

932001



9 August 2002

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NYSDEC - REG. 9
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Mr. Michael Resh
Manager of Environmental Remediation
BOC Gases
100 Mountain Avenue
Murray Hill, New Jersey 07974

RE: Second Quarter Year 2002 Monitoring Event Letter Report, Site No. 932001,
Airco Properties Inc., Witmer Road Landfill, Niagara Falls, New York
EA Project No. 12040.69

Dear Mr. Resh:

EA Engineering, P.C. and its affiliate EA Engineering, Science, and Technology are pleased to provide this Second Quarter Year 2002 Monitoring Event Letter Report. During December 2000, the Post-Closure Monitoring and Facility Maintenance Program was initiated at the Witmer Road Landfill 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 the Order on Consent No. B9-0470-94-12. The purpose of this Monitoring Event Letter Report is to summarize the analytical results of the second quarter Year 2002 ground-water monitoring event that was completed at this site in June 2002.

OBJECTIVES

In accordance with the Revised Final Post-Closure Monitoring and Facility Maintenance Plan (EA 2001)¹, environmental monitoring points will be maintained and sampled during the post-closure monitoring period. This includes collection of ground-water, surface water, and leachate samples. The Revised Final 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. It is anticipated that within 5 years of the start of post-closure monitoring, this Plan will be 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.

1. EA Engineering, 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 objectives of the Post-Closure Monitoring and Facility Maintenance Program are to:

- Collect representative ground-water, surface water, and relief pipe (if present) samples in order to monitor any potential migration of contaminants from the landfill, and to document the effectiveness of the recently installed landfill capping system.
- Evaluate these data to determine whether any potential impacts may be occurring that could affect human health or the environment
- Provide this information to The BOC Group and the New York State Department of Environmental Conservation (NYSDEC).

As noted in the Revised Final Post-Closure Monitoring and Facility Maintenance Plan (EA 2001a), the results of the quarterly sampling events will be summarized in a letter report detailing the findings of the environmental sampling. Monitoring event letter reports are limited to documenting the results of each sampling event. This letter report summarizes the findings of the seventh post-closure monitoring event completed at this site.

BACKGROUND

The Witmer Road Landfill is part of the Vanadium Corporation of America site that is located in the Town of Niagara Falls, New York (Figure 1). This quarterly sampling event focused on the 25-acre Airco parcel operated by The BOC Group. The Vanadium site is approximately 150 acres and 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 owner 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 ground water during the Immediate Investigative Work Assignment indicated that surface water and ground-water quality 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 is a designation for a site requiring remedial action.

Remedial measures were completed at the Witmer Road Landfill during 2000, which included construction of an impermeable cap and leachate relief system. 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)².

2. EA. 2001b. Interim Remedial Measure Report Documenting Closure of the Witmer Road Landfill, Niagara Falls, New York. January.

MONITORING EVENT FIELD ACTIVITIES

Monitoring Well Gauging

The site monitoring wells (MW-1B through MW-8B) were gauged prior to sampling on 11 June 2002. The depth to water, as measured from top of well casing, ranged from 3.74 ft at MW-6B to 12.94 ft at MW-2B. Gauging data are summarized in the table below:

Monitoring Well	Depth to Water (ft btoc)	Well Elevation (ft MSL)	Water Elevation (ft MSL)
MW1B	10.31	617.77	607.46
MW2B	12.94	615.88	602.94
MW3B	8.63	611.22	602.59
MW4B	7.74	606.68	598.94
MW5B	5.98	605.48	599.50
MW6B	3.74	603.47	599.73
MW7B	9.15	609.48	600.33
MW8B	5.88	611.62	605.74

NOTE: btoc = Below top of casing.
MSL = Mean sea level.

Sampling Procedures

Monitoring wells were sampled on 11 and 12 June 2002. One ground-water sample was collected at each of the eight site monitoring wells. Monitoring wells MW-2B, MW-4B, MW-5B, and MW-7B were purged using dedicated bailers due to low recharge and well volume. These wells were bailed dry at least once and allowed to recharge prior to sample collection. Monitoring wells MW-1B, MW-3B, MW-6B, and MW-8B had adequate recharge rates; consequently, 4 well volumes were removed and water quality indicator parameters allowed to stabilize prior to sample collection. One surface water sample and ground-water relief pipe sample were also collected. Samples were submitted to Environmental Laboratory Services of North 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). Environmental Laboratory Services is a New York State Department of Health-approved laboratory (Certification No. NYSDOH 11275).

Ground-water sampling results were compared to NYSDEC Ambient Water Quality Standards (AWQS) (NYSDEC 1999)³ and guidance values for Class GA waters. Ground-water relief pipe and surface water samples were compared to NYSDEC AWQS for Class D waters. If no Class D standards were applicable for a particular compound/analyte, analytical results were compared to the more stringent Class C standards. Analytical results are summarized on the table provided in Attachment A. Copies of the field notebook, including the results for well gauging, purging,

3. New York State Department of Environmental Conservation (NYSDEC). 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.

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 the letter to NYSDEC dated 5 June 2000, samples were analyzed for water quality parameters, and ammonia, phenolics, sulfate, and total (unfiltered) metals.

Summary tables listing analytical results compared to applicable NYSDEC AWQS are included in Attachment A, and a map showing sample locations and key analytical results is provided as Figure 2. Figure 3 shows the interpreted ground-water flow direction. Notable results of chemical analyses are as follows.

Metals

Unfiltered metals samples were collected from each of the eight site monitoring wells. Notable results included the following:

- Cadmium, chromium, hexavalent chromium, iron, magnesium, manganese, selenium, sodium, and thallium were detected in one or more of the ground-water samples at concentrations in excess of NYSDEC AWQS
- Hexavalent chromium, iron, and selenium were detected in the surface water sample at concentrations in excess of NYSDEC AWQS
- Hexavalent chromium and selenium were detected in excess of the NYSDEC AWQS in the ground-water relief pipe sample.

Water Quality Parameters

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

- Sulfate was detected in excess of NYSDEC AWQS in samples collected from monitoring well MW-8B
- Measurements of pH exceeded NYSDEC AWQS in monitoring wells MW-2B and MW-3B, as well as the surface water and ground-water relief pipe samples.

LANDFILL INSPECTION

Landfill cap inspection was conducted on 12 June 2002. The Landfill Cap Inspection Checklist is provided as Attachment E. No deterioration or damage to the landfill, cap, drainage swales, or access roads was noted during the engineering inspection.

During the June 2002 landfill inspection, EA noted that a 10-ft section of the perimeter fence along the eastern boundary of the landfill had been cut. Fence repairs are scheduled to be completed by September 2002. In addition to the repairs, the vegetation covering the landfill was noted at 2- to 3-ft high. Mowing is scheduled for 15-17 July 2002. The silt fence will also be removed by September 2002.

If you have any questions regarding the results of this Second Quarter Year 2002 Monitoring Event, please do not hesitate to contact Charles McLeod at (845) 565-8100.

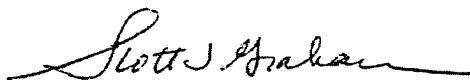
Sincerely,

EA ENGINEERING, P.C.



