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

Prepared for

Linde, LLC 200 Somerset Corporate Boulevard Suite 7000 Bridgewater, NJ 08807

Prepared by

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

> June 2017 Project No.: 150C265.1047

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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 complaint 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 form 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:

	Depth to Water	Well Elevation	Well Depth	Water Elevation
Well ID	(ft TOC)	(ft AMSL)	(ft BGS)	(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 Cas	ing.		
AMSL	= Above Me	an Sea Level.		
BGS	= Below Gro	und Surface.		

27 September 2016 Groundwater Gauging Data

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 4^o 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 2. 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 μ g/L and 50 μ g/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		Engineere	d Wetland	Southwest Corner	
Total	Hexavalent	Total	Hexavalent	Total	Hexavalent	Total	Hexavalent
Chromium	Chromium	Chromium	Chromium	Chromium	Chromium	Chromium	Chromium
39 µg/L	10 µg/L	0 μg/L	1 μg/L	0 μg/L	10 µg/L	<6 µg/L	<3U µg/L
17 µg/L	0 µg/L	33 µg/L	10 µg/L	0 μg/L	0 μg/L	NS – Ice	NS – Ice
0 μg/L	25 µg/L	103 µg/L	5 μg/L	14 µg/L	0 μg/L	7 μg/L	11 μg/L
41 µg/L	10 µg/L	0 µg/L	0 μg/L	0 μg/L	0 μg/L	11 μg/L	0 μg/L
32 µg/L	14 µg/L	0 µg/L	0 μg/L	0 μg/L	0 μg/L	20 µg/L	10 µg/L
32 µg/L	15 μg/L	0 µg/L	0 μg/L	1 μg/L	0 μg/L	8 μg/L	0 μg/L
47 μg/L	10 µg/L	0 µg/L	0 μg/L	1 μg/L	0 μg/L	1 μg/L	2 μg/L
33 µg/L	9 μg/L	<6 µg/L	0 μg/L	0 μg/L	<3U µg/L	0 μg/L	1 μg/L
53 µg/L	10 µg/L	0 µg/L	0 μg/L	0 μg/L	2 μg/L	NS	NS
47 μg/L	9 μg/L	0 µg/L	6 μg/L	0 μg/L	0 μg/L	NS	NS
42 µg/L	9 μg/L	0 μg/L	0 μg/L	1 μg/L	5 μg/L	0 μg/L	0 μg/L
57 μg/L	<3U µg/L	<6 µg/L	0 μg/L	2 μg/L	<3U µg/L	1 μg/L	0 μg/L
	Calcium Total Chromium 39 µg/L 17 µg/L 0 µg/L 41 µg/L 32 µg/L 32 µg/L 33 µg/L 53 µg/L 47 µg/L 47 µg/L 57 µg/L	Calcium Tank 3B Total Hexavalent Chromium Chromium 39 µg/L 10 µg/L 17 µg/L 0 µg/L 0 µg/L 25 µg/L 41 µg/L 10 µg/L 32 µg/L 14 µg/L 32 µg/L 15 µg/L 33 µg/L 9 µg/L 53 µg/L 10 µg/L 47 µg/L 9 µg/L 53 µg/L 9 µg/L 42 µg/L 9 µg/L 57 µg/L <3U µg/L	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Calcium Tank 3B Iron Tank 6B Total Hexavalent Total Hexavalent Chromium Chromium Chromium Chromium $39 \mu g/L$ $10 \mu g/L$ $0 \mu g/L$ $1 \mu g/L$ $17 \mu g/L$ $0 \mu g/L$ $0 \mu g/L$ $1 \mu g/L$ $17 \mu g/L$ $0 \mu g/L$ $0 \mu g/L$ $10 \mu g/L$ $0 \mu g/L$ $0 \mu g/L$ $33 \mu g/L$ $10 \mu g/L$ $0 \mu g/L$ $25 \mu g/L$ $103 \mu g/L$ $5 \mu g/L$ $41 \mu g/L$ $10 \mu g/L$ $0 \mu g/L$ $0 \mu g/L$ $32 \mu g/L$ $14 \mu g/L$ $0 \mu g/L$ $0 \mu g/L$ $32 \mu g/L$ $15 \mu g/L$ $0 \mu g/L$ $0 \mu g/L$ $32 \mu g/L$ $15 \mu g/L$ $0 \mu g/L$ $0 \mu g/L$ $33 \mu g/L$ $9 \mu g/L$ $0 \mu g/L$ $0 \mu g/L$ $33 \mu g/L$ $9 \mu g/L$ $0 \mu g/L$ $0 \mu g/L$ $53 \mu g/L$ $10 \mu g/L$ $0 \mu g/L$ $0 \mu g/L$ $47 \mu g/L$ $9 \mu g/L$ $0 \mu g/L$ $0 \mu g/L$ $42 \mu g/L$	Calcium Tank 3B Iron Tank 6B Engineere Total Hexavalent Total Hexavalent Total Chromium Chromium Chromium Chromium Chromium $39 \ \mu g/L$ $10 \ \mu g/L$ $0 \ \mu g/L$ $1 \ \mu g/L$ $0 \ \mu g/L$ $17 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ $1 \ \mu g/L$ $0 \ \mu g/L$ $17 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ $10 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ $33 \ \mu g/L$ $10 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ $10 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ $41 \ \mu g/L$ $10 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ $32 \ \mu g/L$ $14 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ $32 \ \mu g/L$ $15 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ $1 \ \mu g/L$ $33 \ \mu g/L$ $9 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ $53 \ \mu g/L$ $10 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$	Calcium Tank 3BIron Tank 6BEngineered WetlandTotalHexavalentTotalHexavalentTotalHexavalentChromiumChromiumChromiumChromiumChromiumChromiumChromium $39 \ \mu g/L$ $10 \ \mu g/L$ $0 \ \mu g/L$ $1 \ \mu g/L$ $0 \ \mu g/L$ $10 \ \mu g/L$ $17 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ $1 \ \mu g/L$ $0 \ \mu g/L$ $10 \ \mu g/L$ $17 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ $1 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ $33 \ \mu g/L$ $10 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ $10 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ $41 \ \mu g/L$ $10 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ $32 \ \mu g/L$ $14 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ $32 \ \mu g/L$ $14 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ $32 \ \mu g/L$ $15 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ $33 \ \mu g/L$ $9 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ $2 \ \mu g/L$ $53 \ \mu g/L$ $10 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ $47 \ \mu g/L$ $9 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ $42 \ \mu g/L$ $9 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ $1 \ \mu g/L$ $5 \ \mu g/L$ <tr< tbody=""></tr<>	Calcium Tank 3BIron Tank 6BEngineered WetlandSouthwessTotalHexavalentTotalHexavalentTotalHexavalentTotalChromiumChromiumChromiumChromiumChromiumChromiumChromium $39 \ \mu g/L$ $10 \ \mu g/L$ $0 \ \mu g/L$ $1 \ \mu g/L$ $0 \ \mu g/L$ $10 \ \mu g/L$ $< 6 \ \mu g/L$ $17 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ $10 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ $< 6 \ \mu g/L$ $17 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ $10 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ $< 6 \ \mu g/L$ $17 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ $10 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ $< 6 \ \mu g/L$ $17 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ $10 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ $10 \ \mu g/L$ $0 \ \mu g/L$ $41 \ \mu g/L$ $10 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ $32 \ \mu g/L$ $14 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ $32 \ \mu g/L$ $15 \ \mu g/L$ $0 \ \mu g/L$ $33 \ \mu g/L$ $9 \ \mu g/L$ $0 \ \mu g/L$ $33 \ \mu g/L$ $9 \ \mu g/L$ $0 \ \mu g/L$ $33 \ \mu g/L$ $9 \ \mu g/L$ $0 \ \mu g/L$ $0 \ \mu g/L$ <

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

					New York State Department of
	1 January	18 April	27 September	19 December	Environmental Conservation
Parameter	2016	2016	2016	2016	Discharge Criteria
рН	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.

= Result is less than the reporting limit but greater than or equal to the minimum detection limit and the concentration is an approximate value.



NIAGARA FALLS, NEW YORK

Environmental Solutions, LLC

SITE LOCATION









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-6B (Dup) MW-7B MW-5B MW-6B MW-8B 9/27/16 9/28/16 9/28/16 9/27/16 9/27/16 9/27/16 9/28/16 9/28/16 AWOS Analyte 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 0.05 0.005J 0.358 0.0067J 0.0091J 0.0059J 0.0083J 0.0075J 0.0581 Chromium, hexavalent 0.3 0.094 0.25 0.12 2.7 0.21 0.13 Iron 0.44 0.42 Lead 0.025 (<0.003U) 0.0034J (<0.003U) 0.012 (<0.003U) (<0.003U) (<0.003U) (<0.003U) Magnesium 35* 0.083J 2.9 93.3 8.6 68.4 58.7 61.6 60.1 Manganese 0.3 0.59 B 0.014 B 0.0053 B 0.12 B 0.14 B 0.1 B 0.069 B 0.12 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) 2* 0.01 0.46 0.0033J 0.13 0.0059J 0.024 0.0062J 0.14 Zinc

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	

ATTACHMENT A (CONTINUED)

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

		Trip I	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 $(< _U)$.				
В	=	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 AmbientWater Quality Standards or Guidance Values.Analytical Methods for Water Quality ParametersAmmonia (expressed as Nitrogen)=EPA 350.2Phenolics=EPA 420.2						
Silica	Silica = EPA 6010					
Sulfa	te	= EPA 375.3				

Attachment B

Well Gauging, Purging, and Sampling Forms September 2016



Well I.D.:	Personnel:	Client:
AP-MW-1B	LO	Linde, LLC
Location:	Well Condition:	Weather:
Niagara Falls	Locked	Rain 70*
Sounding Method:	Gauge Date:	Measurement Ref:
WLI	9/27/2016	TOC
Stick Up/Down (ft):	Gauge Time:	Well Diameter (in):
UP	920	2"
Purge Date: 9/27/16	F	Purge Time: 35 Mins

Purge Date:	9/27/16	Purge Time:	35 Mins
Purge Method:		Greenstar Personnel:	
Р	eri Pump	LC)

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

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

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

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

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

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

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

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

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

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

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

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

Well Volume						
A. Well Depth (ft): D. Well Volume (gal): Depth/Height of Top of PVC:						
14.22	0.90					
B. Depth to Water (ft):	E. Well Volume (L):	Pump Type: Hand Bail				
13.35	0.53					
C. Liquid Depth (ft) (A-B):						
0.87						

	Water Quality Parameters									
Time (hrs)	DTW (ft btoc)	Volume (liters)	Rate (Lpm)	рН (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
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.:	Personnel:	Client:
AP-MW-6B	PN	Linde, LLC
Location:	Well Condition:	Weather:
Niagara Falls	Locked	Rain 70*
Sounding Method:	Gauge Date:	Measurement Ref:
WLI	9/27/2016	TOC
Stick Up/Down (ft):	Gauge Time:	Well Diameter (in):
UP	1100	2"

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

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

	Water Quality Parameters								
Time (hrs)	DTW (ft btoc)	Volume (liters)	Rate (Lpm)	рН (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.:	Personnel:	Client:
AP-MW-7B	PN	Linde, LLC
Location:	Well Condition:	Weather:
Niagara Falls	Locked	Rain 70*
Sounding Method:	Gauge Date:	Measurement Ref:
WLI	9/27/2016	TOC
Stick Up/Down (ft):	Gauge Time:	Well Diameter (in):
UP	1220	2"

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

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

	Water Quality Parameters								
Time (hrs)	DTW (ft btoc)	Volume (liters)	Rate (Lpm)	рН (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.:	Personnel:	Client:
AP-MW-8B	LO	Linde, LLC
Location:	Well Condition:	Weather:
Niagara Falls	Locked	Rain 70*
Sounding Method:	Gauge Date:	Measurement Ref:
WLI	9/27/2016	TOC
Stick Up/Down (ft):	Gauge Time:	Well Diameter (in):
UP	12:00:00 AM	2"

Purge Date:	9/27/16	Purge Time: 5 M	ins
Purge Method:	Bailer	Greenstar Personnel: L)

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

	Water Quality Parameters									
Time (hrs)	DTW (ft btoc)	Volume (gal)	Rate (Lpm)	рН (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 P	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 drv.						

Attachment C

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



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.

Joeph V. Gisconage

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

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

1 2 3 4 5 6 7 8 9 10

Qualitiers

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 Ch	nemistry
Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
В	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.	
¤	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)	

TestAmerica Buffalo

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

Client Sample ID: AP-EWE-01

Lab Sample ID: 480-93776-1

Lab Sample ID: 480-93776-2

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	5
Copper	2.2	J	10.0	1.6	ug/L	1	200.7 Rev 4.4	Total/NA	5
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	JB	0.050	0.020	mg/L	1	353.2	Total/NA	8
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	9
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	
рН	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

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample Results

RL

5.0

5.0

Limits

72 - 130

69 - 121

70 - 123

70 - 130

RL

2.0

4.0

10.0

50.0

10.0

10.0

MDL Unit

0.59 ug/L

0.60 ug/L

MDL Unit

1.0 ug/L

1.6 ug/L

19.3 ug/L

1.3 ug/L

1.5 ug/L

0.70 ug/L D

D

Prepared

Prepared

Prepared

01/13/16 08:00 01/13/16 16:12

01/13/16 08:00 01/13/16 16:12

01/13/16 08:00 01/13/16 16:12

01/15/16 08:30 01/15/16 14:28

01/13/16 08:00 01/13/16 16:12

01/13/16 08:00 01/13/16 16:12

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

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

Result Qualifier

Qualifier

ND

ND

104

100

100

102

55.4

102

ND

1.0 J

2.2 J

1.5 J

Result Qualifier

%Recovery

Client Sample ID: AP-EWE-01

Date Collected: 01/11/16 15:00

Date Received: 01/11/16 17:38

Analyte

1,1-Dichloroethane

Toluene-d8 (Surr)

1,2-Dichloroethane-d4 (Surr)

4-Bromofluorobenzene (Surr)

Dibromofluoromethane (Surr)

Method: 200.7 Rev 4.4 - Metals (ICP)

Trichloroethene

Surrogate

Analyte

Barium

Copper

Iron

Zinc

Nickel

Chromium

Lab Sample ID: 480-93776-1

Analyzed

01/12/16 13:45

01/12/16 13:45

Analyzed

01/12/16 13:45

01/12/16 13:45

01/12/16 13:45

01/12/16 13:45

Analyzed

6

1

1

1

1

1

1

Matrix: Water Dil Fac Dil Fac 1 Dil Fac 1 1 1 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	

Analyte Resul	t Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N 0.04	3	0.020	0.0090	mg/L as N			01/13/16 18:34	1
Total Kjeldahl Nitrogen 0.4	7	0.20	0.15	mg/L as N		01/12/16 14:11	01/13/16 10:25	1
Nitrate as N 0.2	5	0.050	0.020	mg/L			01/12/16 14:47	1
Nitrite as N 0.02	2 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 NI)	10.0	5.0	ug/L			01/12/16 08:38	1
Total Dissolved Solids 41	7	10.0	4.0	mg/L			01/13/16 23:09	1
Biochemical Oxygen Demand NI)	2.0	2.0	mg/L			01/12/16 20:58	1
Analyte Resul	t Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH 8.1	HF	0.100	0.100	SU			01/13/16 11:28	1
Total Suspended Solids NI)	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

Method: 624 - Volatile Organi	c Compoun	ds (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 1,2-Dichloroethane-d4 (Surr)	%Recovery 104	Qualifier	Limits 72 - 130			-	Prepared	Analyzed 01/12/16 14:12	Dil Fac

TestAmerica Buffalo

Lab Sample ID: 480-93776-2

Matrix: Water

Client Sample Results

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

Client Sample ID: TRIP BLANK Date Collected: 01/11/16 00:00 Date Received: 01/11/16 17:38

TestAmerica Job ID: 480-93776-1

Lab Sample ID: 480-93776-2 Matrix: Water

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

Surrogate	%Recovery Qualifie	r 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

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

Matrix: Water

Pren	Type	[,] Tota	Ι/ΝΔ
- i i op	· ypc	1010	

			Pe	ercent Surre	ogate Recovery (Acceptance Limits)				
		12DCE	BFB	TOL	DBFM				
-ab Sample ID	Client Sample ID	(72-130)	(69-121)	(70-123)	(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-Dichloroe	thane-d4 (Surr)								
BFB = 4-Bromofluorobe	enzene (Surr)								

TOL = Toluene-d8 (Surr)

DBFM = Dibromofluoromethane (Surr)

Lab Sample ID: MB 480-283031/21

8

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

Matrix: Water Analysis Batch: 283031								Prep Type: To	otal/NA
•	MB	MB							
Analyte	Result	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
	MB	MB							
Surrogate	%Recovery	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

· · · · · · · · · · · · · · · · · · ·			Spike	LCS	LCS				%Rec.
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits
1,1-Dichloroethane			20.0	20.6		ug/L		103	59 - 155
Trichloroethene			20.0	21.8		ug/L		109	71 ₋ 157
	LCS	LCS							
Surrogate	%Recovery	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

	MB	MB							
Analyte	Result	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	ua/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

	Spike	LCS	LCS				%Rec.
Analyte	Added	Result	Qualifier	Unit	D	%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

Client Sample ID: Method Blank Prep Type: Total/NA Prep Batch: 283314

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Client Sample ID: Lab Control Sample Prep Type: Total/NA Prep Batch: 283314

TestAmerica Buffalo

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

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued) Lab Sample ID: MB 480-283679/1-A **Client Sample ID: Method Blank Matrix: Water** Prep Type: Total/NA Analysis Batch: 283897 Prep Batch: 283679 MB MB Analyte **Result Qualifier** RL MDL Unit Analyzed Dil Fac D Prepared 50.0 01/15/16 08:30 01/15/16 13:34 Iron ND 19.3 ug/L Lab Sample ID: LCS 480-283679/2-A **Client Sample ID: Lab Control Sample** Matrix: Water **Prep Type: Total/NA** Analysis Batch: 283897 **Prep Batch: 283679** Spike LCS LCS %Rec. Added Limits Analyte **Result Qualifier** Unit D %Rec Iron 10000 10140 ug/L 101 85 - 115 Method: 200.8 - Metals (ICP/MS) Lab Sample ID: MB 480-283487/1-A **Client Sample ID: Method Blank** Prep Type: Total/NA **Matrix: Water** Analysis Batch: 283753 **Prep Batch: 283487** MB MB Analyte **Result Qualifier** RL MDL Unit D Prepared Analyzed Dil Fac Selenium 1.0 0.44 ug/L 01/14/16 08:16 01/14/16 16:56 ND Thallium ND 0.20 0.019 ug/L 01/14/16 08:16 01/14/16 16:56 Lab Sample ID: LCS 480-283487/2-A **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA Analysis Batch: 283753 **Prep Batch: 283487** Spike LCS LCS %Rec. Added Analyte **Result Qualifier** Unit D %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 Client Sample ID: Method Blank **Matrix: Water** Prep Type: Total/NA Analysis Batch: 283467 MB MB **Result Qualifier** RL MDL Unit Analyzed Dil Fac Analyte D Prepared 0.020 01/13/16 18:27 Ammonia as N ND 0.0090 mg/L as N **Client Sample ID: Method Blank** Lab Sample ID: MB 480-283467/3 **Matrix: Water** Prep Type: Total/NA Analysis Batch: 283467 MB MB Analyte **Result Qualifier** RL MDL Unit Analyzed Dil Fac D Prepared 0.020 0.0090 mg/L as N 01/13/16 18:06 Ammonia as N ND 1 Lab Sample ID: LCS 480-283467/28 **Client Sample ID: Lab Control Sample** Matrix: Water **Prep Type: Total/NA** Analysis Batch: 283467

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

TestAmerica Buffalo

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

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Method: 350.1 - Nitrogen, Ammonia (Continued)

Lab Sample ID: LCS 480-2	83467/4					Client	Sal	inhie in	: Lab Control	
Matrix: Water									Prep Type: 7	Fotal/NA
Analysis Batch: 283467										
			Spike	LCS	LCS				%Rec.	
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	
Ammonia as N			1.00	1.07		mg/L as N		107	90 - 110	
Lab Sample ID: 480-93776	-1 MS						c	lient S	ample ID: AP	EWE-0'
Matrix: Water									Prep Type:	Fotal/N/
Analysis Batch: 283467										
	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
-			0.000	0 222		mg/L as N		90	90 - 110	
Ammonia as N Aethod: 351.2 - Nitroge Lab Sample ID: MB 480-28	0.043 en, Total k 33222/1-A	(jeldahl	0.200				Clie	ent Sam	nple ID: Metho	od Blan
Ammonia as N Method: 351.2 - Nitroge Lab Sample ID: MB 480-28 Matrix: Water Analysis Batch: 283401	0.043 en, Total k 03222/1-A	(jeldahl	0.200				Clie	ent Sam	nple ID: Metho Prep Type: ⁻ Prep Batch	od Blani Fotal/NA : 283222
Ammonia as N Method: 351.2 - Nitrogo Lab Sample ID: MB 480-28 Matrix: Water Analysis Batch: 283401	0.043 en, Total k 3222/1-A	(jeldahl ^{MB MB}	0.200				Clie	ent Sam	nple ID: Metho Prep Type: ⁻ Prep Batch	od Blan Fotal/N/ 283222
Ammonia as N Vethod: 351.2 - Nitroge Lab Sample ID: MB 480-28 Matrix: Water Analysis Batch: 283401 Analyte	0.043 en, Total k 3222/1-A Re	(jeldahl MB MB sult Qualifier	0.200	RL	MDL Unit	D	Clie	ent Sam	nple ID: Metho Prep Type: ⁻ Prep Batch Analyzed	od Blan Fotal/NA : 283222 Dil Fa
Ammonia as N Method: 351.2 - Nitrogo Lab Sample ID: MB 480-28 Matrix: Water Analysis Batch: 283401 Analyte Total Kjeldahl Nitrogen	0.043 en, Total k 03222/1-A Re	Kjeldahl MB MB sult Qualifier		RL	MDL Unit	as N	Clie <u>P</u> 01/1	ent Sam repared 2/16 14:1	nple ID: Metho Prep Type: ⁻ Prep Batch Analyzed 1 01/13/16 09:44	od Blan Fotal/N/ : 28322 Dil Fa
Ammonia as N Method: 351.2 - Nitroge Lab Sample ID: MB 480-28 Matrix: Water Analysis Batch: 283401 Analyte Total Kjeldahl Nitrogen Lab Sample ID: LCS 480-2	0.043 en, Total k 3222/1-A 	Kjeldahl MB MB sult Qualifier		RL	MDL Unit 0.15 mg/L	as N D	Clie P 01/1 Sai	repared 2/16 14:1	nple ID: Metho Prep Type: ⁻ Prep Batch Analyzed 1 01/13/16 09:44 : Lab Control	od Blan Fotal/N/ : 283222 Dil Fa Sample
Ammonia as N Method: 351.2 - Nitroge Lab Sample ID: MB 480-28 Matrix: Water Analysis Batch: 283401 Analyte Total Kjeldahl Nitrogen Lab Sample ID: LCS 480-2 Matrix: Water	0.043 en, Total k 33222/1-A 	Kjeldahl MB MB sult Qualifier ND		RL 0.20	MDL Unit 0.15 mg/L	as N D	Сііє <u>Р</u> 01/1 Sa i	repared 2/16 14:1 mple ID	nple ID: Metho Prep Type: ⁻ Prep Batch Analyzed 1 01/13/16 09:44 C: Lab Control Prep Type: ⁻	od Blan Fotal/N/ : 28322 Dil Fa Jil Fa Sample Fotal/N/
Ammonia as N Method: 351.2 - Nitrogo Lab Sample ID: MB 480-28 Matrix: Water Analysis Batch: 283401 Analyte Total Kjeldahl Nitrogen Lab Sample ID: LCS 480-2 Matrix: Water Analysis Batch: 283401	0.043 en, Total k 03222/1-A 	Kjeldahl MB MB sult Qualifier ND		RL 0.20	MDL Unit 0.15 mg/L	as N D	P 01/1 Sa	repared 2/16 14:1 mple ID	nple ID: Metho Prep Type: [•] Prep Batch Malyzed 1 01/13/16 09:44 C: Lab Control Prep Type: [•] Prep Batch	od Blan Fotal/N/ 28322 Dil Fa Join Fa Sample Fotal/N/ 28322
Ammonia as N Method: 351.2 - Nitrogo Lab Sample ID: MB 480-28 Matrix: Water Analysis Batch: 283401 Analyte Total Kjeldahl Nitrogen Lab Sample ID: LCS 480-2 Matrix: Water Analysis Batch: 283401	0.043 en, Total k 03222/1-A 	(jeldahl MB MB sult Qualifier	0.200	RL	MDL Unit 0.15 mg/L LCS	as N D	Сііс <u>Р</u> 01/1 Sa i	repared 2/16 14:1 mple ID	nple ID: Metho Prep Type: ⁻ Prep Batch <u>Analyzed</u> 1 01/13/16 09:44 C: Lab Control Prep Type: ⁻ Prep Batch %Rec.	od Blan Fotal/N/ 28322 Dil Fa Jil Fa Sample Fotal/N/ 28322
Ammonia as N Method: 351.2 - Nitrogo Lab Sample ID: MB 480-28 Matrix: Water Analysis Batch: 283401 Analyte Total Kjeldahl Nitrogen Lab Sample ID: LCS 480-2 Matrix: Water Analysis Batch: 283401 Analyte	0.043 en, Total k 33222/1-A 	(jeldahl MB MB sult Qualifier	Spike Added	RL 0.20 LCS Result	MDL Unit 0.15 mg/L LCS Qualifier	as N D Client Unit	P 01/1 Sau	ent Sam repared 2/16 14:1 mple ID %Rec	nple ID: Metho Prep Type: ⁻ Prep Batch 1 01/13/16 09:44 2: Lab Control Prep Type: ⁻ Prep Batch %Rec. Limits	od Blanl Fotal/N/ 283222 Dil Fa Jil Fa Sample Fotal/N/ 283222

