URS

February 23, 2011

Mr. Jaspal Singh Walia, P.E.
New York State Department of Environmental Conservation
270 Michigan Ave.
Buffalo, NY 14203

Re: Semi-Annual Report
Pfohl Brothers Landfill, Town of Cheektowaga, New York

Dear Mr. Walia:

Enclosed is one copy of the fourteenth Semi-Annual Report for the Pfohl Brothers Landfill in Cheektowaga, New York. A copy has also been sent to Ms. Pamela Tames, P.E. of the United States Environmental Protection Agency. Also enclosed is the Data Applicability Report for laboratory analyses associated with the Semi-Annual Report. PDF copies of the reports are also enclosed.

If you have any questions on this report, please feel free to contact me.

Sincerely,

URS CORPORATION

Jon Sundquist, Ph.D.
Project Manager

Enclosures

cc: Pamela Tames, P.E. - USEPA (w/attachments)
William Pugh, P.E. – Town of Cheektowaga (w/attachments)
File 11172700 (C-1)

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SEMI ANNUAL REPORT
OPERATION AND MAINTENANCE
JULY 2010 TO DECEMBER 2010
PFOHL BROTHERS LANDFILL
CHEEKTOWAGA, NY

Submitted to:

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
270 MICHIGAN AVENUE
BUFFALO, NEW YORK 14203

Prepared by:

URS CORPORATION
77 GOODELL STREET
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Prepared for:

TOWN OF CHEEKTOWAGA
ENGINEERING DEPARTMENT
275 ALEXANDER AVE
CHEEKTOWAGA, NEW YORK 14211

FEBRUARY
2010

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1.0 INTRODUCTION

1.1 Background

The Pfohl Brothers Landfill is located on Aero Drive in the Town of Cheektowaga, New York (Figure 1-1). The site is listed as site No. 9-15-043 on the New York State Department of Environmental Conservation's (NYSDEC's) Registry of Inactive Hazardous Waste Disposal Sites. A Consent Order between NYSDEC and potentially responsible parties (PRPs) for closure of the site was signed in 2001 and remedial construction commenced in 2001. The remedy included consolidation of waste material, capping of the waste disposal and consolidation areas, and encircling the landfill areas with a groundwater collection system to prevent off-site migration. The remedial action was completed in 2002.

Responsibility for implementing the remedy was divided between a "steering committee" of industrial PRPs and the Town of Cheektowaga. The steering committee responsibilities lay generally with the capital construction activities of the remedy including waste consolidation, cap and drainage system installation, etc. The Town of Cheektowaga, which was named as a PRP for disposal of municipal waste at the Pfohl Brothers Landfill when it was operating, is performing the operation and maintenance (O&M) activities at the landfill, pursuant to a settlement agreement between the Town and the steering committee.

1.2 Operation and Maintenance Activities

While construction of the remedy was substantially complete by late 2002, the final O&M manual was not approved by the NYSDEC until March 10, 2006. However, the Town of Cheektowaga and its consultant (URS Corporation) assumed most of the operational responsibilities since 2002. This includes a variety of general maintenance activities as outlined in Section 2 and sampling and other monitoring activities outlined in Section 3.

Beginning in 2004, the Town and URS assumed all of the O&M activities described in the O&M plan. This report is the fourteenth semi-annual report as called for by Section 3.6 of the O&M plan.

2.0 GENERAL MAINTENANCE ACTIVITIES

Since completion of construction activities in 2002, personnel from the Town of Cheektowaga Engineering Department have performed general activities to ensure the physical operation of the landfill as intended by the design. The various O&M activities performed by the Town from July 2010 through December 2010 include the following actions.

- The amount of groundwater discharged through the collection system was recorded on a daily basis. The flow rate displayed by each wet well pump at the time of daily inspection and the total cumulative volume of flow was recorded for each wet well on daily inspection sheets. Examples of the daily inspection sheet are attached in Appendix A.

- Total cumulative effluent flow rates and volumes were summarized on a monthly basis starting in February 2003. The monthly totals for the period of July 2010 through December 2010, including graphs showing daily total discharge (gallons) as a function of calendar day, are presented in Appendix B.

- The wet well pumps were shutdown during wet weather flow conditions throughout the year to reduce hydraulic loading to the sewer. Such actions were only taken upon request of the Buffalo Sewer Authority during heavy storm events in order to reduce the hydraulic load on the BSA treatment system during such events. Shutdown events are recorded and included with the monthly flow data as previously requested by NYSDEC.

- Plowed snow to access the Control Building when necessary.

- Cleaned/replaced check valves as necessary at all wet wells.

- Niagara Grass mowed entire landfill cap and trimmed between September 17, 2010 and October 19, 2010.

- Repaired defective discharge piping for WW-4.

- Replaced surge suppressor equipment in the PLC panel for various wet wells as needed.

- Wildlife trapper engaged as needed to control ground burrowing animals. The wildlife trapper captured 11 woodchucks in area between WW-4 and WW-5.

- Applied topsoil and seed to areas where burrowing woodchucks had disturbed cover vegetation.

- Currently working on obtaining replacement parts for a defective Toshiba Magnetic Flow Meter at WW-4.

- Coordinated the renewal of the site Wastewater Discharge Permit with representatives of the Buffalo Sewer Authority.

3.0 MONITORING ACTIVITIES

The Town of Cheektowaga retained URS Corporation to perform monitoring activities as outlined in Section 3.1 of the O&M plan. During the period of January 2004 through the present, URS performed groundwater hydraulic monitoring (Section 3.1.1.2 of the O&M plan) and effluent monitoring (Section 3.1.4 of the O&M plan) on a quarterly basis. URS also performed the fourteenth semi-annual groundwater quality monitoring event (Section 3.1.1.3 of the O&M plan). A summary of the monitoring activities is presented in the following subsections. Hydraulic and groundwater sampling locations are shown on Figure 3-1.

3.1 Groundwater Hydraulic Monitoring

Groundwater and surface water elevations were monitored on a quarterly basis at all locations listed in Table 3.1 of the O&M Plan. The hydraulic monitoring data tables showing groundwater elevations are presented in Appendix C. Table 1 of this appendix lists the measured elevations. Table 2 provides a comparison of the measured levels in the wells and corresponding manholes/wet wells.

The data presented in Appendix C indicate that groundwater levels outside the collection system were higher than the levels measured in the corresponding wet well or manhole for each measurement date with one exception. The pairing of WW-6 and GW-34S exhibited an outward gradient during the September 8, 2010 monitoring event. However, the groundwater elevation recorded at GW-34S was unusually low during this measurement. It was in fact the lowest it has been since 2002 and thus is not considered to be a typical measure of the system's operation. Therefore, these data demonstrate that the collection system is operating as designed.

3.2 Groundwater Quality Monitoring

The fourteenth semi-annual round of groundwater sampling was conducted between November 1, 2010 and November 3, 2010. All wells listed in Table 3.2 of the O&M plan were purged and sampled using dedicated/disposable equipment. Figure 3-1 shows the well locations.

Low flow sampling techniques were used on most wells. Three wells, GW-4S, GW-7S, and GW-7D, were purged dry before a sample could be collected. These wells were sampled after their water levels recovered. Purge logs and sampling summary sheets are provided in Appendix D. Measurements of pH, specific conductivity, temperature, dissolved oxygen, oxidation reduction potential, and turbidity taken during purging are provided in Appendix D. The samples were packed with ice in coolers and transported under chain-of-custody (CoC) control to Test America Laboratories of Amherst, New York.

Groundwater samples were analyzed for the parameters listed in Table 3.2 of the O&M plan as revised in accordance with Table 3-6 in the Semi Annual Report dated September 2007 (January through June 2007) and as approved by the December 6, 2006 and November 29, 2007 correspondence from the NYSDEC authorizing a reduction in the parameters list (this table is included in this report as Table 3-2). Table 3-1 of this report presents the groundwater sample results compared with NYSDEC Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations Class GA water quality standards.

Results

No VOCs or SVOCs were detected at concentrations above the Class GA water quality standards at any location.

Among the metals, iron, magnesium, manganese, and sodium routinely exceed Class GA standards in most site wells. Cadmium was detected at a concentration of 0.0051 mg/L slightly exceeding its groundwater standard (0.005mg/L) in well GW-01D. Chromium and lead were each detected at concentrations exceeding their respective groundwater standard in upgradient well GW-07D. Nickel was detected at a concentration exceeding its groundwater standard in well GW-03S.

Comparison to Historical Results

No significant changes in metals concentrations were observed when compared to previous sampling event analytical results. The concentration of iron, magnesium, manganese,

and sodium in most site wells was similar to the concentrations found during previous sampling events.

The concentration of cadmium at the upgradient well GW-01D was the highest it's been since URS first sampled it in 2004; it was detected only three other times. The concentrations of chromium and lead at GW-07D, and nickel at GW-03S were within the historical range of concentrations observed for these compounds at these wells.

Sodium concentrations were generally higher in bedrock wells (GW-1D, GW-3D, GW-8D and GW-26D) and shallow wells adjacent to roads (GW-1S and GW-30S). The sodium concentration was also elevated in GW-08SR. The higher sodium concentrations in the bedrock wells may be attributed to the local bedrock composition and the elevated concentration in the shallow wells may be the result of seasonal road de-icing activities.

Trend Analysis

Appendix E, Figures E-1 through E-19 presents a trend analysis of groundwater parameters that routinely exceed Class GA groundwater standards. A review of the trend analysis indicated that no significant changes or trends in concentrations of any of the parameters exceeding groundwater standards have occurred over the fourteen semi-annual sampling events except as described below. Figure E-2 for GW-01S, indicates a consistent drop in sodium concentration over the fourteen sampling events. Figure E-4 for GW-03S indicates an upward trend for nickel since monitoring began (although concentrations were significantly lower during the last two events). Figure E-5 for GW-04D, indicates a slight increasing trend for magnesium. Figure E-9 for GW-08D shows a decreasing trend for both iron and manganese since monitoring began. Figure E-10 for GW-08SR shows an upward trend in sodium concentration over recent events. Figure E-12 for GW-28S, indicates decreasing trend for sodium since monitoring began. Figure E-13 for GW-29S, indicates a slight increasing trend in iron concentration from 2005 through 2008 with a decreasing trend since then. Also at GW-29S, arsenic has been detected at concentrations exceeding its groundwater standard for 5 of the last 7 sampling events.

Laboratory Report

The groundwater analytical data package was prepared by Test America in accordance with NYSDEC Category A deliverable requirements. It was reviewed for compliance with analytical method requirements and the following guidelines: USEPA *Contract Laboratory Program (CLP) National Functional Guidelines for Organic Data Review*, EPA-540-R-99-008, October 1999; USEPA *CLP National Functional Guidelines for Inorganic Data Review*, EPA-540-R-01-008, July 2002; and USEPA *Region II Data Validation SOP for SW-846 Method 8290, PCDDs and PCDFs by High Resolution Gas Chromatography/High-Resolution Mass Spectrometry (HRGC/HRMS)*, SOP No. HW-19, Revision 1, October 1994. Qualifications applied to the data include "J/UJ" (estimated concentration/estimated quantitation limit), "J+" (estimated concentration with possible high bias), "J-" (estimated concentration with possible low bias), and "U" (not detected).

