

MTH
MM
logged in
Bryant

February 12, 2009

RECEIVED

FEB 13 2009

NYSDEC REG 9

FOIL

☒ REL ☐ UNREL

Ms. Mary E. McIntosh
New York State Department of Environmental Conservation
Division of Solid and Hazardous Materials, Region 9
270 Michigan Ave.
Buffalo, NY 14203-2999

RE: Carborundum Landfills #07N18 and 07S01
Fall 2008 Sampling

Dear Ms. McIntosh:

The data from the semi-annual sampling event, conducted in November 2008, are provided herein (Table 1). The Site has two closed landfills, which are monitored via a groundwater sampling program. Facility No. ~~07N18~~ ^{07S01} is the "old" landfill near the road and Facility No. ~~07S01~~ ^{07N18} is the "new" landfill in the south portion of the Site.

In accordance with the August 16, 2007 and the February 4, 2008 data delivery letters sent to your office, the following tasks were continued, in addition to the routine semi-annual sampling:

- A fourth round of duplicate samples was analyzed for phenolics to provide additional quality control of the current laboratory.
- Wells B-28WS, B-26R and B-30W were again sampled by low-flow techniques during this event, to test whether sampling procedures affect the results. These wells were selected due to historical analytical results and location. Concentrations for the November 2008 event are compared with historical data below.

SAMPLING AND OBSERVATIONS

Results from the November 2008 sampling event are shown in Table 1. A copy of the entire laboratory data package is attached. Results of the low-flow sampling and phenolic split sampling are discussed below.

Low-Flow Sampling

Results from background wells B-12W and B-32W and the wells sampled by low-flow techniques (B-28WS, B-26R and B-30W) were compared to previous results for aluminum (total and soluble), iron (total and soluble), phenolics, and turbidity (Figures 1 through 5). These analytes were selected because historical information suggested that these are parameters subject to fluctuations. The results are discussed below.

Ms. Mary E. McIntosh
New York State Department of Environmental Conservation
Page 2

Background wells B-12W and B-32W: Figures 1 and 2 show the level of background fluctuations for each parameter, with occasional concentration spikes. This data demonstrates range of natural fluctuations in the background data.

B-26W and B-26R (Figure 3): Concentrations of both B-26W and replacement well B-26R (installed prior to the October 2006 event) are plotted on Figure 3. This plot shows a spike in total iron and total aluminum from 2004 to 2006, just prior to installing replacement well B-26R. After the well was replaced, the concentrations decreased, with the exception of soluble iron. Each parameter in Well B-26R remained consistent with the spring 2008 data, except soluble iron, which remains elevated when compared with the spring 2008 and historical levels at this location. Since the well has been replaced the soluble iron seems more variable in its concentration. Additional sampling will be used to determine if the soluble iron has stabilized in the concentration range.

B-28WS (Figure 4): Concentrations of iron, aluminum and phenol in well B-28WS remained at low levels relative to historical data.

B-30W (Figure 5): Concentrations of iron, aluminum and phenol in well B-30W remained at low levels relative to historical data.

Phenolic Split Samples

Split sample results for phenolic compounds are listed in Table 2. Analytical results for five of the eight samples (B-10WS, B-26R, B-28WS, B-28WD, and B-32W) were relatively equal. Each of these results was below or equal to reporting limits for both sets of samples. One sample result (B-15W) analyzed by the split sample (QC) laboratory was higher than the current laboratory. Two samples analyzed by the current laboratory and the QC laboratory (B-29W and B-31W) were higher than the reporting limit, and concentrations reported by the current laboratory were higher than those reported by the QC laboratory. Ranges from split samples analyzed during previous sampling events had a maximum difference of 0.21 mg/L in the spring 2007 event, 0.15 mg/L in the fall 2007 event, and 0.003 mg/L in the spring 2008 event. The maximum difference between the current laboratory and the QC laboratory during the current event of 0.355 mg/L, while higher than previous events, is in line with the previously observed variations.

UPDATE AND ANTICIPATED SCHEDULE

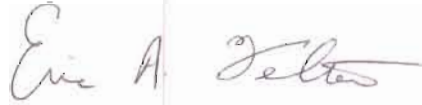
The next semi-annual sampling is scheduled for the spring of 2009. Due to the results described from this sampling event and previous rounds, the duplicate and low-flow sampling activities will not be continued. Results of three duplicate sampling events suggest the current laboratory is not the cause of the sporadic variability of phenolic concentrations. Additionally, low-flow sampling at wells B-28WS, B-26R and B-30W did not appreciably change the concentrations relative to historical levels.

PARSONS

Ms. Mary E. McIntosh
New York State Department of Environmental Conservation
Page 3

If you have any comments, questions, or concerns regarding this document, please contact Bill Barber at (216) 271-8038.

Sincerely,

A handwritten signature in dark ink, appearing to read "Eric A. Felter", is written over a light gray rectangular background.

Eric A. Felter
Project Manager

cc: William B. Barber, CPG
Phil Mobilia, Monofrax
File - 443605

TABLE 2
Comparison of Laboratory Results
Total Phenolic Concentrations
Fall - 2008

	Current Laboratory	Split Sample Laboratory
Sample Location/Field ID	Total Phenols (mg/l)	Total Phenols (mg/l)
B-10WS	<0.005	0.005
B-15W	<0.005	0.029
B-26R	<0.005	0.002
B-28WS	<0.005	<0.002
B-28WD	<0.005	0.002
B-29W	0.317 <i>anomalous</i>	0.084
B-31W	0.403	0.048
B-32W	<0.005 <i>anomalous dup <0.005</i>	<0.002

SUMMARY OF SEMI-ANNUAL GROUNDWATER
SAMPLING RESULTS FALL 2008
SAMPLING

Compound	Sample ID Sample Date	B-10W/S 11/12/2008	B-10WD 11/12/2008	B-12W 11/12/2008	B-15W 11/12/2008	B-26R 11/12/2008	B-28WS 11/12/2008	B-28WD 11/12/2008	B-29W 11/12/2008
	Units								
Aluminum - Soluble	mg/L	<0.05	<0.05	<0.05	0.070	<0.05	NA	<0.05	<0.05
Aluminum - Total	mg/L	0.15	<0.05	0.06	0.20	0.30	0.22	0.05	<0.05
Boron - Soluble	mg/L	0.220	0.252	0.019	0.078	0.228	NA	0.208	0.027
Boron - Total	mg/L	0.209	0.230	0.017	0.073	0.221	1.00	0.198	0.027
Chromium - Soluble	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	NA	<0.01	<0.01
Chromium - Total	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Copper - Soluble	mg/L	0.014	0.011	0.010	0.012	0.010	NA	<0.01	<0.01
Copper - Total	mg/L	0.021	<0.01	<0.01	0.028	0.017	0.011	<0.01	0.013
Iron - Soluble	mg/L	0.063	0.296	0.333	0.330	6.78	NA	1.07	0.055
Iron - Total	mg/L	0.551	1.21	2.44	0.603	8.91	3.27	1.76	0.498
Lead - Soluble	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	NA	<0.01	<0.01
Lead - Total	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Manganese - Soluble	mg/L	0.211	0.174	0.248	0.070	0.701	NA	0.155	1.38
Manganese - Total	mg/L	0.207	0.157	0.338	0.085	0.676	0.158	0.155	1.30
Mercury - Soluble	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	NA	<0.0002	<0.0002
Mercury - Total	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Fluoride	mg/L	0.267	0.308	<0.2	<0.2	0.271	0.344	0.221	<0.2
Phenolics (wet chem) *	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.317
Sulfate (as SO4)	mg/L	8.0	7.0	48	12	46	13	8.3	155
Total Dissolved Solids (TDS)	mg/L	356	242	486	192	802	532	388	598
pH	standard units	6.9	6.9	7.2	6.9	7.1	**	6.9	6.7
Specific Conductance	umhos/cm	622	426	783	328	1319	**	661	886
Turbidity	NTU	1.98	4.68	25.8	15.9	94.1	**	20.7	5.15
Temperature	F	41	41	47	47	54.3	**	41	45
Comments		Clear	Clear	Orange	Clear	Brown	Cloudy	Dirty	Clear

