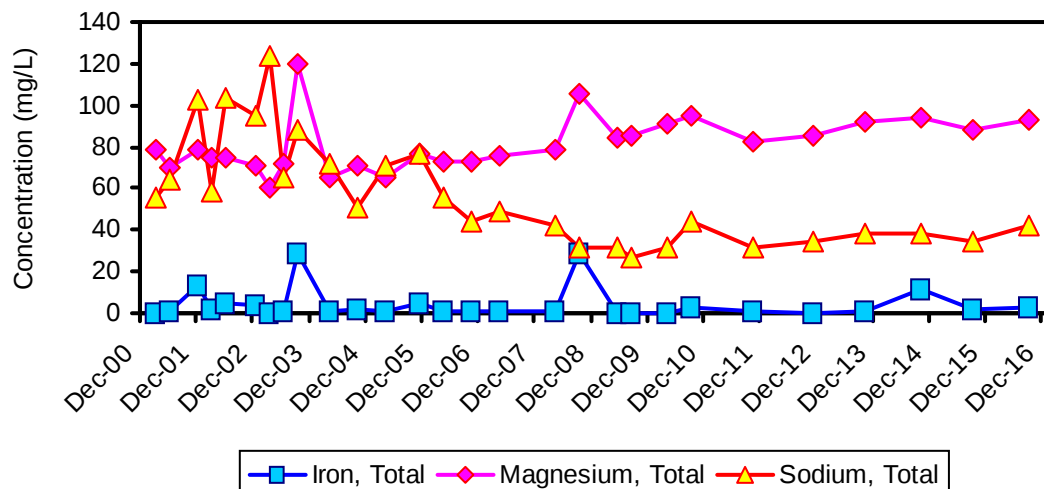
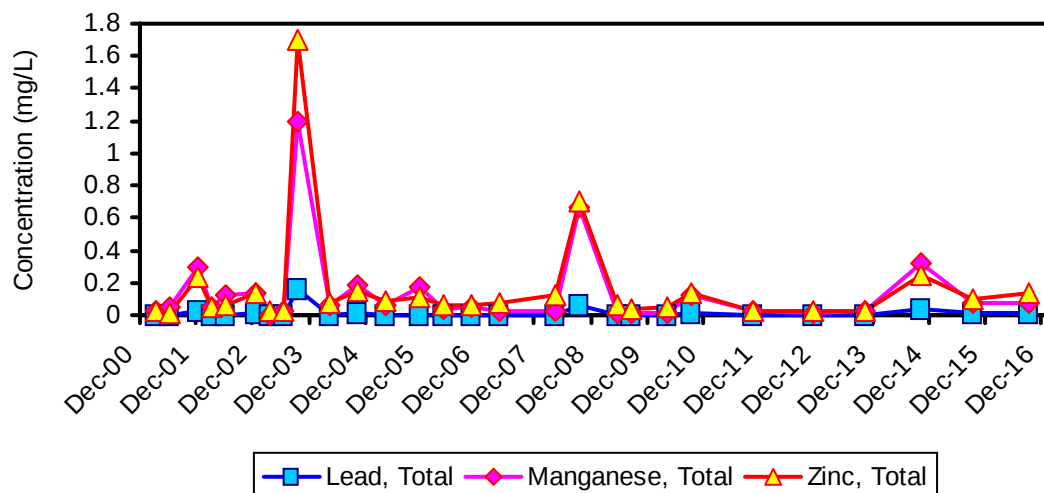
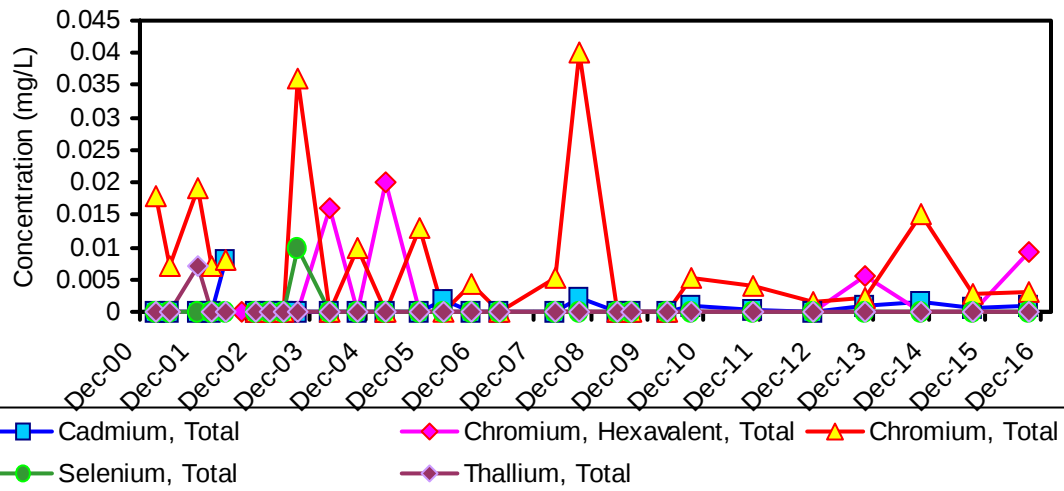
Sample Matrix: Groundwater