A Data Applicability Report (DAR) was prepared following the guidelines provided in NYSDEC Division of Environmental Remediation (DER-10) *Technical Guidance for Site Investigation and Remediation, Appendix 2B,* dated May 2010. The DAR dated December 2010 is submitted separately from this report.

3.3 Groundwater Discharge Monitoring

URS completed two quarterly sampling events (September 2010 and December 2010) of the groundwater collection system discharge since the previous semi-annual report. The sampling was performed in accordance with the requirements of Discharge Permit No. 10-11-CH016 between the Buffalo Sewer Authority and the Town of Cheektowaga. A copy of Permit No. 10-11-CH016 is included as Appendix F.

During the sampling events in September 2010 and December 2010, each regulated parameter was below the limits set by the permit. Copies of the data summary tables that were included with the monitoring reports are included as Appendix G.

3.4 Monitoring Well Inspections

During the November 2010 groundwater sampling event, a well inspection was performed. All wells appeared to be in good condition with the exception of previously existing damage to the risers on GW-07D, GW-01S, and GW-01D. The monitoring well inspection logs may be found in Appendix H.

4.0 SUMMARY AND RECOMMENDATIONS

General Maintenance: The Town will continue to maintain mechanical equipment at the landfill on an as-needed basis and operate the groundwater collection and discharge system as designed. The Town will also continue regular inspections, mow the cap once per year, and plow access to the control building during winter months as necessary.

Groundwater Hydraulic Monitoring: Hydraulic monitoring has been performed on a quarterly basis in conjunction with the discharge monitoring. Water level measurement data demonstrates that the hydraulic gradient is from outside the landfill towards the collection trench. Continued quarterly monitoring is recommended.

Groundwater Quality Monitoring: Groundwater sample results indicate that only low levels of organic compounds and metals are present. Similar concentrations of most parameters were found during previous sampling events. The fifteenth round of groundwater sampling will be conducted in May 2011. Low flow sampling techniques will continue to be used on wells that historically have been purged to dryness. A review of the purge logs (Appendix D) has indicated that four wells (GW-4S, GW-7S, GW-7D, and GW-31S) can still be purged to dryness even using low flow sampling techniques.

Groundwater Discharge Monitoring: Groundwater discharges remain within permit limits. Continued quarterly monitoring is recommended.

Surface Water and Sediment Sampling: URS asked that the NYSDEC consider the discontinuation of surface water and sediment sampling at the site in the January to June 2008 Semiannual Report. No future surface water or sediment sampling is planned.

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TABLES

TABLE 3-1
GROUNDWATER SAMPLE ANALYTICAL RESULTS
PFOHL BROTHERS LANDFILL SITE
NOVEMBER 2010

Location ID			GW-01D	GW-01S	GW-03D	GW-03S	GW-04D
Sample ID			GW-1D	GW-1S	GW-3D	GW-3S	GW-4D
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			11/03/10	11/03/10	11/01/10	11/01/10	11/02/10
Parameter	**Units**	*					
Volatile Organic Compounds							
1,2-Dichloroethene (total)	UG/L	5			0.95 J		
Acetone	UG/L	50					
Semivolatile Organic Compounds							
1,4-Dichlorobenzene	UG/L	3			1.6 J		
bis(2-Ethylhexyl)phthalate	UG/L	5					
Arsenic	MG/L	0.025		0.0068 J			
Barium	MG/L	1	0.0782	0.207	0.0824	0.192	0.0561
Cadmium	MG/L	0.005	0.0051	0.0017	0.0003 J	0.0007 J	
Chromium	MG/L	0.05	0.0122	0.0064		0.0304	0.0016 J
Copper	MG/L	0.2	0.0020 J	0.0038 J			
Iron	MG/L	0.3	0.833	16.4	2.11	1.09	0.038 J
Lead	MG/L	0.025	0.0030 J	0.0044 J			
Magnesium	MG/L	35	33.7	12.3	17.2	80.9	63.2
Manganese	MG/L	0.3	0.0194	0.820	0.771	0.275	0.0193
Mercury	MG/L	7.00E-04					
Nickel	MG/L	0.1	0.0034 J	0.0034 J	0.0041 J	0.109	
Sodium	MG/L	20	84.8 J-	134 J-	169 J-	33.5 J-	65.9 J-
Zinc	MG/L	2	0.0159	0.0056 J	0.0348	0.0181	0.123

*- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. June 1998 (includes 4/2000 Addendum). Class GA. * - PCB Criteria based on sum of the aroclors.

Flags assigned during chemistry validation are shown.

Concentration Exceeds

J - The analyte was positively identified, the quantitation is an estimation.

J- - The analyte was positively identified, the quantitation is an estimation with possible low bias.

Only Detected Results Reported.

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TABLE 3-1
GROUNDWATER SAMPLE ANALYTICAL RESULTS
PFOHL BROTHERS LANDFILL SITE
NOVEMBER 2010

Location ID			GW-04S	GW-07D	GW-07S	GW-08D	GW-08D
Sample ID			GW-4S	GW-7D	GW-7S	DUPLICATE	GW-8D
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			11/02/10	11/02/10	11/02/10	11/01/10	11/01/10
Parameter	**Units**	*				Field Duplicate (1-1)	
Volatile Organic Compounds							
1,2-Dichloroethene (total)	UG/L	5					
Acetone	UG/L	50		7.3			
Semivolatile Organic Compounds							
1,4-Dichlorobenzene	UG/L	3					
bis(2-Ethylhexyl)phthalate	UG/L	5		2.1 J			
Arsenic	MG/L	0.025					
Barium	MG/L	1	0.105	0.0611	0.208	0.0866	0.0864
Cadmium	MG/L	0.005		0.0012	0.0004 J	0.0003 J	0.0003 J
Chromium	MG/L	0.05	0.0018 J	0.110	0.0083	0.0013 J	0.0021 J
Copper	MG/L	0.2		0.0152	0.0023 J	0.0018 J	
Iron	MG/L	0.3	0.357	5.06	0.292	1.53	1.52
Lead	MG/L	0.025		0.114			
Magnesium	MG/L	35	23.2	28.6	30.9	17.2	16.9
Manganese	MG/L	0.3	0.214	0.104	0.0685	0.266	0.272
Mercury	MG/L	7.00E-04				0.0001 J	0.0002
Nickel	MG/L	0.1	0.0046 J	0.0544	0.0698	0.0052 J	0.0056 J
Sodium	MG/L	20	27.2 J-	84.5 J-	56.3 J-	155 J-	153 J-
Zinc	MG/L	2	0.0030 J	0.0316	0.0043 J	0.0207	0.0227

*- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. June 1998 (includes 4/2000 Addendum). Class GA. * - PCB Criteria based on sum of the aroclors.

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TABLE 3-1
GROUNDWATER SAMPLE ANALYTICAL RESULTS
PFOHL BROTHERS LANDFILL SITE
NOVEMBER 2010

Location ID			GW-08SR	GW-26D	GW-28S	GW-29S	GW-30S
Sample ID			GW-8S(R)	GW-26D	GW-28S	GW-29S	GW-30S
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			11/01/10	11/02/10	11/02/10	11/03/10	11/03/10
Parameter	**Units**	*					
Volatile Organic Compounds							
1,2-Dichloroethene (total)	UG/L	5		1.4 J			
Acetone	UG/L	50	3.2 J				
Semivolatile Organic Compounds							
1,4-Dichlorobenzene	UG/L	3					
bis(2-Ethylhexyl)phthalate	UG/L	5					
Arsenic	MG/L	0.025	0.0147	0.0069 J		0.0175	
Barium	MG/L	1	0.521	0.189	0.0830	0.255	0.328
Cadmium	MG/L	0.005	0.0005 J		0.0003 J		0.0005 J
Chromium	MG/L	0.05	0.0015 J	0.0016 J	0.0015 J	0.0013 J	
Copper	MG/L	0.2	0.0017 J	0.0018 J			
Iron	MG/L	0.3	22.9	8.21	0.247	10.4	13.1
Lead	MG/L	0.025	0.0031 J				
Magnesium	MG/L	35	47.8	24.3	33.7	75.7	37.9
Manganese	MG/L	0.3	0.996	1.10	0.949	0.407	1.71
Mercury	MG/L	7.00E-04					
Nickel	MG/L	0.1	0.0033 J	0.0034 J	0.0027 J		
Sodium	MG/L	20	299 J-	354 J-	23.8 J-	14.7 J-	634 J-
Zinc	MG/L	2	0.0025 J		0.0043 J	0.789	0.0182

*- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. June 1998 (includes 4/2000 Addendum). Class GA. * - PCB Criteria based on sum of the aroclors.

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TABLE 3-1
GROUNDWATER SAMPLE ANALYTICAL RESULTS
PFOHL BROTHERS LANDFILL SITE
NOVEMBER 2010

Location ID			GW-31S	GW-32S	GW-33S	GW-34S	GW-35S
Sample ID			GW-31S	GW-32S	GW-33S	GW-34S	GW-35S
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			11/03/10	11/03/10	11/02/10	11/02/10	11/02/10
Parameter	**Units**	*					
Volatile Organic Compounds							
1,2-Dichloroethene (total)	UG/L	5					
Acetone	UG/L	50					
Semivolatile Organic Compounds							
1,4-Dichlorobenzene	UG/L	3					
bis(2-Ethylhexyl)phthalate	UG/L	5					
Arsenic	MG/L	0.025					
Barium	MG/L	1	0.0589	0.0514	0.0340	0.0987	0.0748
Cadmium	MG/L	0.005		0.0004 J		0.0003 J	0.0003 J
Chromium	MG/L	0.05	0.0024 J	0.0022 J	0.0064	0.0038 J	0.0018 J
Copper	MG/L	0.2			0.0019 J	0.0023 J	
Iron	MG/L	0.3	0.371	0.023 J	0.165	0.070	0.103
Lead	MG/L	0.025					
Magnesium	MG/L	35	31.7	35.5	61.4	48.6	36.2
Manganese	MG/L	0.3	0.642	0.248	0.0286	0.0052	0.230
Mercury	MG/L	7.00E-04					
Nickel	MG/L	0.1	0.0055 J	0.0013 J	0.0023 J	0.0061 J	0.0013 J
Sodium	MG/L	20	9.0 J-	6.8 J-	7.9 J-	38.5 J-	6.0 J-
Zinc	MG/L	2	0.0046 J	0.0019 J	0.0040 J	0.0020 J	0.0047 J

*- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. June 1998 (includes 4/2000 Addendum). Class GA. * - PCB Criteria based on sum of the aroclors.

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Only Detected Results Reported.