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

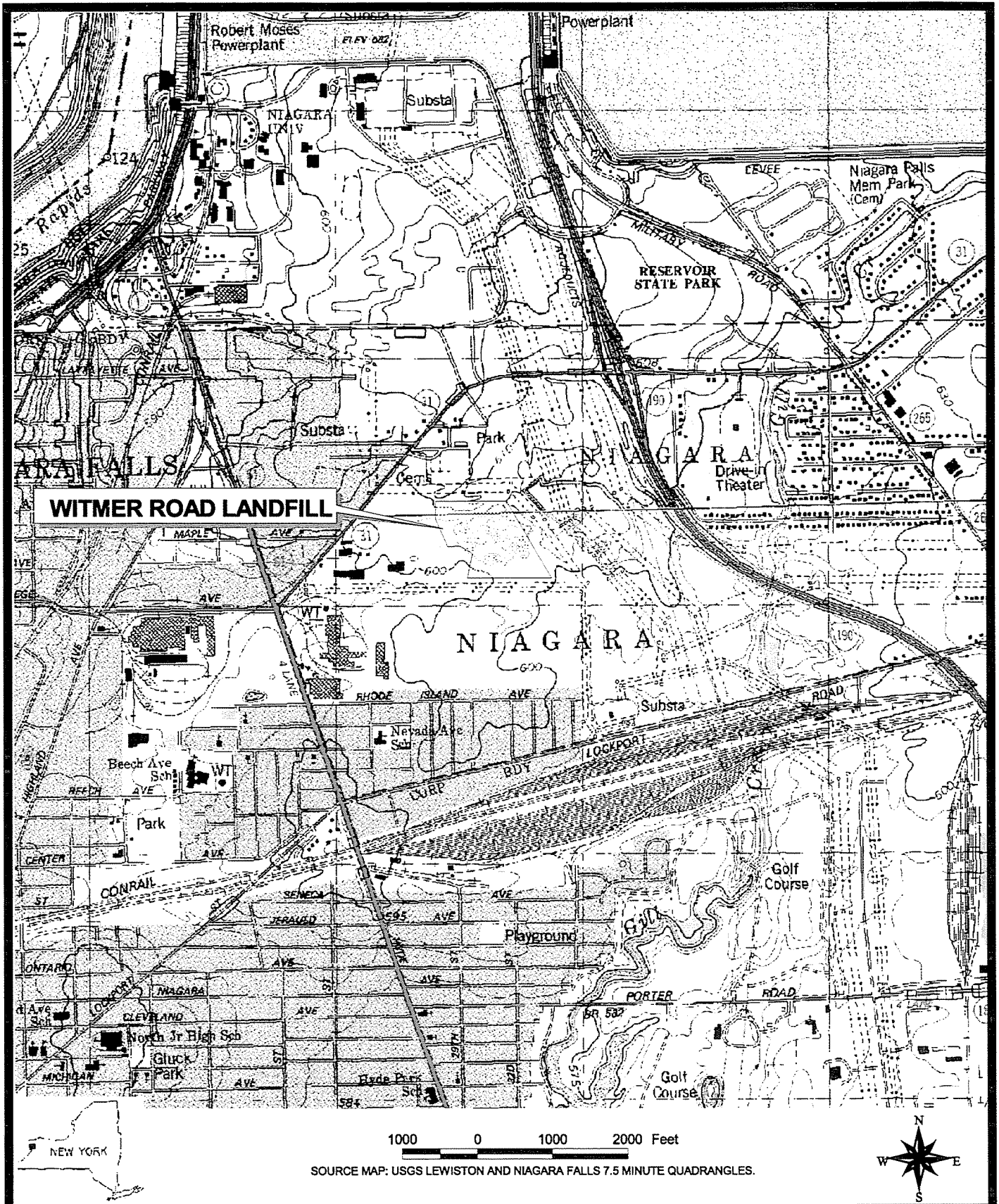
EA ENGINEERING, SCIENCE,
AND TECHNOLOGY



Scott Graham
Project Geologist

CEM/jam
Attachments

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



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

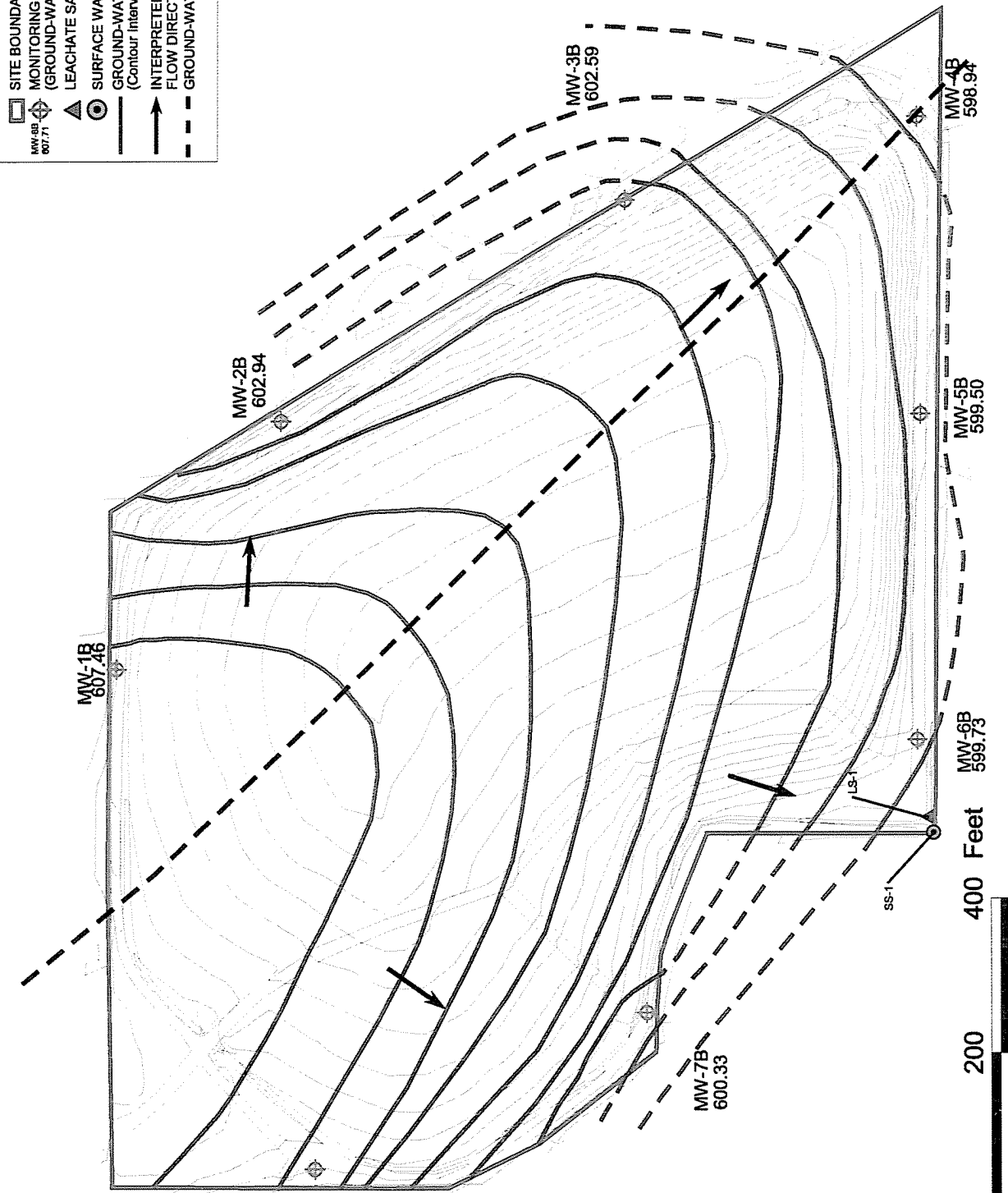
WITMER ROAD LANDFILL
NIAGARA FALLS, NEW YORK

FIGURE 1
SITE LOCATION MAP

PROJECT MGR	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	DATE	PROJECT No	FILE No
CEM	BT	BT	CEM	AS SHOWN	21 MARCH 2002	12040.69	I:\BOC-NIAGARA\FINAL.APR

LEGEND:

- SITE BOUNDARY
- ⊕ MONITORING WELL (GROUND-WATER ELEVATION, FT MSL)
- △ LEACHATE SAMPLE
- SURFACE WATER SAMPLE
- GROUND-WATER CONTOUR (Contour Interval = 1ft.)
- INTERPRETED GROUND-WATER FLOW DIRECTION
- - - GROUND-WATER DIVIDE



EA EA ENGINEERING, P.C. AND ITS AFFILIATE EA ENGINEERING, SCIENCE, AND TECHNOLOGY		WITMER ROAD LANDFILL NIAGARA FALLS, NEW YORK		FIGURE 2. INTERPRETED GROUND-WATER CONTOUR MAP BASED ON 11 JUNE 2002 WELL GAUGING DATA	
PROJECT MGR CEM	DESIGNED BY BT/RSC	DRAWN BY BT/RSC	CHECKED BY SLG	SCALE AS SHOWN	DATE 12 JUNE 2002
				PROJECT No 12040.69	FILE No I:\BOC-NIAGARA-GIS\ FINAL.APR



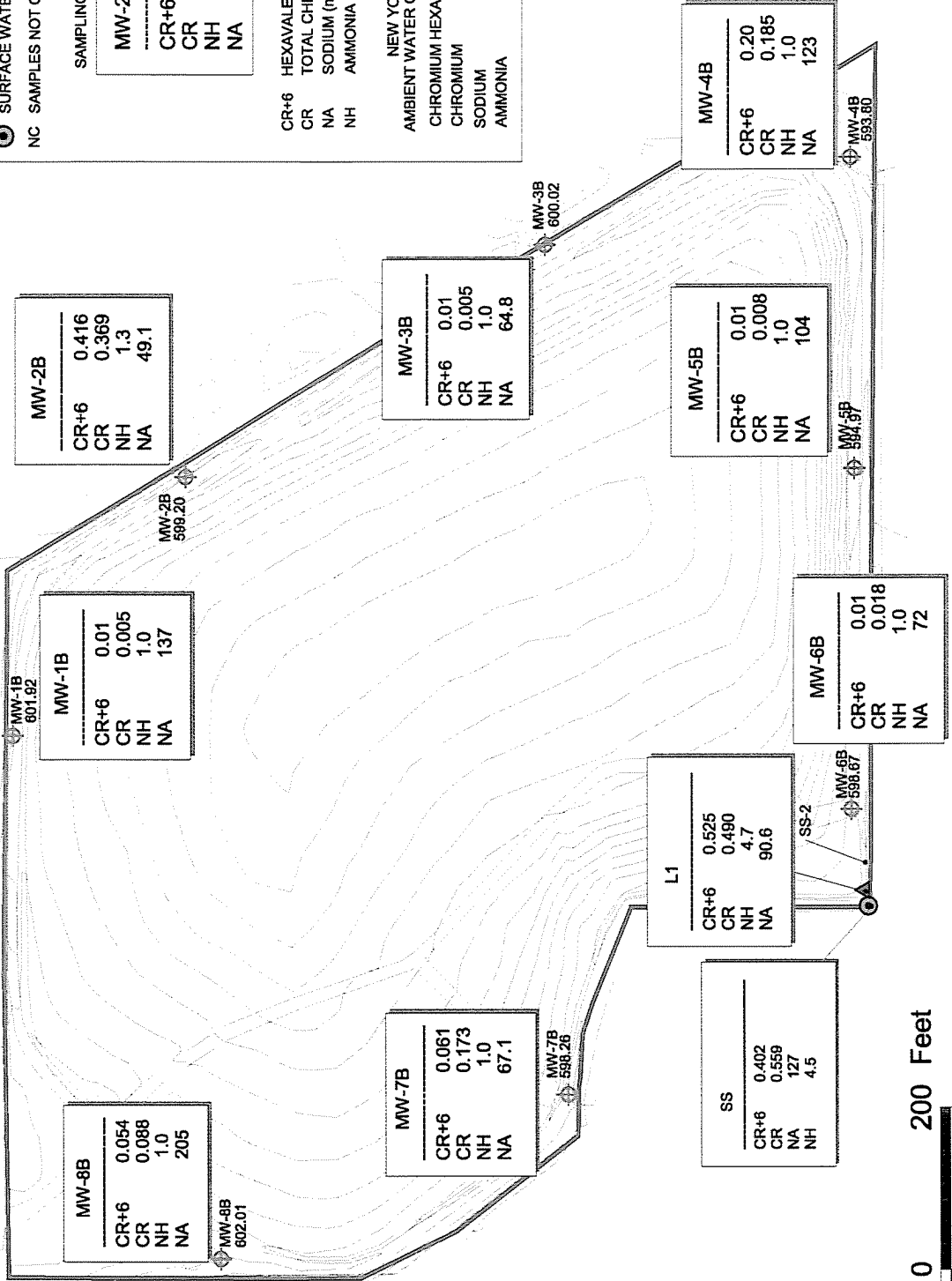
- LEGEND:**
- SITE BOUNDARY
 - ⊕ MONITORING WELL (GROUND-WATER ELEVATION, FT MSL)
 - ▲ LEACHATE SAMPLE
 - ⊙ SURFACE WATER SAMPLE
 - NC SAMPLES NOT COLLECTED

SAMPLING RESULTS

MW-2B	
CR+6	0.418
CR	0.369
NH	1.3
NA	49.1

CR+6 HEXAVALENT CHROMIUM (mg/L)
 CR TOTAL CHROMIUM (mg/L)
 NA SODIUM (mg/L)
 NH AMMONIA (mg/L)

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



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 TECHNOLOGY

WITMER ROAD LANDFILL
 NIAGARA FALLS, NEW YORK

FIGURE 3 JUNE 2002 SAMPLING RESULTS

PROJECT MGR CEM	DESIGNED BY BT/RSC	DRAWN BY BT/RSC	CHECKED BY SLG	SCALE AS SHOWN	DATE 12 JUNE 2002	PROJECT No 12040.69	FILE No I:\BOC-NIAGARA-GIS\FINAL\APR
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Attachment A

Summary of Analytical Results of Ground-Water, Surface Water, and Leachate Samples

ATTACHMENT A SUMMARY OF ANALYTICAL RESULTS OF GROUND-WATER, SURFACE WATER,
AND LEACHATE SAMPLES COLLECTED IN JUNE 2002,
WITMER ROAD LANDFILL, NIAGARA FALLS, NEW YORK

Ground Water

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

Total (Unfiltered)

		MW-1B	MW-2B	MW-3B	MW-4B	MW-5B	MW-6B	MW-6B (Dup)	MW-7B	MW-8B
Compound/Element	AWQS									
Cadmium	0.005	(<0.005U)	(<0.005U)	(<0.005U)	(<0.005U)	0.008	(<0.005U)	(<0.005U)	0.014	(<0.005U)
Chromium	0.05	(<0.005U)	0.369	(<0.005U)	0.185	0.008	0.018	0.008	0.173	0.088
Chromium, Hexavalent	0.05	(<0.01U)	0.416	(<0.01U)	0.2	(<0.01U)	(<0.01U)	(<0.01U)	0.0612	0.0583
Iron	0.3	0.521	0.385	0.11	3.8	4.5	1.3	0.863	16.1	1.5
Lead	0.025	(<0.005U)	(<0.005U)	(<0.005U)	0.005	(<0.005U)	(<0.005U)	(<0.005U)	0.008	(<0.005U)
Magnesium	35*	63.9	(<1U)	1.8	44	74.6	79.2	81.7	16	61
Manganese	0.3	0.816	0.006	(<0.005U)	0.066	0.119	0.139	0.108	0.258	0.079
Selenium	0.01	(<0.005U)	0.007	(<0.005U)	(<0.005U)	(<0.005U)	(<0.005U)	(<0.005U)	(<0.005U)	0.07
Silica	---	19.2	3.3	20.4	24.6	26	19.2	17.7	87.2	22.8
Sodium	20	137	49.1	64.8	123	104	72	81.8	67.1	205
Thallium	0.0005*	(<0.005U)	(<0.005U)	(<0.005U)	0.006	(<0.005U)	(<0.005U)	0.005	0.006	(<0.005U)
Zinc	2*	0.248	(<0.005U)	(<0.005U)	0.035	0.062	(<0.005U)	0.021	0.063	0.232

Water Quality Parameters (mg/L)

		MW-1B	MW-2B	MW-3B	MW-4B	MW-5B	MW-6B	MW-6B (Dup)	MW-7B	MW-8B
Compound/Element	AWQS									
Ammonia (expressed as N)	2	(<1U)	1.3	(<1U)	(<1U)	(<1U)	(<1U)	(<1U)	(<1U)	(<1U)
Phenolics	0.001	(<0.002U)	(<0.002U)	0.0026	(<0.002U)	(<0.002U)	(<0.002U)	(<0.002U)	(<0.002U)	(<0.002U)
Sulfate	250	170	14.7	25	142	148	201	204	36.3	365