* Applies to the sum of phenolic compounds

** Sampled by Parsons - Well dry before sample could be taken

< X - less than method quantitaion limit

NA - Not applicable

**T
E
1**

**SUMMARY OF SEMI-ANNUAL GROUNDWATER
SAMPLING RESULTS FALL 2008
SAMPLING**

Compound	Sample ID Sample Date	B-30W 11/12/2008	B-31W 11/12/2008	Blind Dup. 11/12/2008	B-32W 11/12/2008	004 11/12/2008	Underliner 11/12/2008
	Units			B-31W			
Aluminum - Soluble	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Aluminum - Total	mg/L	0.10	0.16	0.36	0.44	<0.5	1.04
Boron - Soluble	mg/L	0.034	0.017	0.063	0.014	0.175	0.016
Boron - Total	mg/L	0.039	0.021	0.075	0.026	0.180	0.024
Chromium - Soluble	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium - Total	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Copper - Soluble	mg/L	<0.01	<0.01	0.011	0.013	<0.01	<0.01
Copper - Total	mg/L	0.017	0.023	0.018	<0.01	0.011	0.011
Iron - Soluble	mg/L	0.109	0.023	0.059	1.62	0.100	0.037
Iron - Total	mg/L	0.908	0.638	0.933	14.7	1.33	7.90
Lead - Soluble	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Lead - Total	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Manganese - Soluble	mg/L	0.127	0.024	0.056	1.02	0.221	0.286
Manganese - Total	mg/L	0.111	0.071	0.094	0.967	0.217	0.518
Mercury - Soluble	mg/L	<0.0002	<0.0002	<0.002	<0.0002	<0.0002	<0.0002
Mercury - Total	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Fluoride	mg/L	<0.2	<0.2	<0.2	<0.2	1.37	<0.2
Phenolics (wet chem) *	mg/L	<0.005	0.403	<0.005	<0.005	<0.005	<0.005
Sulfate (as SO4)	mg/L	31	60	14	30	26	132
Total Dissolved Solids (TDS)	mg/L	230	338	200	728	546	452
pH	standard units	8.2	6.8		6.6		
Specific Conductance	umhos/cm	392	545		1,097		
Turbidity	NTU	4.84	4.62		17.8		
Temperature	F	50.9	46		49		
Comments		Brown	Clear		Brown		
* Applies to the sum of phenolic compounds ** Sampled by Parsons - Well dry before sample < X - less than method quantitation limit NA - Not applicable							