TABLE 3-2

APPROVED REVISION OF TABLE 3.2 FROM THE O&M PLAN

GROUNDWATER SAMPLING SUMMARY
OPERATION AND MAINTENANCE PLAN
PFOHL BROTHERS LANDFILL SITE, CHEEKTOWAGA, NEW YORK

LOCATIONS

GW-1D/1S
GW- 3D/3S
GW- 4D/4S
GW- 7D/7S
GW- 8D/8S(R)
GW- 26D/35S
GW- 28S
GW- 29S
GW- 30S
GW- 31S
GW- 32S
GW- 33S
GW- 34S

FREQUENCY

semi-annually for overburden and bedrock groundwater

PARAMETERS

Field	pH conductivity temperature turbidity
VOCs	Acetone Benzene 1,2-Dichloroethene (total) 1,1,2-Trichloroethane Vinyl chloride
SVOCs	Phenol 1,3-Dichlorobenzene 1,4-Dichlorobenzene bis(2-Ethylhexyl)phthalate

TABLE 3-2 (continued)

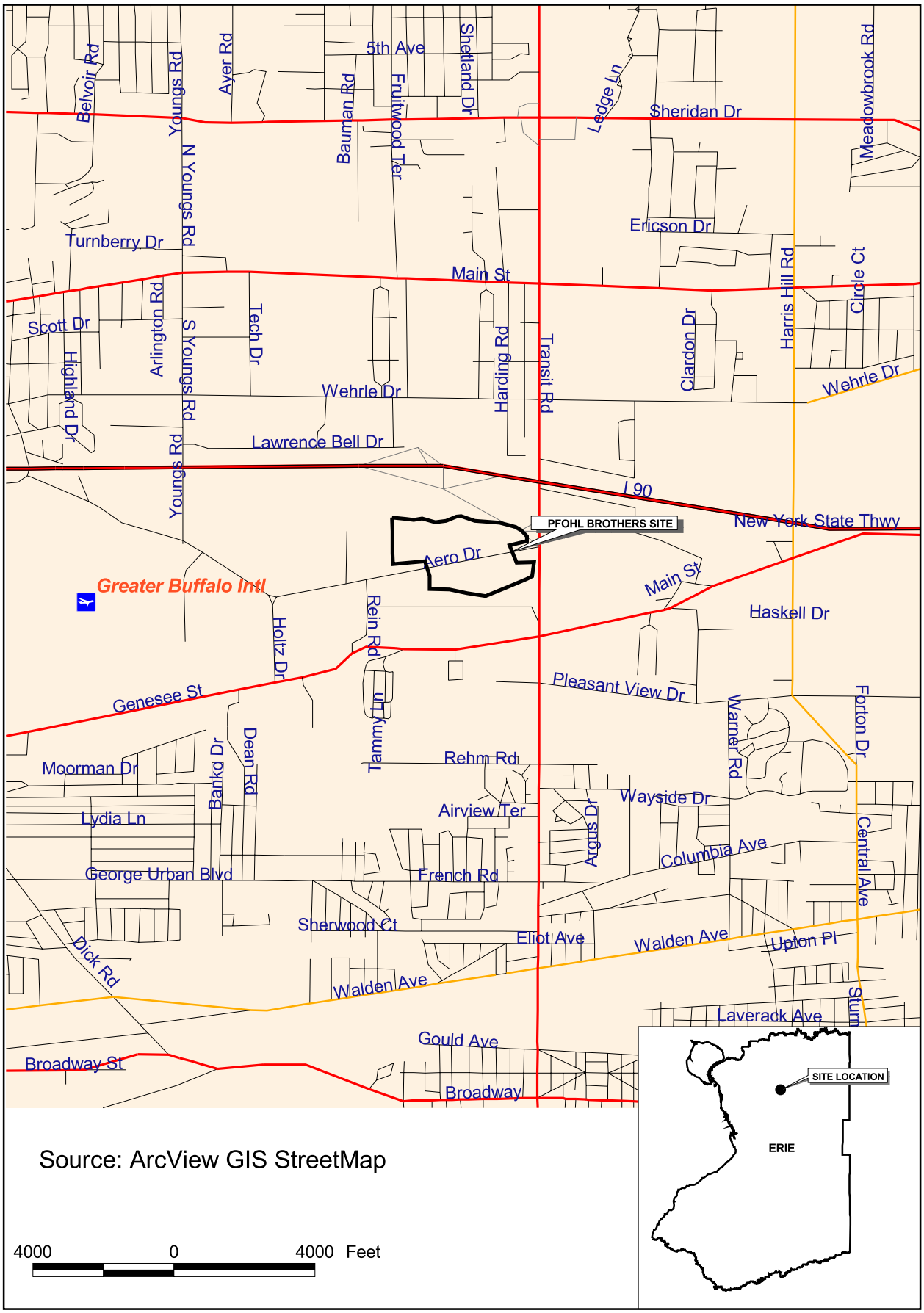
APPROVED REVISION OF TABLE 3.2 FROM THE O&M PLAN

GROUNDWATER SAMPLING SUMMARY
OPERATION AND MAINTENANCE PLAN
PFOHL BROTHERS LANDFILL SITE, CHEEKTOWAGA, NEW YORK

PARAMETERS (cont'd)

Metals	Antimony
	Arsenic
	Barium
	Cadmium
	Chromium
	Copper
	Iron
	Lead
	Magnesium
	Manganese
	Mercury
	Nickel
	Silver
	Sodium
	Zinc

FIGURES



URS	PFOHL BROTHERS LANDFILL SITE LOCATION MAP	FIGURE 1-1

n:\111172700.00000\gis\arcview\pfohl_sitelocation.apr Pfohl Bros Location Map
12/15/2005

Legend

- Monitoring Well Location
- Staff Gauge Location
- Manhole Location
- Wet Well Location

400 0 400 Feet

PFOHL BROTHERS LANDFILL
MONITORING LOCATIONS

URS

FIGURE 3-1

N:\11172700.00000\GIS\ArcView\pfhol.apr WELL LOCATIONS
12/15/2005

APPENDIX A

EXAMPLE DAILY INSPECTION SHEETS

Pfohl Brothers Landfill Site

Daily Logsheet — **Town of Cheektowaga**

Date: 7-1-10 — Weather conditions: NICE 70°

Time: 12:50 — Read by: BILL PUGH

	Level of Water from bottom (ft.)	Flow gallons / minute	Flow Totals gallons	Pump Run Time Hrs.
WW-3	5.7	0	65	1343
WW-2	4.7	0	45,595	117
WW-1	4.0	0	1,925,858	508
WW-6	6.0	0	5,224,657	4194
WW-4	99	0	785,133	4031
WW-5	7.8	0	5,865,665	4789

Flow Totalizer at Meter chamber: 13,862,636

Heat Trace

Outside temp T = 71

Current A = 0

Set point SP = 40

Surge Suppressor events: 414,386

Motor Control Center

Volts 480 volts

Amps 2 amps

Which WW was running?

1☐ 2☐ 3☐ 4☐ 5☐ 6☐

Filter **Checked** ☐ **Changed** ☐

Comments and/or Current Conditions

RESET FLOW ALARM WW3

RESET LEVEL ALARM WW4 - WOULD NOT RESET

Pfohl Brothers Landfill Site

Daily Logsheet — **Town of Cheektowaga**

Date: 8/10/10 — Weather conditions: SUNNY WARM 85°

Time: 1:05 — Read by: BILL PUGH

	Level of Water from bottom (ft.)	Flow gallons / minute	Flow Totals gallons	Pump Run Time Hrs.
WW-3	5.6	0	72	1343
WW-2	4.7	0	45,599	117
WW-1	4.3	0	2,267,860	673
WW-6	6.9	0	5,224,667	4194
WW-4	7.3	0	879,880	4047
WW-5	7.8	52.8	6,337,995	5012

Flow Totalizer at Meter chamber: 14,773539

Heat Trace

Outside temp T = 85

Current A = 0

Set point SP = 40

Surge Suppressor events: 414,397

Motor Control Center

Volts 475 volts

Amps 5 amps

Which WW was running?

1☐ 2☐ 3☐ 4☐ 5☐ 6☐

Filter **Checked** ☐ **Changed** ☐

Comments and/or Current Conditions

RESET ALARMS (OK)

Removed log sheets from first 6 mo. of 2010 to ENG. OFFICE

Pfohl Brothers Landfill Site

Daily Logsheet — Town of Cheektowaga

Date: 9-17-10 — Weather conditions: SUNNY 68°

Time: 1:40 PM — Read by: BILL P.

	Level of Water from bottom (ft.)	Flow gallons / minute	Flow Totals gallons	Pump Run Time Hrs.
WW-3	5.5	0	72	1343
WW-2	4.7	0	45,595	117
WW-1	3.9	0	2,478,443	758
WW-6	6.3	0	5,343,184	4227
WW-4	7.0	-1.6	843,180	4085
WW-5	7.6	0	6,828,091	5224

Flow Totalizer at Meter chamber: 15,628,178 gal

Heat Trace

Outside temp T = 68

Current A = 0

Set point SP = 40

Large Suppressor events: 414,405

Motor Control Center

Volts 480 volts

Amps 2 amps

Which WW was running?

1☐ 2☐ 3☐ 4☐ 5☐ 6☐ NONE

Filter **Checked** ☐ **Changed** ☐

Comments and/or Current Conditions

WW 4 - NEG. FLOW ALARM WOULD NOT RESET.
RAN PUMP ON MANUAL - WOULD NOT CLEAR ALARM

MOWING CONTRACTOR ON SITE - N. SIDE

APPENDIX B

MONTHLY FLOW SUMMARIES
JULY 2010 – DECEMBER 2010

THE TOWN OF
CHEEKTOWAGA

JON W. NICHY
Superintendent

Main Pump Station
171 Central Boulevard
Cheektowaga, NY 14225
Phone: 716-896-1777
Fax: 716-896-6437

August 11, 2010

Mr. William R. Pugh, P.E.
Town Engineer
Town of Cheektowaga

Re: Pfohl Bros. Flow Data

Dear Mr. Pugh,

Enclosed for your review, please find a copy of the **July 2010** Direct Discharge Flow Data Report, prepared by Jon W. Nichy.

A monthly log sheet indicating inhibiting and enabling of pumping operation at the site is included with this package.

Should you have any other questions or comments regarding this submittal, please contact this office @ 896-1777.

