Bi-Annual 2005 Monitoring Event Letter Report For Site No. 932001 Airco Properties, Inc., Airco Parcel Niagara Falls, New York

Prepared for

The BOC Group, Inc.
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Murray Hill, New Jersey 07974

Prepared by

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March 2006
Revision: 0
Project No.: 150C265.1005

GREENSTAR
Engineering, P.C.

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Wappingers Falls, NY 12590

7 March 2006

Mr. Michael Resh
Manager of Environmental Remediation
The BOC Group, Inc.
100 Mountain Avenue
Murray Hill, New Jersey 07974

RE: Bi-Annual 2005 Monitoring Event Letter Report, Site No. 932001, Airco Properties Inc., Airco Parcel, Niagara Falls, New York
Greenstar Project No. 150C265.1005

Dear Mr. Resh:

Greenstar Engineering, P.C. (Greenstar) is pleased to provide the Bi-Annual 2005 Monitoring Event Letter Report summarizing the operation and maintenance activities which occurred from 1 July 2005 to 31 December 2005. The post-closure monitoring and facility maintenance program was initiated at the Airco Parcel located in Niagara Falls, New York, during December 2000. Post-closure monitoring and facility maintenance is required by New York State Solid Waste Management Facilities Regulations (6 NYCRR Part 360-2.15[k][4]) and stipulated in Order on Consent No. B9-0470-94-12. The purpose of this monitoring event letter report is to summarize the analytical results of the second bi-annual 2005 groundwater monitoring event that was completed at this site in November 2005, and to summarize operations and maintenance activities completed from July through December 2005.

OBJECTIVES

In accordance with the Revised Final Post-Closure Monitoring and Facility Maintenance Plan for this site prepared by EA Engineering, PC and its affiliate EA Science and Technology (EA 2004)[1], environmental monitoring points will be maintained and sampled during the post-closure monitoring period, including groundwater, surface water, and groundwater collection treatment system (GCTS) samples. The Post-Closure Monitoring and Facility Maintenance Plan documents sampling locations, sampling parameters and methods, in addition to other required maintenance activities, such as landfill cap inspections and the operations and maintenance plan for the GCTS. Following the first 5 years of post-closure monitoring, the original Revised Final Post-Closure Monitoring and Facility Maintenance Plan (EA 2001)[2] plan was re-evaluated based on the data collected at the site so that the monitoring plan will be focused to address site-specific issues that may be identified.

In accordance with the updated Post-Closure Monitoring and Facility Maintenance Program the following activities are being completed:

- Environmental monitoring points are being maintained and sampled during the post-closure period. Bi-annual summary reports are submitted to the New York State Department of Environmental Conservation (NYSDEC) Division of Solid and Hazardous Materials, Region 9;

1. EA Engineering, P.C. and its Affiliate EA Science and Technology. 2004. Post-Closure Monitoring and Facility Maintenance Plan for the Airco Parcel, Niagara Falls, New York. September.
2. EA Engineering, P.C. and its Affiliate EA Science and Technology. 2001a. Interim Remedial Measure Report Documenting Closure of the Witmer Road Landfill, Niagara Falls, New York. Appendix A – Revised Final Post-Closure Monitoring and Facility Maintenance Plan. January.

the State of New York Department of Health in Albany, New York; the BOC Group; and the document repository located at the Town of Niagara Town's Clerk's Office.

- Routine inspections are conducted of sediment ponds and the engineered wetlands to assess the presence of mosquito larvae.

- Drainage structures and ditches are maintained to prevent ponding of water and erosion of the landfill soil cap.

- Soil cover integrity, slopes, cover vegetation, drainage structures, and the perimeter road are maintained during the post-closure monitoring and maintenance period.

- A vegetative cover is maintained on all exposed final cover material, and adequate measures are taken to ensure the integrity of the final vegetated cover, topsoil layer, and underlying barrier protection layer.

- The GCTS is being operated and maintained to effectively mitigate the discharge of groundwater to surface water in the southwest corner of the Airco Parcel.

- Records are maintained of all sampling and analytical results.

The bi-annual sampling events are summarized in a letter report detailing the findings of the environmental sampling. Monitoring event letter reports will be limited to documenting the results of each sampling round. This letter report summarizes the findings of the fourth bi-annual post-closure monitoring event completed at this site, along with a summary of operation and maintenance activities performed at the this site from July through December 2005. A more comprehensive evaluation of analytical trends, operation and maintenance activities, and recommended changes to the post-closure program will be provided in the 5-year review document. This document is scheduled to be published in April 2006.

BACKGROUND

The Airco Parcel is part of the Vanadium Corporation of America site that is located in the Town of Niagara Falls, New York (Figure 1). The entire Vanadium site is approximately 150 acres in size. The 25-acre Airco parcel operated by the BOC Group is the focus of this bi-annual sampling event. The site contains waste material from the operation of onsite and nearby production facilities.

An Immediate Investigative Work Assignment was conducted by NYSDEC for a portion of the 150-acre parcel in August 1997. Approximately 70 acres from the Niagara Mohawk Power Corporation and New York Power Authority parcel were investigated. During the investigation, NYSDEC determined that the site had been used by Vanadium Corporation of America (the owners of the site from 1924 to 1964) to dispose of wood, brick, ash, lime slag, ferrochromium silicon slag, and ferrochromium silicon dust. According to the Immediate Investigative Work Assignment, much of the surface material consisted of fill, including fly ash, dust, slag, and cinder materials.

Analysis of site groundwater during the Immediate Investigative Work Assignment indicated that surface water and groundwater standards were exceeded for hexavalent chromium and pH. Based on the Immediate Investigative Work Assignment and other investigations, the facility has been listed as a Class 2 Hazardous Waste Site in the New York State Registry of Inactive Hazardous

Waste Sites (Site No. 932001). A Class 2 listing indicates a significant threat to public health and the environment, and requires remedial action.

The Airco site remedial measures were completed in 2000 when the landfill was capped. A complete description of the history of the site, and the construction details of the landfill capping system, can be found in the Interim Remedial Measure Report (EA 2001b)[3]. During construction of the capping system a relief pipe system was installed to allow perched water to exit from under the cap without causing slope instability. Flow monitoring and quarterly sampling were initiated as part of post-closure operations and facility maintenance. The data collected since December 2000 indicated that the leachate was actually shallow groundwater discharging to surface water. The data also indicated that the discharge of groundwater at the site was seasonal. The data further indicated that elevated hexavalent chromium (Cr^{6+}) concentrations and pH in groundwater, upon mixing with surface water, remained in excess of the ambient water quality criteria.

The GCTS was designed to implement additional remedial actions, which have been deemed necessary to meet the goals of the interim remedial measures program. The main portion of the GCTS is located on the northwest corner of the site and contains the main control panel, carbon dioxide storage tank, carbon dioxide aeration system, two sediment ponds, duplex pump house, zero valence iron reaction tanks, manhole collection sump, engineered wetland, and an effluent pump station. At the southwest corner of the site there is an influent wetwell pump station. The GCTS located at the site is presented on Figure 2.

MONITORING EVENT FIELD ACTIVITIES

Monitoring Well Gauging

The site monitoring wells (MW-1B through MW-8B) were gauged prior to sampling on 7-8 November 2005. The depth to water ranged from 3.71 ft below top of casing at MW-6B to 13.26 ft below top of casing at MW-2B. Gauging data are summarized in the table below:

Monitoring Well	Depth to Water (ft btoc)	Well Elevation (ft AMSL)	Water Elevation (ft AMSL)
MW-1B	11.45	617.77	606.32
MW-2B	13.26	615.88	602.62
MW-3B	8.61	611.22	602.61
MW-4B	10.07	606.68	596.61
MW-5B	8.18	605.48	597.30
MW-6B	3.71	603.47	599.76
MW-7B	9.11	609.48	600.37
MW-8B	6.33	611.62	605.29

NOTE: btoc = Below top of casing.
AMSL = Above mean sea level.

An interpretation of the water table surface is illustrated on Figure 3.

3. EA Engineering, Science, and Technology. 2001b. Interim Remedial Measure Report Documenting Closure of the Witmer Road Landfill, Niagara Falls, New York. January.

Groundwater Sampling Procedures

Monitoring wells were sampled during the period 7-8 November 2005. Eight groundwater samples were collected from the site monitoring wells. Monitoring wells MW-4B, MW-5B and MW-7B were purged using dedicated bailers due to slow recharge and limited well volume. These wells were bailed dry and allowed to recharge prior to sample collection. Monitoring wells MW-1B, MW-2B, MW-3B, MW-6B, and MW-8B had adequate recharge rates for sampling and 4 well volumes were removed and water quality readings allowed to stabilize prior to sample collection. Monitoring well MW-2B was purged using a peristaltic pump due to an obstruction in the riser casing which prevented using a 2-in. submersible pump. Monitoring wells were sampled in order of least to most contaminated. One surface water sample was also collected southwest of monitoring well MW-6B. Samples were submitted to Life Science Laboratories, Inc. of East Syracuse, 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.

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. Analytical results for groundwater and surface water are summarized on the table provided in Attachment A. Copies of the well gauging, purging, and sampling forms are provided in Attachment B. Laboratory chain of-custody records are provided in Attachment C. Laboratory Form I analytical results are included in Attachment D.

ANALYTICAL RESULTS

Based on the analytical results collected during the Fourth Quarter 2000 and First Quarter 2001, NYSDEC approved a reduction in the sampling requirements. As per a letter to NYSDEC dated 5 June 2000, samples were analyzed for water quality parameters (ammonia, phenolics, and sulfate) and total (unfiltered) metals.

Summary tables listing analytical results compared to applicable NYSDEC AWQS are included in Attachment A, and a tag map illustrating analyte results and sampling order is provided as Figure 4. Notable results of chemical analyses are as follows.

Metals

Unfiltered metals samples were collected from 8 of the site monitoring wells and the surface water discharging the site in the southwest corner. Notable results included the following:

- Chromium, hexavalent chromium, iron, magnesium, manganese, selenium and sodium were detected in one or more of the groundwater samples at concentrations in excess of NYSDEC AWQS.
- Hexavalent chromium was detected in excess of the NYSDEC AWQS in MW-2B, MW-4B and MW-8B.

- Iron was detected in excess of the NYSDEC AWQS in the surface water sample.

Water Quality Parameters

Water quality parameters, including pH, temperature, conductivity, dissolved oxygen, turbidity, and salinity, were collected in the field. In addition, water quality parameters, including ammonia (expressed as N), phenolics, and sulfate, were also analyzed by the laboratory. Notable results included the following:

- Phenolics and Sulfate were detected in excess of NYSDEC AWQS in the samples collected from monitoring wells MW-7B and MW-8B, respectively.

- pH measurements exceeded the NYSDEC AWQS of 6.5-8.5 standard pH units in monitoring wells MW-2B (12.17-12.25), MW-3B (10.94-10.99), and MW-7B (8.53) (Attachment B).

LANDFILL INSPECTION

A landfill cap inspection was conducted on 7 November 2005. The Landfill Cap Inspection Checklist is provided as Attachment E. No deterioration, damage, or erosion to the landfill cap was noted during the engineering inspection. The access roads were in good condition, with some vegetation observed growing in many areas of the road. A defoliant will be used to remove the vegetation in the roadways in October 2006. Drainage swales are clear with the exception of the southwest swale where soils and vegetation have covered the stone swale. The inspections suggest that the soil should be removed and new stone installed.

GCTS OPERATIONS AND MAINTENANCE MONITORING ACTIVITIES

The GCTS is part of the Airco Parcel located near Witmer Road in Niagara Falls, New York. The GCTS was designed to implement additional remedial actions, which have been deemed necessary to meet the goals of the interim remedial measures program. The main portion of the GCTS is located on the northwest corner of the site and contains the main control panel, carbon dioxide storage tank, carbon dioxide aeration system, two sediment ponds, duplex pump house, zero valence iron reaction tanks, engineered wetland, and an effluent pump station. At the southwest corner of the site there is an influent wetwell pump station. The GCTS located at the site is presented on Figure 2. The complete operations and maintenance manual is presented as an appendix to the Post-Closure Monitoring and Facility Maintenance Plan (EA 2004)[4].

System Operations and Maintenance

The GCTS was operated throughout the 6-month period of 1 July – 31 December 2005. System monitoring was conducted throughout the operation period. The system was operated and maintained by EA from 1 July to 16 November 2005. During the first two weeks of November the system was transitioned over to Greenstar. At the time of transition, the system was not operational, nor could it remain operational for any extended period of time due to multiple electrical and mechanical problems.

4. EA Engineering, P.C. and its Affiliate EA Science and Technology. 2004. Post-Closure Monitoring and Facility Maintenance Plan for the Airco Parcel, Niagara Falls, New York. Appendix A. September.

Throughout the remainder of the year, Greenstar personnel identified and repaired mechanical and electrical issues. Attachment G provides details of the problems encountered, and the implemented solution.

During operations the system averaged approximately 11.5 gpm. The GCTS sampling occurred bi-weekly during the operation period. If the system was offline upon arriving, no sampling was performed as it would not have been representative of remedial conditions. Samples were collected at various locations to evaluate treatment system performance and compliance with discharge criteria. Samples were typically collected prior to (Sediment Pond A) and after treatment via the zero valence iron tank (Sediment Pond B), and after the engineered wetland (EFF7) bi-weekly during the GCTS operation period. The samples were analyzed in the field for total chromium and hexavalent, chromium using a HACH DR4000® spectrophotometer. The HACH DR4000® spectrophotometer is EPA approved for reporting water and wastewater analyses within a detection limit of 0.006 and 0.005 mg/L for hexavalent chromium, and 0.003 mg/L for total chromium. The engineered wetland discharge samples were analyzed in the field as well as separate quarterly samples taken for offsite laboratory analysis at Life Science Laboratories, East Syracuse, New York for a full list of discharge criteria.

Field sampling results for total and hexavalent chromium can be found in Table 1, and results of the quarterly engineered wetland discharge samples can be found in Table 2. Removal rates for hexavalent chromium and total chromium were consistent with previous report periods and were typically in excess of 98 percent. Total suspended solids, biochemical oxygen demand, and iron analytical results were above NYSDEC discharge criteria for the third quarterly discharge sample. Iron analytical results were above NYSDEC discharge criteria for the fourth quarterly discharge sample. The full set of laboratory analytical data for the GCTS discharge sampling can be found in Attachment G.

GCTS Modifications (July–December 2005)

GCTS modifications performed during the operational period are as follows:

- A new discharge line was routed from the submersible pump in Sediment Pond B into the equipment shed due to ice damage which sheared off the existing discharge line. Submersible heaters were also added to the backside of the weir in Sediment Pond B for winter operations.

- Temporary electrical lines were installed to Sediment Pond B pressure transducer, Pump7 and the pump 4A shed to correct electrical wiring issues. More complete repairs will be done in 2006.

- Installation of an anti-siphon valve on the Sediment Pond B discharge line to prevent siphoning of water form Sediment Pond B after the pump de-energizes.

- A 6-in. riser for T-1 was ordered and will be installed during the next report period to reduce the infiltration of stormwater into the collection system.

Attachment G summarizes monthly operation and maintenance details for the period July through December 2005, as well as provides upcoming operation and maintenance proposed projects and modification improvements.

If you have any questions regarding the results of this Bi-Annual 2005 Monitoring Event Letter Report, please do not hesitate to contact Charles McLeod at (845) 223-9944.

Sincerely,

GREENSTAR ENGINEERING, P.C.