Lab Sample ID: MB 480-283241/3 Matrix: Water Analysis Batch: 283241									Clie	ent Sam	ple ID: Method Prep Type: To	l Blank otal/NA
	МВ	МВ										
Analyte	Result	Qualifier		RL	I	MDL	Unit	D	Р	repared	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								Clier	it Sa	mple ID	: Lab Control S	Sample
Matrix: Water											Prep Type: To	otal/NA
Analysis Batch: 283241												
			Spike		LCS	LCS					%Rec.	
Analyte			Added		Result	Qua	lifier	Unit	D	%Rec	Limits	
Nitrite as N			1.50		1.51			mg/L		101	90 - 110	

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

Method: 410.4 - COD

Matrix: Water Prep Type: 10tal/NA Analysis Batch: 283473 MB MB Analysis Batch: 283473 ND 10.0 5.0 mgL 01/13/18 10.52 11 Fac Lab Sample ID: LCS 480-283473/4 Matrix: Water Client Sample ID: Lab Control Sample Prep Type: Total/NA Analysis Batch: 283473 Spike LCS LCS %Rec. Analysis Batch: 283473 Spike LCS LCS %Rec. Analysis Batch: 283473 Spike Client Sample ID: LOS A80-283776-1 MS %Rec. Chemical Oxygen Demand 25.0 23.75 mgL 0 %Rec. Chemical Oxygen Demand 18.7 FI 50.0 83.85 FI mgL 0 %Rec. Chemical Oxygen Demand 18.7 FI 50.0 83.85 FI mgL 0 %Rec. Chemical Oxygen Demand 18.7 FI 50.0 83.85 FI mgL 0 %Rec. Lab Sample ID: MB 480-283384/1-A Result Qualifier Mt MS NB ND 10.0 50.0 ugL 0 first/16 07:00 0 first/16 10:02 1 Lab Sample ID: LCS 480-283384/2-A ME MB ND 10.0 50.0 ugL 0 first/16 07:00 0 first/16 10:02 1 Lab Sample ID: LCS 480-283289/3 Matrix: Water Analysis Batch: 283364 Prep Type: Total/NA <td< th=""><th>Lab Sample ID: MB 480-2834</th><th>473/3</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th>Clie</th><th>nt Sam</th><th>ple ID: Metho</th><th>d Blank</th></td<>	Lab Sample ID: MB 480-2834	473/3									Clie	nt Sam	ple ID: Metho	d Blank
Analysis Batch: 283473 MB MB Result Quiffer RL MDL Unit D Prepared Analyzed DII Fac Chemical Coxygen Demand ND 10.0 5.0 mg/L 0.0 mg/L <td< th=""><th>Matrix: Water</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th>Prep Type: T</th><th>otal/NA</th></td<>	Matrix: Water												Prep Type: T	otal/NA
Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Chemical Gxygen Demand ND 10.0 5.0 mg/L D 113/15 10.52 1 Lab Sample ID; LCS 480-283473/4 Matrix: Water Spike Client Sample ID: Lab Control Sample Prep Type: Total/NA Analyte Added Result Qualifier Unit D 9 %Rec Limits Chemical Gxygen Demand 25.0 23.75 mg/L 9 %Rec Limits Lab Sample ID: 480-93776-1 MS Client Sample ID: AP-EWE-01 Prep Type: Total/NA Analyte Result Qualifier MS %Rec. Chemical Gxygen Demand 18.7 F1 50.0 83.65 F1 mg/L 10.0 75-125 Matrix: Water Result Qualifier Added Result Qualifier ND 10.0 50 ug/L 101/161/161/161/161/161/161/161/161/161/	Analysis Batch: 283473		MD	мр										
Native Note in the control of the control	Analyto	Po	IVID cult	NID		ы				п	D	oparod	Analyzod	Dil Eac
Cleint Lody get Demand ND NH	Chomical Oxygon Domand	Ke		Quaimer		10.0						epared	- Analyzeu	
Lab Sample ID: LCS 480-283473/4 Client Sample ID: Lab Control Sample Matrix: Water Analysis Batch: 283473 Spike LCS LCS %Rec. Analysis Batch: 283473 Added Result Qualifier Mult D %Rec. Chemical Oxygen Demand 25.0 23.75 mg/L D %Rec. Lab Sample ID: 480-93776-1 MS Matrix: Water Analysis Batch: 283473 Client Sample ID: AP-EWE-01 Analyse Result Qualifier Added Result Qualifier Unit D %Rec. Analyse Result Qualifier MS MS %Rec. innits - Analyse Result Qualifier MS MS %Rec. - - Matrix: Water Analyse Result Qualifier NB -	Chemical Oxygen Demand		ND			10.0		5.0 mg/	-				01/13/10 10.52	I
Matrix: Water Analysis Batch: 283473 Prep Type: Total/NA Analysis Batch: 283473 Analysis Batch: 283473 Spike Andded LCS LCS %Rec. Chemical Oxygen Demand 25.0 23.75 mg/L 95 90.110 Lab Sample ID: 480-93776-1 MS Matrix: Water Client Sample ID: AP-EWE-01 Prop Type: Total/NA Analysis Batch: 283473 Client Sample ID: AP-EWE-01 Prop Type: Total/NA Analyse Result Qualifier MS MS Analyse MS MS MS MS %Rec. Chemical Oxygen Demand 18.7 F1 50.0 83.85 F1 mg/L 0 %Rec. Lab Sample ID: MB 480-283384/1-A Matrix: Water Result Qualifier RL MB MB MDL Unit Analysis Batch: 283582 D Prep Datch: 28384 Analyse Result Qualifier RL MD MDL Unit 10:0 D Prep Pared 01/17/3/6 0/11/4/16 10:02 11 Lab Sample ID: LCS 480-283384/2-A Matrix: Water Analyse MB MB Client Sample ID: Lab Control Sample Prep Type: Total/NA Prep Patch: 28384 Analyse Result Qualifier ND 10:0 5:0 ug/L 0 Yere Type: Total/NA Client Sample ID: Lab Control Sample Prep Type: Total/NA Prep Batch: 28384 Analyse Added Result Qualifier Unit D %Rec. Chemolies, Total Recoverable 100	Lab Sample ID: LCS 480-283	8473/4							CI	ient	Sar	nple ID:	Lab Control	Sample
Analysis Batch: 283473 Spike LCS LCS LCS LCS Mail D %Rec. Analysis Ohemical Oxygen Demand 25:0 23:75 mg/L 95 90-110 Lab Sample ID: 480-93776-1 MS Client Sample ID: AP-EWE-01 mg/L 95 90-110 Lab Sample ID: 480-93776-1 MS Client Sample ID: AP-EWE-01 Prep Type: Total/NA Analysis Batch: 283473 Sample Sample Spike MS MS %Rec. Analysis Batch: 283473 Sample Sample Spike MS MS %Rec. Limits Analysis Batch: 283473 Sample ID: MB 480-283384/1-A Matrix: Water Analysis Batch: 283384 Prep Type: Total/NA Analysis Batch: 283582 MB MB MDL Unit D Prepared Analyzed Dil Fac Analysis Batch: 283582 MB MB MDL Unit D Prepared Analyzed Dil Fac Analysis Batch: 283582 MB MB Analyzed Client Sample ID: Lab Control Sample Prep Type: Total/NA Analysis Batch: 283582 ND 10.0 5.0 ug/L 95 90-110 <	Matrix: Water												Prep Type: T	otal/NA
AnalyteSpikeLCSLCSWRec.Chemical Oxygen Demand25.023.75mg/L0%Rec.LimitsLab Sample ID: 480-93776-1 MSClient Sample ID: 480-93776-1 MSClient Sample ID: AP-EWE-01Prep Type: Total/NAMatrix: WaterResult QualifierAnalysis Batch: 283473MSMS%Rec.AnalyteResult QualifierAddedResult QualifierInitD%Rec.Chemical Oxygen Demand18.7F150.083.65F1mg/L13075.125Wethod: 420.1 - Phenolics, Total RecoverableClient Sample ID: MB 480-283384/1-AClient Sample ID: MEthod Blank Prep Type: Total/NA Prep Batch: 283384AnalyteResult QualifierRLMDLUnitDPrepared Prep Type: Total/NA Prep Batch: 283384AnalyteResult QualifierRLMDLUnitDPrepared Prep Type: Total/NA Prep Type: Total/NA Prep Type: Total/NAAnalysis Batch:Result QualifierRLMDLUnitDPrepared Prep Type: Total/NA Prep Type: Total/NAAnalysis Batch:283582SpikeLCSLCSSmaple Prep Type: Total/NA Prep Type: Total/NAAnalysis Batch:283582SpikeLCSLCSSmaple Prep Type: Total/NA Prep Type: Total/NAAnalysis Batch:28369/MB MB Analysis Batch:MB Prep Type: Total/NAAnalyseMB Prenolics, Total RecoverableND10.05.0ug/LD%Rec. MREc<	Analysis Batch: 283473													
Analyte Added Result Qualifier Unit D %Rec Limits Chemical Oxygen Demand 25.0 23.75 mg/L 95 90-110 Lab Sample ID: 480-93776-1 MS Matrix: Water Prop Type: Total/NA Analyte Result Qualifier Added Result Qualifier MS MS MS %Rec. Limits Client Sample ID: AP-EWE-01 Analyte Result Qualifier Added Result Qualifier MI D %Rec. Limits 75.125 Chemical Oxygen Demand 18.7 F1 50.0 83.65 F1 mg/L - 130 75.125 Methocl: 420.1 - Phenolics, Total Recoverable Client Sample ID: Method Blank Prop Type: Total/NA Analyte Result Qualifier RL MDL Unit D Prepared Analyzed DI 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 480-283269/3 Spike LCS LCS Kesut					Spike		LCS	LCS					%Rec.	
Chemical Oxygen Demand 25.0 23.75 mg/L 95 90.110 Lab Sample ID: 480-93776-1 MS Matrix: Water Sample Sample Result Qualifier Splike MS MS Result Qualifier Client Sample ID: AP-EWE-01 Prep Type: Total/NA Analytis Batch: 283473 Sample Sample Result Qualifier Added MS MS Result Qualifier VRec. Analytis Batch: 283473 Result Qualifier Added MS MS Result Qualifier VRec. Analytis Batch: 283582 Total Recoverable Client Sample ID: Method Blank Prep Type: Total/NA Prep Batch: 283582 NB MB Prep Type: Total/NA Prep Batch: 283582 Analytie Result Qualifier ND 10.0 50.0 ug/L D Prepared OI/13/16 07:00 Analyzed OI/13/16 07:00 D Lab Sample ID: LCS 480-283384/2-A Matrix: Water MB MB Analyte Client Sample ID: Lab Control Sample Prep Type: Total/NA Prep Batch: 283384 Di Fac Prep Type: Total/NA Prep Batch: 283384 Analyte Added Result Qualifier 100 94.63 Unit D %Rec. Umits Matrix: Water Result Qualifier Prencics, Total Recoverable ND 10.0 5.0 ug/L D Prepared 01/12/16 08:38 Analyzed 01/12/16 08:38 Di Fac Wethod: 7196A - Chromium, Hexavalent Lab Sample ID: MB 480-283269/3 Matrix: Water ND 10.0 5.0 ug/L D Prepared 01/12/16 08:38 Analyze	Analyte				Added		Result	Qualifier	Unit		D	%Rec	Limits	
Lab Sample ID: 480-93776-1 MS Matrix: Water Analysis Batch: 283473 Sample Sample Result Qualifier 18.7 Ft Spike Added MS MS Result Qualifier 4dded Client Sample ID: AP-EWE-01 Prep Type: Total/NA Analyte Result Qualifier 18.7 Ft Spike 50.0 MS MS Result Qualifier 4dded Unit 93.65 F1 D wRec. Limits Mec. Limits Method: 420.1 - Phenolics, Total Recoverable Client Sample ID: MB 480-283384/1-A Matrix: Water Analysis Batch: 283582 Client Sample ID: Method Blank Prep Type: Total/NA Prep Batch: 283364 Analyte Result Qualifier ND ND 10.0 5.0 Upt. D Prepared Analyzed Analyze D Prep Type: Total/NA Prep Batch: 283364 Analyte ND 10.0 5.0 Upt. D Oti/13/16 07:00 Oti/14/16 10:02 11 Fac Analyzed Phenolics, Total Recoverable ND 10.0 5.0 Upt. D Prep Type: Total/NA Prep Batch: 283364 Analyte Result Qualifier Result Qualifier Unit D WRec. WRec. Limits Prep Batch: 283269 Spike Analyte Added MD Unit D Prepared Analyzed Dil Fac Matrix: Water Analysis Batch: 283269 MB MB Analyte Result Qualifier RL MDL <td>Chemical Oxygen Demand</td> <td></td> <td></td> <td></td> <td>25.0</td> <td></td> <td>23.75</td> <td></td> <td>mg/L</td> <td></td> <td></td> <td>95</td> <td>90 - 110</td> <td></td>	Chemical Oxygen Demand				25.0		23.75		mg/L			95	90 - 110	
Lab Sample D: Modess/r/61 MS Citent Sample D: Marphe D: Marp	Lab Sample ID: 490 02776 4	MC									~	lient Ce		
Martix: Water Prep Type: Total/NA Analysis Batch: 283473 Sample Sample Method: 420.1 - Phenolics, Total Recoverable MS MS %Rec. Lab Sample ID: MB 480-283384/1-A MB MB Client Sample ID: Method Blank Matrix: Water Result Qualifier ND 10.0 5.0 0/1/3/16 07.00 0/1/4/16 10.02 11 Lab Sample ID: MB 480-283384/1-A MB MB Client Sample ID: Method Blank Prep Type: Total/NA Analysis Batch: 283582 MB MB Prep Type: Total/NA Prep Type: Total/NA Analyte Result Qualifier ND 10.0 5.0 0/1/4/16 10.02 11 Lab Sample ID: LCS 480-283384/2-A MB MB Client Sample ID: Lab Control Sample 01/14/16 10.02 1 Lab Sample ID: LCS 480-283384/2-A Client Sample ID: Lab Control Sample Prep Type: Total/NA Analyte Result Qualifier Result Qualifier Unit D Prep Eatch: 283384 Analyte Added 94.63 0/1 9/1 9/1 0/1 Wethod: 7196A - Chromium, Hexavalent 10.0 5.0 0/1 0/1 0/1/2/16 0/8/3 1 Lab Sample ID: MB 480-283269/3	Lab Salliple ID. 400-93770-1 Metrix: Weter	IVIS									U	nent Sa		
Analysis Balch: 263473 Sample Sample Result Qualifier Spike Added MS MS MS MS %Rec. Analyte Result Qualifier 18.7 F1 50.0 83.65 F1 mg/L 0 %Rec. Limits Lab Sample ID: MB 480-283384/1-A Matrix: Water Result Qualifier RL MDL Unit D %Rec. Fee Type: Total/NA Prep Batch: 283384 Analyte Result Qualifier ND 10.0 5.0 ug/L D Prepared 01/13/16 07:00 O1/14/16 10:02 DI Fee Type: Total/NA Prep Batch: 283384 Analyte Result Qualifier ND 10.0 5.0 ug/L D Prepared 01/13/16 07:00 O1/14/16 10:02 DI Fee Type: Total/NA Prep Batch: 283384 Analyte Result Qualifier Intit Mded Result Qualifier Unit D %Rec. Water Prep Type: Total/NA Prep Batch: 283384 Prep Type: Total/NA Analyte Added Result Qualifier Unit D %Rec. Water Prep Type: Total/NA Analyte Result Qualifier ND 10.0 5.0 ug/L D	Matrix. Water												Prep Type. I	Oldi/INA
Analyte Chemical Oxygen DemandResult Qualifier 18.7 F1Added AddedResult Qualifier 130Unit 75.125MRCC. 130Limits 75.125Wethod: 420.1 - Phenolics, Total RecoverableLab Sample ID: MB 480-283384/1-A Matrix: Water Analysis Batch: 283582Client Sample ID: MB 480-283384/1-A Matrix: Water Analysis Batch: 283582Client Sample ID: Method Blank Prep Type: Total/NA Prep Batch: 283384Analyte Phenolics, Total RecoverableMB MB NDND10.05.0 ug/LDPrepared 01/13/16 07:00Analyzed 01/14/16 10:02DI Fac 01/14/16 10:02Lab Sample ID: LCS 480-283384/2-A Matrix: Water Analysis Batch: 283582MB MB Result QualifierClient Sample ID: Lab Control Sample WE NDClient Sample ID: Lab Control Sample Prep Type: Total/NA Prep Batch: 283582Analyte Phenolics, Total RecoverableAdded 100Result Qualifier 94.63Unit ug/LD%Rec MRec UnitMatrix: Water Analysis Batch: 283582Added NDResult Qualifier 100Unit 94.63D%Rec MRec 01/12/16 08:38IImits 90.110Wethod: 7196A - Chromium, HexavalentND10.05.0 ug/LDPrepared 01/12/16 08:38Oli Fac 01/12/16 08:38Lab Sample ID: MB 480-283269/3 Matrix: Water Analysis Batch: 283269MB MB MB MB MB Analysis Batch: 283269Client Sample ID: Lab Control Sample DLab Sample ID: LCS 480-283269/4 Matrix: Water Analysis Batch: 283269MB MB MB MB MB Matrix: WaterMDL Unit NDDPrepared Analyzed<	Analysis Batch: 203473	Sample	San	nnlo	Sniko		MS	MS					%Poc	
Analysis Netwit Result Added Result Claiming Diff Diff <thdif< th=""> Di</thdif<>	Analyta	Bocult	Our	npie	Addod		Pocult	Qualifier	Unit		Б	% Pac	/onec.	
Oriential Oxygen Demain 10.1 11.1 10.0 0.00 0.000 0.000 10.0	Chomical Oxygon Domand	19.7			50 0		93.65					120	75 125	
Method: 420.1 - Phenolics, Total Recoverable Lab Sample ID: MB 480-283384/1-A Matrix: Water Client Sample ID: Method Blank Prep Type: Total/NA Analysis Batch: 283582 MB MB Analyte Result Qualifier RL MDL Unit D Prepared Of/13/16 07:00 Analyzed Dil Fac Of/13/16 07:00 Dil Fac Of/14/16 10:02 Dil Fac Analyte Result Qualifier RL MDL Unit D Prepared Of/13/16 07:00 Analyzed Dil Fac Matrix: Water ND 10.0 5.0 ug/L D %Rec. NRec. Analyte Added Result Qualifier Unit Unit D %Rec. WRec. Analyte Added Result Qualifier Unit Ug/L D %Rec. Analyte Result Qualifier ND 10.0 5.0 ug/L D Prepared Analyzed Dil Fac Chromium, hexavalent ND 10.0 5.0 ug/L D Prepared Analyzed Dil Fac Chromium, hexavalent ND 10.0 5.0 ug/L D Prepared Analyzed	Chemical Oxygen Demand	10.7	ГТ		50.0		05.05	ГТ	IIIg/L			130	75-125	
Lab Sample ID: MB 480-283384/1-A Client Sample ID: Method Blank Matrix: Water Analysis Batch: 283582 Prep Batch: 283384 Analyte Result Qualifier RL MDL Unit D Prepared Analyzed DII Fac Phenolics, Total Recoverable ND 10.0 5.0 ug/L D Prepared Analyzed DII Fac Lab Sample ID: LCS 480-283384/2-A Client Sample ID: Lab Control Sample Prep Batch: 283384 Prep Batch: 283384 Prep Type: Total/NA Analyte Added Result Qualifier Unit D %Rec. Wrep Type: Total/NA Phenolics, Total Recoverable 100 94.63 Unit D %Rec. Wrep Type: Total/NA Analyte Added Result Qualifier Unit D %Rec. Wrep Type: Total/NA Analyte Matrix: Water ND 10.0 94.63 DI DI <td>Method: 420.1 - Phenolic</td> <td>s, Total</td> <td>Re</td> <td>ecovera</td> <td>ble</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	Method: 420.1 - Phenolic	s, Total	Re	ecovera	ble									
Lab Sample ID: NB 460-263364/1-AMB MBMBAnalysis Batch: 283582MB MBAnalyteResultQualifierRLPhenolics, Total RecoverableND10.05.0ug/LDPhenolics, Total RecoverableND10.05.0ug/LDPrepared 01/13/16 07:00Analyzed 01/14/16 10:02D IF ac 01/14/16 10:02Lab Sample ID: LCS 480-283384/2-AClient Sample ID: Lab Control Sample Prep Type: Total/NA Analysis Batch: 283582SpikeLCSLCS VRec.Prepared 01/13/16 07:00Malyzed 01/14/16 10:02D IF ac 01/14/16 10:02AnalyteAddedResult 100Qualifier 94.63UnitD%Rec. 95Spike 90 - 110Method: 7196A - Chromium, HexavalentND10.05.0ug/LDPrepared 95Analyzed 95DI Fac 01/12/16 08:38Lab Sample ID: MB 480-283269/3 Matrix: Water Analysis Batch: 283269MB MB MB MBClient Sample ID: Method Blank Prep Type: Total/NA Analysis Batch: 283269Client Sample ID: Lab Control Sample DI Fac 01/12/16 08:38DI Fac 01/12/16 08:38Lab Sample ID: LCS 480-283269/4 Matrix: Water Analysis Batch: 283269MB MB MB MBClient Sample ID: Lab Control Sample Prep Type: Total/NA NDClient Sample ID: Lab Control Sample Prep Type: Total/NA NDLab Sample ID: LCS 480-283269/4 Matrix: Water Analysis Batch: 283269Spike Added Result QualifierClient Sample ID: Lab Control Sample Prep Type: Total/NA NDAnalyte Chromium, hexavalentSpike <br< td=""><td>Lab Sample ID: MR 490 292</td><td>004/4 A</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>nt Com</td><td>nia ID: Matha</td><td>d Diank</td></br<>	Lab Sample ID: MR 490 292	004/4 A										nt Com	nia ID: Matha	d Diank
Mark: Water Prep Batch: 283582 Prep Batch: 283384 Analyse Result Qualifier RL MDL Unit D Prepatch: 283384 Analyte Result Qualifier RL MDL Unit D Prepatch: 283384 Phenolics, Total Recoverable ND 10.0 5.0 ug/L D Prepared Analyzed Dil Fac Lab Sample ID: LCS 480-283384/2-A Client Sample ID: Lab Control Sample Prep Type: Total/NA Analyte Added Result Qualifier Unit D %Rec. Limits Phenolics, Total Recoverable 100 94.63 Walt Unit D %Rec. Limits Phenolics, Total Recoverable 100 94.63 Walt Unit D %Rec. Limits Vethod: 7196A - Chromium, Hexavalent Image: State Prep Type: Total/NA Prep Type: Total/NA Lab Sample ID: MB 480-283269/3 MB MB Client Sample ID: Method Blank Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac <	Lab Sample ID: MB 400-203	504/1-A									Cile	nt Sam		
Analysis Batch: 263362 MB MB MB MB MD Unit D Prep Batch: 263364 Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Lab Sample ID: LCS 480-283384/2-A ND 10.0 5.0 ug/L D Prepared Analyzed Dil Fac Matrix: Water Analyte Spike LCS LCS Viral Recoverable Prep Batch: 28384 Analyte Added Result Qualifier Unit D %Rec. Limits Phenolics, Total Recoverable 100 94.63 ug/L D %Rec. Limits Prep Batch: 283284 Spike LCS LCS Us/Kec Limits Prep Batch: 28384 Matrix: Water Analysis Batch: 283269/3 Client Sample ID: Method Blank Prep Type: Total/NA Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Chromium, hexavalent ND 10.0 5.0 ug/L D Prepared Analyzed Dil Fa	Watrix: Water												Prep Type: T	
Mile MarkitMile QualifierResult QualifierRL 10.0MDL 5.0Unit ug/LD Prepared 01/13/16 07:00Analyzed 01/14/16 10:02Dil Fac 11Lab Sample ID: LCS 480-283384/2-A Matrix: Water Analysis Batch: 283582Spike AddedLCS ResultClient Sample ID: Lab Control Sample Prep Type: Total/NA Prep Batch: 283384 /%Rec.Analyte Phenolics, Total RecoverableSpike 100LCS 94.63LCS ug/LUnit ug/LD %Rec 01/12/16 08:38Prep Type: Total/NA Prep Batch: 283384 %Rec.Method: 7196A - Chromium, Hexavalent10094.63Qualifier ug/LUnit ug/LD %Rec 01/12/16 08:38Limits D D 01/12/16 08:38Analyte Chromium, hexavalentMB NDMB 10.0S.0Unit ug/LD Prepared MBLPrepared Analyzed Analyzed Analyzed DI Fac O1/12/16 08:38Dil Fac O1/12/16 08:38Analyte Chromium, hexavalentResult QualifierMDL UnitUnit Ug/LD Prepared Analyzed O1/12/16 08:38Dil Fac O1/12/16 08:38Lab Sample ID: LCS 480-283269/4 Matrix: Water Analysis Batch: 283269MB MB Analysis Batch: 283269Client Sample ID: Lab Control Sample O1/12/16 08:38Dil Fac O1/12/16 08:38Lab Sample ID: LCS 480-283269/4 Matrix: Water Analysis Batch: 283269Spike Added Added So.0CS So.92LCS Unit Unit UnitD %Rec. LimitsAnalyte Chromium, hexavalentSpike So.0LCS So.92LCS UnitD WRec L	Analysis Batch: 283582			MD									Prep Batch:	283384
AnalyteResultQualifierRLMDLUnitDPreparedAnalyzedDil FacPhenolics, Total RecoverableND10.05.0ug/L01/13/16 07:0001/14/16 10:021Lab Sample ID: LCS 480-283384/2-AClient Sample ID: Lab Control SampleMatrix: WaterAnalyteAddedResultQualifierUnitD%Rec.AnalyteAddedResultQualifierUnitD%Rec.LimitsPhenolics, Total Recoverable10094.63UnitD%Rec.LimitsMethod: 7196A - Chromium, Hexavalent10094.63Client Sample ID: Method Blank Prep Type: Total/NA Prep Type: Total/NAAnalyteResultQualifierRLMDLUnitDPreparedAnalyzedDil Fac Prep Type: Total/NAAnalyteResultQualifier10.05.0UnitDPreparedAnalyzedDil Fac Method:Lab Sample ID: MB 480-283269/3 Matrix: WaterMBMBClient Sample ID: Method Blank Prep Type: Total/NAAnalyteResultQualifier10.05.0UnitDPreparedAnalyzedDil Fac Matrix: WaterAnalyteResultQualifierND10.05.0UnitDYeresAnalyzedDil Fac Dil/12/16 08:381Lab Sample ID: LCS 480-283269/4 Matrix: WaterND10.05.0UnitDYeresYeresYeres10AnalyteSpikeLCS<	A see bude		IN B	MB		-				-	-		A	D'I 5
Prenencies, Total Recoverable ND 10.0 5.0 Ug/L UT/13/16 07.30 UT/14/16 10.02 T Lab Sample ID: LCS 480-283384/2-A Client Sample ID: Lab Control Sample Matrix: Water Analysis Batch: 283582 Prep Type: Total/NA Analyte Added Result Qualifier Unit D %Rec. Phenolics, Total Recoverable 100 94.63 Qualifier D %Rec. mints Lab Sample ID: MB 480-283269/3 MB MB Result Qualifier ND Client Sample ID: Method Blank Prep Type: Total/NA Prep Type: Total/NA Prep Type: Total/NA Prep Type: Total/NA Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac O1/12/16 08:38 Chromium, hexavalent ND 10.0 5.0 Ug/L D Prep Type: Total/NA O1/12/16 08:38 1 Lab Sample ID: LCS 480-283269/4 MB MB Client Sample ID: Lab Control Sample Prep Type: Total/NA Lab Sample ID: LCS 480-283269/4 Spike LCS LCS LCS %Rec. Analyte Added Result Qualifier </td <td>Phanalian Tatal Deservership</td> <td>Ke</td> <td>Suit</td> <td>Quaimer</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>PI</td> <td></td> <td></td> <td></td>	Phanalian Tatal Deservership	Ke	Suit	Quaimer							PI			
Lab Sample ID: LCS 480-283384/2-A Client Sample ID: Lab Control Sample Matrix: Water Prep Type: Total/NA Analysis Batch: 283582 Spike LCS LCS Prep Batch: 283384 Analyte Added Result Qualifier Unit D %Rec. Phenolics, Total Recoverable 100 94.63 Unit D %Rec Limits Matrix: Water 100 94.63 Client Sample ID: ME 480-283269/3 Client Sample ID: Method Blank Matrix: Water Analyte Result Qualifier ND Prep Type: Total/NA Analyte Result Qualifier RL MDL Unit D %Rec Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Chromium, hexavalent ND 10.0 5.0 ug/L D Prep Type: Total/NA Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Chromium, hexavalent ND 10.0 5.0 ug/L D	Fileholics, Total Recoverable		ND			10.0		5.0 ug/L			01/1	5/10 07.00	0 01/14/10 10.02	1
Matrix: Water Prep Type: Total/NA Analyte Added Phenolics, Total Recoverable 100 94.63 Unit Upto 100 94.63 Upto 100 95 Upto 100 90 Matrix: Water Unit Analyte Result Qualifier RL MB MB Analyte Result Chromium, hexavalent ND 10.0 5.0 Upto 100 01/12/16 08:38 10.0 5.0 Upto 100 01/12/16 08:38 10.0 5.0 Upto 100 01/12/16 08:38 100 10.0 100 10.0 100 10.0 100 10.0 100 10.0 100 10.0 100 10.0 100 10.0 100 10.0 100 10.0 <	I ab Sample ID: LCS 480-283	384/2-A							CI	iont	Sar	nnle ID [.]	Lab Control	Sample
Mailysis Batch: 283582 Spike LCS LCS <th< td=""><td>Matrix: Wator</td><td>004/2-A</td><td></td><td></td><td></td><td></td><td></td><td></td><td>0.</td><td>ient</td><td>Uai</td><td></td><td>Prop Type: T</td><td></td></th<>	Matrix: Wator	004/2-A							0.	ient	Uai		Prop Type: T	
Analyte Spike LCS LCS Matrix Matrix Phenolics, Total Recoverable 100 94.63 ug/L 0 %Rec. Limits Method: 7196A - Chromium, Hexavalent 100 94.63 ug/L 0 %Rec. Limits Lab Sample ID: MB 480-283269/3 Client Sample ID: Method Blank Prep Type: Total/NA Matrix: Water Analysis Batch: 283269 MB MB Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Chromium, hexavalent ND 10.0 5.0 ug/L D Prepared Analyzed Dil Fac Lab Sample ID: LCS 480-283269/4 ND 10.0 5.0 ug/L D Prepared Analyzed Dil Fac Lab Sample ID: LCS 480-283269/4 ND 10.0 5.0 ug/L D %Rec. Prep Type: Total/NA Analysis Batch: 283269 Spike LCS LCS LCS %Rec. Mints Prep Type: Total/NA Analysis Batch: 283269 Spike LCS LCS LCS Matrix Mac <td>Analysis Ratch: 283582</td> <td></td> <td>Prop Batch:</td> <td>28228A</td>	Analysis Ratch: 283582												Prop Batch:	28228A
AnalyteAddedResultQualifierUnitD%RecLimitsPhenolics, Total Recoverable10094.63QualifierUnitD%RecLimitsMethod: 7196A - Chromium, HexavalentLab Sample ID: MB 480-283269/3 Matrix: Water Analysis Batch: 283269MBMBClient Sample ID: Method Blank Prep Type: Total/NAAnalyteResultQualifierRLMDLUnitDPreparedAnalyzed 01/12/16 08:38Dil FacChromium, hexavalentND10.05.0ug/LO1/12/16 08:381Lab Sample ID: LCS 480-283269/4 Matrix: Water Analysis Batch: 283269SpikeLCSLCS LCSLCSMR c. LOTPrep Type: Total/NAAnalyteSpikeLCSLCSLCSVinitD%Rec. LimitsMinitsAnalyteSpikeLCSLCSLCSVinitD%Rec. LimitsMinitsAnalyteSpikeSpikeLCSLCSVinitD%Rec. VinitsMinitsAnalyteSpikeSpikeLCSLCSVinitD%Rec. VinitsMinitsChromium, hexavalent50.050.92QualifierUnitD%Rec. VinitsMinits	Analysis Batch. 203302				Snike		LCS	LCS					WRec	203304
Added Added Result Added Mill D Mill	Analyte						Result	Qualifier	Unit		п	%Rec	l imite	
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 Chromium, hexavalent Result ND Qualifier RL 10.0 MDL 5.0 Unit ug/L D Prepared 01/12/16 08:38 Dil Fac 01/12/16 08:38 Lab Sample ID: LCS 480-283269/4 Matrix: Water Analysis Batch: 283269 Client Sample ID: Lab Control Sample Prep Type: Total/NA Lab Sample ID: LCS 480-283269/4 Matrix: Water Analysis Batch: 283269 Spike Added 50.0 LCS Result Solo LCS Qualifier LCS Unit LCS VRec. LCS LCS VRec. Method Blank Prep Type: Total/NA	Phenolics Total Recoverable				100		04 63	Quanner				- 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 Chromium, hexavalent Result ND Qualifier RL 10.0 MDL 5.0 Unit ug/L D Prepared 01/12/16 08:38 Analyzed 01/12/16 08:38 Dil Fac 01/12/16 08:38 Lab Sample ID: LCS 480-283269/4 Matrix: Water Analysis Batch: 283269 ND 10.0 Spike 5.0 Client Sample ID: Lab Control Sample Prep Type: Total/NA Analyte Chromium, hexavalent Spike 40ded LCS 50.0 LCS 50.92 Unit ug/L D %Rec. Limits 85-115					100		34.00		uu/L			55		
Lab Sample ID: MB 480-283269/3 Matrix: Water Analysis Batch: 283269 MB MB <u>Analyte</u> Result Qualifier RL MDL Unit D Prepared Analyzed 01/12/16 08:38 Dil Fac Chromium, hexavalent ND 10.0 5.0 ug/L D Prepared 01/12/16 08:38 Dil Fac 10.0 5.0 Unit D Prepared Analyzed 01/12/16 08:38 Dil Fac 10.0 5.0 Unit Client Sample ID: Lab Control Sample Prep Type: Total/NA Client Sample ID: Lab Control Sample Prep Type: Total/NA Matrix: Water Analysis Batch: 283269 <u>Analyte</u> Analyte <u>Spike</u> LCS LCS V Analyte <u>Analyte</u> <u>Added</u> Result Qualifier Unit D %Rec. <u>Analyte</u> 10.0 50.0 50.92 Unit Unit D %Rec Limits <u>Voit</u> 85-115									- 0				00-110	
Carbon complete D. Ind 400-203200/3 Matrix: Water Prep Type: Total/NA Analysis Batch: 283269 MB MB Analyte Result Qualifier RL MDL Unit D Prep Type: Total/NA Chromium, hexavalent ND 10.0 5.0 ug/L D Prepared Analyzed Dil Fac Lab Sample ID: LCS 480-283269/4 ND 10.0 5.0 ug/L D Oti/12/16 08:38 1 Lab Sample ID: LCS 480-283269/4 Client Sample ID: Lab Control Sample Prep Type: Total/NA Matrix: Water Analysis Batch: 283269 Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit D %Rec. Chromium, hexavalent 50.0 50.92 ug/L D %Rec.	Method: 7196A - Chromi	um, Hex	ava	alent										
Matrix: Water Analysis Batch: 283269MBMBMBAnalyteResultQualifierRLMDLUnitDPreparedAnalyzedDil FacChromium, hexavalentND10.05.0ug/LDPreparedAnalyzedDil FacLab Sample ID: LCS 480-283269/4 Matrix: Water Analysis Batch: 283269Client Sample ID: Lab Control Sample Prep Type: Total/NAAnalyteSpikeLCSLCSMRec.AnalyteAddedResult 50.0QualifierUnit ug/LD%Rec.Chromium, hexavalent50.050.92ug/L10285-115	Method: 7196A - Chromi	um, Hex	ava	alent							Clic	nt Som	nlo ID: Motho	d Blank
Mailysis Batch: 283269 MB MB Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Chromium, hexavalent ND 10.0 5.0 ug/L D Prepared Analyzed Dil Fac Lab Sample ID: LCS 480-283269/4 Matrix: Water Analysis Batch: 283269 ND Spike LCS LCS LCS Prep Type: Total/NA Analyte Added Result Qualifier Unit D %Rec. Limits Chromium, hexavalent 50.0 50.92 ug/L D %Rec Limits Limits	Method: 7196A - Chromi Lab Sample ID: MB 480-2832	um, Hex 269/3	ava	alent							Clie	nt Sam	ple ID: Metho	d Blank
AnalyteResultQualifierRLMDLUnitDPreparedAnalyzedDil FacChromium, hexavalentNDND10.05.0ug/LDPreparedAnalyzedDil FacLab Sample ID: LCS 480-283269/4 Matrix: Water Analysis Batch: 283269NDClient Sample ID: Lab Control Sample Prep Type: Total/NAAnalyte Chromium, hexavalentSpike AddedLCS ResultLCS Qualifier%Rec. Unit%Rec. LimitsAnalyte Chromium, hexavalent50.050.92ug/LD%Rec 102115	Method: 7196A - Chromi Lab Sample ID: MB 480-2832 Matrix: Water	um, Hex 269/3	ava	alent							Clie	nt Sam	ple ID: Metho Prep Type: T	d Blank otal/NA
AnalyteResultQualifierRLMDLOnitDPreparedAnalyzedDil PacChromium, hexavalentND10.05.0ug/L01/12/16 08:381Lab Sample ID: LCS 480-283269/4 Matrix: Water Analysis Batch: 283269Client Sample ID: Lab Control Sample Prep Type: Total/NAAnalyteSpikeLCS LCS%Rec.AnalyteAddedResult 50.0QualifierUnitD%Rec.Chromium, hexavalent50.050.92ug/L10285-115	Method: 7196A - Chromi Lab Sample ID: MB 480-2832 Matrix: Water Analysis Batch: 283269	um, Hex 269/3	ava	alent							Clie	nt Sam	ple ID: Metho Prep Type: T	d Blank otal/NA
Lab Sample ID: LCS 480-283269/4 Client Sample ID: Lab Control Sample Matrix: Water Prep Type: Total/NA Analysis Batch: 283269 Spike LCS Kec. Analyte Added Result Qualifier Unit D %Rec. Chromium, hexavalent 50.0 50.92 ug/L 102 85-115	Method: 7196A - Chromi Lab Sample ID: MB 480-2832 Matrix: Water Analysis Batch: 283269	um, Hex 269/3	ava MB	alent MB							Clie	nt Sam	ple ID: Metho Prep Type: T	d Blank otal/NA
Lab Sample ID: LCS 480-283269/4 Matrix: Water Analysis Batch: 283269Client Sample ID: Lab Control Sample Prep Type: Total/NAAnalyteSpikeLCS%Rec.AnalyteAddedResultQualifierUnitD%RecChromium, hexavalent50.050.9210285-115	Method: 7196A - Chromi Lab Sample ID: MB 480-2832 Matrix: Water Analysis Batch: 283269 Analyte	um, Hex 269/3 Re:	MB sult	Alent MB Qualifier		RL		MDL Unit		D	Clie Pi	nt Sam epared	ple ID: Metho Prep Type: T	d Blank otal/NA Dil Fac
Matrix: Water Prep Type: Total/NA Analysis Batch: 283269 Spike LCS Kec. Analyte Added Result Qualifier Unit D %Rec. Chromium, hexavalent 50.0 50.92 ug/L 102 85-115	Method: 7196A - Chromi Lab Sample ID: MB 480-2832 Matrix: Water Analysis Batch: 283269 Analyte Chromium, hexavalent	um, Hex 269/3 	MB sult ND	Alent MB Qualifier		RL 10.0		MDL Unit		<u>D</u>	Clie Pi	nt Sam repared	ple ID: Metho Prep Type: T - Analyzed 01/12/16 08:38	d Blank otal/NA Dil Fac
Analysis Batch: 283269 Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit D %Rec Limits Chromium, hexavalent 50.0 50.92 90.92 102 85-115 115	Method: 7196A - Chromi Lab Sample ID: MB 480-2832 Matrix: Water Analysis Batch: 283269 Analyte Chromium, hexavalent Lab Sample ID: LCS 480-283	um, Hex 269/3 	MB sult	Alent MB Qualifier		RL 10.0		MDL Unit	CI	D	Clie Pi Sar	nt Sam epared nple ID:	ple ID: Metho Prep Type: T Analyzed 01/12/16 08:38	d Blank otal/NA Dil Fac 1 Sample
Analyte Added Result Qualifier Unit D %Rec. Chromium, hexavalent 50.0 50.92 50.92 ug/L 102 85 - 115	Method: 7196A - Chromi Lab Sample ID: MB 480-2832 Matrix: Water Analysis Batch: 283269 Analyte Chromium, hexavalent Lab Sample ID: LCS 480-283 Matrix: Water	um, Hex 269/3 	MB sult ND	MB Qualifier		RL 10.0		MDL Unit	CI	<u>D</u> ient	Clie Pi Sar	nt Sam epared nple ID:	ple ID: Metho Prep Type: T - Analyzed 01/12/16 08:38 : Lab Control Prep Type: T	d Blank otal/NA Dil Fac 1 Sample otal/NA
Analyte Added Result Qualifier Unit D %Rec Limits Chromium, hexavalent 50.0 50.92 50.92 102 85 - 115	Method: 7196A - Chromi Lab Sample ID: MB 480-2832 Matrix: Water Analysis Batch: 283269 Analyte Chromium, hexavalent Lab Sample ID: LCS 480-283 Matrix: Water Analysis Batch: 283269	um, Hex 269/3 	MB sult	Alent MB Qualifier		RL 10.0		MDL Unit 5.0 ug/L	CI	D	Clie Pr Sar	nt Sam epared nple ID:	ple ID: Metho Prep Type: T - Analyzed 01/12/16 08:38 : Lab Control Prep Type: T	d Blank otal/NA Dil Fac 1 Sample otal/NA
Chromium, hexavalent 50.0 50.92 ug/L 102 85 - 115	Method: 7196A - Chromi Lab Sample ID: MB 480-2832 Matrix: Water Analysis Batch: 283269 Analyte Chromium, hexavalent Lab Sample ID: LCS 480-283 Matrix: Water Analysis Batch: 283269	um, Hex 269/3 	MB sult	MB Qualifier	Spike	RL 10.0	LCS	MDL Unit	CI	D ient	Clie Pr Sar	nt Sam epared nple ID:	ple ID: Metho Prep Type: T - Analyzed 01/12/16 08:38 : Lab Control Prep Type: T %Rec.	d Blank otal/NA <u>Dil Fac</u> 1 Sample otal/NA
	Method: 7196A - Chromi Lab Sample ID: MB 480-2832 Matrix: Water Analysis Batch: 283269 Analyte Chromium, hexavalent Lab Sample ID: LCS 480-283 Matrix: Water Analysis Batch: 283269 Analyte	um, Hex 269/3 Re: 3269/4	MB sult ND	MB Qualifier	Spike	RL 10.0	LCS Result	MDL Unit 5.0 ug/L LCS Qualifier	CI	. D	Clie Pr Sar	nt Sam repared nple ID: %Rec	ple ID: Metho Prep Type: T Analyzed 01/12/16 08:38 Lab Control Prep Type: T %Rec. Limits	d Blank otal/NA Dil Fac 1 Sample otal/NA