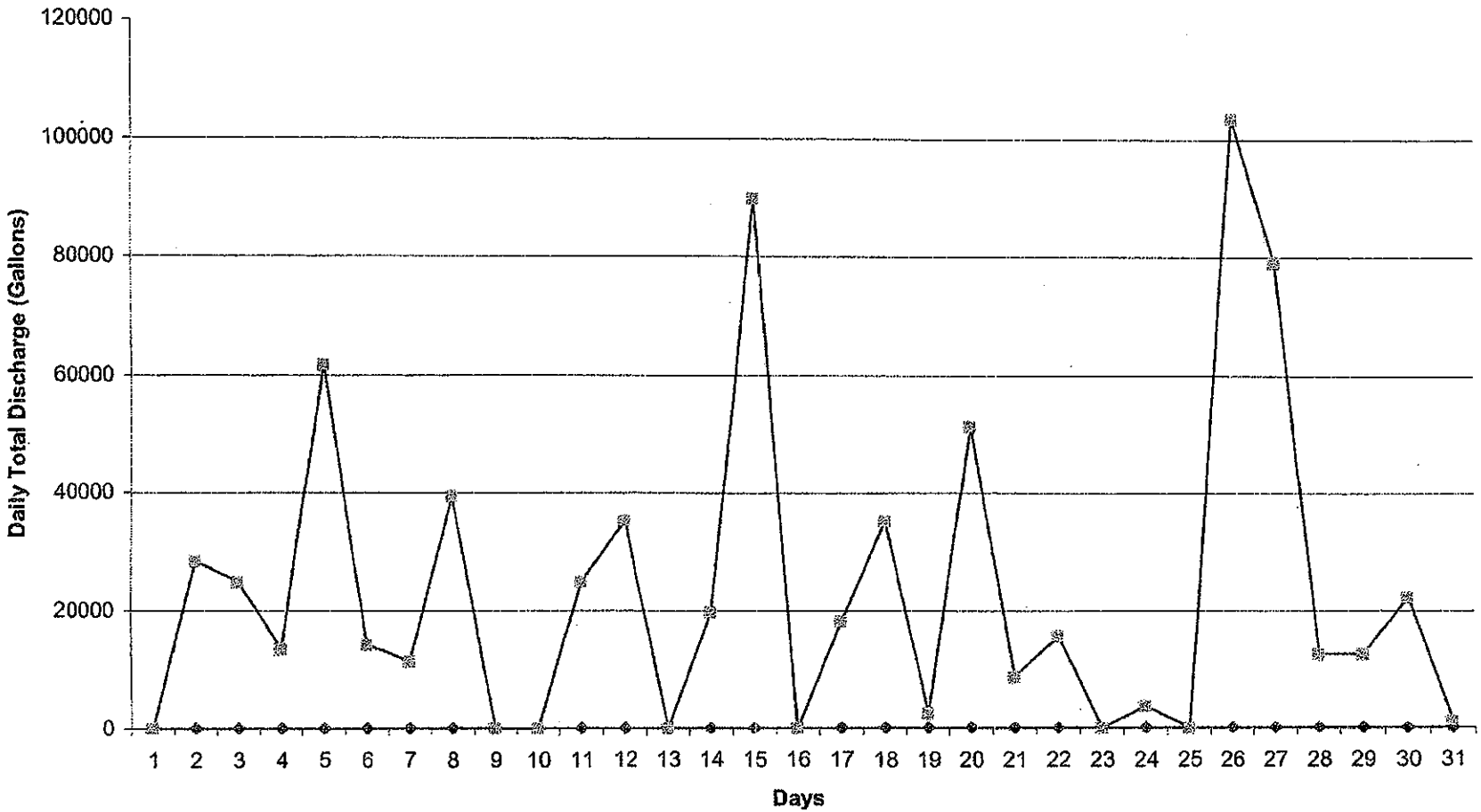
Yours truly,
Town of Cheektowaga

Jon W. Nichy
Superintendent
Main Pump Station

Direct Discharge Flow Data

6/30/2010		13862636	57,299	13,516,323	
July-10	**Time; 11:58pm unless otherwise stated**	**Totalizer Reading (Gallons)**	**Daily Total Discharge (Gallons)**		**Notes**
1		13862636	0	13,516,323	
2		13891167	28,531	13,544,854	
3		13916083	24,916	13,569,770	
4		13929619	13,536	13,583,306	
5		13991438	61,819	13,645,125	
6		14005639	14,201	13,659,326	
7		14017030	11,391	13,670,717	
8		14056373	39,343	13,710,060	
9		14056373	0	13,710,060	
10		14056373	0	13,710,060	
11		14081366	24,993	13,735,053	
12		14116575	35,209	13,770,262	
13		14116575	0	13,770,262	
14		14136303	19,728	13,789,990	
15		14226139	89,836	13,879,826	
16		14226139	0	13,879,826	
17		14244380	18,241	13,898,067	
18		14279577	35,197	13,933,264	
19		14282083	2,506	13,935,770	
20		14333418	51,335	13,987,105	
21		14342157	8,739	13,995,844	
22		14357802	15,645	14,011,489	
23		14357802	0	14,011,489	
24		14361557	3,755	14,015,244	
25		14361557	0	14,015,244	
26		14465030	103,473	14,118,717	
27		14544138	79,108	14,197,825	
28		14556684	12,546	14,210,371	
29		14569221	12,537	14,222,908	
30		14591594	22,373	14,245,281	
31		14592710	1,116	14,246,397	
		730,074	**730,074**	**730,074**	

Pfohl Bros.
July
2010



PFOHL BROTHERS LANDFILL SITE
CHEEKTOWAGA, NEW YORK

Auto Dialer System Log

DATE	PUMP Inhibit -08 (Off)	TIME Enable -07 (On)	COMMENTS
7/9/10	250pm		
7/11/10		1210pm	
7/15/10	1100pm		
7/17/10		1114pm	
7/19/10	1252pm	1142pm	
7/21/10	844am	449pm	
7/23/10	1151am		
7/25/10		1148pm	

THE TOWN OF
CHEEKTOWAGA

JON W. NICHY
Superintendent

Main Pump Station
171 Central Boulevard
Cheektowaga, NY 14225
Phone: 716-896-1777
Fax: 716-896-6437

September 1, 2010

Mr. William R. Pugh, P.E.
Town Engineer
Town of Cheektowaga

Re: Pfohl Bros. Flow Data

Dear Mr. Pugh,

Enclosed for your review, please find a copy of the **August 2010** Direct Discharge Flow Data Report, prepared by Jon W. Nichy.

The Discharge Flow Report now indicates inhibiting and enabling of pumping operation in the last column of report.

Should you have any other questions or comments regarding this submittal, please contact this office @ 896-1777.

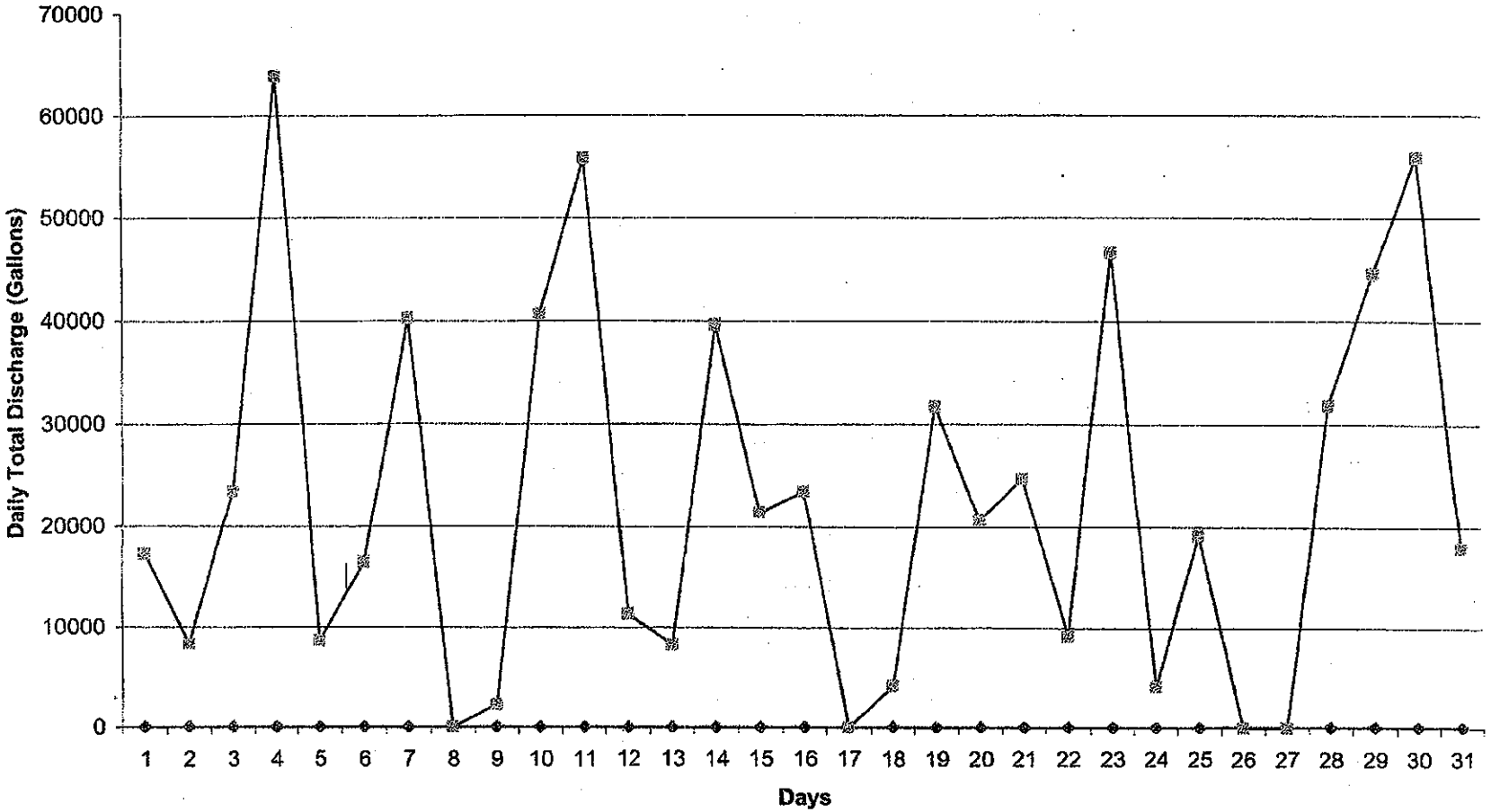
Yours truly,
Town of Cheektowaga

Jon W. Nichy
Superintendent
Main Pump Station

Direct Discharge Flow Data

7/31/2010		14592710	1,116	14,246,397	
August-10	**Time; 11:58pm unless otherwise stated**	**Totalizer Reading (Gallons)**	**Daily Total Discharge (Gallons)**		**Pumping Inhibit and or Enable Log**
1		14609983	17,273	14,263,670	
2		14618348	8,365	14,272,035	
3		14641789	23,441	14,295,476	
4		14705592	63,803	14,359,279	
5		14714245	8,653	14,367,932	
6		14730726	16,481	14,384,413	
7		14771040	40,314	14,424,727	
8		14771040	0	14,424,727	
9		14773301	2,261	14,426,988	Inhibit @ 11:22pm
10		14813887	40,586	14,467,574	Enable @ 1:03pm
11		14869653	55,766	14,523,340	
12		14881031	11,378	14,534,718	
13		14889349	8,318	14,543,036	
14		14928926	39,577	14,582,613	
15		14950263	21,337	14,603,950	
16		14973673	23,410	14,627,360	Inhibit @ 3:19am
17		14973673	0	14,627,360	Enable @ 8:14am
18		14977868	4,195	14,631,555	
19		15009526	31,658	14,663,213	
20		15030212	20,686	14,683,899	
21		15054942	24,730	14,708,629	Inhibit @ 10:53pm
22		15064135	9,193	14,717,822	Enable @ 7:55pm
23		15110747	46,612	14,764,434	
24		15114889	4,142	14,768,576	
25		15134027	19,138	14,787,714	Inhibit @ 11:27pm
26		15134027	0	14,787,714	Enable @ 11:25pm
27		15134027	0	14,787,714	
28		15165884	31,857	14,819,571	
29		15210507	44,623	14,864,194	
30		15266399	55,892	14,920,086	
31		15284302	17,903	14,937,989	
		691,592	**691,592**	**691,592**	

Pfohl Bros.
August
2010



THE TOWN OF
CHEEKTOWAGA

Main Pump Station
171 Central Boulevard
Cheektowaga, NY 14225
Phone: 716-896-1777
Fax: 716-896-6437

JON W. NICHY
Superintendent

October 5, 2010

Mr. William R. Pugh, P.E.
Town Engineer
Town of Cheektowaga

Re: Pfohl Bros. Flow Data

Dear Mr. Pugh,

Enclosed for your review, please find a copy of the **September 2010** Direct Discharge Flow Data Report, prepared by Jon W. Nichy.