FIGURE 1

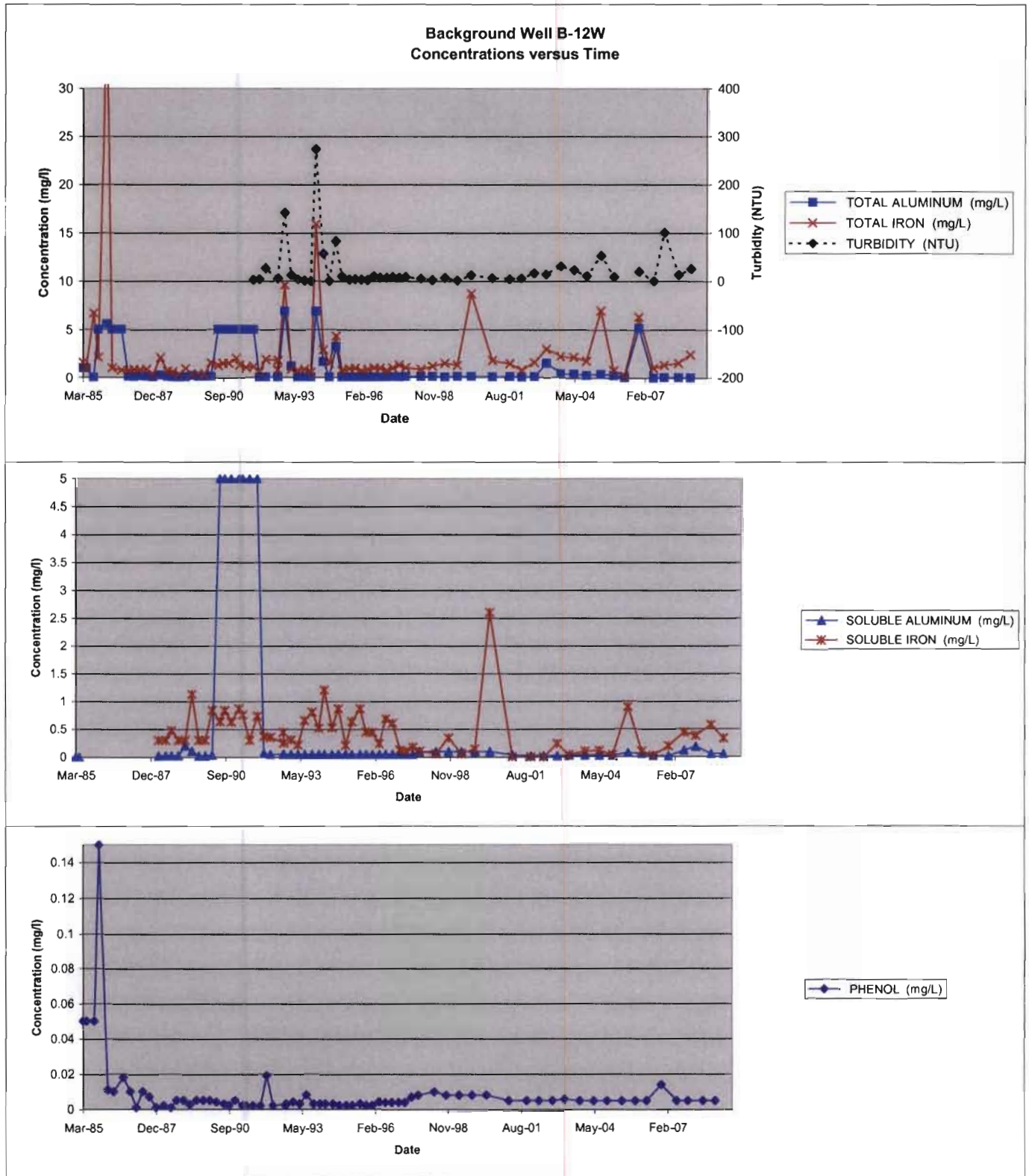


FIGURE 2

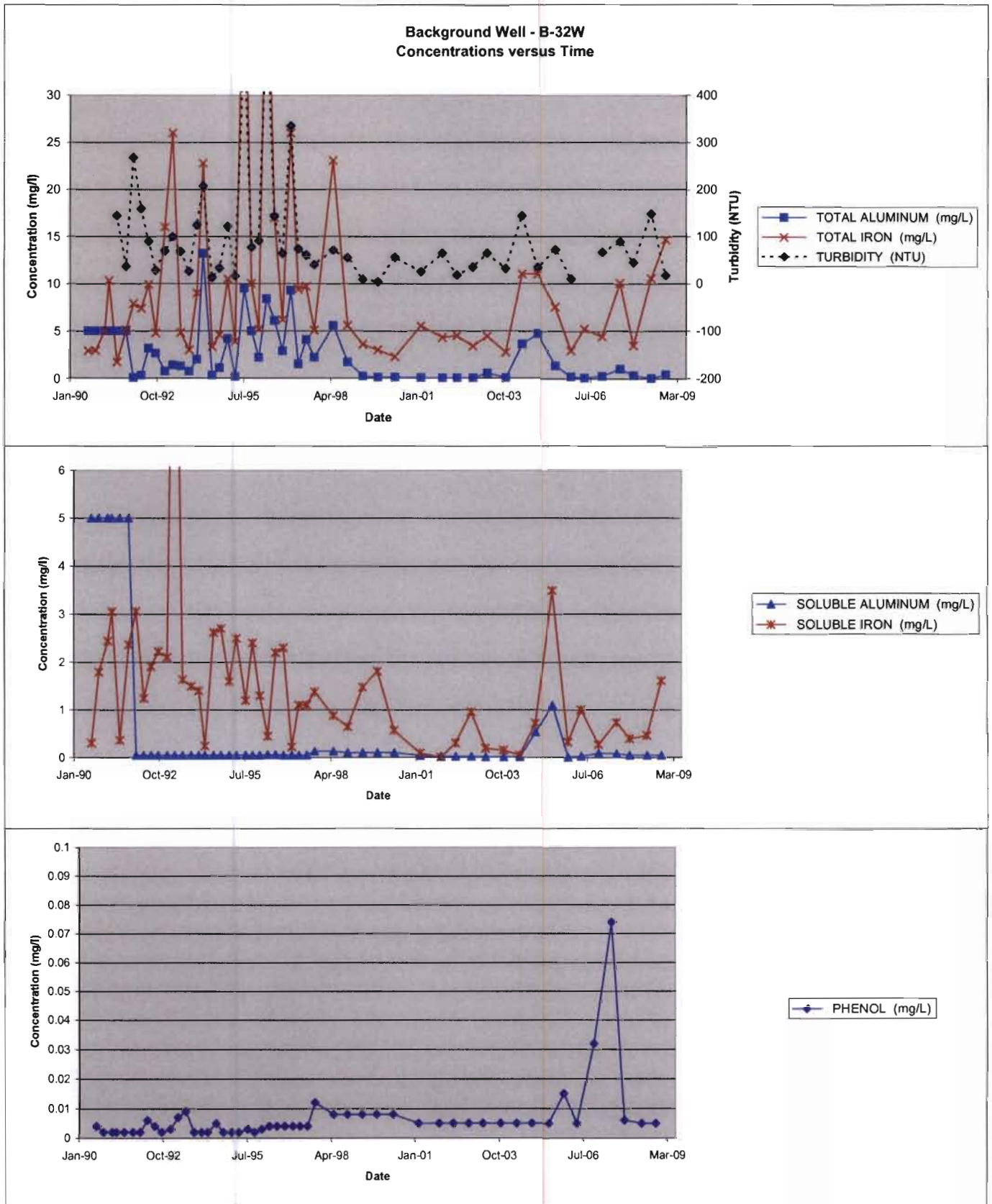
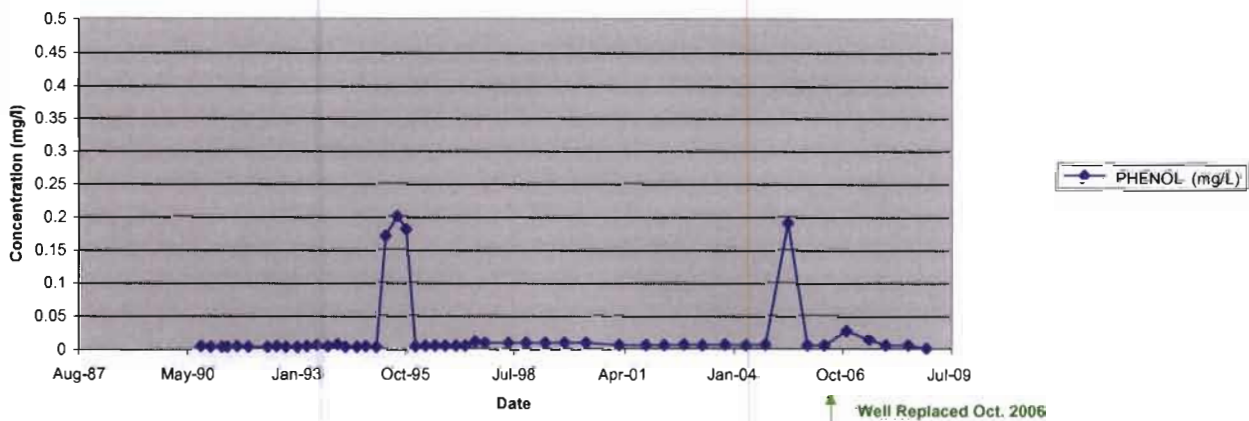
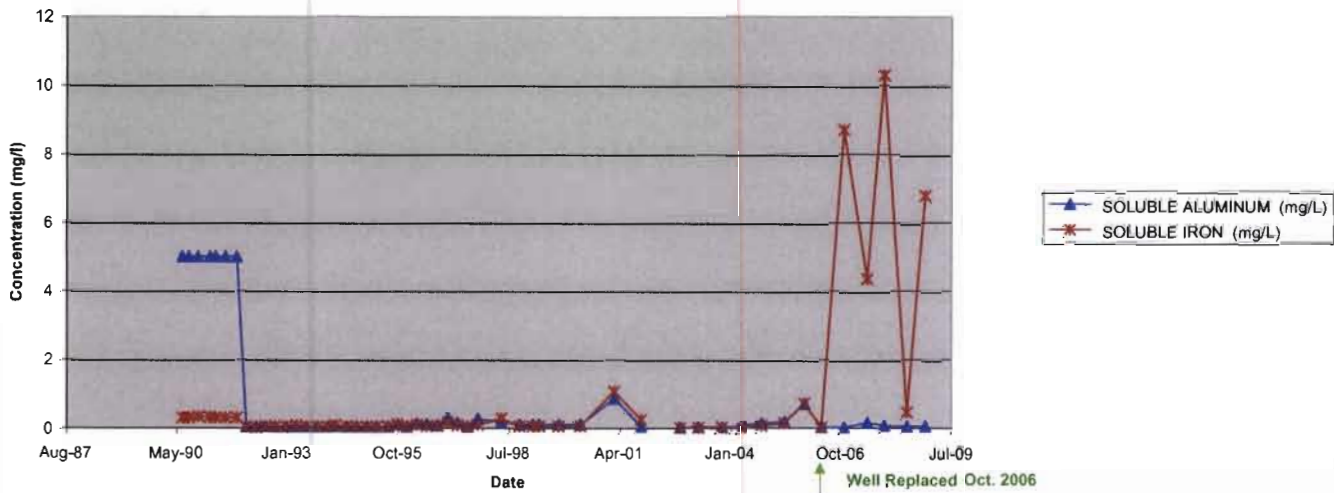
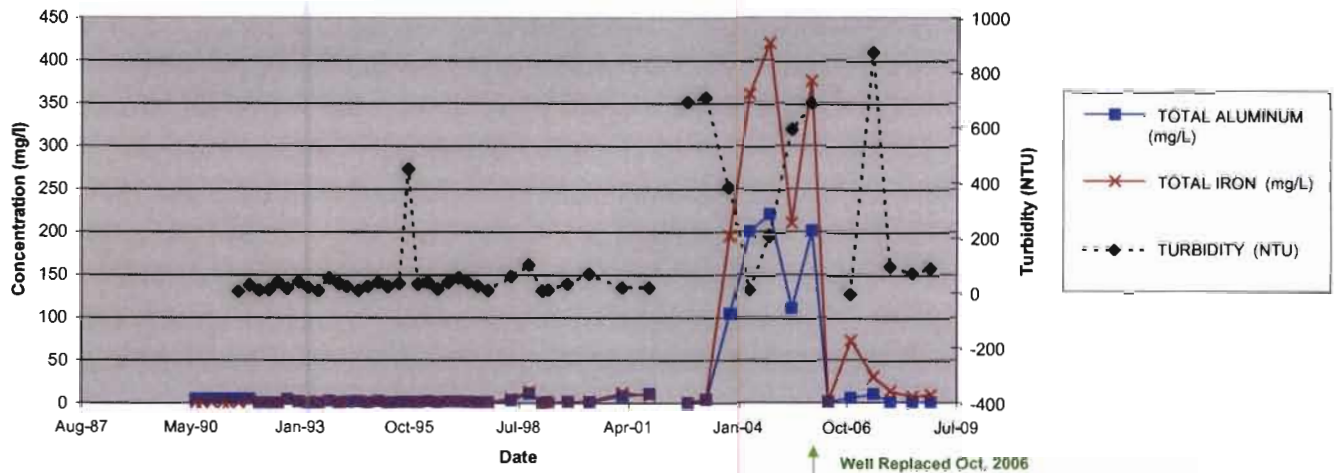