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

Method: 7196A - Chromium, Hexavalent (Continued)

TestAmerica Job ID: 480-93776-1

Client Sample ID: AP-EWE-01

%Rec.

Limits

85 - 115

Client Sample ID: AP-EWE-01

D %Rec

108

Prep Type: Total/NA

Lab Sample ID: 480-93776-1 MS Matrix: Water Analysis Batch: 283269 Sample Sample Spike MS MS Analyte **Result Qualifier** Added Result Qualifier Unit Chromium, hexavalent ND 50.0 54.19 ug/L Lab Sample ID: 480-93776-1 DU Motrix: Motor

Matrix: Water Analysis Batch: 283269							Prep	o Type: To	al/NA
	Sample	Sample	DU	DU					RPD
Analyte	Result	Qualifier	Result	Qualifier	Unit	D		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 Sa Prep Type: Tof					
Allalysis Batch. 203419	Spike	LCS	LCS				%Rec.
Analyte	Added 7.00	Result 7.010	Qualifier	Unit SU	D	%Rec 100	Limits

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

Lab Sample ID: MB 480-283472/1 Matrix: Water Analysis Batch: 283472									Clie	ent Sam	ple ID: Method Prep Type: To	l Blank otal/NA
	МВ	MB										
Analyte	Result	Qualifier		RL	I	MDL	Unit	D	Ρ	repared	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	Sa	mple ID	: Lab Control S Prep Type: To	Sample otal/NA
Analysis Batch. 200472			Spike		LCS	LCS	;				%Rec.	
Analyte Total Dissolved Solids			Added 501		Result 534.0	Qua	lifier	Unit mg/L	_ D	%Rec 107	Limits 85 - 115	

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

Lab Sample ID: MB 480-283579/1 Matrix: Water Analysis Batch: 283579							Client Sam	d Blank otal/NA	
	MB	МВ							
Analyte	Result	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

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

Lab Sample ID: LCS 480-283579/2

Matrix: Water

Total Suspended Solids

Analyte

Analysis Batch: 283579

Method: SM 2540D - Solids, Total Suspended (TSS) (Continued) **Client Sample ID: Lab Control Sample** Prep Type: Total/NA Spike LCS LCS %Rec. Added Result Qualifier Unit D %Rec Limits 255 99 253.6 mg/L 88 - 110

Method: SM 4500 O G - Oxygen, Dissolved

Lab Sample ID: 480-93776- Matrix: Water Analysis Batch: 283161	1 DU					Clie	nt Sample ID: Prep Ty	AP-EV pe: Tot	VE-01 al/NA
	Sample	Sample	DU	DU					RPD
Analyte	Result	Qualifier	Result	Qualifier	Unit	D		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								Clie	ent Sam	ple ID: Metho Prep Type: T	d Blank otal/NA
	USB	USB									
Analyte	Result	Qualifier		RL	1	MDL Unit		D P	repared	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							Cli	ent Sa	mple ID	: Lab Control	Sample
Matrix: Water										Prep Type: T	otal/NA
Analysis Batch: 283301											
			Spike		LCS	LCS				%Rec.	
Analyte			Added		Result	Qualifier	Unit	D	%Rec	Limits	
Biochemical Oxygen Demand			198		189.9		mg/L		96	85 - 115	

QC Association Summary

Prep Type

Matrix

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

Client Sample ID

Method

Prep Batch

9 10 11 12 13

AP-EWE-01 480-93776-1 Total/NA Water 624 480-93776-2 TRIP BLANK Total/NA Water 624 LCS 480-283031/19 Total/NA Water 624 Lab Control Sample 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 Lab Control Sample LCS 480-283314/2-A Total/NA Water 200.7 Total/NA MB 480-283314/1-A Method Blank 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 200.8 200.8 LCS 480-283487/2-A Lab Control Sample Total/NA Water Total/NA 200.8 MB 480-283487/1-A Method Blank Water 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 200.7 Rev 4.4 LCS 480-283314/2-A Lab Control Sample Total/NA Water 283314 MB 480-283314/1-A Method Blank Total/NA Water 200.7 Rev 4.4 283314

Prep Batch: 283679

GC/MS VOA

Lab Sample ID

Analysis Batch: 283031

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	Ргер Туре	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

General Chemistry (Continued)

Prep Batch: 283222 Lab Sample ID Method **Client Sample ID** Prep Type Matrix **Prep Batch** 480-93776-1 351.2 AP-EWE-01 Total/NA Water LCS 480-283222/2-A Lab Control Sample Total/NA 351.2 Water 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 Total/NA 353.2 LCS 480-283241/4 Lab Control Sample Water MB 480-283241/3 Method Blank Total/NA Water 353.2 9 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 13 :h

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

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	Ргер Туре	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 Batc
480-93776-1	AP-EWE-01	Total/NA	Water	9040C	
LCS 480-283419/1	Lab Control Sample	Total/NA	Water	9040C	

Analysis Batch: 283467

QC Association Summary

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

General Chemistry (Continued)

Analysis Batch: 283467 (Continued)

I ah Samnle ID	Client Sample ID	Pren Tyne	Matrix	Method	Pron 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: 283	472				
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: 283	473				
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: 283	579				
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: 283	582				
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

TestAmerica Job ID: 480-93776-1

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

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

Lab Sample ID: 480-93776-2

Matrix: Water

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	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

	Batch	Batch		Dilution	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Number	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