The Discharge Flow Report now indicates inhibiting and enabling of pumping operation in the last column of report.

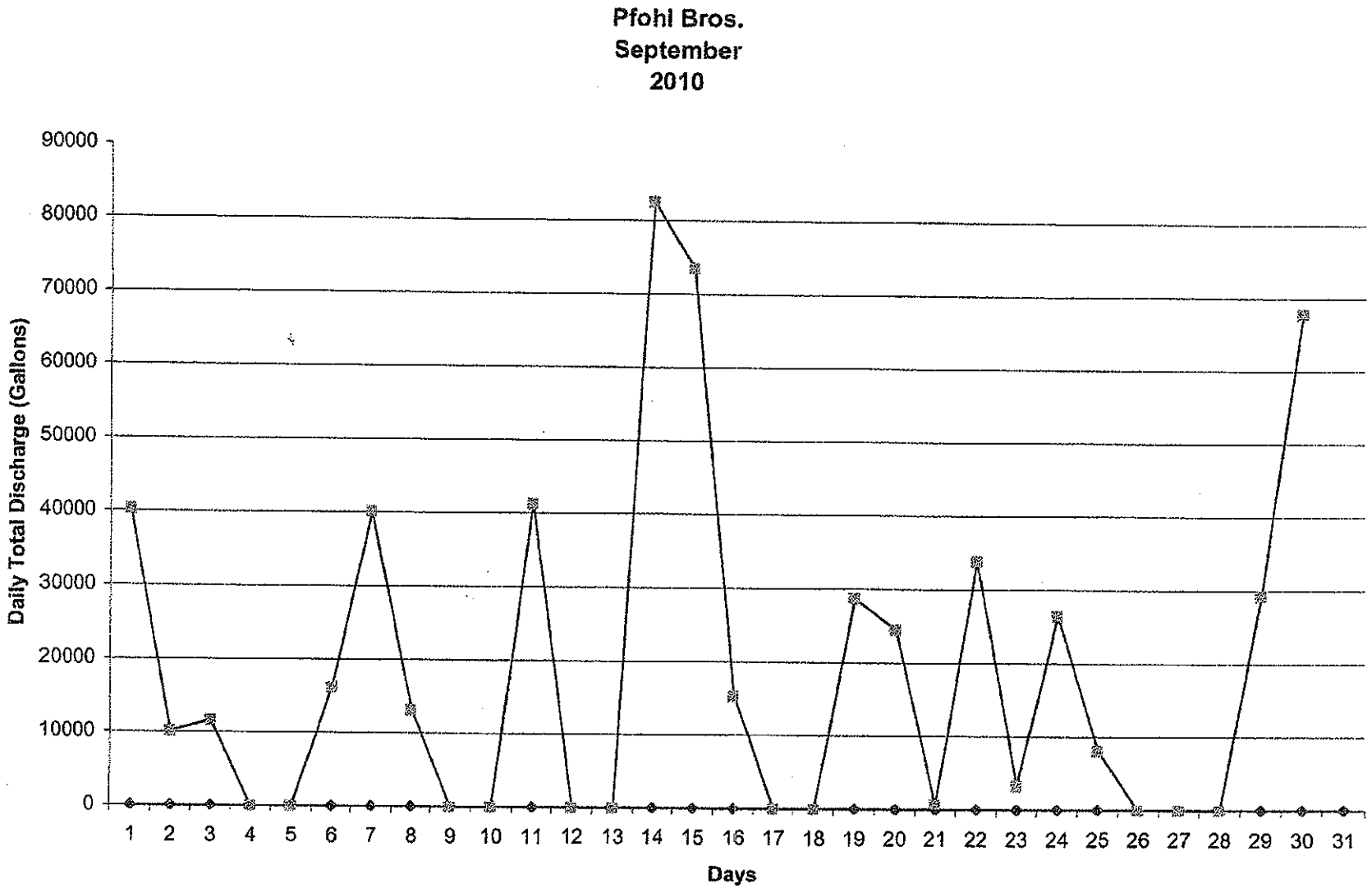
Should you have any other questions or comments regarding this submittal, please contact this office @ 896-1777.

Yours truly,
Town of Cheektowaga

Jon W. Nichy
Superintendent
Main Pump Station

Direct Discharge Flow Data

8/31/2010		15284302	17,903	14,937,989	
September-10	**Time; 11:58pm unless otherwise stated**	**Totalizer Reading (Gallons)**	**Daily Total Discharge (Gallons)**		**Pumping Inhibit and or Enable Log**
1		15324580	40,278	14,978,267	
2		15334688	10,108	14,988,375	
3		15346329	11,641	15,000,016	
4		15346329	0	15,000,016	
5		15346329	0	15,000,016	
6		15362532	16,203	15,016,219	
7		15402571	40,039	15,056,258	Inhibit 8:31pm
8		15415703	13,132	15,069,390	Enable 10:47am
9		15415703	0	15,069,390	
10		15415703	0	15,069,390	
11		15456894	41,191	15,110,581	
12		15456894	0	15,110,581	
13		15456894	0	15,110,581	
14		15539322	82,428	15,193,009	
15		15612832	73,510	15,266,519	
16		15628172	15,340	15,281,859	Inhibit 12:12pm
17		15628178	6	15,281,865	Enable 6:46am
18		15628178	0	15,281,865	
19		15656907	28,729	15,310,594	
20		15681415	24,508	15,335,102	
21		15682063	648	15,335,750	
22		15715942	33,879	15,369,629	Inhibit 8:31am/Enable 11:08am
23		15719307	3,365	15,372,994	
24		15745729	26,422	15,399,416	
25		15753788	8,059	15,407,475	
26		15753788	0	15,407,475	
27		15753788	0	15,407,475	Inhibit 10:31pm
28		15753788	0	15,407,475	
29		15783024	29,236	15,436,711	Enable 10:44am
30		15850737	67,713	15,504,424	Inhibit 1:52pm
31					
		566,435	**566,435**	**566,435**	


Pfohl Bros.
September
2010
Daily Total Discharge (Gallons)
90000
80000
70000
60000
50000
40000
30000
20000
10000
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
Days

THE TOWN OF
CHEEKTOWAGA

JON W. NICHY
Superintendent

Main Pump Station
171 Central Boulevard
Cheektowaga, NY 14225
Phone: 716-896-1777
Fax: 716-896-6437

November 11, 2010

Mr. William R. Pugh, P.E.
Town Engineer
Town of Cheektowaga

Re: Pfohl Bros. Flow Data

Dear Mr. Pugh,

Enclosed for your review, please find a copy of the **October 20109** Direct Discharge Flow Data Report, prepared by Jon W. Nichy.

Should you have any other questions or comments regarding this submittal, please contact this office @ 896-1777.

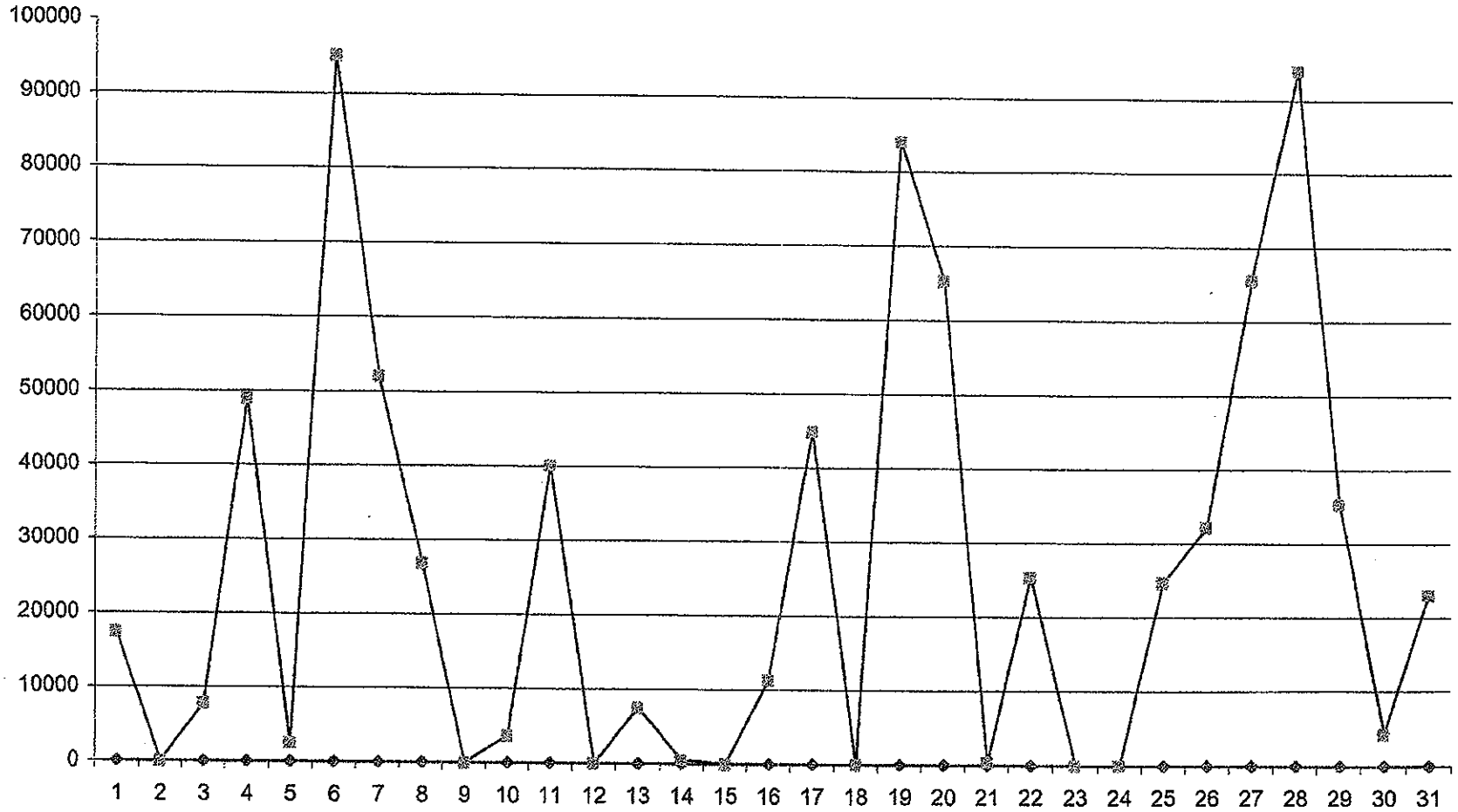
Yours truly,

Jon W. Nichy
Superintendent
Main Pump Station

Direct Discharge Flow Data

9/30/2010		15850737	67,713	15,504,424	
October-10	Time; 11:58pm unless otherwise stated	Totalizer Reading (Gallons)	Daily Total Discharge (Gallons)	Total Direct Discharge (Gallons)	Notes
1		15868101	17,364	15,521,788	
2		15868101	0	15,521,788	
3		15875917	7,816	15,529,604	
4		15924865	48,948	15,578,552	
5		15927425	2,560	15,581,112	Inhibit 4:06 pm
6		16022536	95,111	15,676,223	Enable 1200am
7		16074554	52,018	15,728,241	
8		16101394	26,840	15,755,081	
9		16101394	0	15,755,081	
10		16105075	3,681	15,758,762	
11		16145152	40,077	15,798,839	Inhibit 6:29pm
12		16145152	0	15,798,839	Enable 3:23pm
13		16152690	7,538	15,806,377	Inhibit 12:40pm Enable 1:08pm
14		16153209	519	15,806,896	
15		16153209	0	15,806,896	
16		16164478	11,269	15,818,165	
17		16209307	44,829	15,862,994	
18		16209307	0	15,862,994	
19		16293394	84,087	15,947,081	
20		16358674	65,280	16,012,361	
21		16359127	453	16,012,814	Inhibit 2:48am Enable 11:34pm
22		16384463	25,336	16,038,150	
23		16384463	0	16,038,150	
24		16384463	0	16,038,150	
25		16409174	24,711	16,062,861	
26		16441353	32,179	16,095,040	Inhibit 7:46pm
27		16506906	65,553	16,160,593	Enable 8:08am
28		16600856	93,950	16,254,543	
29		16636226	35,370	16,289,913	
30		16640513	4,287	16,294,200	
31		16663513	23,000	16,317,200	
		812,776	**812,776**	**812,776**	