Charles E. McLeod, Jr., P.E.
President

CEM/cl
Attachments

cc: M. Hinton (NYSDEC)
M. Forcucci (NYSDOH)
Town of Niagara Falls (Town Clerk)

TABLE 1 SUMMARY OF FIELD SAMPLING RESULTS
1 JULY – 31 DECEMBER 2005, AIRCO PARCEL, NIAGARA FALLS, NEW YORK

	Sediment Pond A		Sediment Pond B		Wetland Discharge	
Date	Total Chromium	Hexavalent Chromium	Total Chromium	Hexavalent Chromium	Total Chromium	Hexavalent Chromium
7/11/05	202 µg/L	179 µg/L	3 µg/L	2 µg/L	1 µg/L	0 µg/L
7/28/05	232 µg/L	196 µg/L	7 µg/L	4 µg/L	1 µg/L	0 µg/L
8/2/05	193 µg/L	156 µg/L	5 µg/L	3 µg/L	1 µg/L	0 µg/L
8/9/05(1)	NS	NS	NS	NS	NS	NS
8/30/05	231 µg/L	177 µg/L	8 µg/L	5 µg/L	1 µg/L	1 µg/L
9/27/05	207 µg/L	183 µg/L	4 µg/L	3 µg/L	1 µg/L	0 µg/L
10/7/05(2)	NS	NS	NS	NS	NS	NS
10/13/05(2)	NS	NS	NS	NS	NS	NS
10/18/05(2)	NS	NS	NS	NS	NS	NS
11/8/05 (3)	NS	NS	NS	NS	0 µg/L	0 µg/L
11/16/05 (3)	NS	NS	NS	NS	11 µg/L	8 µg/L
11/29/05	180 µg/L	126 µg/L	3 µg/L	0 µg/L	1 µg/L	0 µg/L
12/14/05 (4)	NS	NS	NS	NS	NS	NS
12/28/05 (3)	NS	NS	NS	NS	45 µg/L	0 µg/L

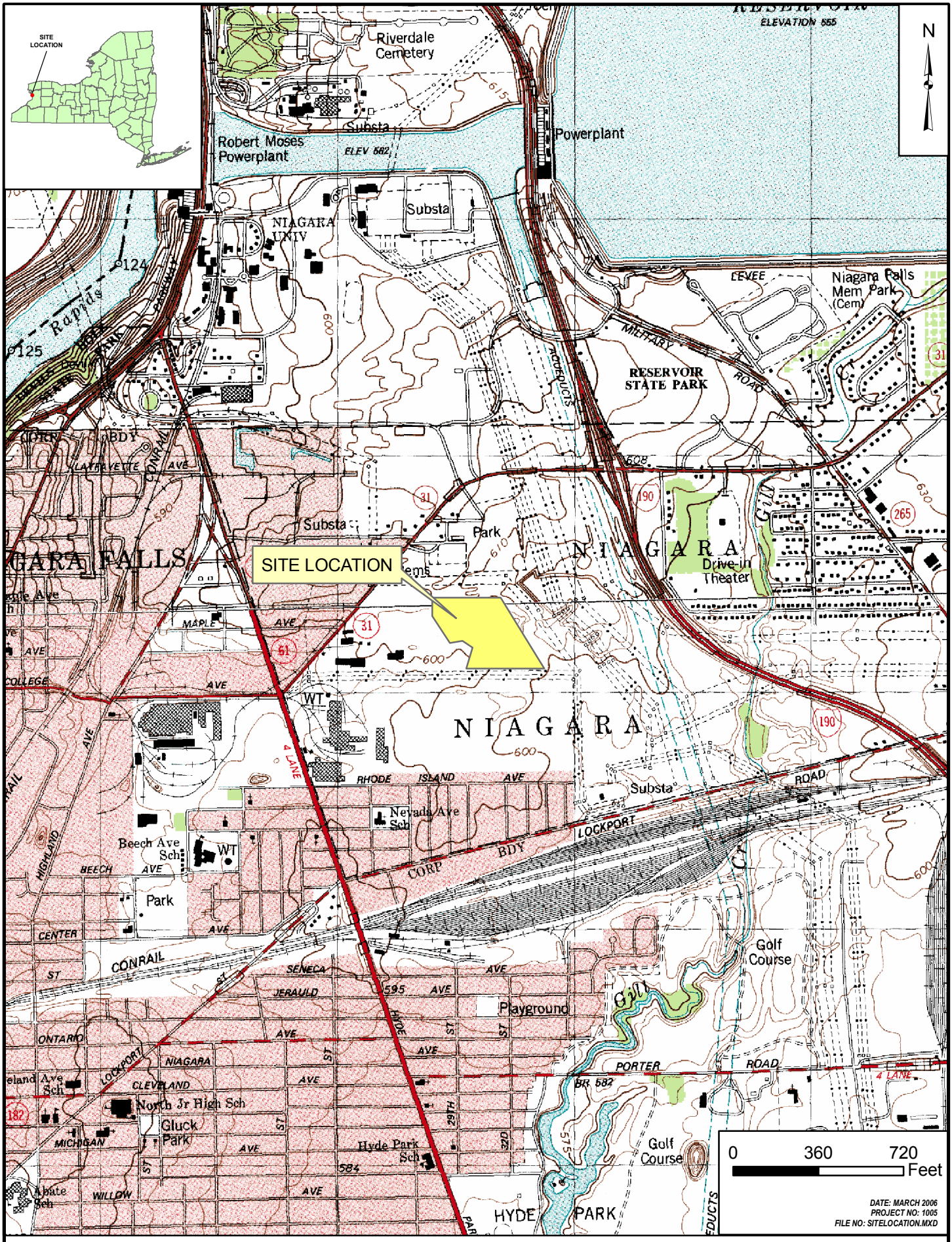
(1) System offline for routine cleaning. No field sampling performed.
(2) System offline from 10/7/05 to 11/8/05. No field sampling performed.
(3) Samples were analyzed by Life Science Laboratory.
(4) System offline due to frozen discharge lines. No field sampling performed.

NOTE: NS = Not Sampled
Unless otherwise noted, field samples analyzed using a HACH DR4000® Spectrophotometer. Methods 8023 for Hexavalent Chromium and Method 8084 for Total Chromium.

TABLE 2 SUMMARY OF QUARTERLY DISCHARGE SAMPLING 8 NOVEMBER 2005 AND 27 DECEMBER 2005, AIRCO PARCEL, NIAGARA FALLS, NEW YORK

Parameter	8 November 2005	27 December 2005	New York State Department of Environmental Conservation Discharge Criteria
pH	6.4	6.1	6-8 NTU
Total suspended solids	**66**	9.0	10 mg/L
Ammonia as N	0.42	1.8	9.2 mg/L
Total Kjeldahl nitrogen	1.3	2.7	Monitor
Total Recoverable Phenolics	<0.002	<0.002	.008 mg/l
Biochemical oxygen demand	**<10**	<4	5.0 mg/L
1,1-Dichloroethane	<1	<1	5.0 µg/L
Trichloroethane	<1	<1	5.0 µg/L
Nickel	<0.01	<0.01	0.07 mg/L
Copper	<0.01	<0.01	0.0147 mg/L
Barium	<0.2	<0.2	2 mg/L
Total chromium	<0.01	0.045	0.1 mg/L
Hexavalent chromium	<0.01	<0.01	0.011 mg/L
Iron	**23**	**3.6**	0.3 mg/L
Selenium	<0.01	<0.01	0.0046 mg/L
Thallium	<0.01	<0.01	0.004 mg/L
Zinc	0.012	0.015	0.115 mg/L
Nitrate as N	0.10	0.29	Monitor
Nitrite as N	<0.1	<0.1	Monitor
Chemical oxygen demand	32	15	40 mg/L
Total dissolved solids	360	780	Monitor

NOTE: NA = not analyzed. (Laboratory failed to complete analysis).
Values in bold indicate an excess of discharge criteria.



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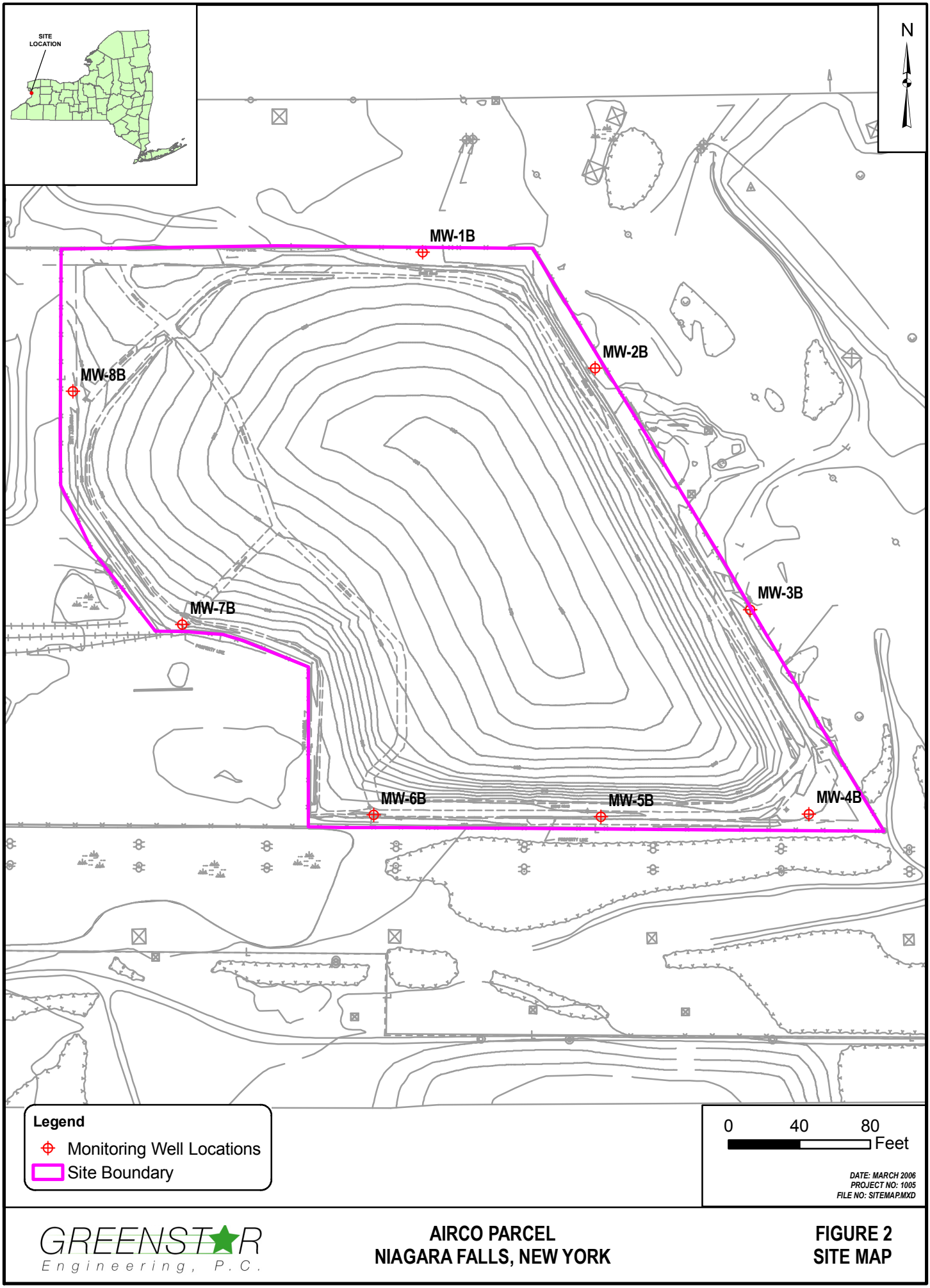
AIRCO PARCEL
NIAGARA FALLS, NEW YORK

FIGURE 1
SITE LOCATION



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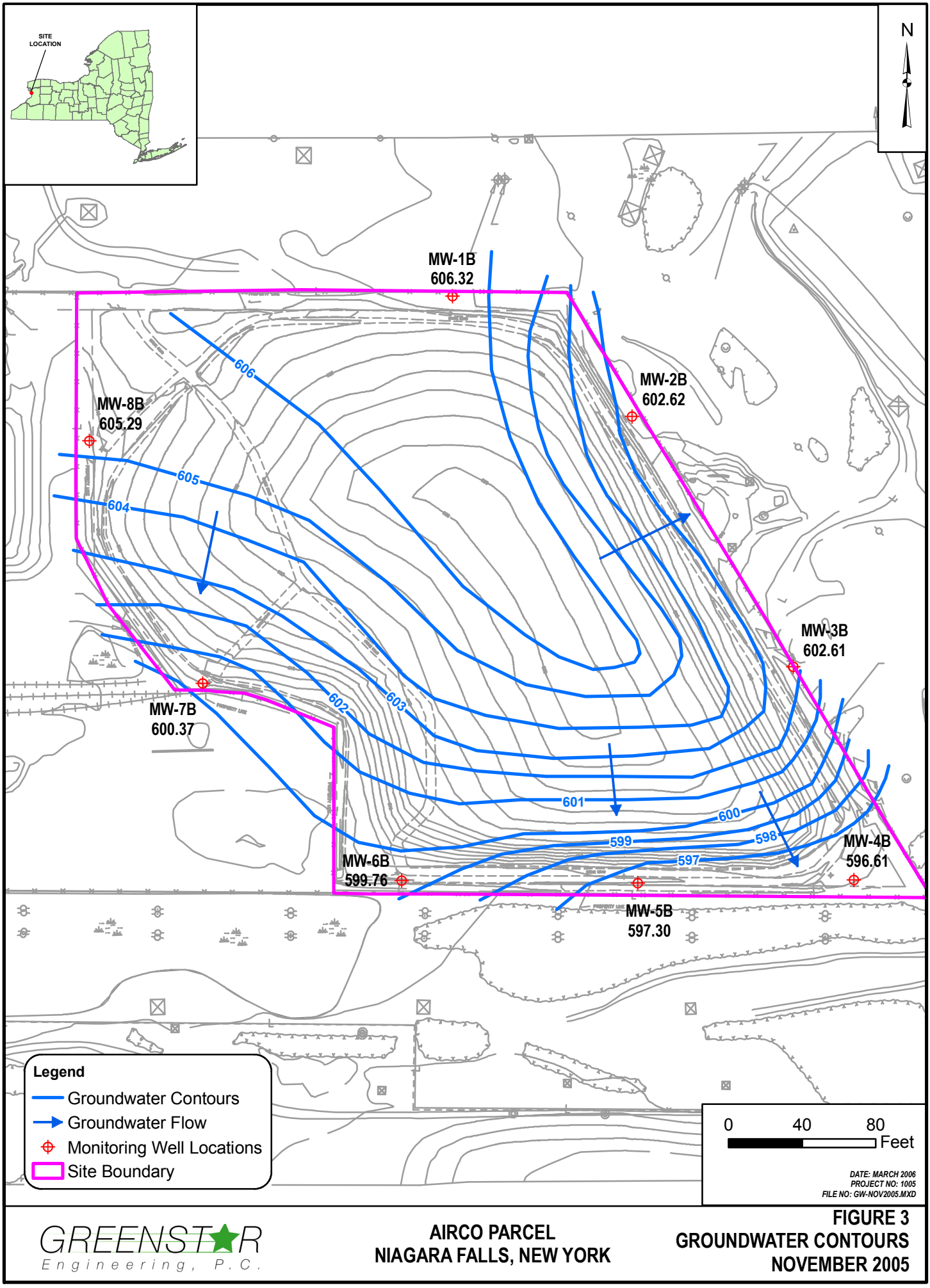
AIRCO PARCEL
NIAGARA FALLS, NEW YORK

FIGURE 2
SITE MAP



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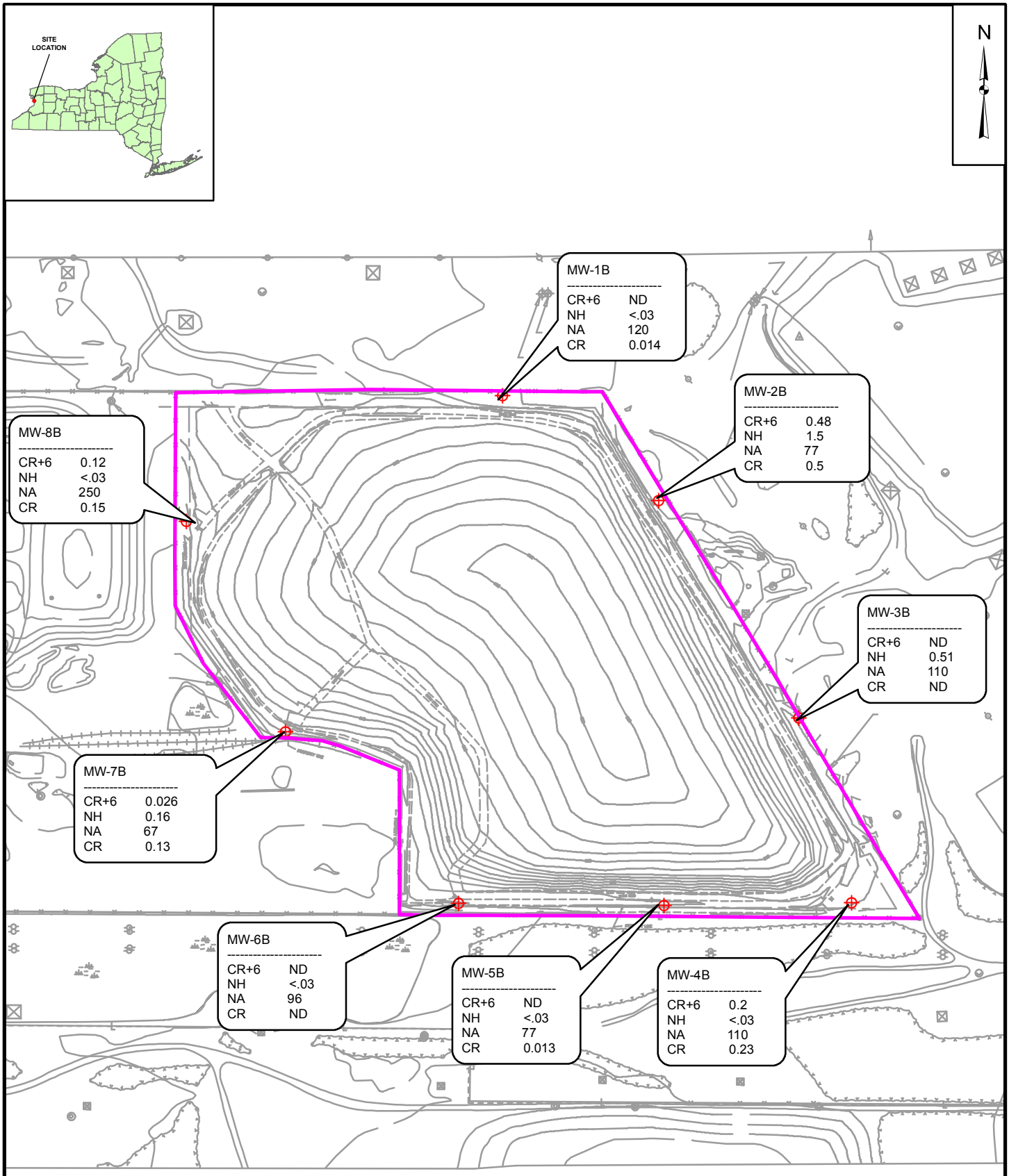
AIRCO PARCEL
NIAGARA FALLS, NEW YORK