1/18/2016

TestAmerica Job ID: 480-93776-1

Project/Site: Greenstar Environmental Solutions, LLC Laboratory: TestAmerica Buffalo

Client: Greenstar Environmental Solutions, LLC

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

uthority	Program	Program		Certification ID	Expiration Date
lew York	NELAP		2	10026	03-31-16
The following encluter					
The following analytes	s are included in this repor	t, but certification is	not offered by the go	overning authority:	
Analysis Method	Prep Method	T, but certification is Matrix	not offered by the go Analyt	e	
Analysis Method	Prep Method	Matrix Water	not offered by the go Analyt pH	e	

Method Summary

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

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	рН	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

Buffalc	
TestAmerica	10 Hazelwood Drive

Chain of Custody Record

Amherst, NY 14228-2298 Phone (716) 691-2600 Fax (716) 691-7991	;												THE LEADER IN	shurdingerial testrug	
Client Information	Sampler C	لم) ا م		Lab PM: Stone, Judv	ب				Carrier T	racking	No(s):		COC No: 480-77576-145	29.1	
Client Contact	Phone:			E-Mail:									Page:		1
allowed Lucis Oliveira	-2%	579-9	9 []	judy.stone@	otestamei	icainc.co	E						Page 1 of 1		
company: Greenstar Environmental Solutions, LLC							Analys	iis Rec	ueste	p			:# aor		
Address: 6 Gellatity Drive	Due Date Requested:									·			Preservation C	odes:	
City: Wappingers Falls	TAT Requested (days												A - HUL B - NaOH C - Zn Acetate	w - nexare N - None O - AsNaO2	
State, Zp: NY, 12590		p-vapu		1							<u></u>		D - Nitric Acid E - NaHSO4	P - Na204S Q - Na2SO3	
Phone: 845-223-9944(Tel)	PO#: 1047-2014) (o		pı		si			6		r - MeUH G - Amchlor H - Ascorbic Acid	rr - NazSzSO3 S - H2SO4 T - TSP Dodecahydrate	
Email: Bostragocresocressiutions.com 101 IVC I V. C G7 v	mo# enstar Söluhen,	s .com		N 10 9		bomad	sbi	ste Solic	ţu	ралю	olderev	811	1 - Ice J - Dí Water K ECTA	U - Acetone V - MCAA	
Project Name: Greenstar Environmental Solutions, LLC/G Event Desc: Quar	Project #: terly 48002405			10 동9 9人) 9]		Metho	log be	evloaal D_efe_D	elevsx	ssiQ (r	opeA in	enletn	L-EDA	Z - other (specify)	
Site: New York	SSOW#			Y) asi gmes	4.(lsoo.l (Disal O	puedsr	rotal Di Nite, Ni	ey 'un	oxyger	stoT ,s:	ot coi	Other:		
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		Ì	reservation Co		i a s	, z Z	z	N N		s z	, s	×			and the second
AP-EWE-01	1 11/11/1	500 0	s Wat	er l	r X	x X	X	X	X	X	$\frac{1}{x}$				H
Trip Blank	21/29/15	0060	3			\times	• ••								
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Deliverable Requested: I, III, IV, Other (specify)		n.		Spe	ecial Instru	uctions/C	2C Requ	lirement							1
Empty Kit Relinquished by:	ğ	ate:		Time:		e e	ļ		Met	thod of S	hipment				·
zelincujski do by. N 11/200 A Maria	Date/Time: 11.116	15 iS	Company		Received	るい	X			<i>-</i> .	Date/Time	1/16	17:38	Company	
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Relinquished by:	Date/Time:		Company		Received t	37:					Date/Time:		:	Company	-
Custody Seals Intact: Custody Seal No.: Δ Yes Δ No					Cooler Tèir	iperature(s	s) "C and	Other Rer	tärks:		n Niter		۲, ۲	本で	
				1	1	1			-1						

4

Login Sample Receipt Checklist

Client: Greenstar Environmental Solutions, LLC

Login Number: 93776 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

Job Number: 480-93776-1

List Source: TestAmerica Buffalo



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.

Joeph V. Gisconayer

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

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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3

Qualifiers

Metals		
Qualifier	Qualifier Description	
В	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 Ch	nemistry	
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.	

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.	
¤	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	13
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)

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.

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	JB	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	В	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

Lab Sample ID: 480-98500-3

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	JB	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

No Detections.

5

This Detection Summary does not include radiochemical test results.

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 Sam	ple ID: 480-9 Matrix	8500-1 c: Water
 Method: 624 - Volatile Organic Cor	nnounds (G(C/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 (ICI	>)								
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	JB	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	В	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
рН	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 Job ID: 480-98500-1

Lab Sample ID: 480-98500-2 Matrix: Water

5

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Client Sample ID: AP-SS-03 Date Collected: 04/18/16 16:25 Date Received: 04/18/16 18:40

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	JB	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 Sam	ple ID: 480-9	8500-3
Date Collected: 04/18/16 00:00								Matrix	c: Water
Date Received: 04/18/16 18:40									
- Method: 624 - Volatile Organic Compo	unds (G	C/MS)							
Analyte	Result	Qualifier	RI	MDL	Unit	D	Prepared	Analyzed	Dil Fac

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

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

Matrix: Water

Prep	Type:	Total	/NA

		Percent Surrogate Recovery (Acceptan			
		12DCE	BFB	TOL	DBFM
Lab Sample ID	Client Sample ID	(72-130)	(69-121)	(70-123)	(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)

TestAmerica Buffalo
Lab Sample ID: MB 480-296985 Matrix: Water	/9										Client S	Sample ID: Metho Prep Type: 1	d Blank otal/NA
Analysis Batch: 296985													
		MB N	ſΒ										
Analyte	Res	sult C	Qualifier	RL		MDL	Unit		D	Ρ	repared	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
		MB N	//B										
Surrogate	%Recov	ery G	Qualifier	Limits						P	repared	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 480-29698	5/7								CI	ient	Sample	D: Lab Control	Sample
Matrix: Water												Prep Type: 1	otal/NA
Analysis Batch: 296985				o "									
				Spike	LCS	LCS				_		%Rec.	
				Added	Result	Qual	ifier	Unit		D 	%Rec	Limits	
1,1-Dichloroethane				20.0	18.3			ug/L			91	59 - 155	
Irichloroethene				20.0	22.0			ug/L			110	/1 - 15/	
	LCS I	LCS											
Surrogate	LCS I %Recovery	LCS Qualifi	ier	Limits									
Surrogate 1,2-Dichloroethane-d4 (Surr)	LCS I %Recovery 121	LCS Qualifi	ier	Limits 72 - 130									
Surrogate 1,2-Dichloroethane-d4 (Surr) 4-Bromofluorobenzene (Surr)	LCS %Recovery 121 103	LCS Qualifi	ier	<i>Limits</i> 72 - 130 69 - 121									
Surrogate 1,2-Dichloroethane-d4 (Surr) 4-Bromofluorobenzene (Surr) Toluene-d8 (Surr)	LCS %Recovery 121 103 93	LCS Qualifi	ier	Limits 72 - 130 69 - 121 70 - 123									

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 480-296865/1-A Matrix: Water Analysis Batch: 297335							Client Sa	mple ID: Metho Prep Type: T Prep Batch:	d Blank otal/NA 296865
	МВ	МВ							
Analyte	Result	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						c	lient Sample I	D: Lab Control	Sample

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

Analysis Batch: 297335	
------------------------	--

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%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

Prep Type: Total/NA Prep Batch: 296865 Spike

Added

Spike

Added

200

200

200

200

200

10000

Sample Sample

3.8 JB

1.9 J

1.5 J

105

ND

238

Result Qualifier

200

LCS LCS

MS MS

Result Qualifier

199.5

310.9

219.3

211.0

10860

215.6

201.4

Result Qualifier

Unit

ug/L

Unit

ug/L

ug/L

ug/L

ug/L

ug/L

ug/L

D

D

%Rec

%Rec

103

110

104

106

107

100

102

103

85 - 115

85 - 115

100

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

Lab Sample ID: 480-98500-2 MS

Lab Sample ID: 480-98500-2 MSD

Matrix: Water

Matrix: Water

Analyte

Analyte

Barium

Copper

Iron

Zinc

Nickel

Matrix: Water

Selenium

Thallium

Chromium

Zinc

Analysis Batch: 297335

Analysis Batch: 297335

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

Prep Type: Total/NA

Prep Batch: 296865

Prep Type: Total/NA

Prep Batch: 296865

Client Sample ID: Lab Control Sample

%Rec.

Limits

85 - 115

%Rec.

Limits

70 - 130

70 - 130

70 - 130

70 - 130

70 - 130

70 - 130

Client Sample ID: AP-SS-03

1 2 3 4 5 6 7 8 9 10

Client Sample ID: AP-SS-03

Prep Type: Total/NA

Analysis Batch: 297335									Prep I	Batch: 2	96865
	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	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	JB	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										Client Sa	mple ID: Metho Prep Type: 1 Prop Batch	d Blank Total/NA	
Analysis Datch. 237733	мв	мв										Trep Daten	257152
Analyte	Result	Qualifier		RL		MDL	Unit		D	Pr	epared	Analyzed	Dil Fac
Selenium	ND			1.0		0.44	ug/L			04/2	1/16 07:25	04/22/16 14:51	1
Thallium	ND			0.20	0	0.019	ug/L			04/2	1/16 07:25	04/22/16 14:51	1
									CI	lient	Sample	D: Lab Control	Sample
Matrix: Water												Prep Type: 1	Total/NA
Analysis Batch: 297739												Prep Batch	297192
-			Spike		LCS	LCS						%Rec.	
Analyte			Added		Result	Qual	ifier	Unit		D	%Rec	Limits	

20.38

20.63

ug/L

ug/L

20.0

20.0

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

Lab Sample ID: 480-98500-1 MS												Clie	nt Sample	ID: AF	P-SS-01
Matrix: Water													Prep T	ype: T	otal/NA
Analysis Batch: 299028													Prep E	Batch:	297192
	Sample	Samp	le	Spike		MS	MS						%Rec.		
Analyte	Result	Quali	fier	Added		Result	Qua	lifier	Unit		D	%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												Clie	nt Sample	ID: AF	P-SS-01
Matrix: Water													Prep T	ype: T	otal/NA
Analysis Batch: 299028													Prep E	Batch:	297192
	Sample	Samp	le	Spike		MSD	MSD)					%Rec.		RPD
Analyte	Result	Quali	fier	Added		Result	Qua	lifier	Unit		D	%Rec	Limits	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												Client Sa	ample ID: I	Metho	d Blank
Matrix: Water													Prep T	ype: T	otal/NA
Analysis Batch: 297313													Prep E	Batch:	296818
		MB	МВ												
Analyte	R	esult	Qualifier		RL		MDL	Unit		D	Р	repared	Analyz	ed	Dil Fac
SiO2		ND			1.1		0.13	mg/L		(04/2	0/16 07:40	04/21/16 (00:12	1
 Lab Sample ID: LCS 480-296818/2-/	Α									Cli	ent	Sample	ID: Lab Co	ontrol (Sample
Matrix: Water													Prep T	ype: T	otal/NA
Analysis Batch: 297313													Prep E	Batch:	<mark>296</mark> 818
				Spike		LCS	LCS						%Rec.		
Analyte				Added		Result	Qua	lifier	Unit		D	%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 S	ample ID: Metho Prep Type: ⁻	od Blank Total/NA
	ИВ	мв											
Analyte Res	ult	Qualifier		RL		MDL	Unit		D	Ρ	repared	Analyzed	Dil Fac
Sulfate 0.6	45	J		2.0		0.35	mg/L					04/22/16 09:25	1
 Lab Sample ID: LCS 480-297558/3									CI	ient	Sample	ID: Lab Control	Sample
Matrix: Water												Prep Type:	Total/NA
Analysis Batch: 297558													
			Spike		LCS	LCS						%Rec.	
Analyte			Added		Result	Qua	lifier	Unit		D	%Rec	Limits	
Sulfate			50.0		48.50			mg/L			97	90 - 110	
											Client S	ample ID: Metho	od Blank
Matrix: Water												Prep Type:	Total/NA
Analysis Batch: 299171													
	ИΒ	МВ											
Analyte Res	ult	Qualifier		RL		MDL	Unit		D	Ρ	repared	Analyzed	Dil Fac
Sulfate 0.6	33	J		2.0		0.35	mg/L					04/30/16 09:54	1

LCS LCS

MS MS

59.83

Result Qualifier

49.63

Result Qualifier

Unit

mg/L

Unit

mg/L

Spike

Added

Sample Sample

37.0 B F1

Result Qualifier

50.0

Spike

Added

25.0

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

Lab Sample ID: LCS 480-299171/3

Lab Sample ID: 480-98500-2 MS

Lab Sample ID: 480-98500-2 MSD

Matrix: Water

Matrix: Water

Matrix: Water

Analyte

Sulfate

Analyte

Sulfate

Analysis Batch: 299171

Analysis Batch: 299171

Client	Sample	ID: Lab Control Sar Prep Type: Tota	nple 3 I/NA
		%Rec.	
D	%Rec 	Limits	— 5
	Clie	ent Sample ID: AP-S	S-03 6
		%Rec.	7
D	%Rec 91	Limits	8

Client Sample ID: AP-SS-03 Prep Type: Total/NA

Analysis Batch: 299171											
	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	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							Client Sa	ample ID: Metho Prep Type: T	d Blank otal/NA
Analysis Batch: 296861	MB	MD							
	IVID					_			
Analyte	Result	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
						~			<u> </u>

Lab Sample ID: LCS 480-296861/4					Client	Sample	BID: Lab Co	ontrol Samp	le
Matrix: Water							Prep Ty	ype: Total/N	٩ł
Analysis Batch: 296861									
	Spike	LCS	LCS				%Rec.		
Analyte	Added	Result	Qualifier	Unit	D	%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									Client S	ample ID: Meth Prep Type:	od Blank Total/NA
Analysis Batch: 297546	МВ	MD								Prep Batc	h: 297416
Analyte	Result	Qualifier	RL		MDL	Unit	I	D P	repared	Analyzed	Dil Fac
Total Kjeldahl Nitrogen	ND		0.20		0.15	mg/L as	N	04/2	21/16 10:36	04/21/16 18:11	1
 Lab Sample ID: LCS 480-297416/2-A								Client	Sample	ID: Lab Contro	ol Sample
Matrix: Water										Prep Type:	Total/NA
Analysis Batch: 297546										Prep Batc	h: 297416
		Sp	ke	LCS	LCS					%Rec.	
Analyte		Ado	ed	Result	Qual	ifier U	nit	D	%Rec	Limits	
Total Kjeldahl Nitrogen		2	50	2.40		n	ng/L as N		96	90 - 110	

QC Sample Results

Client: Greenstar Environmental Solutions, LLC Project/Site: Greenstar Environmental Solutions, LLC TestAmerica Job ID: 480-98500-1

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Method: 353.2 - Nitrogen, Nitrite

Lab Sample ID: MB 480-296833/27 Matrix: Water											Client S	ample ID: Me Prep Typ	thod Blank e: Total/NA
Analysis Batch: 296833													
	MB	MB											
Analyte	Result	Qualifier		RL		MDL	Unit		D	Pr	epared	Analyzed	Dil Fac
Nitrite as N	ND		0	.050	C	0.020	mg/L					04/19/16 13:	30 1
											Client S	ample ID: Me	thod Blank
Matrix: Water												Prep Typ	e: Total/NA
Analysis Batch: 296833													
	MB	MB											
Analyte	Result	Qualifier		RL		MDL	Unit		D	Pr	epared	Analyzed	Dil Fac
Nitrite as N	ND		0	.050	C	0.020	mg/L					04/19/16 13:0	04 1
									Clie	ent	Sample	ID: Lab Cont	rol Sample
Matrix: Water												Prep Typ	e: Total/NA
Analysis Batch: 296833													
			Spike		LCS	LCS						%Rec.	
Analyte			Added		Result	Qual	ifier	Unit		D	%Rec	Limits	
Nitrite as N			1.50		1.47			mg/L			98	90 - 110	
									Clie	ent	Sample	ID: Lab Cont	rol Sample
Matrix: Water												Prep Typ	e: Total/NA
Analysis Batch: 296833													
-			Spike		LCS	LCS						%Rec.	
Analyte			Added		Result	Qual	ifier	Unit	I	D	%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											Client S	ample ID: Metho Prep Type: 1	d Blank fotal/NA
Analysis Datch. 297250	МВ	МВ											
Analyte	Result	Qualifier		RL		MDL	Unit		D	Р	repared	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									Cli	ent	Sample	ID: Lab Control	Sample
Matrix: Water												Prep Type: 1	otal/NA
Analysis Batch: 297258													
			Spike		LCS	LCS						%Rec.	
Analyte			Added		Result	Quali	ifier	Unit		D	%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 Sa	mple ID: Metho Prep Type: 1 Prep Batch:	d Blank fotal/NA : 298296
	MB	МВ							
Analyte	Result	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

Method: 420.1 - Phenolics, Total Recoverable (Continued)

Lab Sample ID: LCS 480-298296/2-	Α									CI	lient	Sample	ID: Lab Cont	rol Sample
Matrix: Water													Prep Type	e: Total/NA
Analysis Batch: 298454				0									Prep Bat	ch: 298296
				Бріке			LUS				_	~ -	%Rec.	
Analyte				Added		Result	Quali	ier	Unit		D	%Rec	Limits	
Phenolics, Total Recoverable				100		105.5			ug/L			105	90 - 110	
Lab Sample ID: 480-98500-2 MS												Clie	nt Sample ID	: AP-SS-03
Matrix: Water													Prep Type	e: Total/NA
Analysis Batch: 298454													Prep Bat	ch: 298296
	Sample	Samp	le	Spike		MS	MS						%Rec.	
Analyte	Result	Quali	fier	Added		Result	Quali	lier	Unit		D	%Rec	Limits	
Phenolics, Total Recoverable	12.3			100		103.7			ug/L		_	91	90 - 110	
Lab Sample ID: MR 490 209571/2 A												Client Sc	ample ID: Me	thod Blank
Lab Sample ID. MB 400-25057 1/2-P												Chefit Sc		
Matrix. Water													Prep Type	
Analysis Batch: 298/14													Prep Bat	cn: 298571
Amelute								1			_	u a u a u a d	Analyzed	
Analyte		esuit	Quaimer					Unit		- <u> </u>	P	repared	Analyzed	
Phenolics, Total Recoverable		ND			10.0		5.0	ug/L			04/2	//16 14:25	04/28/16 06:5	02 1
Lab Sample ID: LCS 480-298571/1-	Α									CI	lient	Sample	ID: Lab Cont	rol Sample
Matrix: Water													Prep Typ	e: Total/NA
Analysis Batch: 298714													Prep Bat	ch: 298571
· · · · · · · · · · · · · · · · · · ·				Spike		LCS	LCS						%Rec.	
Analyte				Added		Result	Qualit	fier	Unit		D	%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 S	Sample ID: Metho Prep Type:	od Blank Total/NA
· · · · · , · · · · · · · · · · · · · · · · · · ·		МВ	мв											
Analyte	R	esult	Qualifier		RL		MDL	Unit		D	Р	repared	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										Cli	ent	Sample	e ID: Lab Contro	Sample
Matrix: Water													Prep Type:	Total/NA
Analysis Batch: 296757														
				Spike		LCS	LCS						%Rec.	
Analyte				Added		Result	Qual	lifier	Unit		D	%Rec	Limits	
Chromium, hexavalent				50.0		44.22			ug/L		_	88	85 - 115	
												Clie	ent Sample ID: A	P-SS-01
Matrix: Water													Prep Type:	Total/NA
Analysis Batch: 296757														
	Sample	Samp	le	Spike		MS	MS						%Rec.	
Analyte	Result	Quali	fier	Added		Result	Qual	lifier	Unit		D	%Rec	Limits	
Chromium, hexavalent	ND			50.0		45.13			ug/L		_	90	85 - 115	

TestAmerica Job ID: 480-98500-1

Lab Sample ID: 480-98500-1 DU											Clie	ent Sample ID:	AP-S	SS-0
Matrix: Water												Prep Type	: Tot	al/N/
Analysis Batch: 296757	0													
A	Sample Sa	imple			DU	DU		11		_		-		RPI
Chromium hovevelent					Result	Quai	inter	Unit		_		F		
Chromium, nexavalent	ND				ND			ug/L					NC	2
ethod: 9040C - pH														
Lab Sample ID: LCS 480-296894/1									Cli	ent	Sample	ID: Lab Contr	ol Sa	mpl
Matrix: Water												Prep Type	: Tot	al/N
Analysis Batch: 296894														
-			Spike		LCS	LCS						%Rec.		
Analyte			Added		Result	Qual	lifier	Unit		D	%Rec	Limits		
H			7.00		7.010			SU		_	100	99 - 101		
ethod: SM 2540C - Solids, To	otal Disso	olved (TD	S)											
ah Sample ID: MB 480-297472/1											Client S	ample ID: Mot	hod I	Rlan
Matrix: Wator											onent o	Pron Type	· Tot	al/N
Analysis Batch: 297472												тер туре	. 100	
analysis Batch. 201412	м	в мв												
Analyte	Resu	It Qualifier		RL		MDL	Unit		D	P	repared	Analyzed	1	Dil Fa
otal Dissolved Solids	Ν	D		10.0		4.0	mg/L					04/21/16 16:40)	
_ab Sample ID: LCS 480-297472/2									Cli	ent	Sample	ID: Lab Contr	ol Sa	mp
Matrix: Water												Prep Type	: Tot	al/N
Analysis Batch: 297472														
			Spike		LCS	LCS						%Rec.		
Analyte			Added		Result	Qual	lifier	Unit		D	%Rec	Limits		
otal Dissolved Solids			515		489.0			mg/L		_	95	85 - 115		
ethod: SM 2540D - Solids, To	otal Susp	ended (T	SS)											
ah Sample ID: MB 480-297444/1											Client S	ample ID: Met	hod I	Rlan
Matrix: Water												Prep Type	: Tot	al/N
Analysis Batch: 297444														
	м	B MB												
nalyte	Resu	It Qualifier		RL		RL	Unit		D	P	repared	Analyzed	1	Dil Fa
otal Suspended Solids	N	D		1.0		1.0	mg/L				•	04/21/16 14:53	3	
_ab Sample ID: LCS 480-297444/2									Cli	ent	Sample	ID: Lah Contr	ol Sa	mpl
										Sint	Sample		5.00	p
Matrix: Water												Pren Type	· Tot	al/N

Analysis Batch: 297444								
	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Total Suspended Solids	261	256.8		mg/L	_	98	88 - 110	

8 9

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

Lab Sample ID: 480-98500-′ Matrix: Water	1 DU						Client Sample ID: AP- Prep Type: To	SS-01 tal/NA
Analysis Batch: 297444								
	Sample	Sample	DU	DU				RPD
Analyte	Result	Qualifier	Result	Qualifier	Unit	D	RPD	Limit
Total Suspended Solids	5.6		5.60		mg/L		0	10
Method: SM 4500 O G -	Oxygen, Diss	olved						
Lab Sample ID: 480-98500-7	1 DU						Client Sample ID: AP-	SS-01
Matrix: Water							Prep Type: To	tal/NA
Analysis Batch: 297079								

Analysis Baton. Lerere									
	Sample	Sample	DU	DU					RPD
Analyte	Result	Qualifier	Result	Qualifier	Unit	D		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									С	lient S	ample ID: Meth Prep Type:	od Blank Total/NA
	USB	USB										
Analyte	Result	Qualifier	RL		MDL	Unit		D	Pre	pared	Analyzed	Dil Fac
Biochemical Oxygen Demand	ND		2.0		2.0	mg/L					04/20/16 05:12	1
								Clie	ent S	ample	ID: Lab Contro	ol Sample
Matrix: Water											Prep Type:	Total/NA
Analysis Batch: 297027												
		Spik	e	LCS	LCS						%Rec.	
Analyte		Adde	d	Result	Qua	lifier	Unit	I	D	%Rec	Limits	
Biochemical Oxygen Demand		19	8	213.8			mg/L			108	85 - 115	

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

GC/MS VOA

Analys	is Batch	: 296985
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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	Ргер Туре	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	Ргер Туре	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	Ргер Туре	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

Metals (Continued)

Client: Greenstar Environmental Solutions, LLC

Project/Site: Greenstar Environmental Solutions, LLC

AP-SS-01

Analysis Batch: 2977	39 (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: 2990	28				
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 Chemistr	у				
Analysis Batch: 2967	57				
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	

480-98500-2	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: 2968	33				
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: 2968	55				
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-98500-1	AP-SS-01	Total/NA	Water	353.2	

Total/NA

Water

7196A

Analysis Batch: 296861

480-98500-1 MS

Lab Sample ID	Client Sample ID	Ргер Туре	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	

General Chemistry (Continued)

Anal	vsis	Batch:	297079
	,	Datom	

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: 29725	8				
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: 29744	4				
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: 29747	2				
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: 29754	6				
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: 29755	8				
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: 29845	4				
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

