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30 September 2005

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
EA Project No. 12040.99

Dear Mr. Resh:

EA Engineering, P.C. and its affiliate EA Science and Technology are pleased to provide the Bi-Annual 2005 Monitoring Event Letter Report. During December 2000, the post-closure monitoring and facility maintenance program was initiated at the Airco Parcel located in Niagara Falls, New York. 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 first bi-annual 2005 groundwater monitoring event that was completed at this site in April 2005, and to summarize operations and maintenance activities completed from January to June 2005.

OBJECTIVES

In accordance with the Revised Final Post-Closure Monitoring and Facility Maintenance Plan (EA 2004)¹, environmental monitoring points will be maintained and sampled during the post-closure monitoring period. This includes collection of groundwater, surface water, and groundwater collection treatment system (GCTS) samples. The Post-Closure Monitoring and Facility Maintenance Plan documents sampling locations and 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 must be completed:

- Environmental monitoring points must be maintained and sampled during the post-closure period. Bi-annual summary reports must be 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 conducted of sediment ponds and the engineered wetlands to assess the presence of mosquito larvae.
- Drainage structures and ditches must be 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 must be maintained during the post-closure monitoring and maintenance period.
- A vegetative cover must be maintained on all exposed final cover material, and adequate measures must be taken to ensure the integrity of the final vegetated cover, topsoil layer, and underlying barrier protection layer.
- The GCTS must be operated and maintained to effectively mitigate the discharge of groundwater to surface water in the southwest corner of the Airco Parcel.
- Records must be maintained of all sampling and analytical results.

As noted above the results of the bi-annual sampling events will be 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 third 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 January to June 2005.

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 Vanadium site is approximately 150 acres. This bi-annual sampling event focuses on the 25-acre Airco parcel operated by the BOC Group. 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 as a capped landfill in 2000. 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 (Cr⁶⁺) 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 26-27 April 2005. The depth to water ranged from 2.72 ft below top of casing at MW-6B to 11.79 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	8.87	617.77	608.90
MW-2B	11.79	615.88	604.09
MW-3B	7.56	611.22	603.66
MW-4B	5.05	606.68	601.63
MW-5B	4.65	605.48	600.83
MW-6B	2.72	603.47	600.75
MW-7B	7.96	609.48	601.52
MW-8B	7.94	611.62	603.68

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

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

Groundwater Sampling Procedures

Monitoring wells were sampled during the period 26-27 April 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

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



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; consequently, 4 well volumes were removed and water quality readings allowed to stabilize prior to sample collection. Monitoring wells were sampled in order of most contaminated to least 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)⁴ 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 are summarized on the table provided in Attachment A. Copies of the field notebook, including the results for well gauging, purging, and sampling, 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. Notable results included the following:

- Cadmium, chromium, hexavalent chromium, iron, magnesium, manganese, and sodium were detected in one or more of the groundwater samples at concentrations in excess of NYSDEC AWQS.
- Hexavalent chromium was detected in excess of the NYSDEC AWQS in MW-2B, MW-4B, MW-7B, and MW-8B.

4. New York State Department of Environmental Conservation. 1999. Water Quality Regulations – Surface Water and Groundwater Classifications and Standards New York State Codes, Rules and Regulations Title 6, Chapter X Parts 700-706.



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:

- Ammonia was detected in excess of NYSDEC AWQS in the sample collected from monitoring well MW-2B.
- pH measurements exceeded the NYSDEC AWQS of 6.5-8.5 standard pH units in monitoring wells MW-2B (12.25-12.44), MW-3B (9.43-10.14), and MW-8B (7.51-8.77) (Attachment B).

LANDFILL INSPECTION

A landfill cap inspection was conducted on 27 April 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 should be used to remove the vegetation in the roadways. 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)⁵.

System Operations and Maintenance

The GCTS was operated throughout the 6-month period of 1 January – 30 June 2005. System monitoring was conducted throughout the operation period. The system operated on average at approximately 12.5 gpm during the period of 1 January – 30 June 2005. The GCTS sampling occurred bi-weekly during the operation period. Samples were collected at various locations to evaluate treatment system performance and compliance with discharge criteria. Samples were 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

5. 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.



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. Hexavalent chromium removal rates were 99.8 percent and chromium removal rates were 99.7 percent during the 6-month monitoring period. Total suspended solids, biochemical oxygen demand, and iron analytical results were above NYSDEC discharge criteria for the first quarterly discharge samples. The total suspended solids and iron results are consistent with previous discharge samples. The second quarterly effluent discharge samples revealed that both total suspended solids and iron results had decreased significantly, indicating that the engineered wetland growth and regenerative blower are providing the additional reduction of total and dissolved iron. Thallium was detected above the discharge criteria in the second quarterly effluent discharge sample. The full set of laboratory analytical data for the GCTS discharge sampling can be found in Attachment G.

During the site visit on 26 May 2005, it was noted that the southwest corner wetwell Pump P1 was not operating. EA technicians concluded that the pump had seized and was no longer operational; Pump P1 had operated on a continuous basis for approximately 3 years. Pump P1 was replaced with an identical pump (KRT F40-160/22XG-125) on 1 June 2005 by EA technicians. The GCTS was restarted on 1 June 2005.

On 10 June 2005, EA technician received alarm alerts from the GCTS indicating that all alarm conditions were active. Upon arrival at the site, it was noted that all transducers and pH meters were in alarm conditions. After completing an exhaustive troubleshooting evaluation, it was determined that the analog input board and programmable logic controller modem were damaged. A severe thunder/lightning storm had passed through the Niagara Falls area earlier that morning and is suspected to be the cause of the damage. A new analog input board and modem were ordered and replaced on 21 June 2005, minor adjustments were made to the transducers and pH meter on 27-28 June 2005, and the system was restarted on 28 June 2005.

The GCTS operated continuously throughout the operating period and was not operational for a total of 23 of 181 days, with 18 of 23 days occurring in June 2005 due to an electrical storm.

GCTS Modifications (January–June 2005)

GCTS modifications performed during the operational period are as follows:

- **Sediment Pond B**—A 1.5-horsepower submersible pump activated by a float switch was added to the backside of the weir in Sediment Pond B to eliminate the need for a suction line pump (Pump P4B) which was experiencing difficulties siphoning water from the shallow end of Pond B. Submersible heaters were also added to the backside of the weir in Sediment Pond B for winter operations.



Attachment G summarizes monthly operation and maintenance details for the period January–June 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) 565-8100.

Sincerely,

EA ENGINEERING, P.C.

A handwritten signature in black ink that reads "Charles E. McLeod, Jr." in a cursive style.

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

EA SCIENCE AND TECHNOLOGY

A handwritten signature in black ink that reads "Robert S. Casey" in a cursive style.

Robert S. Casey
Project Scientist

CEM/cam
Attachments

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

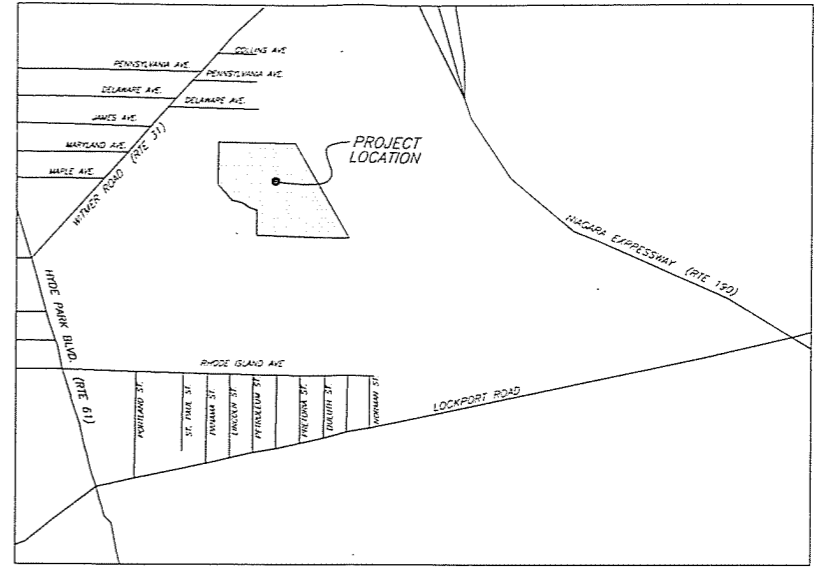
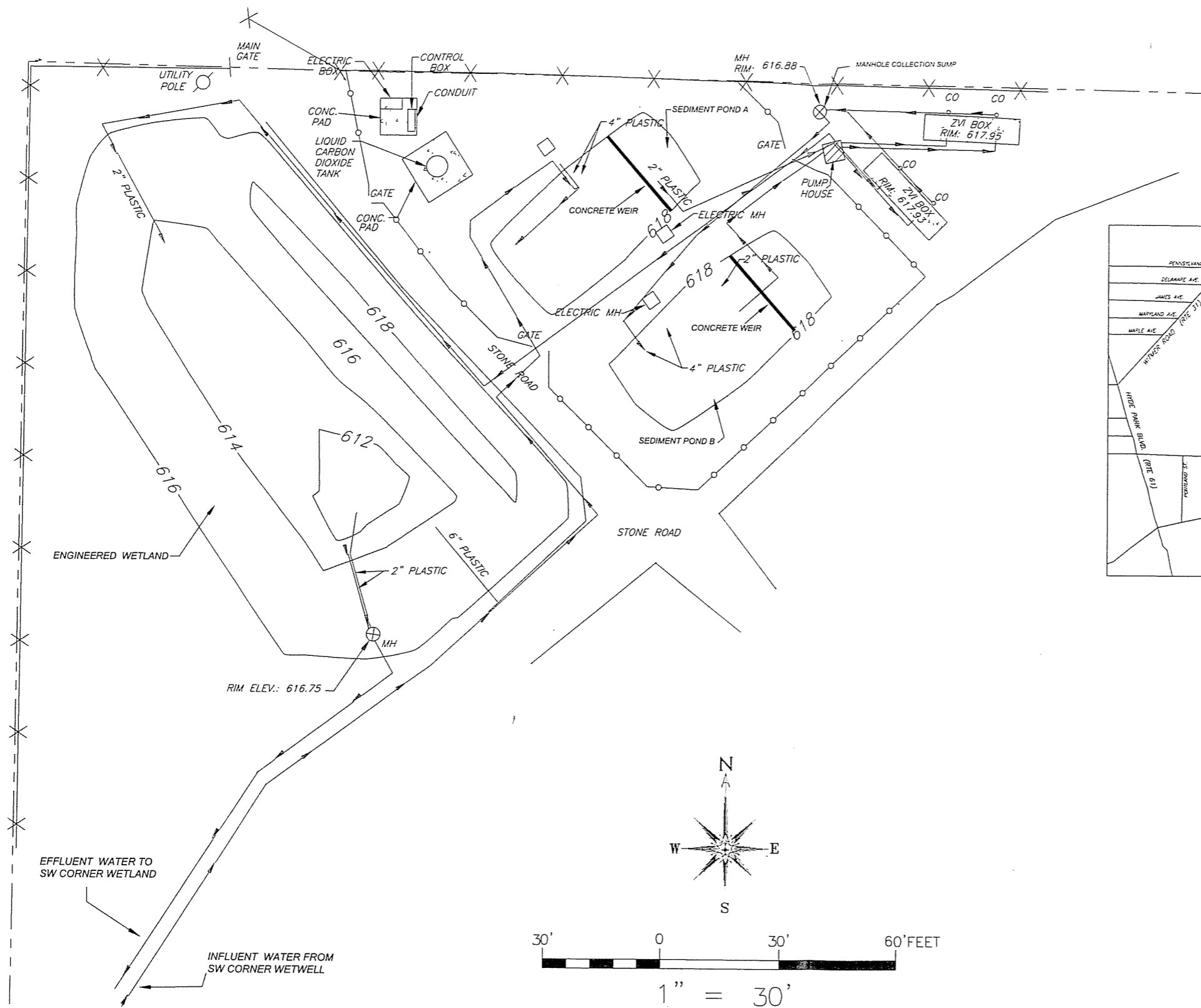
TABLE 1 SUMMARY OF BI-WEEKLY FIELD SAMPLING RESULTS
25 FEBRUARY – 21 JUNE 2005

Date	Sediment Pond A		Sediment Pond B		Wetland Discharge	
	Total Chromium	Hexavalent Chromium	Total Chromium	Hexavalent Chromium	Total Chromium	Hexavalent Chromium
25 FEB 05	193 µg/L	146 µg/L	0 µg/L	0 µg/L	0 µg/L	0 µg/L
1 MAR 05	214 µg/L	157 µg/L	0 µg/L	0 µg/L	0 µg/L	0 µg/L
15 MAR 05	186 µg/L	121 µg/L	0 µg/L	0 µg/L	0 µg/L	0 µg/L
6 APR 05	265 µg/L	232 µg/L	4 µg/L	1 µg/L	2 µg/L	1 µg/L
18 APR 05	275 µg/L	229 µg/L	6 µg/L	1 µg/L	3 µg/L	1 µg/L
6 MAY 05	227 µg/L	196 µg/L	1 µg/L	0 µg/L	1 µg/L	0 µg/L
17 MAY 05	218 µg/L	168 µg/L	0 µg/L	0 µg/L	0 µg/L	1 µg/L
1 JUN 05	224 µg/L	184 µg/L	1 µg/L	0 µg/L	0 µg/L	0 µg/L
21 JUN 05	202 µg/L	177 µg/L	1 µg/L	0 µg/L	0 µg/L	0 µg/L

NOTE: Field samples were analyzed using a HACH DR4000 Spectrophotometer, Methods 8023 (hexavalent chromium) and 8084 (total chromium).

TABLE 2 SUMMARY OF QUARTERLY DISCHARGE SAMPLING
25 FEBRUARY 2005 AND 27 APRIL 2005

Parameter	25 February 2005	27 April 2005	New York State Department of Environmental Conservation Discharge Criteria
pH	6.4	6.5	6-8 NTU
Total suspended solids	79	<4	10 mg/L
Ammonia as N	2.0	4.3	9.2 mg/L
Total Kjeldahl nitrogen	2.8	4.7	Monitor
Biochemical oxygen demand	6.4	<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	0.039	0.1 mg/L
Hexavalent chromium	<0.01	<0.01	0.011 mg/L
Iron	38	0.57	0.3 mg/L
Selenium	<0.01	<0.01	0.0046 mg/L
Thallium	<0.01	0.025	0.004 mg/L
Zinc	0.036	0.022	0.115 mg/L
Nitrate as N	1.6	0.50	Monitor
Nitrite as N	0.49	0.39	Monitor
Chemical oxygen demand	15	22	40 mg/L
Total dissolved solids	780	NA	Monitor
NOTE: Values in bold indicate an excess of discharge criteria. NA = not analyzed. (Laboratory failed to complete analysis.)			