FIGURE 3

B-26W and B-26R Concentrations versus Time



Note: Well B-26W was replaced with B-26R in October 2006

FIGURE 4

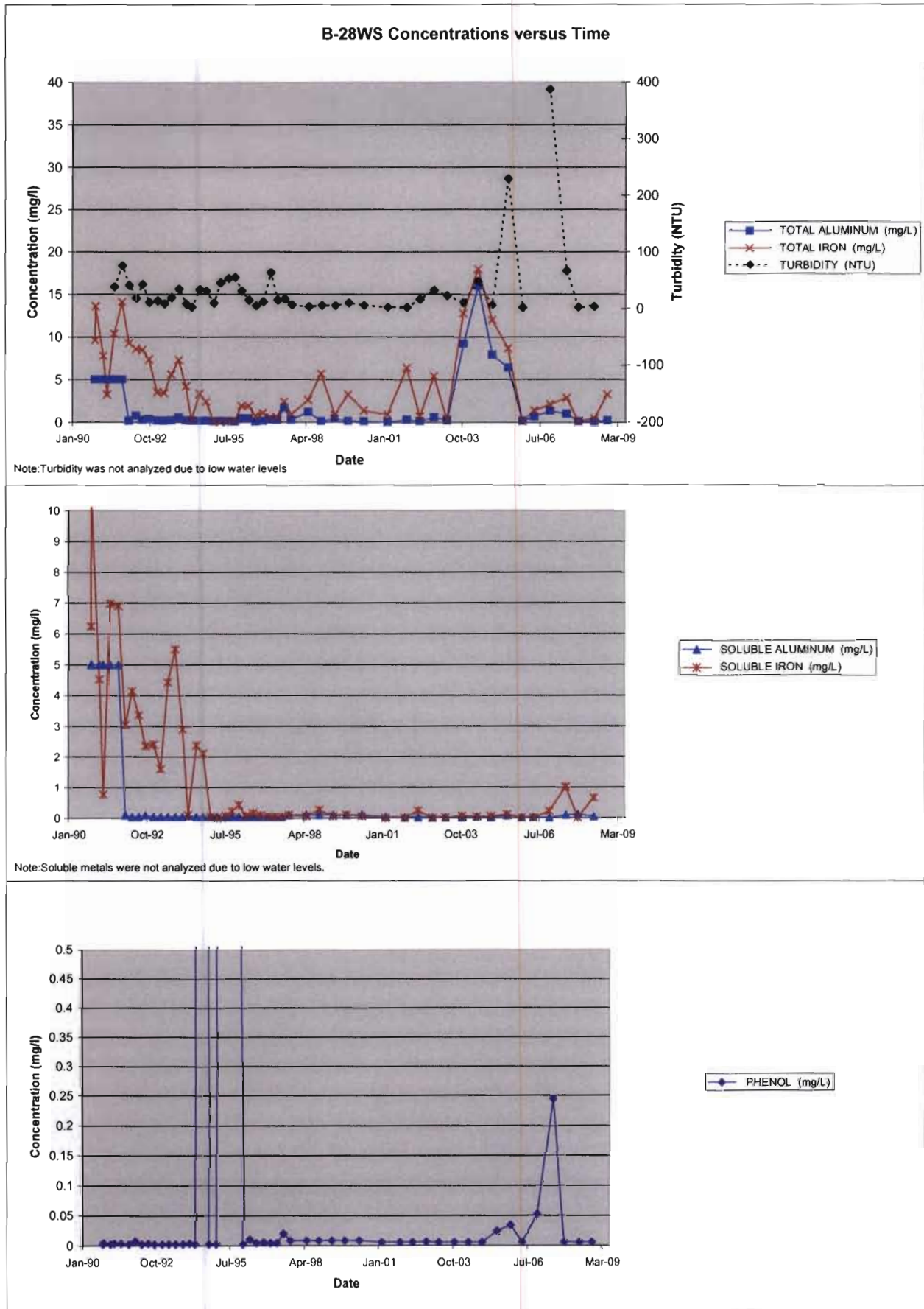
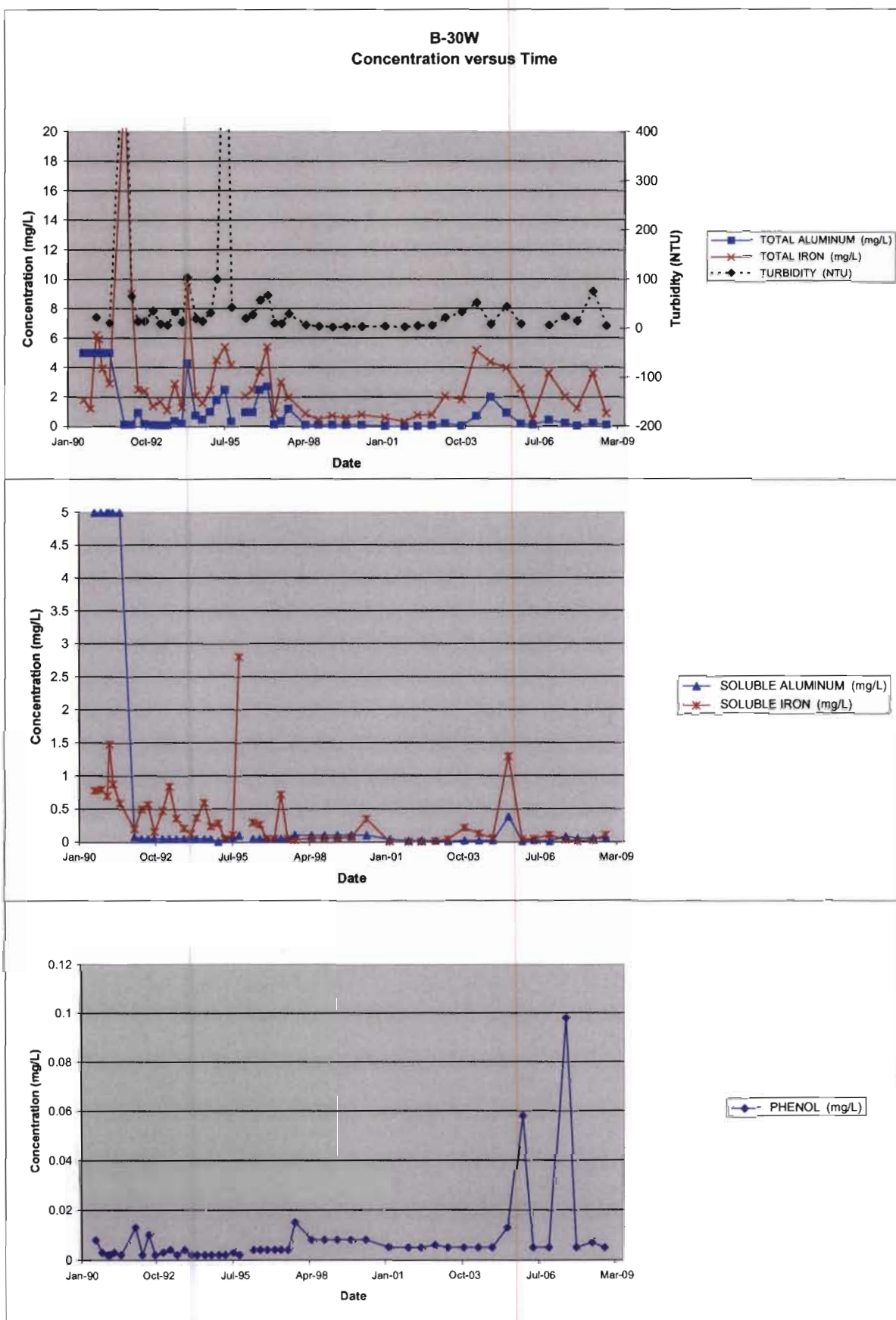


FIGURE 5



IsleChem, LLC Analysis Report

Project: Groundwater Samples for Analysis

Semi-Annual Sampling

Client: James Schuetz

Parsons Commercial Technology Group, Inc.

40 La Riviere Dr. Suite 350

Buffalo, NY 14202

Report Date: Wednesday, December 10, 2008

Report ID: NY811086.0.14217

PO# / Release# /

Reference #:

Sample Date: Wednesday, November 12, 2008

Sample Time: 12:00:00 PM

Report Status: Final

Phase:

Batch:

Contact

Quarterly Analysis

James Schuetz

Authorized Signature:

Richard V. Finn, Manager of Chemical Testing

The following result table is for 14 samples received by IsleChem LLC on 11/12/2008 sampled by Scott Hammond of IsleChem LLC on 11/12/2008.
Also enclosed is the paperwork submitted with the samples.