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: 29871	4				
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: 29917	1				
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 Sample ID: 480-98500-1 Matrix: Water

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Client Sample ID: AP-SS-01 Date Collected: 04/18/16 16:15 Date Received: 04/18/16 18:40

	Batch	Batch		Dilution	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Number	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

-	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	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

Lab Sample ID: 480-98500-2

Matrix: Water

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 Batch Batch Dilution Batch Prepared Prep Type Туре Method Run Factor Number 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

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 a	are included in this report, bu	it certification is not offe	ered by the governing a	authority:	
Analysis Method	Prep Method	Matrix	Analyt	te	
		Mater	<u></u>		
6010C	3005A	water	3102		
6010C 9040C	3005A	Water	pH		

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									5		
									9		
							-	1	2	2	

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	рН	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
				1

TestAmerica Buffalo													۴.	Zit A		Ç
ru nazerwood urive Amherst, NY 14228-2298 Phone (716) 691-2600 Fax (716) 691-7991	U	chain (of Cus	tody R	ecord								?] ¥		NIRROWNIAL TE	
Client Information	Sampler.	1 Well	8	Lab P Stone	v: e, Judy L				<u>8</u>	mier Trac	king No(COC 1 480-6	4o: 32189-129!	53.1	
Client Contact Charles McLeod, Jr.	Phone: \$1	2-5.	79 99	[] E-Mail	: stone@tes	tamerica	inc.com						Page: Page	: 1 of 2		
Company: Greenstar Environmental Solutions, LLC							Ana	alysis	Reque	sted			# qof			
Address: 6 Gellatly Drive	Due Date Request	þ					 						Prese	ervation Co	odes: M Heveno	
City: Wappingers Falls	TAT Requested (di	lys):			<u>A</u>						<u>.</u>		Ϋ́Ϋ́	aOH Acetate	N - None O - AsNaO2	
State, Zip: NY, 12590	012	Nden	q										ZŻź	thic Acid aHSO4	P - Na204S Q - Na2SO3 P N22SO3	
Prone: 845-223-9944(Tel)	PO#: 1047 #99991 20	We			<u> </u>		9	pu	 ah				ЧЧ - 9 н	nchlor scorbic Acid	N - Na23200 S - H2SO4 T - TSP Dodecathy	rdrate
Email: cmcleod@greenstarsolutions.com	, # OW				N 10 9		verable	Demai	sbi sbi	ole		pavio	8 	Water	U - Acetone V - MCAA	
Project Name: Greenstar Environmental Solutions, LLC	Project #: 48002405				62 OL		ooeA l	wəb/x Wetho	lo2 ba	D9761	iəlavax	n, Dissi	리 버 노 그 아시(Pin	A A	w - pn 4-5 Z - other (specify)	
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TestAmerica Buffalo										F	× +2 (
10 Hazelwood Drive Amherst, NY 14228-2298 Phone (716) 691-2600 Fax (716) 691-7991	Chain c	of Custod)	/ Reco	ord								
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ompany: 3reenstar Environmental Solutions, LLC						Analys	s Requ	sted		t qof	Ŧ	1
ddress: 5 Gellatty Drive	Due Date Requested:					\[Pre	servation Coc	es:
Jity: Nappingers Falls	TAT Requested (days):									480	HCL NaOH Zn Acetate	M - Hexane N - None O - AsNaO2
state, Zip: VY, 12590	Stand	P~								с С	Nitric Acid NaHSO4	P - Na204S Q - Na2S03
hone: 345-223-9944(Tel)	PO#. 1047-2016		(o							L O H	MeOH Amchlor Ascorbic Acid	R - Na2S2O3 S - H2SO4 T - TSP Dodecahvdrate
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\P-SS-03	41/2/16 1625	67 Wat	er	X								
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Possible Hazard Identification			<u>ı</u> ğ	ample Di:	sposal (J	l fee ma	v be asse	ssed if sa	imples ar	e retained lon	ger than 1 m	onth)
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Custody Seals Intact: Custody Seal No.:				Cooler Te	amperature	s) °C and	Other Remai	ks:			5	1# 5

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14

Login Number: 98500 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

List Source: TestAmerica Buffalo



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: 480-106590-1

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.

Joeph V. Gisconayje

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

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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QC Association Summary	14
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Certification Summary	18
Method Summary	19
Sample Summary	20
Chain of Custody	21
Receipt Checklists	23

3

Qualifiers

Metals		Λ
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.	5
В	Compound was found in the blank and sample.	3
General Ch	nemistry	
Qualifier	Qualifier Description	
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.	7
b	Result Detected in the Unseeded Control blank (USB).	

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.	
¤	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)	

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.

Client Sample ID: AP-EWE-01

Lab Sample ID: 480-106590-1

Lab Sample ID: 480-106590-2

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	JB	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

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Job ID: 480-106590-1

roject/Site: Greenstar Environmental Solu	l Solutions, LLC	LC					TestAmenc	a Job ID. 400-10	00090-1
lient Sample ID: AP-EWE-01							Lab Samp	le ID: 480-10	6590-1
ate Collected: 09/27/16 07:45								Matrix	: Water
ate Received: 09/27/16 14:09									
Method: 624 - Volatile Organic Cor	npounds (GC	C/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 (IC	P)	Qualifiar		MDI	11-14		Dreneved	Anglunged	
Analyte	Result	Qualifier	RL				Prepared		
sarium Obromium	197		2.0	0.70	ug/L		09/28/16 09:02	09/20/10 10:37	1
	ND		4.0	1.0	ug/L		09/28/16 09:02	09/28/16 16:3/	1
Jopper	ND		10.0	1.6	ug/L		09/28/16 09:02	09/28/16 16:37	1
ron	3980		50.0	19.3	ug/L		09/28/16 09:02	09/28/16 16:37	1
lickel	2.5	J	10.0	1.3	ug/L		09/28/16 09:02	09/28/16 16:37	1
linc	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)									
nalyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
elenium	ND		1.0	0.44	ug/L		09/30/16 09:39	09/30/16 17:18	1
hallium	0.041	JB	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
otal Kjeldahl Nitrogen	1.9		0.20	0.15	mg/L as N		09/28/16 01:15	09/28/16 09:38	1
litrate as N	ND		0.050	0.020	mg/L			09/27/16 17:26	1
litrite 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
henolics, Total Recoverable	ND		10.0	5.0	ug/L		09/28/16 09:51	09/29/16 10:52	1
hromium, hexavalent	17.3		10.0	5.0	ug/L			09/27/16 17:35	1
otal Dissolved Solids	591		10.0	4.0	mg/L			09/27/16 18:32	1
liochemical Oxygen Demand	4.4	b	2.0	2.0	mg/L			09/28/16 10:07	1
nalyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
H	6.95	HF	0.100	0.100	SU			09/28/16 14:12	1
otal Suspended Solids	123		7.1	7.1	mg/L			09/28/16 09:49	1
Dxygen, Dissolved	3.4	HF	0.050	0.050	mg/L			09/27/16 18:41	1
lient Sample ID: TPIP BLAN	(Lah Samn		6500.2
ate Collected: 09/27/16 00:00	•						Lab Gamp	Matrix	: Water
ate Received: 09/27/16 14:09								math	
Method: 624 - Volatile Organic Cor	npounds (GC	C/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

Lab Sample ID: 480-106590-2

Matrix: Water

Client Sample ID: TRIP BLANK Date Collected: 09/27/16 00:00

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

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

Μ	latr	ix:	W	at	er

Prep	Type:	Total	/ NA
riep	Type.	TOta	

		Percent Surrogate Recovery (Acceptance Limits)						
		12DCE	BFB	TOL	DBFM			
Lab Sample ID	Client Sample ID	(80-120)	(80-120)	(77-120)	(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)

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

Lab Sample ID: MB 480-322558 Matrix: Water	17									Client S	Sample ID: Metho Prep Type: 1	od Blank Total/NA
Analysis Batch: 322558	_											
	-	ИВ МВ						_	_			
Analyte	Res	ult Quali	fier RL	·	MDL	Unit		_ D	Pi	repared	Analyzed	Dil Fac
1,1-Dichloroethane	1	ND	5.0		0.59	ug/L					09/27/16 19:48	1
Trichloroethene	1	ND	5.0		0.60	ug/L					09/27/16 19:48	1
	Ι	NB MB										
Surrogate	%Recove	ery Quali	fier Limits						PI	repared	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 480-32255 Matrix: Water Analysis Batch: 322558	8/5							Cli	ent	Sample	e ID: Lab Control Prep Type:⊺	Sample Total/NA
-			Spike	LCS	LCS						%Rec.	
Analyte			Added	Result	Qual	lifier	Unit		D	%Rec	Limits	
1,1-Dichloroethane			20.0	19.7			ug/L		_	99	59 - 155	
Trichloroethene			20.0	20.6			ug/L			103	71 - 157	
	LCS L	.cs										
Surrogate	%Recovery G	Qualifier	Limits									
1,2-Dichloroethane-d4 (Surr)	91		80 - 120									
4-Bromofluorobenzene (Surr)	94		80 - 120									
Toluene-d8 (Surr)	02		77 100									
	93		11 - 120									

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 480-322752/1-A Matrix: Water		Client Sample ID: Method Blan Prep Type: Total/N/							
Analysis Batch: 322965								Prep Batch:	322752
	MB	МВ							
Analyte	Result	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

Analysis Batch: 322965							Prep E	atch: 322752
	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%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

Prep Type: Total/NA

Client Sample ID: Lab Control Sample

8 9

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

Lab Sample ID: LCS 480-322752/2-A Matrix: Water					Client	Sample	ID: Lab Co Prep Ty	ontrol Sample ype: Total/NA
Analysis Batch: 322965	Spike	LCS	LCS				Prep E %Rec.	Batch: 322752
Analyte	Added	Result	Qualifier	Unit	D	%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	МВ	МВ									Client Sa	mple ID: Metho Prep Type: Prep Batch	od Blank Fotal/NA : 323201
Analyte	Result	Qualifier		RL		MDL	Unit		D	Р	repared	Analyzed	Dil Fac
Selenium	ND			1.0		0.44	ug/L		_	09/3	0/16 09:39	09/30/16 14:48	1
Thallium	0.0227	J		0.20	(0.019	ug/L			09/3	0/16 09:39	09/30/16 14:48	1
Lab Sample ID: LCS 480-323201/2-A									С	lient	Sample I	D: Lab Control	Sample
Matrix: Water												Prep Type: 1	Total/NA
Analysis Batch: 323300												Prep Batch	323201
			Spike		LCS	LCS						%Rec.	
Analyte			Added		Result	Qual	ifier	Unit		D	%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										Client S	ample ID: Metho	d Blank
Matrix: Water											Prep Type: 1	fotal/NA
Analysis Batch: 322882												
	MB	MB										
Analyte	Result	Qualifier	RL		MDL	Unit		D	Pr	epared	Analyzed	Dil Fac
Ammonia as N	ND		0.020	0.	0090	mg/L a	s N				09/28/16 14:12	1
									(Client S	ample ID: Metho	d Blank
Matrix: Water											Prep Type: 1	Total/NA
Analysis Batch: 322882												
	MB	MB										
Analyte	Result	Qualifier	RL		MDL	Unit		D	Pr	epared	Analyzed	Dil Fac
Ammonia as N	ND		0.020	0.	0090	mg/L a	s N				09/28/16 13:51	1
								Cli	ent	Sample	ID: Lab Control	Sample
Matrix: Water											Prep Type: 1	Total/NA
Analysis Batch: 322882												
			Spike	LCS	LCS						%Rec.	
Analyte			Added	Result	Qual	lifier	Unit		D	%Rec	Limits	
Ammonia as N			1.00	1.04			mg/L as N	1		104	90 - 110	
 Lab Sample ID: LCS 480-322882/4								Cli	ent	Sample	ID: Lab Control	Sample
Matrix: Water											Prep Type: 1	Total/NA
Analysis Batch: 322882												
-			Spike	LCS	LCS						%Rec.	
Analyte			Added	Result	Qual	lifier	Unit		D	%Rec	Limits	
Ammonia as N			1.00	1.04			mg/L as N	1		104	90 - 110	

RL

MDL Unit

D

D

D

Prepared 09/28/16 01:15

%Rec

%Rec

95

104

Method: 351.2 - Nitrogen, Total Kjeldahl

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

Matrix: Water

Analyte

Analysis Batch: 322834

Analyzed

09/28/16 08:47

%Rec.

Limits

%Rec.

Limits

90 - 110

Client Sample ID: Method Blank

90 - 110

Client Sample ID: AP-EWE-01

Prep Type: Total/NA

Prep Batch: 322722

Prep Type: Total/NA Prep Batch: 322722

Prep Type: Total/NA

Client Sample ID: Method Blank Prep Type: Total/NA Prep Batch: 322722 Dil Fac 1 **Client Sample ID: Lab Control Sample**

8

Total Kjeldahl Nitrogen		ND		0.20	0.15 mg/L	as N
Lab Sample ID: LCS 480-322722/2-	A					
Matrix: Water						
Analysis Batch: 322834						
-			Spike	LCS	LCS	
Analyte			Added	Result	Qualifier	Unit
Total Kjeldahl Nitrogen			2.50	2.59		mg/L as N
 I ab Sample ID: 480-106590-1 MS						
Matrix: Water						
Analysis Batch: 322834						
	Sample	Sample	Spike	MS	MS	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit
Total Kjeldahl Nitrogen	1.9		1.00	2.81		mg/L as N
Method: 410.4 - COD						
Lah Sample ID: MR 480 322712/27						
Matrix: Water						
Maluzia Potobi 222712						
Andrysis Daten. 322/12						

MB MB Result Qualifier

Analyte	Result	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							Client S	ample ID: Metho	d Blank
Matrix: Water								Prep Type: T	otal/NA
Analysis Batch: 322712									
-	MB	MB							
Analyte	Result	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					Client	t Sample	ID: Lab Control Sample Prep Type: Total/NA
Analysis Batch: 322712	Snike	LCS	LCS				%Rec
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits
Chemical Oxygen Demand	25.0	25.28		mg/L		101	90 - 110
- Lab Sample ID: LCS 480-322712/4					Client	Sample	ID: Lab Control Sample
Matrix: Water							Prep Type: Total/NA
Analysis Batch: 322712							
	Spike	LCS	LCS				%Rec.
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits
Chemical Oxygen Demand	25.0	23.46		mg/L		94	90 - 110

Method: 420.1 -	- Phenolics,	Total Recoverable

Lab Sample ID: MB 480-322809/1-A Matrix: Water Analysis Batch: 323069											Client Sa	imple ID: I Prep T Prep E	Method ype: To Batch: 3	Blank tal/NA 322809
		MB MB												
Analyte	Re	sult Qualifier		RL		MDL	Unit			Р	repared	Analyz	ed	Dil Fac
Phenolics, Total Recoverable		ND		10.0		5.0	ug/L			09/2	8/16 09:51	09/29/16 (09:46	1
									~		Comula			
Lab Sample ID: LCS 480-322809/2-A									U	ient	Sample	Dren T		
Matrix: Water												Prep I	ype: To	
Analysis Batch: 323069			Sniko		1.09	1.09						Prep E	satch: 3	522809
Analyta			Addod		Bocult	Qual	ifior	Unit		Б	% Poc	%Rec.		
Phonelice Total Resourceshie			100		07.42	Quai				_		00 110		
			100		97.42			ug/L			97	90 - 110		
Method: 7196A - Chromium, He	xavale	ent												
Lab Sample ID: MB 480-322710/3											Client Sa	mple ID: I	Method	Blank
Matrix: Water												Prep T	ype: To	tal/NA
Analysis Batch: 322710														
		MB MB												
Analyte	Re	sult Qualifier		RL		MDL	Unit		D	Р	repared	Analyz	ed	Dil Fac
Chromium, hexavalent		ND		10.0		5.0	ug/L					09/27/16	17:35	1
Lab Sample ID: LCS 480-322710/4									CI	ient	Sample	ID: Lab Co	ontrol S	ample
Matrix: Water												Prep T	ype: To	tal/NA
Analysis Batch: 322710														
			Spike		LCS	LCS						%Rec.		
Analyte			Added		Result	Qual	ifier	Unit		D	%Rec	Limits		
Chromium, hexavalent			50.0		48.29			ug/L			97	85 - 115		
Γ														
Lab Sample ID: 480-106590-1 DU											Client	Sample ID): AP-E	WE-01
Matrix: Water												Prep T	уре: То	tal/NA
Analysis Batch: 322710		. .												
S	Sample	Sample			DU	DU				_				RPD
Analyte	Result	Qualifier			Result	Qual	ifier	Unit		D			RPD	Limit
Chromium, hexavalent	17.3				18.92			ug/L					9	20

Method: 9040C - pH

Lab Sample ID: LCS 480-322869/1 Matrix: Water		Client	Sample	e ID: Lab Contro Prep Type:	ol Sample Total/NA			
Analysis Batch: 322869	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
рН	7.00	6.930		SU		99	99 _ 101	

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

Lab Sample ID: LCS 480-322703/2 Matrix: Water		Client	t Sample	ID: Lab Control Sample Prep Type: Total/NA			
Analysis Batch: 322703							
	Spike	LCS	LCS				%Rec.
Analyte	Added	Result	Qualifier	Unit	D	%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										C	lient S	ample ID: N Prep Ty	lethod pe: To	Blank Stal/NA
	МВ	мв												
Analyte	Result	Qualifier		RL		RL U	Init		D	Pre	pared	Analyze	d	Dil Fac
Total Suspended Solids	ND			1.0		1.0 m	ng/L					09/28/16 0	9:49	1
Lab Sample ID: LCS 480-322807/2									Clie	nt S	Sample	ID: Lab Co	ntrol S	ample
Matrix: Water												Prep Ty	pe: To	otal/NA
Analysis Batch: 322807														
			Spike		LCS	LCS						%Rec.		
Analyte			Added		Result	Qualifi	er	Unit	6)	%Rec	Limits		
Total Suspended Solids			248		245.6			mg/L			99	88 - 110		

Method:	SM 4500	OG - Oxygen,	Dissolved

Lab Sample ID: 480-106590-1 I Matrix: Water	UC						Client Sa	mple ID: AP-E Prep Type: To	WE-01
Analysis Batch: 322718									
	Sample	Sample	DU	DU					RPD
Analyte	Result	Qualifier	Result	Qualifier	Unit	D		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										Client S	ample ID: Metho Prep Type: 1	d Blank otal/NA
Analysis Batch. 322033	USB	USB										
Analyte	Result	Qualifier	RL		MDL	Unit		D	P	repared	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								Cli	ient	Sample	ID: Lab Control	Sample
Matrix: Water											Prep Type: 1	otal/NA
Analysis Batch: 322835												
		Spike		LCS	LCS						%Rec.	
Analyte		Added		Result	Qual	lifier	Unit		D	%Rec	Limits	
Biochemical Oxygen Demand		198		204.3			mg/L		_	103	85 - 115	

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

Analysis Batch: 322558

GC/MS VOA

Lab Sample ID	Client Sample ID	Ргер Туре	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 Bate	ch: 32	22752
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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: 32296	5				
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: 32330	0				
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 480-323201/1-A	Method Blank	Total/NA	Water	200.8	323202
LCS 480-323201/2-A	Lab Control Sample	Total/NA	Water	200.8	323201
Analysis Batch: 32332	7				
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	Ргер Туре	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: 3227	08				
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: 3227	09				
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-106590-1	AP-EWE-01	Total/NA	Water	353.2	

Prep Type

Total/NA

Total/NA

Total/NA

Total/NA

Matrix

Water

Water

Water

Water

Client Sample ID

Lab Control Sample

AP-EWE-01

Method Blank

AP-EWE-01

General Chemistry (Continued)

Method

7196A

7196A

7196A

7196A

Prep Batch
Bran Batab
Prep Batch

Analysis Batch: 322712

Analysis Batch: 322710

Lab Sample ID

480-106590-1

MB 480-322710/3

LCS 480-322710/4

480-106590-1 DU

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	Ргер Туре	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	Ргер Туре	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	Ргер Туре	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	Ргер Туре	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	Ргер Туре	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	

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

General Chemistry (Continued)

Analysis Batch: 322869

Lab Sample ID	Client Sample ID	Ргер Туре	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	
Analysia Batahy 20200					

Analysis Batch: 323069

Lab Sample ID	Client Sample ID	Ргер Туре	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 Sample ID: 480-106590-1

Matrix: Water

2 3 4 5 6 7 8 9

0

Client Sample ID: AP-EWE-01 Date Collected: 09/27/16 07:45

Date Received: 09/27/16 14:09

_	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	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 Date Collected: 09/27/16 00:00

Date Received: 09/27/16 14:09

Lab Sample ID: 480-106590-2

Matrix: Water

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	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

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, bu	t certification is not offere	d by the governing a	authority:	
The following analytes Analysis Method	are included in this report, bu Prep Method	t certification is not offere Matrix	d by the governing a Analyt	authority: e	
The following analytes Analysis Method 9040C	are included in this report, bu Prep Method	t certification is not offere Matrix Water	d by the governing a	authority: e	

Method Description

Metals (ICP)

Metals (ICP/MS)

Nitrogen, Nitrite

Nitrate COD

pН

Nitrogen, Ammonia

Nitrogen, Total Kjeldahl

Phenolics, Total Recoverable

Solids, Total Dissolved (TDS)

Solids, Total Suspended (TSS)

Chromium, Hexavalent

Oxygen, Dissolved

BOD, 5-Day

EPA = US Environmental Protection Agency

Volatile Organic Compounds (GC/MS)

Protocol	Laboratory	
40CFR136A	TAL BUF	- <u>A</u>
EPA	TAL BUF	
EPA	TAL BUF	5
MCAWW	TAL BUF	J
MCAWW	TAL BUF	
MCAWW	TAL BUF	
EPA	TAL BUF	
MCAWW	TAL BUF	
MCAWW	TAL BUF	
SW846	TAL BUF	X
SW846	TAL BUF	
SM	TAL BUF	9
SM	TAL BUF	
SM	TAL BUF	
SM	TAL BUF	

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:

Protocol References:

subsequent revisions.

Method

200.7 Rev 4.4 200.8

624

350.1

351.2

353.2

353.2

410.4 420.1

7196A

9040C

SM 2540C

SM 2540D

SM 4500 O G SM 5210B

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

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR,

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	Te Du	nperatu inking V	ire on l Vater?	Receip Yes Ľ	N N	X	•		N I I					NTAL	O		σ		لمطلقتين	
Client Creanshar Envil Sullithens	Pre	iect Man	iger 110	3	1	2						<u> </u>	Oate	12				Chain of Ci	<i>stoc</i> 480	106590 C
Address Address Address Address	Tel	sphone N		122; 22;	C C	Number 9 LL						7	ab Nu	mber				Page		2
Cay State Zap Code	Site Site	e Contact			C qap C	intact	L.	2			, ,	Analys Iore si	sis (A oace	ttach. is neu	list if eded,)) 		
Project Name and Location (State)		rierWayt	dmu Numb	<i>a</i>	5	7	5	2	ર્મ છેનગ્	1.058				1100	1			ა 	anial Inc	tri ictione/
Contract/Purchase Order/Quote No.	-		Matri			Conta Prese	uiners d	~ 9	5082-	holh	1.007	8	a	2-2 C	2 2 PI	JON	701	58 005t	nditions (of Receipt
Sample I.D. No. and Description (Containers for each sample may be combined on one line) D	ate Time	<i>אונ</i>	'P8S snoenb¥	1105	rOS2H 'sə.dun	EONH	HO ^B N IDH	HOBN /DANZ	0.008	2.128	18:002	olzs	hsz	<u>7.258</u> 21758	L Vecc	96	09	1415		
KAV 128 HUN																				
AP-EWE-di 912	7/16 745		X		10 2	2	.7		\checkmark	×	X	×	X	X	쏫	×	X			
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Possible Hazard Identification Non-Hazard Flammable K Skin Imitant Poise	on B 🗌 Unkn	own 58	mple Dis Return	posal To Clien	R	Dispos	al By La	ب ھ] Arch	ive Fc		1	Month	5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	tee r inger i	may b than 1	e asse	ssed if samµ	les are reta	ined
Turn Around Time Required	21 Days N	Other	Janna	Pro	<u>o</u>	C Requi	rements	(Speci	(/4				1							
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2. Relinquished By	Dai		₩ 	e e	N	Receiv	ed By	7										Date		ne
3. Relinquished By	Dai	0		Je	6,	Несеім	ed By			1								Date	<u> </u>	ne
Comments					-						27	T	a	19						
DISTRIBUTION: WHITE - Returned to Client with Report: CANARY	 Stays with the S 	ample; I	PINK - Fi	eld Copy							7	-		ž						

Chain of Custody Record	Temperature Drinking Wa	on Receipt — er? Yes⊟ /		STAMER EADER IN ENVIRONMENTA		
Circenster Chu. Silvhens	Project Manage	P MC	Ired	Date	27/16 Chi	in of Custody Number 274372
Address Address	Telephone Num SUC	ber (Area Code)/Fa	x Number 99444	Lab Number	Pa	ge Z of Z
City 20 Of De 20 2006	Site Contact	17	Contact	Analysis (Attach more space is ne	list if eded)	
Project Name and Location (State)	Carrier/Waybill	Vumber	which have			Condict Production
ContractPurchase OrderCouole No.		Matrix	Containers & Preservatives			Conditions of Receipt
Sample 1.D. No. and Description (Containers for each sample may be combined on one line) Date	Ilme Sucentry	rsejdur jios pes	HOBN /34UZ HOBN IOH EONH	% %		
ARLERAN						
AD-EWE-01 9/27/16	- TUS X	3	122	×		
Possible Hazard Identification	Conknown	le Disposal etum To Client	Disposal By Lab	Archive For Months	4 fee may be assessed nger than 1 month)	l if samples are retained
Tum Around Time Required	lays A Other St	Emphys	dC Requirements (Specify	()		
1. Relinquished By	12/6	6 Time 1410	1 BOUND	6	00-	(1) J (10
2. Relinquished/By	Date	Time	2. Received By			ate Time
3. Relinquished By	Date	Time	3. Received By		ď	ate Time
Comments					~	
DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays	s with the Sample; PIN	K - Field Copy				

Client: Greenstar Environmental Solutions, LLC

Login Number: 106590 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

Job Number: 480-106590-1

List Source: TestAmerica Buffalo



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: 480-111300-1

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.