APPENDIX C, CONTINUED

Sample Location: MW-5B

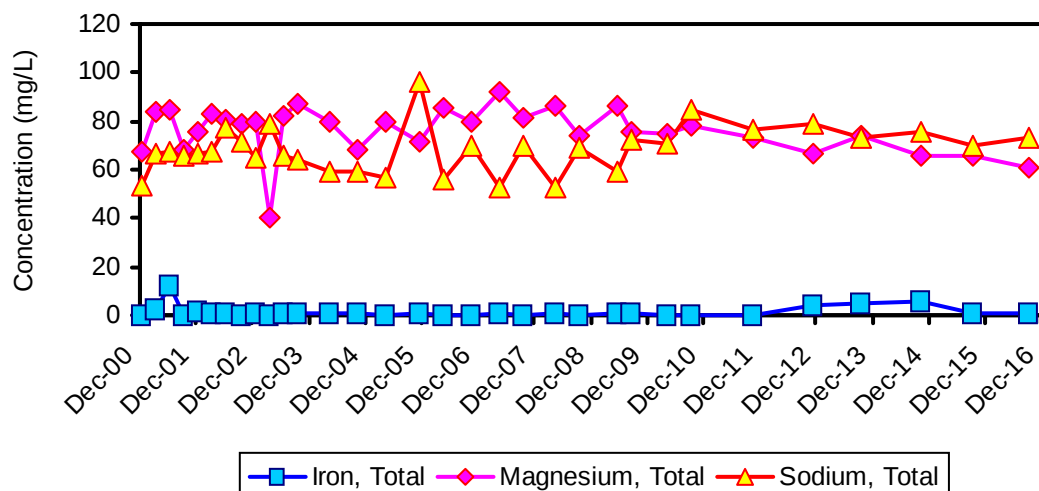
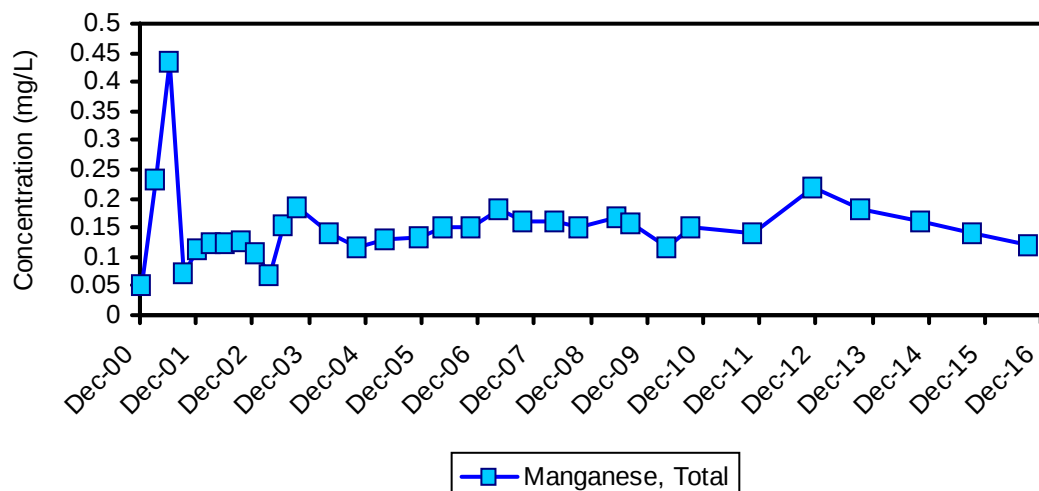
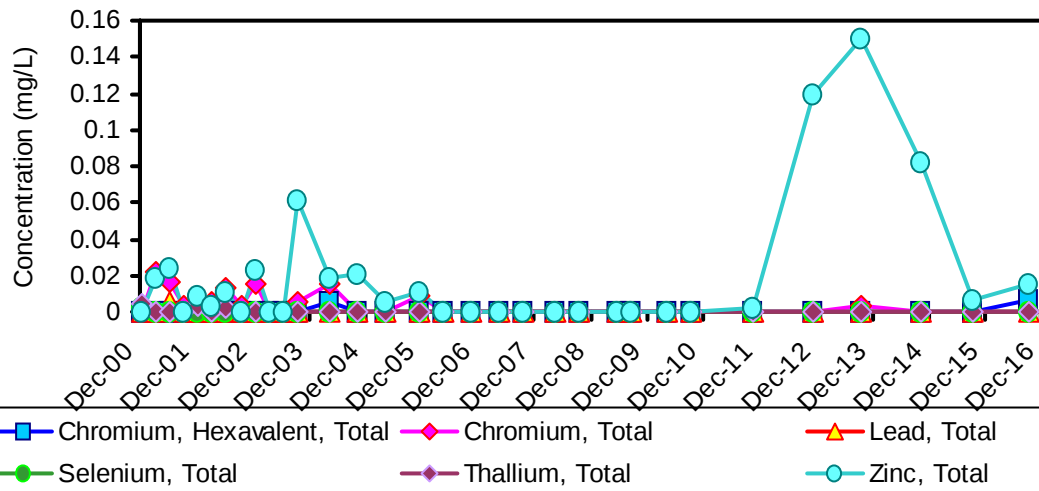
Sample Matrix: Groundwater