FIGURE 3
GROUNDWATER CONTOURS
NOVEMBER 2005



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AIRCO PARCEL
NIAGARA FALLS, NEW YORK

FIGURE 4
SAMPLE RESULTS
NOVEMBER 2005

Attachment A

Summary of Analytical Results of Groundwater and Surface Water Samples November 2005

ATTACHMENT A
SUMMARY OF ANALYTICAL RESULTS OF GROUNDWATER AND SURFACE WATER SAMPLES
COLLECTED IN NOVEMBER 2005,
AIRCO PARCEL, NIAGARA FALLS, NEW YORK

Groundwater

Baseline Metals by EPA Method 6010/6020 (mg/L)

Total (Unfiltered)

		WRL MW1B	WRL MW2B	WRL MW3B	WRL MW4B	WRL MW5B	WRL MW6B	WRL MW6B (Dup)	WRL MW7B	WRL MW8B
Compound/Element	**AWQS**									
Chromium	0.05	0.014	**0.5**	(<0.01U)	**0.23**	0.013	(<0.01U)	0.017	**0.13**	**0.15**
Chromium, Hexavalent	0.05	(<0.01U)	**0.48**	(<0.01U)	**0.2**	(<0.01U)	(<0.01U)	(<0.01U)	0.026	**0.12**
Iron	0.3	**2.1**	**0.47**	0.083	**7.2**	**4.6**	**0.46**	**0.57**	**5.1**	**5.3**
Lead	0.025	(<0.01U)	(<0.01U)	(<0.01U)	0.011	(<0.01U)	(<0.01U)	(<0.01U)	(<0.01U)	0.012
Magnesium	35*	**63**	(<1U)	1	**44**	**77**	**71**	**72**	12	**49**
Manganese	0.3	**0.75**	0.013	(<0.01U)	0.2	0.17	0.13	0.14	0.14	**0.38**
Selenium	0.01	(<0.01U)	(<0.01U)	(<0.01U)	(<0.01U)	(<0.01U)	(<0.01U)	(<0.01U)	(<0.01U)	**0.055**
Silica	---	9.7	2.4	10	14	15	6.9	7.1	11	17
Sodium	20	**120**	**77**	**110**	**110**	**77**	**96**	**97**	**67**	**250**
Zinc	2*	0.55	0.011	0.012	0.095	0.11	0.011	0.01	0.041	0.14

Water Quality Parameters (mg/L)

		WRL MW1B	WRL MW2B	WRL MW3B	WRL MW4B	WRL MW5B	WRL MW6B	WRL MW6B (Dup)	WRL MW7B	WRL MW8B
Compound/Element	**AWQS**									
Ammonia (expressed as N)	2	(<0.03U)	1.5	0.51	(<0.03U)	(<0.03U)	(<0.03U)	(<0.03U)	0.16	(<0.03U)
Phenolics	0.001	(<0.05U)	(<0.05U)	(<0.05U)	(<0.05U)	(<0.05U)	(<0.05U)	(<0.05U)	**0.052**	(<0.05U)
Sulfate	250	180	17	130	140	130	250	250	39	**260**

Surface Water

Baseline Metals by EPA Method 6010/6020 (mg/L)

Total (Unfiltered)

		WRL SS
Compound/Element	**AWQS**	
Chromium	---	(<0.01U)
Chromium, Hexavalent	0.016	(<0.01U)
Iron	0.3	**0.7**
Lead	---	(<0.01U)
Magnesium	---	31
Manganese	---	0.52
Selenium	0.0046	(<0.01U)
Silica	---	11
Sodium	---	12
Zinc	---	(<0.01U)

Water Quality Parameters (mg/L)

		WRL SS
Compound/Element	**AWQS**	
Ammonia (expressed as N)	---	(<0.03U)
Phenolics	---	0.052
Sulfate	---	68

QA/QC

Baseline Metals by EPA Method 6010/6020 (mg/L)

Total (Unfiltered)

		Rinse Blank	Source Water Blank
Compound/Element	**AWQS**		
Chromium	---	(<0.01U)	(<0.01U)
Chromium, Hexavalent	---	(<0.01U)	(<0.01U)
Iron	---	(<0.05U)	(<0.05U)
Lead	---	(<0.01U)	(<0.01U)
Magnesium	---	8.2	8.1
Manganese	---	(<0.01U)	(<0.01U)
Selenium	---	(<0.01U)	(<0.01U)
Silica	---	1.1	1.1
Sodium	---	14	14
Zinc	---	0.042	0.041

Water Quality Parameters (mg/L)

		Rinse Blank	Source Water Blank
Compound/Element	**AWQS**		
Ammonia (expressed as N)	---	(<0.03U)	(<0.03U)
Phenolics	---	(<0.05U)	0.052
Sulfate	---	14	13

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

Only those analytes detected in at least one of the samples is shown on this table.
Results shaded and in boldface indicate concentrations in excess of New York State Ambient Water Quality Standards or Guidance Values.

Analytical Methods for Water Quality Parameters

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

Attachment B

Well Gauging, Purging, and Sampling Forms
November 2005

GREENSTAR Engineering, P.C.

WELL GAUGING, PURGING AND SAMPLING FORM

Well I.D.: AP-MW1B	**Personnel:** C.McLeod	**Client:** BOC GASES
Location: NIAGARA FALLS	**Well Condition:** LOCKED	**Weather:** CLEAR, MID 40's
Sounding Method: WLI	**Gauge Date:** 11/7/2005	**Measurement Ref:** TOC
Stick Up/Down (ft): UP	**Gauge Time:**	**Well Diameter (in):** 2"

Purge Date:	11/7/2005	**Purge Time:**	1154
Purge Method:	2" SUB/LOW FLOW	**Field Technician:**	C.McLeod

Well Volume

A. Well Depth (ft):	**D. Well Volume (ft):**	**Depth/Height of Top of PVC:**
B. Depth to Water (ft): 11.45	**E. Well Volume (gal) C*D):**	**Pump Type:** GRUNDFOS REDI-FLO 2
C. Liquid Depth (ft) (A-B):	**F. Five Well Volumes (gal) (E3):**	**Pump Designation:**

Water Quality Parameters

Time (hrs)	DTW (ft btoc)	Volume (liters)	Rate (Lpm)	pH (pH units)	ORP (mV)	Temperature (oC)	Conductivity (uS/cm)	DO (ug/L)	Turbidity (ntu)
1154	11.21	0	0.25	7.14	114	11.42	1.68	8.07	391
1158	11.90	1	0.25	6.97	60	11.77	1.65	0.38	298
1202	11.91	2	0.25	6.91	48	12.42	1.63	0.00	128
1206	11.92	3	0.25	6.92	42	12.74	1.62	0.00	73
1210	11.9	4	0.25	7.01	43	12.94	1.61	0.00	46

Total Quantity of Water Removed (gal): ~1.0 gal
Samplers: C.MCLEOD
Sampling Date: 7-Nov-05
Sampling Time: 1215
Split Sample With:
Sample Type: GRAB

COMMENTS AND OBSERVATIONS:

GREENSTAR Engineering, P.C.

WELL GAUGING, PURGING AND SAMPLING FORM

Well I.D.: AP-MW2B	**Personnel:** R.CASEY	**Client:** BOC GASES
Location: NIAGARA FALLS	**Well Condition:** LOCKED	**Weather:** CLEAR, MID 40's
Sounding Method: WLI	**Gauge Date:** 11/7/2005	**Measurement Ref:** TOC
Stick Up/Down (ft): UP	**Gauge Time:**	**Well Diameter (in):** 2"

Purge Date:	11/8/2005	**Purge Time:**	1200
Purge Method:	Peristaltic/Low Flow	**Field Technician:**	R.Casey

Well Volume

A. Well Depth (ft):	**D. Well Volume (ft):**	**Depth/Height of Top of PVC:**
B. Depth to Water (ft): 13.26	**E. Well Volume (gal) C*D):**	**Pump Type:** Peristaltic Geo-pump
C. Liquid Depth (ft) (A-B):	**F. Five Well Volumes (gal) (E3):**	**Pump Designation:**

Water Quality Parameters

Time (hrs)	DTW (ft btoc)	Volume (liters)	Rate (Lpm)	pH (pH units)	ORP (mV)	Temperature (oC)	Conductivity (uS/cm)	DO (ug/L)	Turbidity (ntu)
1200	13.18	0	0.25	12.24	-142	12.44	4.49	10.53	3.4
1204	13.34	1	0.25	12.17	-125	12.72	0	10.34	2.1
1208	13.56	2	0.25	12.21	-121	12.82	0	10.47	0
1212	13.62	3	0.25	12.25	-119	12.76	0	10.51	1.5
1216	13.53	4	0.25	12.17	-124	12.72	0	10.45	4.2

Total Quantity of Water Removed (gal):	~1 gal.	**Sampling Time:**	1220
Samplers:	R.CASEY	**Split Sample With:**	
Sampling Date:	8-Nov-05	**Sample Type:**	GRAB

COMMENTS AND OBSERVATIONS: Well purged and sampled using a peristaltic geo-pump. Well is damaged at ~12.5 to 14 feet.

GREENSTAR Engineering, P.C.

WELL GAUGING, PURGING AND SAMPLING FORM

Well I.D.: AP-MW3B	**Personnel:** C.McLeod	**Client:** BOC GASES
Location: NIAGARA FALLS	**Well Condition:** LOCKED	**Weather:** CLEAR, MID 40's
Sounding Method: WLI	**Gauge Date:** 11/7/2005	**Measurement Ref:** TOC
Stick Up/Down (ft): UP	**Gauge Time:**	**Well Diameter (in):** 2"

Purge Date:	11/7/2005	**Purge Time:**	1355
Purge Method:	2" SUB/LOW FLOW	**Field Technician:**	C.McLeod

Well Volume

A. Well Depth (ft):	**D. Well Volume (ft):**	**Depth/Height of Top of PVC:**
B. Depth to Water (ft): 8.61	**E. Well Volume (gal) C*D):**	**Pump Type:** GRUNDFOS REDI-FLO 2
C. Liquid Depth (ft) (A-B):	**F. Five Well Volumes (gal) (E3):**	**Pump Designation:**

Water Quality Parameters

Time (hrs)	DTW (ft btoc)	Volume (liters)	Rate (Lpm)	pH (pH units)	ORP (mV)	Temperature (oC)	Conductivity (uS/cm)	DO (ug/L)	Turbidity (ntu)
1355	7.9	0	0.25	10.94	-224	13.68	0.72	2.77	22.8
1359	10.08	1	0.25	10.97	-234	13.71	0.760	1.41	18.2
1403	110.32	2	0.25	10.99	-242	13.95	0.750	0.27	11.3
1407	10.43	3	0.25	10.96	-236	14.23	0.750	0	11..8

Total Quantity of Water Removed (gal): ~.75 gal
Samplers: C.MCLEOD
Sampling Date: 7-Nov-05
Sampling Time: 1410
Split Sample With:
Sample Type: GRAB

COMMENTS AND OBSERVATIONS:

GREENSTAR Engineering, P.C.

WELL GAUGING, PURGING AND SAMPLING FORM

Well I.D.: AP-MW4B	**Personnel:** C.McLeod	**Client:** BOC GASES
Location: NIAGARA FALLS	**Well Condition:** LOCKED	**Weather:** CLEAR, MID 40's
Sounding Method: WLI	**Gauge Date:** 11/7/2005	**Measurement Ref:** TOC
Stick Up/Down (ft): UP	**Gauge Time:**	**Well Diameter (in):** 2"

Purge Date:	11/7/2005	**Purge Time:**	1225
Purge Method:	HAND BAIL	**Field Technician:**	C.McLeod

Well Volume

A. Well Depth (ft):	**D. Well Volume (ft):**	**Depth/Height of Top of PVC:**
B. Depth to Water (ft): 10.07	**E. Well Volume (gal) C*D):**	**Pump Type:** DEDICATED BAILER
C. Liquid Depth (ft) (A-B):	**F. Five Well Volumes (gal) (E3):**	**Pump Designation:**

Water Quality Parameters

Time (hrs)	DTW (ft btoc)	Volume (liters)	Rate (Lpm)	pH (pH units)	ORP (mV)	Temperature (oC)	Conductivity (uS/cm)	DO (ug/L)	Turbidity (ntu)
1225	10.07	0	N/a	7.51	83	13.80	0.91	7.8	16
1227	Dry	~7	N/a	7.66	76	12.83	0.91	6.6	999

Total Quantity of Water Removed (gal): ~1.75 gal
Samplers: C.MCLEOD
Sampling Date: 8-Nov-05
Sampling Time: 730
Split Sample With:
Sample Type: GRAB

COMMENTS AND OBSERVATIONS: Well purged dry and sampled the following day.

GREENSTAR Engineering, P.C.

WELL GAUGING, PURGING AND SAMPLING FORM

Well I.D.: AP-MW5B	**Personnel:** C.McLeod	**Client:** BOC GASES
Location: NIAGARA FALLS	**Well Condition:** LOCKED	**Weather:** CLEAR, MID 40's
Sounding Method: WLI	**Gauge Date:** 11/7/2005	**Measurement Ref:** TOC
Stick Up/Down (ft): UP	**Gauge Time:**	**Well Diameter (in):** 2"

Purge Date:	11/7/2005	**Purge Time:**	1235
Purge Method:	HAND BAIL	**Field Technician:**	C.McLeod

Well Volume

A. Well Depth (ft):	**D. Well Volume (ft):**	**Depth/Height of Top of PVC:**
B. Depth to Water (ft): 8.18	**E. Well Volume (gal) C*D):**	**Pump Type:** DEDICATED BAILER
C. Liquid Depth (ft) (A-B):	**F. Five Well Volumes (gal) (E3):**	**Pump Designation:**

Water Quality Parameters

Time (hrs)	DTW (ft btoc)	Volume (liters)	Rate (Lpm)	pH (pH units)	ORP (mV)	Temperature (oC)	Conductivity (uS/cm)	DO (ug/L)	Turbidity (ntu)
1235		0	N/a	7.38	106	13.56	1.10	6.34	110
1237		~7	N/a	7.39	24	13.71	1.14	6.41	999

Total Quantity of Water Removed (gal): ~1.75 gal
Samplers: C.MCLEOD
Sampling Date: 8-Nov-05
Sampling Time: 740
Split Sample With:
Sample Type: GRAB

COMMENTS AND OBSERVATIONS: Well purged dry and sampled the following day.

GREENSTAR Engineering, P.C.