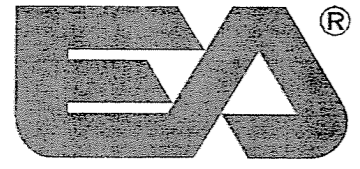
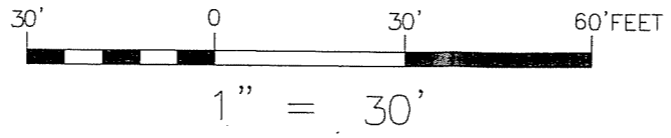
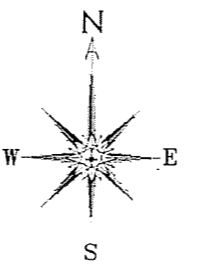
LOCATION MAP: NOT TO SCALE

LEGEND

- CS = CLEWELT
 - DN = DIAMETER
 - CONC. = CONCRETE
 - ELEV. = ELEVATION
 - MH = MANHOLE
- = MAJOR CONTOUR LINE (FINAL CONDITIONS 2003)
 - = MAJOR CONTOUR LINE (FINAL CONDITIONS 2005)
 - = MAJOR CONTOUR LINE (FINAL CONDITIONS 2000)
 - = MAJOR CONTOUR LINE (FINAL CONDITIONS 2000)
 - = MAJOR CONTOUR LINE (FINAL CONDITIONS 2000)
 - = CHAIN LINK FENCE (EXISTING)
 - = CHAIN LINK FENCE (NEW)
 - = PROPERTY LINE (APPROXIMATE)
 - = COLLECTION WATER FLOW DIRECTION

GENERAL NOTES:

- 1) HORIZONTAL DATUM: NEW YORK STATE PLANE COORDINATE SYSTEM AND 1983 NEW YORK WEST ZONE
- 2) VERTICAL DATUM: NAVD 83
- 3) VERTICAL AND HORIZONTAL DATINGS TIED INTO 1999 CITY OF NIAGARA FALLS GIS CONTROL POINT MONUMENTS SAC 20A AND SAC 43
- 4) ALL UNITS MEASURED IN U.S. SURVEY FEET
- 5) ALL DATA AND FEATURES PLOTTED IN GRAY IS FROM DATA OBTAINED BY NERCAL SURVEYOR IN 2000.



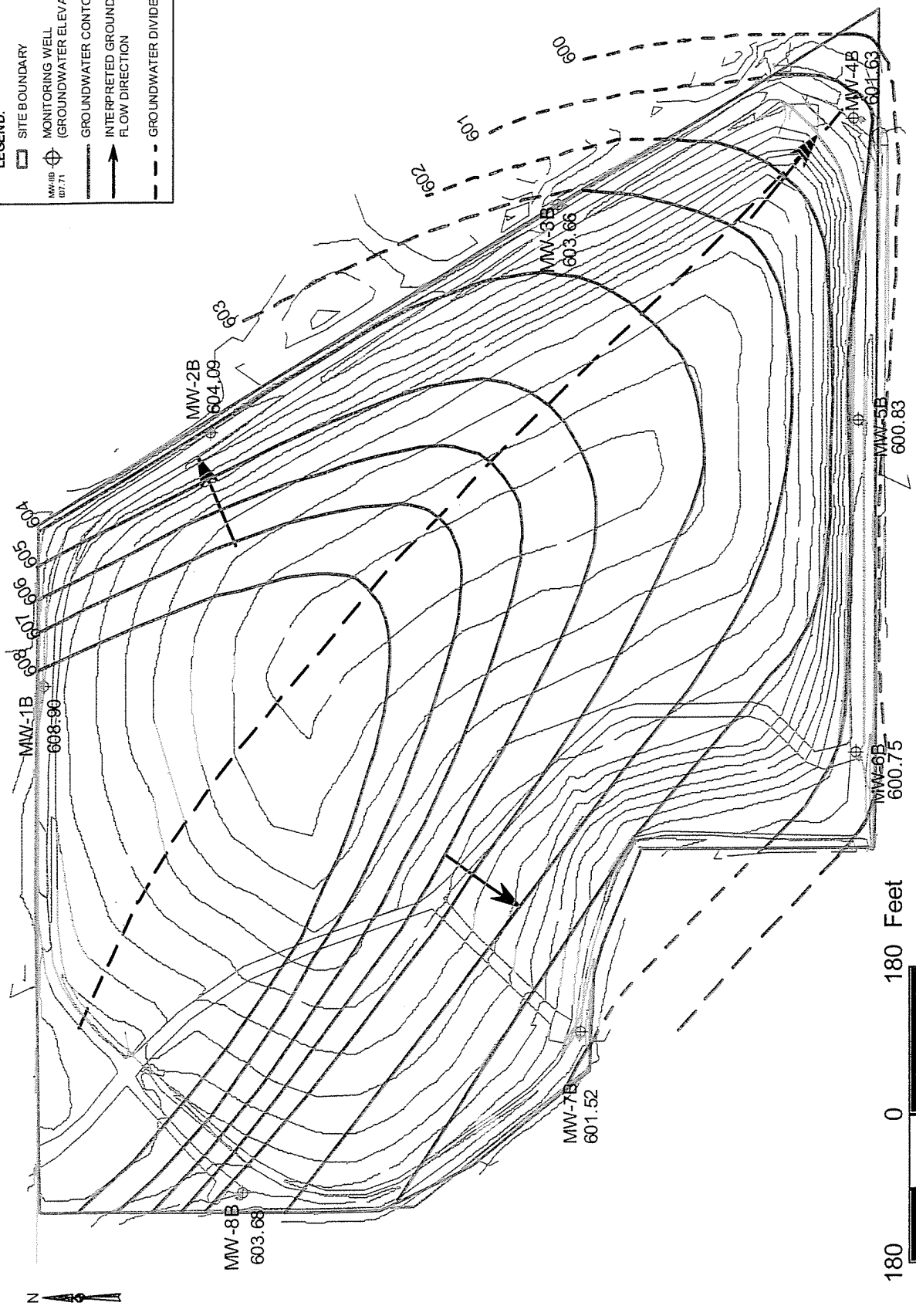
EA ENGINEERING, P.C.
AND ITS AFFILIATE
EA SCIENCE AND TECHNOLOGY


FIGURE 2
GROUNDWATER COLLECTION AND TREATMENT SYSTEM
SITE LOCATION MAP
AIRCO PARCEL, NIAGARA FALLS, NEW YORK

DRAWN BY: BSC
CHECKED BY: CEM
DATE: 27 SEPTEMBER 2004
FILE PATH: SYR_FP/AIRCO PARCEL/O&M MANUAL

LEGEND:

- SITE BOUNDARY
- ⊕ MONITORING WELL (GROUNDWATER ELEVATION, FT. MSL)
- GROUNDWATER CONTOUR
- ↑ INTERPRETED GROUNDWATER FLOW DIRECTION
- - - GROUNDWATER DIVIDE



		EA ENGINEERING P. C. AND ITS AFFILIATE EA SCIENCE AND TECHNOLOGY		AIRCO PARCEL NIAGARA FALLS, NEW YORK		FIGURE 3 INTERPRETED GROUNDWATER CONTOUR MAP APRIL 2005	
PROJECT MGR	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	DATE	PROJECT NO	FILE NO
CEM	RSC	RSC	SLG	AS SHOWN	25 APRIL 2005	12040.99.0004	I:\BOC-NIAGARA-GIS\FINAL\APR

LEGEND:

- ☐ SITE BOUNDARY
- ⊕ MONITORING WELL
- ⊙ SURFACE WATER SAMPLE
- NC SAMPLES NOT COLLECTED

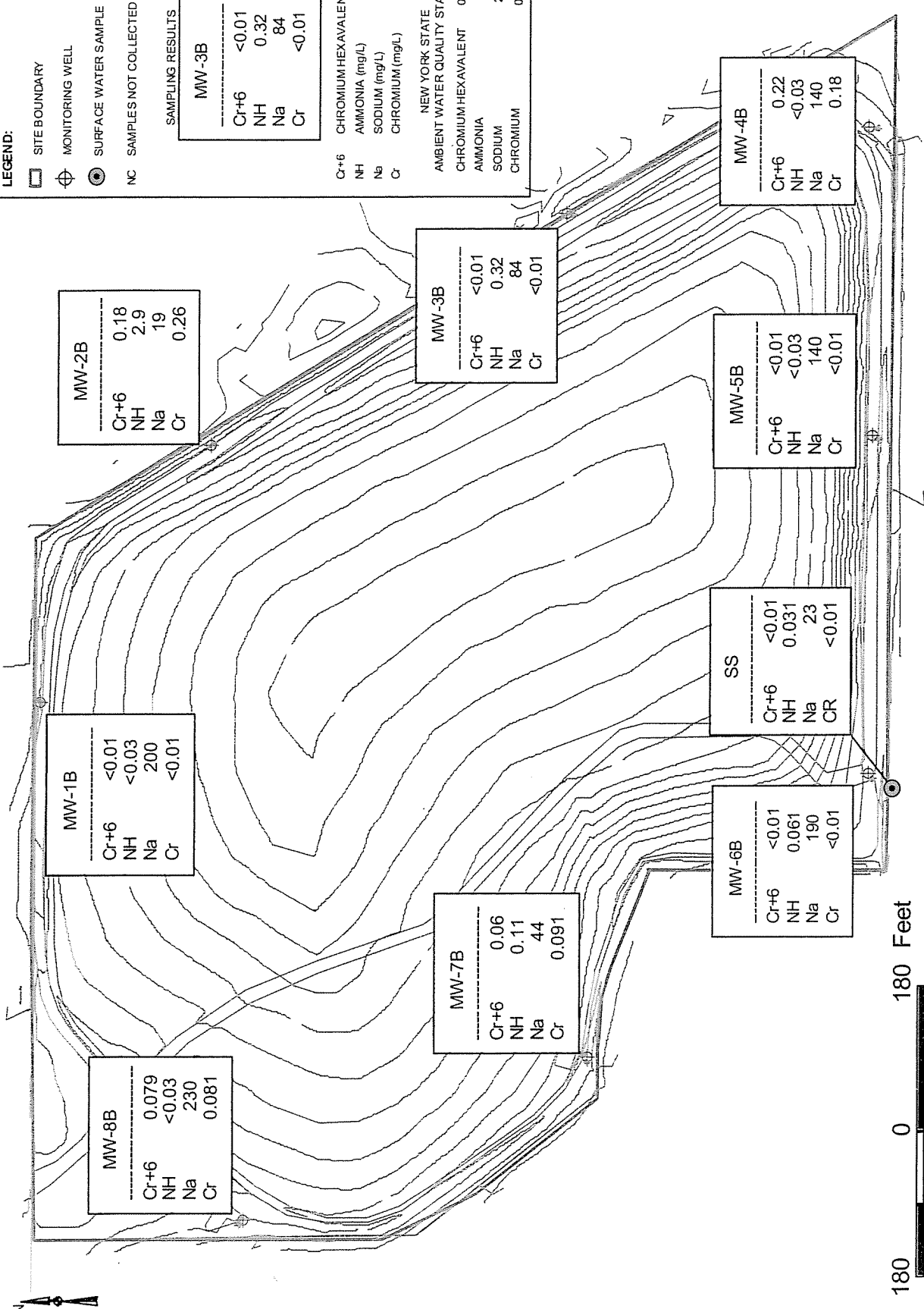
SAMPLING RESULTS

MW-3B	
Cr+6	<0.01
NH	0.32
Na	84
Cr	<0.01

Cr+6 CHROMIUM HEXAVALENT (mg/L)
 NH AMMONIA (mg/L)
 Na SODIUM (mg/L)
 Cr CHROMIUM (mg/L)

NEW YORK STATE

AMBIENT WATER QUALITY STANDARDS
 CHROMIUM HEXAVALENT 0.05 (mg/L)
 AMMONIA 2 (mg/L)
 SODIUM 20 (mg/L)
 CHROMIUM 0.05 (mg/L)



MW-2B	
Cr+6	0.18
NH	2.9
Na	19
Cr	0.26

MW-3B	
Cr+6	<0.01
NH	0.32
Na	84
Cr	<0.01

MW-5B	
Cr+6	<0.01
NH	<0.03
Na	140
Cr	<0.01

SS	
Cr+6	<0.01
NH	0.031
Na	23
CR	<0.01

MW-6B	
Cr+6	<0.01
NH	0.061
Na	190
Cr	<0.01

MW-7B	
Cr+6	0.06
NH	0.11
Na	44
Cr	0.091

MW-4B	
Cr+6	0.22
NH	<0.03
Na	140
Cr	0.18



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 EA SCIENCE AND TECHNOLOGY

AIRCO PARCEL
 NIAGARA FALLS, NEW YORK

FIGURE 4
 SAMPLE RESULTS TAG MAP
 APRIL 2005

PROJECT MGR CEM	DESIGNED BY RSC	DRAWN BY RSC	CHECKED BY SLG	SCALE AS SHOWN	DATE 26-27 APRIL 2005	PROJECT No 12040.99.0004	FILE No I:\BOC-NIAGARA-GIS FINAL.APR
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Attachment A

**Summary of Analytical Results
of Groundwater and
Surface Water Samples
April 2005**

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

Ground Water

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	(<0.01U)	0.26	(<0.01U)	0.22	(<0.01U)	(<0.01U)	(<0.01U)	0.091	0.081
Chromium, Hexavalent	0.05	(<0.01U)	0.18	(<0.01U)	0.18	0.02	(<0.01U)	(<0.01U)	0.06	0.079
Iron	0.3	1.1	0.62	0.12	1.3	1.2	0.3	0.31	6.3	2.1
Lead	0.025	(<0.01U)	(<0.01U)	(<0.01U)	(<0.01U)	(<0.01U)	(<0.01U)	(<0.01U)	0.019	(<0.01U)
Magnesium	35*	59	0.35	4.7	40	65	81	78	12	40
Manganese	0.3	0.76	0.024	(<0.01U)	0.025	0.058	0.13	0.13	0.13	0.14
Silicon	---	7.9	4.1	7.3	8.4	8.7	6.3	6	15	9.8
Sodium	20	110	35	67	99	71	58	56	63	200
Thallium	0.0005*	(<0.01U)	0.036	(<0.01U)	(<0.01U)	(<0.01U)	(<0.01U)	(<0.01U)	(<0.01U)	(<0.01U)
Zinc	2*	0.61	0.03	0.015	0.04	0.085	0.011	(<0.01U)	0.082	0.071