October
2010



THE TOWN OF
CHEEKTOWAGA

Main Pump Station
171 Central Boulevard
Cheektowaga, NY 14225
Phone: 716-896-1777
Fax: 716-896-6437

JON W. NICHY
Superintendent

December 8, 2010

Mr. William R. Pugh, P.E.
Town Engineer
Town of Cheektowaga

Re: Pfohl Bros. Flow Data

Dear Mr. Pugh,

Enclosed for your review, please find a copy of the **November 2010** Direct Discharge Flow Data Report, prepared by Jon W. Nichy.

Should you have any other questions or comments regarding this submittal, please contact this office @ 896-1777.

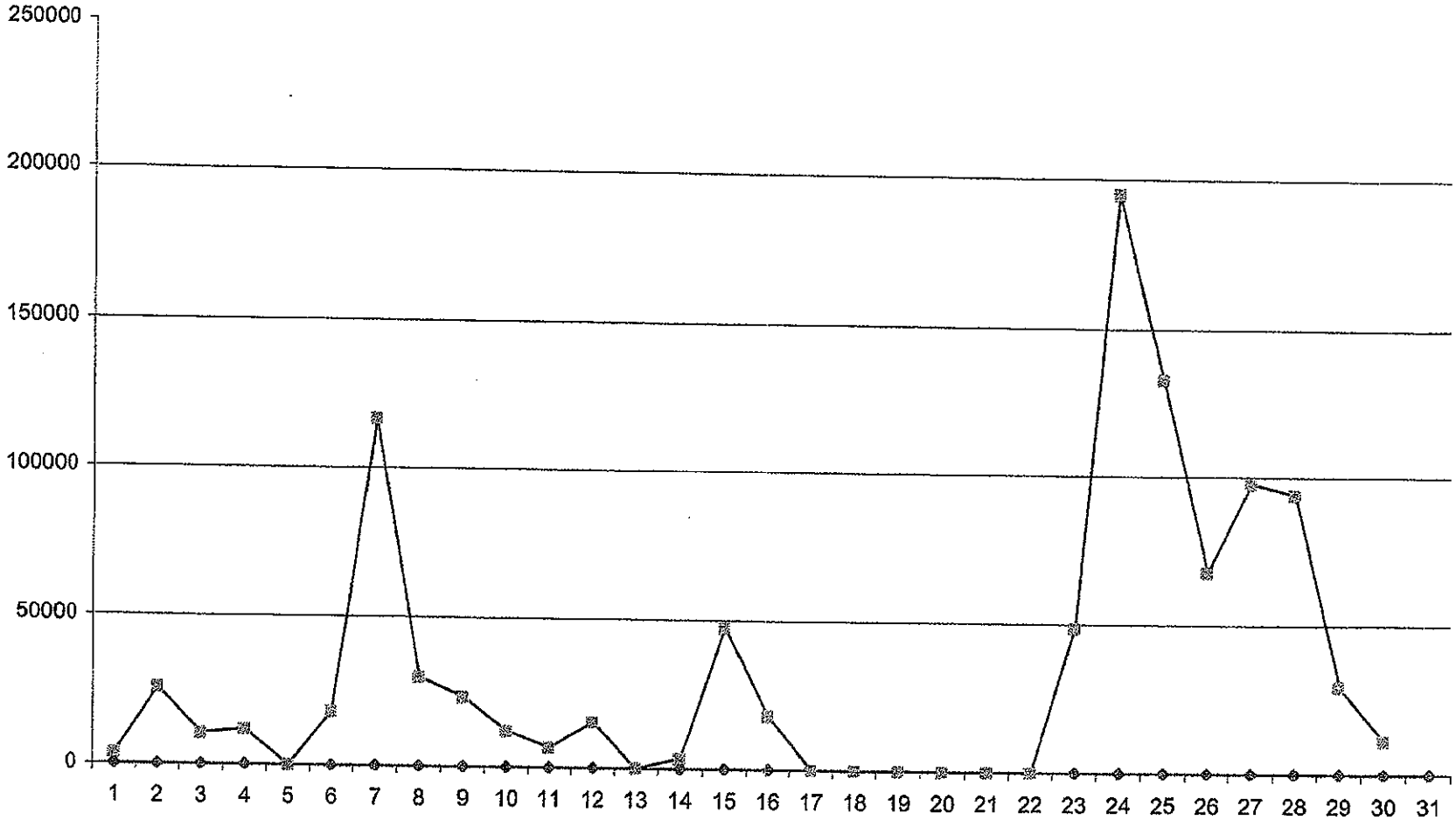
Yours truly,

Jon W. Nichy
Superintendent
Main Pump Station

Direct Discharge Flow Data

10/31/2010		16663513	23,000	16,317,200	
November-10	**Time; 11:58pm unless otherwise stated**	**Totalizer Reading (Gallons)**	**Daily Total Discharge (Gallons)**	**Total Direct Discharge (Gallons)**	**Notes**
1		16667284	3,771	16,320,971	
2		16692990	25,706	16,346,677	
3		16703604	10,614	16,357,291	
4		16715616	12,012	16,369,303	
5		16715616	0	16,369,303	
6		16733746	18,130	16,387,433	
7		16850252	116,506	16,503,939	
8		16879946	29,694	16,533,633	
9		16903434	23,488	16,557,121	
10		16915582	12,148	16,569,269	
11		16922312	6,730	16,575,999	
12		16937750	15,438	16,591,437	
13		16937750	0	16,591,437	
14		16941348	3,598	16,595,035	
15		16988966	47,618	16,642,653	
16		17007014	18,048	16,660,701	6:09pm off
17		17007014	0	16,660,701	
18		17007014	0	16,660,701	
19		17007014	0	16,660,701	
20		17007014	0	16,660,701	
21		17007014	0	16,660,701	
22		17007014	0	16,660,701	
23		17055518	48,518	16,709,219	4:36pm on
24		17250492	194,960	16,904,179	
25		17383170	132,678	17,036,857	10:28pm off
26		17450882	67,712	17,104,569	8:389am on
27		17548602	97,720	17,202,289	
28		17642536	93,934	17,296,223	
29		17672194	29,658	17,325,881	
30		17683530	11,336	17,337,217	8:23am off
31					
		1,020,017	**1,020,017**	**1,020,017**	

November
2010



The
TOWN OF
CHEEKTOWAGA

Jon W. Nichy
Superintendent

Main Pump Station
171 Central Blvd.
Cheektowaga, NY 14225
Phone: 716-896-1777
Fax: 716-896-6437

January 5, 2011

Mr. William R. Pugh, P.E.
Town Engineer
Town of Cheektowaga

Re: Pfohl Bros. Flow Data

Dear Mr. Pugh,

Enclosed for your review, please find a copy of the **December 2010** Direct Discharge Flow Data Report, prepared by Jon W. Nichy.

Should you have any other questions or comments regarding this submittal, please contact this office @ 896-1777.