WELL GAUGING, PURGING AND SAMPLING FORM

Well I.D.: AP-MW6B	**Personnel:** C.McLeod	**Client:** BOC GASES
Location: NIAGARA FALLS	**Well Condition:** LOCKED	**Weather:** CLEAR, MID 40's
Sounding Method: WLI	**Gauge Date:** 11/7/2005	**Measurement Ref:** TOC
Stick Up/Down (ft): UP	**Gauge Time:**	**Well Diameter (in):** 2"

Purge Date:	11/7/2005	**Purge Time:**	1424
Purge Method:	2" SUB/LOW FLOW	**Field Technician:**	C.McLeod

Well Volume

A. Well Depth (ft):	**D. Well Volume (ft):**	**Depth/Height of Top of PVC:**
B. Depth to Water (ft): 3.71	**E. Well Volume (gal) C*D):**	**Pump Type:** GRUNDFOS REDI-FLO 2
C. Liquid Depth (ft) (A-B):	**F. Five Well Volumes (gal) (E3):**	**Pump Designation:**

Water Quality Parameters

Time (hrs)	DTW (ft btoc)	Volume (liters)	Rate (Lpm)	pH (pH units)	ORP (mV)	Temperature (oC)	Conductivity (uS/cm)	DO (ug/L)	Turbidity (ntu)
1424	2.71	0	0.25	7.69	-24	13.17	1.19	5.18	493
1428	4.71	1	0.25	7.32	-83	13.33	1.22	1.75	716
1432	6.32	2	0.25	7.21	-84	13.63	1.22	0.29	564.0
1436	7.11	3	0.25	7.26	-72	13.71	1.22	0	165
1440	7.49	4	0.25	7.26	-48	14.04	1.21	0	110
1444	7.49	5	0.25	7.27	-15	14.36	1.20	0.10	87
1448	7.61	6	0.25	7.27	-3	14.47	1.21	0.54	88
1452	7.62	7	0.25	7.24	1	14.11	1.22	0.63	54
1456	7.68	8	0.25	7.24	3	14.14	1.22	0.64	47

Total Quantity of Water Removed (gal):	~2 gal	**Sampling Time:**	1500
Samplers:	C.MCLEOD	**Split Sample With:**	
Sampling Date:	7-Nov-05	**Sample Type:**	GRAB

COMMENTS AND OBSERVATIONS: AP-DUP-1105 ALSO COLLECTED FROM MW6B.

GREENSTAR Engineering, P.C.

WELL GAUGING, PURGING AND SAMPLING FORM

Well I.D.: AP-MW7B	**Personnel:** C.McLeod	**Client:** BOC GASES
Location: NIAGARA FALLS	**Well Condition:** LOCKED	**Weather:** CLEAR, MID 40's
Sounding Method: WLI	**Gauge Date:** 11/7/2005	**Measurement Ref:** TOC
Stick Up/Down (ft): UP	**Gauge Time:**	**Well Diameter (in):** 2"

Purge Date:	11/7/2005	**Purge Time:**	1245
Purge Method:	HAND BAIL	**Field Technician:**	C.McLeod

Well Volume

A. Well Depth (ft):	**D. Well Volume (ft):**	**Depth/Height of Top of PVC:**
B. Depth to Water (ft): 9.11	**E. Well Volume (gal) C*D):**	**Pump Type:** DEDICATED BAILER
C. Liquid Depth (ft) (A-B):	**F. Five Well Volumes (gal) (E3):**	**Pump Designation:**

Water Quality Parameters

Time (hrs)	DTW (ft btoc)	Volume (liters)	Rate (Lpm)	pH (pH units)	ORP (mV)	Temperature (oC)	Conductivity (uS/cm)	DO (ug/L)	Turbidity (ntu)
1245	9.11		N/a	8.49	21	14.2	0.39	3.72	65
1250	Dry	~8.5	N/a	8.53	10	13.23	0.410	3.31	999

Total Quantity of Water Removed (gal): ~2.5 gal
Samplers: C.MCLEOD
Sampling Date: 8-Nov-05
Sampling Time: 815
Split Sample With:
Sample Type: GRAB

COMMENTS AND OBSERVATIONS: Well purged dry and sampled the following day.

GREENSTAR Engineering, P.C.

WELL GAUGING, PURGING AND SAMPLING FORM

Well I.D.: AP-MW8B	**Personnel:** C.McLeod	**Client:** BOC GASES
Location: NIAGARA FALLS	**Well Condition:** LOCKED	**Weather:** CLEAR, MID 40's
Sounding Method: WLI	**Gauge Date:** 11/7/2005	**Measurement Ref:** TOC
Stick Up/Down (ft): UP	**Gauge Time:**	**Well Diameter (in):** 2"

Purge Date:	11/7/2005	**Purge Time:**	1104
Purge Method:	2" SUB/LOW FLOW	**Field Technician:**	C.McLeod

Well Volume

A. Well Depth (ft):	**D. Well Volume (ft):**	**Depth/Height of Top of PVC:**
B. Depth to Water (ft): 6.33	**E. Well Volume (gal) C*D):**	**Pump Type:** GRUNDFOS REDI-FLO 2
C. Liquid Depth (ft) (A-B):	**F. Five Well Volumes (gal) (E3):**	**Pump Designation:**

Water Quality Parameters

Time (hrs)	DTW (ft btoc)	Volume (liters)	Rate (Lpm)	pH (pH units)	ORP (mV)	Temperature (oC)	Conductivity (uS/cm)	DO (ug/L)	Turbidity (ntu)
1104	8.15	0	0.25	7.44	128	14.16	1.45	4.20	124
1108	8.35	1	0.25	7.45	131	14.24	1.44	3.45	175
1112	8.66	2	0.25	7.42	133	15.71	1.40	3.13	138
1116	8.73	3	0.25	7.42	131	15.69	1.43	3.14	117
1120	8.79	4	0.25	7.37	130	15.71	1.44	3.08	113
1124	8.89	5	0.25	7.41	123	16.96	1.41	2.55	103
1128	8.96	6	0.25	7.42	119	16.35	1.44	2.6	108
1132	8.96	7	0.25	7.42	118	16.53	1.45	2.71	104

Total Quantity of Water Removed (gal):	~2 gal	**Sampling Time:**	1145
Samplers:	C.MCLEOD	**Split Sample With:**	
Sampling Date:	7-Nov-05	**Sample Type:**	GRAB

COMMENTS AND OBSERVATIONS:

Attachment C

Chain-of-Custody Records
November and December 2005

Life Science Laboratories, Inc.

CHAIN OF CUSTODY RECORD

LSL Central Lab
5854 Butternut Drive
East Syracuse, NY 13057
Phone: (315) 445-1105
Fax: (315) 445-1301
Email: lslcentral@lsl-inc.com

LSL North Lab
131 St Lawrence Ave
Waddington, NY 13694
Phone: (315) 388-4476
Fax: (315) 388-4061
Email: lslnfo@lsl-inc.com

LSL Finger Lakes Lab
16 North Main Street
Wayland, NY 14572
Phone: (585) 728-3320
Fax: (585) 728-2711
Email: lslfl@lsl-inc.com

LSL Southern Tier La
30 East Main Street
Cuba, NY 14727
Phone: (585) 968-26
Fax: (585) 968-0906
Email: lslst@lsl-inc.co...

0519291
Invoiced_Client

No. 9615 P. 3

Turnaround Time

Normal	Pre-Authorized				*Additional Charges may apply
14 DAY [X]	Next Day* [ ]	2-Day * [ ]	3-Day * [ ]	7-Day* [ ]	

Report Address:
Name: Greenstar Environmental Solutions, LLC
Company: Charles McLeod
Street: 6 Gellatly Drive
City/State: Wappingers Falls, NY Zip: 12590
Phone: 845-223-9944 Fax: 845-223-9955
Email: cmcleod@greenstarsolutions.com
Client Project ID/Client Site ID

Date Needed or Special Instructions:

Authorization or P.O. #

LSL Project Number:

Client's Sample Identifications	Sample Date	Sample Time	Type grab/comp	Matrix	Preserv Added	Containers #	Containers size/type	Analyses	Preserv Check	LSL ID#
AP-MW8B-1105	11/7/05	1135	Grab	GW		4		T. Phenols, *Metals, Cr+6		001 ABCd
								SO4, NH3		
AP-MW1B-1105	11/7/05	1215	Grab	GW						002 ABCd
AP-MW3B-1105	11/7/05	1410	↓	↓						003
AP-MW6B-1105	11/7/05	1500								004
AP-DUP-1105	11/7/05									005
			*Metals needed - Cd, Cr, Fe, Pb, Mg, Mn, Se, Si, Na, Tl, Zn							11-8-05

Nov. 7. 2005 2:33PM

LSL use only:
Containers this C-O-C

Custody Transfers

		Date	Time
Sampled By: Charles McLeod	Received By:		
Relinquished By:	Received By:		
Relinquished By: E. Mistle	Rec'd for Lab By:	11-07-05	08:10 RCVD
Shipment Method: UPS RED	Received Intact: Y (N)	Sample Temp	

*** All areas of this Chain of Custody Record MUST be filled out in order to process samples in a timely manner IN PEN ONLY***

Reg COC.XLS

5.6° on Ice
via UPS

Life Science Laboratories, Inc

CHAIN OF CUSTODY RECORD

LSL Central Lab
5854 Butternut Drive
East Syracuse, NY 13057
Phone: (315) 445-1105
Fax: (315) 445-1301
Email: lslcentral@lsl-inc.com

LSL North Lab
131 St Lawrence Ave
Waddington, NY 13694
Phone: (315) 388-4476
Fax: (315) 388-4061
Email: lslnfo@lsl-inc.com

LSL Finger Lakes Lab
16 North Main Street
Wayland, NY 14572
Phone: (585) 728-3320
Fax: (585) 728-2711
Email: lslfl@lsl-inc.com

LSL Southern Tier Lab
30 East Main Street
Cuba, NY 14727
Phone: (585) 968-2640
Fax: (585) 968-0906
Email: lslst@lsl-inc.com

Email: lslmi@lsl-inc.com

0519376
Invoiced_Client

No. 9615 P. 2

Turnaround Time

Normal	Pre-Authorized				*Additional Charges may apply
14 DAY ☑	Next Day* ☐	3-Day * ☐			
	2-Day * ☐	7-Day* ☐			

Report Address:
Name: Charles McLeod
Company: Greenstar Engineering, P.C.
Street: 6 Gellatly Drive
City/State: Wappingers Falls, NY Zip: 12590
Phone: 845-223-9944 Fax: 845-223-9955
Email: cmcleod@greenstarsolutions.com

Date Needed or Special Instructions:

Authorization or P.D. #

Client Project ID/Client Site ID

Client's Sample Identifications	Sample Date	Sample Time	Type grab/comp	Matrix	Preserv Added	Containers #	Containers size/type	Analyses	Preserv Check	LSL ID#
AP-MW2B-1105	11/6/05	1220	Grab	GW		4		T. Phenols, NH_3, Metals, Cr^{6+}, SO_4		001 AOC d
AP-MW4B-1105	↓	0730	↓	↓		↓		↓		002
AP-MW5B-1105		0740								003
AP-MW-7B-1105		0815								004
AP-SS1-1105		0900	↓	SW						005
AP-RB-1105		1240	-	-						006
AP-SWB-1105	↓	1245	-	-		↓		↓		007

Custody Transfers

		Date	Time
Sampled By: Charles McLeod	Received By:		
Relinquished By:	Received By:		
Relinquished By:	Rec'd for Lab By:	11-08-05	16:05 IN
Shipment Method: Hand Deliver	Received Intact: Y N	Sample Temp	

LSL use only:
Containers this C-O-C

*** All areas of this Chain of Custody Record MUST be filled out in order to process samples in a timely manner IN PEN ONLY***

Reg COC.XLS

8.2° on Ice

Nov. 7. 2005 2:33PM

Life Science Laboratories, Inc.
CHAIN OF CUSTODY RECORD

LSL Central Lab
5854 Butternut Drive
East Syracuse, NY 13057
Phone: (315) 445-1105
Fax: (315) 445-1301
Email: lslcentral@lsl-inc.com

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Fax: (315) 388-4081
Email: lslinfo@lsl-inc.com

LSL Finger Lakes Lab
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Phone: (585) 728-3320
Fax: (585) 728-2711
Email: lslfll@lsl-inc.com

LSL Southern Tier Lab
30 East Main Street
Cuba, NY 14727
Phone: (585) 968-2640
Fax: (585) 968-0906
Email: lslstl@lsl-inc.com

LSL
699
Cana
Phon
Fax:
Email:

0519380
Invoiced_Client

Report Address:
Name: Charles McLeod
Company: Greenstar Engineering, P.C.
Street: 6 Gellatly Drive
City/State: Wappingers Falls, NY **Zip:** 12590
Phone: 845-223-9944 **Fax:** 845-223-9955
Email: CMcLeod@Greenstarsolutions.com
Client Project ID/Client Site ID

Turnaround Time
Normal: 14 DAY [X]
Pre-Authorized: Next Day* [ ] 2-Day* 3-Day* [ ] 7-Day*
*Additional Charges may apply

Date Needed or Special Instructions:

Authorization or P.O. #

LSL Project Number:

Client's Sample Identifications	Sample Date	Sample Time	Type grab/comp	Matrix	Preserv Added	Containers #	Containers size/type	Analyses	Preserv Check	LSL ID#
AP-EFF7-110805	11/08/05	0910	Grab	GW	H_2SO_4	1		TKN, NH_3, COD		w1 A
↓	↓	↓	↓	↓	none	1		TDS BOD, TSS, pH, NO_3, NO_2, Cr^{+6}		w1 B
					HNO_3	1		Ba, Cr, Cu, Fe, Ni, Se, Tl, Zn		w1 C
					H_2SO_4	1		Phenols		w1 D
					HCL	2		601		w1 EF
					HCL	2		Trip Blank		w AB

LSL use only:

Containers this C-O-C

Custody Transfers			Date	Time
Sampled By: Charles McLeod	Received By:			
Relinquished By:	Received By:			
Relinquished By: [illegible]	Rec'd for Lab By: [illegible]		1-08-05	16:05 IN
Shipment Method: Hand delivered	Received Intact: Y N		Sample Temp 8.2°C on Ice	

*** All areas of this Chain of Custody Record MUST be filled out in order to process samples in a timely manner IN PEN ONLY***

Reg COC.XLS

Life Science Laboratories, Inc.

CHAIN OF CUSTODY RECORD

0522006

GreenstarEngineer

LSL Central Lab
5854 Butternut Drive
East Syracuse, NY 13057
Phone: (315) 445-1105
Fax: (315) 445-1301
Email: lslcentral@lsl-inc.com

LSL North Lab
131 St Lawrence Ave
Waddington, NY 13694
Phone: (315) 388-4476
Fax: (315) 388-4081
Email: lslnfo@lsl-inc.com

LSL Finger Lakes Lab
16 North Main Street
Wayland, NY 14572
Phone: (585) 728-3320
Fax: (585) 728-2711
Email: lslfll@lsl-inc.com

LSL Southern Tier Lab
30 East Main Street
Cuba, NY 14727
Phone: (585) 968-2640
Fax: (585) 968-0906
Email: lslstl@lsl-inc.com

LSL Mid-Lakes Lab
650 South Main Street
Canandaigua, NY 14424
Phone: (585) 396-0270
Fax: (585) 396-0377
Email: lslml@lsl-inc.com

Turnaround Time

Normal	Pre-Authorized				*Additional Charges may apply
14 DAY [X]	Next Day* [ ]	2-Day * [ ]	3-Day * [ ]	7-Day* [ ]	

Report Address:
Name: Green Star Engineering P.C.
Company:
Street: 6 Gellatly Drive
City/State: Wappingers Falls NY **Zip:** 12590
Phone: 845-222-9944 **Fax:** 845-223-9955
Email: CmcLeod@Greenstarsolutions.com

Date Needed or Special Instructions:

Authorization or P.O. #

Client Project ID/Client Site ID

LSL Project Number:

Client's Sample Identifications	Sample Date	Sample Time	Type grab/comp	Matrix	Preserv Added	Containers #	Containers size/type	Analyses	Preserv Check	LSL ID#
AP-EFF 122705	12/27/05	2400	Grab	W	HCL	2	40 ml	VOC		001 AB
↓	12/27/05	2400			H_2SO_4	1		TKN COD NH_3		↓ C
AP-EFF 122805	12/28/05	1500			None	1		BOD, TSS TDS PH		002 A
								NO_2 NO_3 Cr^{+6}		
AI-EFF 122705	12/27/05	2400			H_2SO_4	1	H	T Phenols		001 D
AI-EFF 122805	12/28/05	1500	↓	↓	HNO_3	1		Metals		002 B
Trip Blank						2				003 AB

LSL use only:

Containers this C-O-C

Custody Transfers

		Date	Time
Sampled By:			
Relinquished By:	Received By:		
Relinquished By:	Rec'd for Lab By:	12-29-05	03:00 RCVD
Shipment Method:	Received Intact: Y N	Sample Temp	08:06

*** All areas of this Chain of Custody Record MUST be filled out in order to process samples in a timely manner IN PEN ONLY***

Reg COC.XLS

1.8 on Iq

Attachment D

Laboratory Analytical Results
December 2005

Charles McLeod
Greenstar Engineering, P.C.
6 Gellatly Drive
Wappingers Falls, NY 12590

Phone: (845) 223-9944
FAX: (845) 223-9955

Laboratory Analysis Report
For
Greenstar Engineering, P.C.