Water Quality Parameters (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									
Ammonia (expressed as N)	2	(<0.03U)	2.9	0.32	(<0.03U)	(<0.03U)	0.061	(<0.03U)	0.11	(<0.03U)
Sulfate	250	200	19	84	140	140	190	180	44	230

ATTACHMENT A (CONTINUED)

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	0.051
Lead	---	(<0.01U)
Magnesium	---	14
Manganese	---	0.018
Silicon	---	2.2
Sodium	---	4.1
Thallium	0.02	0.011
Zinc	---	0.019

Water Quality Parameters (mg/L)

Total (Unfiltered)

		WRL SS
Compound/Element	AWQS	
Ammonia (expressed as N)	---	0.031
Sulfate	---	23

ATTACHMENT A (CONTINUED)

QA/QC

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

Total (Unfiltered)

Compound/Element	AWQS	Rinse	Source
		Blank	Water Blank
Chromium	---	(<0.01U)	(<0.01U)
Chromium, Hexavalent	---	(<0.01U)	(<0.01U)
Iron	---	(<0.05U)	(<0.05U)
Lead	---	0.015	(<0.01U)
Magnesium	---	(<1U)	(<0.01U)
Manganese	---	(<0.01U)	(<0.01U)
Silicon	---	0.018	0.013
Sodium	---	(<1U)	(<1U)
Thallium	---	(<0.01U)	0.011
Zinc	---	0.01	(<0.01U)

Water Quality Parameters (mg/L)

Total (Unfiltered)

Compound/Element	AWQS	Rinse	Source
		Blank	Water Blank
Ammonia (expressed as N)	---	(<0.03U)	
Sulfate	---	2	1.7

ATTACHMENT A (CONTINUED)

TABLE NOTES

- AWQS = New York State Ambient Water Quality Standards and Guidance Values from Water Quality Regulations, Title 6, Chapter X Parts 700-706 August 1999.
- * = Indicates guidance value.
- = Indicates no standard or guidance value exists.
- 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

**Groundwater Sampling
Purge Forms and Field Notes
April 2005**



GROUND-WATER SAMPLING PURGE FORM

Well I.D.: AP-MW1B	EA Personnel: R.CASEY	Client: BOC GASES
Location: NIAGARA FALLS	Well Condition: LOCKED	Weather: CLEAR, MID 40's
Sounding Method: WLI	Gauge Date: 4/25/2005	Measurement Ref: TOC
Stick Up/Down (ft): UP	Gauge Time:	Well Diameter (in): 4"

Purge Date: 4/26/2005	Purge Time: 1200
Purge Method: 2" SUB/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): 8.87	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)
1207	8.59	0	0.25	7.40	138	12.03	2.01	5.98	212
1211	10.29	1	0.25	7.12	63	12.17	2.00	2.14	302
1215	10.31	2	0.25	7.00	44	12.75	2.00	0.14	142
1219	10.31	3	0.25	7.00	35	13.12	2.02	0.00	94.5
1223	10.31	4	0.25	7.00	36	13.19	2.02	0.00	65.4
1227	10.31	5	0.25	6.99	32	13.20	2.01	0.00	50.0
1231	10.31	6	0.25	6.98	34	13.24	2.00	0.00	43.1

Total Quantity of Water Removed (gal):	~1.5 gal	Sampling Time:	1235
Samplers:	R.CASEY	Split Sample With:	
Sampling Date:	26-Apr-05	Sample Type:	GRAB

COMMENTS AND OBSERVATIONS: _____



GROUND-WATER SAMPLING PURGE FORM

Well I.D.: AP-MW2B	EA Personnel: R.CASEY	Client: BOC GASES
Location: NIAGARA FALLS	Well Condition: LOCKED	Weather: CLEAR, MID 40's
Sounding Method: WLI	Gauge Date: 4/25/2005	Measurement Ref: TOC
Stick Up/Down (ft): UP	Gauge Time:	Well Diameter (in): 4"

Purge Date: 4/26/2005	Purge Time: 1030
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): 11.79	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)
1035	1.79	0	0.25	12.25	-94	11.33	3.56	5.53	14.8
1039	14.82	1	0.25	12.41	-108	11.60	3.75	9.54	24.3
1043	16.31	2	0.25	12.42	-99	11.43	3.78	5.34	37.1
1047	16.91	3	0.25	12.43	-96	11.11	3.79	9.94	36.0
1051	18.02	4	0.25	12.43	-90	11.2	3.78	4.40	34.0
1054	18.71	5	0.25	12.44	-97	11.22	3.77	9.15	38.0
1057	18.73	6	0.25	12.44	-90	11.24	3.79	9.15	35.0

Total Quantity of Water Removed (gal):	~1.5 gal.	Sampling Time:	1100
Samplers:	R.CASEY	Split Sample With:	
Sampling Date:	26-Apr-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.



GROUND-WATER SAMPLING PURGE FORM

Well I.D.:	EA Personnel:	Client:
AP-MW3B	R.CASEY	BOC GASES
Location:	Well Condition:	Weather:
NIAGARA FALLS	LOCKED	CLEAR, MID 40's
Sounding Method:	Gauge Date:	Measurement Ref:
WLI	4/25/2005	TOC
Stick Up/Down (ft):	Gauge Time:	Well Diameter (in):
UP		4"

Purge Date: 4/26/2005	Purge Time: 1240
Purge Method: 2" SUB/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): 7.56	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)
1247	6.96	0	0.25	9.91	11	11.65	0.695	5.47	286
1251	10.53	1	0.25	10.14	6	11.29	0.675	2.69	124
1255	11.41	2	0.25	10.08	-2	13.21	0.650	2.12	63.3
1259	12.42	3	0.25	9.97	-49	13.46	0.629	1.49	41.4
1303	12.45	4	0.25	9.86	-83	14.18	0.600	0.84	31.7
1307	12.45	5	0.25	9.60	-93	14.45	0.589	0.40	20.3
1311	12.45	6	0.25	9.50	-93	14.52	0.584	0.52	18.0
1315	12.45	7	0.25	9.43	-93	14.60	0.583	0.48	18.4

Total Quantity of Water Removed (gal):	~2 gal	Sampling Time:	1325
Samplers:	R.CASEY	Split Sample With:	
Sampling Date:	26-Apr-05	Sample Type:	GRAB

COMMENTS AND OBSERVATIONS: _____



GROUND-WATER SAMPLING PURGE FORM

Well I.D.: AP-MW4B	EA Personnel: R.CASEY	Client: BOC GASES
Location: NIAGARA FALLS	Well Condition: LOCKED	Weather: CLEAR, MID 40's
Sounding Method: WLI	Gauge Date: 4/25/2005	Measurement Ref: TOC
Stick Up/Down (ft): UP	Gauge Time:	Well Diameter (in): 4"

Purge Date: 4/26/2005	Purge Time:
Purge Method: HAND BAIL	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): 5.05	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)
INITIAL	5.05	0		6.01	197	9.50	1.11	8.49	4.50
ENDING		8		7.81	133	9.61	0.967	6.08	55.1

Total Quantity of Water Removed (gal):	~2 gal	Sampling Time:	950
Samplers:	R.CASEY	Split Sample With:	
Sampling Date:	27-Apr-05	Sample Type:	GRAB

COMMENTS AND OBSERVATIONS: _____



GROUND-WATER SAMPLING PURGE FORM

Well I.D.: AP-MW5B	EA Personnel: R.CASEY	Client: BOC GASES
Location: NIAGARA FALLS	Well Condition: LOCKED	Weather: CLEAR, MID 40's
Sounding Method: WLI	Gauge Date: 4/25/2005	Measurement Ref: TOC
Stick Up/Down (ft): UP	Gauge Time:	Well Diameter (in): 4"

Purge Date: 4/26/2005	Purge Time:
Purge Method: HAND BAIL	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): 4.65	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)
INITIAL	4.65			7.18	171	9.76	1.20	4.73	0
ENDING		~7		7.48	155	10.17	1.20	10.11	25.9

Total Quantity of Water Removed (gal):	~2 gal	Sampling Time:	1005
Samplers:	R.CASEY	Split Sample With:	
Sampling Date:	27-Apr-05	Sample Type:	GRAB

COMMENTS AND OBSERVATIONS: _____



GROUND-WATER SAMPLING PURGE FORM

Well I.D.: AP-MW6B	EA Personnel: R.CASEY	Client: BOC GASES
Location: NIAGARA FALLS	Well Condition: LOCKED	Weather: CLEAR, MID 40's
Sounding Method: WLI	Gauge Date: 4/25/2005	Measurement Ref: TOC
Stick Up/Down (ft): UP	Gauge Time:	Well Diameter (in): 4"

Purge Date: 4/26/2005	Purge Time: 1325
Purge Method: 2" SUB/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): 2.72	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)
1334	1.81	0	0.25	8.20	6	13.03	1.33	7.22	91.3
1338	5.65	1	0.25	7.48	-13	12.49	1.37	0	273
1342	8.89	2	0.25	7.34	-21	12.45	1.35	0	78.0
1346	9.69	3	0.25	7.28	-21	13.27	1.37	0	27.3
1350	9.69	4	0.25	7.27	-19	13.84	1.37	0	24.9
1354		5	0.25						

Total Quantity of Water Removed (gal):	~1 gal	Sampling Time:	1355
Samplers:	R.CASEY	Split Sample With:	
Sampling Date:	26-Apr-05	Sample Type:	GRAB

COMMENTS AND OBSERVATIONS: AP-DUP-0405 ALSO COLLECTED FROM MW6B.



GROUND-WATER SAMPLING PURGE FORM

Well I.D.: AP-MW7B	EA Personnel: R.CASEY	Client: BOC GASES
Location: NIAGARA FALLS	Well Condition: LOCKED	Weather: CLEAR, MID 40's
Sounding Method: WLI	Gauge Date: 4/25/2005	Measurement Ref: TOC
Stick Up/Down (ft): UP	Gauge Time:	Well Diameter (in): 4"

Purge Date: 4/26/2005	Purge Time:
Purge Method: HAND BAIL	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): 7.96	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)
INITIAL	7.96			8.07	137	9.98	0.478	6.09	11.5
ENDING		~8		8.46	115	10.49	0.460	5.03	220

Total Quantity of Water Removed (gal):	~2.5 gal	Sampling Time:	1015
Samplers:	R.CASEY	Split Sample With:	
Sampling Date:	27-Apr-05	Sample Type:	GRAB

COMMENTS AND OBSERVATIONS: _____



EA Engineering PC and its Affiliate,
EA Science and Technology

GROUND-WATER SAMPLING PURGE FORM

Well I.D.: AP-MW8B	EA Personnel: R.CASEY	Client: BOC GASES
Location: NIAGARA FALLS	Well Condition: LOCKED	Weather: CLEAR, MID 40's
Sounding Method: WLI	Gauge Date: 4/25/2005	Measurement Ref: TOC
Stick Up/Down (ft): UP	Gauge Time:	Well Diameter (in): 4"

Purge Date: 4/26/2005	Purge Time: 1115
Purge Method: 2" SUB/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): 7.94	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)
1120	7.94	0	0.25	8.77	110	10.99	1.54	3.03	615
1124	4.69	1	0.25	8.23	99	11.25	1.53	0.19	525
1128	5.61	2	0.25	7.95	89	11.85	1.53	0.17	403
1132	6.83	3	0.25	7.80	78	12.39	1.52	0	171
1136	8.89	4	0.25	7.69	72	11.35	1.53	0	112
1140	8.87	5	0.25	7.61	72	12.96	1.49	0	103
1144	8.95	6	0.25	7.54	66	13.07	1.51	0	102
1148	8.99	7	0.25	7.51	64	13.10	1.48	0	110

Total Quantity of Water Removed (gal):	~2 gal	Sampling Time:	1155
Samplers:	R.CASEY	Split Sample With:	
Sampling Date:	26-Apr-05	Sample Type:	GRAB

COMMENTS AND OBSERVATIONS: _____

Attachment C

**Chain-of-Custody Records
April 2005**



Life Science Laboratories, Inc.

CHAIN OF CUSTODY RECORD

LSL Central Lab
 5854 Butternut Drive
 E. Syracuse, N.Y. 13057
 Phone: (315)445-1105
 Fax: (315)445-1301

LSL North Lab
 131 St. Lawrence Ave.
 Waddington, N.Y. 13694
 Phone: (315)388-4476
 Fax: (315)388-4061

LSL Finger Lakes Lab
 16 N. Main St.
 Wayland, N.Y. 14572
 Phone: (585)728-332
 Fax: (585)728-271

0506140
 EAL:mg

Report Address: ROBERT CASH / SCOTT GRAHAM
 Name: EA ENGINEERING
 Company: 6731 COLLAMER RD
 Street: E. SYRACUSE, N.Y.
 City/State: (315) 431-4610
 Phone: 13057
 Email: (315) 431-4280
 Zip: 13057
 Fax: (315) 431-4280

Client Project ID/Client Site ID: ARC0 PAPER

Authorization or P.O. #: 12040.99 0001
 LSL Project Number: _____

Client's Sample Identifications	Sample Date	Sample Time	Type grab/comp	Matrix	Preserv Added	Containers #	Containers		Analyses	Preserv Check	LSL ID#
							size/type	number			
AP-MW448-0405	2/20/05	0905	Env+8	60w		4		3 802	T ₁ Phenols NH ₃ / METALS, Cr+6 / SO ₄		001 ABC 0
AP-MW558-0405		1005									102
AP-MW778-0405		1015									003
AP-RB-0405		1145									004
AP-SWB-0405		1135							for R. Cassy No NH ₃ on this sample NW 1/2A		005
AP- 0405											

Turnaround Time: Normal Pre-Authorized

14 DAY Next Day* 3-Day* Additional Charges may apply

2-Day* 7-Day*

Date Needed or Special Instructions: _____

Received By: R. Cassy
 Received By: _____
 Rec'd for Lab By: NW
 Received Intact: Y N

Shipment Method: UPS

04-28-05 08:41 IN
 Sample Temp 18.2

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



Life Science Laboratories, Inc.