Notes:

Sample ID	Lab ID / Vessel	Location / Description	Analyte	Results	Units	Analyst	Date
1	80709 / 154655 - 154658	B - 10WS / Field Grab - Ground Water					
Analyte Group / Method		Analyte					

IsleChem LLC

2801 Long Road, Grand Island NY 14072

(716) 773-8401

NYS DOH ELAP ID# 11862

Project: NY811086.0.14217

Visit us on the web at www.islechem.com

Sample ID Lab ID / Vessel Location / Description
1 80709 / 154655 - 154658 B - 10WS / Field Grab - Ground Water

Analyte Group / Method	Analyte	Results	Units	Analyst	Date
Parsons Soluble Metals List					
EPA 200.7 Rev 4.4	Aluminum, Soluble	<0.05	mg/L	RVF	12/2/2008
	Boron, Soluble	0.220	mg/L	RVF	12/2/2008
	Chromium, Soluble	<0.01	mg/L	RVF	12/2/2008
	Copper, Soluble	0.014	mg/L	RVF	12/2/2008
	Iron, Soluble	0.063	mg/L	RVF	12/2/2008
	Lead, Soluble	<0.01	mg/L	RVF	12/2/2008
	Manganese, Soluble	0.211	mg/L	RVF	12/2/2008
EPA 245.7 Rev 3.0	Mercury, Soluble	<0.0002	mg/L	MF	11/21/2008

Parsons Total Metals List					
EPA 200.7 Rev 4.4	Aluminum, Total	0.15	mg/L	RVF	12/3/2008
	Boron, Total	0.209	mg/L	RVF	12/3/2008
	Chromium, Total	<0.01	mg/L	RVF	12/3/2008
	Copper, Total	0.021	mg/L	RVF	12/3/2008
	Iron, Total	0.551	mg/L	RVF	12/3/2008
	Lead, Total	<0.01	mg/L	RVF	12/3/2008
	Manganese, Total	0.207	mg/L	RVF	12/3/2008
	Mercury, Total	<0.0002	mg/L	MF	11/21/2008
EPA 245.1 Rev 3.0					

Sample ID	Lab ID / Vessel	Location / Description	Analyte	Results	Units	Analyst	Date
1	80709 / 154655 - 154658	B - 10WS / Field Grab - Ground Water					
Analyte Group / Method							
Fluoride, Total							
SM 18-20 4500-F C (97)			Fluoride, Total	0.267	mg/L	MF	11/21/2008
Phenols							
EPA 420.1 Rev 1978			Phenols	<0.005	mg/L	MF	11/13/2008
Solids, Total Dissolved							
SM 18-20 2540C (97)			Solids, Total Dissolved	356	mg/L	MF	11/13/2008
Sulfate (as SO4)							
ASTM D516-90, 02			Sulfate (as SO4)	8.0	mg/L	MF	11/14/2008

end of Lab ID number 80709

Sample ID Lab ID / Vessel Location / Description
2 80710 / 154659 - 154662 B - 10WD / Field Grab - Ground Water

Analyte Group / Method	Analyte	Results	Units	Analyst	Date
Parsons Soluble Metals List					
EPA 200.7 Rev 4.4					
	Aluminum, Soluble	<0.05	mg/L	RVF	12/2/2008
	Boron, Soluble	0.252	mg/L	RVF	12/2/2008
	Chromium, Soluble	<0.01	mg/L	RVF	12/2/2008
	Copper, Soluble	0.011	mg/L	RVF	12/2/2008
	Iron, Soluble	0.296	mg/L	RVF	12/2/2008
	Lead, Soluble	<0.01	mg/L	RVF	12/2/2008
	Manganese, Soluble	0.174	mg/L	RVF	12/2/2008
EPA 245.7 Rev 3.0	Mercury, Soluble	<0.0002	mg/L	MF	11/21/2008
Parsons Total Metals List					
EPA 200.7 Rev 4.4					
	Aluminum, Total	<0.05	mg/L	RVF	12/3/2008
	Boron, Total	0.230	mg/L	RVF	12/3/2008
	Chromium, Total	<0.01	mg/L	RVF	12/3/2008
	Copper, Total	<0.01	mg/L	RVF	12/3/2008
	Iron, Total	1.21	mg/L	RVF	12/3/2008
	Lead, Total	<0.01	mg/L	RVF	12/3/2008
	Manganese, Total	0.157	mg/L	RVF	12/3/2008
EPA 245.1 Rev 3.0	Mercury, Total	<0.0002	mg/L	MF	11/21/2008

Sample ID	Lab ID / Vessel	Location / Description	Analyte	Results	Units	Analyst	Date
2	80710 / 154659 - 154662	B - 10WD / Field Grab - Ground Water					
Analyte Group / Method							
Fluoride, Total							
SM 18-20 4500-F C (97)			Fluoride, Total	0.308	mg/L	MF	11/21/2008
Phenols							
EPA 420.1 Rev 1978			Phenols	<0.005	mg/L	MF	11/13/2008
Solids, Total Dissolved							
SM 18-20 2540C (97)			Solids, Total Dissolved	242	mg/L	MF	11/13/2008
Sulfate (as SO4)							
ASTM D516-90, 02			Sulfate (as SO4)	7.0	mg/L	MF	11/14/2008

end of Lab ID number 80710

Sample ID Lab ID / Vessel Location / Description
3 80711 / 154663 - 154666 B - 12W / Field Grab - Ground Water

Analyte Group / Method	Analyte	Results	Units	Analyst	Date
Parsons Soluble Metals List					
EPA 200.7 Rev 4.4					
	Aluminum, Soluble	<0.05	mg/L	RVF	12/2/2008
	Boron, Soluble	0.019	mg/L	RVF	12/2/2008
	Chromium, Soluble	<0.01	mg/L	RVF	12/2/2008
	Copper, Soluble	0.010	mg/L	RVF	12/2/2008
	Iron, Soluble	0.333	mg/L	RVF	12/2/2008
	Lead, Soluble	<0.01	mg/L	RVF	12/2/2008
	Manganese, Soluble	0.248	mg/L	RVF	12/2/2008
	Mercury, Soluble	<0.0002	mg/L	MF	11/21/2008

EPA 245.7 Rev 3.0

Parsons Total Metals List

EPA 200.7 Rev 4.4

Aluminum, Total	0.06	mg/L	RVF	12/3/2008
Boron, Total	0.017	mg/L	RVF	12/3/2008
Chromium, Total	<0.01	mg/L	RVF	12/3/2008
Copper, Total	<0.01	mg/L	RVF	12/3/2008
Iron, Total	2.44	mg/L	RVF	12/3/2008
Lead, Total	<0.01	mg/L	RVF	12/3/2008
Manganese, Total	0.338	mg/L	RVF	12/3/2008
Mercury, Total	<0.0002	mg/L	MF	11/21/2008

EPA 245.1 Rev 3.0

Sample ID Lab ID / Vessel Location / Description
3 80711 / 154663 - 154666 B - 12W / Field Grab - Ground Water

Analyte Group / Method	Analyte	Results	Units	Analyst	Date
Fluoride, Total					
SM 18-20 4500-F C (97)	Fluoride, Total	<0.2	mg/L	MF	11/21/2008
Phenols					
EPA 420.1 Rev 1978	Phenols	<0.005	mg/L	MF	11/13/2008
Solids, Total Dissolved					
SM 18-20 2540C (97)	Solids, Total Dissolved	486	mg/L	MF	11/13/2008
Sulfate (as SO4)					
ASTM D516-90, 02	Sulfate (as SO4)	48	mg/L	MF	11/14/2008

end of Lab ID number 80711

Sample ID Lab ID / Vessel Location / Description
4 80712 / 154667 - 154670 B - 15W / Field Grab - Ground Water

Analyte Group / Method	Analyte	Results	Units	Analyst	Date
Parsons Soluble Metals List					
EPA 200.7 Rev 4.4					
	Aluminum, Soluble	0.07	mg/L	RVF	12/2/2008
	Boron, Soluble	0.078	mg/L	RVF	12/2/2008
	Chromium, Soluble	<0.01	mg/L	RVF	12/2/2008
	Copper, Soluble	0.012	mg/L	RVF	12/2/2008
	Iron, Soluble	0.330	mg/L	RVF	12/2/2008
	Lead, Soluble	<0.01	mg/L	RVF	12/2/2008
	Manganese, Soluble	0.070	mg/L	RVF	12/2/2008
EPA 245.7 Rev 3.0	Mercury, Soluble	<0.0002	mg/L	MF	11/21/2008

Parsons Total Metals List

EPA 200.7 Rev 4.4					
	Aluminum, Total	0.20	mg/L	RVF	12/3/2008
	Boron, Total	0.073	mg/L	RVF	12/3/2008
	Chromium, Total	<0.01	mg/L	RVF	12/3/2008
	Copper, Total	0.028	mg/L	RVF	12/3/2008
	Iron, Total	0.603	mg/L	RVF	12/3/2008
	Lead, Total	<0.01	mg/L	RVF	12/3/2008
	Manganese, Total	0.085	mg/L	RVF	12/3/2008
EPA 245.1 Rev 3.0	Mercury, Total	<0.0002	mg/L	MF	11/21/2008

Sample ID Lab ID / Vessel Location / Description
4 80712 / 154667 - 154670 B - 15W / Field Grab - Ground Water