ATTACHMENT A (CONTINUED)

Surface Water

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

Total (Unfiltered)

		SS
Compound/Element	AWQS	
Cadmium	---	(<0.005U)
Chromium	---	0.559
Chromium, Hexavalent	0.016	0.402
Iron	0.3	9.3
Lead	---	0.033
Magnesium	---	170
Manganese	---	0.215
Selenium	0.0046	0.03
Silica	---	53.3
Sodium	---	127
Thallium	0.02	(<0.005U)
Zinc	---	0.082

Water Quality Parameters (mg/L)

		SS
Compound/Element	AWQS	
Ammonia (expressed as N)	---	4.5
Phenolics	---	0.0594
Sulfate	---	10.7

Ground Water Relief Pipe

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

Total (Unfiltered)

		L1
Compound/Element	AWQS	
Cadmium	---	(<0.005U)
Chromium	---	0.49
Chromium, Hexavalent	0.016	0.525
Iron	0.3	(<0.025U)
Lead	---	(<0.005U)
Magnesium	---	(<1U)
Manganese	---	(<0.005U)
Selenium	0.0046	0.02
Silica	---	0.476
Sodium	---	90.6
Thallium	0.02	(<0.005U)
Zinc	---	(<0.005U)

Water Quality Parameters (mg/L)

		L1
Compound/Element	AWQS	
Ammonia (expressed as N)	---	4.7
Phenolics	---	0.013
Sulfate	---	11.5

ATTACHMENT A (CONTINUED)

QA/OC

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

Total (Unfiltered)

		Rinse Blank	Source Water Blank
Compound/Element	AWQS		
Cadmium	---	(<0.005U)	(<0.005U)
Chromium	---	(<0.005U)	(<0.005U)
Chromium, Hexavalent	---	(<0.01U)	(<0.01U)
Iron	---	(<0.025U)	(<0.025U)
Lead	---	(<0.005U)	(<0.005U)
Magnesium	---	(<1U)	(<1U)
Manganese	---	(<0.005U)	(<0.005U)
Selenium	---	(<0.005U)	(<0.005U)
Silica	---	0.32	0.32
Sodium	---	(<1U)	(<1U)
Thallium	---	0.005	(<0.005U)
Zinc	---	(<0.005U)	(<0.005U)

Water Quality Parameters (mg/L)

		Rinse Blank	Source Water Blank
Compound/Element	AWQS		
Ammonia (expressed as N)	---	(<1U)	(<1U)
Phenolics	---	(<0.002U)	0.0254
Sulfate	---	(<2U)	(<2U)

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

Ground-Water Sampling Purge Forms



GROUND-WATER SAMPLING PURGE FORM

Well I.D.:	EA Personnel:	Client:
WRL-MW1B	JC	BOC GASES
Location:	Well Condition:	Weather:
NIAGARA FALLS	LOCKED	CLEAR , BREEZY, low 80s
Sounding Method:	Gauge Date:	Measurement Ref:
WLI	6/11/2002	TOC
Stick Up/Down (ft):	Gauge Time:	Well Diameter (in):
UP	1625	4"

Purge Date: 6/12/2002	Purge Time: 1625
Purge Method: 2" SUB/LOW FLOW	Field Technician: JC

Well Volume		
A. Well Depth (ft):	D. Well Volume (gal/ft):	Depth/Height of Top of PVC:
27.9	0.16	
B. Depth to Water (ft):	E. Well Volume (gal) (C*D):	Pump Type:
10.31	2.81	GRUNDFUS REDI-FLO 2
C. Liquid Depth (ft) (A-B):	F. Five Well Volumes (gal):	Pump Designation:
17.59	14.07	

Water Quality Parameters									
Time (hrs)	DTW (ft btoc)	Volume (gal)	Rate (gpm)	pH (pH units)	Sal %	Temperature (oC)	Conductivity (uS/cm)	DO (mg/L)	Turbidity (ntu)
1625	10.31		0.2	7.43	0.1	13.89	1.76	3.06	>999
1629	15.1	0.8	0.2	7.15	0.1	14.54	1.76	1.05	219
1633	15.16	1.6	0.2	7.05	0.1	14.59	1.75	0.8	73.9
1637	15.18	2.4	0.2	7.02	0.1	14.63	1.75	0.78	62.9
1641	15.18	3.2	0.2	7.02	0.1	14.62	1.74	0.74	62.4

Total Quantity of Water Removed (gal):	3.2 gal	Sampling Time:	1650
Samplers:	JC	Split Sample With:	
Sampling Date:	12-Jun-02	Sample Type:	GRAB

COMMENTS AND OBSERVATIONS: _____



GROUND-WATER SAMPLING PURGE FORM

Well I.D.: WRL-MW2B	EA Personnel: JC	Client: BOC GASES
Location: NIAGARA FALLS	Well Condition: LOCKED	Weather: CLEAR, BREEZY, low 80s
Sounding Method: WLI	Gauge Date: 6/11/2002	Measurement Ref: TOC
Stick Up/Down (ft): UP	Gauge Time: 1330	Well Diameter (in): 4"

Purge Date: 6/11/2002	Purge Time: 1330
Purge Method: HAND BAIL	Field Technician: JC

Well Volume		
A. Well Depth (ft): 27.58	D. Well Volume (gal/ft): 0.16	Depth/Height of Top of PVC:
B. Depth to Water (ft): 12.94	E. Well Volume (gal) (C*D): 2.34	Pump Type:
C. Liquid Depth (ft) (A-B): 14.64	F. Five Well Volumes (gal): 11.71	Pump Designation:

Water Quality Parameters									
Time (hrs)	DTW (ft btoc)	Volume (gal)	Rate (gpm)	pH (pH units)	Sal (%)	Temperature (oC)	Conductivity (uS/cm)	DO (mg/L)	Turbidity (ntu)
INITIAL	12.94			10.89	0.2	14.44	4.54	10.68	62.4
ENDING		~3		11.04	0.2	14.07	4.67	12.81	498

Total Quantity of Water Removed (gal): <u> ~3 gal </u>	Sampling Time: <u> 935 </u>
Samplers: <u> JC </u>	Split Sample With: <u> _____ </u>
Sampling Date: <u> 12-Jun-02 </u>	Sample Type: <u> GRAB </u>

COMMENTS AND OBSERVATIONS: NOT ENOUGH WATER TO PUMP. WELL BAILED DRY ON 11 JUN 02 AND
SAMPLED ON 12 JUN 02.



GROUND-WATER SAMPLING PURGE FORM

Well I.D.: WRL-MW3B	EA Personnel: JC	Client: BOC GASES
Location: NIAGARA FALLS	Well Condition: LOCKED	Weather: CLEAR, BREEZY, low 80s
Sounding Method: WLI	Gauge Date: 6/11/2002	Measurement Ref: TOC
Stick Up/Down (ft): UP	Gauge Time: 1010	Well Diameter (in): 4"

Purge Date: 6/12/2002	Purge Time: 1010
Purge Method: 2" SUB/LOW FLOW	Field Technician: JC

Well Volume		
A. Well Depth (ft): 18.35	D. Well Volume (gal/ft): 0.16	Depth/Height of Top of PVC:
B. Depth to Water (ft): 8.63	E. Well Volume (gal) (C*D): 1.55	Pump Type: GRUNDFUS REDI-FLO 2
C. Liquid Depth (ft) (A-B): 9.72	F. Five Well Volumes (gal): 7.78	Pump Designation:

Water Quality Parameters									
Time (hrs)	DTW (ft btoc)	Volume (gal)	Rate (gpm)	pH (pH units)	Sal %	Temperature (oC)	Conductivity (uS/cm)	DO (mg/L)	Turbidity (ntu)
1010	8.63		0.25	10.29	0	11.92	0.623	1.82	145
1014	10.54	1	0.25	10.24	0	13.47	0.607	0.8	157
1018	10.52	2	0.25	9.98	0	14.62	0.566	0.77	159
1022	10.52	3	0.25	9.89	0	14.68	0.548	0.78	168
1026	10.52	4	0.25	9.84	0	14.72	0.542	0.8	170

Total Quantity of Water Removed (gal): <u>4 gal</u>	Sampling Time: <u>1030</u>
Samplers: <u>JC</u>	Split Sample With: _____
Sampling Date: <u>12-Jun-02</u>	Sample Type: <u>GRAB</u>

COMMENTS AND OBSERVATIONS: _____



GROUND-WATER SAMPLING PURGE FORM

Well I.D.: WRL-MW4B	EA Personnel: JC	Client: BOC GASES
Location: NIAGARA FALLS	Well Condition: LOCKED	Weather: CLEAR, BREEZY, low 80s
Sounding Method: WLI	Gauge Date: 6/11/2002	Measurement Ref: TOC
Stick Up/Down (ft): UP	Gauge Time: 1400	Well Diameter (in): 4"

Purge Date: 6/11/2002	Purge Time: 1400
Purge Method: HAND BAIL	Field Technician: JC

Well Volume		
A. Well Depth (ft): 15.05	D. Well Volume (gal/ft): 0.16	Depth/Height of Top of PVC:
B. Depth to Water (ft): 7.74	E. Well Volume (gal) (C*D): 1.17	Pump Type:
C. Liquid Depth (ft) (A-B): 7.31	F. Five Well Volumes (gal): 5.85	Pump Designation:

Water Quality Parameters									
Time (hrs)	DTW (ft btoc)	Volume (gal)	Rate (gpm)	pH (pH units)	Sal %	Temperature (oC)	Conductivity (uS/cm)	DO (mg/L)	Turbidity (ntu)
INITIAL	7.74			8.39	0	17.06	1.09	9.56	139
ENDING		~2		7.77	0.1	12.66	1.22	8.88	>999

Total Quantity of Water Removed (gal):	~2 gal	Sampling Time:	1045
Samplers:	JC	Split Sample With:	
Sampling Date:	12-Jun-02	Sample Type:	GRAB

COMMENTS AND OBSERVATIONS: NOT ENOUGH WATER TO PUMP. WELL BAILED DRY ON 11 JUN 02 AND SAMPLED ON 12 JUN 02



GROUND-WATER SAMPLING PURGE FORM

Well I.D.: WRL-MW5B	EA Personnel: JC	Client: BOC GASES
Location: NIAGARA FALLS	Well Condition: LOCKED	Weather: CLEAR, BREEZY, low 80s
Sounding Method: WLI	Gauge Date: 6/11/2002	Measurement Ref: TOC
Stick Up/Down (ft): UP	Gauge Time: 1410	Well Diameter (in): 4"

Purge Date: 6/11/2002	Purge Time: 1410
Purge Method: HAND BAIL	Field Technician: JC

Well Volume		
A. Well Depth (ft): 14.17	D. Well Volume (gal/ft): 0.16	Depth/Height of Top of PVC:
B. Depth to Water (ft): 5.98	E. Well Volume (gal) (C*D): 1.31	Pump Type:
C. Liquid Depth (ft) (A-B): 8.19	F. Five Well Volumes (gal): 6.55	Pump Designation:

Water Quality Parameters									
Time (hrs)	DTW (ft btoc)	Volume (gal)	Rate (gpm)	pH (pH units)	Sal %	Temperature (oC)	Conductivity (uS/cm)	DO (mg/L)	Turbidity (ntu)
INITIAL	5.98			7.6	0.1	18.39	1.3	10.86	24.3
ENDING		~2.5		7.54	0.1	13.11	1.51	10.54	>999

Total Quantity of Water Removed (gal):	~1.75 gal	Sampling Time:	1100
Samplers:	JC	Split Sample With:	
Sampling Date:	12-Jun-02	Sample Type:	GRAB