APPENDIX C, CONTINUED

Sample Location: MW-6B

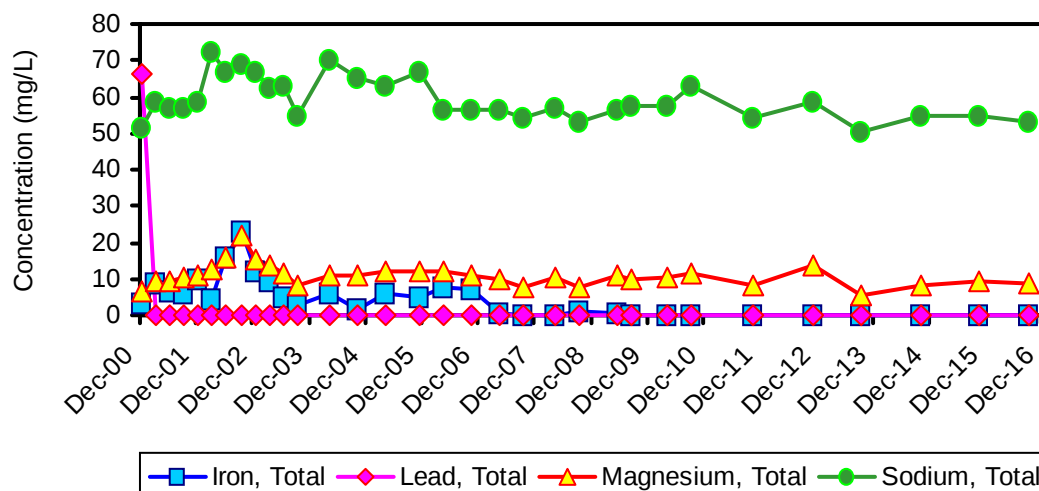