Analyte Group / Method	Analyte	Results	Units	Analyst	Date
Fluoride, Total					
SM 18-20 4500-F C (97)	Fluoride, Total	<0.2	mg/L	MF	11/21/2008
Phenols					
EPA 420.1 Rev 1978	Phenols	<0.005	mg/L	MF	11/24/2008
Solids, Total Dissolved					
SM 18-20 2540C (97)	Solids, Total Dissolved	192	mg/L	MF	11/13/2008
Sulfate (as SO4)					
ASTM D516-90, 02	Sulfate (as SO4)	12	mg/L	MF	11/14/2008

end of Lab ID number 80712

Sample ID Lab ID / Vessel Location / Description
5 80713 / 154671 - 154674 B - 26R / Field Grab - Ground Water

Analyte Group / Method	Analyte	Results	Units	Analyst	Date
Parsons Soluble Metals List					
EPA 200.7 Rev 4.4	Aluminum, Soluble	<0.05	mg/L	RVF	12/2/2008
	Boron, Soluble	0.228	mg/L	RVF	12/2/2008
	Chromium, Soluble	<0.01	mg/L	RVF	12/2/2008
	Copper, Soluble	0.010	mg/L	RVF	12/2/2008
	Iron, Soluble	6.78	mg/L	RVF	12/2/2008
	Lead, Soluble	<0.01	mg/L	RVF	12/2/2008
	Manganese, Soluble	0.701	mg/L	RVF	12/2/2008
	Mercury, Soluble	<0.0002	mg/L	MF	11/21/2008

EPA 245.7 Rev 3.0

Parsons Total Metals List

EPA 200.7 Rev 4.4

Aluminum, Total	0.30	mg/L	RVF	12/3/2008
Boron, Total	0.221	mg/L	RVF	12/3/2008
Chromium, Total	<0.01	mg/L	RVF	12/3/2008
Copper, Total	0.017	mg/L	RVF	12/3/2008
Iron, Total	8.91	mg/L	RVF	12/3/2008
Lead, Total	<0.01	mg/L	RVF	12/3/2008
Manganese, Total	0.676	mg/L	RVF	12/3/2008
Mercury, Total	<0.0002	mg/L	MF	11/21/2008

EPA 245.1 Rev 3.0

Sample ID Lab ID / Vessel Location / Description
5 80713 / 154671 - 154674 B - 26R / Field Grab - Ground Water

Analyte Group / Method	Analyte	Results	Units	Analyst	Date
Fluoride, Total					
SM 18-20 4500-F C (97)	Fluoride, Total	0.271	mg/L	MF	11/21/2008
Phenols					
EPA 420.1 Rev 1978	Phenols	<0.005	mg/L	MF	11/24/2008
Solids, Total Dissolved					
SM 18-20 2540C (97)	Solids, Total Dissolved	802	mg/L	MF	11/13/2008
Sulfate (as SO4)					
ASTM D516-90, 02	Sulfate (as SO4)	46	mg/L	MF	11/14/2008

end of Lab ID number 80713

Sample ID Lab ID / Vessel Location / Description
6 80714 / 154734,154775-77 B - 28WS / Field Grab - Ground Water

Analyte Group / Method	Analyte	Results	Units	Analyst	Date
Parsons Soluble Metals List					
EPA 200.7 Rev 4.4	Soluble Metals	*	mg/L		11/13/2008
* Insufficient volume for analysis.					
Parsons Total Metals List					
EPA 200.7 Rev 4.4	Aluminum, Total	0.22	mg/L	RVF	12/3/2008
	Boron, Total	1.00	mg/L	RVF	12/3/2008
	Chromium, Total	<0.01	mg/L	RVF	12/3/2008
	Copper, Total	0.011	mg/L	RVF	12/3/2008
	Iron, Total	3.27	mg/L	RVF	12/3/2008
	Lead, Total	<0.01	mg/L	RVF	12/3/2008
	Manganese, Total	0.158	mg/L	RVF	12/3/2008
EPA 245.1 Rev 3.0	Mercury, Total	<0.0002	mg/L	MF	11/21/2008
Fluoride, Total					
SM 18-20 4500-F C (97)	Fluoride, Total	0.344	mg/L	MF	11/21/2008
Phenols					
EPA 420.1 Rev 1978	Phenols	<0.005	mg/L	MF	11/24/2008
Solids, Total Dissolved					
SM 18-20 2540C (97)	Solids, Total Dissolved	532	mg/L	MF	11/13/2008

Sample ID	Lab ID / Vessel	Location / Description	Analyte	Results	Units	Analyst	Date
6	80714 / 154734,154775-77	B - 28WS / Field Grab - Ground Water		13	mg/L	MF	11/14/2008
Analyte Group / Method							
Sulfate (as SO4)			Sulfate (as SO4)				
ASTM D516-90, 02							
end of Lab ID number 80714							

Sample ID Lab ID / Vessel Location / Description
7 80715 / 154675 - 154678 B - 28WD / Field Grab - Ground Water

Analyte Group / Method	Analyte	Results	Units	Analyst	Date
Parsons Soluble Metals List					
EPA 200.7 Rev 4.4					
	Aluminum, Soluble	<0.05	mg/L	RVF	12/2/2008
	Boron, Soluble	0.208	mg/L	RVF	12/2/2008
	Chromium, Soluble	<0.01	mg/L	RVF	12/2/2008
	Copper, Soluble	<0.01	mg/L	RVF	12/2/2008
	Iron, Soluble	1.07	mg/L	RVF	12/2/2008
	Lead, Soluble	<0.01	mg/L	RVF	12/2/2008
	Manganese, Soluble	0.155	mg/L	RVF	12/2/2008
	Mercury, Soluble	<0.0002	mg/L	MF	11/21/2008

EPA 245.7 Rev 3.0

Parsons Total Metals List

EPA 200.7 Rev 4.4

Aluminum, Total	0.05	mg/L	RVF	12/3/2008
Boron, Total	0.198	mg/L	RVF	12/3/2008
Chromium, Total	<0.01	mg/L	RVF	12/3/2008
Copper, Total	<0.01	mg/L	RVF	12/3/2008
Iron, Total	1.76	mg/L	RVF	12/3/2008
Lead, Total	<0.01	mg/L	RVF	12/3/2008
Manganese, Total	0.155	mg/L	RVF	12/3/2008
Mercury, Total	<0.0002	mg/L	MF	11/21/2008

EPA 245.1 Rev 3.0

Sample ID	Lab ID / Vessel	Location / Description	Analyte	Results	Units	Analyst	Date
7	80715 / 154675 - 154678	B - 28WD / Field Grab - Ground Water					
Analyte Group / Method							
Fluoride, Total							
SM 18-20 4500-F C (97)			Fluoride, Total	0.221	mg/L	MF	11/21/2008
Phenols							
EPA 420.1 Rev 1978			Phenols	<0.005	mg/L	MF	11/24/2008
Solids, Total Dissolved							
SM 18-20 2540C (97)			Solids, Total Dissolved	388	mg/L	MF	11/13/2008
Sulfate (as SO4)							
ASTM D516-90, 02			Sulfate (as SO4)	8.3	mg/L	MF	11/14/2008

end of Lab ID number 80715

Sample ID Lab ID / Vessel Location / Description
8 80716 / 154679 - 154682 B - 29W / Field Grab - Ground Water

Analyte Group / Method	Analyte	Results	Units	Analyst	Date
Parsons Soluble Metals List					
EPA 200.7 Rev 4.4					
	Aluminum, Soluble	<0.05	mg/L	RVF	12/2/2008
	Boron, Soluble	0.027	mg/L	RVF	12/2/2008
	Chromium, Soluble	<0.01	mg/L	RVF	12/2/2008
	Copper, Soluble	<0.01	mg/L	RVF	12/2/2008
	Iron, Soluble	0.055	mg/L	RVF	12/2/2008
	Lead, Soluble	<0.01	mg/L	RVF	12/2/2008
	Manganese, Soluble	1.38	mg/L	RVF	12/2/2008
	Mercury, Soluble	<0.0002	mg/L	MF	11/21/2008

EPA 245.7 Rev 3.0

Parsons Total Metals List

EPA 200.7 Rev 4.4

Aluminum, Total	<0.05	mg/L	RVF	12/3/2008
Boron, Total	0.027	mg/L	RVF	12/3/2008
Chromium, Total	<0.01	mg/L	RVF	12/3/2008
Copper, Total	0.013	mg/L	RVF	12/3/2008
Iron, Total	0.498	mg/L	RVF	12/3/2008
Lead, Total	<0.01	mg/L	RVF	12/3/2008
Manganese, Total	1.30	mg/L	RVF	12/3/2008
Mercury, Total	<0.0002	mg/L	MF	11/21/2008