LSL Project ID: **0519376**

Receive Date/Time: 11/08/05 16:05

Project Received by: GS

Life Science Laboratories, Inc.

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NYS DOH ELAP #11667

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30 East Main Street
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NYS DOH ELAP #10760

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699 South Main Street
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NYS DOH ELAP #11369

This report was reviewed by: R Palamander Ph.D., DABT *Date:* 11/22/05
Life Science Laboratories, Inc.

A copy of this report was sent to:

Date Printed: 11/22/05

-- LABORATORY ANALYSIS REPORT --

Greenstar Engineering, P.C. *Wappingers Falls, NY*

Sample ID: AP-MW1B-1105 **LSL Sample ID:** 0519291-002

Location:

Sampled: 11/07/05 12:15 **Sampled By:** CM

Sample Matrix: NPW

Analytical Method / Analyte	Result	Units	Prep Date	Analysis Date & Time	Analyst Initials
(1) EPA 200.7 Total Metals					
Silicon	9.7	mg/l	11/9/05	11/10/05	DP
Cadmium	<0.01	mg/l	11/9/05	11/10/05	DP
Chromium	0.014	mg/l	11/9/05	11/10/05	DP
Iron	2.1	mg/l	11/9/05	11/10/05	DP
Magnesium	63	mg/l	11/9/05	11/10/05	DP
Manganese	0.75	mg/l	11/9/05	11/10/05	DP
Sodium	120	mg/l	11/9/05	11/10/05	DP
Lead	<0.01	mg/l	11/9/05	11/10/05	DP
Selenium	<0.01	mg/l	11/9/05	11/10/05	DP
Thallium	<0.01	mg/l	11/9/05	11/10/05	DP
Zinc	0.55	mg/l	11/9/05	11/10/05	DP
(1) EPA 350.1 Ammonia					
Ammonia as N	<0.03	mg/l		11/15/05	DRB
(1) EPA 420.1 Recoverable Phenolics ML					
Phenolics, Total Recoverable	<0.05	mg/l		11/15/05	AJS
(1) EPA Method 300.0 A					
Sulfate	180	mg/l		11/10/05	RLA
(1) SM 18 3500Cr-D Hexavalent Chromium					
Chromium, Hexavalent	<0.01	mg/l		11/8/05 11:40	AJS

-- LABORATORY ANALYSIS REPORT --

Greenstar Engineering, P.C. *Wappingers Falls, NY*

Sample ID: AP-MW2B-1105 **LSL Sample ID:** 0519376-001

Location:

Sampled: 11/08/05 12:20 **Sampled By:** CM

Sample Matrix: NPW

Analytical Method / Analyte	Result	Units	Prep Date	Analysis Date & Time	Analyst Initials
(1) EPA 200.7 Total Metals					
Silicon	2.4	mg/l	11/9/05	11/10/05	DP
Cadmium	<0.01	mg/l	11/9/05	11/10/05	DP
Chromium	0.50	mg/l	11/9/05	11/10/05	DP
Iron	0.47	mg/l	11/9/05	11/10/05	DP
Magnesium	<1	mg/l	11/9/05	11/10/05	DP
Manganese	0.013	mg/l	11/9/05	11/10/05	DP
Sodium	77	mg/l	11/9/05	11/10/05	DP
Lead	<0.01	mg/l	11/9/05	11/10/05	DP
Selenium	<0.01	mg/l	11/9/05	11/10/05	DP
Thallium	<0.01	mg/l	11/9/05	11/10/05	DP
Zinc	0.011	mg/l	11/9/05	11/10/05	DP
(1) EPA 350.1 Ammonia					
Ammonia as N	1.5	mg/l		11/15/05	DRB
(1) EPA 420.1 Recoverable Phenolics ML					
Phenolics, Total Recoverable	<0.05	mg/l		11/15/05	AJS
(1) EPA Method 300.0 A					
Sulfate	17	mg/l		11/9/05	RLA
(1) SM 18 3500Cr-D Hexavalent Chromium					
Chromium, Hexavalent	0.48	mg/l		11/9/05 11:14	AJS

-- LABORATORY ANALYSIS REPORT --

Greenstar Engineering, P.C. *Wappingers Falls, NY*

Sample ID: AP-MW3B-1105 **LSL Sample ID:** 0519291-003

Location:

Sampled: 11/07/05 14:10 **Sampled By:** CM

Sample Matrix: NPW

Analytical Method / Analyte	Result	Units	Prep Date	Analysis Date & Time	Analyst Initials
(1) EPA 200.7 Total Metals					
Silicon	10	mg/l	11/9/05	11/10/05	DP
Cadmium	<0.01	mg/l	11/9/05	11/10/05	DP
Chromium	<0.01	mg/l	11/9/05	11/10/05	DP
Iron	0.083	mg/l	11/9/05	11/10/05	DP
Magnesium	1.0	mg/l	11/9/05	11/10/05	DP
Manganese	<0.01	mg/l	11/9/05	11/10/05	DP
Sodium	110	mg/l	11/9/05	11/10/05	DP
Lead	<0.01	mg/l	11/9/05	11/10/05	DP
Selenium	<0.01	mg/l	11/9/05	11/10/05	DP
Thallium	<0.01	mg/l	11/9/05	11/10/05	DP
Zinc	0.012	mg/l	11/9/05	11/10/05	DP
(1) EPA 350.1 Ammonia					
Ammonia as N	0.51	mg/l		11/15/05	DRB
(1) EPA 420.1 Recoverable Phenolics ML					
Phenolics, Total Recoverable	<0.05	mg/l		11/15/05	AJS
(1) EPA Method 300.0 A					
Sulfate	130	mg/l		11/10/05	RLA
(1) SM 18 3500Cr-D Hexavalent Chromium					
Chromium, Hexavalent	<0.01	mg/l		11/8/05 11:40	AJS

Life Science Laboratories, Inc.

Date Printed: 11/22/05

Analysis performed at: *(1) LSL Central, (2) LSL North, (3) LSL Finger Lakes, (4) LSL Southern Tier, (5) LSL MidLakes*

-- LABORATORY ANALYSIS REPORT --

Greenstar Engineering, P.C. *Wappingers Falls, NY*

Sample ID: AP-MW4B-1105 **LSL Sample ID:** 0519376-002

Location:

Sampled: 11/08/05 7:30 **Sampled By:** CM

Sample Matrix: NPW

Analytical Method / Analyte	Result	Units	Prep Date	Analysis Date & Time	Analyst Initials
(1) EPA 200.7 Total Metals					
Silicon	14	mg/l	11/9/05	11/10/05	DP
Cadmium	<0.01	mg/l	11/9/05	11/10/05	DP
Chromium	0.23	mg/l	11/9/05	11/10/05	DP
Iron	7.2	mg/l	11/9/05	11/10/05	DP
Magnesium	44	mg/l	11/9/05	11/10/05	DP
Manganese	0.20	mg/l	11/9/05	11/10/05	DP
Sodium	110	mg/l	11/9/05	11/10/05	DP
Lead	0.011	mg/l	11/9/05	11/10/05	DP
Selenium	<0.01	mg/l	11/9/05	11/10/05	DP
Thallium	<0.01	mg/l	11/9/05	11/10/05	DP
Zinc	0.095	mg/l	11/9/05	11/10/05	DP
(1) EPA 350.1 Ammonia					
Ammonia as N	<0.03	mg/l		11/15/05	DRB
(1) EPA 420.1 Recoverable Phenolics ML					
Phenolics, Total Recoverable	<0.05	mg/l		11/15/05	AJS
(1) EPA Method 300.0 A					
Sulfate	140	mg/l		11/10/05	RLA
(1) SM 18 3500Cr-D Hexavalent Chromium					
Chromium, Hexavalent	0.20	mg/l		11/8/05 17:02	AJS

-- LABORATORY ANALYSIS REPORT --

Greenstar Engineering, P.C. *Wappingers Falls, NY*

Sample ID: AP-MW5B-1105 **LSL Sample ID:** 0519376-003

Location:

Sampled: 11/08/05 7:40 **Sampled By:** CM

Sample Matrix: NPW

Analytical Method / Analyte	Result	Units	Prep Date	Analysis Date & Time	Analyst Initials
(1) EPA 200.7 Total Metals					
Silicon	15	mg/l	11/9/05	11/10/05	DP
Cadmium	<0.01	mg/l	11/9/05	11/10/05	DP
Chromium	0.013	mg/l	11/9/05	11/10/05	DP
Iron	4.6	mg/l	11/9/05	11/10/05	DP
Magnesium	77	mg/l	11/9/05	11/10/05	DP
Manganese	0.17	mg/l	11/9/05	11/10/05	DP
Sodium	77	mg/l	11/9/05	11/10/05	DP
Lead	<0.01	mg/l	11/9/05	11/10/05	DP
Selenium	<0.01	mg/l	11/9/05	11/10/05	DP
Thallium	<0.01	mg/l	11/9/05	11/10/05	DP
Zinc	0.11	mg/l	11/9/05	11/10/05	DP
(1) EPA 350.1 Ammonia					
Ammonia as N	<0.03	mg/l		11/15/05	DRB
(1) EPA 420.1 Recoverable Phenolics ML					
Phenolics, Total Recoverable	<0.05	mg/l		11/15/05	AJS
(1) EPA Method 300.0 A					
Sulfate	130	mg/l		11/10/05	RLA
(1) SM 18 3500Cr-D Hexavalent Chromium					
Chromium, Hexavalent	<0.01	mg/l		11/8/05 17:04	AJS

-- LABORATORY ANALYSIS REPORT --

Greenstar Engineering, P.C. *Wappingers Falls, NY*

Sample ID: AP-MW6B-1105 **LSL Sample ID:** 0519291-004

Location:

Sampled: 11/07/05 15:00 **Sampled By:** CM

Sample Matrix: NPW

Analytical Method / Analyte	Result	Units	Prep Date	Analysis Date & Time	Analyst Initials
(1) EPA 200.7 Total Metals					
Silicon	6.9	mg/l	11/9/05	11/10/05	DP
Cadmium	<0.01	mg/l	11/9/05	11/10/05	DP
Chromium	<0.01	mg/l	11/9/05	11/10/05	DP
Iron	0.46	mg/l	11/9/05	11/10/05	DP
Magnesium	71	mg/l	11/9/05	11/10/05	DP
Manganese	0.13	mg/l	11/9/05	11/10/05	DP
Sodium	96	mg/l	11/9/05	11/10/05	DP
Lead	<0.01	mg/l	11/9/05	11/10/05	DP
Selenium	<0.01	mg/l	11/9/05	11/10/05	DP
Thallium	<0.01	mg/l	11/9/05	11/10/05	DP
Zinc	0.011	mg/l	11/9/05	11/10/05	DP
(1) EPA 350.1 Ammonia					
Ammonia as N	<0.03	mg/l		11/15/05	DRB
(1) EPA 420.1 Recoverable Phenolics ML					
Phenolics, Total Recoverable	<0.05	mg/l		11/15/05	AJS
(1) EPA Method 300.0 A					
Sulfate	250	mg/l		11/10/05	RLA
(1) SM 18 3500Cr-D Hexavalent Chromium					
Chromium, Hexavalent	<0.01	mg/l		11/8/05 11:41	AJS

-- LABORATORY ANALYSIS REPORT --

Greenstar Engineering, P.C. *Wappingers Falls, NY*

Sample ID: AP-DUP-1105 **LSL Sample ID:** 0519291-005

Location:

Sampled: 11/07/05 0:00 **Sampled By:** CM

Sample Matrix: QC

Analytical Method / Analyte	Result	Units	Prep Date	Analysis Date & Time	Analyst Initials
(1) EPA 200.7 Total Metals					
Silicon	7.1	mg/l	11/9/05	11/10/05	DP
Cadmium	<0.01	mg/l	11/9/05	11/10/05	DP
Chromium	0.017	mg/l	11/9/05	11/10/05	DP
Iron	0.57	mg/l	11/9/05	11/10/05	DP
Magnesium	72	mg/l	11/9/05	11/10/05	DP
Manganese	0.14	mg/l	11/9/05	11/10/05	DP
Sodium	97	mg/l	11/9/05	11/10/05	DP
Lead	<0.01	mg/l	11/9/05	11/10/05	DP
Selenium	<0.01	mg/l	11/9/05	11/10/05	DP
Thallium	<0.01	mg/l	11/9/05	11/10/05	DP
Zinc	0.010	mg/l	11/9/05	11/10/05	DP
(1) EPA 350.1 Ammonia					
Ammonia as N	<0.03	mg/l		11/15/05	DRB
(1) EPA 420.1 Recoverable Phenolics ML					
Phenolics, Total Recoverable	<0.05	mg/l		11/15/05	AJS
(1) EPA Method 300.0 A					
Sulfate	250	mg/l		11/10/05	RLA
(1) SM 18 3500Cr-D Hexavalent Chromium					
Chromium, Hexavalent	<0.01	mg/l		11/8/05 11:41	AJS

-- LABORATORY ANALYSIS REPORT --

Greenstar Engineering, P.C. *Wappingers Falls, NY*

Sample ID: AP-MW-7B-1105 **LSL Sample ID:** 0519376-004

Location:

Sampled: 11/08/05 8:15 **Sampled By:** CM

Sample Matrix: NPW

Analytical Method / Analyte	Result	Units	Prep Date	Analysis Date & Time	Analyst Initials
(1) EPA 200.7 Total Metals					
Silicon	11	mg/l	11/9/05	11/10/05	DP
Cadmium	<0.01	mg/l	11/9/05	11/10/05	DP
Chromium	0.13	mg/l	11/9/05	11/10/05	DP
Iron	5.1	mg/l	11/9/05	11/10/05	DP
Magnesium	12	mg/l	11/9/05	11/10/05	DP
Manganese	0.14	mg/l	11/9/05	11/10/05	DP
Sodium	67	mg/l	11/9/05	11/10/05	DP
Lead	<0.01	mg/l	11/9/05	11/10/05	DP
Selenium	<0.01	mg/l	11/9/05	11/10/05	DP
Thallium	<0.01	mg/l	11/9/05	11/10/05	DP
Zinc	0.041	mg/l	11/9/05	11/10/05	DP
(1) EPA 350.1 Ammonia					
Ammonia as N	0.16	mg/l		11/15/05	DRB
(1) EPA 420.1 Recoverable Phenolics ML					
Phenolics, Total Recoverable	0.052	mg/l		11/15/05	AJS
(1) EPA Method 300.0 A					
Sulfate	39	mg/l		11/10/05	RLA
(1) SM 18 3500Cr-D Hexavalent Chromium					
Chromium, Hexavalent	0.026	mg/l		11/8/05 17:04	AJS

-- LABORATORY ANALYSIS REPORT --

Greenstar Engineering, P.C. *Wappingers Falls, NY*

Sample ID: AP-MW8B-1105 **LSL Sample ID:** 0519291-001

Location:

Sampled: 11/07/05 11:35 **Sampled By:** CM

Sample Matrix: NPW

Analytical Method / Analyte	Result	Units	Prep Date	Analysis Date & Time	Analyst Initials
(1) EPA 200.7 Total Metals					
Silicon	17	mg/l	11/9/05	11/10/05	DP
Cadmium	<0.01	mg/l	11/9/05	11/10/05	DP
Chromium	0.15	mg/l	11/9/05	11/10/05	DP
Iron	5.3	mg/l	11/9/05	11/10/05	DP
Magnesium	49	mg/l	11/9/05	11/10/05	DP
Manganese	0.38	mg/l	11/9/05	11/10/05	DP
Sodium	250	mg/l	11/9/05	11/10/05	DP
Lead	0.012	mg/l	11/9/05	11/10/05	DP
Selenium	0.055	mg/l	11/9/05	11/10/05	DP
Thallium	<0.01	mg/l	11/9/05	11/10/05	DP
Zinc	0.14	mg/l	11/9/05	11/10/05	DP
(1) EPA 350.1 Ammonia					
Ammonia as N	<0.03	mg/l		11/15/05	DRB
(1) EPA 420.1 Recoverable Phenolics ML					
Phenolics, Total Recoverable	<0.05	mg/l		11/15/05	AJS
(1) EPA Method 300.0 A					
Sulfate	260	mg/l		11/10/05	RLA
(1) SM 18 3500Cr-D Hexavalent Chromium					
Chromium, Hexavalent	0.12	mg/l		11/8/05 11:37	AJS

-- LABORATORY ANALYSIS REPORT --

Greenstar Engineering, P.C. *Wappingers Falls, NY*

Sample ID: AP-SS1-1105 **LSL Sample ID:** 0519376-005

Location:

Sampled: 11/08/05 8:00 **Sampled By:** CM

Sample Matrix: NPW

Analytical Method / Analyte	Result	Units	Prep Date	Analysis Date & Time	Analyst Initials
(1) EPA 200.7 Total Metals					
Silicon	11	mg/l	11/9/05	11/10/05	DP
Cadmium	<0.01	mg/l	11/9/05	11/10/05	DP
Chromium	<0.01	mg/l	11/9/05	11/10/05	DP
Iron	0.70	mg/l	11/9/05	11/10/05	DP
Magnesium	31	mg/l	11/9/05	11/10/05	DP
Manganese	0.52	mg/l	11/9/05	11/10/05	DP
Sodium	12	mg/l	11/9/05	11/10/05	DP
Lead	<0.01	mg/l	11/9/05	11/10/05	DP
Selenium	<0.01	mg/l	11/9/05	11/10/05	DP
Thallium	<0.01	mg/l	11/9/05	11/10/05	DP
Zinc	<0.01	mg/l	11/9/05	11/10/05	DP
(1) EPA 350.1 Ammonia					
Ammonia as N	<0.03	mg/l		11/15/05	DRB
(1) EPA 420.1 Recoverable Phenolics ML					
Phenolics, Total Recoverable	0.052	mg/l		11/15/05	AJS
(1) EPA Method 300.0 A					
Sulfate	68	mg/l		11/10/05	RLA
(1) SM 18 3500Cr-D Hexavalent Chromium					
Chromium, Hexavalent	<0.01	mg/l		11/8/05 17:04	AJS

-- LABORATORY ANALYSIS REPORT --

Greenstar Engineering, P.C. *Wappingers Falls, NY*

Sample ID: AP-RB-1105 **LSL Sample ID:** 0519376-006

Location:

Sampled: 11/08/05 12:40 **Sampled By:** CM

Sample Matrix: NPW

Analytical Method / Analyte	Result	Units	Prep Date	Analysis Date & Time	Analyst Initials
(1) EPA 200.7 Total Metals					
Silicon	1.1	mg/l	11/9/05	11/10/05	DP
Cadmium	<0.01	mg/l	11/9/05	11/10/05	DP
Chromium	<0.01	mg/l	11/9/05	11/10/05	DP
Iron	<0.05	mg/l	11/9/05	11/10/05	DP
Magnesium	8.2	mg/l	11/9/05	11/10/05	DP
Manganese	<0.01	mg/l	11/9/05	11/10/05	DP
Sodium	14	mg/l	11/9/05	11/10/05	DP
Lead	<0.01	mg/l	11/9/05	11/10/05	DP
Selenium	<0.01	mg/l	11/9/05	11/10/05	DP
Thallium	<0.01	mg/l	11/9/05	11/10/05	DP
Zinc	0.042	mg/l	11/9/05	11/10/05	DP
(1) EPA 350.1 Ammonia					
Ammonia as N	<0.03	mg/l		11/15/05	DRB
(1) EPA 420.1 Recoverable Phenolics ML					
Phenolics, Total Recoverable	<0.05	mg/l		11/15/05	AJS
(1) EPA Method 300.0 A					
Sulfate	14	mg/l		11/9/05	RLA
(1) SM 18 3500Cr-D Hexavalent Chromium					
Chromium, Hexavalent	<0.01	mg/l		11/9/05 11:15	AJS

-- LABORATORY ANALYSIS REPORT --

Greenstar Engineering, P.C. *Wappingers Falls, NY*

Sample ID: AP-SWB-1105 **LSL Sample ID:** 0519376-007

Location:

Sampled: 11/08/05 12:45 **Sampled By:** CM

Sample Matrix: NPW

Analytical Method / Analyte	Result	Units	Prep Date	Analysis Date & Time	Analyst Initials
(1) EPA 200.7 Total Metals					
Silicon	1.1	mg/l	11/9/05	11/10/05	DP
Cadmium	<0.01	mg/l	11/9/05	11/10/05	DP
Chromium	<0.01	mg/l	11/9/05	11/10/05	DP
Iron	<0.05	mg/l	11/9/05	11/10/05	DP
Magnesium	8.1	mg/l	11/9/05	11/10/05	DP
Manganese	<0.01	mg/l	11/9/05	11/10/05	DP
Sodium	14	mg/l	11/9/05	11/10/05	DP
Lead	<0.01	mg/l	11/9/05	11/10/05	DP
Selenium	<0.01	mg/l	11/9/05	11/10/05	DP
Thallium	<0.01	mg/l	11/9/05	11/10/05	DP
Zinc	0.041	mg/l	11/9/05	11/10/05	DP
(1) EPA 350.1 Ammonia					
Ammonia as N	<0.03	mg/l		11/15/05	DRB
(1) EPA 420.1 Recoverable Phenolics ML					
Phenolics, Total Recoverable	0.052	mg/l		11/15/05	AJS
(1) EPA Method 300.0 A					
Sulfate	13	mg/l		11/9/05	RLA
(1) SM 18 3500Cr-D Hexavalent Chromium					
Chromium, Hexavalent	<0.01	mg/l		11/9/05 11:17	AJS

Attachment E

Landfill Cap Inspection Checklist
November 2005

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

Personnel:	Chip McLeod - Greenstar Engineering, PC; Bob Casey - EA Engineering, PC
Date:	7 November 2005
Weather:	Clear, mid-40s

1. **Inspection of ground surface for exposure of geotextile cover (cap erosion):**
   No erosion observed.
2. **Inspection of ground surface for differential settlement resulting in soil cracking or ponded water:**
   No deficiencies observed.
3. **Identification of stressed vegetation:**
   Vegetation on landfill (grass), approximately 0.5-ft high; no stressed vegetation observed.
4. **Identification of seeps, rooted vegetation (trees), and/or animal burrows:**
   Observed some small rodent burrows in topsoil throughout the site. Rodents are most likely a type of field mice.
5. **Identification of deteriorating equipment (i.e., monitoring wells, fencing, or drainage structures):**
   Monitoring wells show some rusting of the steel protective casings. May choose to grind rust, prime, and paint before rust gets too far into the metal.
6. **Inspection of stormwater drainage swales for erosion, sloughing, or flow-through:**
   Drainage swales are clear with the exception of the one located at the southwest edge, where soils and vegetation have covered the stone swale. It should be cleaned and new stone installed.
7. **Inspection of east side of the landfill (Niagara Mohawk Power Corporation parcel) along the intermittent stream for the presence of erosion or sloughing:**
   No deficiencies observed.
8. **Inspection of access roads:**
   Access roads were in good shape. Vegetation was observed beginning to grow in many areas of the road. Defoliant should be used to remove the vegetation in the roadways.

Attachment F

Laboratory Analytical Results for GCTS Discharge Sampling

Charles McLeod
Greenstar Engineering, P.C.
6 Gellatly Drive
Wappingers Falls, NY 12590

Phone: (845) 223-9944
FAX: (845) 223-9955

Laboratory Analysis Report
For
Greenstar Engineering, P.C.

LSL Project ID: **0519380**

Receive Date/Time: 11/08/05 16:05

Project Received by: GS

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This report was reviewed by: Life Science Laboratories, Inc. *Date:* 11/22/05

A copy of this report was sent to:

Date Printed: 11/22/05

-- LABORATORY ANALYSIS REPORT --

Greenstar Engineering, P.C. *Wappingers Falls, NY*

Sample ID: AP-EFF7-110805 **LSL Sample ID:** 0519380-001

Location:

Sampled: 11/08/05 9:10 **Sampled By:** CM

Sample Matrix: NPW

Analytical Method / Analyte	Result	Units	Prep Date	Analysis Date & Time	Analyst Initials
(1) EPA 150.1 pH					
pH	6.4	Std. Units		11/8/05 16:45	MW
pH Measurement Temperature	25	Degrees C		11/8/05 16:45	MW
NYS DOH ELAP specifications require pH to be measured within one hour of sample collection.					
(1) EPA 160.2 Total Suspended Solids					
Total Suspended Solids @ 103-105 C	66	mg/l		11/10/05	MM
(1) EPA 200.7 Total Metals					
Barium	<0.2	mg/l	11/9/05	11/10/05	DP
Chromium	<0.01	mg/l	11/9/05	11/10/05	DP
Copper	<0.01	mg/l	11/9/05	11/10/05	DP
Iron	23	mg/l	11/9/05	11/10/05	DP
Nickel	<0.01	mg/l	11/9/05	11/10/05	DP
Selenium	<0.01	mg/l	11/9/05	11/10/05	DP
Thallium	<0.01	mg/l	11/9/05	11/10/05	DP
Zinc	0.012	mg/l	11/9/05	11/10/05	DP
(1) EPA 350.1 Ammonia					
Ammonia as N	0.42	mg/l		11/15/05	DRB
(1) EPA 351.2 TKN as N					
Total Kjeldahl Nitrogen	1.3	mg/l	11/11/05	11/14/05	DRB
(1) EPA 405.1 BOD-5					
Biochemical Oxygen Demand, 5 Day	<10	mg/l		11/9/05 15:53	MM/AJS
This result should be considered an estimate due to low oxygen depletion.					
(1) EPA 420.1 Recoverable Phenolics LL					
Phenolics, Total Recoverable	<0.002	mg/l		11/17/05	AJS
(1) EPA 601 Halocarbons by 624(Partial List)					
1,1-Dichloroethane	<1	ug/l		11/16/05	BD
Trichloroethene	<1	ug/l		11/16/05	BD
Surrogate (Tol-d8)	101	%R		11/16/05	BD
Surrogate (4-BFB)	109	%R		11/16/05	BD
Surrogate (1,2-DCA-d4)	99	%R		11/16/05	BD
(1) EPA Method 300.0 A					
Nitrate as N	0.10	mg/l		11/9/05 08:49	RLA
Nitrite as N	< 0.1	mg/l		11/9/05 08:49	RLA
(1) HACH 8000 COD					
Chemical Oxygen Demand	32	mg/l		11/14/05	AJS
(1) SM 18 3500Cr-D Hexavalent Chromium					
Chromium, Hexavalent	<0.01	mg/l		11/9/05 11:13	AJS
(1) SM18-2540C Total Dissolved Solids					
Total Dissolved Solids @ 180 C	360	mg/l		11/10/05	MM

-- LABORATORY ANALYSIS REPORT --

Greenstar Engineering, P.C. *Wappingers Falls, NY*

Sample ID: Trip Blank **LSL Sample ID:** 0519380-002

Location:

Sampled: 11/08/05 0:00 **Sampled By:**

Sample Matrix: TB

Analytical Method / Analyte	Result	Units	Prep Date	Analysis Date & Time	Analyst Initials
(1) EPA 601 Halocarbons by 624(Partial List)					
1,1-Dichloroethane	<1	ug/l		11/16/05	BD
Trichloroethene	<1	ug/l		11/16/05	BD
Surrogate (Tol-d8)	98	%R		11/16/05	BD
Surrogate (4-BFB)	109	%R		11/16/05	BD
Surrogate (1,2-DCA-d4)	101	%R		11/16/05	BD

Life Science Laboratories, Inc.

Date Printed: 11/22/05

Analysis performed at: *(1) LSL Central, (2) LSL North, (3) LSL Finger Lakes, (4) LSL Southern Tier, (5) LSL MidLakes*

LSL

SURROGATE RECOVERY CONTROL LIMITS FOR ORGANIC METHODS

Method	Surrogate(s)	Water Limits, %R	SHW Limits, %R
EPA 504	TCMX	80-120	NA
EPA 508	DCB	70-130	NA
EPA 515.4	DCAA	70-130	NA
EPA 524.2	1,2-DCA-d4, 4-BFB	80-120	NA
EPA 525.2	1,3-DM-2-NB, TPP, Per-d12	70-130	NA
EPA 526	1,3-DM-2-NB, TPP	70-130	NA
EPA 528	2-CP-3,4,5,6-d4, 2,4,6-TBP	70-130	NA
EPA 551.1	Decafluorobiphenyl	80-120	NA
EPA 552.2	2,3-DBPA	80-120	NA
EPA 601	1,2-DCA-d4, Tol-d8, 4-BFB	70-130	NA
EPA 602	1,2-DCA-d4, Tol-d8, 4-BFB	70-130	NA
EPA 608	DCB	30-150	NA
EPA 624	1,2-DCA-d4, Tol-d8, 4-BFB	70-130	NA
EPA 625, AE	2-Fluorophenol	21-110	NA
EPA 625, AE	Phenol-d5	10-110	NA
EPA 625, AE	2,4,6-Tribromophenol	10-123	NA
EPA 625, BN	Nitrobenzene-d5	35-114	NA
EPA 625, BN	2-Fluorobiphenyl	43-116	NA
EPA 625, BN	Terphenyl-d14	33-141	NA
EPA 8010	1,2-DCA-d4, Tol-d8, 4-BFB	70-130	70-130
EPA 8020	1,2-DCA-d4, Tol-d8, 4-BFB	70-130	70-130
EPA 8021	1,2-DCA-d4, Tol-d8, 4-BFB	70-130	70-130
EPA 8081	TCMX, DCB	30-150	30-150
EPA 8082	DCB	30-150	30-150
EPA 8151	DCAA	30-130	30-120
EPA 8260	1,2-DCA-d4, Tol-d8, 4-BFB	70-130	70-130
EPA 8270, AE	2-Fluorophenol	21-110	25-121
EPA 8270, AE	Phenol-d5	10-110	24-113
EPA 8270, AE	2,4,6-Tribromophenol	10-123	19-122
EPA 8270, BN	Nitrobenzene-d5	35-114	23-120
EPA 8270, BN	2-Fluorobiphenyl	43-116	30-115
EPA 8270, BN	Terphenyl-d14	33-141	18-137
DOH 310-13	Dodecane	40-110	40-110
DOH 310-14	Dodecane	40-110	40-110
DOH 310-15	Dodecane	40-110	40-110
DOH 310-34	4-BFB	50-150	50-150
DOH 313-4	DCB	NA	30-150
8015M_GRO	4-BFB	50-150	50-150
8015M_DRO	Terphenyl-d14	50-150	50-150

Units Key:	ug/l = microgram per liter ug/kg = microgram per kilogram mg/l = milligram per liter mg/kg = milligram per kilogram %R = Percent Recovery

LSL

Charles E. McLeod, Jr.
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Laboratory Analysis Report

For

Greenstar Engineering, PC

LSL Project ID: **0522006**

Receive Date/Time: 12/29/05 8:06

Project Received by: GS

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This report was reviewed by: JEdmundo, QA *Date:* 1/18/06

Life Science Laboratories, Inc.

A copy of this report was sent to:

Date Printed: 1/18/06

-- LABORATORY ANALYSIS REPORT --

Greenstar Engineering, PC *Wappingers Falls, NY*

Sample ID: AP-EFF7122705 **LSL Sample ID:** 0522006-001

Location:

Sampled: 12/27/05 21:00 **Sampled By:** Client

Sample Matrix: NPW

Analytical Method / Analyte	Result	Units	Prep Date	Analysis Date & Time	Analyst Initials
(1) EPA 350.1 Ammonia					
Ammonia as N	1.8	mg/l		1/9/06	DRB
(1) EPA 351.2 TKN as N					
Total Kjeldahl Nitrogen	2.7	mg/l	1/2/06	1/3/06	DRB
(1) EPA 420.1 Recoverable Phenolics LL					
Phenolics, Total Recoverable	<0.002	mg/l		1/2/06	AJS
(1) EPA 601 Halocarbons by 624(Partial List)					
1,1-Dichloroethane	<1	ug/l		12/30/05	BD
Trichloroethene	<1	ug/l		12/30/05	BD
Surrogate (Tol-d8)	106	%R		12/30/05	BD
Surrogate (4-BFB)	97	%R		12/30/05	BD
Surrogate (1,2-DCA-d4)	128	%R		12/30/05	BD
(1) HACH 8000 COD					
Chemical Oxygen Demand	15	mg/l		12/30/05	AJS

Life Science Laboratories, Inc.