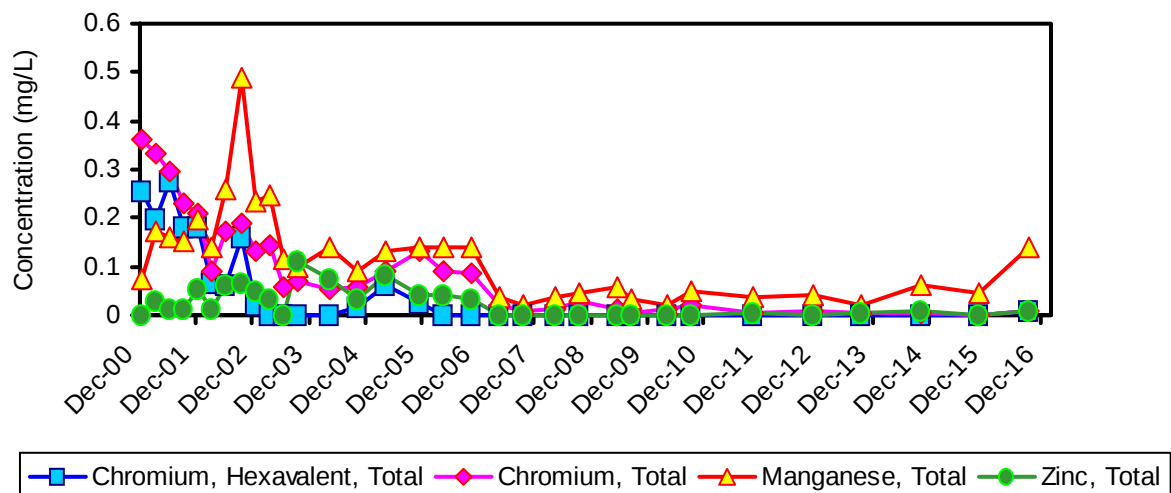
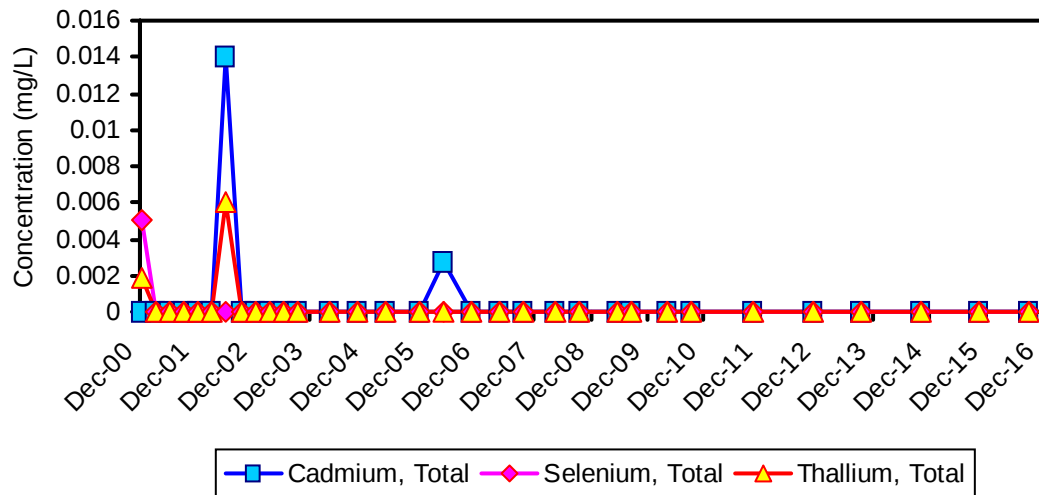
Sample Matrix: Groundwater