CHAIN OF CUSTODY RECORD

LSL Central Lab
5854 Butternut Drive
E. Syracuse, N.Y. 13057
Phone: (315)445-1105
Fax: (315)445-1301

LSL North Lab
131 St. Lawrence Ave.
Waddington, N.Y. 13694
Phone: (315)388-4476
Fax: (315)388-4061

LSL Finger Lakes Lab
16 N. Main St
Wayland, N.Y.
Phone: (585)728-3320
Fax: (585)728-2711

Tier Lab
Phone: (585)728-2640
Fax: (585)968-0906

Report Address:
 Name: ROBERT CASEY / SUOTI GRAHAM
 Company: EA ENGINEERING
 Street: 6731 COLLAMER RD
 City/State: EAST SYRACUSE, NY
 Phone: (315)431-4610
 Email:

Client Project ID/Client Site ID: AIRCO AAROL

Authorization or P.O. #: 12040.99 2001

LSL Project Number:

Client's Sample Identifications	Sample Date	Sample Time	Type grab/comp	Matrix	Preserv Added	Containers		Analyses	Preserv Check	LSL ID#
						#	size/type			
AP - MW1B-0405	26APR05	1235	GRAB	GW		4	(1) LIME (3) BOTT.	T. Phenols, Metals, Cr, SD4, NH3		001 ABCD
AP - MW2B-0405		1100								002
AP - MW3B-0405		1325								003
AP - MW6B-0405		1355								004
AP - MW8B-0405		1155								005
AP - SS-0405		1345		SW						006
AP - DUP-0405				GW						007

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

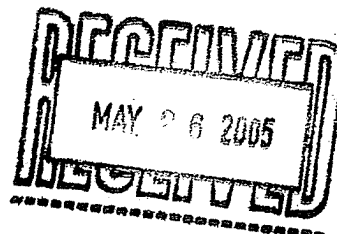
Date Needed or Special Instructions:

Sampled By: [Signature] Received By: _____ Date: _____
 Relinquished By: _____
 Relinquished By: _____
 Shipment Method: _____
 Rec'd for Lab By: MU Received Intact: Y N Date: 04-27-05 08:11 IN
 Received Intact: Y N Sample Temp: 10.3

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

Attachment D

**Laboratory Analytical Results
April 2005**



Scott Graham / Robert Casey
 EA Engineering, Science and Technology
 6731 Collamer Road
 East Syracuse, NY 13057-9759

Phone: (315) 431-4610
 FAX: (315) 431-4280
 Authorization: PO# 12040.99 0001

Laboratory Analysis Report

For

EA Engineering, Science and Technology

Client Project ID:

Airco Parcel

LSL Project ID: **0506049**

Receive Date/Time: 04/27/05 8:17

Project Received by: MW

Life Science Laboratories, Inc. warrants, to the best of its knowledge and belief, the accuracy of the analytical test results contained in this report, but makes no other warranty, expressed or implied, especially no warranties of merchantability or fitness for a particular purpose. By the Client's acceptance and/or use of this report, the Client agrees that LSL is hereby released from any and all liabilities, claims, damages or causes of action affecting or which may affect the Client as regards to the results contained in this report. The Client further agrees that the only remedy available to the Client in the event of proven non-conformity with the above warranty shall be for LSL to re-perform the analytical test(s) at no charge to the Client. The data contained in this report are for the exclusive use of the Client to whom it is addressed, and the release of these data to any other party, or the use of the name, trademark or service mark of Life Science Laboratories, Inc. especially for the use of advertising to the general public, is strictly prohibited without express prior written consent of Life Science Laboratories, Inc. This report may only be reproduced in its entirety. No partial duplication is allowed. The Chain of Custody document submitted with these samples is considered by LSL to be an appendix of this report and may contain specific information that pertains to the samples included in this report. The analytical result(s) in this report are only representative of the sample(s) submitted for analysis. LSL makes no claim of a sample's representativeness, or integrity, if sampling was not performed by LSL personnel.

Life Science Laboratories, Inc.

LSL Central Lab 5854 Butternut Drive East Syracuse, NY 13057 Tel. (315) 445-1105 Fax (315) 445-1301 NYS DOH ELAP #10248 PA DEP #68-2556	LSL North Lab 131 St. Lawrence Avenue Waddington, NY 13694 Tel. (315) 388-4476 Fax (315) 388-4061 NYS DOH ELAP #10900	LSL Finger Lakes Lab 16 N. Main St., PO Box 424 Wayland, NY 14572 Tel. (585) 728-3320 Fax (585) 728-2711 NYS DOH ELAP #11667	LSL Southern Tier Lab 30 East Main Street Cuba, NY 14727 Tel. (585) 968-2640 Fax (585) 968-0906 NYS DOH ELAP #10760	LSL MidLakes Lab 699 South Main Street Canandaigua, NY 14424 Tel. (585) 396-0270 Fax (585) 396-0377 NYS DOH ELAP #11369
---	--	---	--	--

This report was reviewed by:

[Signature]
 Life Science Laboratories, Inc.

Date: 5/20/05

A copy of this report was sent to:

-- LABORATORY ANALYSIS REPORT --

EA Engineering, Science and Technology East Syracuse, NY

Sample ID: AP-MW1B-0405 LSL Sample ID: 0506049-001
 Location: Airco Parcel
 Sampled: 04/26/05 12:35 Sampled By: Client
 Sample Matrix: NPW

Analytical Method	Result	Units	Prep Date	Analysis Date & Time	Analyst Initials
(1) EPA 350.1 Ammonia					
Ammonia as N	<0.03	mg/l		5/9/05	DRB
(1) EPA 420.1 Recoverable Phenolics ML					
Phenolics, Total Recoverable	<0.05	mg/l	5/3/05	5/19/05	TER
(1) EPA 6010 Total Metals					
Cadmium	<0.01	mg/l	4/28/05	4/29/05	DP
Chromium	<0.01	mg/l	4/28/05	4/29/05	DP
Iron	1.1	mg/l	4/28/05	4/29/05	DP
Lead	<0.01	mg/l	4/28/05	4/29/05	DP
Magnesium	59	mg/l	4/28/05	4/29/05	DP
Manganese	0.76	mg/l	4/28/05	4/29/05	DP
Selenium	<0.01	mg/l	4/28/05	4/29/05	DP
Silicon	7.9	mg/l	4/28/05	4/29/05	DP
Sodium	110	mg/l	4/28/05	4/29/05	DP
Thallium	<0.01	mg/l	4/28/05	4/29/05	DP
Zinc	0.61	mg/l	4/28/05	4/29/05	DP
(1) EPA Method 300.0 A					
Sulfate	200	mg/l		4/28/05	AMW
(1) SM 18 3500Cr-D Hexavalent Chromium					
Chromium, Hexavalent	<0.01	mg/l		4/27/05 10:52	MJK

-- LABORATORY ANALYSIS REPORT --

EA Engineering, Science and Technology East Syracuse, NY

Sample ID: AP-MW2B-0405 LSL Sample ID: 0506049-002
Location: Airco Parcel
Sampled: 04/26/05 11:00 Sampled By: Client
Sample Matrix: NPW

Analytical Method	Result	Units	Prep Date	Analysis Date & Time	Analyst Initials
(1) EPA 350.1 Ammonia					
Ammonia as N	2.9	mg/l		5/9/05	DRB
(1) EPA 420.1 Recoverable Phenolics ML					
Phenolics, Total Recoverable	<0.05	mg/l	5/3/05	5/19/05	TER
(1) EPA 6010 Total Metals					
Cadmium	<0.01	mg/l	4/28/05	4/29/05	DP
Chromium	0.26	mg/l	4/28/05	4/29/05	DP
Iron	0.62	mg/l	4/28/05	4/29/05	DP
Lead	<0.01	mg/l	4/28/05	4/29/05	DP
Magnesium	0.35	mg/l	4/28/05	4/29/05	DP
Manganese	0.024	mg/l	4/28/05	4/29/05	DP
Selenium	<0.01	mg/l	4/28/05	4/29/05	DP
Silicon	4.1	mg/l	4/28/05	4/29/05	DP
Sodium	35	mg/l	4/28/05	4/29/05	DP
Thallium	0.036	mg/l	4/28/05	4/29/05	DP
Zinc	0.030	mg/l	4/28/05	4/29/05	DP
(1) EPA Method 300.0 A					
Sulfate	19	mg/l		4/28/05	AMW
(1) SM 18 3500Cr-D Hexavalent Chromium					
Chromium, Hexavalent	0.18	mg/l		4/27/05 10:56	MJK

-- LABORATORY ANALYSIS REPORT --

EA Engineering, Science and Technology East Syracuse, NY

Sample ID: AP-MW3B-0405 LSL Sample ID: 0506049-003
Location: Airco Parcel
Sampled: 04/26/05 13:25 Sampled By: Client
Sample Matrix: NPW

Analytical Method	Result	Units	Prep Date	Analysis Date & Time	Analyst Initials
(1) EPA 350.1 Ammonia					
Ammonia as N	0.32	mg/l		5/9/05	DRB
(1) EPA 420.1 Recoverable Phenolics ML					
Phenolics, Total Recoverable	<0.05	mg/l	5/3/05	5/19/05	TER
(1) EPA 6010 Total Metals					
Cadmium	<0.01	mg/l	4/28/05	4/29/05	DP
Chromium	<0.01	mg/l	4/28/05	4/29/05	DP
Iron	0.12	mg/l	4/28/05	4/29/05	DP
Lead	<0.01	mg/l	4/28/05	4/29/05	DP
Magnesium	4.7	mg/l	4/28/05	4/29/05	DP
Manganese	<0.01	mg/l	4/28/05	4/29/05	DP
Selenium	<0.01	mg/l	4/28/05	4/29/05	DP
Silicon	7.3	mg/l	4/28/05	4/29/05	DP
Sodium	67	mg/l	4/28/05	4/29/05	DP
Thallium	<0.01	mg/l	4/28/05	4/29/05	DP
Zinc	0.015	mg/l	4/28/05	4/29/05	DP
(1) EPA Method 300.0 A					
Sulfate	84	mg/l		4/28/05	AMW
(1) SM 18 3500Cr-D Hexavalent Chromium					
Chromium, Hexavalent	<0.01	mg/l		4/27/05 10:57	MJK

-- LABORATORY ANALYSIS REPORT --

EA Engineering, Science and Technology East Syracuse, NY

Sample ID: AP-MW6B-0405 LSL Sample ID: 0506049-004
Location: Airco Parcel
Sampled: 04/26/05 13:55 Sampled By: Client
Sample Matrix: NPW

Analytical Method	Result	Units	Prep Date	Analysis Date & Time	Analyst Initials
(1) EPA 350.1 Ammonia					
Ammonia as N	0.061	mg/l		5/9/05	DRB
(1) EPA 420.1 Recoverable Phenolics ML					
Phenolics, Total Recoverable	<0.05	mg/l	5/3/05	5/19/05	TER
(1) EPA 6010 Total Metals					
Cadmium	<0.01	mg/l	4/28/05	4/29/05	DP
Chromium	<0.01	mg/l	4/28/05	4/29/05	DP
Iron	0.30	mg/l	4/28/05	4/29/05	DP
Lead	<0.01	mg/l	4/28/05	4/29/05	DP
Magnesium	81	mg/l	4/28/05	4/29/05	DP
Manganese	0.13	mg/l	4/28/05	4/29/05	DP
Selenium	<0.01	mg/l	4/28/05	4/29/05	DP
Silicon	6.3	mg/l	4/28/05	4/29/05	DP
Sodium	58	mg/l	4/28/05	4/29/05	DP
Thallium	<0.01	mg/l	4/28/05	4/29/05	DP
Zinc	0.011	mg/l	4/28/05	4/29/05	DP
(1) EPA Method 300.0 A					
Sulfate	190	mg/l		4/28/05	AMW
(1) SM 18 3500Cr-D Hexavalent Chromium					
Chromium, Hexavalent	<0.01	mg/l		4/27/05 10:58	MJK

-- LABORATORY ANALYSIS REPORT --

EA Engineering, Science and Technology East Syracuse, NY

Sample ID: AP-MW8B-0405 LSL Sample ID: 0506049-005
Location: Airco Parcel
Sampled: 04/26/05 11:55 Sampled By: Client
Sample Matrix: NPW

Analytical Method	Result	Units	Prep Date	Analysis Date & Time	Analyst Initials
(1) EPA 350.1 Ammonia					
Ammonia as N	<0.03	mg/l		5/9/05	DRB
(1) EPA 420.1 Recoverable Phenolics ML					
Phenolics, Total Recoverable	<0.05	mg/l	5/3/05	5/19/05	TER
(1) EPA 6010 Total Metals					
Cadmium	<0.01	mg/l	4/28/05	4/29/05	DP
Chromium	0.081	mg/l	4/28/05	4/29/05	DP
Iron	2.1	mg/l	4/28/05	4/29/05	DP
Lead	<0.01	mg/l	4/28/05	4/29/05	DP
Magnesium	40	mg/l	4/28/05	4/29/05	DP
Manganese	0.14	mg/l	4/28/05	4/29/05	DP
Selenium	<0.01	mg/l	4/28/05	4/29/05	DP
Silicon	9.8	mg/l	4/28/05	4/29/05	DP
Sodium	200	mg/l	4/28/05	4/29/05	DP
Thallium	<0.01	mg/l	4/28/05	4/29/05	DP
Zinc	0.071	mg/l	4/28/05	4/29/05	DP
(1) EPA Method 300.0 A					
Sulfate	230	mg/l		4/28/05	AMW
(1) SM 18 3500Cr-D Hexavalent Chromium					
Chromium, Hexavalent	0.079	mg/l		4/27/05 10:59	MJK

-- LABORATORY ANALYSIS REPORT --

EA Engineering, Science and Technology East Syracuse, NY

Sample ID: AP-SS-0405 LSL Sample ID: 0506049-006
Location: Airco Parcel
Sampled: 04/26/05 13:45 Sampled By: Client
Sample Matrix: NPW

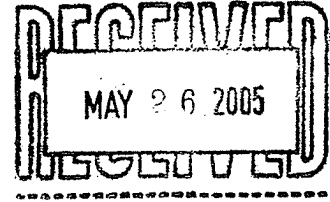
Analytical Method	Analyte	Result	Units	Prep Date	Analysis Date & Time	Analyst Initials
(1) EPA 350.1 Ammonia	Ammonia as N	0.031	mg/l		5/9/05	DRB
(1) EPA 420.1 Recoverable Phenolics ML	Phenolics, Total Recoverable	<0.05	mg/l	5/3/05	5/19/05	TER
(1) EPA 6010 Total Metals	Cadmium	<0.01	mg/l	4/28/05	4/29/05	DP
	Chromium	<0.01	mg/l	4/28/05	4/29/05	DP
	Iron	0.051	mg/l	4/28/05	4/29/05	DP
	Lead	<0.01	mg/l	4/28/05	4/29/05	DP
	Magnesium	14	mg/l	4/28/05	4/29/05	DP
	Manganese	0.018	mg/l	4/28/05	4/29/05	DP
	Selenium	<0.01	mg/l	4/28/05	4/29/05	DP
	Silicon	2.2	mg/l	4/28/05	4/29/05	DP
	Sodium	4.1	mg/l	4/28/05	4/29/05	DP
	Thallium	0.011	mg/l	4/28/05	4/29/05	DP
	Zinc	0.019	mg/l	4/28/05	4/29/05	DP
(1) EPA Method 300.0 A	Sulfate	23	mg/l		4/28/05	AMW
(1) SM 18 3500Cr-D Hexavalent Chromium	Chromium, Hexavalent	<0.01	mg/l		4/27/05 11:00	MJK