COMMENTS AND OBSERVATIONS: NOT ENOUGH WATER TO PUMP. WELL BAILED DRY ON 11 JUN 02 AND SAMPLED ON 12 JUN 02



EA Engineering, Science,
and Technology

GROUND-WATER SAMPLING PURGE FORM

Well I.D.:	EA Personnel:	Client:
WRL-MW6B	JC	BOC GASES
Location:	Well Condition:	Weather:
NIAGARA FALLS	LOCKED	CLEAR, BREEZY, low 80s
Sounding Method:	Gauge Date:	Measurement Ref:
WLI	6/11/2002	TOC
Stick Up/Down (ft):	Gauge Time:	Well Diameter (in):
UP	1125	4"

Purge Date: 6/11/2002	Purge Time: 1130
Purge Method: 2" SUB/LOW FLOW	Field Technician: JC

Well Volume		
A. Well Depth (ft): 22.98	D. Well Volume (gal/ft): 0.16	Depth/Height of Top of PVC:
B. Depth to Water (ft): 3.74	E. Well Volume (gal) (C*D): 3.08	Pump Type: GRUNDFOS REDI-FLO 2
C. Liquid Depth (ft) (A-B): 19.24	F. Five Well Volumes (gal): 15.39	Pump Designation:

Water Quality Parameters									
Time (hrs)	DTW (ft btoc)	Volume (gal)	Rate (gpm)	pH (pH units)	Sal %	Temperature (oC)	Conductivity (uS/cm)	DO (mg/L)	Turbidity (ntu)
1125	3.74		0.25	7.08	0.1	12.2	1.3	1.98	560
1129	7.22	1	0.25	6.89	0.1	13.66	1.28	0.82	342
1133	7.46	2	0.25	6.86	0.1	13.92	1.29	0.85	389
1137	7.46	3	0.25	6.83	0.1	13.99	1.29	0.93	305
1141	7.46	4	0.25	6.84	0.1	14.32	1.29	0.94	264
1145	7.52	5	0.25	6.84	0.1	14.41	1.29	0.91	193

Total Quantity of Water Removed (gal):	5 gal	Sampling Time:	1150
Samplers:	JC	Split Sample With:	
Sampling Date:	12-Jun-02	Sample Type:	GRAB

COMMENTS AND OBSERVATIONS: WRL-DUP-0602 ALSO COLLECTED FROM 6B.



GROUND-WATER SAMPLING PURGE FORM

Well I.D.: WRL-MW7B	EA Personnel: JC	Client: BOC GASES
Location: NIAGARA FALLS	Well Condition: LOCKED	Weather: PARTLY CLOUDY, MID 40s
Sounding Method: WLI	Gauge Date: 6/11/2002	Measurement Ref: TOC
Stick Up/Down (ft): UP	Gauge Time: 1430	Well Diameter (in): 4"

Purge Date: 6/12/2002	Purge Time: 1430
Purge Method: 2" SUB/LOW FLOW	Field Technician: JC

Well Volume		
A. Well Depth (ft): 21.72	D. Well Volume (gal/ft): 0.16	Depth/Height of Top of PVC:
B. Depth to Water (ft): 9.15	E. Well Volume (gal) (C*D): 2.01	Pump Type: GRUNDFOS REDI-FLO 2
C. Liquid Depth (ft) (A-B): 12.57	F. Five Well Volumes (gal): 10.06	Pump Designation:

Water Quality Parameters									
Time (hrs)	DTW (ft btoc)	Volume (gal)	Rate (gpm)	pH (pH units)	Sal %	Temperature (oC)	Conductivity (uS/cm)	DO (mg/L)	Turbidity (ntu)
INITIAL	9.15			8.88	0	15.86	0.376	9.07	50.4
ENDING		~3		8.43	0	14.12	0.375	9.54	>999

Total Quantity of Water Removed (gal):	~3 gal	Sampling Time:	1215
Samplers:	JC	Split Sample With:	
Sampling Date:	12-Jun-02	Sample Type:	GRAB

COMMENTS AND OBSERVATIONS: NOT ENOUGH WATER TO PUMP. WELL BAILED DRY ON 11 JUN 02 AND SAMPLED ON 12 JUN 02



GROUND-WATER SAMPLING PURGE FORM

Well I.D.:	EA Personnel:	Client:
WRL-MW8B	JC	BOC GASES
Location:	Well Condition:	Weather:
NIAGARA FALLS	LOCKED	PARTLY CLOUDY, MID 40s
Sounding Method:	Gauge Date:	Measurement Ref:
WLI	6/11/2002	TOC
Stick Up/Down (ft):	Gauge Time:	Well Diameter (in):
UP	1235	4"

Purge Date: 6/12/2002	Purge Time: 1335
Purge Method: 2" SUB/LOW FLOW	Field Technician: JC

Well Volume		
A. Well Depth (ft): 15.6	D. Well Volume (gal/ft): 0.16	Depth/Height of Top of PVC:
B. Depth to Water (ft): 5.88	E. Well Volume (gal) (C*D): 1.56	Pump Type: GRUNDFOS REDI-FLO 2
C. Liquid Depth (ft) (A-B): 9.72	F. Five Well Volumes (gal): 7.78	Pump Designation:

Water Quality Parameters									
Time (hrs)	DTW (ft btoc)	Volume (gal)	Rate (gpm)	pH (pH units)	Sal %	Temperature (oC)	Conductivity (uS/cm)	DO (mg/L)	Turbidity (ntu)
1235	5.88		0.25	7.42	0.1	11.58	1.79	3.65	495
1239	6.48	1	0.25	7.11	0.1	13.35	1.78	0.81	323
1243	6.61	2	0.25	7.05	0.1	13.22	1.78	0.86	518
1247	6.58	3	0.25	7.03	0.1	13.58	1.78	0.84	525
1251	6.75	4	0.25	7.02	0.1	13.61	1.76	0.91	463

Total Quantity of Water Removed (gal):	4 gal	Sampling Time:	1300
Samplers:	JC	Split Sample With:	
Sampling Date:	12-Jun-02	Sample Type:	GRAB

COMMENTS AND OBSERVATIONS: _____

Attachment C
Chain-of-Custody Documentation



Environmental
LABORATORY SERVICES
 7260 Caswell Street, Hancock Air Park, North Syracuse, NY 13212
 (315) 458-8033 FAX (315) 458-0249 (800) 843-8265

CHAIN OF CUSTODY RECORD
 and Authorization for Analysis

Name: John Clark Title: _____
 Company: E.A. Engineering, Science & Tech. Dept.: _____
 Address: 1037 Fly Road Job/PO No.: _____
 City, State, Zip: East Syracuse, NY 13057

The following services may result in additional charges:
 Telephone Results Telephone No. (315) 431-4160 Advance Agreement Required
 Fax Results Fax No. (315) 431-4180 1 Week 48 Hour
 Express Service

To be completed by Sampler. Please remember to record this information on the container label.
 Number of Containers

ELS Number	Date	*Time	*Comp.	*Grab	*Matrix	*Sampling Location	Number of Containers
322791	11/11/02	1605		X	GW	WRL-RR-0602	1
322791	11/11/02	1650		X	GW	WRL-MWB-0602	1
322791	12/11/02	0935		X	GW	WRL-MWB-0602	1
322792	11/11/02	1530		Y	GW	WRL-LI-0602	1
322793	11/11/02	1550		X	GW	WRL-SW-0602	1
322794	11/11/02	1520		X	GW	WRL-SS-0602	1
322795	12/11/02	1030		X	GW	WRL-MWB-0602	1
322796	12/11/02	1045		X	GW	WRL-MWB-0602	1
322797	12/11/02	1100		X	GW	WRL-MWB-0602	1
322798	12/11/02	1150		X	GW	WRL-MWB-0602	1
322799	12/11/02	-		X	GW	WRL-DPA-0602	1
322800	12/11/02	1215		X	GW	WRL-MWB-0602	1
322801	12/11/02	1300		X	GW	WRL-MWB-0602	1
322802							
322803							

Container Type/Preservative

Plastic/NaOH+Ascorbic Acid	Plastic/H ₂ SO ₄	Plastic/NaOH+Zinc Acetate	Glass/No Preservative	Glass/Sodium Thiosulfate	Amber Glass/No Pres.	Amber Glass/H ₂ SO ₄	Other (Specify)
----------------------------	--	---------------------------	-----------------------	--------------------------	----------------------	--	-----------------

Analyses Required, Remarks, and/or Special Instructions: DOC Glass in this sample.

Containers Dispensed by: [Signature] Date: 11/11/02 Time: 1513 Container(s) Received by: _____
 Relinquished by: [Signature] Date: 11/11/02 Time: 1720 Received by: _____
 Relinquished by: [Signature] Date: 12/11/02 Time: 0920 Received by: _____
 Relinquished by: _____ Date: _____ Time: _____ Received by: _____
 Relinquished by: _____ Date: _____ Time: _____ Received at Lab by: [Signature]



Environmental
LABORATORY SERVICES
7280 Caswell Street, Hancock Air Park North Syracuse, NY 13212
(315) 458-8033 FAX (315) 458-0249 (800) 843-9265

CHAIN OF CUSTODY RECORD and Authorization for Analysis

Name: John Clark Title: Director of Quality Control

Company: Environmental Engineering Services, Inc. Dept:

Address: 1027 Fly Road Job/PO No.:

City, State, Zip: East Syracuse, NY 13057

The following services may result in additional charges:

Telephone Results Telephone No: 315-458-8033 Advance Agreement Required Express Service

Fax Results Fax No: 315-458-0249 1 Week 48 Hour

To be completed by Sampler. Please remember to record this information on the container label.

ELS Number	*Date	*Time	*Comp.	*Grab	*Matrix	*Sampling Location	Number of Containers	Container Type/Preservative										Analyses Required, Remarks, and/or Special Instructions						
								Plastic/No Preservatives	Plastic/HNO ₃	Plastic/H ₂ SO ₄	Plastic/NaOH+Ascorbic Acid	Plastic/NaOH+Zinc Acetate	Glass/No Preservative	Glass/Sodium Thiosulfate	Amber Glass/No Pres.	Amber Glass/H ₂ SO ₄	Other: (specify)							
111102	11/14/02	1605		X	ROSLER	WRL-RB-0602	1																	
111102	11/14/02	1650		X	GW	WRL-MH1B-0602	1																	
111102	11/14/02	1530		Y	EMPH	WRL-LI-0602	1																	
111102	11/14/02	1530		X	SURFACE WATER	WRL-SW-0602	1																	
111102	11/14/02	1520		X	SURFACE WATER	WRL-SS-0602	1																	
111102																								
111102																								
111102																								
111102																								
111102																								
111102																								

Containers Dispensed by: John Clark Date: 11/14/02 Time: 1513

Containers Received by: Date: Time:

Relinquished by: John Clark Date: 11/14/02 Time: 1700

Relinquished by: Date: Time:

Relinquished by: Date: Time:

Relinquished by: Date: Time:

Your signature authorizes ELS to analyze the sample(s) as indicated.