Date Printed: 1/18/06

Analysis performed at: *(1) LSL Central, (2) LSL North, (3) LSL Finger Lakes, (4) LSL Southern Tier, (5) LSL MidLakes*

-- LABORATORY ANALYSIS REPORT --

Greenstar Engineering, PC *Wappingers Falls, NY*

Sample ID: AP-EFF7122805 **LSL Sample ID:** 0522006-002

Location:

Sampled: 12/28/05 15:00 **Sampled By:** Client

Sample Matrix: NPW

Analytical Method / Analyte	Result	Units	Prep Date	Analysis Date & Time	Analyst Initials
(1) EPA 150.1 pH					
pH	6.1	Std. Units		12/29/05 08:37	MW
pH Measurement Temperature	25	Degrees C		12/29/05 08:37	MW
NYS DOH ELAP specifications require pH to be measured within one hour of sample collection.					
(1) EPA 160.2 Total Suspended Solids					
Total Suspended Solids @ 103-105 C	9.0	mg/l		12/29/05	MM
(1) EPA 200.7 Total Metals					
Barium	<0.2	mg/l	1/2/06	1/3/06	DP
Chromium	0.045	mg/l	1/2/06	1/3/06	DP
Copper	<0.01	mg/l	1/2/06	1/3/06	DP
Iron	3.6	mg/l	1/2/06	1/3/06	DP
Nickel	<0.01	mg/l	1/2/06	1/3/06	DP
Selenium	<0.01	mg/l	1/2/06	1/3/06	DP
Thallium	<0.01	mg/l	1/2/06	1/3/06	DP
Zinc	0.015	mg/l	1/2/06	1/3/06	DP
(1) EPA 405.1 BOD-5					
Biochemical Oxygen Demand, 5 Day	<4	mg/l		12/30/05 12:11	MM/AJS
(1) EPA Method 300.0 A					
Nitrate as N	0.29	mg/l		12/30/05 18:49	JLG
This analysis was performed beyond the holding time limit.					
Nitrite as N	<0.1	mg/l		12/30/05 18:49	JLG
This analysis was performed beyond the holding time limit.					
(1) SM 18 3500Cr-D Hexavalent Chromium					
Chromium, Hexavalent	<0.01	mg/l		12/29/05 14:13	AJS
(1) SM18-2540C Total Dissolved Solids					
Total Dissolved Solids @ 180 C	780	mg/l		12/29/05	MM

Sample ID: Trip Blank **LSL Sample ID:** 0522006-003

Location:

Sampled: 12/27/05 0:00 **Sampled By:** Client

Sample Matrix: TB

Analytical Method / Analyte	Result	Units	Prep Date	Analysis Date & Time	Analyst Initials
(1) EPA 601 Halocarbons by 624(Partial List)					
1,1-Dichloroethane	<1	ug/l		12/30/05	BD
Trichloroethene	<1	ug/l		12/30/05	BD
Surrogate (Tol-d8)	107	%R		12/30/05	BD
Surrogate (4-BFB)	95	%R		12/30/05	BD
Surrogate (1,2-DCA-d4)	123	%R		12/30/05	BD

Life Science Laboratories, Inc.

Date Printed: 1/18/06

Analysis performed at: *(1) LSL Central, (2) LSL North, (3) LSL Finger Lakes, (4) LSL Southern Tier, (5) LSL MidLakes*

LSL

SURROGATE RECOVERY CONTROL LIMITS FOR ORGANIC METHODS

Method	Surrogate(s)	Water Limits, %R	SHW Limits, %R
EPA 504	TCMX	80-120	NA
EPA 508	DCB	70-130	NA
EPA 515.4	DCAA	70-130	NA
EPA 524.2	1,2-DCA-d4, 4-BFB	80-120	NA
EPA 525.2	1,3-DM-2-NB, TPP, Per-d12	70-130	NA
EPA 526	1,3-DM-2-NB, TPP	70-130	NA
EPA 528	2-CP-3,4,5,6-d4, 2,4,6-TBP	70-130	NA
EPA 551.1	Decafluorobiphenyl	80-120	NA
EPA 552.2	2,3-DBPA	80-120	NA
EPA 601	1,2-DCA-d4, Tol-d8, 4-BFB	70-130	NA
EPA 602	1,2-DCA-d4, Tol-d8, 4-BFB	70-130	NA
EPA 608	DCB	30-150	NA
EPA 624	1,2-DCA-d4, Tol-d8, 4-BFB	70-130	NA
EPA 625, AE	2-Fluorophenol	21-110	NA
EPA 625, AE	Phenol-d5	10-110	NA
EPA 625, AE	2,4,6-Tribromophenol	10-123	NA
EPA 625, BN	Nitrobenzene-d5	35-114	NA
EPA 625, BN	2-Fluorobiphenyl	43-116	NA
EPA 625, BN	Terphenyl-d14	33-141	NA
EPA 8010	1,2-DCA-d4, Tol-d8, 4-BFB	70-130	70-130
EPA 8020	1,2-DCA-d4, Tol-d8, 4-BFB	70-130	70-130
EPA 8021	1,2-DCA-d4, Tol-d8, 4-BFB	70-130	70-130
EPA 8081	TCMX, DCB	30-150	30-150
EPA 8082	DCB	30-150	30-150
EPA 8151	DCAA	30-130	30-120
EPA 8260	1,2-DCA-d4, Tol-d8, 4-BFB	70-130	70-130
EPA 8270, AE	2-Fluorophenol	21-110	25-121
EPA 8270, AE	Phenol-d5	10-110	24-113
EPA 8270, AE	2,4,6-Tribromophenol	10-123	19-122
EPA 8270, BN	Nitrobenzene-d5	35-114	23-120
EPA 8270, BN	2-Fluorobiphenyl	43-116	30-115
EPA 8270, BN	Terphenyl-d14	33-141	18-137
DOH 310-13	Dodecane	40-110	40-110
DOH 310-14	Dodecane	40-110	40-110
DOH 310-15	Dodecane	40-110	40-110
DOH 310-34	4-BFB	50-150	50-150
DOH 313-4	DCB	NA	30-150
8015M_GRO	4-BFB	50-150	50-150
8015M_DRO	Terphenyl-d14	50-150	50-150

Units Key:	ug/l = microgram per liter ug/kg = microgram per kilogram mg/l = milligram per liter mg/kg = milligram per kilogram %R = Percent Recovery

Attachment G

Monthly Operation and Maintenance Details
July–December 2005

1. INTRODUCTION

This report presents a summary of the ongoing operation and maintenance activities for the Airco Parcel site from 1 July to 31 December 2005. It includes a summary of ongoing operations and repairs, corrective actions, improvements, and an analysis of the groundwater collection treatment system (GCTS) performance. During this report period, the consulting firm performing the operation and maintenance activities was changed by The BOC Group, Inc. In November 2005, EA Engineering, PC and its affiliate EA Science and Technology (EA) were replaced by Greenstar Engineering, PC for The BOC Group Inc. as consulting firm for this project. This summary details activities by both EA and Greenstar and is based on the information provided by EA as to the activities performed from 1 July through 16 November 2005.

2. ROUTINE OPERATION AND MAINTENANCE

The 21,600 gal per day discharge limit was not exceeded during the reporting period. Table 2 of the Bi-Annual 2005 Monitoring Event Letter Report provides a summary of the quarterly effluent analytical data from November and December. Routine operation and maintenance was completed throughout the monitoring period. Field tasks included system checks, data collection, and field analysis of treatment water at various stages of the treatment process, transducer cleanings, and general site maintenance.

3. SYSTEM OPERATIONS AND EFFICIENCY

During this monitoring period, an estimated 1,900,000 gal of groundwater were treated and discharged to the wetlands adjacent to the southwest corner of the Airco Parcel property. The treatment system was operational for the majority of July, August and September. During the period 1 July to 18 October 2005, the system operated between 74 and 86 percent of the time. An exact percentage cannot be calculated due to the uncertainty of the run time status.

Through mid October the GCTS was being operated by EA. At that time, the system was off-line to a variety of undetermined issues. Concurrent with this, The BOC Group, Inc. switched consultants and replaced EA with Greenstar. The 4th quarter of 2005 saw the treatment system off-line for a majority of the time as there were many technical issues which were not resolved by EA, and had to be assessed, and corrected by Greenstar personnel. Repair attempts were made throughout November and December to resolve issues as they were identified. During the period 7 November to 31 December 2005 the GCTS was operational approximately 12.5 days of, or approximately 23 percent of the time. The required repairs were fully completed during the first week of January 2006. At the time this report was prepared, since 5 January 2006, the system has operated 98 percent of the time.

The completed System Monitoring Checklists are provided in Attachment G.1. During the report period, an estimated 3.2 lb of total chromium of which 2.8 lb was hexavalent chromium, was removed by the system. These values are based on the estimated total gallons treated, the

average influent and effluent concentrations during the report period. For future report periods, the flow meter installed in the effluent discharge line will be utilized to more accurately depict the amount of water processed by the system.

3.1 SYNOPSIS OF THE BI-ANNUAL ACTIVITIES

July 2005

The GCTS operated normally throughout July 2005.

August 2005

The system had one scheduled shut down in August 2005:

- On 9 August 2005, the system was shut down for routine cleaning. The system was down for 4 days.

The system had two unscheduled shut downs in August 2005:

- On 12 August 2005, the system would not restart after routine cleaning was completed. The analog input card was suspect. The system remained off until 17 August 2005. The system was down for 5 days.

- On 29 August 2005, the system shut down most likely due to a false high level condition induced by rapid fluctuations in the pressure transducer readings. Interference form the VFD is suspected. Restarted system and left the site.

September 2005

The system had one unscheduled shut down in September 2005:

- On 26 September 2005, the system shut down most likely due to a false high level condition induced by rapid fluctuations in the pressure transducer readings. Interference form the VFD is suspected. System would not restart. P1 would not pump water. After repeated attempts, P1 started to pump water. Restarted system and left the site. The system was down for 1 day.

October - December 2005

The system had multiple unscheduled shut downs in October 2005:

- On 7 October 2005, the system was down upon arrival, no alarm condition recorded. Appears to be another electrical fault of unknown origin. The system was down for an unknown period of time (0 - 10 days based on previous site visit).

- On 13 October 2005, the system was down upon arrival, no alarm condition recorded. The T4 manhole submersible pump was not functioning. Multiple attempts to repair

were made, unsuccessfully. BOC then notified EA that Greenstar would be taking over the site, and to stop working. EA did not return to the site until 7 November 2005 when they were requested to do so to support the bi-annual sampling event, and directed by BOC to repair the system to functional status. The system was down for a minimum of 18 days and a maximum of 31 days in October.

- On 7 November 2005, Greenstar personnel arrived at the site to perform the bi-annual sampling event. The sampling event was delayed until November to accommodate the change in consultants. The system was down upon arrival due to a High level in T4 which was identified by the previous consultant in early October.

- On 8 November 2005, EA personnel attempted to wire in a new 24VDC power supply in an effort to isolate the VFD which was suspected of interfering with the pressure transducers. Miller Environmental consulted via phone, and an isolation relay was installed. The relay had moderate positive impact, although fluctuations in the levels were still noted, but not as severe. P1 suspected as having problems with pumping. Source of problem unknown at this time. The system remained off until 16 November 2005.

- Installed a phone line to the CO_2 storage tank level monitoring system which was installed by BOC personnel. The system will automatically call out when the tank level is low.

- On 16 November 2005, EA and Greenstar personnel onsite to address mechanical issues with P1. The pump was not pumping water to the system. It was determined that the pump was not sitting on the o-ring seat, and water was leaking out around the o-ring. The O-ring was replaced and the system turned back on. The pump was still not pumping water. The pump was removed again, and the check valve disassembled. The check valve was blocked by a large zip tie. The blockage was removed and the system restarted. The system was down for 16 days.

- On 28 November 2005, when Greenstar personnel arrived at the site the system was offline. No alarm condition was received via auto dialer. The following conditions were observed and corrected:

    - P4A pump suction was clogged.
    - T6 transfer pump not shutting off and pumped to a low level condition.
    - Heat Trace and pond heaters were off.
    - Air valve for air sparging of T6 was wide open.
    - Suction line on P4A was not connected in T3A
    - P4 was not operational.

- On 14 December 2005, when Greenstar personnel arrived at the site the system was offline. The following conditions were observed and corrected:

    - The system was completely frozen. The pond heaters, heat trace and shed heater all failed. The circuit appears to overload after an extended period of time. Moved some of the items to different outlets to try to balance the load.

    - P1 o-ring had failed again. When the o-ring was replaced by EA personnel in November, the pump and base elbow were not completely cleaned, causing the pump to seat improperly and a repeat failure.

- On 15 December 2005, Greenstar personnel returned to the site and the following conditions were observed and corrected:

    - Greenstar personnel thoroughly scraped the calcified precipitate off of the seats of P1 and a new o-ring was installed.

    - The system had thawed out, with the exception of P6 discharge line. The heat trace was plugged in, and the pond heaters on. Increased the P6 level to submerge the line and allow it to thaw.

    - The PLC was found to be not operational. Spoke with Dan Truitt of Truitt Engineering was diagnosed the PLC CPU as having failed. CPU was removed and shipped back to Truitt. A new PLC was ordered and shipped via FedEx. The system remained off.

- On 17 December 2005 Greenstar personnel returned to the site to install the new PLC CPU. Problems with T6 pressure transducer kept shutting the system down. The pressure transducer was chewed by a coyote, and was not functioning. The transducer was replaced and the system restarted.

- On 27 December 2005 when Greenstar personnel arrived at the site the system offline due to a high T3 level. No alarm condition was received via auto dialer. The following conditions were observed and corrected:

    - T7 pump station and T6 high levels. Shifting ice sheared off the P6 discharge line. Pumped P7 down, and used a gas powered pump to pump T6 down. Will install a new discharge line for P6 on 28 December 2005.

    - P7 replaced due to water damage form high sump level. The alarm float in P7 is not functional. Raised P7 up above water line to prevent future damage. P7 would not operate and it was determined that the electrical cable from the control panel was also damaged due to the short caused by the high water level.

- T3, T6 and T7 pressure transducers continue to get interference when the VFD is on. The rewiring that was done by EA in November did not correct the problem. Scheduled Miller Environmental Service to mobilize on 3 Jan 2006 to diagnose and correct problem.

- Alarm condition output were reviewed with the programmer to make sure that the correct list of alarm conditions were being sent to the autodialed. A number of conditions were not being sent, and the configuration was changed to ensure that critical alarm conditions were relayed to the autodialed.

Although not within this reporting period, the following details the repairs which were performed to rectify the electrical and mechanical problems which were identified by EA dating back to early October, but not fully diagnosed or corrected.

- 3 January 2006 Greenstar and Miller Environmental Service personnel mobilized to the site to diagnose and correct multiple electrical and mechanical system problems. The following conditions were observed and corrected:

    - VFD interference appears to stem from an earlier repair of the below grade electrical wiring which was performed after the fence company severed multiple below grade wires during the original system installation. A temporary above ground line to T6 was run to stabilize the level readings. A more permanent solution will be incorporated during spring/summer weather conditions.

    - A new temporary above grade electrical cable was installed to P7. The new cable was buried below the access road to prevent damage form snow plowing activities. A more permanent solution will be incorporated during spring/summer weather conditions.

    - Pump failure in the iron discharge sump was determined to be a short in the electrical system installed by EA. The short was intermittent depending on moisture and temperature conditions. The wiring was re-spliced and the short eliminated.

    - Heater failures and other 100V outages were attributed to an unbalanced neutral and overloading circuit breakers form multiple changes performed by the previous consultant. The neutral was balanced, and a new temporary 100V line run to the P4A shed to help prevent overloading an individual circuit breaker. No outages have resulted since this was performed. A more permanent solution will be incorporated during spring/summer weather conditions.

    - High level conditions due to pumping rates form P1 exceeding system capacity. A riser was installed on T1 and the collection line directly connected in the pump station significantly reducing the amount of stormwater infiltration. Influent flow rates dissipated from >70 gallons per minute to less than 25 gallons per minute.

4. MODIFICATIONS/IMPROVEMENTS AND RECOMMENDATIONS

4.1 SYSTEM MODIFICATION/IMPROVEMENTS

During the monitoring period of January – June 2006, Greenstar projects the following modifications and improvements to the GCTS:

- Connecting the flow meter to the PLC to track real time flow rates and data tabulation for reporting.
- Installation of a new PC, cable modem and high speed internet access to allow for real time remote monitoring of system components and performance.
- Install new 480V to 110V power zone transformer to boost 110V availability.
- Upgrade the equipment shed with electrical, insulation, and heat to provide a conducive environment for the PC hardware.
- Removal of the former sump at the T1 influent and direct piping of the collection line into T1 to completely eliminate a migratory pathway for contaminated groundwater to enter the environment, and to eliminate stormwater infiltration into the collection system.
- Additional modifications will be assessed and recommended in the 5-year review report which is scheduled to be competed in late March 2006.

5. PROJECTED OPERATION AND MAINTENACE

5.1 JANUARY - JUNE 2006

During the first bi-annual report period of 2006, Greenstar projects completing only routine operation and maintenance activities.

6. SYSTEM MONITORING

6.1 ENVIRONMENTAL SAMPLING

Routine system sampling with field analysis will continue on a bi-monthly basis to ensure chromium removal efficiency are maintained and no short circuiting is occurring in the ZVI beds. Quarterly discharge samples will be collected in March, May, July and October 2006 from the GCTS to meet the New York State Department of Environmental Conservation discharge permit requirements. Bi-annual groundwater monitoring events will occur in May and October 2006.