-- LABORATORY ANALYSIS REPORT --

EA Engineering, Science and Technology East Syracuse, NY

Sample ID:	AP-DUP-0405	LSL Sample ID:	0506049-007
Location:	Airco Parcel		
Sampled:	04/26/05 13:45	Sampled By:	Client
Sample Matrix:	NPW		

Analytical Method	Result	Units	Prep Date	Analysis Date & Time	Analyst Initials
(1) EPA 350.1 Ammonia Ammonia as N	<0.03	mg/l		5/9/05	DRB
(1) EPA 420.1 Recoverable Phenolics ML Phenolics, Total Recoverable	<0.05	mg/l	5/3/05	5/19/05	TER
(1) EPA 6010 Total Metals					
Cadmium	<0.01	mg/l	4/28/05	4/29/05	DP
Chromium	<0.01	mg/l	4/28/05	4/29/05	DP
Iron	0.31	mg/l	4/28/05	4/29/05	DP
Lead	<0.01	mg/l	4/28/05	4/29/05	DP
Magnesium	78	mg/l	4/28/05	4/29/05	DP
Manganese	0.13	mg/l	4/28/05	4/29/05	DP
Selenium	<0.01	mg/l	4/28/05	4/29/05	DP
Silicon	6.0	mg/l	4/28/05	4/29/05	DP
Sodium	56	mg/l	4/28/05	4/29/05	DP
Thallium	<0.01	mg/l	4/28/05	4/29/05	DP
Zinc	<0.01	mg/l	4/28/05	4/29/05	DP
(1) EPA Method 300.0 A Sulfate	180	mg/l		4/28/05	AMW
(1) SM 18 3500Cr-D Hexavalent Chromium Chromium, Hexavalent	<0.01	mg/l		4/27/05 11:01	MJK



Scott Graham / Robert Casey
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Phone: (315) 431-4610
 FAX: (315) 431-4280
 Authorization: PO# 12040.99 0001

Laboratory Analysis Report

For

EA Engineering, Science and Technology

Client Project ID:

Airco Parcel - Witmer Rd. Landfill

LSL Project ID: **0506140**

Receive Date/Time: 04/28/05 8:21

Project Received by: MW

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Life Science Laboratories, Inc.

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This report was reviewed by:

Robert Casey, Ph.D., QAO
 Life Science Laboratories, Inc.

Date:

5/20/05

A copy of this report was sent to:

-- LABORATORY ANALYSIS REPORT --

EA Engineering, Science and Technology East Syracuse, NY

Sample ID: AP-MW4B-0405	LSL Sample ID: 0506140-001
Location: Airco Parcel - Witmer Rd. Landfill	
Sampled: 04/27/05 9:50	Sampled By: RC
Sample Matrix: NPW	

Analytical Method	Result	Units	Prep Date	Analysis Date & Time	Analyst Initials
(1) EPA 350.1 Ammonia					
Ammonia as N	<0.03	mg/l		5/9/05	DRB
(1) EPA 420.1 Recoverable Phenolics ML					
Phenolics, Total Recoverable	<0.05	mg/l		5/18/05	TER
(1) EPA 6010 Total Metals					
Cadmium	<0.01	mg/l	4/29/05	5/2/05	DP
Chromium	0.22	mg/l	4/29/05	5/2/05	DP
Iron	1.3	mg/l	4/29/05	5/2/05	DP
Lead	<0.01	mg/l	4/29/05	5/2/05	DP
Magnesium	40	mg/l	4/29/05	5/2/05	DP
Manganese	0.025	mg/l	4/29/05	5/2/05	DP
Selenium	<0.01	mg/l	4/29/05	5/2/05	DP
Silicon	8.4	mg/l	4/29/05	5/2/05	DP
Sodium	99	mg/l	4/29/05	5/2/05	DP
Thallium	<0.01	mg/l	4/29/05	5/2/05	DP
Zinc	0.040	mg/l	4/29/05	5/2/05	DP
(1) EPA Method 300.0 A					
Sulfate	140	mg/l		5/3/05	AMW
(1) SM 18 3500Cr-D Hexavalent Chromium					
Chromium, Hexavalent	0.18	mg/l		4/28/05 09:50	MJK

-- LABORATORY ANALYSIS REPORT --

EA Engineering, Science and Technology East Syracuse, NY

Sample ID: AP-MW5B-0405 LSL Sample ID: 0506140-002
Location: Airco Parcel - Witmer Rd. Landfill
Sampled: 04/27/05 10:05 Sampled By: RC
Sample Matrix: NPW

Analytical Method	Result	Units	Prep Date	Analysis Date & Time	Analyst Initials
(1) EPA 350.1 Ammonia					
Ammonia as N	<0.03	mg/l		5/9/05	DRB
(1) EPA 420.1 Recoverable Phenolics ML					
Phenolics, Total Recoverable	<0.05	mg/l		5/18/05	TER
(1) EPA 6010 Total Metals					
Cadmium	<0.01	mg/l	4/29/05	5/2/05	DP
Chromium	<0.01	mg/l	4/29/05	5/2/05	DP
Iron	1.2	mg/l	4/29/05	5/2/05	DP
Lead	<0.01	mg/l	4/29/05	5/2/05	DP
Magnesium	65	mg/l	4/29/05	5/2/05	DP
Manganese	0.058	mg/l	4/29/05	5/2/05	DP
Selenium	<0.01	mg/l	4/29/05	5/2/05	DP
Silicon	8.7	mg/l	4/29/05	5/2/05	DP
Sodium	71	mg/l	4/29/05	5/2/05	DP
Thallium	<0.01	mg/l	4/29/05	5/2/05	DP
Zinc	0.085	mg/l	4/29/05	5/2/05	DP
(1) EPA Method 300.0 A					
Sulfate	140	mg/l		5/3/05	AMW
(1) SM 18 3500Cr-D Hexavalent Chromium					
Chromium, Hexavalent	0.02	mg/l		4/28/05 10:03	MJK

-- LABORATORY ANALYSIS REPORT --

EA Engineering, Science and Technology East Syracuse, NY

Sample ID:	AP-MW7B-0405	LSL Sample ID:	0506140-003
Location:	Airco Parcel - Witmer Rd. Landfill		
Sampled:	04/27/05 10:15	Sampled By:	RC
Sample Matrix:	NPW		

Analytical Method Analyte	Result	Units	Prep Date	Analysis Date & Time	Analyst Initials
(1) EPA 350.1 Ammonia Ammonia as N	0.11	mg/l		5/9/05	DRB
(1) EPA 420.1 Recoverable Phenolics ML Phenolics, Total Recoverable	<0.05	mg/l		5/18/05	TER
(1) EPA 6010 Total Metals					
Cadmium	<0.01	mg/l	4/29/05	5/2/05	DP
Chromium	0.091	mg/l	4/29/05	5/2/05	DP
Iron	6.3	mg/l	4/29/05	5/2/05	DP
Lead	0.019	mg/l	4/29/05	5/2/05	DP
Magnesium	12	mg/l	4/29/05	5/2/05	DP
Manganese	0.13	mg/l	4/29/05	5/2/05	DP
Selenium	<0.01	mg/l	4/29/05	5/2/05	DP
Silicon	15	mg/l	4/29/05	5/2/05	DP
Sodium	63	mg/l	4/29/05	5/2/05	DP
Thallium	<0.01	mg/l	4/29/05	5/2/05	DP
Zinc	0.082	mg/l	4/29/05	5/2/05	DP
(1) EPA Method 300.0 A Sulfate	44	mg/l		5/3/05	AMW
(1) SM 18 3500Cr-D Hexavalent Chromium Chromium, Hexavalent	0.06	mg/l		4/28/05 10:12	MJK

-- LABORATORY ANALYSIS REPORT --

EA Engineering, Science and Technology East Syracuse, NY

Sample ID: AP-RB-0405	LSL Sample ID: 0506140-004
Location: Airco Parcel - Witmer Rd. Landfill	
Sampled: 04/27/05 11:45	Sampled By: RC
Sample Matrix: NPW	

Analytical Method	Result	Units	Prep Date	Analysis Date & Time	Analyst Initials
(1) EPA 350.1 Ammonia					
Ammonia as N	<0.03	mg/l		5/9/05	DRB
(1) EPA 420.1 Recoverable Phenolics ML					
Phenolics, Total Recoverable	<0.05	mg/l		5/18/05	TER
(1) EPA 6010 Total Metals					
Cadmium	<0.01	mg/l	4/29/05	5/2/05	DP
Chromium	<0.01	mg/l	4/29/05	5/2/05	DP
Iron	<0.05	mg/l	4/29/05	5/2/05	DP
Lead	0.015	mg/l	4/29/05	5/2/05	DP
Magnesium	<1	mg/l	4/29/05	5/2/05	DP
Manganese	<0.01	mg/l	4/29/05	5/2/05	DP
Selenium	<0.01	mg/l	4/29/05	5/2/05	DP
Silicon	0.018	mg/l	4/29/05	5/2/05	DP
Sodium	<1	mg/l	4/29/05	5/2/05	DP
Thallium	<0.01	mg/l	4/29/05	5/2/05	DP
Zinc	0.010	mg/l	4/29/05	5/2/05	DP
(1) EPA Method 300.0 A					
Sulfate	2.0	mg/l		5/3/05	AMW
(1) SM 18 3500Cr-D Hexavalent Chromium					
Chromium, Hexavalent	<0.01	mg/l		4/28/05 10:34	MJK

-- LABORATORY ANALYSIS REPORT --

EA Engineering, Science and Technology East Syracuse, NY

Sample ID: AP-SWB-0405 LSL Sample ID: 0506140-005
Location: Airco Parcel - Witmer Rd. Landfill
Sampled: 04/27/05 11:35 Sampled By: RC
Sample Matrix: NPW

Analytical Method	Result	Units	Prep Date	Analysis Date & Time	Analyst Initials
(1) EPA 420.1 Recoverable Phenolics ML					
Phenolics, Total Recoverable	<0.05	mg/l		5/18/05	TER
(1) EPA 6010 Total Metals					
Cadmium	<0.01	mg/l	4/29/05	5/2/05	DP
Chromium	<0.01	mg/l	4/29/05	5/2/05	DP
Iron	<0.05	mg/l	4/29/05	5/2/05	DP
Lead	<0.01	mg/l	4/29/05	5/2/05	DP
Magnesium	<0.01	mg/l	4/29/05	5/2/05	DP
Manganese	<0.01	mg/l	4/29/05	5/2/05	DP
Selenium	<0.01	mg/l	4/29/05	5/2/05	DP
Silicon	0.013	mg/l	4/29/05	5/2/05	DP
Sodium	<1	mg/l	4/29/05	5/2/05	DP
Thallium	0.011	mg/l	4/29/05	5/2/05	DP
Zinc	<0.01	mg/l	4/29/05	5/2/05	DP
(1) EPA Method 300.0 A					
Sulfate	1.7	mg/l		5/3/05	AMW
(1) SM 18 3500Cr-D Hexavalent Chromium					
Chromium, Hexavalent	<0.01	mg/l		4/28/05 10:43	MJK

-- LABORATORY ANALYSIS REPORT --

EA Engineering, Science and Technology East Syracuse, NY

Sample ID:	AP-EFF-7-0405	LSL Sample ID:	0506140-006
Location:	Airco Parcel - Witmer Rd. Landfill		
Sampled:	04/27/05 10:50	Sampled By:	RC
Sample Matrix:	NPW		

Analytical Method Analyte	Result	Units	Prep Date	Analysis Date & Time	Analyst Initials
(1) EPA 150.1 pH					
pH	6.5	Std. Units		4/28/05 15:44	MW
pH Measurement Temperature	25	Degrees C		4/28/05 15:44	MW
<i>NYS DOH ELAP specifications require pH to be measured within one hour of sample collection.</i>					
(1) EPA 160.2 Total Suspended Solids					
Total Suspended Solids @ 103-105 C	<4	mg/l		5/3/05	MM
(1) EPA 200.7 Total Metals					
Barium	<0.2	mg/l	4/29/05	5/2/05	DP
Chromium	0.039	mg/l	4/29/05	5/2/05	DP
Copper	<0.01	mg/l	4/29/05	5/2/05	DP
Iron	0.57	mg/l	4/29/05	5/2/05	DP
Nickel	<0.01	mg/l	4/29/05	5/2/05	DP
Selenium	<0.01	mg/l	4/29/05	5/2/05	DP
Thallium	0.025	mg/l	4/29/05	5/2/05	DP
Zinc	0.022	mg/l	4/29/05	5/2/05	DP
(1) EPA 350.1 Ammonia					
Ammonia as N	4.3	mg/l		5/9/05	DRB
(1) EPA 351.2 TKN as N					
Total Kjeldahl Nitrogen	4.7	mg/l	5/5/05	5/9/05	DRB
(1) EPA 405.1 BOD-5					
Biochemical Oxygen Demand, 5 Day	<4	mg/l		4/28/05 17:38	MM
(1) EPA 420.1 Recoverable Phenolics LL					
Phenolics, Total Recoverable	0.014	mg/l		5/18/05	TER
(1) EPA 601 Halocarbons by 624(Partial List)					
1,1-Dichloroethane	<1	ug/l		5/4/05	BD
Trichloroethene	<1	ug/l		5/4/05	BD
Surrogate (Tol-d3)	110	%R		5/4/05	BD
Surrogate (4-BFB)	102	%R		5/4/05	BD
Surrogate (1,2-DCA-d4)	87	%R		5/4/05	BD
(1) EPA Method 300.0 A					
Nitrate as N	0.50	mg/l		4/28/05 19:46	AMW
Nitrite as N	0.39	mg/l		4/28/05 19:46	AMW
(1) HACH 8000 COD					
Chemical Oxygen Demand	22	mg/l		5/10/05	TER
(1) SM 18 3500Cr-D Hexavalent Chromium					
Chromium, Hexavalent	<0.01	mg/l		4/28/05 10:35	MJK

-- LABORATORY ANALYSIS REPORT --

EA Engineering, Science and Technology East Syracuse, NY

Sample ID: Trip Blank LSL Sample ID: 0506140-007
Location: Airco Parcel - Witmer Rd. Landfill
Sampled: 04/27/05 0:00 Sampled By: RC
Sample Matrix: TB