Deapy Gray - Eramann

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

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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QC Sample Results	9
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Certification Summary	19
Method Summary	20
Sample Summary	21
Chain of Custody	22
Receipt Checklists	23

Definitions/Glossary

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

3

Qua	lifiers
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-		
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.	 5
General Cho	emistry	
Qualifier	Qualifier Description	6
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.	8
Glossary		 9
Abbreviation	These commonly used abbreviations may or may not be present in this report.	
¤	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)	

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)

4

5

Job ID: 480-111300-1

Laboratory: TestAmerica Buffalo

Narrative

Job Narrative 480-111300-1

Case Narrative

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

Client Sample ID: AP-EWE-01

Lab Sample ID: 480-111300-1

Lab Sample ID: 480-111300-2

3 4 5

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
pН	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

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample Results

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

Client Sample ID: AP-EWE-01						Lab Sample ID: 480-111300-1						
Date Collected: 12/19/16 13:00)							Matrix:	: Wate			
ate Received: 12/19/16 16:30												
Method: 624 - Volatile Organ	ic Compoun	ds (GC/MS)										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa			
1,1-Dichloroethane	ND		5.0	0.59	ug/L			12/20/16 14:18				
Trichloroethene	ND		5.0	0.60	ug/L			12/20/16 14:18				
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fa			
1,2-Dichloroethane-d4 (Surr)	110		80 - 120					12/20/16 14:18				
4-Bromofluorobenzene (Surr)	113		80 - 120					12/20/16 14:18				
Toluene-d8 (Surr)	103		77 - 120					12/20/16 14:18				
Dibromofluoromethane (Surr)	113		78 - 120					12/20/16 14:18				
Method: 200.7 Rev 4.4 - Meta	als (ICP)											
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa			
Barium	166		2.0	0.70	ug/L		12/21/16 09:30	12/21/16 22:26				
Chromium	ND		4.0	1.0	ug/L		12/21/16 09:30	12/21/16 22:26				
Copper	ND		10.0	1.6	ug/L		12/21/16 09:30	12/21/16 22:26				
Iron	ND		50.0	19.3	ug/L		12/21/16 09:30	12/21/16 22:26				
Nickel	ND		10.0	1.3	ug/L		12/21/16 09:30	12/21/16 22:26				
Zinc	2.0	J	10.0	1.5	ug/L		12/21/16 09:30	12/21/16 22:26				
Method: 200.8 - Metals (ICP/I	MS)											
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa			
Selenium	ND		1.0	0.44	ug/L		12/20/16 09:25	12/21/16 03:02				
Thallium	0.030	J	0.20	0.019	ug/L		12/20/16 09:25	12/21/16 03:02				
General Chemistry												
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa			
Ammonia as N	ND		0.020	0.0090	mg/L as N		·	12/20/16 13:57				
Total Kjeldahl Nitrogen	0.31	F1	0.20	0.15	mg/L as N		12/22/16 09:20	12/23/16 11:01				
Nitrate as N	1.7		0.050	0.020	mg/L			12/20/16 23:24				
Nitrite as N	ND		0.050	0.020	mg/L			12/20/16 23:24				
Chemical Oxygen Demand	10.9		10.0	5.0	mg/L			12/20/16 18:22				
Phenolics, Total Recoverable	5.1	J	10.0	5.0	ug/L		12/27/16 16:40	12/28/16 02:32				
Chromium, hexavalent	ND		10.0	5.0	ug/L			12/20/16 12:30				
Total Dissolved Solids	719		10.0	4.0	mg/L			12/21/16 21:36				
Biochemical Oxygen Demand	3.3	b	2.0	2.0	mg/L			12/21/16 05:38				
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fa			
рН	7.80		0.100	0.100	SU			12/20/16 10:48				
Total Suspended Solids	20.8		4.0	4.0	mg/L			12/21/16 06:02				
Oxvgen, Dissolved	8.6	HF	0.050	0.050	mg/L			12/21/16 16:23				
					0							

Method: 624 - Volatile Orga	nic Compounds (GC/I	MS)						
Analyte	Result Qualifier	RL	MDL U	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND	5.0	0.59 L	ug/L			12/20/16 14:42	1
Trichloroethene	ND	5.0	0.60 ı	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

Client Sample Results

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

Client Sample ID: TRIP BLANK Date Collected: 12/19/16 00:00 Date Received: 12/19/16 16:30

TestAmerica Job ID: 480-111300-1

Lab Sample ID: 480-111300-2 Matrix: Water

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

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
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

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

Matrix: Water

Dron	Type	Total	/NI A
гіер	Type.	ισιαι	

			Pe	ercent Surr	ogate Recov
		12DCE	BFB	TOL	DBFM
Lab Sample ID	Client Sample ID	(80-120)	(80-120)	(77-120)	(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-Dichloro	bethane-d4 (Surr)				
BFB = 4-Bromofluorol	benzene (Surr)				

TOL = Toluene-d8 (Surr)

DBFM = Dibromofluoromethane (Surr)

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

Lab Sample ID: MB 480-33 Matrix: Water	37265/7							C	lie	ent Sam	ple ID: Method	d Blank
Analysis Pataby 227265											Flep Type. It	
Analysis Batch. 337205	MF											
Analyte	Resul	t Qualifier	RL		MDL	Unit		D	P	repared	Analyzed	Dil Fac
1.1-Dichloroethane	NI	<u>)</u>	5.0		0.59	ua/L					12/20/16 12:07	1
Trichloroethene	NE)	5.0		0.60	ug/L					12/20/16 12:07	1
	ME	B MB										
Surrogate	%Recover	Qualifier	Limits						P	repared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	11	1	80 - 120								12/20/16 12:07	1
4-Bromofluorobenzene (Surr)	11	1	80 - 120								12/20/16 12:07	1
Toluene-d8 (Surr)	10	1	77 - 120								12/20/16 12:07	1
Dibromofluoromethane (Surr)	11-	4	78 - 120								12/20/16 12:07	1
Lab Sample ID: LCS 480-3	337265/5						Cli	ent S	Sar	nnle ID	· Lab Control 9	Sample
Matrix: Water							•				Prep Type: To	otal/NA
Analysis Batch: 337265												
			Spike	LCS	LCS	;					%Rec.	
Analyte			Added	Result	Qua	lifier	Unit		D	%Rec	Limits	
1,1-Dichloroethane			20.0	21.7			ug/L		—	108	59 - 155	
Trichloroethene			20.0	20.8			ug/L			104	71 - 157	
	LCS LC	s										
Surrogate	%Recovery Qu	ıalifier	Limits									
1,2-Dichloroethane-d4 (Surr)	106		80 - 120									
4-Bromofluorobenzene (Surr)	108		80 - 120									
Toluene-d8 (Surr)	103		77 - 120									

Method: 200.7 Rev 4.4 - Metals (ICP)

106

Lab Sample ID: MB 480-337463/1-A Matrix: Water Analysis Batch: 337704

Dibromofluoromethane (Surr)

	MB	MB							
Analyte	Result	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

78-120

Lab Sample ID: LCS 480-337463/2-A **Matrix: Water**

Analy	vsis	Batch:	337704	
Alla	y 313	Daten.	001104	

Analysis Batch: 337704							Prep Batch: 337463
	Spike	LCS	LCS				%Rec.
Analyte	Added	Result	Qualifier	Unit	D	%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

Page 9 of 23

TestAmerica Buffalo

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 337463

Prep Type: Total/NA

11 12 13

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

Lab Sample ID: LCS 480-337463/2-	4							Cli	ent	Sample ID:	Lab Control	Sample
Analysis Batch: 337704											Prep Batch:	337463
			Spike		LCS	LCS	i				%Rec.	
Analyte			Added		Result	Qua	lifier	Unit		D %Rec	Limits	
Zinc			200		209.8			ug/L		105	85 - 115	
Method: 200.8 - Metals (ICP/M	S)											
Lab Sample ID: MB 480-337256/1-A										Client Sam	ole ID: Method	d Blank
Matrix: Water											Prep Type: To	otal/NA
Analysis Batch: 337511	MD	MD									Prep Batch:	337256
Analyte	Result	Qualifier		RI		мпі	Unit		п	Prenared	Analyzed	Dil Fac
Selenium	ND			1.0		0.44			_	12/20/16 09:25	12/21/16 00:31	1
Thallium	ND			0.20	C	.019	ug/L			12/20/16 09:25	12/21/16 00:31	1
Lah Sampla ID: 1 CS 490 227256/2	^							CII	 t	Sample ID:	Lab Control (Somplo
Matrix: Water	•							CII	em	Sample ID.	Pron Type: T	
Analysis Batch: 337511											Prep Batch:	337256
			Spike		LCS	LCS					%Rec.	
Analyte			Added		Result	Qua	lifier	Unit		D %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, Amr	nonia	l										
Lab Sample ID: MB 480-337366/3										Client Sam	ole ID: Method	d Blank
Matrix: Water											Prep Type: To	otal/NA
Analysis Batch: 337366												
-	MB	MB										
	D 14	Qualifian		DI		мпі	Unit		п	Propared	Analyzod	Dil Eac
Analyte	Result	Quaimer					Onit		0	riepaieu	Analyzeu	Dirrac

Matrix: Water Analysis Batch: 337366							Prep Ty	pe: Total/N/
	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%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/ Matrix: Water Analysis Batch: 337945	/1 -A						Client Samp	le ID: Method Prep Type: To Prep Batch:	d Blank otal/NA 337746
	MB	MB							
Analyte	Result	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

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

Analysis Batch: 337422

5

8 9

Method: 351.2 - Nitrogen, Total Kjeldahl (Continued)

Lab Sample ID: LCS 480-337	746/2-A							Client	Sa	mple ID	: Lab Control	Sample
Matrix: Water											Prep Type: 1	fotal/NA
Analysis Batch: 337945											Prep Batch	337746
				Spike		LCS	LCS				%Rec.	
Analyte				Added		Result	Qualifier	Unit	D	%Rec	Limits	
Total Kjeldahl Nitrogen				2.50		2.36		mg/L as N		94	90 - 110	
Lab Sample ID: 480-111300-1	MS								c	lient S	ample ID: AP-	EWE-01
Matrix: Water											Prep Type: 1	otal/NA
Analysis Batch: 337945											Prep Batch	337746
-	Sample	Sam	nple	Spike		MS	MS				%Rec.	
Analyte	Result	Qua	lifier	Added		Result	Qualifier	Unit	D	%Rec	Limits	
Total Kjeldahl Nitrogen	0.31	F1		1.00		1.57	F1	mg/L as N		126	90 - 110	
Lab Sample ID: MB 480-3374 Matrix: Water	34/3								Clie	ent San	nple ID: Metho Prep Type: 1	od Blank Fotal/NA
Analysis Batch: 337434			мр									
Analyta	Ba		ND		ы		MDI Unit	П	Б	roporod	Analyzad	
			Quaimer					D		repareu	- Allalyzeu	
Nume as N		ND			0.050	U	1.020 Mg/L				12/20/10 23.10) I
Lab Sample ID: LCS 480-3374 Matrix: Water	434/4							Client	Sa	mple ID): Lab Control Prep Type: ∃	Sample Fotal/NA
Analysis Batch. 33/434				Snike		1.05	LCS				%Rec	
Analyte				Added		Result	Qualifier	Unit	D	%Rec	Limits	
Nitrite as N				1.50		1.52		mg/L		101	90 - 110	
Method: 410.4 - COD												
Lab Sample ID: MB 480-3374 Matrix: Water	22/27								Clie	ent San	nple ID: Metho Prep Type: 1	d Blank

	мв	мв							
Analyte	Result	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							Client Sam	ple ID: Method	d Blank
Matrix: Water								Prep Type: To	otal/NA
Analysis Batch: 337422									
	MB	MB							
Analyte	Result	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
							Client Sam	ple ID: Method	d Blank
Matrix: Water								Prep Type: To	otal/NA
Analysis Batch: 337422									
	MB	MB							
Analyte	Result	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

- - - -

LCS LCS

LCS LCS

Result Qualifier Unit

26.06

27.05

Result Qualifier

Unit

mg/L

mg/L

Spike

Added

25.0

Spike

Added

25.0

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

Method: 410.4 - COD (Continued)

Lab Sample ID: LCS 480-337422/28

Lab Sample ID: LCS 480-337422/4

Lab Sample ID: LCS 480-337422/52

Matrix: Water

Matrix: Water

Matrix: Water

Analyte

Analyte

Analysis Batch: 337422

Analysis Batch: 337422

Chemical Oxygen Demand

Chemical Oxygen Demand

Prep Type: Total/NA

Prep Type: Total/NA

Client Sample ID: Lab Control Sample

D %Rec

104

%Rec.

Limits

90 - 110

Client Sample ID: Lab Control Sample

8

%Rec. Limits D %Rec 108 90 - 110 Client Sample ID: Lab Control Sample

nt Sample ID:	Lad	Contro	a Sample
	Prep	Type:	Total/NA

Analysis Batch: 337422							
	Spike	LCS	LCS				%Rec.
Analyte	Added	Result	Qualifier	Unit	D	%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/ Matrix: Water Analysis Batch: 338137	1-A						Client Samp I	le ID: Methoc Prep Type: To Prep Batch: ≭	l Blank otal/NA 338119
Analyte Phenolics, Total Recoverable	MB Result ND	MB Qualifier	RL 10.0	<u>MDL</u> 5.0	Unit ug/L	<u>D</u>	Prepared 12/27/16 16:40	Analyzed	Dil Fac

Lab Sample ID: LCS 480-338119/2-A			Clie	nt Sa	mple IC	: Lab Control Sample	
Matrix: Water	Matrix: Water Analysis Batch: 338137						Prep Type: Total/NA
Analysis Batch: 338137							Prep Batch: 338119
	Spike	LCS	LCS				%Rec.
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits
Phenolics, Total Recoverable	100	98.55		ug/L		99	90 - 110

Lab Sample ID: 480-111300)-1 MS						C	lient S	ample ID: AP-EWE-01
Matrix: Water									Prep Type: Total/NA
Analysis Batch: 338137									Prep Batch: 338119
-	Sample	Sample	Spike	MS	MS				%Rec.
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%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 Matrix: Water Analysis Batch: 337354	/3						Client Sam	ple ID: Method Prep Type: To	l Blank otal/NA
	МВ	МВ							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		10.0	5.0	ug/L			12/20/16 12:30	1

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

Method: 7196A - Chromium, Hexavalent (Continued)

Lab Sample ID: LCS 480-33735	4/4								CI	ient	Sar	nple ID	: Lab Control	Saı	nple
Matrix: Water													Prep Type: T	ota	I/NA
Analysis Batch: 337354															
				Spike		LCS	LCS						%Rec.		
Analyte				Added		Result	Qua	lifier	Unit		D	%Rec	Limits		
Chromium, hexavalent				50.0		51.75			ug/L		_	103	85 - 115		
Lab Sample ID: 480-111300-1 N	IS										C	lient S	ample ID: AP-	EW	E-01
Matrix: Water													Prep Type: T	ota	I/NA
Analysis Batch: 337354															
	Sample	Sam	ple	Spike		MS	MS						%Rec.		
Analyte	Result	Qua	lifier	Added		Result	Qua	lifier	Unit		D	%Rec	Limits		
Chromium, hexavalent	ND			50.0		44.84			ug/L			90	85 - 115		
Lab Sample ID: 480-111300-1 E	U										С	lient S	ample ID: AP-	EW	E-01
Matrix: Water													Prep Type: T	ota	I/NA
Analysis Batch: 337354															
	Sample	Sam	ple			DU	DU								RPD
Analyte	Result	Qua	lifier			Result	Qua	lifier	Unit		D		RP	D	Limit
Chromium, hexavalent	ND					ND			ug/L				N	С	20
Method: 9040C - pH															
Lab Sample ID: LCS 480-33730 Matrix: Water	9/23								CI	ient	Sar	nple ID	: Lab Control Prep Type: T	Saı 'ota	nple I/NA
Analysis Batch: 337309															
-				Spike		LCS	LCS						%Rec.		
Analyte				Added		Result	Qua	lifier	Unit		D	%Rec	Limits		
pH				7.00		7.010			SU			100	99 - 101		
Method: SM 2540C - Solids	s, Tota	al D	issolve	d (TD	S)										
Lab Sample ID: MB 480-337637	7/1										Clie	ent Sam	nole ID: Metho	d B	lank
Matrix: Water													Prep Type: T	ota	I/NA
Analysis Batch: 337637															
· · · · · , · · · · · · · · · · · · · · · · · · ·		MB	МВ												
Analyte	Re	sult	Qualifier		RL		MDL	Unit		D	Ρ	repared	Analyzed	D	il Fac
Total Dissolved Solids		ND			10.0		4.0	mg/L				-	12/21/16 21:36		1
Lab Sample ID: LCS 480-33763 Matrix: Water	37/2								CI	ient	Sar	nple ID	: Lab Control Prep Type: T	Saı ota	nple I/NA
Analysis Batch: 337637															

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

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

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

Lab Sample ID: MB 480-3374	40/1									•	Clie	ent San	ple ID: Metho	d Blank
Matrix: Water													Prep Type: 1	otal/NA
Analysis Balch. 337440		MR	MR											
Analyte	Re	sult	Qualifier		RI		RI	Unit		р	Pi	renared	Analyzed	Dil Fac
Total Suspended Solids		ND			1.0		1.0	mg/L				opulou	12/21/16 06:02	1
								Ũ						
Lab Sample ID: LCS 480-337	440/2								Cli	ent	Sar	nple ID	: Lab Control	Sample
Matrix: Water													Prep Type: T	otal/NA
Analysis Batch: 337440														
				Spike		LCS	LCS						%Rec.	
Analyte				Added		Result	Qua	lifier	Unit		D	%Rec	Limits	
Total Suspended Solids				269		265.2			mg/L		_	99	88 - 110	
Method: SM 4500 O G - C)xygen,	Dis	ssolved											
Lab Sample ID: 480-111300-	1 DU										С	lient S	ample ID: AP-E	EWE-01
Matrix: Water													Prep Type: T	otal/NA
Analysis Batch: 337599														
	Sample	San	nple			DU	DU							RPD
Analyte	Result	Qua	alifier			Result	Qua	lifier	Unit		D		RPI	D Limit
Oxygen, Dissolved	8.6	HF				8.77			mg/L		_			2 20
Method: SM 5210B - BOD), 5-Day	,												
Lab Sample ID: USB 480-337	/567/1									(Clie	nt San	nple ID: Method	d Blank
Matrix: Water													Prep Type: To	otal/NA
Analysis Batch: 337567														
	I	USB	USB											
Analyte	Re	esult	Qualifier		RL	I	MDL	Unit		D	P	repared	Analyzed	Dil Fac
Biochemical Oxygen Demand		ND			2.0		2.0	mg/L					12/21/16 05:38	1
Lab Sample ID: LCS 480-337	567/2								Cli	ent	Sar	nple ID	: Lab Control	Sample
Matrix: Water													Prep Type: T	otal/NA
Analysis Batch: 337567														
				Spike		LCS	LCS						%Rec.	
Analyte				Added		Result	Qua	lifier	Unit		D	%Rec	Limits	
Biochemical Oxygen Demand				198		202.8			mg/L			102	85 - 115	

QC Association Summary

Prep Type

Total/NA

Total/NA

Total/NA

Total/NA

Prep Type

Total/NA

Total/NA

Total/NA

Prep Type

Total/NA

Total/NA

Total/NA

Matrix

Water

Water

Water

Water

Matrix

Water

Water

Water

Matrix

Water

Water

Water

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

Client Sample ID

AP-EWE-01

TRIP BLANK

Method Blank

Lab Control Sample

Client Sample ID

Lab Control Sample

Client Sample ID

Lab Control Sample

AP-EWE-01

Method Blank

AP-EWE-01

Method Blank

GC/MS VOA

Lab Sample ID

480-111300-1

480-111300-2

Metals

MB 480-337265/7

LCS 480-337265/5

Prep Batch: 337256

MB 480-337256/1-A

LCS 480-337256/2-A

Prep Batch: 337463

MB 480-337463/1-A

LCS 480-337463/2-A

Lab Sample ID

Lab Sample ID

480-111300-1

480-111300-1

Analysis Batch: 337265

Method

624

624

624

624

Method

200.8

200.8

200.8

Method

200.7

200.7

Prep Batch

Prep Batch

Prep Batch

10 11 12 13 14

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	Ргер Туре	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 Туре	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	Ргер Туре	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	

QC Association Summary

Prep Type

Total/NA

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

Client Sample ID

Lab Control Sample

General Chemistry (Continued) Analysis Batch: 337366 (Continued)

Lab Sample ID

LCS 480-337366/4

Method

350.1

Matrix

Water

1 2 3 4 5 6 7 8 9

Prep Batch

Prep Batch

Prep Batch

Prep Batch

Prep Batch

Prep Batch

Prep Batch

Prep Batch

Prep Batch

13 14

Analysis Batch: 337	422			
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method
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: 337	434			
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method
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: 337	436			
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method
480-111300-1	AP-EWE-01	Total/NA	Water	353.2
Analysis Batch: 337	440			
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method
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: 337	567			
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method
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: 337	599			
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method
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: 337	637			
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method
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
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

QC Association Summary

Prep Type

Total/NA

Total/NA

Total/NA

Total/NA

Matrix

Water

Water

Water

Water

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

Client Sample ID

Lab Control Sample

AP-EWE-01

AP-EWE-01

Method Blank

Method

351.2

351.2

351.2

351.2

Prep Batch 3 337746 4 337746 3 337746 5

9

Prep Batch: 338119

Analysis Batch: 337945

Lab Sample ID

MB 480-337746/1-A

LCS 480-337746/2-A

480-111300-1 MS

480-111300-1

Γ	Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method Prep Batch	ı
	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

TestAmerica Job ID: 480-111300-1

Lab Sample ID: 480-111300-1

Matrix: Water

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

Client Sample ID: AP-EWE-01 Date Collected: 12/19/16 13:00 Date Received: 12/19/16 16:30

_	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	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

_	Batch	Batch		Dilution	Batch	Prepared			
Prep Type	Туре	Method	Run	Factor	Number	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

12/28/2016

Certification Summary

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

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
Vew York	NELAP		2	10026	03-31-17
The following encluter	a are included in this repor	t but contification is	not offered by the a	overning outbority	
The following analytes	s are included in this repor	t, but certification is	not offered by the g	overning authority.	
Analysis Method	Prep Method	Matrix	Analyt	e	
Analysis Method	Prep Method	Matrix Water	Analyt	e	

TestAmerica Job ID: 480-111300-1

Method Summary

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

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	рН	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

TestAmerica Buffalo													Tactl		
10 Hazelwood Drive Amherst, NY 14228-2298	ъ С	lain o	f Cust	ody R	ecor	σ					Ľ		3		
Phone (716) 691-2600 Fax (716) 691-7991							1		ļ		ť		745 LEADER	TARGOMENTAL TUSTIC	. 1
Client Information	Sampler. Lucars	3	222	John:	л: son, Orle	tte S			Cai	9	Ņ		COC No: 480-90627-14	529.1	
Client contact Addreporter LUCAS BIVELA	Phone: 362 -1	579.0	19 11	E-Mail orlett	e.johnsor	@testan	tericainc.	Шo	T	480-111:	300 COC		Page: Page 1 of 1		T
company: Greenstar Environmental Solutions, LLC							Ana	Ilysis R	equest	ed		Ĺ	H qor		<u> </u>
Address: 6 Gellatly Drive	Due Date Requested:												Preservation C	odes:	r
City: Wappingers Fails	TAT Requested (days):	7				`							A - RUL B - NaOH C - Zn Acetate	m - riexane N - None O - AsNaO2	
State, Zip: NY, 12590	Carlo	Q Q											D - Nitric Acid E - NaHSO4	P - Na204S Q - Na2SO3	
Phone: 845-223-9944(Tel)	PO# 1047-2014 2014				<u>)</u> (0	·	pu	sp			9	- 14 <u>0</u> -	r - meun G - Amchlor H - Așcorbic Acid	K - NazSzO3 S - H2SO4 T - TSP Dodecahydrate	
Errail. CMC 1806 @ greens hr Eol Mar 5- (um	₩OW		=		(9N 90 IO 6		Demai	abi biloS bi	olsc Jn	pəvio	lds19V		l - Ice J - Dí Water	U - Acetone V - MCAA	
Project Name: Greenstar Environmental Solutions, LLC/G Event Desc: Quarterly	Project #. y 48002405				07 OL		uəb/xr oqıaw	94joss) D D D	esiQ ,r	009A 1	(enle)	K-EUIA L-EDA	W - рн 4-5 Z - other (specify)	
Site: New York	SSOW#.				y) ds	+'(lsoo.J (D lsoin	otal Di	nn, he:	JagyxC	s, Tota	ioa to	Other		
		ample	Sample Type C≍comp,	Matrix (W=water, S=solid, O=wasteloil,	N/SM mrohe N/SM mrohe	8.002, 200.8	00M) - 1m8_42	640C_Calcd - 10681 S	196A - Chromi	W4200_0_G	oilonen9 - 1.02	nedmuN listo			
	sample uate		Preservati	T=Tissue, A=Air) Of Code:		P 2 2 2	9 2	Z 2	2 2 2	IS 7	2 7 7	<u>1</u> ×	special	Instructions/Note:	T:
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Deliverable Requested: J-H-UII, IV, Other (specify)					Specia	al Instruc	tions/QC	Requiren	ients:						
Emptykit Relinquished by:	, Da	te:			Time:			ß		Aethod of S	ripment: P	,			
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Custody Seals Intact Custody Seal No.:					ð	ooler Temp	erature(s) °(and Other	Remarks:		5				

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Login Sample Receipt Checklist

Client: Greenstar Environmental Solutions, LLC

Login Number: 111300 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

Job Number: 480-111300-1

List Source: TestAmerica Buffalo



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: 480-106591-1

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.