EPA 245.1 Rev 3.0

Sample ID Lab ID / Vessel Location / Description
8 80716 / 154679 - 154682 B - 29W / Field Grab - Ground Water

Analyte Group / Method	Analyte	Results	Units	Analyst	Date
Fluoride, Total					
SM 18-20 4500-F C (97)	Fluoride, Total	<0.2	mg/L	MF	11/21/2008
Phenols					
EPA 420.1 Rev 1978	Phenols	0.317	mg/L	MF	11/24/2008
Solids, Total Dissolved					
SM 18-20 2540C (97)	Solids, Total Dissolved	598	mg/L	MF	11/13/2008
Sulfate (as SO4)					
ASTM D516-90, 02	Sulfate (as SO4)	155	mg/L	MF	11/14/2008

end of Lab ID number 80716

Sample ID Lab ID / Vessel Location / Description
9 80717 / 154683 - 154686 B - 30W / Field Grab - Ground Water

Analyte Group / Method	Analyte	Results	Units	Analyst	Date
Parsons Soluble Metals List EPA 200.7 Rev 4.4	Aluminum, Soluble	<0.05	mg/L	RVF	12/2/2008
	Boron, Soluble	0.034	mg/L	RVF	12/2/2008
	Chromium, Soluble	<0.01	mg/L	RVF	12/2/2008
	Copper, Soluble	<0.01	mg/L	RVF	12/2/2008
	Iron, Soluble	0.109	mg/L	RVF	12/2/2008
	Lead, Soluble	<0.01	mg/L	RVF	12/2/2008
	Manganese, Soluble	0.127	mg/L	RVF	12/2/2008
	Mercury, Soluble	<0.0002	mg/L	MF	11/21/2008
EPA 245.7 Rev 3.0					

Parsons Total Metals List EPA 200.7 Rev 4.4	Aluminum, Total	0.10	mg/L	RVF	12/3/2008
	Boron, Total	0.039	mg/L	RVF	12/3/2008
	Chromium, Total	<0.01	mg/L	RVF	12/3/2008
	Copper, Total	0.017	mg/L	RVF	12/3/2008
	Iron, Total	0.908	mg/L	RVF	12/3/2008
	Lead, Total	<0.01	mg/L	RVF	12/3/2008
	Manganese, Total	0.111	mg/L	RVF	12/3/2008
	Mercury, Total	<0.0002	mg/L	MF	11/21/2008
EPA 245.1 Rev 3.0					

Sample ID Lab ID / Vessel Location / Description
9 80717 / 154683 - 154686 B - 30W / Field Grab - Ground Water

Analyte Group / Method	Analyte	Results	Units	Analyst	Date
Fluoride, Total					
SM 18-20 4500-F C (97)	Fluoride, Total	<0.2	mg/L	MF	11/21/2008
Phenols					
EPA 420.1 Rev 1978	Phenols	<0.005	mg/L	MF	11/24/2008
Solids, Total Dissolved					
SM 18-20 2540C (97)	Solids, Total Dissolved	230	mg/L	MF	11/13/2008
Sulfate (as SO4)					
ASTM D516-90, 02	Sulfate (as SO4)	31	mg/L	MF	11/14/2008

end of Lab ID number 80717

Sample ID Lab ID / Vessel Location / Description
10 80718 / 154687 - 154690 B - 31W / Field Grab - Ground Water

Analyte Group / Method	Analyte	Results	Units	Analyst	Date
Parsons Soluble Metals List					
EPA 200.7 Rev 4.4					
	Aluminum, Soluble	<0.05	mg/L	RVF	12/2/2008
	Boron, Soluble	0.017	mg/L	RVF	12/2/2008
	Chromium, Soluble	<0.01	mg/L	RVF	12/2/2008
	Copper, Soluble	<0.01	mg/L	RVF	12/2/2008
	Iron, Soluble	0.023	mg/L	RVF	12/2/2008
	Lead, Soluble	<0.01	mg/L	RVF	12/2/2008
	Manganese, Soluble	0.024	mg/L	RVF	12/2/2008
EPA 245.7 Rev 3.0	Mercury, Soluble	<0.0002	mg/L	MF	11/21/2008

Parsons Total Metals List					
EPA 200.7 Rev 4.4					
	Aluminum, Total	0.16	mg/L	RVF	12/3/2008
	Boron, Total	0.021	mg/L	RVF	12/3/2008
	Chromium, Total	<0.01	mg/L	RVF	12/3/2008
	Copper, Total	0.023	mg/L	RVF	12/3/2008
	Iron, Total	0.638	mg/L	RVF	12/3/2008
	Lead, Total	<0.01	mg/L	RVF	12/3/2008
	Manganese, Total	0.071	mg/L	RVF	12/3/2008
EPA 245.1 Rev 3.0	Mercury, Total	<0.0002	mg/L	MF	11/21/2008

Sample ID Lab ID / Vessel Location / Description
10 80718 / 154687 - 154690 B - 31W / Field Grab - Ground Water

Analyte Group / Method	Analyte	Results	Units	Analyst	Date
Fluoride, Total					
SM 18-20 4500-F C (97)	Fluoride, Total	<0.2	mg/L	MF	11/21/2008
Phenols					
EPA 420.1 Rev 1978	Phenols	0.403	mg/L	MF	11/24/2008
Solids, Total Dissolved					
SM 18-20 2540C (97)	Solids, Total Dissolved	338	mg/L	MF	11/13/2008
Sulfate (as SO4)					
ASTM D516-90, 02	Sulfate (as SO4)	60	mg/L	MF	11/14/2008

end of Lab ID number 80718

Sample ID Lab ID / Vessel Location / Description
11 80719 / 154691 - 154694 B - 32W / Field Grab - Ground Water

Analyte Group / Method	Analyte	Results	Units	Analyst	Date
Parsons Soluble Metals List					
EPA 200.7 Rev 4.4	Aluminum, Soluble	<0.05	mg/L	RVF	12/2/2008
	Boron, Soluble	0.014	mg/L	RVF	12/2/2008
	Chromium, Soluble	<0.01	mg/L	RVF	12/2/2008
	Copper, Soluble	0.013	mg/L	RVF	12/2/2008
	Iron, Soluble	1.62	mg/L	RVF	12/2/2008
	Lead, Soluble	<0.01	mg/L	RVF	12/2/2008
	Manganese, Soluble	1.02	mg/L	RVF	12/2/2008
	Mercury, Soluble	<0.0002	mg/L	MF	11/21/2008
EPA 245.7 Rev 3.0					

Parsons Total Metals List					
EPA 200.7 Rev 4.4	Aluminum, Total	0.44	mg/L	RVF	12/3/2008
	Boron, Total	0.026	mg/L	RVF	12/3/2008
	Chromium, Total	<0.01	mg/L	RVF	12/3/2008
	Copper, Total	<0.01	mg/L	RVF	12/3/2008
	Iron, Total	14.7	mg/L	RVF	12/3/2008
	Lead, Total	<0.01	mg/L	RVF	12/3/2008
	Manganese, Total	0.967	mg/L	RVF	12/3/2008
	Mercury, Total	<0.0002	mg/L	MF	11/21/2008
EPA 245.1 Rev 3.0					

Sample ID **Lab ID / Vessel** **Location / Description**
11 80719 / 154691 - 154694 B - 32W / Field Grab - Ground Water

Analyte Group / Method	Analyte	Results	Units	Analyst	Date
Fluoride, Total					
SM 18-20 4500-F C (97)	Fluoride, Total	<0.2	mg/L	MF	11/21/2008
Phenols					
EPA 420.1 Rev 1978	Phenols	<0.005	mg/L	MF	11/24/2008
Solids, Total Dissolved					
SM 18-20 2540C (97)	Solids, Total Dissolved	728	mg/L	MF	11/13/2008
Sulfate (as SO4)					
ASTM D516-90, 02	Sulfate (as SO4)	30	mg/L	MF	11/14/2008

end of Lab ID number 80719

Sample ID Lab ID / Vessel Location / Description
12 80720 / 154695 - 154698 Blind Duplicate / Field Grab - Ground Water
Analyte Group / Method Analyte **Results** **Units** **Analyst** **Date**