Analytical Method	Result	Units	Prep Date	Analysis Date & Time	Analyst Initials
(1) EPA 601 Halocarbons by 624(Partial List)					
1,1-Dichloroethane	<1	ug/l		5/3/05	BD
Trichloroethene	<1	ug/l		5/3/05	BD
Surrogate (ToI-d8)	112	%R		5/3/05	BD
Surrogate (4-BFB)	113	%R		5/3/05	BD
Surrogate (1,2-DCA-d4)	109	%R		5/3/05	BD

Attachment E

**Landfill Cap Inspection Checklist
April 2005**

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

EA Personnel: Robert Casey

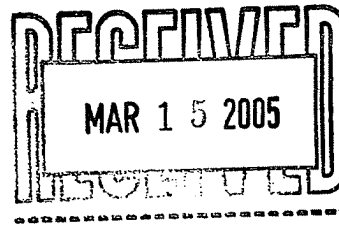
Date: 27 April 2005

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. Groundwater flow structure located along the southwest side of landfill.
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**



Scott Graham
 EA Engineering, Science and Technology
 6731 Collamer Road
 East Syracuse, NY 13057-9759

Phone: (315) 431-4610
 FAX: (315) 431-4280

Laboratory Analysis Report

For

EA Engineering, Science and Technology

Client Project ID:

Witmer Rd. Landfill

LSL Project ID: **0502832**

Receive Date/Time: 02/25/05 13:26

Project Received by: RD

Life Science Laboratories, Inc. warrants, to the best of its knowledge and belief, the accuracy of the analytical test results contained in this report, but makes no other warranty, expressed or implied, especially no warranties of merchantability or fitness for a particular purpose. By the Client's acceptance and/or use of this report, the Client agrees that LSL is hereby released from any and all liabilities, claims, damages or causes of action affecting or which may affect the Client as regards to the results contained in this report. The Client further agrees that the only remedy available to the Client in the event of proven non-conformity with the above warranty shall be for LSL to re-perform the analytical test(s) at no charge to the Client. The data contained in this report are for the exclusive use of the Client to whom it is addressed, and the release of these data to any other party, or the use of the name, trademark or service mark of Life Science Laboratories, Inc. especially for the use of advertising to the general public, is strictly prohibited without express prior written consent of Life Science Laboratories, Inc. This report may only be reproduced in its entirety. No partial duplication is allowed. The Chain of Custody document submitted with these samples is considered by LSL to be an appendix of this report and may contain specific information that pertains to the samples included in this report. The analytical result(s) in this report are only representative of the sample(s) submitted for analysis. LSL makes no claim of a sample's representativeness, or integrity, if sampling was not performed by LSL personnel.

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 Fax (585) 396-0377
 NYS DOH ELAP #11369

This report was reviewed by:

R. Salamandres, Ph.D., DAE
 Life Science Laboratories, Inc.

Date:

3/11/05

- - LABORATORY ANALYSIS REPORT - -

EA Engineering, Science and Technology East Syracuse, NY

Sample ID:	AP-EFF7-022505	LSL Sample ID:	0502832-001
Location:	Witmer Rd. Landfill		
Sampled:	02/25/05 9:30	Sampled By:	RSC
Sample Matrix:	NPW		

Analytical Method	Result	Units	Prep Date	Analysis Date & Time	Analyst Initials
Analyte					

(1) EPA 150.1 pH					
pH	6.4	Std. Units		2/25/05 14:57	GIS
pH Measurement Temperature	25	Degrees C		2/25/05 14:57	GIS

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	79	mg/l		2/28/05	MM

(1) EPA 200.7 Soluble Metals					
Barium	<0.2	mg/l		2/28/05	DP
Chromium	<0.01	mg/l		2/28/05	DP
Copper	<0.01	mg/l		2/28/05	DP
Iron	27	mg/l		2/28/05	DP
Nickel	0.018	mg/l		2/28/05	DP
Selenium	<0.01	mg/l		2/28/05	DP
Thallium	<0.01	mg/l		2/28/05	DP
Zinc	0.036	mg/l		2/28/05	DP

(1) EPA 200.7 Total Metals					
Barium	<0.2	mg/l		2/28/05	DP
Chromium	<0.01	mg/l		2/28/05	DP
Copper	<0.01	mg/l		2/28/05	DP
Iron	38	mg/l		2/28/05	DP
Nickel	<0.01	mg/l		2/28/05	DP
Selenium	<0.01	mg/l		2/28/05	DP
Thallium	<0.01	mg/l		2/28/05	DP
Zinc	0.036	mg/l		2/28/05	DP

(1) EPA 350.1 Ammonia					
Ammonia as N	2.0	mg/l		3/3/05	DRB

(1) EPA 351.2 TKN as N					
Total Kjeldahl Nitrogen	2.8	mg/l	3/9/05	3/10/05	DRB

(1) EPA 405.1 BOD-5					
Biochemical Oxygen Demand, 5 Day	6.4	mg/l		2/25/05 20:55	MM/KB B

(1) EPA 420.1 Recoverable Phenolics LL					
Phenolics, Total Recoverable	<0.05	mg/l	2/28/05	3/1/05	DH

(1) EPA 601 Halocarbons by 624(Partial List)					
1,1-Dichloroethane	<1	ug/l		3/1/05	LEF
Trichloroethene	<1	ug/l		3/1/05	LEF
Surrogate (Tol-d8)	99	%R		3/1/05	LEF
Surrogate (4-BFB)	95	%R		3/1/05	LEF
Surrogate (1,2-DCA-d4)	107	%R		3/1/05	LEF

(1) EPA Method 300.0 A					
Nitrate as N	1.6	mg/l		2/25/05 17:02	AMW
Nitrite as N	0.49	mg/l		2/25/05 17:02	AMW

(1) Filtering Charge for Dissolved Metals					
Laboratory filtration charge				2/28/05	DP

-- LABORATORY ANALYSIS REPORT --

EA Engineering, Science and Technology East Syracuse, NY

Sample ID: AP-EFF7-022505 **LSL Sample ID:** 0502832-001
Location: Witmer Rd. Landfill
Sampled: 02/25/05 9:30 **Sampled By:** RSC
Sample Matrix: NPW

Analytical Method			Prep Date	Analysis Date & Time	Analyst Initials
Analyte	Result	Units			
(1) HACH 8000 COD					
Chemical Oxygen Demand	15	mg/l		3/10/05	DH
(1) SM 18 3500Cr-D Hexavalent Chromium					
Chromium, Hexavalent	<0.5	mg/l		2/28/05	DH
(1) SM18-2540C Total Dissolved Solids					
Total Dissolved Solids @ 180 C	780	mg/l		2/28/05	MM

Sample ID: Trip Blank **LSL Sample ID:** 0502832-002
Location:
Sampled: 02/18/05 0:00 **Sampled By:** RSC
Sample Matrix: TB

Analytical Method			Prep Date	Analysis Date & Time	Analyst Initials
Analyte	Result	Units			
(1) EPA 601 Halocarbons by 624(Partial List)					
1,1-Dichloroethane	<1	ug/l		3/1/05	LEF
Trichloroethene	<1	ug/l		3/1/05	LEF
Surrogate (Tol-d8)	100	%R		3/1/05	LEF
Surrogate (4-BFB)	106	%R		3/1/05	LEF
Surrogate (1,2-DCA-d4)	109	%R		3/1/05	LEF

-- LABORATORY ANALYSIS REPORT --

EA Engineering, Science and Technology East Syracuse, NY

Sample ID:	AP-EFF-7-0405	LSL Sample ID:	0506140-006
Location:	Airco Parcel - Witmer Rd. Landfill		
Sampled:	04/27/05 10:50	Sampled By:	RC
Sample Matrix:	NPW		

Analytical Method	Result	Units	Prep Date	Analysis Date & Time	Analyst Initials
Analyte					
(1) EPA 150.1 pH					
pH	6.5	Std. Units		4/28/05 15:44	MW
pH Measurement Temperature	25	Degrees C		4/28/05 15:44	MW
<i>NYS DOH ELAP specifications require pH to be measured within one hour of sample collection.</i>					
(1) EPA 160.2 Total Suspended Solids					
Total Suspended Solids @ 103-105 C	<4	mg/l		5/3/05	MM
(1) EPA 200.7 Total Metals					
Barium	<0.2	mg/l	4/29/05	5/2/05	DP
Chromium	0.039	mg/l	4/29/05	5/2/05	DP
Copper	<0.01	mg/l	4/29/05	5/2/05	DP
Iron	0.57	mg/l	4/29/05	5/2/05	DP
Nickel	<0.01	mg/l	4/29/05	5/2/05	DP
Selenium	<0.01	mg/l	4/29/05	5/2/05	DP
Thallium	0.025	mg/l	4/29/05	5/2/05	DP
Zinc	0.022	mg/l	4/29/05	5/2/05	DP
(1) EPA 350.1 Ammonia					
Ammonia as N	4.3	mg/l		5/9/05	DRB
(1) EPA 351.2 TKN as N					
Total Kjeldahl Nitrogen	4.7	mg/l	5/5/05	5/9/05	DRB
(1) EPA 405.1 BOD-5					
Biochemical Oxygen Demand, 5 Day	<4	mg/l		4/28/05 17:38	MM
(1) EPA 420.1 Recoverable Phenolics LL					
Phenolics, Total Recoverable	0.014	mg/l		5/18/05	TER
(1) EPA 601 Halocarbons by 624(Partial List)					
1,1-Dichloroethane	<1	ug/l		5/4/05	BD
Trichloroethene	<1	ug/l		5/4/05	BD
Surrogate (Tol-d8)	110	%R		5/4/05	BD
Surrogate (4-BFB)	102	%R		5/4/05	BD
Surrogate (1,2-DCA-d4)	87	%R		5/4/05	BD
(1) EPA Method 300.0 A					
Nitrate as N	0.50	mg/l		4/28/05 19:46	AMW
Nitrite as N	0.39	mg/l		4/28/05 19:46	AMW
(1) HACH 8000 COD					
Chemical Oxygen Demand	22	mg/l		5/10/05	TER
(1) SM 18 3500Cr-D Hexavalent Chromium					
Chromium, Hexavalent	<0.01	mg/l		4/28/05 10:35	MJK

Attachment G

**Monthly Operation and Maintenance Details
January–June 2005**

1. INTRODUCTION

This report presents a summary of the ongoing operation and maintenance activities for the Airco Parcel site from 1 January to 30 June 2005. It includes a summary of ongoing operations and repairs, corrective actions, improvements, and an analysis of the groundwater collection treatment system (GCTS) performance.

2. ROUTINE OPERATION AND MAINTENANCE

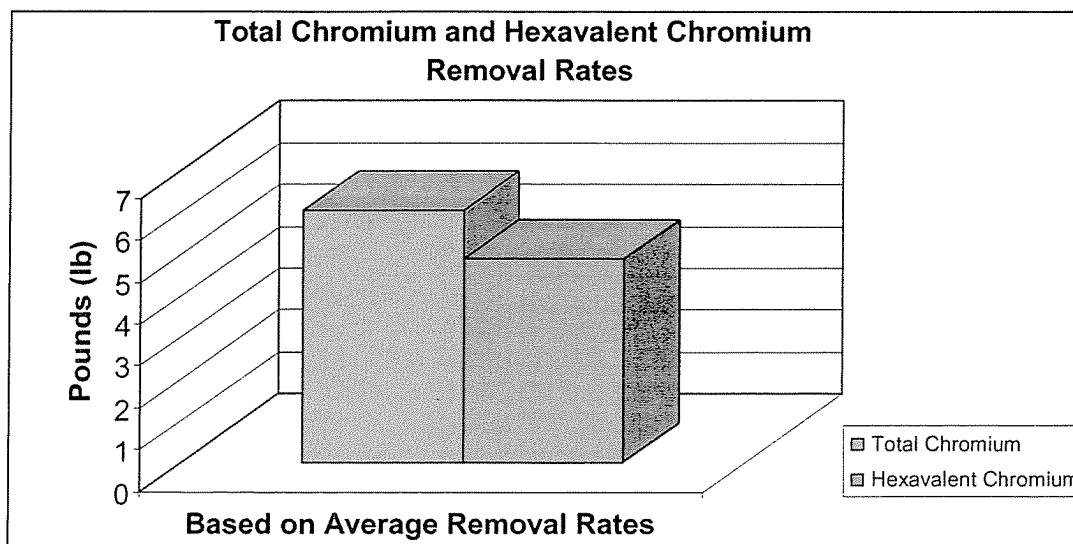
The 21,600 gal per day discharge limit was not exceeded during the reporting period. Table 2 of the Bi-Annual 2005 Monitoring Event Letter Report provides a summary of the quarterly effluent analytical data from February and April.