Relinquished by: Date: Time:

White - LABORATORY
Canary - ACCOMPANIES RESULTS
Pink - CLIENT



Environmental
LABORATORY SERVICES
7280 Caswell Street, Hancock Air Park North Syracuse, NY 13212
(315) 458-8033 FAX (315) 458-0249 (800) 843-8285

CHAIN OF CUSTODY RECORD
and Authorization for Analysis

Name: <u>John Clark</u>		Title:				
Company: <u>Environmental Engineering Services, Inc.</u>		Dept.:				
Address: <u>7031 Fly Road</u>		Job/PO No.:				
City, State, Zip: <u>Castroville, CA 95009</u>		Express Service				
<input type="checkbox"/> Telephone Results Telephone No. <u>431-4610</u> Advance Agreement Required <input type="checkbox"/> Fax Results Fax No. <u>431-4280</u> <input type="checkbox"/> 1 Week <input type="checkbox"/> 48 Hour		Number of Containers				
To be completed by Sampler. Please remember to record this information on the container label.						
ELS Number	*Date	*Time	*Comp.	*Grab	*Matrix	*Sampling Location
322801	12/10/02	0935		X	GW	WRL-MW18-0002
322805				X		
322806				X		
322807	11/10/02	1650		X	GW	WRL-MW18-0002
322808				X		
322809				X		
322810	11/10/02	1605		X	RM-SL	WRL-RB-0002
322811				X		
322812				X		

Containers Dispensed by:	Date:	Time:	Container(s) Received by:	Date:	Time:
<u>K. Clark</u>	<u>12/10/02</u>	<u>1513</u>			
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
<u>[Signature]</u>	<u>12/10/02</u>	<u>1700</u>			
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
<u>[Signature]</u>	<u>12/10/02</u>	<u>0925</u>			
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
<u>[Signature]</u>			<u>[Signature]</u>		
Relinquished by:	Date:	Time:	Received at Lab by:	Date:	Time:
<u>[Signature]</u>			<u>Matthew A. Few</u>	<u>6/13</u>	<u>8:10</u>

Container Type/Preservative	Plastic/No Preservatives	Plastic/HNO ₃	Plastic/H ₂ SO ₄	Plastic/NaOH+Ascorbic Acid	Plastic/NaOH+Zinc Acetate	Glass/No Preservative	Glass/Sodium Thiosulfate	Amber Glass/No Pres.	Amber Glass/H ₂ SO ₄	Other: (specify)	Analyses Required, Remarks, and/or Special Instructions
											DOC 610's Routine Sampling
											Ammonia + NH ₃ -N
											Sulfate
											Total Cd, Cr, Fe, Pb, Ni, Al, Ag, Si, Se, Na, Ti, Zn
											Ammonia NH ₃ -N
											Sulfate
											Total Cd, Cr, Fe, Pb, Ni, Al, Ag, Si, Se, Na, Ti, Zn
											Ammonia, NH ₃ -N
											Sulfate
											Total Cd, Cr, Fe, Pb, Ni, Al, Ag, Si, Se, Na, Ti, Zn



Environmental
LABORATORY SERVICES
7260 Caswell Street, Hancock Air Park, North Syracuse, NY 13212
(315) 458-8033 FAX (315) 458-0249 (800) 843-8265

CHAIN OF CUSTODY RECORD and Authorization for Analysis

Name		Title		Company		Dept.		Job/PO No.		City, State, Zip		Address		City, State, Zip		Analyses Required, Remarks, and/or Special Instructions													
<p>The following services may result in additional charges: <input type="checkbox"/> Telephone Results Telephone No. 443-4610 Advance Agreement Required <input type="checkbox"/> Fax Results Fax No. 443-4280 <input type="checkbox"/> 1 Week <input type="checkbox"/> 48 Hour Express Service</p>												Number of Containers		<p>To be completed by Sampler. Please remember to record this information on the container label.</p>															
ELS Number	Date	*Time	*Comp.	*Grab	*Matrix	*Sampling Location																							
322801							Plastic/No Preservatives																						
322805							Plastic/H ₂ SO ₄																						
322806							Plastic/NaOH+Zinc Acetate																						
322807	11/10/02	1650		X	GW	WRL - MWL - 0202	Plastic/NaOH+Ascorbic Acid																						
322808				X			Plastic/H ₂ SO ₄																						
322809				X			Plastic/NaOH+Zinc Acetate																						
322810	11/10/02	1605		X	GW	WRL - RB - 0202	Plastic/NaOH+Ascorbic Acid																						
322811				X			Plastic/H ₂ SO ₄																						
322812				X			Plastic/NaOH+Zinc Acetate																						
Containers Dispensed by: K. Hunkeler Date: 6/7/02 Time: 1513 Container(s) Received by:																													
Relinquished by: J. DeLoach Date: 11/10/02 Time: 1700 Received by:																													
Relinquished by: Date: Time: Received by:																													
Relinquished by: Date: Time: Received by:																													
Relinquished by: Date: Time: Received at Lab by: K. Hunkeler Date: Time: Received by:																													
Your signature authorizes ELS to analyze the sample(s) as indicated.																													
Relinquished by: Date: Time: Received at Lab by: K. Hunkeler Date: Time: Received by:																													
White - LABORATORY (3) retu (3) ple and (3) omme (3) abora (3) ers to (3) service																													
Pink - CLIENT 221-...-0293																													



Environmental
LABORATORY SERVICES
7280 Caswell Street, Hancock Air Park North Syracuse, NY 13212
(315) 459-8033 FAX (315) 459-0249 (800) 843-8265

CHAIN OF CUSTODY RECORD and Authorization for Analysis

Name: <u>John Cook</u>		Title: <u>Lab Manager</u>																
Company: <u>Environmental Laboratory Services, Inc.</u>		Dept: <u>Lab</u>																
Address: <u>10511 Lee Road</u>		Job/PO No.:																
City, State, Zip: <u>North Syracuse, NY 13212</u>		Express Service																
<input type="checkbox"/> Telephone Results Telephone No. <u>315-459-8033</u> Advance Agreement Required <input type="checkbox"/> Fax Results Fax No. <u>315-459-0249</u> <input type="checkbox"/> 1 Week <input type="checkbox"/> 48 Hour		Number of Containers																
To be completed by Sampler. Please remember to record this information on the container label.																		
ELS Number	*Date	*Time	*Comp.	*Grab	*Matrix	*Sampling Location	Plastic/No Preservatives	Plastic/HNO ₃	Plastic/H ₂ SO ₄	Plastic/NaOH+Ascorbic Acid	Plastic/NaOH+Zinc Acetate	Glass/No Preservative	Glass/Sodium Thiosulfate	Amber Glass/No Pres.	Amber Glass/H ₂ SO ₄	Other: (Specify)	Analyses Required, Remarks, and/or Special Instructions	
200813	11/02/02	1530		X	WATER	WPL-SW-0602												
200814	11/02/02	1530		X	WATER	WPL-SW-0602												
200815	11/02/02	1530		X	WATER	WPL-SW-0602												
200816	11/02/02	1530		X	WATER	WPL-SS-0602												
200817	11/02/02	1530		X	WATER	WPL-SS-0602												
200818	11/02/02	1530		X	WATER	WPL-SS-0602												
200819	11/02/02	1530		X	WATER	WPL-SS-0602												
200820	11/02/02	1530		X	WATER	WPL-SS-0602												
200821	11/02/02	1530		X	WATER	WPL-SS-0602												
Containers Dispensed by: <u>John Cook</u>		Date: <u>11/02/02</u>	Time: <u>1513</u>	Container(s) Received by:		Date:	Time:											
Relinquished by: <u>John Cook</u>		Date: <u>11/02/02</u>	Time: <u>1730</u>	Received by:		Date:	Time:											
Relinquished by:		Date:	Time:	Received by:		Date:	Time:											
Relinquished by:		Date:	Time:	Received by:		Date:	Time:											
Relinquished by:		Date:	Time:	Received at Lab by: <u>John Cook</u>		Date:	Time:											



Environmental
LABORATORY SERVICES
7280 Caswell Street, Hancock Aft Park
(315) 458-8033 FAX (315) 458-0249
North Syracuse, NY 13212
(800) 843-8265

CHAIN OF CUSTODY RECORD
and Authorization for Analysis

Name: John Cook Title: Analyst

Company: Environmental Laboratory Services Dept: Lab

Address: 7280 Caswell Street, Hancock Aft Park, North Syracuse, NY 13212 Job/PO No.:

City, State, Zip: North Syracuse, NY 13212

The following services may result in additional charges:
 Telephone Results Telephone No. 315-458-8033 Advance Agreement Required
 Fax Results Fax No. 315-458-0249 1 Week 48 Hour Express Service

To be completed by Sampler. Please remember to record this information on the container label.

ELS Number	*Date	*Time	*Comp.	*Grab	*Matrix	*Sampling Location	Number of Containers	Container Type/Preservative								Analyses Required, Remarks, and/or Special Instructions				
								Plastic/No Preservatives	Plastic/H ₂ SO ₄	Plastic/NaOH+Ascorbic Acid	Plastic/NaOH+Zinc Acetate	Glass/No Preservative	Glass/Sodium Thiosulfate	Amber Glass/No Pres.	Amber Glass/H ₂ SO ₄		Other: (Specify)			
12-0001	12-06-02	1030		X	GW	WHL - MWL-300L	1													
12-0002	12-06-02	1030		X	GW	WHL - MWL-300L	1													
12-0003	12-06-02	1035		X	GW	WHL - MWL-300L	1													
12-0004	12-06-02	1100		X	GW	WHL - MWL-300L	1													
12-0005	12-06-02	1100		X	GW	WHL - MWL-300L	1													
12-0006	12-06-02	1100		X	GW	WHL - MWL-300L	1													
12-0007	12-06-02	1100		X	GW	WHL - MWL-300L	1													
12-0008	12-06-02	1100		X	GW	WHL - MWL-300L	1													
12-0009	12-06-02	1100		X	GW	WHL - MWL-300L	1													
12-0010	12-06-02	1100		X	GW	WHL - MWL-300L	1													

Containers Dispensed by: [Signature] Date: 12/6/02 Time: 15:15 Container(s) Received by:

Relinquished by: [Signature] Date: 12/6/02 Time: 15:15 Received by:

Relinquished by: [Signature] Date: 12/6/02 Time: 15:15 Received by:

Relinquished by: [Signature] Date: 12/6/02 Time: 15:15 Received by:

Relinquished by: [Signature] Date: 12/6/02 Time: 15:15 Received by:

Your signature authorizes ELS to analyze the sample(s) as indicated.

Sampler S: John Cook re: [Blank] White - LABORATORY 3 retu 1 and 1 plate 1 and 1 nble C 1 ers tl 1 crmt 1 abor 1 eric 1 Canary - ACCOMPANIES RESULTS 1 Pink - CLIENT 1



Environmental
LABORATORY SERVICES
7260 Caswell Street, Hancock Air Park North Syracuse, NY 13212
(315) 458-8033 FAX (315) 458-0249 (800) 843-8265