Joeph V. Gisconage

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

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.



www.testamericainc.com

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

Method Detection Limit

Minimum Level (Dioxin)

Practical Quantitation Limit

Toxicity Equivalent Factor (Dioxin)

Toxicity Equivalent Quotient (Dioxin)

Not detected at the reporting limit (or MDL or EDL if shown)

Relative Percent Difference, a measure of the relative difference between two points

Reporting Limit or Requested Limit (Radiochemistry)

Not Calculated

Quality Control Relative error ratio 3

Qualifiers

MDL

ML

NC

ND

PQL

QC

RER

RL RPD

TEF TEQ

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.	5
В	Compound was found in the blank and sample.	Ð
General Cher	nistry	
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		8
Abbreviation	These commonly used abbreviations may or may not be present in this report.	0
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis	3
%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	

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.

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

Client Sample ID: AP-MW-1B

Lab Sample ID: 480-106591-1

Lab Sample ID: 480-106591-2

Lab Sample ID: 480-106591-3

5

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	В	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

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	В	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

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	В	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	В	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.

Lab Sample ID: 480-106591-1

Lab Sample ID: 480-106591-2

Matrix: Water

Matrix: Water

Date Collected: 09/27/16 09:55 Date Received: 09/27/16 14:10

Client Sample ID: AP-MW-1B

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	В	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

Date Collected: 09/27/16 11:30

Date Received: 09/27/16 14:10

Method: 200.7 Rev 4.4 - Me	tals (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	в	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
Lab Sample ID: 480-106591-3 Matrix: Water

Date Collected: 09/27/16 12:50 Date Received: 09/27/16 14:10

Client Sample ID: AP-MW-7B

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	в	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

Date Collected: 09/27/16 00:00

Date Received: 09/27/16 14:10

Lab Sample ID: 480-106591-4

Matrix: Water

5

6

11 12 13

Is (ICP)								
Result C	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
ND		0.0020	0.00050	mg/L		09/28/16 09:02	09/28/16 16:51	
ND		0.0040	0.0010	mg/L		09/28/16 09:02	09/28/16 16:51	
0.42		0.050	0.019	mg/L		09/28/16 09:02	09/28/16 16:51	
ND		0.010	0.0030	mg/L		09/28/16 09:02	09/28/16 16:51	
60.1		0.20	0.043	mg/L		09/28/16 09:02	09/28/16 16:51	
0.12 E	3	0.0030	0.00040	mg/L		09/28/16 09:02	09/28/16 16:51	
ND		0.025	0.0087	mg/L		09/28/16 09:02	09/28/16 16:51	
71.8		1.0	0.32	mg/L		09/28/16 09:02	09/28/16 16:51	
ND		0.020	0.010	mg/L		09/28/16 09:02	09/28/16 16:51	
0.024		0.010	0.0015	mg/L		09/28/16 09:02	09/28/16 16:51	
5.8		0.50	0.060	mg/L		09/28/16 09:02	09/28/16 16:51	
	Is (ICP) Result 0 ND 0.42 ND 60.1 0.12 H ND 71.8 ND 0.024 5.8	Result Qualifier ND ND 0.42 ND 0.41 0.42 ND 60.1 0.12 B ND 71.8 ND 0.024 5.8 5.8	Result Qualifier RL ND 0.0020 ND 0.0040 0.42 0.050 ND 0.010 60.1 0.20 0.12 B 0.0030 ND 0.025 71.8 1.0 ND 0.020 0.024 0.010 5.8 0.50	Result Qualifier RL MDL ND 0.0020 0.00050 ND 0.0040 0.0010 0.42 0.050 0.019 ND 0.010 0.0030 60.1 0.20 0.0040 ND 0.010 0.0030 60.1 0.20 0.043 0.12 B 0.0030 0.0040 ND 0.025 0.0087 71.8 1.0 0.32 ND 0.020 0.010 0.024 0.010 0.0015 5.8 0.50 0.060	Result Qualifier RL MDL Unit ND 0.0020 0.00050 mg/L ND 0.0040 0.0010 mg/L 0.42 0.050 0.019 mg/L ND 0.010 0.0030 mg/L 60.1 0.20 0.043 mg/L 0.12 B 0.0030 0.0040 mg/L ND 0.025 0.0087 mg/L ND 0.020 0.010 mg/L ND 0.020 0.010 mg/L Statistic 1.0 0.32 mg/L ND 0.020 0.010 mg/L Statistic 0.010 0.0015 mg/L Statistic 0.50 0.060 mg/L	Result Qualifier RL MDL Unit D ND 0.0020 0.00050 mg/L D ND 0.0040 0.0010 mg/L D 0.42 0.050 0.019 mg/L D ND 0.010 0.0030 mg/L D 60.1 0.20 0.043 mg/L D 0.12 B 0.0030 0.0040 mg/L ND 0.025 0.0087 mg/L ND 0.020 0.010 mg/L ND 0.020 0.010 mg/L Statistical distribution of the statistical distrest distribution of the sta	Result Qualifier RL MDL Unit D Prepared ND 0.0020 0.00050 mg/L 09/28/16 09:02 ND 0.0040 0.0010 mg/L 09/28/16 09:02 0.42 0.050 0.019 mg/L 09/28/16 09:02 ND 0.010 0.0030 mg/L 09/28/16 09:02 ND 0.010 0.0030 mg/L 09/28/16 09:02 ND 0.010 0.0030 mg/L 09/28/16 09:02 60.1 0.20 0.043 mg/L 09/28/16 09:02 0.12 B 0.0030 0.0040 mg/L 09/28/16 09:02 ND 0.025 0.0087 mg/L 09/28/16 09:02 ND 0.025 0.0087 mg/L 09/28/16 09:02 ND 0.020 0.010 mg/L 09/28/16 09:02 ND 0.020 0.010 mg/L 09/28/16 09:02 ND 0.020 0.010 mg/L 09/28/16 09:02 0.	Result Qualifier RL MDL Unit D Prepared Analyzed ND 0.0020 0.00050 mg/L 09/28/16 09:02 09/28/16 16:51 ND 0.0040 0.0010 mg/L 09/28/16 09:02 09/28/16 16:51 0.42 0.050 0.019 mg/L 09/28/16 09:02 09/28/16 16:51 ND 0.010 0.0030 mg/L 09/28/16 09:02 09/28/16 16:51 ND 0.010 0.0030 mg/L 09/28/16 09:02 09/28/16 16:51 60.1 0.20 0.043 mg/L 09/28/16 09:02 09/28/16 16:51 0.12 B 0.0030 0.0040 mg/L 09/28/16 09:02 09/28/16 16:51 ND 0.025 0.0087 mg/L 09/28/16 09:02 09/28/16 16:51 ND 0.020 0.010 mg/L 09/28/16 09:02 09/28/16 16:51 ND 0.020 0.010 mg/L 09/28/16 09:02 09/28/16 16:51 ND 0.020 0.010 mg/L

General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	327		10.0	1.7	mg/L		<u> </u>	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

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

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

5

Method: 200.7 Rev 4.4 - Metals (ICP)

Matrix: Water								Prep Type: T	otal/NA
Analysis Batch. 322905	МВ	МВ						Ртер Бакси.	322132
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 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

Analysis Batch: 322965							Prep Batch: 3227	52
	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%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					C	Client S	ample ID: Metho Prep Type: 1	d Blank Fotal/NA					
Analysis Batch: 322788													
	MB	MB											
Analyte	Result	Qualifier		RL		MDL	Unit		D	Pre	epared	Analyzed	Dil Fac
Sulfate	ND			2.0		0.35	mg/L					09/28/16 17:30	1
									Clie	ent \$	Sample	ID: Lab Control	Sample
Matrix: Water												Prep Type: 1	Total/NA
Analysis Batch: 322788													
			Spike		LCS	LCS						%Rec.	
Analyte			Added		Result	Qua	lifier	Unit		D	%Rec	Limits	
Sulfate			50.0		50.29			mg/L			101	90 - 110	

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 480-323748/4 Matrix: Water												Client S	ample ID: Metho Prep Type:	od Blank Total/NA
Analysis Batch: 323748														
		ΜВ	МВ											
Analyte	Re	esult	Qualifier		RL		MDL	Unit		D	Ρ	repared	Analyzed	Dil Fac
Sulfate		ND			2.0		0.35	mg/L					10/04/16 16:35	1
 Lab Sample ID: LCS 480-323748/3										С	ient	Sample	ID: Lab Contro	I Sample
Matrix: Water												oumpio	Pren Type:	
Analysis Batch: 323748													пер турс.	
				Spike		LCS	LCS						%Rec.	
Analyte				Added		Result	Qual	lifier	Unit		D	%Rec	Limits	
Sulfate				50.0		53.66			mg/L		_	107	90 - 110	
Method: 350.1 - Nitrogen, Amm	nonia													
												Client C	emple ID: Meth	
Lab Sample ID: MB 480-322882/2/												Client S		
Watrix: Water													Prep Type:	Total/NA
Analysis Batch: 322882		MD	мв											
Analyta	D		Qualifier		ы		мпі	Unit		п	Б	roparod	Analyzod	Dil Eac
	r.		Quaimer		0.020	0		mal	ac N	<u> </u>	г	repareu	Analyzeu	
Animonia as N		ND			0.020	0.	0090	mg/L	d5 IN				09/20/10 14.12	I
Lab Sample ID: MB 480-322882/3												Client S	ample ID: Meth	od Blank
Matrix: Water												onent e	Pren Type:	
Analysis Batch: 322882													пер турс.	
Analysis Batch. 022002		мв	мв											
Analyte	Re	esult	Qualifier		RL		MDL	Unit		D	Р	repared	Analyzed	Dil Fac
Ammonia as N		ND			0.020	0.	0090	ma/L	as N				09/28/16 13:51	1
								5						
Lab Sample ID: LCS 480-322882/28										CI	ient	Sample	ID: Lab Contro	I Sample
Matrix: Water													Prep Type:	Total/NA
Analysis Batch: 322882														
				Spike		LCS	LCS						%Rec.	
Analyte				Added		Result	Qual	lifier	Unit		D	%Rec	Limits	
Ammonia as N				1.00		1.04			mg/L as	N	_	104	90 - 110	
 Lab Sample ID: LCS 480-322882/4										С	ient	Sample	ID: I ab Contro	l Sample
Matrix: Water												Campio	Pren Type:	Total/NA
Analysis Batch: 322882														
				Spike		LCS	LCS						%Rec.	
Analyte				Added		Result	Qual	lifier	Unit		D	%Rec	Limits	
Ammonia as N				1.00		1.04			mg/L as	N	-	104	90 - 110	
_ Lab Sample ID: 480-106591-2 MS												Clier	t Sample ID: A	D-WW-6R
Matrix: Water												Silei	Pron Type	
Analysis Batch: 200880													i ieh i yhe.	i otal/INA
Anarysis Daten. 322002	Sample	Sam	ple	Snike		MS	MS						%Rec.	
Analyte	Result	Qual	lifier	Added		Result	Qual	lifier	Unit		D	%Rec	Limits	
Ammonia as N	ND			0.200		0 191			ma/L as	N	_	96	90 110	

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

Method: 420.1 - Phenolics, Total Recoverable

Lab Sample ID: MB 480-322809/1-A											Client Sa	ample ID: Meth	od Blank
Matrix: Water												Prep Type:	Total/NA
Analysis Batch: 323069												Prep Batch	n: 322809
	MB	MB											
Analyte	Result	Qualifier		RL		MDL	Unit		D	P	repared	Analyzed	Dil Fac
Phenolics, Total Recoverable	ND			10.0		5.0	ug/L			09/2	8/16 09:51	09/29/16 09:46	1
									С	lient	Sample	ID: Lab Contro	I Sample
Matrix: Water												Prep Type:	Total/NA
Analysis Batch: 323069												Prep Batch	n: 322809
			Spike		LCS	LCS						%Rec.	
Analyte			Added		Result	Qual	ifier	Unit		D	%Rec	Limits	
Phenolics, Total Recoverable			100		97.42			ug/L		_	97	90 - 110	
											Client Sa	ample ID: Meth	od Blank
Matrix: Water												Prep Type:	Total/NA
Analysis Batch: 323246												Prep Batch	n: 323033
-	МВ	MB											
Analyte	Result	Qualifier		RL		MDL	Unit		D	Р	repared	Analyzed	Dil Fac
Phenolics, Total Recoverable	ND			10.0		5.0	ug/L			09/2	9/16 10:58	09/30/16 08:36	1
									С	lient	Sample	ID: Lab Contro	I Sample
Matrix: Water												Prep Type:	Total/NA
Analysis Batch: 323246												Prep Batch	n: 323033
			Spike		LCS	LCS						%Rec.	
Analyte			Added		Result	Qual	ifier	Unit		D	%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											C	Client S	ample ID: Metho Prep Type: ⁻	od Blank Fotal/NA
		MB	MB											
Analyte	R	esult	Qualifier		RL		MDL	Unit		_ <u>D</u>	Pre	epared	Analyzed	Dil Fac
Chromium, hexavalent		ND			10.0		5.0	ug/L					09/27/16 17:35	1
										Clie	nt	Sample	ID: Lab Control	Sample
Matrix: Water													Prep Type: 7	Total/NA
Analysis Batch: 322710														
				Spike		LCS	LCS						%Rec.	
Analyte				Added		Result	Qual	ifier	Unit	[C	%Rec	Limits	
Chromium, hexavalent				50.0		48.29			ug/L			97	85 - 115	
 Lab Sample ID: 480-106591-1 MS												Clier	nt Sample ID: AP	-MW-1B
Matrix: Water													Prep Type: ⁻	Total/NA
Analysis Batch: 322710														
-	Sample	Samp	ole	Spike		MS	MS						%Rec.	
Analyte	Result	Quali	fier	Added		Result	Qual	ifier	Unit	[D	%Rec	Limits	
Chromium, hexavalent	5.0	J		50.0		59.72			ug/L			109	85 - 115	

QC Association Summary

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

8 9 10 11 12 13 14

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: 32296	5				
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	1				
Analysis Batch: 32271	0				
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	

General Chemistry (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 480-322882/3	Method Blank	Total/NA	Water	350.1	
_CS 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	
rep 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	
nalysis Batch: 32306	9				
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batc
480-106591-1	AP-MW-1B	Total/NA	Water	420.1	32280
480-106591-2	AP-MW-6B	Total/NA	Water	420.1	32280
MB 480-322809/1-A	Method Blank	Total/NA	Water	420.1	32280
CS 480-322809/2-A	Lab Control Sample	Total/NA	Water	420.1	32280
LOG 700-022003/2-A					
nalysis Batch: 32324	6				
nalysis Batch: 32324	6 Client Sample ID	Ргер Туре	Matrix	Method	Prep Batc
nalysis Batch: 32324 Lab Sample ID 180-106591-3	6 Client Sample ID AP-MW-7B	Prep Type Total/NA	Matrix Water	Method 420.1	Prep Batc 32303
nalysis Batch: 32324 Lab Sample ID 480-106591-3 480-106591-4	6 Client Sample ID AP-MW-7B AP-MW-DUP-01	Prep Type Total/NA Total/NA	Matrix Water Water	Method 420.1 420.1	Prep Batcl 32303 32303
nalysis Batch: 32324 Lab Sample ID 480-106591-3 480-106591-4 MB 480-323033/1-A	6 Client Sample ID AP-MW-7B AP-MW-DUP-01 Method Blank	Total/NA Total/NA Total/NA Total/NA	Matrix Water Water Water	Method 420.1 420.1 420.1 420.1	Prep Batc 32303 32303 32303

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	

Dilution

Factor

1

5

1

1

1

Batch

Number

322752

322965

322788

322882

322809

323069

322710

Prepared

or Analyzed

09/28/16 09:02

09/28/16 16:41

09/28/16 19:40

09/28/16 14:08

09/28/16 09:51

09/29/16 10:52

09/27/16 17:35 CDC

Analyst

MVZ

AMH

DMR

CEA

JCL

ELR

Lab

TAL BUF

Batch

Туре

Prep

Analysis

Analysis

Analysis

Analysis

Analysis

Client Sample ID: AP-MW-6B

Date Collected: 09/27/16 11:30

Date Received: 09/27/16 14:10

Prep

Batch

200.7

300.0

350.1

420.1

7196A

Method

200.7 Rev 4.4

Distill/Phenol

Client Sample ID: AP-MW-1B

Date Collected: 09/27/16 09:55

Date Received: 09/27/16 14:10

Prep Type

Total/NA

Total/NA

Total/NA

Total/NA

Total/NA

Total/NA

Total/NA

5

9

Lab Sample ID: 480-106591-2

Lab Sample ID: 480-106591-3

Lab Sample ID: 480-106591-4

Matrix: Water

Matrix: Water

Run

—	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	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

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	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

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	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

Matrix: Water

Lab Sample ID: 480-106591-4

Matrix: Water

Client Sample ID: AP-MW-DUP-01

Date Collected: 09/27/16 00:00 Date Received: 09/27/16 14:10

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	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

Laboratory: TestAmerica Buffalo

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

Authority	Program		EPA Region	Certification ID	Expiration Dat
New York	NELAP		2	10026	03-31-17
The following analytes	are included in this report, but or	artification is not offer	d by the governing	authority:	
The following analytes	are included in this report, but ce	ertification is not offere	ed by the governing a	authority:	
The following analytes Analysis Method	are included in this report, but ce Prep Method	ertification is not offere Matrix	ed by the governing a Analy	authority:	

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

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

Chain of Custodv Record		Tempera	tture on Re	ceipt		Ğ	¢†≯	Ĕ	Ū.	Ö		
TAL-4124 (1007)		Drinking	Water?)	kes⊡ M	X	THE LEA	DER IN E	INVIRON	MENTAL	TESTING	480-106591	, , ,, ;
Sheenston FAU, Solutio	Ś	Project Me	nager CANP	W.L	rod			Da	3 27	le I	Chain of Custody Number 292047	
6 Grellaty Dr		Telephone	Number (Are SUS-	a code)/Fax 223 -	Number -9944			<i>TBT</i>	Number		Page / of	~
ONY POLYNOR CALLS State ZA WY POLYNOR CALLS NW	code 125910	Site Conta	at	del 1	contact John Show	9		Analysis more spi	(Attach li ice is nee	st if ted)		
Project Name and Location (State)	the alic	Carrier/We	ybill Number	2			(an				1	
Contract/Purchase Order/Quote No.	2 0 0		Matrix		Containers Preservativ	88	u) - L 1' 0'87-	49 1.0			Special Instructio Conditions of Rec	ns/ æipt
Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	pos pos snoenby	seidu()	HOBN 10H 80NH 70S7H	9 OOZ HOEN /DVUZ	.007 1952	12h 612.				
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18 o												
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Possible Hazard Identification			Samole Dieno								-	
Non-Hazapo Etammable X Skin Initant	Deison B	Unknown	☐ Return To	client J	Disposal By L	ab 🗌 An	chive For	W	nths lon	ee may be as per than 1 mo	sessed if samples are retained nth)	
Turn Around Time Required	lys 🗌 21 Days	j other_	Standa	72	<i>3C Requirement</i>	s (Specify)					-	
1. Relinquished By		Date /	hi wh	1.00%	i. Received By	4	4				1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/	
2. Helinquisted By		Date	Time		2. Received By						Date Time	
3. Relinquished By		Date	Time		8. Received By						Date	
Comments		-				- T						
DISTRIBUTION: WHITE - Returned to Client with Report. (CANARY - Stays w	ith the Sample;	PINK - Field	Copy								

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Client: Greenstar Environmental Solutions, LLC

Login Number: 106591 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	

List Source: TestAmerica Buffalo



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: 480-106636-1

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.

Joeph V. Gisconaya

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

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.



Visit us at: www.testamericainc.com

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3

Qualifiers

М		ta	le
	C	La	13

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.	 E
В	Compound was found in the blank and sample.	
General Ch	nemistry	
Qualifier	Qualifier Description	
-		

В	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.	
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis	1
%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)	

Job ID: 480-106636-1

Laboratory: TestAmerica Buffalo

Narrative

Job Narrative 480-106636-1

Case Narrative

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.

Client Sample ID: AP-MW-2B

Lab Sample ID: 480-106636-1

5

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	В	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	В	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

 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	В	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	В	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

Lab Sample ID: 480-106636-4

Lab Sample ID: 480-106636-2

 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	В	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

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	В	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.