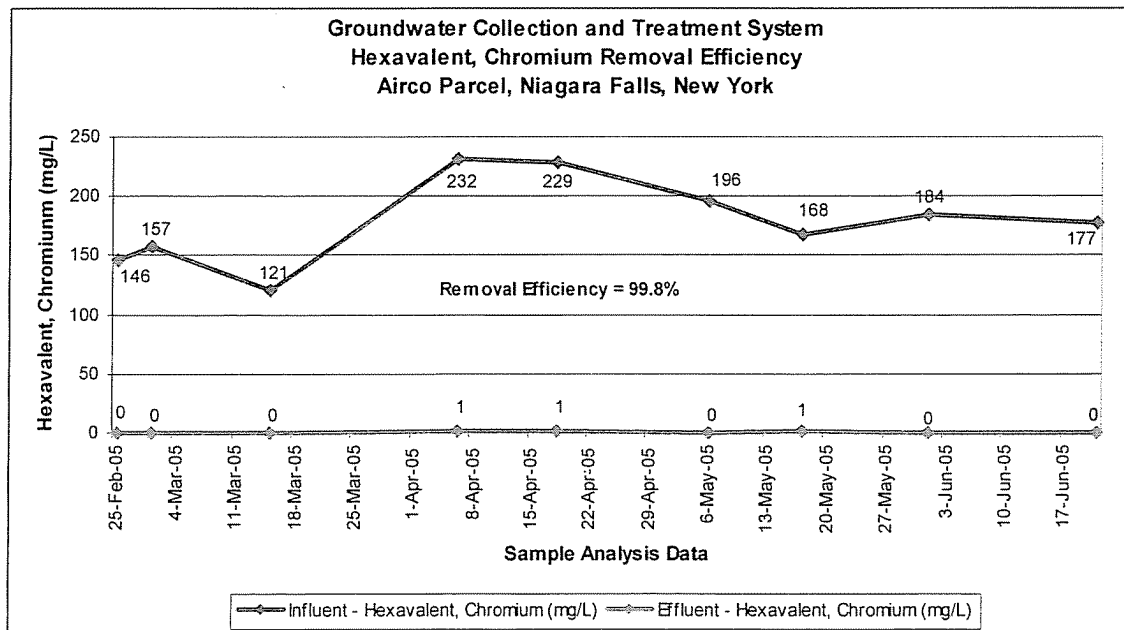
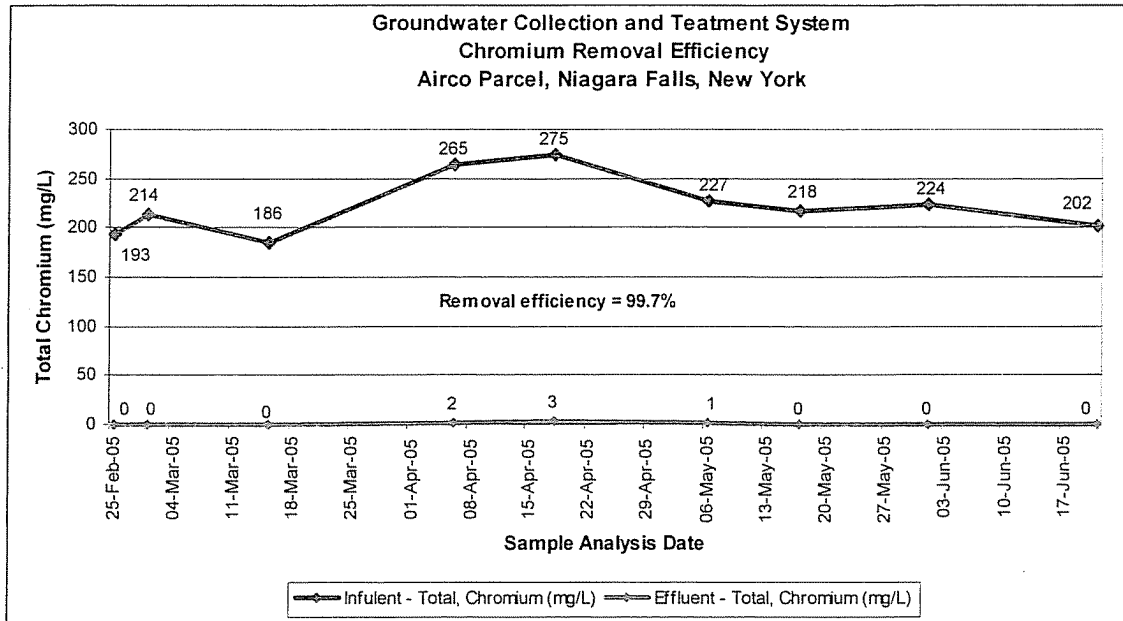
Routine operation and maintenance was completed weekly throughout the monitoring period. Field tasks included system checks, data collection, and field analysis of treatment water at various stages of the treatment process, transducer cleanings, and general site maintenance.

3. SYSTEM OPERATIONS AND EFFICIENCY

During this monitoring period, approximately 3,258,000 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 approximately 3,869.5 hours or over 89 percent of the time during the quarter.

Routine maintenance continued throughout the quarter. The completed Airco Parcel Bi-Weekly System Monitoring Checklists are provided in Attachment G.1. The following charts illustrate the total chromium and hexavalent chromium removal efficiency for the GCTS throughout the monitoring period. On average, the system removed 99.7 percent of the total chromium and 99.8 percent of the hexavalent chromium. For the quarter, the system has removed an estimated 6.03 lb of total chromium of which 4.85 lb was hexavalent chromium. The following charts illustrate the GCTS removal rate (lb) and efficiency:





3.1 SYNOPSIS OF SYSTEM DOWNTIME

January 2005

The GCTS operated normally throughout January 2005.

February 2005

The system had one unscheduled shut down in February 2005:

- On 24 February 2005, the system shut down due to an ice buildup in the impeller casing and the check valve had become lodged open. The system was down for 4 hours. Heaters were installed on the backside of the weir in Sediment Pond B to prevent further freezing issues during winter operations.

March 2005

The system had one unscheduled shut down in March 2005:

- On 1 March 2005, the system shut down due to the loss of suction at Pump 4A. This was caused by a low level in T3B (the backside of Sediment Pond A). The low level occurred due to a high pH alarm condition which resulted in the shut down of Pump 1, which supplies the system with untreated water. The system was down for 1 day, until the pH level in Sediment Pond A was reduced to 7.0 NTU.

April 2005

The system had one unscheduled shut downs in April 2005:

- On 26 April 2005, the system shut down due to a high level alarm on Sediment Pond B. The system was down for 2 hours.

May 2005

The system had one unscheduled shut down in May 2005:

- On 6 May 2005, the system shut down due a P1 failure. The pump would not restart after the system alarm had been reset. Field troubleshooting indicated that the pump was running, just not pushing water to Sediment Pond A. It was determined that an airlock inside the influent piping was the problem. The airlock was bled off and the system began operating normally. The system was down for 4.5 hours.

June 2005

The system had one unscheduled shut down and one scheduled shut-off in June 2005:

- On 1 June 2005, the system shut down due to P1 failure. The motor had seized on the pump and was no longer operational. Pump P1 had run continuously for approximately 3 years. The pump was replaced with an identical pump and the system was restarted. The system was down for 8 hours while the pump was being replaced.
- On 10 June 2005, the system notified EA personnel that every alarm condition had been activated. Earlier that morning a thunder/lightning storm had passed through Niagara

Falls. Upon arrival, the EA technician noted that the transducers were toggling between a real reading and an obscure reading. After field troubleshooting and discussion with the programmable logic controller (PLC) engineer, it was determined that the analog input board had been damaged, most likely an electrical surge during the thunder/lightning storm earlier that morning. The system was shut down and a new analog input board was ordered for the control panel.

- On 21 June 2005, the new analog input was installed and the system was restarted. The transducers were still experiencing some minor toggling. The system was shut down; EA scheduled the system's electrician for a site visit to aid in troubleshooting the issues encountered with the transducers.
- On 28 June 2005, Ken Miller (system electrician) and Robert Casey (EA) completed the field investigation of the site transducers. The system was restarted and was operating normally. The system was down for 432 hours from 10 through 28 June 2005 while the repairs were made.

3.2 SYNOPSIS OF THE BI-ANNUAL ACTIVITIES

February 2005

- **24 February**—Reduce influent from P1 to create steady state. Took P4A apart and found some ice in the impeller casing. Thawed casing and re-installed pump.
- **25 February**—Pumped out Drywell T7 and collected quarterly samples from P7.

March 2005

- **1 March**—Primed P4A and restarted. Reset high speed setting. Installed flowmeter on the back side of P4B. Reset totalizer to zero. Insulated the door of the pump house and did some clean up of pump house floor.
- **2 March**—Increased flow on tube diffuser manifold due to pH of 7.3. Pump P4A operating at 0 psi and Pump P4B operating at approximately at 15 psi and 36-38 gpm. Determined that an increase of psi on P4A would mean that calcium carbonate is building up in the pump, lines, and zero valence iron (ZVI) beds and an increase of psi on P4B would mean that residual iron is building up in the flowmeter. Cleaned the flowmeter. Carbon dioxide tank at 6,500 lb and 245 psi. GCTS seems to be maintaining a steady-state.
- **9 March**—Water level in Pond A is a bit high (2.8) but not at high level (3.0). Noticed some calcium carbonate making it over the weir to the shallow end of pond. Welded manifold in pump house. Carbon dioxide tank at 4,300 lb and 240 psi.
- **15 March**—Carbon dioxide tank is empty with 0 psi. Carbon dioxide delivery 16 March. Talked with Dave from BOC about sending out a service technician with the tank fill. He can have one out on Thursday (17 March 2005) with delivery. System is operating fine.

- **24 March**—Carbon dioxide tank was filled on Thursday, 17 March 2005. Receipt from tank fill shows they only filled tank to 7,200 lb. Current tank reading is at 3,900 lb. Used approximately 3,300 lb within a week. Called for a tank refill, scheduled for 28 or 29 March 2005. System operating properly. Flowmeter not recording flow. Must be clogged with iron; will check. Carbon dioxide tank at 3,900 lb and 230 psi.
- **30 March**—Met with NALCO Representative (Larry) for system treatment water jar testing. Carbon dioxide tank filled on 28 March 2005 to 12,000 lb; tank reading was 2,350 lb; quantity delivered was 9,650 lb. Carbon dioxide reading at time of arrival was 11,100 lb. System operating normally. More calcium carbonate build up on weir wall and shallow end of Pond A.

April 2005

- **6 April**—System operating properly. Pumped out Drywell T7. Wetland shallow end is beginning to get a bit red from iron. Carbon dioxide tank at 8,450 lb.
- **11 April**—System operating normally. Carbon dioxide tank at 5,400 lb.
- **18 April**—Site meeting with ADELPHIA. Carbon dioxide tank at 1,900 lb and 250 psi. Called for tank fill, will be filled tomorrow or Wednesday. Pond A is milky again (photo taken). East fence cut again (photo taken). ADELPHIA Representatives will not be able to complete application. Need surveyors to get height on overhead high voltage lines (Wendell Duchscherer); set pole along southwest side of access road. Cleaned flowmeter and it is working again. System operating normally.
- **26 April**—Restarted system in morning. System shut down due to high level alarm on Sediment Pond B (T6). Transducer reading 619.4. Cleaned transducer, and still not reading properly. Switched discharge from P4A to one ZVI vessel to see if we would get enough contact time from one vessel. Collected two samples for hexavalent chromium: Sample 1 = 0.011 mg/L and Sample 2 = 0.026 mg/L.
- **27 April**—System operating normally. Collected one sample for hexavalent chromium: Sample 3 = 0.072 mg/L. Switched the discharged from P4A back to two ZVI beds to increase the contact time. One bed is not enough. Collected effluent sample: Hexavalent chromium = 0.010 µg/L. Carbon dioxide tank at 10,000 lb and 230 psi.

May 2005

- **6 May**—Met with Wendell Duchscherer for site visit regarding survey for DSL line install. System not operating at arrival. Ponds look good. No influent from P1. Mike Hinton arrived onsite to check on system. Updated him on system performance and issues. P1 is pulling low amperage (1.15A). Pump manufacturer thinks it may be due to an air lock or sitting in too much sediment. Took apart ball valve in steel box behind pH meter and turned on the pump. Seemed to bleed some air and then water. Turned system back on. Things back to normal. Replaced transducer.

- **13 May**—System operating normally. Everything looks good.
- **26 May**—System operating normally.

June 2005

- **1 June**—Shut down system to install new pump. Confined space entry into manhole. Air quality monitoring conducted while inside manhole. Robert Casey, Dana Kaiser, and Kurt Ilker present for entry. Exited manhole and opened ball valve to drain line. Used harness and tripod. Mike Hinton onsite and discussed pump replacement with Casey. Pump removed and pulled wiring snake through conduit. Mike Hinton walked landfill. Continued to wait for force main to empty into manhole. Removed, cleaned, and replaced ball valve. Installed new pump. Allowed manhole to fill with water. System restarted and is operating properly. Flow seems a bit slow from P1. Could be due to empty line and pressure from Pond A and calcium carbonate build up.
- **7 June**—System operating normally. Mike Hinton onsite for site walk.
- **10 June.** Onsite for emergency site visit. All alarm conditions on and sound level high. Turned power back on and the status stayed the same. Relays are popping and alarm condition lists are the same, as well as readings from transducers. Unhooked all transducers and pH meter. Restarted system and results same as before. Checked amperage to PLC from transducers all lines in show 0.04A. Problem does not seem to be the units. Spoke with Chip McLeod and Ken Miller about the issues encountered. Ken seems to think that the analog input board may be bad. He will send a new one up with new modem as well.
- **13 June**—Onsite to cycle power for PLC programmer. System still down.
- **June 21**—Onsite to install new modem and analog input board as well as system startup. Upon arrival system carbon dioxide tank at high pressure (390 psi). Diffuser blowing off-gas. Relieved pressure from tank – now at 255 psi. All due to the system being down. Installed modem and powered up system. Still some toggling at transducers. Shut system down again.
- **28 June**—Ken Miller (system electrician) and Robert Casey (EA) completed the field investigation of the site transducers. The system was restarted and was operating normally.

4. MODIFICATIONS/IMPROVEMENTS AND RECOMMENDATIONS

4.1 SYSTEM MODIFICATION/IMPROVEMENTS

During the monitoring period of July-December 2005, EA projects the following modifications and improvements to the GCTS:

- Installing an upgraded flowmeter to reduce maintenance issues associated with the current flow monitoring system and provide more accurate and real time flow data.
- Install new utility pole to provide for DSL line service to the PLC, which will allow for real time remote monitoring of system components and performance.
- Add an additional 24 VDC power supply to the control panel for dedicated use with the variable frequency drive which will provide uninterrupted power supply to the drive and lessen background electrical noise received by the pressure transducers.
- Create an internet website dedicated to monitoring the GCTS, allowing for access to real time data to EA; The BOC Group, Inc.; and New York State Department of Environmental Conservation.

5. PROJECTED OPERATION AND MAINTENACE

5.1 JULY-DECEMBER 2005

During the monitoring period of July-December 2005, EA has projected completing the following list of tasks for operation and maintenance of the Airco Parcel:

- Removal of the stained crushed stone from the southwest corner from MW-6B to the southwest corner fence line to a depth of 6 in., and replacement with new stone material (projected for October 2005).
- Landfill cap mowing activities (October 2005).

5.2 OTHER SYSTEM ACTIVITIES

None.

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 during September and December 2005 from the GCTS to meet the New York State Department of Environmental Conservation discharge permit requirements. EA will also complete the second bi-annual groundwater monitoring event in October 2005.