CHAIN OF CUSTODY RECORD
and Authorization for Analysis

Name: <u>John Doe</u>		Title: _____																	
Company: <u>Environmental Laboratory Services</u>		Dept.: _____																	
Address: <u>123 Main St</u>		Job/PO No.: _____																	
City, State, Zip: <u>Syracuse, NY 13207</u>																			
The following services may result in additional charges: <input type="checkbox"/> Telephone Results Telephone No. <u>458-8033</u> Advance Agreement Required <input type="checkbox"/> Fax Results Fax No. <u>458-0249</u> <input type="checkbox"/> 1 Week <input type="checkbox"/> 48 Hour Express Service																			
To be completed by Sampler. Please remember to record this information on the container label.																			
ELS Number	*Date	*Time	*Comp.	*Grab	*Matrix	*Sampling Location	Number of Containers	Container Type/Preservative								Analyses Required, Remarks, and/or Special Instructions			
								Plastic/No Preservatives	Plastic/HNO ₃	Plastic/H ₂ SO ₄	Plastic/NaOH+Ascorbic Acid	Plastic/NaOH+Zinc Acetate	Glass/No Preservative	Glass/Sodium Thiosulfate	Amber Glass/No Pres.		Amber Glass/H ₂ SO ₄	Other: (specify)	
<u>12345</u>	<u>12/12/01</u>	<u>11:00</u>	<u>X</u>	<u>X</u>	<u>GW</u>	<u>WRI - 100m - 100m</u>	<u>1</u>												
<u>67890</u>	<u>12/13/01</u>	<u>14:00</u>	<u>X</u>	<u>X</u>	<u>L</u>	<u>100m - 100m</u>	<u>1</u>												
<u>11111</u>	<u>12/14/01</u>	<u>09:00</u>	<u>X</u>	<u>X</u>	<u>GW</u>	<u>WRI - 100m - 100m</u>	<u>1</u>												
<u>22222</u>	<u>12/15/01</u>	<u>10:00</u>	<u>X</u>	<u>X</u>	<u>L</u>	<u>100m - 100m</u>	<u>1</u>												
<u>33333</u>	<u>12/16/01</u>	<u>11:00</u>	<u>X</u>	<u>X</u>	<u>GW</u>	<u>WRI - 100m - 100m</u>	<u>1</u>												
<u>44444</u>	<u>12/17/01</u>	<u>12:00</u>	<u>X</u>	<u>X</u>	<u>L</u>	<u>100m - 100m</u>	<u>1</u>												
<u>55555</u>	<u>12/18/01</u>	<u>13:00</u>	<u>X</u>	<u>X</u>	<u>GW</u>	<u>WRI - 100m - 100m</u>	<u>1</u>												
<u>66666</u>	<u>12/19/01</u>	<u>14:00</u>	<u>X</u>	<u>X</u>	<u>L</u>	<u>100m - 100m</u>	<u>1</u>												
<u>77777</u>	<u>12/20/01</u>	<u>15:00</u>	<u>X</u>	<u>X</u>	<u>GW</u>	<u>WRI - 100m - 100m</u>	<u>1</u>												
<u>88888</u>	<u>12/21/01</u>	<u>16:00</u>	<u>X</u>	<u>X</u>	<u>L</u>	<u>100m - 100m</u>	<u>1</u>												
<u>99999</u>	<u>12/22/01</u>	<u>17:00</u>	<u>X</u>	<u>X</u>	<u>GW</u>	<u>WRI - 100m - 100m</u>	<u>1</u>												
<u>00000</u>	<u>12/23/01</u>	<u>18:00</u>	<u>X</u>	<u>X</u>	<u>L</u>	<u>100m - 100m</u>	<u>1</u>												
Containers Dispensed by: <u>John Doe</u>		Date: <u>12/23/01</u>	Time: <u>11:00</u>	Container(s) Received by: _____		Date: _____	Time: _____	Received by: _____		Date: _____	Time: _____	Received by: _____		Date: _____	Time: _____	Received at Lab by: <u>John Doe</u>		Date: <u>12/23/01</u>	Time: _____
Relinquished by: _____		Date: _____	Time: _____	Relinquished by: _____		Date: _____	Time: _____	Relinquished by: _____		Date: _____	Time: _____	Relinquished by: _____		Date: _____	Time: _____	Relinquished by: _____		Date: _____	Time: _____
Relinquished by: _____		Date: _____	Time: _____	Relinquished by: _____		Date: _____	Time: _____	Relinquished by: _____		Date: _____	Time: _____	Relinquished by: _____		Date: _____	Time: _____	Relinquished by: _____		Date: _____	Time: _____
Relinquished by: _____		Date: _____	Time: _____	Relinquished by: _____		Date: _____	Time: _____	Relinquished by: _____		Date: _____	Time: _____	Relinquished by: _____		Date: _____	Time: _____	Relinquished by: _____		Date: _____	Time: _____
Relinquished by: _____		Date: _____	Time: _____	Relinquished by: _____		Date: _____	Time: _____	Relinquished by: _____		Date: _____	Time: _____	Relinquished by: _____		Date: _____	Time: _____	Relinquished by: _____		Date: _____	Time: _____
Relinquished by: _____		Date: _____	Time: _____	Relinquished by: _____		Date: _____	Time: _____	Relinquished by: _____		Date: _____	Time: _____	Relinquished by: _____		Date: _____	Time: _____	Relinquished by: _____		Date: _____	Time: _____
Relinquished by: _____		Date: _____	Time: _____	Relinquished by: _____		Date: _____	Time: _____	Relinquished by: _____		Date: _____	Time: _____	Relinquished by: _____		Date: _____	Time: _____	Relinquished by: _____		Date: _____	Time: _____



Environmental
LABORATORY SERVICES
7280 Caswell Street, Hancock Air Park North Syracuse, NY 13212
(315) 458-8033 FAX (315) 458-0249 (800) 843-8265

CHAIN OF CUSTODY RECORD and Authorization for Analysis

Name: <u>John Clark</u>		Title:																							
Company: <u>Environmental Laboratory Services</u>		Dept.:																							
Address: <u>7280 Caswell Street</u>		Job/PO No.:																							
City, State, Zip: <u>North Syracuse, NY 13212</u>																									
The following services may result in additional charges: <input type="checkbox"/> Telephone Results Telephone No. <u>315-4280</u> Advance Agreement Required <input type="checkbox"/> 1 Week <input type="checkbox"/> 48 Hour <input type="checkbox"/> Fax Results Fax No. <u>315-4280</u> Express Service <input type="checkbox"/>																									
ELN Number	To be completed by Sampler. Please remember to record this information on the container label.					*Sampling Location	Number of Containers	Container Type/Preservative										Analyses Required, Remarks, and/or Special Instructions							
	*Date	*Time	*Comp.	*Grab	*Matrix			Plastic/No Preservatives	Plastic/HNO ₃	Plastic/H ₂ SO ₄	Plastic/NaOH+Ascorbic Acid	Plastic/NaOH+Zinc Acetate	Glass/No Preservative	Glass/Sodium Thiosulfate	Amber Glass/No Pres.	Amber Glass/H ₂ SO ₄	Other: (specify)								
00010	12/20/02	13:00		X	SW	WRI - M09B-062	1																		
00011	12/20/02	13:00					1																		
00012	12/20/02	13:00					1																		
00013							1																		
00014							1																		
00015							1																		
00016							1																		
00017							1																		
00018							1																		
00019							1																		
Containers Dispensed by: <u>[Signature]</u>		Date: <u>12/20/02</u>	Time: <u>13:00</u>	Container(s) Received by:		Date:	Time:																		
Relinquished by: <u>[Signature]</u>		Date: <u>12/20/02</u>	Time: <u>13:00</u>	Received by:		Date:	Time:																		
Relinquished by:		Date:	Time:	Received by:		Date:	Time:																		
Relinquished by:		Date:	Time:	Received by:		Date:	Time:																		
Relinquished by:		Date:	Time:	Received at Lab by: <u>Matthew J. Ferro</u>		Date:	Time:																		
Your signature authorizes ELS to analyze the sample(s) as indicated.																									
Relinquished by:		White - LABORATORY		Canary - ACCOMPANIES RESULTS		Pink - CLIENT																			
Sample ID:		Sample ID:		Sample ID:		Sample ID:																			

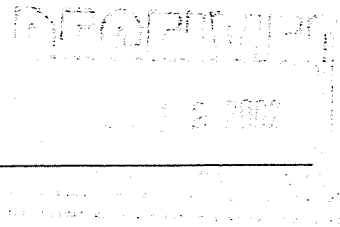
Attachment D

Laboratory Analytical Results



Environmental
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(315) 458-8033, FAX (315) 458-0249, (800) 842-4667



- Certified in:
- Connecticut
 - Delaware
 - Maryland
 - Massachusetts
 - New Hampshire
 - New Jersey
 - New York
 - Pennsylvania
 - Rhode Island

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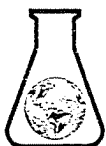
TEST PERFORMED	RESULTS	UNITS	DATE/TIME PERFORMED	METHOD NUMBER	PERFORMED BY
SAMPLE #: 322789 CLIENT SAMPLE ID: CHROMIUM, HEXA VALENT	WRL-RB-0602 <10	UG/L	06/12/02 @ 09:30	DATE SAMPLED: SM18 3500-CR D	06/11/02 AHY
SAMPLE #: 322790 CLIENT SAMPLE ID: CHROMIUM, HEXA VALENT	WRL-MW1B-0602 <10	UG/L	06/12/02 @ 09:30	DATE SAMPLED: SM18 3500-CR D	06/11/02 AHY
SAMPLE #: 322791 CLIENT SAMPLE ID: CHROMIUM, HEXA VALENT <i>Analysis confirmed by ICP/MS.</i>	WRL-MW2B-0602 416*	UG/L	06/13/02 @ 08:40	DATE SAMPLED: SM18 3500-CR D	06/12/02 AHY
SAMPLE #: 322792 CLIENT SAMPLE ID: CHROMIUM, HEXA VALENT <i>Analysis confirmed by ICP.</i>	WRL-L1-0602 525*	UG/L	06/12/02 @ 09:30	DATE SAMPLED: SM18 3500-CR D	06/11/02 AHY
SAMPLE #: 322793 CLIENT SAMPLE ID: CHROMIUM, HEXA VALENT	WRL-SW-0602 <10	UG/L	06/12/02 @ 09:30	DATE SAMPLED: SM18 3500-CR D	06/11/02 AHY
SAMPLE #: 322794 CLIENT SAMPLE ID: CHROMIUM, HEXA VALENT <i>Analysis confirmed by ICP.</i>	WRL-SS-0602 402*	UG/L	06/12/02 @ 09:30	DATE SAMPLED: SM18 3500-CR D	06/11/02 AHY
SAMPLE #: 322795 CLIENT SAMPLE ID: CHROMIUM, HEXA VALENT	WRL-MW3B-0602 <10	UG/L	06/13/02 @ 08:40	DATE SAMPLED: SM18 3500-CR D	06/12/02 AHY
SAMPLE #: 322796 CLIENT SAMPLE ID: CHROMIUM, HEXA VALENT <i>Analysis confirmed by ICP/MS.</i>	WRL-MW4B-0602 200*	UG/L	06/13/02 @ 08:40	DATE SAMPLED: SM18 3500-CR D	06/12/02 AHY

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TEST PERFORMED	RESULTS	UNITS	DATE/TIME PERFORMED	METHOD NUMBER	PERFORMED BY
SAMPLE #: 322797 CLIENT SAMPLE ID: CHROMIUM, HEXAVALENT	WRL-MW5B-0602 <10	UG/L	06/13/02 @ 08:40	DATE SAMPLED: 06/12/02	AHY
SAMPLE #: 322797 CLIENT SAMPLE ID: CHROMIUM, HEXAVALENT	WRL-MW5B-0602 <10	UG/L	06/13/02 @ 08:40	SM18 3500-CR D	DATE SAMPLED: 06/12/02 AHY
SAMPLE #: 322798 CLIENT SAMPLE ID: CHROMIUM, HEXAVALENT	WRL-MW6B-0602 <10	UG/L	06/13/02 @ 08:40	SM18 3500-CR D	DATE SAMPLED: 06/12/02 AHY
SAMPLE #: 322799 CLIENT SAMPLE ID: CHROMIUM, HEXAVALENT	WRL-DUP-0602 <10	UG/L	06/13/02 @ 08:40	SM18 3500-CR D	DATE SAMPLED: 06/12/02 AHY
SAMPLE #: 322800 CLIENT SAMPLE ID: CHROMIUM, HEXAVALENT <i>Analysis confirmed by ICP/MS.</i>	WRL-MW7B-0602 61.2*	UG/L	06/13/02 @ 08:40	SM18 3500-CR D	DATE SAMPLED: 06/12/02 AHY
SAMPLE #: 322801 CLIENT SAMPLE ID: CHROMIUM, HEXAVALENT <i>Analysis confirmed by ICP/MS.</i>	WRL-MW8B-0602 53.8*	UG/L	06/13/02 @ 08:40	SM18 3500-CR D	DATE SAMPLED: 06/12/02 AHY
SAMPLE #: 322804 CLIENT SAMPLE ID: AMMONIA NITROGEN	WRL-MW2B-0602 1.3	MG/L	06/14/02	SM18 4500-NH3-E	DATE SAMPLED: 06/12/02 AHY
PHENOLICS	<2.0	UG/L	06/21/02	EPA 420.2	AHY
SAMPLE #: 322805 CLIENT SAMPLE ID: SULFATE	WRL-MW2B-0602 14.7	MG/L	06/17/02	EPA 375.2	DATE SAMPLED: 06/12/02 AHY
SAMPLE #: 322806 CLIENT SAMPLE ID: ICP/MS	WRL-MW2B-0602				DATE SAMPLED: 06/12/02
cadmium	<0.005	MG/L	06/20/02	EPA 6020	NSH
chromium	0.369	MG/L	06/20/02	EPA 6020	NSH
lead	<0.005	MG/L	06/20/02	EPA 6020	NSH
manganese	0.006	MG/L	06/20/02	EPA 6020	NSH
selenium	0.007	MG/L	06/20/02	EPA 6020	NSH
thallium	<0.005	MG/L	06/20/02	EPA 6020	NSH
zinc	<0.005	MG/L	06/20/02	EPA 6020	NSH
ICP					
iron	0.385	MG/L	06/18/02	EPA 6010	NSH