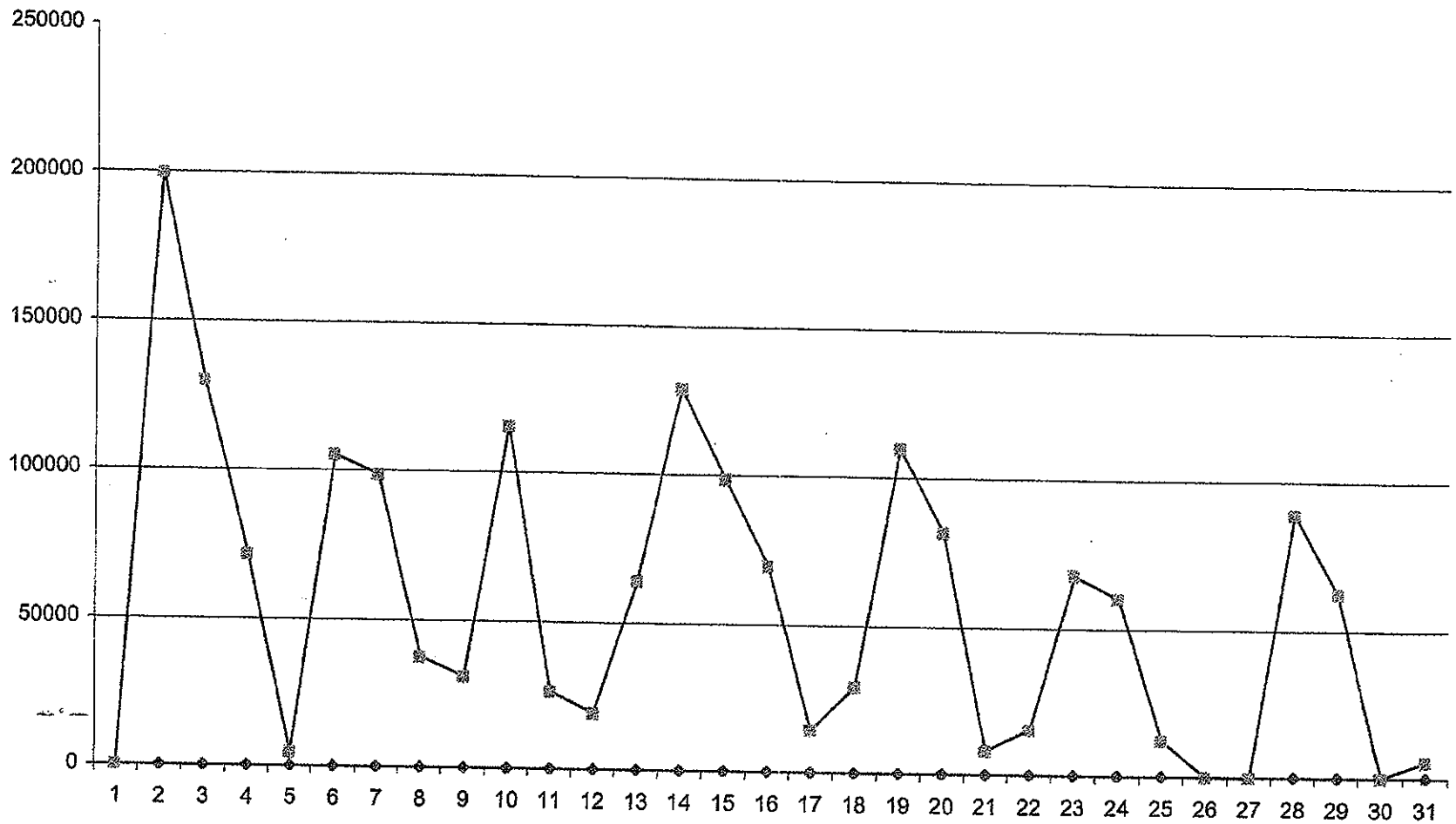
Yours truly,

Jon W. Nichy
Superintendent
Main Pump Station

Direct Discharge Flow Data

11/30/2010		17683530	11,336	17,337,217	
December-10	**Time; 11:58pm unless otherwise stated**	**Totalizer Reading (Gallons)**	**Daily Total Discharge (Gallons)**	**Total Direct Discharge (Gallons)**	**Notes**
1		17683530	0	17,337,217	enable 10:57pm
2		17883076	199,546	17,536,763	
3		18012846	129,770	17,666,533	
4		18084238	71,392	17,737,925	
5		18088946	4,708	17,742,633	
6		18194054	105,108	17,847,741	
7		18292572	98,518	17,946,259	
8		18329990	37,418	17,983,677	
9		18360962	30,972	18,014,649	
10		18476284	115,322	18,129,971	
11		18502644	26,360	18,156,331	
12		18521894	19,250	18,175,581	inhibit 08:46am
13		18585920	64,026	18,239,607	enable 11:37pm
14		18714564	128,644	18,368,251	
15		18813110	98,546	18,466,797	
16		18882848	69,738	18,536,535	
17		18897206	14,358	18,550,893	
18		18926668	29,462	18,580,355	
19		19036386	109,718	18,690,073	
20		19118034	81,648	18,771,721	
21		19126378	8,344	18,780,065	
22		19141812	15,434	18,795,499	
23		19209856	68,044	18,863,543	
24		19270224	60,368	18,923,911	
25		19282560	12,336	18,936,247	
26		19282560	0	18,936,247	
27		19282560	0	18,936,247	
28		19371614	89,054	19,025,301	
29		19434104	62,490	19,087,791	
30		19434104	0	19,087,791	
31		19439748	5,644	19,093,435	
		1,756,218	**1,756,218**	**1,756,218**	

December
2010



APPENDIX C

HYDRAULIC MONITORING TABLES

TABLE 1
PFOHL BROTHERS LANDFILL SITE
GROUNDWATER ELEVATIONS
JULY - DECEMBER 2010

Location ID / Type	Northing	Easting	Ground Elevation (ft)	Casing Elevation (ft)	Meas.point (Riser)Elev.(ft)	Geol. Zone	Specific Gravity	Date / Time	Depth to Water (ft)	Water Elev. (ft)	Product Thick. (ft)	Corrected Water Elev. (ft)	Remark
GW-01D	1073088.634	1117968.213	694.41	NM	696.12	D	1						
MNW								9/8/2010 0000	4.05	692.07	0.00	692.07	
MNW								11/1/2010 0000	3.57	692.55	0.00	692.55	
MNW								12/21/2010 0000	2.64	693.48	0.00	693.48	
GW-01S	1073087.779	1117961.500	694.53	NM	696.19	S	1						
MNW								9/8/2010 0000	5.25	690.94	0.00	690.94	
MNW								11/1/2010 0000	4.73	691.46	0.00	691.46	
MNW								12/21/2010 0000	3.87	692.32	0.00	692.32	
GW-03D	1073819.106	1114602.426	692.35	NM	693.88	D	1						
MNW								9/8/2010 0000	2.38	691.50	0.00	691.50	
MNW								11/1/2010 0000	2.46	691.42	0.00	691.42	
MNW								12/21/2010 0000	2.15	691.73	0.00	691.73	
GW-03S	1073812.622	1114605.762	692.61	NM	693.80	S	1						
MNW								9/8/2010 0000	9.60	684.20	0.00	684.20	
MNW								11/1/2010 0000	10.79	683.01	0.00	683.01	
MNW								12/21/2010 0000	2.99	690.81	0.00	690.81	
GW-04D	1072289.432	1114685.625	690.89	NM	692.75	D	1						
MNW								9/8/2010 0000	13.90	678.85	0.00	678.85	
MNW								11/1/2010 0000	14.28	678.47	0.00	678.47	
MNW								12/21/2010 0000	13.17	679.58	0.00	679.58	
GW-04S	1072284.456	1114685.127	690.76	NM	692.72	S	1						
MNW								9/8/2010 0000	7.57	685.15	0.00	685.15	
MNW								11/1/2010 0000	8.12	684.60	0.00	684.60	
MNW								12/21/2010 0000	4.69	688.03	0.00	688.03	

NM - No Measurement

The value noted in the column labeled Specific Gravity is an assumed value for free product, if found.

Type:

MH	Manhole Monitoring Point
MNW	Monitoring Well
SG	Staff Gauge

TABLE 1
PFOHL BROTHERS LANDFILL SITE
GROUNDWATER ELEVATIONS
JULY - DECEMBER 2010

Location ID / Type	Northing	Easting	Ground Elevation (ft)	Casing Elevation (ft)	Meas.point (Riser)Elev.(ft)	Geol. Zone	Specific Gravity	Date / Time	Depth to Water (ft)	Water Elev. (ft)	Product Thick. (ft)	Corrected Water Elev. (ft)	Remark
GW-07D	1071242.458	1117669.925	697.15	NM	699.94	D	1						
MNW								9/8/2010 0000	50.56	649.38	0.00	649.38	
MNW								11/1/2010 0000	47.00	652.94	0.00	652.94	Dry
MNW								12/21/2010 0000	55.76	644.18	0.00	644.18	
GW-07S	1071238.157	1117666.265	697.47	NM	699.51	S	1						
MNW								9/8/2010 0000	7.17	692.34	0.00	692.34	
MNW								11/1/2010 0000	6.31	693.20	0.00	693.20	
MNW								12/21/2010 0000	4.68	694.83	0.00	694.83	
GW-08D	1073713.617	1116795.328	695.28	NM	697.79	D	1						
MNW								9/8/2010 0000	6.42	691.37	0.00	691.37	
MNW								11/1/2010 0000	6.46	691.33	0.00	691.33	
MNW								12/21/2010 0000	6.10	691.69	0.00	691.69	
GW-08SR	1073714.172	1116786.343	695.08	NM	697.50	S	1						
MNW								9/8/2010 0000	5.42	692.08	0.00	692.08	
MNW								11/1/2010 0000	5.38	692.12	0.00	692.12	
MNW								12/21/2010 0000	5.27	692.23	0.00	692.23	
GW-26D	1071698.573	1115997.470	696.01	NM	698.50	D	1						
MNW								9/8/2010 0000	7.25	691.25	0.00	691.25	
MNW								11/1/2010 0000	7.31	691.19	0.00	691.19	
MNW								12/21/2010 0000	6.97	691.53	0.00	691.53	
GW-28S	1073129.479	1117648.927	698.60	NM	700.95	S	1						
MNW								9/8/2010 0000	10.93	690.02	0.00	690.02	
MNW								11/1/2010 0000	10.60	690.35	0.00	690.35	
MNW								12/21/2010 0000	8.80	692.15	0.00	692.15	

NM - No Measurement

The value noted in the column labeled Specific Gravity is an assumed value for free product, if found.

Type:

MH	Manhole Monitoring Point
MNW	Monitoring Well
SG	Staff Gauge

TABLE 1
PFOHL BROTHERS LANDFILL SITE
GROUNDWATER ELEVATIONS
JULY - DECEMBER 2010

Location ID / Type	Northing	Easting	Ground Elevation (ft)	Casing Elevation (ft)	Meas.point (Riser)Elev.(ft)	Geol. Zone	Specific Gravity	Date / Time	Depth to Water (ft)	Water Elev. (ft)	Product Thick. (ft)	Corrected Water Elev. (ft)	Remark
GW-29S	1072552.638	1117761.993	697.50	NM	699.63	S	1						
MNW								9/8/2010 0000	10.18	689.45	0.00	689.45	
MNW								11/1/2010 0000	10.05	689.58	0.00	689.58	
MNW								12/21/2010 0000	7.73	691.90	0.00	691.90	
GW-30S	1072096.109	1117743.563	693.67	NM	696.58	S	1						
MNW								9/8/2010 0000	8.34	688.24	0.00	688.24	
MNW								11/1/2010 0000	8.33	688.25	0.00	688.25	
MNW								12/21/2010 0000	8.13	688.45	0.00	688.45	
GW-31S	1071786.280	1117191.441	695.84	NM	698.62	S	1						
MNW								9/8/2010 0000	7.00	691.62	0.00	691.62	
MNW								11/1/2010 0000	6.50	692.12	0.00	692.12	
MNW								12/21/2010 0000	2.44	696.18	0.00	696.18	
GW-32S	1071613.793	1116364.200	696.19	NM	698.37	S	1						
MNW								9/8/2010 0000	6.46	691.91	0.00	691.91	
MNW								11/1/2010 0000	6.04	692.33	0.00	692.33	
MNW								12/21/2010 0000	2.62	695.75	0.00	695.75	
GW-33S	1072165.625	1115561.866	695.94	NM	698.24	S	1						
MNW								9/8/2010 0000	NM	-	NM	-	Dry
MNW								11/1/2010 0000	6.26	691.98	0.00	691.98	
MNW								12/21/2010 0000	4.06	694.18	0.00	694.18	
GW-34S	1072979.205	1114730.200	692.51	NM	694.77	S	1						
MNW								9/8/2010 0000	8.19	686.58	0.00	686.58	
MNW								11/1/2010 0000	5.62	689.15	0.00	689.15	
MNW								12/21/2010 0000	2.70	692.07	0.00	692.07	

NM - No Measurement

The value noted in the column labeled Specific Gravity is an assumed value for free product, if found.

Type:

MH	Manhole Monitoring Point
MNW	Monitoring Well
SG	Staff Gauge

TABLE 1
PFOHL BROTHERS LANDFILL SITE
GROUNDWATER ELEVATIONS
JULY - DECEMBER 2010

Location ID / Type	Northing	Easting	Ground Elevation (ft)	Casing Elevation (ft)	Meas.point (Riser)Elev.(ft)	Geol. Zone	Specific Gravity	Date / Time	Depth to Water (ft)	Water Elev. (ft)	Product Thick. (ft)	Corrected Water Elev. (ft)	Remark
GW-35S	1071701.925	1115985.585	696.19	NM	697.39	S	1						
MNW								9/8/2010 0000	6.41	690.98	0.00	690.98	
MNW								11/1/2010 0000	6.27	691.12	0.00	691.12	
MNW								12/21/2010 0000	3.11	694.28	0.00	694.28	
MH-01	1073806.665	1114810.501	698.62	NM	698.62	NA	1						
MH								9/8/2010 0000	10.02	688.60	0.00	688.60	
MH								11/1/2010 0000	10.38	688.24	0.00	688.24	
MH								12/21/2010 0000	10.78	687.84	0.00	687.84	
MH-03	1073736.789	1115259.334	699.40	NM	699.40	NA	1						
MH								9/8/2010 0000	10.84	688.56	0.00	688.56	
MH								11/1/2010 0000	11.22	688.18	0.00	688.18	
MH								12/21/2010 0000	11.21	688.19	0.00	688.19	
MH-07	1073838.229	1116243.757	696.82	NM	696.82	NA	1						
MH								9/8/2010 0000	9.04	687.78	0.00	687.78	
MH								11/1/2010 0000	9.42	687.40	0.00	687.40	
MH								12/21/2010 0000	9.42	687.40	0.00	687.40	
MH-10	1073540.729	1117381.524	703.01	NM	703.01	NA	1						
MH								9/8/2010 0000	14.47	688.54	0.00	688.54	
MH								11/1/2010 0000	14.47	688.54	0.00	688.54	
MH								12/21/2010 0000	14.46	688.55	0.00	688.55	
MH-15	1072531.567	1117761.125	699.02	NM	699.02	NA	1						
MH								9/8/2010 0000	14.98	684.04	0.00	684.04	
MH								11/1/2010 0000	14.93	684.09	0.00	684.09	
MH								12/21/2010 0000	15.01	684.01	0.00	684.01	

NM - No Measurement

The value noted in the column labeled Specific Gravity is an assumed value for free product, if found.