APPENDIX C, CONTINUED

Sample Location: MW-7B

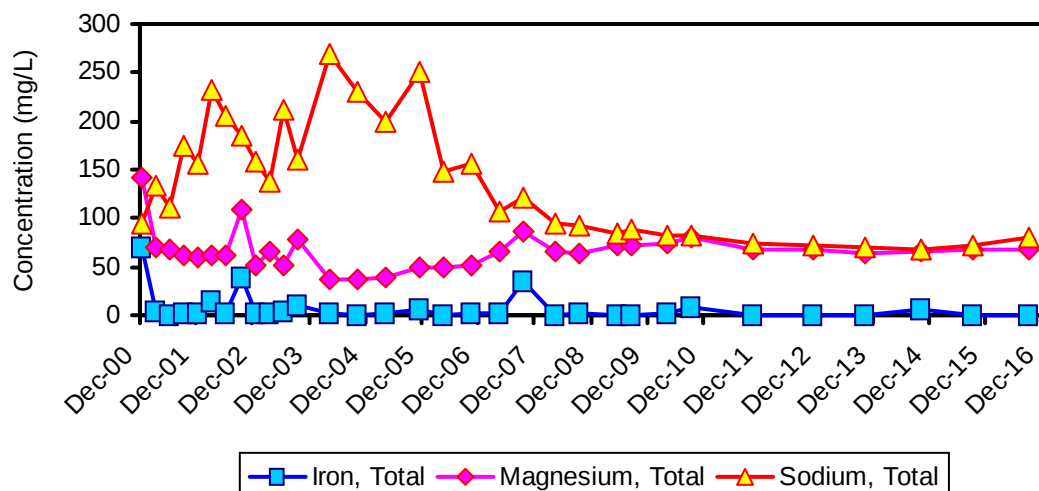
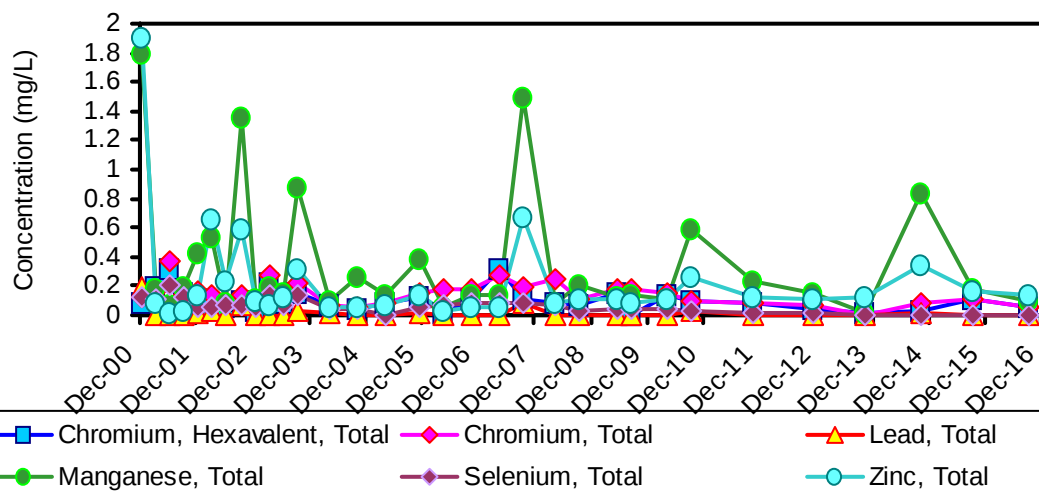
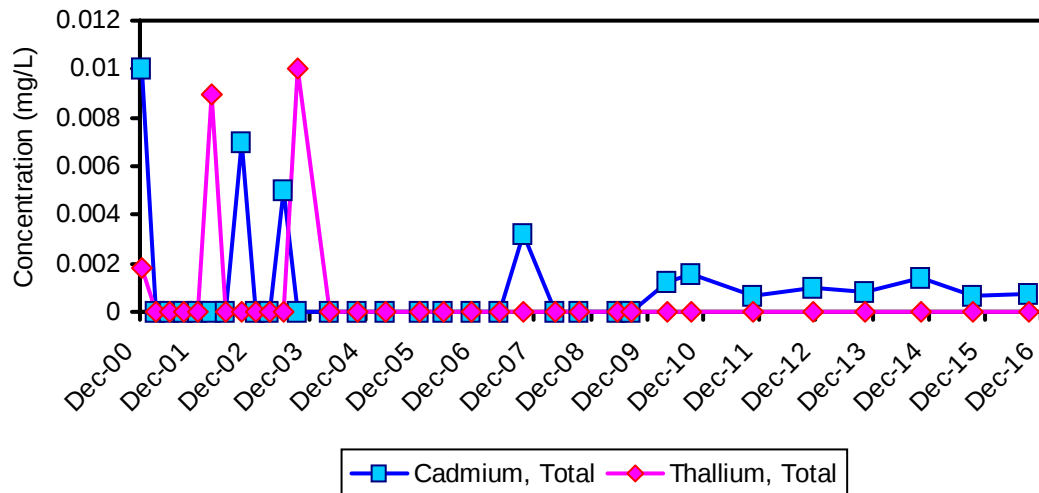
Sample Matrix: Groundwater