Lab Sample ID: 480-106636-4

5

Client Sample ID: AP-MW-8B (Continued)

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

Lab Sample ID: 480-106636-1 Matrix: Water

Lab Sample ID: 480-106636-2

Matrix: Water

5

6

Date Collected: 09/28/16 08:25 Date Received: 09/28/16 10:00

Client Sample ID: AP-MW-2B

 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	В	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	В	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

Date Collected: 09/28/16 08:00

Date Received: 09/28/16 10:00

Method: 200.7 Rev 4.4 - Metal	s (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	В	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	в	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

Lab Sample ID: 480-106636-3 Matrix: Water

Lab Sample ID: 480-106636-4

Matrix: Water

5

6

Date Collected: 09/28/16 08:20 Date Received: 09/28/16 10:00

Client Sample ID: AP-MW-5B

Method: 200.7 Rev 4.4 - Metal	s (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	в	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

Date Collected: 09/28/16 08:45

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	в	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

RL

0.0020

0.0040

0.050

0.010

0.20

0.0030

0.025

0.020

0.010

0.50

1.0

MDL Unit

0.00050 mg/L

0.0010 mg/L

0.019 mg/L

0.0030 mg/L

0.043 mg/L

0.00040 mg/L

0.0087 mg/L

0.32 mg/L

0.010 mg/L

0.0015 mg/L

0.060 mg/L

D

Prepared

09/29/16 08:56

09/29/16 08:56

09/29/16 08:56

09/29/16 08:56

09/29/16 08:56

09/29/16 08:56

09/29/16 08:56

09/29/16 08:56

09/29/16 08:56

09/29/16 08:56

09/29/16 08:56

MB MB

ND

0.000820 J

Result Qualifier

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 480-322980/1-A

Matrix: Water

Analyte

Cadmium

Chromium

Magnesium

Manganese

Selenium

Sodium

Thallium

Zinc

Silicon

Iron

Lead

Analysis Batch: 323148

Client Sample ID: Method Blank

Analyzed

09/29/16 20:40

09/29/16 20:40

09/29/16 20:40

09/29/16 20:40

09/29/16 20:40

09/29/16 20:40

09/29/16 20:40

09/29/16 20:40

09/29/16 20:40

09/29/16 20:40

09/29/16 20:40

Prep Type: Total/NA

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 322980

Dil Fac

1

1

1

1

1

1

1

1

1

1

2 3 4 5 6 7

Lab Sample ID: LCS 480-322980/2-A

Matrix: Water Analysis Batch: 323148

Analysis Batch: 323148							Prep Batch: 322980
	Spike	LCS	LCS				%Rec.
Analyte	Added	Result	Qualifier	Unit	D	%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 S	ample ID: Metho Prep Type: T	d Blank 'otal/NA
Analysis Baten. 620170	МВ	мв							
Analyte	Result	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							Client S	ample ID: Metho	d Blank
Matrix: Water								Prep Type: T	otal/NA
Analysis Batch: 323176									
	MB	МВ							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		2.0	0.35	mg/L			09/30/16 09:53	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 480-323176/58 Matrix: Water Analysis Batch: 323176											Client S	ample ID: Meth Prep Type:	od Blank Total/NA
Analysis Baton. 626116	МВ	MB											
Analyte	Result	Qualifier		RL		MDL U	Unit		D	P	repared	Analyzed	Dil Fac
Sulfate	ND			2.0		0.35 r	ng/L					10/01/16 01:03	1
									Cli	ent	Sample	ID: Lab Contro	I Sample
Matrix: Water												Prep Type:	Total/NA
Analysis Batch: 323176													
			Spike		LCS	LCS						%Rec.	
Analyte			Added		Result	Qualif	ier	Unit		D	%Rec	Limits	
Sulfate			50.0		52.34			mg/L		_	105	90 - 110	
									Cli	ent	Sample	ID: Lab Contro	I Sample
Matrix: Water												Prep Type:	Total/NA
Analysis Batch: 323176													
			Spike		LCS	LCS						%Rec.	
Analyte			Added		Result	Qualif	ier	Unit		D	%Rec	Limits	
Sulfate			50.0		50.16			mg/L		_	100	90 - 110	
									Cli	ent	Sample	ID: Lab Contro	I Sample
Matrix: Water												Prep Type:	Total/NA
Analysis Batch: 323176													
-			Spike		LCS	LCS						%Rec.	
Analyte			Added		Result	Qualif	ier	Unit		D	%Rec	Limits	
Sulfate			50.0		52.68			mg/L		_	105	90 _ 110	

Method: 350.1 - Nitrogen, Ammonia

											Client S	ample ID: Metho	od Blank
Matrix: Water												Prep Type: 1	Fotal/NA
Analysis Batch: 323051													
-	MB	МВ											
Analyte	Result	Qualifier		RL		MDL	Unit		D	Ρ	repared	Analyzed	Dil Fac
Ammonia as N	0.0105	J		0.020	0.	0090	mg/L a	s N				09/29/16 11:48	1
Lab Sample ID: MB 480-323051/3											Client S	ample ID: Metho	od Blank
Matrix: Water												Prep Type: 1	Fotal/NA
Analysis Batch: 323051													
-	MB	MB											
Analyte	Result	Qualifier		RL		MDL	Unit		D	Ρ	repared	Analyzed	Dil Fac
Ammonia as N	0.00936	J		0.020	0.	0090	mg/L a	s N				09/29/16 11:27	1
									CI	ient	Sample	ID: Lab Control	Sample
Matrix: Water												Prep Type: 1	Fotal/NA
Analysis Batch: 323051													
			Spike		LCS	LCS						%Rec.	
Analyte			Added		Result	Qua	lifier	Unit		D	%Rec	Limits	
Ammonia as N			1.00		1.07			mg/L as	s N	_	107	90 - 110	

Method: 350.1 - Nitrogen, Ammonia (Continued)

Lab Sample ID: LCS 480-323051/ Matrix: Water	/4						Client	Sample	ID: Lab C Prep T	ontrol Sample ype: Total/NA
Analysis Batch: 323051										
			Spike	LCS	LCS				%Rec.	
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	
Ammonia as N			1.00	1.08		mg/L as N		108	90 - 110	
 Lab Sample ID: 480-106636-4 MS	5							Clier	nt Sample	D: AP-MW-8B
Matrix: Water									Prep T	ype: Total/NA
Analysis Batch: 323051										
	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%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	мв	МВ									Client Sa	ample ID: Meth Prep Type: Prep Batcl	od Blank Total/NA n: 323033
Analyte	Result	Qualifier		RL		MDL	Unit		D	Р	repared	Analyzed	Dil Fac
Phenolics, Total Recoverable	ND			10.0		5.0	ug/L			09/2	9/16 10:58	09/30/16 08:36	1
									С	lient	Sample	ID: Lab Contro	ol Sample
Matrix: Water												Prep Type:	Total/NA
Analysis Batch: 323246												Prep Batcl	n: 323033
			Spike		LCS	LCS						%Rec.	
Analyte			Added		Result	Qual	ifier	Unit		D	%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												Client S	Sample ID: Meth Prep Type:	od Blank Total/NA
Analysis Batch: 322922														
		мв	мв											
Analyte	R	esult	Qualifier		RL		MDL	Unit		D	Ρ	repared	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										Clie	ent	Sample	ID: Lab Contro	ol Sample
Matrix: Water													Prep Type:	Total/NA
Analysis Batch: 322922														
				Spike		LCS	LCS						%Rec.	
Analyte				Added		Result	Qua	lifier	Unit		D	%Rec	Limits	
Chromium, hexavalent				50.0		49.93			ug/L			100	85 - 115	
 Lab Sample ID: 480-106636-2 MS												Clier	nt Sample ID: A	P-MW-3B
Matrix: Water													Prep Type:	Total/NA
Analysis Batch: 322922														
	Sample	Sam	ple	Spike		MS	MS						%Rec.	
Analyte	Result	Qua	lifier	Added		Result	Qua	lifier	Unit		D	%Rec	Limits	
Chromium, hexavalent	6.7	J		50.0		57.27			ug/L		_	101	85 - 115	

Method: 7196A - Chromium, Hexavalent (Continued)

Lab Sample ID: 480-106636-1 D Matrix: Water Analysis Batch: 322922	U						Client Sample ID: AP-I Prep Type: To	NW-2B otal/NA
	Sample	Sample	DU	DU				RPD
Analyte	Result	Qualifier	Result	Qualifier	Unit	D	RPD	Limit
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

9 10 11 12

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Metals

Prep Batch: 322980 Lab Sample ID **Client Sample ID** Prep Type Matrix Method Prep Batch 480-106636-1 AP-MW-2B 200.7 Total/NA Water 480-106636-2 AP-MW-3B Total/NA Water 200.7 200.7 480-106636-3 AP-MW-5B Total/NA Water 200.7 480-106636-4 AP-MW-8B Total/NA Water 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 AP-MW-2B 200.7 Rev 4.4 480-106636-1 Total/NA Water 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 Total/NA Method Blank 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 Prep Batch Lab Sample ID **Client Sample ID** Prep Type Matrix Method

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	Ргер Туре	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	

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	Ргер Туре	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 Sample ID: 480-106636-1 Matrix: Water

Date Collected: 09/28/16 08:25 Date Received: 09/28/16 10:00

Client Sample ID: AP-MW-2B

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	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

_	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	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

Γ	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	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

_	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	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

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Lab Sample ID: 480-106636-2

Lab Sample ID: 480-106636-3

Lab Sample ID: 480-106636-4

Matrix: Water

Matrix: Water

Matrix: Water

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Client Samp	lient Sample ID: AP-MW-8B Lab Sample ID: 48): 480-106636-4			
Date Collected	I: 09/28/16 08:4	5							Matrix: Water
Date Received	: 09/28/16 10:0	0							
	Batch	Batch		Dilution	Batch	Prepared			
Prep Type	Туре	Method	Run	Factor	Number	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

Laboratory: TestAmerica Buffalo

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

Authority	Program	ı	EPA Region	Certification ID	Expiration Dat
New York	NELAP		2	10026	03-31-17
The following analytes	are included in this report,	out certification is not off	ered by the governing	authority:	
The following analytes Analysis Method	are included in this report, l Prep Method	out certification is not off Matrix	ered by the governing a Analy	authority: te	

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	5
480-106636-4	AP-MW-8B	Water	09/28/16 08:45	09/28/16 10:00	
					8
					9
				1	12
				1	13

Chain of	Temperature on F	aceipt	TestAmerico	
Custouy necord	Drinking Water?	Yes 🗆 No 🕅	THE LEADER IN ENVIRONMENTAL TESTING	
Client Env. Solutions	Project Manager	P Milpod	Date 28/16	Chain of Custody Number 301139
Address Co Grella My Dr	Telephone Number (A	rea code)/Fax Number -223-9944	Lab Number	Page (of /
City State Zp Code	Site Contact	Lab Contact	Analysis (Attach list if more space is needed)	
Project Name and Location (State)	Carrier/Waybill Numb		(001	
ContractPurchase Order Ouote No.	Matri	Containers & Preservatives	1.0 H.)-C H.)	Special in the specia
Sample I.D. No. and Description (Containers for each sample may be combined on one line) Date	ipes snoenby JIM	HO ^B N IDH EONH \$0SZH 'S8JdU _[]	2h 61L. 058 058 HOEN	
AD-MW-2B 9/28/16	\$825 X	221	X X X X	480-106636 CC
AD-mw-3B 9/28/16	900 X	1221		
AD- mm-53 9/28/16	820 X	201	× ×	
Ap- min-8B 7/28/16	845 X	122	XXXX	
				-
Possible Hazard Identification	Sample Dis Unknown	oosal To Client 🕅 Disposal By Lat	b Archive For Months longer than 1.	assessed if samples are retained nonth)
Turn Around Time Required	A Other Starrich	ac Requirements	(Specify)	
1. Adimpulshed By	Date Date	te 1. Received By		C(XX) (1000
2. Relinquished By	Date Tim	ie 2. Received By	7	Date Time
3. Relinquished By	Date	ie 3. Received By		Date Time
Comments		_	なしな	-
DISTRIBUTION: WHITE - Returned to Client with Report. CANARY - Stays with	th the Sample; PINK - Fi	ild Copy	765	
		14	7 8 9 10 11 12 13	1 2 3 4 5 6

Client: Greenstar Environmental Solutions, LLC

Login Number: 106636 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	

Job Number: 480-106636-1

List Source: TestAmerica Buffalo

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 exceeded 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 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 MAINTENACE

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

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	Т6В рН
	612.0	T6B Water Level
	On/Cycling	Pump 6B Operational Status
	615.9	T7 Water Level Reading
6.5		Т7 рН
	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.		

READINGITEM 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 P1A Running Status $0n/Cycling$ Pump P1BA Running Status $0n/Cycling$ Pump P1BA Running Status $0n/Cycling$ Pump P1BA Running Status $0n/Cycling$ Pump 3B Operational Status 616.1 T3B Water Level $0n/Cycling$ Pump 3B Operational Status 616.1 T6A Water Elevation $0n/Cycling$ Pump 5 Operational Status 616.1 T6A Water Elevation 616.1 T6B pH 615.9 T7 Water Level $0n/Cycling$ Pump 6B Operational Status 615.9 T7 Water Level Reading 615.9 T7 Water Level Reading $c8$ T7 pH 2.8 T7 pH 2.8 Generator Run Hours $READING$ Standard N/A Average System Flow $READING$ Standard 0.011 mg/LCalcium Settling Pond Effluent (T3) Hexavalent Chromium 0.000 0.050 mg/L 0.011 mg/LEngineered Wetland Effluent (T7) Hexavalent Chromium 0.010 0.050 mg/L 0.011 mg/LEngineered Wetland Effluent (T7) Hexavalent Chromium 0.010 0.050 mg/L 0.011 mg/LEngineered Wetland Effluent (T7) Hexavalent Chromium 0.010 0.050 mg/L 0.011 mg/LEngineered Wetland Effluent (T7) Hexaval	Date:2/15/16 Project No.: 1047.001		Greenstar Personnel: L.Oliveira Weather: Cloudy 11
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		6.1	Т6В рН
$\begin{tabular}{ c $	611.9		T6B Water Level
615.9CT7 Water Level Reading6.8T7 pH2.8T8 Water ElevationN/AFlow Meter ReadingN/AAverage System Flow85Generator Run HoursREADINGStandardLOCATION/PARAMETER0.0170.011 mg/LCalcium Settling Pond Effluent (T3) Hexavalent Chromium0.0000.050 mg/LCalcium Settling Pond Effluent (T3) Total Chromium0.0100.050 mg/LIron Settling Pond Effluent (T6) Hexavalent Chromium0.0100.050 mg/LIron Settling Pond Effluent (T7) Total Chromium0.0100.050 mg/LEngineered Wetland Effluent (T7) Total Chromium0.0100.050 mg/LEngineered Wetland Effluent (T7) Total Chromium0.0000.050 mg/LSouthwest Corner Effluent (SS-1) Total ChromiumN/A0.011 mg/LSouthwest Corner Effluent (SS-1) Total ChromiumN/A0.050 mg/LSouthwest Corner Effluent (SS-1)N/A0.050 mg/LSouthwest Corner Effluent (T6)SSouthwest Corner Effluent (T6) </td <td colspan="2">On/Cycling</td> <td>Pump 6B Operational Status</td>	On/Cycling		Pump 6B Operational Status
6.8 T7 pH 2.8 T8 Water Elevation N/A Flow Meter Reading N/A Average System Flow N/A 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 0.010 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 0.050 mg/L Engineered Wetland Effluent (T7) Hexavalent Chromium 0.000 0.050 mg/L Engineered Wetland Effluent (T7) Total Chromium 0.000 0.050 mg/L Engineered Wetland Effluent (SS-1) Hexavalent Chromium N/A 0.011 mg/L Southwest Corner Effluent (SS-1) Total Chromium N/A 0.050 mg/L Southwest Corner Effluent (SS-1) Total Chromium N/A 0.050 mg/L Southwest Corner Effluent (SS-1) Total Chromium N/A 0.050 mg/L Southwest Corner Effluent (SS-1) Total Chromium N/A 0.050 mg/	615.9		T7 Water Level Reading
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N/A 0.011 mg/L Southwest Corner Effluent (SS-1) Hexavalent ChromiumN/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/ASouthwest Corner Effluent (SS-1)	0.000	0.050 mg/L	Engineered Wetland Effluent (T7) Total Chromium
N/A0.050 mg/LSouthwest 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/ASouthwest Corner Effluent (SS-1)	N/A	0.011 mg/L	Southwest Corner Effluent (SS-1) Hexavalent Chromium
pH READINGSAMPLE LOCATION6.37Calcium Settling Pond Effluent (T3)6.60Iron Settling Pond Effluent (T6)7.11Engineered Wetland Effluent (T7)N/ASouthwest Corner Effluent (SS-1)	N/A	0.050 mg/L	Southwest Corner Effluent (SS-1) Total Chromium
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6.60Iron Settling Pond Effluent (T6)7.11Engineered Wetland Effluent (T7)N/ASouthwest Corner Effluent (SS-1)	6.37		Calcium Settling Pond Effluent (T3)
7.11 Engineered Wetland Effluent (T7) N/A Southwest Corner Effluent (SS-1)	6.60		Iron Settling Pond Effluent (T6)
N/A Southwest Corner Effluent (SS-1)	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.

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	
P	H 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 a			
calibrated pH p	robes. Rotated P1A and P1B v	valves to prevent calcification.	

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	Т6В рН
	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 T2B and		T6B (T7 needs to be replaced) nH probe needs to be replaced. Checked sheds for

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

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	Т6В рН
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)

AIRCO PARCEL, NIAGARA FALLS, NEW YORK

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.

Date:6/22/16 Project No.: 1047.001		Greenstar Personnel: L.Oliveira Weather: Sunny 83
READING		ITEM
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	Т6В рН
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
READING	Standard	LOCATION/PARAMETER
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
pH READING		SAMPLE LOCATION
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)
1.52		

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.

Date:7/12/16	Project No.: 1047.001	Greenstar Personnel: L.Oliveira	Greenstar Personnel: L.Oliveira Weather: Sunny 80	
READING		ITI	EM	
244		Carbon Dioxide Storage T	ank Pressure (220-235 psi)	
6,433		Carbon Dioxide 7	Tank Liquid Level	
598.5		T1 Wate	er Level	
	On/Cycling	Pump P1A R	unning Status	
	On/Cycling	Pump P1BA F	Running Status	
	616.1	T3A Wate	r Elevation	
	6.1	ТЗВ рН	Reading	
	612.0	T3B Wa	ter Level	
	On/Cycling	Pump 3B Ope	rational Status	
	612.3	T5 Wate	er Level	
	On/Cycling	Pump 5 Oper	ational Status	
	616.2	T6A Wate	r Elevation	
	6.5	T6B	3 pH	
	611.9	T6B Wa	ter Level	
	On/Cycling	Pump 6B Ope	rational Status	
616.0		T7 Water Le	evel Reading	
6.1		T7	pH	
1.1		T8 Water	Elevation	
	68,333,136	Flow Mete	er Reading	
5.7		Average Sy	ystem 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) Hex	avalent Chromium	
0.000	0.050 mg/L	Iron Settling Pond Effluent (T6) Tota	l Chromium	
0.000	0.011 mg/L	Engineered Wetland Effluent (T7) He	exavalent Chromium	
0.000	0.050 mg/L	Engineered Wetland Effluent (T7) To	otal Chromium	
0.002	0.011 mg/L	Southwest Corner Effluent (SS-1) He	exavalent Chromium	
0.001	0.050 mg/L	Southwest Corner Effluent (SS-1) To	tal Chromium	
pH READING		SAMPLE I	LOCATION	
6.10		Calcium Settling I	Pond Effluent (T3)	
6.44		Iron Settling Po	nd Effluent (T6)	
6.24		Engineered Wetl	and Effluent (T7)	
7.17		Southwest Corne	er Effluent (SS-1)	
Notes: Routine s mouse activity.	site visit. Replaced all 3 pH p Performed field tests for hexa	robes on site and upgraded pH controllers for valent and total chrome for T3, T6, T7 and	or new digital probes. Checked sheds for SW. Rotated P1A and P1B valves as to	

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.

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	Т6В рН
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.

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	Т6В рН
	611.8	T6B Water Level
On/Cycling		Pump 6B Operational Status
615.8		T7 Water Level Reading
7.0		Т7 рН
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 calibra		ated pH probes in T3B, T6B and T7. Cleaned outfall pipes in T3A and T6A.

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.

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	Т6В рН
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 calibra		ated pH probes in T3B, T6B and T7. Cleaned outfall pipes in T3A and T6A.

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

READINGITEM246Carbon Dioxide Storage Tank Pressure (220-235 psi)11,523Carbon Dioxide Tank Liquid Level599.1T1 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 612.1 T6A Water Elevation 612.1 T6A Water Elevation 612.1 T6B Pump 5 Operational Status 616.1 T6A Water Elevation 616.1 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 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 HoursREADINGStandardLOCATION/PARAMETER 0.009 0.011 mg/LCalcium Settling Pond Effluent (T3) Hexavalent Chromium
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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)

AIRCO PARCEL, NIAGARA FALLS, NEW YORK

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.

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	Т6В рН
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)
1.13		

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

	Maximum	Average Flow Rate	Total Daily	Total Callons	Run Time	Run Time
Date	Flow (gpm)	(gpm)	Flow (Gal)	To Date (Gal)	(hours)	(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%
		Monitoring				
	Daily	Period	Monitoring		D	
	Maximum	Average	Period Total	Cumulative	Runtime	Operational
	(GPM)	(GPM)	(GAL)	Total (GAL)	(Days)	Percentage

Monthly Flow Calculations January 2016

	Maximum	Average Flow Rate	Total Daily	Total Gallons	Run Time	Run Time
Date	Flow (gpm)	(gpm)	Flow (Gal)	To Date (Gal)	(hours)	(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%
		Monitoring				
	Daily	Period	Monitoring			
	Maximum	Average	Period Total	Cumulative	Runtime	Operational
	(GPM)	(GPM)	(GAL)	Total (GAL)	(Days)	Percentage

Monthly Flow Calculations February 2016

-	Maximum	Average Flow Rate	Total Daily	Total Gallons	Run Time	Run Time
Date	Flow (gpm)	(gpm)	Flow (Gal)	To Date (Gal)	(hours)	(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%
		Monitoring				
	Daily	Period	Monitoring			
	Maximum (CDM)	Average	Period Total	Cumulative	(Deve)	Operational
	(GPM)	(GPM)	(GAL)	I OTAL (GAL)	(Days)	rercentage

Monthly Flow Calculations March 2016

		Average				
	Maximum	Flow Rate	Total Daily	Total Gallons	Run Time	Run Time
Date	Flow (gpm)	(gpm)	Flow (Gal)	To Date (Gal)	(hours)	(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%
		Monitoring	-) -))- <u>-</u>		
	Daily	Period	Monitoring			
	Maximum	Average	Period Total	Cumulative	Runtime	Operational
	(GPM)	(GPM)	(GAL)	Total (GAL)	(Days)	Percentage

Monthly Flow Calculations April 2016

	Movimum	Average	Total Daily	Total Callons	Dun Timo	Dun Timo
Date	Flow (gnm)	(gnm)	Flow (Gal)	To Date (Gal)	(hours)	(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%
		Monitoring				
	Daily	Period	Monitoring Deriod Total	Cumulativa	Duntima	Operational
	(GPM)	(GPM)	(GAI)	Cumulative Total (GAL)	(Days)	Operational Percentage
			(UIIL)	TOUL (OAL)	(Duys)	rereentage

Monthly Flow Calculations May 2016

		Average		T (LC II	р "т	ът
Data	Maximum Flow (gpm)	Flow Rate	Total Daily Flow (Col)	Total Gallons To Data (Cal)	Kun Time	Kun Time
6/1/2016	32	(gpii) 7	10 167	67 969 423	24	(initiates)
6/2/2016	32	7	10,107	67 070 828	24	0
6/3/2016	32	7	10,403	67 000 182	24	0
6/4/2016	32	7	10,334	68 000 326	24	0
6/5/2016	32	/	11,144	68 011 563	24	0
6/6/2016	32	8	10.001	68 022 554	24	0
6/7/2016	32	7	10,991	68 032 910	24	0
6/8/2016	32	7	10,330	68 0/3 217	24	0
6/9/2016	32	7	0.830	68 053 047	24	0
6/10/2016	32	7	9,830	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%
		Monitoring				
	Daily	Period	Monitoring			
	Maximum	Average	Period Total	Cumulative	Runtime	Operational
	(GPM)	(GPM)	(GAL)	Total (GAL)	(Days)	Percentage

Monthly Flow Calculations June 2016

		Average				
	Maximum	Flow Rate	Total Daily	Total Gallons	Run Time	Run Time
Date	Flow (gpm)	(gpm)	Flow (Gal)	To Date (Gal)	(hours)	(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%
		Monitoring				
	Daily	Period	Monitoring			
	Maximum	Average	Period Total	Cumulative	Runtime	Operational
	(GPM)	(GPM)	(GAL)	Total (GAL)	(Days)	Percentage

Monthly Flow Calculations July 2016

	Movimum	Average	Total Daily	Total Callons	Dun Timo	Bun Timo
Date	Flow (gpm)	(gpm)	Flow (Gal)	To Date (Gal)	(hours)	(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%
		Monitoring				
	Daily	Period	Monitoring			
	Maximum	Average	Period Total	Cumulative	Runtime	Operational
	(GPM)	(GPM)	(GAL)	Total (GAL)	(Days)	Percentage

Monthly Flow Calculations August 2016

		Average				
	Maximum	Flow Rate	Total Daily	Total Gallons	Run Time	Run Time
Date	Flow (gpm)	(gpm)	Flow (Gal)	To Date (Gal)	(hours)	(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 (Davs)	Operational Percentage

Monthly Flow Calculations September 2016

	Maximum	Average	Total Daily	Total Callona	Dun Timo	Dun Timo
Date	Flow (gnm)	(gpm)	Flow (Gal)	To Date (Gal)	(hours)	(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%
		Monitoring				
	Daily	Period	Monitoring			
	Maximum	Average	Period Total	Cumulative	Runtime	Operational
	(GPM)	(GPM)	(GAL)	Total (GAL)	(Days)	Percentage

Monthly Flow Calculations October 2016

	Maximum	Average Flow Rate	Total Daily	Total Gallons	Run Time	Run Time
Date	Flow (gpm)	(gpm)	Flow (Gal)	To Date (Gal)	(hours)	(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
	15	2.0	00.488	68 739 090	30	1009/
	43	2.0	70,400	00,730,000	30	100 %0
		Monitoring				
	Daily	Period	Monitoring		D	
	Maximum (CPM)	Average (GPM)	Period Total	Cumulative	(Deve)	Operational
	(GPM)	(UPM)	(UAL)	TOTAL (GAL)	(Days)	rercemage

Monthly Flow Calculations November 2016

Date	Maximum Flow (gnm)	Average Flow Rate (gpm)	Total Daily Flow (Gal)	Total Gallons To Date (Gal)	Run Time	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

Monthly Flow Calculations December 2016

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-7B Sample Matrix: Groundwater



Sample Location: MW-8B Sample Matrix: Groundwater



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