Parsons Soluble Metals List

EPA 200.7 Rev 4.4

Aluminum, Soluble	<0.05	mg/L	RVF	12/2/2008
Boron, Soluble	0.063	mg/L	RVF	12/2/2008
Chromium, Soluble	<0.01	mg/L	RVF	12/2/2008
Copper, Soluble	0.011	mg/L	RVF	12/2/2008
Iron, Soluble	0.059	mg/L	RVF	12/2/2008
Lead, Soluble	<0.01	mg/L	RVF	12/2/2008
Manganese, Soluble	0.056	mg/L	RVF	12/2/2008
Mercury, Soluble	<0.002	mg/L	MF	11/21/2008

EPA 245.7 Rev 3.0

Parsons Total Metals List

EPA 200.7 Rev 4.4

Aluminum, Total	0.36	mg/L	RVF	12/3/2008
Boron, Total	0.075	mg/L	RVF	12/3/2008
Chromium, Total	<0.01	mg/L	RVF	12/3/2008
Copper, Total	0.018	mg/L	RVF	12/3/2008
Iron, Total	0.933	mg/L	RVF	12/3/2008
Lead, Total	<0.01	mg/L	RVF	12/3/2008
Manganese, Total	0.094	mg/L	RVF	12/3/2008
Mercury, Total	<0.0002	mg/L	MF	11/21/2008

EPA 245.1 Rev 3.0

Sample ID	Lab ID / Vessel	Location / Description	Analyte	Results	Units	Analyst	Date
12	80720 / 154695 - 154698	Blind Duplicate / Field Grab - Ground Water					
Analyte Group / Method							
Fluoride, Total							
SM 18-20 4500-F C (97)			Fluoride, Total	≤0.2	mg/L	MF	11/21/2008
Phenols							
EPA 420.1 Rev 1978			Phenols	<0.005	mg/L	MF	11/24/2008
Solids, Total Dissolved							
SM 18-20 2540C (97)			Solids, Total Dissolved	200	mg/L	MF	11/13/2008
Sulfate (as SO4)							
ASTM D516-90, 02			Sulfate (as SO4)	14	mg/L	MF	11/14/2008
end of Lab ID number 80720							

Sample ID Lab ID / Vessel Location / Description
13 80721 / 154699 - 154702 Site 004 / Field Grab - Ground Water

Analyte Group / Method	Analyte	Results	Units	Analyst	Date
Parsons Soluble Metals List					
EPA 200.7 Rev 4.4					
	Aluminum, Soluble	<0.05	mg/L	RVF	12/2/2008
	Boron, Soluble	0.175	mg/L	RVF	12/2/2008
	Chromium, Soluble	<0.01	mg/L	RVF	12/2/2008
	Copper, Soluble	<0.01	mg/L	RVF	12/2/2008
	Iron, Soluble	0.100	mg/L	RVF	12/2/2008
	Lead, Soluble	<0.01	mg/L	RVF	12/2/2008
	Manganese, Soluble	0.221	mg/L	RVF	12/2/2008
	Mercury, Soluble	<0.0002	mg/L	MF	11/21/2008

EPA 245.7 Rev 3.0

Parsons Total Metals List

EPA 200.7 Rev 4.4

Aluminum, Total	<0.05	mg/L	RVF	12/3/2008
Boron, Total	0.180	mg/L	RVF	12/3/2008
Chromium, Total	<0.01	mg/L	RVF	12/3/2008
Copper, Total	0.011	mg/L	RVF	12/3/2008
Iron, Total	1.33	mg/L	RVF	12/3/2008
Lead, Total	<0.01	mg/L	RVF	12/3/2008
Manganese, Total	0.217	mg/L	RVF	12/3/2008
Mercury, Total	<0.0002	mg/L	MF	11/21/2008

EPA 245.1 Rev 3.0

Sample ID Lab ID / Vessel Location / Description
13 80721 / 154699 - 154702 Site 004 / Field Grab - Ground Water

Analyte Group / Method	Analyte	Results	Units	Analyst	Date
Fluoride, Total					
SM 18-20 4500-F C (97)	Fluoride, Total	1.37	mg/L	MF	11/21/2008
Phenols					
EPA 420.1 Rev 1978	Phenols	<0.005	mg/L	MF	11/24/2008
Solids, Total Dissolved					
SM 18-20 2540C (97)	Solids, Total Dissolved	546	mg/L	MF	11/13/2008
Sulfate (as SO4)					
ASTM D516-90, 02	Sulfate (as SO4)	26	mg/L	MF	11/13/2008

end of Lab ID number 80721

Sample ID Lab ID / Vessel Location / Description
14 80722 / 154703 - 154706 Underliner / Field Grab - Ground Water

Analyte Group / Method	Analyte	Results	Units	Analyst	Date
Parsons Soluble Metals List					
EPA 200.7 Rev 4.4					
	Aluminum, Soluble	<0.05	mg/L	RVF	12/2/2008
	Boron, Soluble	0.016	mg/L	RVF	12/2/2008
	Chromium, Soluble	<0.01	mg/L	RVF	12/2/2008
	Copper, Soluble	<0.01	mg/L	RVF	12/2/2008
	Iron, Soluble	0.037	mg/L	RVF	12/2/2008
	Lead, Soluble	<0.01	mg/L	RVF	12/2/2008
	Manganese, Soluble	0.286	mg/L	RVF	12/2/2008
	Mercury, Soluble	<0.0002	mg/L	MF	11/21/2008

EPA 245.7 Rev 3.0

Parsons Total Metals List

EPA 200.7 Rev 4.4

Aluminum, Total	1.04	mg/L	RVF	12/3/2008
Boron, Total	0.024	mg/L	RVF	12/3/2008
Chromium, Total	<0.01	mg/L	RVF	12/3/2008
Copper, Total	0.011	mg/L	RVF	12/3/2008
Iron, Total	7.90	mg/L	RVF	12/3/2008
Lead, Total	<0.01	mg/L	RVF	12/3/2008
Manganese, Total	0.518	mg/L	RVF	12/3/2008
Mercury, Total	<0.0002	mg/L	MF	11/21/2008

EPA 245.1 Rev 3.0

Sample ID	Lab ID / Vessel	Location / Description					
14	80722 / 154703 - 154706	Underliner	/ Field Grab - Ground Water				
Analyte Group / Method	Analyte	Results	Units	Analyst	Date		
Fluoride, Total							
SM 18-20 4500-F C (97)	Fluoride, Total	<0.2	mg/L	MF	11/21/2008		
Phenols							
EPA 420.1 Rev 1978	Phenols	<0.005	mg/L	MF	11/13/2008		
Solids, Total Dissolved							
SM 18-20 2540C (97)	Solids, Total Dissolved	452	mg/L	MF	11/13/2008		
Sulfate (as SO4)							
ASTM D516-90, 02	Sulfate (as SO4)	132	mg/L	MF	11/14/2008		
end of Lab ID number 80722							

General Disclaimer

- The test results are submitted pursuant to IsleChem LLC's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed for the manner in which the results are used or interpreted.
- This report is issued for the benefit of and may be relied upon by the client named above. The client bears full responsibility for deciding the level of testing for sample submitted to IsleChem LLC.
- These results pertain only to the items tested.
- This report shall not be reproduced except in full.
- If the sample(s) represented by these test results were not collected by IsleChem LLC then the test results are limited to the reported values determine by the analytical testing process. IsleChem LLC makes no representation regarding the sample's collection technique, condition, volume, homogeneity or any other aspect of the sample(s) prior to IsleChem LLC taking possession of the sample(s) and the influence it may have on the results.
- Unless notified in writing to return the samples covered by this report IsleChem LLC will store what remains of the sample(s), if anything, for a period of 60 days before discarding, unless otherwise required by law. A shipping and handling fee will be charged for the return of any sample(s).
- Certain analytes may not be covered by the NYS DOH or NELAP fields of accreditation. Results for those analytes are generated by the cited method using QA/QC guidelines from IsleChem's Quality Control Manual, where applicable.

The test results in this report meet all NELAP requirements for parameters that are within IsleChem's field of accreditation. Any exceptions to NELAP requirements are noted in the comments field.

IsleChem, LLC
2801 Long Road
Grand Island
New York 14072
Tel: (716) 773-8401
Fax: (716) 773-8517

IsleChem LLC

2801 Long Road, Grand Island NY 14072

(716) 773-8401

NYS DOH ELAP ID# 11862

Project: NY811086.0.14217

Visit us on the web at www.islechem.com