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TEST PERFORMED	RESULTS	UNITS	DATE/TIME PERFORMED	METHOD NUMBER	PERFORMED BY
SAMPLE #: 322806	CLIENT SAMPLE ID:	WRL-MW2B-0602		DATE SAMPLED:	06/12/02
ICP					NSH
magnesium	<1.0	MG/L	06/18/02	EPA 6010	NSH
silica (sio2)	3.3	MG/L	06/24/02	EPA 6010	NSH
sodium	49.1	MG/L	06/21/02	EPA 6010	NSH
Metals Digestion			06/16/02	EPA 3005A	BDR
SAMPLE #: 322807	CLIENT SAMPLE ID:	WRL-MW1B-0602		DATE SAMPLED:	06/11/02
AMMONIA NITROGEN	<1.0	MG/L	06/14/02	SM18 4500-NH3-E	AHY
PHENOLICS	<2.0	UG/L	06/21/02	EPA 420.2	AHY
SAMPLE #: 322808	CLIENT SAMPLE ID:	WRL-MW1B-0602		DATE SAMPLED:	06/11/02
SULFATE	170	MG/L	06/17/02	EPA 375.2	AHY
SAMPLE #: 322809	CLIENT SAMPLE ID:	WRL-MW1B-0602		DATE SAMPLED:	06/11/02
ICP/MS					
cadmium	<0.005	MG/L	06/20/02	EPA 6020	NSH
chromium	<0.005	MG/L	06/20/02	EPA 6020	NSH
lead	<0.005	MG/L	06/20/02	EPA 6020	NSH
manganese	0.816	MG/L	06/20/02	EPA 6020	NSH
selenium	<0.005	MG/L	06/20/02	EPA 6020	NSH
thallium	<0.005	MG/L	06/20/02	EPA 6020	NSH
zinc	0.248	MG/L	06/20/02	EPA 6020	NSH
ICP					
iron	0.521	MG/L	06/18/02	EPA 6010	NSH
magnesium	63.9	MG/L	06/18/02	EPA 6010	NSH
silica (sio2)	19.2	MG/L	06/24/02	EPA 6010	NSH
sodium	137	MG/L	06/21/02	EPA 6010	NSH
Metals Digestion			06/16/02	EPA 3005A	BDR
SAMPLE #: 322810	CLIENT SAMPLE ID:	WRL-RB-0602		DATE SAMPLED:	06/11/02
AMMONIA NITROGEN	<1.0	MG/L	06/14/02	SM18 4500-NH3-E	AHY
PHENOLICS	<2.0	UG/L	06/21/02	EPA 420.2	AHY
SAMPLE #: 322811	CLIENT SAMPLE ID:	WRL-RB-0602		DATE SAMPLED:	06/11/02
SULFATE	<2.0	MG/L	06/17/02	EPA 375.2	AHY
SAMPLE #: 322812	CLIENT SAMPLE ID:	WRL-RB-0602		DATE SAMPLED:	06/11/02



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TEST PERFORMED	RESULTS	UNITS	DATE/TIME PERFORMED	METHOD NUMBER	PERFORMED BY
SAMPLE #: 322812	CLIENT SAMPLE ID:	WRL-RB-0602		DATE SAMPLED:	06/11/02
ICP/MS					NSH
ICP/MS					
cadmium	<0.005	MG/L	06/20/02	EPA 6020	NSH
chromium	<0.005	MG/L	06/20/02	EPA 6020	NSH
lead	<0.005	MG/L	06/20/02	EPA 6020	NSH
manganese	<0.005	MG/L	06/20/02	EPA 6020	NSH
selenium	<0.005	MG/L	06/20/02	EPA 6020	NSH
thallium	0.007	MG/L	06/20/02	EPA 6020	NSH
zinc	<0.005	MG/L	06/20/02	EPA 6020	NSH
ICP					
iron	<0.025	MG/L	06/18/02	EPA 6010	NSH
magnesium	<1.0	MG/L	06/18/02	EPA 6010	NSH
silica (sio2)	0.316	MG/L	06/24/02	EPA 6010	NSH
sodium	<1.0	MG/L	06/21/02	EPA 6010	NSH
Metals Digestion			06/16/02	EPA 3005A	BDR
SAMPLE #: 322813	CLIENT SAMPLE ID:	WRL-SW-0602		DATE SAMPLED:	06/11/02
AMMONIA NITROGEN	<1.0	MG/L	06/14/02	SM18 4500-NH3-E	AHY
PHENOLICS	25.4	UG/L	06/21/02	EPA 420.2	AHY
SAMPLE #: 322814	CLIENT SAMPLE ID:	WRL-SW-0602		DATE SAMPLED:	06/11/02
SULFATE	<2.0	MG/L	06/17/02	EPA 375.2	AHY
SAMPLE #: 322815	CLIENT SAMPLE ID:	WRL-SW-0602		DATE SAMPLED:	06/11/02
ICP/MS					
cadmium	<0.005	MG/L	06/20/02	EPA 6020	NSH
chromium	<0.005	MG/L	06/20/02	EPA 6020	NSH
lead	<0.005	MG/L	06/20/02	EPA 6020	NSH
manganese	<0.005	MG/L	06/20/02	EPA 6020	NSH
selenium	<0.005	MG/L	06/20/02	EPA 6020	NSH
thallium	<0.005	MG/L	06/20/02	EPA 6020	NSH
zinc	<0.005	MG/L	06/20/02	EPA 6020	NSH
ICP					
iron	<0.025	MG/L	06/18/02	EPA 6010	NSH
magnesium	<1.0	MG/L	06/18/02	EPA 6010	NSH
silica (sio2)	0.320	MG/L	06/24/02	EPA 6010	NSH
sodium	<1.0	MG/L	06/21/02	EPA 6010	NSH
Metals Digestion			06/16/02	EPA 3005A	BDR



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TEST PERFORMED	RESULTS	UNITS	DATE/TIME PERFORMED	METHOD NUMBER	PERFORMED BY
SAMPLE #: 322816 CLIENT SAMPLE ID: WRL-SS-0602				DATE SAMPLED: 06/11/02	
AMMONIA NITROGEN	4.5	MG/L	06/14/02		AHY
SAMPLE #: 322816 CLIENT SAMPLE ID: WRL-SS-0602				DATE SAMPLED: 06/11/02	
AMMONIA NITROGEN	4.5	MG/L	06/14/02	SM18 4500-NH3-E	AHY
PHENOLICS	59.4	UG/L	06/21/02	EPA 420.2	AHY
SAMPLE #: 322817 CLIENT SAMPLE ID: WRL-SS-0602				DATE SAMPLED: 06/11/02	
SULFATE	10.7	MG/L	06/17/02	EPA 375.2	AHY
SAMPLE #: 322818 CLIENT SAMPLE ID: WRL-SS-0602				DATE SAMPLED: 06/11/02	
ICP/MS					
cadmium	<0.005	MG/L	06/20/02	EPA 6020	NSH
chromium	0.559	MG/L	06/20/02	EPA 6020	NSH
lead	0.033	MG/L	06/20/02	EPA 6020	NSH
manganese	0.215	MG/L	06/20/02	EPA 6020	NSH
selenium	0.030	MG/L	06/20/02	EPA 6020	NSH
thallium	<0.005	MG/L	06/20/02	EPA 6020	NSH
zinc	0.082	MG/L	06/20/02	EPA 6020	NSH
ICP					
iron	9.3	MG/L	06/18/02	EPA 6010	NSH
magnesium	170	MG/L	06/18/02	EPA 6010	NSH
silica (sio2)	53.3	MG/L	06/24/02	EPA 6010	NSH
sodium	127	MG/L	06/21/02	EPA 6010	NSH
Metals Digestion			06/16/02	EPA 3005A	BDR
SAMPLE #: 322819 CLIENT SAMPLE ID: WRL-L1-0602				DATE SAMPLED: 06/11/02	
AMMONIA NITROGEN	4.7	MG/L	06/14/02	SM18 4500-NH3-E	AHY
PHENOLICS	13.0	UG/L	06/21/02	EPA 420.2	AHY
SAMPLE #: 322820 CLIENT SAMPLE ID: WRL-L1-0602				DATE SAMPLED: 06/11/02	
SULFATE	11.5	MG/L	06/17/02	EPA 375.2	AHY
SAMPLE #: 322821 CLIENT SAMPLE ID: WRL-L1-0602				DATE SAMPLED: 06/11/02	
ICP/MS					
cadmium	<0.005	MG/L	06/20/02	EPA 6020	NSH
chromium	0.490	MG/L	06/20/02	EPA 6020	NSH
lead	<0.005	MG/L	06/20/02	EPA 6020	NSH
manganese	<0.005	MG/L	06/20/02	EPA 6020	NSH



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SAMPLE #: 322821	CLIENT SAMPLE ID:	WRL-L1-0602		DATE SAMPLED:	06/11/02
ICP/MS					NSH
selenium	0.020	MG/L	06/20/02	EPA 6020	NSH
thallium	<0.005	MG/L	06/20/02	EPA 6020	NSH
zinc	<0.005	MG/L	06/20/02	EPA 6020	NSH
ICP					
iron	<0.025	MG/L	06/18/02	EPA 6010	NSH
magnesium	<1.0	MG/L	06/18/02	EPA 6010	NSH
silica (sio2)	0.476	MG/L	06/24/02	EPA 6010	NSH
sodium	90.6	MG/L	06/21/02	EPA 6010	NSH
Metals Digestion			06/16/02	EPA 3005A	BDR
SAMPLE #: 322822	CLIENT SAMPLE ID:	WRL-MW3B-0602		DATE SAMPLED:	06/12/02
AMMONIA NITROGEN	<1.0	MG/L	06/14/02	SM18 4500-NH3-E	AHY
PHENOLICS	2.6	UG/L	06/21/02	EPA 420.2	AHY
SAMPLE #: 322823	CLIENT SAMPLE ID:	WRL-MW3B-0602		DATE SAMPLED:	06/12/02
SULFATE	25.0	MG/L	06/17/02	EPA 375.2	AHY
SAMPLE #: 322824	CLIENT SAMPLE ID:	WRL-MW3B-0602		DATE SAMPLED:	06/12/02
ICP/MS					
cadmium	<0.005	MG/L	06/20/02	EPA 6020	NSH
chromium	<0.005	MG/L	06/20/02	EPA 6020	NSH
lead	<0.005	MG/L	06/20/02	EPA 6020	NSH
manganese	<0.005	MG/L	06/20/02	EPA 6020	NSH
selenium	<0.005	MG/L	06/20/02	EPA 6020	NSH
thallium	<0.005	MG/L	06/20/02	EPA 6020	NSH
zinc	<0.005	MG/L	06/20/02	EPA 6020	NSH
ICP					
iron	0.110	MG/L	06/18/02	EPA 6010	NSH
magnesium	1.8	MG/L	06/18/02	EPA 6010	NSH
silica (sio2)	20.4	MG/L	06/24/02	EPA 6010	NSH
sodium	64.8	MG/L	06/21/02	EPA 6010	NSH
Metals Digestion			06/16/02	EPA 3005A	BDR
SAMPLE #: 322825	CLIENT SAMPLE ID:	WRL-MW4B-0602		DATE SAMPLED:	06/12/02
AMMONIA NITROGEN	<1.0	MG/L	06/14/02	SM18 4500-NH3-E	AHY
PHENOLICS	<2.0	UG/L	06/21/02	EPA 420.2	AHY