Attachment G.1

Airco Parcel Bi-Weekly System Monitoring Checklists

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

Date: 7/11/05	**Project No.:** 12040.99	**Personnel:** Bob Casey (EA)
Weather:		

READING	*ITEM*
240	Carbon Dioxide Storage Tank Pressure (220-235 psi)
3,700	Carbon Dioxide Tank Liquid Level
AUTO/ON	P1 Running Status ON/OFF
617.0	T3A Water Elevation
2.3	T3B Water Elevation
6.9	T3 pH Reading
AUTO/ON	Pump 4A Operational Status ON/OFF
618.5	T6 Water Elevation Reading
614.2	T7 Water Level Reading
AUTO/OFF	Pump 7 Operational Status

Date: 7/11/05	**Project No.:** 12040.99	**Personnel:** Bob Casey (EA)
Weather:		

READING	*Standard*	*LOCATION/PARAMETER*
0.179 mg/L	0.011 mg/L	Sample Port 4A Hexavalent, Chromium
0.202 mg/L	0.050 mg/L	Sample Port 4A Total, Chromium
0.002 mg/L	0.011 mg/L	Sample Port 4B Hexavalent, Chromium
0.003 mg/L	0.050 mg/L	Sample Port 4B Total, Chromium
0.000 mg/L	0.011 mg/L	Sample Port 7 Hexavalent, Chromium
0.001 mg/L	0.050 mg/L	Sample Port 7 Total, Chromium

pH READING	*SAMPLE LOCATION*
6.9	Sample Port 4A
NS	Sample Port 4B
NS	Sample Port 7

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

Date: 7/18/05	**Project No.:** 12040.99	**Personnel:** Bob Casey (EA)
Weather:		

READING	*ITEM*
235	Carbon Dioxide Storage Tank Pressure (220-235 psi)
10,500	Carbon Dioxide Tank Liquid Level
AUTO/ON	P1 Running Status ON/OFF
617.0	T3A Water Elevation
1.9	T3B Water Elevation
7.1	T3 pH Reading
AUTO/ON	Pump 4A Operational Status ON/OFF
618.1	T6 Water Elevation Reading
614.3	T7 Water Level Reading
AUTO/OFF	Pump 7 Operational Status

Date: 7/18/05	**Project No.:** 12040.99	**Personnel:** Bob Casey (EA)
Weather:		

READING	*Standard*	*LOCATION/PARAMETER*
NS	0.011 mg/L	Sample Port 4A Hexavalent, Chromium
NS	0.050 mg/L	Sample Port 4A Total, Chromium
NS	0.011 mg/L	Sample Port 4B Hexavalent, Chromium
NS	0.050 mg/L	Sample Port 4B Total, Chromium
NS	0.011 mg/L	Sample Port 7 Hexavalent, Chromium
NS	0.050 mg/L	Sample Port 7 Total, Chromium

pH READING	*SAMPLE LOCATION*
7.1	Sample Port 4A
NS	Sample Port 4B
NS	Sample Port 7

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

Date: 7/28/05	**Project No.:** 12040.99	**Personnel:** Bob Casey (EA)
Weather:		

READING	*ITEM*
239	Carbon Dioxide Storage Tank Pressure (220-235 psi)
6,600	Carbon Dioxide Tank Liquid Level
AUTO/ON	P1 Running Status ON/OFF
617.0	T3A Water Elevation
1.7	T3B Water Elevation
6.8	T3 pH Reading
AUTO/ON	Pump 4A Operational Status ON/OFF
618.2	T6 Water Elevation Reading
614.3	T7 Water Level Reading
AUTO/OFF	Pump 7 Operational Status

Date: 7/28/05	**Project No.:** 12040.99	**Personnel:** Bob Casey (EA)
Weather:		

READING	*Standard*	*LOCATION/PARAMETER*
0.196 mg/L	0.011 mg/L	Sample Port 4A Hexavalent, Chromium
0.232 mg/L	0.050 mg/L	Sample Port 4A Total, Chromium
0.004 mg/L	0.011 mg/L	Sample Port 4B Hexavalent, Chromium
0.007 mg/L	0.050 mg/L	Sample Port 4B Total, Chromium
0.000 mg/L	0.011 mg/L	Sample Port 7 Hexavalent, Chromium
0.001 mg/L	0.050 mg/L	Sample Port 7 Total, Chromium

pH READING	*SAMPLE LOCATION*
6.8	Sample Port 4A
NS	Sample Port 4B
NS	Sample Port 7

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

Date: 8/2/05	**Project No.:** 12040.99	**Personnel:** Bob Casey (EA)
Weather:		

READING	*ITEM*
230	Carbon Dioxide Storage Tank Pressure (220-235 psi)
3,750	Carbon Dioxide Tank Liquid Level
AUTO/ON	P1 Running Status ON/OFF
617.0	T3A Water Elevation
2.1	T3B Water Elevation
6.9	T3 pH Reading
AUTO/ON	Pump 4A Operational Status ON/OFF
617.8	T6 Water Elevation Reading
614.0	T7 Water Level Reading
AUTO/OFF	Pump 7 Operational Status

Date: 8/2/05	**Project No.:** 12040.99	**Personnel:** Bob Casey (EA)
Weather:		

READING	*Standard*	*LOCATION/PARAMETER*
0.156 mg/L	0.011 mg/L	Sample Port 4A Hexavalent, Chromium
0.193 mg/L	0.050 mg/L	Sample Port 4A Total, Chromium
0.003 mg/L	0.011 mg/L	Sample Port 4B Hexavalent, Chromium
0.005 mg/L	0.050 mg/L	Sample Port 4B Total, Chromium
0.000 mg/L	0.011 mg/L	Sample Port 7 Hexavalent, Chromium
0.001 mg/L	0.050 mg/L	Sample Port 7 Total, Chromium

pH READING	*SAMPLE LOCATION*
6.9	Sample Port 4A
NS	Sample Port 4B
NS	Sample Port 7

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

Date: 8/9/05	**Project No.:** 12040.99	**Personnel:** Bob Casey (EA)
Weather:		

READING	*ITEM*
235	Carbon Dioxide Storage Tank Pressure (220-235 psi)
2,400	Carbon Dioxide Tank Liquid Level
AUTO/ON	P1 Running Status ON/OFF
617.0	T3A Water Elevation
1.8	T3B Water Elevation
7.2	T3 pH Reading
AUTO/ON	Pump 4A Operational Status ON/OFF
617.9	T6 Water Elevation Reading
614.7	T7 Water Level Reading
AUTO/ON	Pump 7 Operational Status

Date: 8/9/05	**Project No.:** 12040.99	**Personnel:** Bob Casey (EA)
Weather:		

READING	*Standard*	*LOCATION/PARAMETER*
NS	0.011 mg/L	Sample Port 4A Hexavalent, Chromium
NS	0.050 mg/L	Sample Port 4A Total, Chromium
NS	0.011 mg/L	Sample Port 4B Hexavalent, Chromium
NS	0.050 mg/L	Sample Port 4B Total, Chromium
NS	0.011 mg/L	Sample Port 7 Hexavalent, Chromium
NS	0.050 mg/L	Sample Port 7 Total, Chromium

pH READING	*SAMPLE LOCATION*
7.2	Sample Port 4A
NS	Sample Port 4B
NS	Sample Port 7

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

Date: 8/29/05	**Project No.:** 12040.99	**Personnel:** Bob Casey (EA)
Weather:		

READING	*ITEM*
235	Carbon Dioxide Storage Tank Pressure (220-235 psi)
10,800	Carbon Dioxide Tank Liquid Level
AUTO/ON	P1 Running Status ON/OFF
617.0	T3A Water Elevation
2.2	T3B Water Elevation
7.2	T3 pH Reading
AUTO/ON	Pump 4A Operational Status ON/OFF
617.7	T6 Water Elevation Reading
614.2	T7 Water Level Reading
AUTO/OFF	Pump 7 Operational Status

Date: 8/30/05	**Project No.:** 12040.99	**Personnel:** Bob Casey (EA)
Weather:		

READING	*Standard*	*LOCATION/PARAMETER*
0.177 mg/L	0.011 mg/L	Sample Port 4A Hexavalent, Chromium
0.231 mg/L	0.050 mg/L	Sample Port 4A Total, Chromium
0.005 mg/L	0.011 mg/L	Sample Port 4B Hexavalent, Chromium
0.008 mg/L	0.050 mg/L	Sample Port 4B Total, Chromium
0.001 mg/L	0.011 mg/L	Sample Port 7 Hexavalent, Chromium
0.001 mg/L	0.050 mg/L	Sample Port 7 Total, Chromium

pH READING	*SAMPLE LOCATION*
7.2	Sample Port 4A
NS	Sample Port 4B
NS	Sample Port 7

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

Date: 9/27/05	**Project No.:** 12040.99	**Personnel:** Bob Casey (EA)
Weather:		

READING	*ITEM*
NS	Carbon Dioxide Storage Tank Pressure (220-235 psi)
NS	Carbon Dioxide Tank Liquid Level
OFF	P1 Running Status ON/OFF
617.5	T3A Water Elevation
3.2	T3B Water Elevation
7.1	T3 pH Reading
OFF	Pump 4A Operational Status ON/OFF
618.0	T6 Water Elevation Reading
614.4	T7 Water Level Reading
OFF	Pump 7 Operational Status

Date: 9/27/05	**Project No.:** 12040.99	**Personnel:** Bob Casey (EA)
Weather:		

READING	*Standard*	*LOCATION/PARAMETER*
0.183 mg/L	0.011 mg/L	Sample Port 4A Hexavalent, Chromium
0.207 mg/L	0.050 mg/L	Sample Port 4A Total, Chromium
0.003 mg/L	0.011 mg/L	Sample Port 4B Hexavalent, Chromium
0.004 mg/L	0.050 mg/L	Sample Port 4B Total, Chromium
0.000 mg/L	0.011 mg/L	Sample Port 7 Hexavalent, Chromium
0.001 mg/L	0.050 mg/L	Sample Port 7 Total, Chromium

pH READING	*SAMPLE LOCATION*
7.1	Sample Port 4A
NS	Sample Port 4B
NS	Sample Port 7

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

Date: 11/8/05	**Project No.:**150C265.1005	**Personnel:** Chip McLeod (Greenstar)
Weather:		

READING	*ITEM*
NR	Carbon Dioxide Storage Tank Pressure (220-235 psi)
NR	Carbon Dioxide Tank Liquid Level
OFF	P1 Running Status ON/OFF
NR	T3A Water Elevation
NR	T3B Water Elevation
NR	T3 pH Reading
OFF	Pump 4A Operational Status ON/OFF
NR	T6 Water Elevation Reading
NR	T7 Water Level Reading
OFF	Pump 7 Operational Status

Date: 11/8/05	**Project No.:**150C265.1005	**Personnel:** Chip McLeod (Greenstar)
Weather:		

READING	*Standard*	*LOCATION/PARAMETER*
NS	0.011 mg/L	Sample Port 4A Hexavalent, Chromium
NS	0.050 mg/L	Sample Port 4A Total, Chromium
NS	0.011 mg/L	Sample Port 4B Hexavalent, Chromium
NS	0.050 mg/L	Sample Port 4B Total, Chromium
0.000 mg/L	0.011 mg/L	Sample Port 7 Hexavalent, Chromium
0.000 mg/L	0.050 mg/L	Sample Port 7 Total, Chromium

pH READING	*SAMPLE LOCATION*
NS	Sample Port 4A
NS	Sample Port 4B
NS	Sample Port 7

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

Date: 11/16/05	**Project No.:**150C265.1005	**Personnel:** Chip McLeod (Greenstar)
Weather:		

READING	*ITEM*
NR	Carbon Dioxide Storage Tank Pressure (220-235 psi)
NR	Carbon Dioxide Tank Liquid Level
OFF	P1 Running Status ON/OFF
NR	T3 Water Elevation
NR	T3 pH Reading
OFF	Pump 4A Operational Status ON/OFF
NR	T6 Water Elevation Reading
NR	T7 Water Level Reading
OFF	Pump 7 Operational Status

Date: 11/16/05	**Project No.:**150C265.1005	**Personnel:** Chip McLeod (Greenstar)
Weather:		

READING	*Standard*	*LOCATION/PARAMETER*
NS	0.011 mg/L	Sample Port 4A Hexavalent, Chromium
NS	0.050 mg/L	Sample Port 4A Total, Chromium
NS	0.011 mg/L	Sample Port 4B Hexavalent, Chromium
NS	0.050 mg/L	Sample Port 4B Total, Chromium
0.008 mg/L	0.011 mg/L	Sample Port 7 Hexavalent, Chromium
0.011 mg/L	0.050 mg/L	Sample Port 7 Total, Chromium

pH READING	*SAMPLE LOCATION*
NS	Sample Port 4A
NS	Sample Port 4B
NS	Sample Port 7

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

Date: 11/29/05	**Project No.:**150C265.1005	**Personnel:** Chip McLeod (Greenstar)
Weather:		

READING	*ITEM*
NR	Carbon Dioxide Storage Tank Pressure (220-235 psi)
NR	Carbon Dioxide Tank Liquid Level
OFF	P1 Running Status ON/OFF
NR	T3 Water Elevation
NR	T3 pH Reading
OFF	Pump 4A Operational Status ON/OFF
NR	T6 Water Elevation Reading
NR	T7 Water Level Reading
OFF	Pump 7 Operational Status

Date: 11/29/05	**Project No.:**150C265.1005	**Personnel:** Chip McLeod (Greenstar)
Weather:		

READING	*Standard*	*LOCATION/PARAMETER*
0.126 mg/L	0.011 mg/L	Sample Port 4A Hexavalent, Chromium
0.180 mg/L	0.050 mg/L	Sample Port 4A Total, Chromium
0.000 mg/L	0.011 mg/L	Sample Port 4B Hexavalent, Chromium
0.003 mg/L	0.050 mg/L	Sample Port 4B Total, Chromium
0.000 mg/L	0.011 mg/L	Sample Port 7 Hexavalent, Chromium
0.001 mg/L	0.050 mg/L	Sample Port 7 Total, Chromium

pH READING	*SAMPLE LOCATION*
NS	Sample Port 4A
NS	Sample Port 4B
NS	Sample Port 7

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

Date: 12/14/05	**Project No.:**150C265.1005	**Personnel:** Chip McLeod (Greenstar)
Weather:		

READING	*ITEM*
NR	Carbon Dioxide Storage Tank Pressure (220-235 psi)
NR	Carbon Dioxide Tank Liquid Level
OFF	P1 Running Status ON/OFF
NR	T3 Water Elevation
NR	T3 pH Reading
OFF	Pump 4A Operational Status ON/OFF
NR	T6 Water Elevation Reading
NR	T7 Water Level Reading
OFF	Pump 7 Operational Status

Date: 12/14/05	**Project No.:**150C265.1005	**Personnel:** Chip McLeod (Greenstar)
Weather:		

READING	*Standard*	*LOCATION/PARAMETER*
NS	0.011 mg/L	Sample Port 4A Hexavalent, Chromium
NS	0.050 mg/L	Sample Port 4A Total, Chromium
NS	0.011 mg/L	Sample Port 4B Hexavalent, Chromium
NS	0.050 mg/L	Sample Port 4B Total, Chromium
NS	0.011 mg/L	Sample Port 7 Hexavalent, Chromium
NS	0.050 mg/L	Sample Port 7 Total, Chromium

pH READING	*SAMPLE LOCATION*
6.9	Sample Port 4A
NS	Sample Port 4B
NS	Sample Port 7

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

Date: 12/28/05	**Project No.:**150C265.1005	**Personnel:** Chip McLeod (Greenstar)
Weather:		

READING	*ITEM*
NR	Carbon Dioxide Storage Tank Pressure (220-235 psi)
NR	Carbon Dioxide Tank Liquid Level
OFF	P1 Running Status ON/OFF
NR	T3 Water Elevation
NR	T3 pH Reading
OFF	Pump 4A Operational Status ON/OFF
NR	T6 Water Elevation Reading
NR	T7 Water Level Reading
OFF	Pump 7 Operational Status

Date: 12/28/05	**Project No.:**150C265.1005	**Personnel:** Chip McLeod (Greenstar)
Weather:		

READING	*Standard*	*LOCATION/PARAMETER*
NS	0.011 mg/L	Sample Port 4A Hexavalent, Chromium
NS	0.050 mg/L	Sample Port 4A Total, Chromium
NS	0.011 mg/L	Sample Port 4B Hexavalent, Chromium
NS	0.050 mg/L	Sample Port 4B Total, Chromium
NS	0.011 mg/L	Sample Port 7 Hexavalent, Chromium
NS	0.050 mg/L	Sample Port 7 Total, Chromium

pH READING	*SAMPLE LOCATION*
NS	Sample Port 4A
NS	Sample Port 4B
NS	Sample Port 7