APPENDIX C, CONTINUED

Sample Location: MW-8B

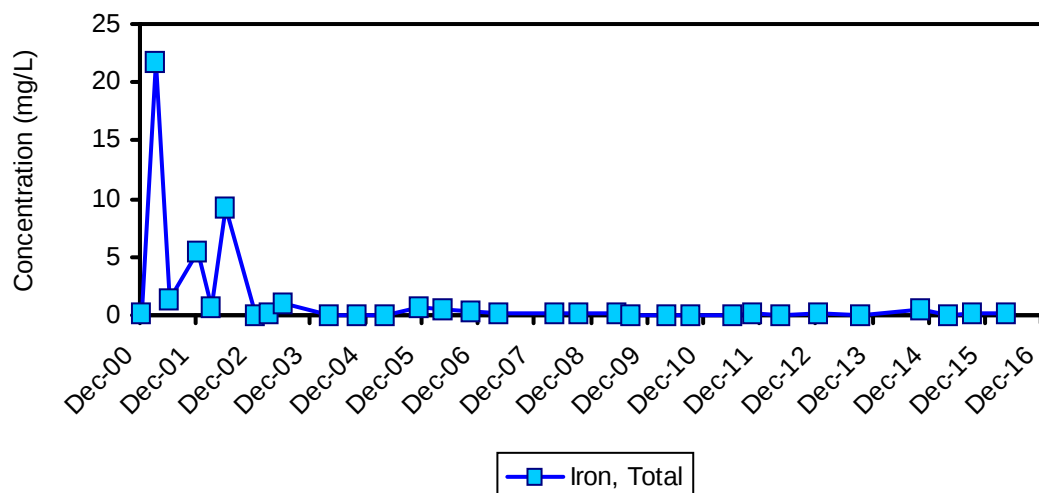
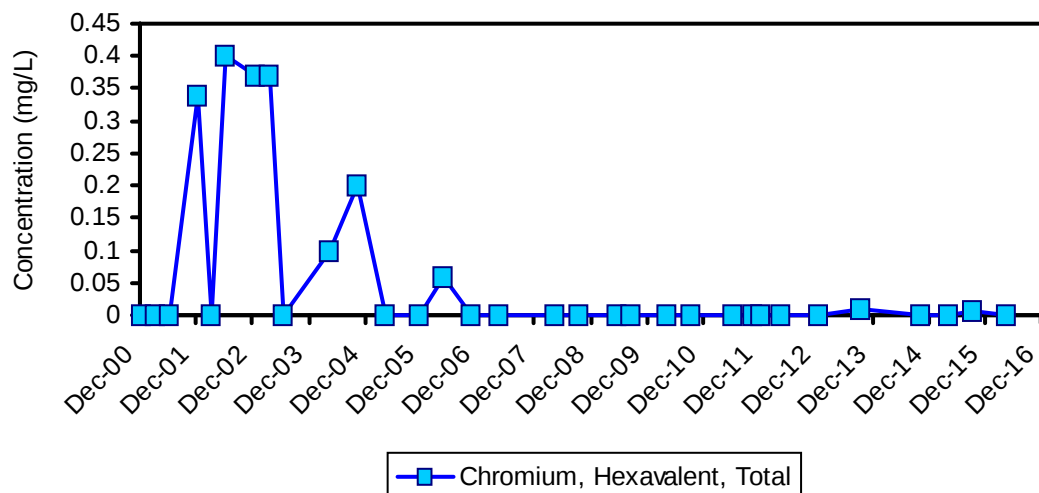
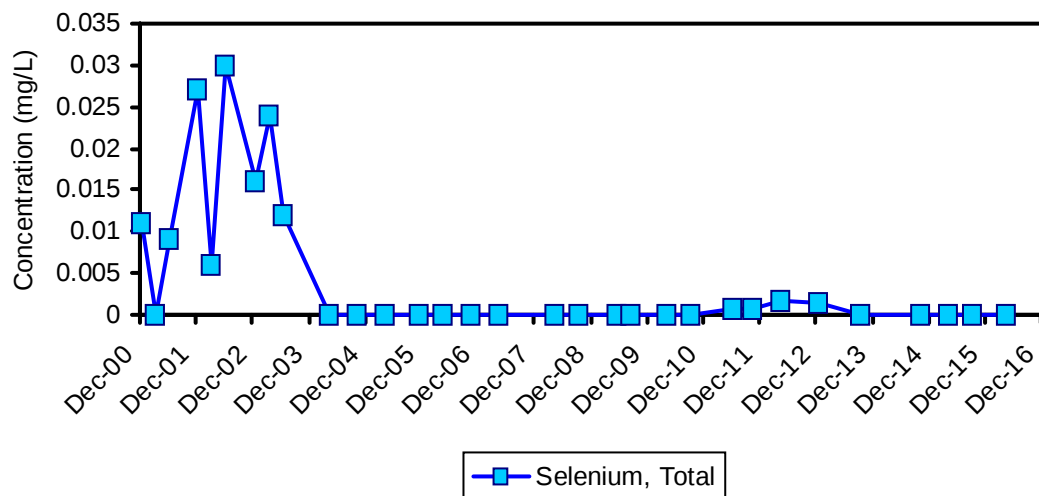
Sample Matrix: Groundwater