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TEST PERFORMED	RESULTS	UNITS	DATE/TIME PERFORMED	METHOD NUMBER	PERFORMED BY
SAMPLE #: 322826 SULFATE	CLIENT SAMPLE ID: WRL-MW4B-0602	142 MG/L	06/17/02	DATE SAMPLED: 06/12/02	AHY
SAMPLE #: 322826 SULFATE	CLIENT SAMPLE ID: WRL-MW4B-0602	142 MG/L	06/17/02	DATE SAMPLED: 06/12/02	AHY
SAMPLE #: 322827 ICP/MS	CLIENT SAMPLE ID: WRL-MW4B-0602			DATE SAMPLED: 06/12/02	
cadmium	<0.005	MG/L	06/20/02	EPA 6020	NSH
chromium	0.185	MG/L	06/20/02	EPA 6020	NSH
lead	0.005	MG/L	06/20/02	EPA 6020	NSH
manganese	0.066	MG/L	06/20/02	EPA 6020	NSH
selenium	<0.005	MG/L	06/20/02	EPA 6020	NSH
thallium	0.006	MG/L	06/20/02	EPA 6020	NSH
zinc	0.035	MG/L	06/20/02	EPA 6020	NSH
ICP					
iron	3.8	MG/L	06/18/02	EPA 6010	NSH
magnesium	44.0	MG/L	06/18/02	EPA 6010	NSH
silica (sio2)	24.6	MG/L	06/24/02	EPA 6010	NSH
sodium	123	MG/L	06/21/02	EPA 6010	NSH
Metals Digestion			06/16/02	EPA 3005A	BDR
SAMPLE #: 322828 AMMONIA NITROGEN	CLIENT SAMPLE ID: WRL-MW5B-0602	<1.0 MG/L	06/17/02	DATE SAMPLED: 06/12/02	AHY
PHENOLICS		<2.0 UG/L	06/21/02	SM18 4500-NH3-E EPA 420.2	AHY
SAMPLE #: 322829 SULFATE	CLIENT SAMPLE ID: WRL-MW5B-0602	148 MG/L	06/17/02	DATE SAMPLED: 06/12/02	AHY
SAMPLE #: 322830 ICP/MS	CLIENT SAMPLE ID: WRL-MW5B-0602			DATE SAMPLED: 06/12/02	
cadmium	0.008	MG/L	06/20/02	EPA 6020	NSH
chromium	0.008	MG/L	06/20/02	EPA 6020	NSH
lead	<0.005	MG/L	06/20/02	EPA 6020	NSH
manganese	0.119	MG/L	06/20/02	EPA 6020	NSH
selenium	<0.005	MG/L	06/20/02	EPA 6020	NSH
thallium	<0.005	MG/L	06/20/02	EPA 6020	NSH
zinc	0.062	MG/L	06/20/02	EPA 6020	NSH
ICP					
iron	4.5	MG/L	06/18/02	EPA 6010	NSH



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TEST PERFORMED	RESULTS	UNITS	DATE/TIME PERFORMED	METHOD NUMBER	PERFORMED BY
SAMPLE #: 322830	CLIENT SAMPLE ID:	WRL-MW5B-0602		DATE SAMPLED:	06/12/02
ICP					NSH
magnesium	74.6	MG/L	06/18/02	EPA 6010	NSH
silica (sio2)	26.0	MG/L	06/24/02	EPA 6010	NSH
sodium	104	MG/L	06/21/02	EPA 6010	NSH
Metals Digestion			06/16/02	EPA 3005A	BDR
SAMPLE #: 322831	CLIENT SAMPLE ID:	WRL-MW6B-0602		DATE SAMPLED:	06/12/02
AMMONIA NITROGEN	<1.0	MG/L	06/17/02	SM18 4500-NH3-E	AHY
PHENOLICS	<2.0	UG/L	06/21/02	EPA 420.2	AHY
SAMPLE #: 322832	CLIENT SAMPLE ID:	WRL-MW6B-0602		DATE SAMPLED:	06/12/02
SULFATE	201	MG/L	06/17/02	EPA 375.2	AHY
SAMPLE #: 322833	CLIENT SAMPLE ID:	WRL-MW6B-0602		DATE SAMPLED:	06/12/02
ICP/MS					
cadmium	<0.005	MG/L	06/20/02	EPA 6020	NSH
chromium	0.018	MG/L	06/20/02	EPA 6020	NSH
lead	<0.005	MG/L	06/20/02	EPA 6020	NSH
manganese	0.139	MG/L	06/20/02	EPA 6020	NSH
selenium	<0.005	MG/L	06/20/02	EPA 6020	NSH
thallium	<0.005	MG/L	06/20/02	EPA 6020	NSH
zinc	<0.005	MG/L	06/20/02	EPA 6020	NSH
ICP					
iron	1.3	MG/L	06/18/02	EPA 6010	NSH
magnesium	79.2	MG/L	06/18/02	EPA 6010	NSH
silica (sio2)	19.2	MG/L	06/24/02	EPA 6010	NSH
sodium	72.0	MG/L	06/21/02	EPA 6010	NSH
Metals Digestion			06/16/02	EPA 3005A	BDR
SAMPLE #: 322834	CLIENT SAMPLE ID:	WRL-DUP-0602		DATE SAMPLED:	06/12/02
AMMONIA NITROGEN	<1.0	MG/L	06/19/02	SM18 4500-NH3-E	AHY
PHENOLICS	<2.0	UG/L	06/21/02	EPA 420.2	AHY
SAMPLE #: 322835	CLIENT SAMPLE ID:	WRL-DUP-0602		DATE SAMPLED:	06/12/02
SULFATE	204	MG/L	06/17/02	EPA 375.2	AHY
SAMPLE #: 322836	CLIENT SAMPLE ID:	WRL-DUP-0602		DATE SAMPLED:	06/12/02



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TEST PERFORMED	RESULTS	UNITS	DATE/TIME PERFORMED	METHOD NUMBER	PERFORMED BY
SAMPLE #: 322836	CLIENT SAMPLE ID:	WRL-DUP-0602		DATE SAMPLED:	06/12/02
ICP/MS					NSH
ICP/MS					
cadmium	<0.005	MG/L	06/20/02	EPA 6020	NSH
chromium	0.008	MG/L	06/20/02	EPA 6020	NSH
lead	<0.005	MG/L	06/20/02	EPA 6020	NSH
manganese	0.108	MG/L	06/20/02	EPA 6020	NSH
selenium	<0.005	MG/L	06/20/02	EPA 6020	NSH
thallium	0.005	MG/L	06/20/02	EPA 6020	NSH
zinc	0.021	MG/L	06/20/02	EPA 6020	NSH
ICP					
iron	0.863	MG/L	06/21/02	EPA 6010	NSH
magnesium	81.7	MG/L	06/21/02	EPA 6010	NSH
silica (sio2)	17.7	MG/L	06/24/02	EPA 6010	NSH
sodium	81.8	MG/L	06/21/02	EPA 6010	NSH
Metals Digestion			06/19/02	EPA 3005A	BDR
SAMPLE #: 322837	CLIENT SAMPLE ID:	WRL-MW7B-0602		DATE SAMPLED:	06/12/02
AMMONIA NITROGEN	<1.0	MG/L	06/17/02	SM18 4500-NH3-E	AHY
PHENOLICS	<2.0	UG/L	06/21/02	EPA 420.2	AHY
SAMPLE #: 322838	CLIENT SAMPLE ID:	WRL-MW7B-0602		DATE SAMPLED:	06/12/02
SULFATE	36.3	MG/L	06/17/02	EPA 375.2	AHY
SAMPLE #: 322839	CLIENT SAMPLE ID:	WRL-MW7B-0602		DATE SAMPLED:	06/12/02
ICP/MS					
cadmium	0.014	MG/L	06/20/02	EPA 6020	NSH
chromium	0.173	MG/L	06/20/02	EPA 6020	NSH
lead	0.008	MG/L	06/20/02	EPA 6020	NSH
manganese	0.256	MG/L	06/20/02	EPA 6020	NSH
selenium	<0.005	MG/L	06/20/02	EPA 6020	NSH
thallium	0.006	MG/L	06/20/02	EPA 6020	NSH
zinc	0.063	MG/L	06/20/02	EPA 6020	NSH
ICP					
iron	16.1	MG/L	06/21/02	EPA 6010	NSH
magnesium	16.0	MG/L	06/21/02	EPA 6010	NSH
silica (sio2)	87.2	MG/L	06/24/02	EPA 6010	NSH
sodium	67.1	MG/L	06/21/02	EPA 6010	NSH
Metals Digestion			06/19/02	EPA 3005A	BDR

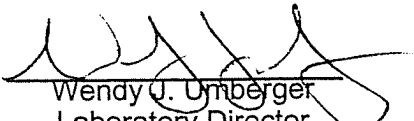


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TEST PERFORMED	RESULTS	UNITS	DATE/TIME PERFORMED	METHOD NUMBER	PERFORMED BY
SAMPLE #: 322840 CLIENT SAMPLE ID: WRL-MW8B-0602				DATE SAMPLED: 06/12/02	
AMMONIA NITROGEN	<1.0	MG/L	06/17/02		AHY
SAMPLE #: 322840 CLIENT SAMPLE ID: WRL-MW8B-0602				DATE SAMPLED: 06/12/02	
AMMONIA NITROGEN	<1.0	MG/L	06/17/02	SM18 4500-NH3-E	AHY
PHENOLICS	<2.0	UG/L	06/21/02	EPA 420.2	AHY
SAMPLE #: 322841 CLIENT SAMPLE ID: WRL-MW8B-0602				DATE SAMPLED: 06/12/02	
SULFATE	365	MG/L	06/17/02	EPA 375.2	AHY
SAMPLE #: 322842 CLIENT SAMPLE ID: WRL-MW8B-0602				DATE SAMPLED: 06/12/02	
ICP/MS					
cadmium	<0.005	MG/L	06/20/02	EPA 6020	NSH
chromium	0.088	MG/L	06/20/02	EPA 6020	NSH
lead	<0.005	MG/L	06/20/02	EPA 6020	NSH
manganese	0.079	MG/L	06/20/02	EPA 6020	NSH
selenium	0.070	MG/L	06/20/02	EPA 6020	NSH
thallium	<0.005	MG/L	06/20/02	EPA 6020	NSH
zinc	0.232	MG/L	06/20/02	EPA 6020	NSH
ICP					
iron	1.5	MG/L	06/21/02	EPA 6010	NSH
magnesium	61.0	MG/L	06/21/02	EPA 6010	NSH
silica (sio2)	22.8	MG/L	06/24/02	EPA 6010	NSH
sodium	205	MG/L	06/21/02	EPA 6010	NSH
Metals Digestion			06/19/02	EPA 3005A	BDR


Wendy J. Umberger
Laboratory Director

06/26/2002
Print Date

All tests performed under NYS ELAP Laboratory Certification # 11375 unless otherwise stated.



Attachment E

Landfill Cap Inspection Checklist

**LANDFILL CAP INSPECTION CHECKLIST
WITMER ROAD LANDFILL, NIAGARA FALLS, NEW YORK**

EA Personnel: John Clark
Date: 12 June 2002
Weather: Clear, Breezy, low 80s

1. Inspection of ground surface for exposure of geotextile cover (cap erosion):
NO DEFICIENCIES 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), ~2-3 FT HIGH, NEEDS TO BE CUT.
SCHEDULED TO BE CUT IN JULY 2002.
4. Identification of seeps, rooted vegetation (trees), and/or animal burrows:
NONE OBSERVED.
5. Identification of deteriorating equipment (i.e., monitoring wells, fencing, or drainage structures):
FENCE HAS BEEN CUT (SECOND OCCURRENCE) ON THE EASTERN BOUNDARY. AN APPROXIMATE 10-FT BREAK IN THE FENCE WAS OBSERVED. THE FENCE WAS SUBSEQUENTLY REPAIRED ON 22 JULY 2002.
6. Inspection of stormwater drainage swales for erosion, sloughing, or flow-through:
NO DEFICIENCIES OBSERVED.
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:
NO DEFICIENCIES OBSERVED.