Attachment G.1

Airco Parcel Bi-Weekly System Monitoring Checklists

**Airco Parcel
Groundwater Collection and Treatment System
Niagara Falls, New York**

Treatment System Checklist

240 CO2 Storage Tank Pressure (Normal Range = 220 - 235psi)
8,700 CO2 Storage Liquid Level (Normal Range = 2,000 - 12,000lbs)
*Note: call for refill @ 2,000 - 3,000lbs

OFF P1 Running Status (on/off)
616.9 T3 Water Elevation
6.2 T3 pH
NA T3 Temperature
ON P4A Running Status (on/off)
8.2 P4A Pressure Gauge (normal range = 10psi)
615.8 T6 Water Elevation
ON P4B Running Status (on/off)
614.1 T7 Water Elevation
ON P7 Running Status (on/off)

date: 25 FEB 2005
personnel: R. CASEY

**AIRCO PARCEL
GROUNDWATER COLLECTION AND TREATMENT SYSTEM
NIAGARA FALLS, NEW YORK**

FIELD SAMPLING REPORT FORM

	<u>Standard</u>
<u>0.146</u> P4A Hexavalent, Chromium Concentration (mg/L)	(0.011 mg/L)
<u>0.143</u> P4A Total Chromium Concentration (mg/L)	(0.05 mg/L)
<u>0</u> P4B Hexavalent, Chromium Concentration (mg/L)	(0.011 mg/L)
<u>0</u> P4B Total Chromium Concentration (mg/L)	(0.05 mg/L)
<u>0</u> P7 Hexavalent, Chromium Concentration (mg/L)	(0.011 mg/L)
<u>0</u> P7 Total Chromium Concentration (mg/L)	(0.05 mg/L)

Date: 26 FEB 2005

Personnel: R. CASEY

**Airco Parcel
Groundwater Collection and Treatment System
Niagara Falls, New York**

Treatment System Checklist

6500 CO2 Storage Tank Pressure (Normal Range = 220 - 235psi)
245 CO2 Storage Liquid Level (Normal Range = 2,000 - 12,000lbs)
*Note: call for refill @ 2,000 - 3,000lbs

OFF P1 Running Status (on/off)
617.2 T3 Water Elevation
5.9 T3 pH
NA T3 Temperature
ON P4A Running Status (on/off)
65 P4A Pressure Gauge (normal range = 10psi)
615.7 T6 Water Elevation
ON P4B Running Status (on/off)
614.1 T7 Water Elevation
ON P7 Running Status (on/off)

date: 1 MARCH 2005
personnel: R. CASEY

**AIRCO PARCEL
GROUNDWATER COLLECTION AND TREATMENT SYSTEM
NIAGARA FALLS, NEW YORK**

FIELD SAMPLING REPORT FORM

	<u>Standard</u>
<u>0.157</u> P4A Hexavalent, Chromium Concentration (mg/L)	(0.011 mg/L)
<u>0.214</u> P4A Total Chromium Concentration (mg/L)	(0.05 mg/L)
<u>0</u> P4B Hexavalent, Chromium Concentration (mg/L)	(0.011 mg/L)
<u>0</u> P4B Total Chromium Concentration (mg/L)	(0.05 mg/L)
<u>0</u> P7 Hexavalent, Chromium Concentration (mg/L)	(0.011 mg/L)
<u>0</u> P7 Total Chromium Concentration (mg/L)	(0.05 mg/L)

Date: 1 MARCH 2005

Personnel: P. CASAP

**Airco Parcel
Groundwater Collection and Treatment System
Niagara Falls, New York**

Treatment System Checklist

230 CO2 Storage Tank Pressure (Normal Range = 220 - 235psi)
3,000 CO2 Storage Liquid Level (Normal Range = 2,000 - 12,000lbs)
*Note: call for refill @ 2,000 - 3,000lbs

ON P1 Running Status (on/off)
616.9 T3 Water Elevation
6.4 T3 pH
NA T3 Temperature
OFF P4A Running Status (on/off)
4.5 P4A Pressure Gauge (normal range = 10psi)
615.8 T6 Water Elevation
OFF P4B Running Status (on/off)
614.1 T7 Water Elevation
OFF P7 Running Status (on/off)

date: 15 MAR 2005
personnel: K. CASEY

**AIRCO PARCEL
GROUNDWATER COLLECTION AND TREATMENT SYSTEM
NIAGARA FALLS, NEW YORK**

FIELD SAMPLING REPORT FORM

	<u>Standard</u>
<u>0.121</u> P4A Hexavalent, Chromium Concentration (mg/L)	(0.011 mg/L)
<u>0.186</u> P4A Total Chromium Concentration (mg/L)	(0.05 mg/L)
<u>0</u> P4B Hexavalent, Chromium Concentration (mg/L)	(0.011 mg/L)
<u>0</u> P4B Total Chromium Concentration (mg/L)	(0.05 mg/L)
<u>0</u> P7 Hexavalent, Chromium Concentration (mg/L)	(0.011 mg/L)
<u>0</u> P7 Total Chromium Concentration (mg/L)	(0.05 mg/L)

Date: 3/15/2005

Personnel: R. CASEY

**Airco Parcel
Groundwater Collection and Treatment System
Niagara Falls, New York**

Treatment System Checklist

8,450 CO2 Storage Tank Pressure (Normal Range = 220 - 235psi)
241 CO2 Storage Liquid Level (Normal Range = 2,000 - 12,000lbs)
*Note: call for refill @ 2,000 - 3,000lbs
ON P1 Running Status (on/off)
616.9 T3 Water Elevation
6.1 T3 pH
NA T3 Temperature
OFF P4A Running Status (on/off)
0 P4A Pressure Gauge (normal range = 10psi)
615.9 T6 Water Elevation
ON P4B Running Status (on/off)
614.2 T7 Water Elevation
OFF P7 Running Status (on/off)

date: 6 APRIL 05
personnel: R. CASEY

**AIRCO PARCEL
GROUNDWATER COLLECTION AND TREATMENT SYSTEM
NIAGARA FALLS, NEW YORK**

FIELD SAMPLING REPORT FORM

	<u>Standard</u>
<u>0.232</u> P4A Hexavalent, Chromium Concentration (mg/L)	(0.011 mg/L)
<u>0.265</u> P4A Total Chromium Concentration (mg/L)	(0.05 mg/L)
<u>0.001</u> P4B Hexavalent, Chromium Concentration (mg/L)	(0.011 mg/L)
<u>0.004</u> P4B Total Chromium Concentration (mg/L)	(0.05 mg/L)
<u>0.001</u> P7 Hexavalent, Chromium Concentration (mg/L)	(0.011 mg/L)
<u>0.002</u> P7 Total Chromium Concentration (mg/L)	(0.05 mg/L)

Date: 4/6/05

Personnel: R. CASEY

**Airco Parcel
Groundwater Collection and Treatment System
Niagara Falls, New York**

Treatment System Checklist

1,400 CO2 Storage Tank Pressure (Normal Range = 220 - 235psi)
250 CO2 Storage Liquid Level (Normal Range = 2,000 - 12,000lbs)
*Note: call for refill @ 2,000 - 3,000lbs

OFF P1 Running Status (on/off)
607.0 T3 Water Elevation
7.2 T3 pH
NA T3 Temperature
ON P4A Running Status (on/off)
5.5 P4A Pressure Gauge (normal range = 10psi)
615.7 T6 Water Elevation
ON P4B Running Status (on/off)
614.4 T7 Water Elevation
ON P7 Running Status (on/off)

date: 18 APRIL 05
personnel: P. CASEY

**AIRCO PARCEL
GROUNDWATER COLLECTION AND TREATMENT SYSTEM
NIAGARA FALLS, NEW YORK**

FIELD SAMPLING REPORT FORM

	<u>Standard</u>
<u>0.229</u> P4A Hexavalent, Chromium Concentration (mg/L)	(0.011 mg/L)
<u>0.775</u> P4A Total Chromium Concentration (mg/L)	(0.05 mg/L)
<u>0.001</u> P4B Hexavalent, Chromium Concentration (mg/L)	(0.011 mg/L)
<u>0.006</u> P4B Total Chromium Concentration (mg/L)	(0.05 mg/L)
<u>0.001</u> P7 Hexavalent, Chromium Concentration (mg/L)	(0.011 mg/L)
<u>0.003</u> P7 Total Chromium Concentration (mg/L)	(0.05 mg/L)

Date: 18 APRIL 05

Personnel: P. CASEY

**Airco Parcel
Groundwater Collection and Treatment System
Niagara Falls, New York**

Treatment System Checklist

- 232 CO2 Storage Tank Pressure (Normal Range = 220 - 235psi)
- 3,200 CO2 Storage Liquid Level (Normal Range = 2,000 - 12,000lbs)
*Note: call for refill @ 2,000 - 3,000lbs
- ON P1 Running Status (on/off)
- 617.0 T3 Water Elevation
- 6.8 T3 pH
- NA T3 Temperature
- ON P4A Running Status (on/off)
- 4.5 P4A Pressure Gauge (normal range = 10psi)
- T6 Water Elevation * NOT READING PROPERLY (REPLACED)
- OFF P4B Running Status (on/off)
- 614.4 T7 Water Elevation
- OFF P7 Running Status (on/off)

date: 5/6/05
personnel: A. CASEY

**AIRCO PARCEL
GROUNDWATER COLLECTION AND TREATMENT SYSTEM
NIAGARA FALLS, NEW YORK**

FIELD SAMPLING REPORT FORM

		<u>Standard</u>
<u>0.196</u>	P4A Hexavalent, Chromium Concentration (mg/L)	(0.011 mg/L)
<u>0.227</u>	P4A Total Chromium Concentration (mg/L)	(0.05 mg/L)
<u>0.000</u>	P4B Hexavalent, Chromium Concentration (mg/L)	(0.011 mg/L)
<u>0.001</u>	P4B Total Chromium Concentration (mg/L)	(0.05 mg/L)
<u>0</u>	P7 Hexavalent, Chromium Concentration (mg/L)	(0.011 mg/L)
<u>0.061</u>	P7 Total Chromium Concentration (mg/L)	(0.05 mg/L)

Date: 5/6/05

Personnel: P. CASEY

**Airco Parcel
Groundwater Collection and Treatment System
Niagara Falls, New York**

Treatment System Checklist

_____ CO2 Storage Tank Pressure (Normal Range = 220 - 235psi)

_____ CO2 Storage Liquid Level (Normal Range = 2,000 - 12,000lbs)

*Note: call for refill @ 2,000 - 3,000lbs

ON P1 Running Status (on/off)

617.0 T3 Water Elevation

6.6 T3 pH

NA T3 Temperature

ON P4A Running Status (on/off)

5 P4A Pressure Gauge (normal range = 10psi)

618.7 T6 Water Elevation

OFF P4B Running Status (on/off)

614.1 T7 Water Elevation

OFF P7 Running Status (on/off)

date: 5/17/05
personnel: PLASEY

**AIRCO PARCEL
GROUNDWATER COLLECTION AND TREATMENT SYSTEM
NIAGARA FALLS, NEW YORK**

FIELD SAMPLING REPORT FORM

	<u>Standard</u>
<u>0.68</u> P4A Hexavalent, Chromium Concentration (mg/L)	(0.011 mg/L)
<u>0.218</u> P4A Total Chromium Concentration (mg/L)	(0.05 mg/L)
<u>0</u> P4B Hexavalent, Chromium Concentration (mg/L)	(0.011 mg/L)
<u>0</u> P4B Total Chromium Concentration (mg/L)	(0.05 mg/L)
<u>0.001</u> P7 Hexavalent, Chromium Concentration (mg/L)	(0.011 mg/L)
<u>0</u> P7 Total Chromium Concentration (mg/L)	(0.05 mg/L)

Date: 5/17/05

Personnel: D. CASBY

**Airco Parcel
Groundwater Collection and Treatment System
Niagara Falls, New York**

Treatment System Checklist

- _____ CO2 Storage Tank Pressure (Normal Range = 220 - 235psi)
- _____ CO2 Storage Liquid Level (Normal Range = 2,000 - 12,000lbs)
*Note: call for refill @ 2,000 - 3,000lbs
- _____ P1 Running Status (on/off)
- _____ T3 Water Elevation
- _____ T3 pH
- _____ T3 Temperature
- _____ P4A Running Status (on/off)
- _____ P4A Pressure Gauge (normal range = 10psi)
- _____ T6 Water Elevation
- _____ P4B Running Status (on/off)
- _____ T7 Water Elevation
- _____ P7 Running Status (on/off)

date: 6/1/05
personnel: DL CASEY

* System down for P1 install. Restarted @
1500 samples collected for field analysis.

**AIRCO PARCEL
GROUNDWATER COLLECTION AND TREATMENT SYSTEM
NIAGARA FALLS, NEW YORK**

FIELD SAMPLING REPORT FORM

	<u>Standard</u>
<u>0.184</u> P4A Hexavalent, Chromium Concentration (mg/L)	(0.011 mg/L)
<u>0.224</u> P4A Total Chromium Concentration (mg/L)	(0.05 mg/L)
<u>0</u> P4B Hexavalent, Chromium Concentration (mg/L)	(0.011 mg/L)
<u>0.001</u> P4B Total Chromium Concentration (mg/L)	(0.05 mg/L)
<u>0</u> P7 Hexavalent, Chromium Concentration (mg/L)	(0.011 mg/L)
<u>0.001</u> P7 Total Chromium Concentration (mg/L)	(0.05 mg/L)

Date: 1 JUNE 05

Personnel: P. CASEY

**Airco Parcel
Groundwater Collection and Treatment System
Niagara Falls, New York**

Treatment System Checklist

390 CO2 Storage Tank Pressure (Normal Range = 220 - 235psi) *TANK BLOWING OFF GAS. RELIEVED PRESSURE*
8,300 CO2 Storage Liquid Level (Normal Range = 2,000 - 12,000lbs) *NOW AT 255.*
*Note: call for refill @ 2,000 - 3,000lbs

- _____ P1 Running Status (on/off)
- _____ T3 Water Elevation
- _____ T3 pH
- _____ T3 Temperature
- _____ P4A Running Status (on/off)
- _____ P4A Pressure Gauge (normal range = 10psi)
- _____ T6 Water Elevation
- _____ P4B Running Status (on/off)
- _____ T7 Water Elevation
- _____ P7 Running Status (on/off)

date: 6/21/05
personnel: D. CASEY

*. System down installing analog input board.

**AIRCO PARCEL
GROUNDWATER COLLECTION AND TREATMENT SYSTEM
NIAGARA FALLS, NEW YORK**

FIELD SAMPLING REPORT FORM

		<u>Standard</u>
<u>6.177</u>	P4A Hexavalent, Chromium Concentration (mg/L)	(0.011 mg/L)
<u>0.202</u>	P4A Total Chromium Concentration (mg/L)	(0.05 mg/L)
<u>0.000</u>	P4B Hexavalent, Chromium Concentration (mg/L)	(0.011 mg/L)
<u>0.001</u>	P4B Total Chromium Concentration (mg/L)	(0.05 mg/L)
<u>0</u>	P7 Hexavalent, Chromium Concentration (mg/L)	(0.011 mg/L)
<u>0</u>	P7 Total Chromium Concentration (mg/L)	(0.05 mg/L)

Date: 6/21/05

Personnel: R. CASEY