APPENDIX C, CONTINUED

Sample Location: SS-01

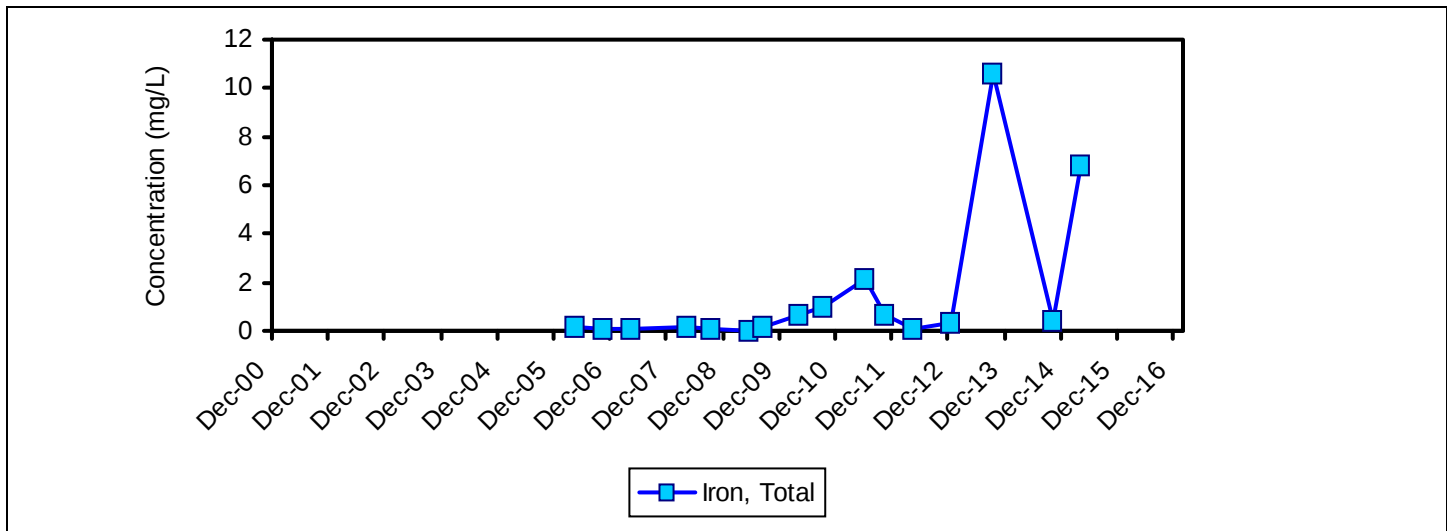
Sample Matrix: Surface Water



APPENDIX C, CONTINUED

Sample Location: SS-02

Sample Matrix: Surface Water



Sample Location: SS-03

Sample Matrix: Surface Water