Type:

MH	Manhole Monitoring Point
MNW	Monitoring Well
SG	Staff Gauge

TABLE 1
PFOHL BROTHERS LANDFILL SITE
GROUNDWATER ELEVATIONS
JULY - DECEMBER 2010

Location ID / Type	Northing	Easting	Ground Elevation (ft)	Casing Elevation (ft)	Meas.point (Riser)Elev.(ft)	Geol. Zone	Specific Gravity	Date / Time	Depth to Water (ft)	Water Elev. (ft)	Product Thick. (ft)	Corrected Water Elev. (ft)	Remark
MH-16	1072133.714	1117748.238	698.57	NM	698.57	NA	1						
MH								9/8/2010 0000	14.51	684.06	0.00	684.06	
MH								11/1/2010 0000	14.51	684.06	0.00	684.06	
MH								12/21/2010 0000	14.51	684.06	0.00	684.06	
MH-17	1071813.137	1117180.019	702.16	NM	702.16	NA	1						
MH								9/8/2010 0000	18.15	684.01	0.00	684.01	
MH								11/1/2010 0000	18.13	684.03	0.00	684.03	
MH								12/21/2010 0000	18.15	684.01	0.00	684.01	
MH-20	1071756.395	1115997.024	706.20	NM	706.20	NA	1						
MH								9/8/2010 0000	19.71	686.49	0.00	686.49	
MH								11/1/2010 0000	19.73	686.47	0.00	686.47	
MH								12/21/2010 0000	19.74	686.46	0.00	686.46	
MH-22	1072158.023	1115589.309	698.05	NM	698.05	NA	1						
MH								9/8/2010 0000	9.02	689.03	0.00	689.03	
MH								11/1/2010 0000	8.98	689.07	0.00	689.07	
MH								12/21/2010 0000	8.99	689.06	0.00	689.06	
MH-25	1072483.928	1114820.313	698.17	NM	698.17	NA	1						
MH								9/8/2010 0000	9.54	688.63	0.00	688.63	
MH								11/1/2010 0000	10.00	688.17	0.00	688.17	
MH								12/21/2010 0000	9.94	688.23	0.00	688.23	
SG-01	1073882.887	1114813.101	NM	NM	690.00	NA	1						
SG								9/8/2010 0000	NM	-	NM	-	Dry
SG								11/1/2010 0000	NM	-	NM	-	Dry
SG								12/21/2010 0000	-1.12	691.12	0.00	691.12	

NM - No Measurement

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Type:

MH	Manhole Monitoring Point
MNW	Monitoring Well
SG	Staff Gauge

TABLE 1
PFOHL BROTHERS LANDFILL SITE
GROUNDWATER ELEVATIONS
JULY - DECEMBER 2010

Location ID / Type	Northing	Easting	Ground Elevation (ft)	Casing Elevation (ft)	Meas.point (Riser)Elev.(ft)	Geol. Zone	Specific Gravity	Date / Time	Depth to Water (ft)	Water Elev. (ft)	Product Thick. (ft)	Corrected Water Elev. (ft)	Remark
SG-02	1073738.27	1116805.85	NM	NM	690.00	NA	1						
SG								9/8/2010 0000	-3.18	693.18	0.00	693.18	
SG								11/1/2010 0000	-3.16	693.16	0.00	693.16	
SG								12/21/2010 0000	-3.20	693.20	0.00	693.20	
WW-01	1073676.903	1115710.476	NM	NM	684.02	NA	1						
MH								9/8/2010 0000	-4.4	688.42	0.00	688.42	
MH								11/1/2010 0000	-3.9	687.92	0.00	687.92	
MH								12/21/2010 0000	-4.0	688.02	0.00	688.02	
WW-02	1073684.724	1116792.311	NM	NM	684.18	NA	1						
MH								9/8/2010 0000	-4.7	688.88	0.00	688.88	
MH								11/1/2010 0000	-4.6	688.78	0.00	688.78	
MH								12/21/2010 0000	-4.7	688.88	0.00	688.88	
WW-03	1073140.339	1117618.499	NM	NM	683.80	NA	1						
MH								9/8/2010 0000	-5.5	689.30	0.00	689.30	
MH								11/1/2010 0000	-5.5	689.30	0.00	689.30	
MH								12/21/2010 0000	-4.6	688.40	0.00	688.40	
WW-04	1072057.563	1117610.508	NM	NM	676.62	NA	1						
MH								9/8/2010 0000	-6.9	683.52	0.00	683.52	
MH								11/1/2010 0000	-7.0	683.62	0.00	683.62	
MH								12/21/2010 0000	NM	-	NM	-	Level Error
WW-05	1071661.368	1116370.876	NM	NM	676.14	NA	1						
MH								9/8/2010 0000	-5.8	681.94	0.00	681.94	
MH								11/1/2010 0000	-7.5	683.64	0.00	683.64	
MH								12/21/2010 0000	-7.1	683.24	0.00	683.24	

NM - No Measurement

The value noted in the column labeled Specific Gravity is an assumed value for free product, if found.

Type:

MH	Manhole Monitoring Point
MNW	Monitoring Well
SG	Staff Gauge

TABLE 1
PFOHL BROTHERS LANDFILL SITE
GROUNDWATER ELEVATIONS
JULY - DECEMBER 2010

Location ID / Type	Northing	Easting	Ground Elevation (ft)	Casing Elevation (ft)	Meas.point (Riser)Elev.(ft)	Geol. Zone	Specific Gravity	Date / Time	Depth to Water (ft)	Water Elev. (ft)	Product Thick. (ft)	Corrected Water Elev. (ft)	Remark
WW-06	1072988.420	1114811.518	NM	NM	681.89	NA	1						
MH								9/8/2010 0000	-7.1	688.99	0.00	688.99	
MH								11/1/2010 0000	-6.8	688.69	0.00	688.69	
MH								12/21/2010 0000	-6.9	688.79	0.00	688.79	

NM - No Measurement

The value noted in the column labeled Specific Gravity is an assumed value for free product, if found.

Type:

MH	Manhole Monitoring Point
MNW	Monitoring Well
SG	Staff Gauge

TABLE 2
PFOHL BROTHERS LANDFILL SITE
OVERBURDEN HYDRAULIC GRADIENT

WELL PAIR:	WW-1	*	Level	WW-2	GW-8SR	Level	SG-02	Level
	Water Level	Water Level	Difference	Water Level	Water Level	Difference	Water Level	Difference
DATE	(ft amsl)	(ft amsl)	(ft)	(ft amsl)	(ft amsl)	(ft)	(ft amsl)	(ft)
9/8/2010	688.42	---	---	688.88	692.08	3.20	693.18	4.30
11/1/2010	687.92	---	---	688.78	692.12	3.34	693.16	4.38
12/21/2010	688.02	---	---	688.88	692.23	3.35	693.20	4.32

WELL PAIR:	WW-3	GW-28S	Level	WW-4	*	Level
	Water Level	Water Level	Difference	Water Level	Water Level	Difference
DATE	(ft amsl)	(ft amsl)	(ft)	(ft amsl)	(ft amsl)	(ft)
9/8/2010	689.30	690.02	0.72	683.52	---	---
11/1/2010	689.30	690.35	1.05	683.62	---	---
12/21/2010	688.40	692.15	3.75	NM	---	---

WELL PAIR:	WW-5	GW-32S	Level	WW-6	GW-34S	Level
	Water Level	Water Level	Difference	Water Level	Water Level	Difference
DATE	(ft amsl)	(ft amsl)	(ft)	(ft amsl)	(ft amsl)	(ft)
9/8/2010	681.94	691.91	9.97	688.99	686.58	-2.41
11/1/2010	683.64	692.33	8.69	688.69	689.15	0.46
12/21/2010	683.24	695.75	12.51	688.79	692.07	3.28

WELL PAIR:	MH-1	SG-1	Level	MH-15	GW-29S	Level
	Water Level	Water Level	Difference	Water Level	Water Level	Difference
DATE	(ft amsl)	(ft amsl)	(ft)	(ft amsl)	(ft amsl)	(ft)
9/8/2010	688.60	NM	NA	684.04	689.45	5.41
11/1/2010	688.24	NM	NA	684.09	689.58	5.49
12/21/2010	687.84	691.12	3.28	684.01	691.90	7.89

WELL PAIR:	MH-16	GW-30S	Level	MH-17	GW-31S	Level
	Water Level	Water Level	Difference	Water Level	Water Level	Difference
DATE	(ft amsl)	(ft amsl)	(ft)	(ft amsl)	(ft amsl)	(ft)
9/8/2010	684.06	688.24	4.18	684.01	691.62	7.61
11/1/2010	684.06	688.25	4.19	684.03	692.12	8.09
12/21/2010	684.06	688.45	4.39	684.01	696.18	12.17

WELL PAIR:	MH-20	GW-35S	Level	MH-22	GW-33S	Level
	Water Level	Water Level	Difference	Water Level	Water Level	Difference
DATE	(ft amsl)	(ft amsl)	(ft)	(ft amsl)	(ft amsl)	(ft)
9/8/2010	686.49	690.98	4.49	689.03	DRY	NA
11/1/2010	686.47	691.12	4.65	689.07	691.98	2.91
12/21/2010	686.46	694.28	7.82	689.06	694.18	5.12

Notes:

* = No corresponding monitoring well.

NA = Not applicable

APPENDIX D

GROUNDWATER PURGE AND SAMPLE COLLECTION LOGS

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 11175616.00000 Site: Pfohl Brothers Well I.D.: GW-1S

Date: 11/3/2010 Sampling Personnel: Rob Murphy, Tim Ifkovich Company: URS Corporation

Purging/Sampling Device: Geopump 2 Tubing Type: LDPE/Silicone Pump/Tubing Inlet Location: Screen midpoint

Measuring Point: Below Top of Riser Initial Depth to Water: 4.71' Depth to Well Bottom: 14.94' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 6.3 Estimated Purge Volume (liters): 6.8

Sample ID: GW-1S Sample Time: 13:52 QA/QC: None

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information: Riser pipe is bulged inwards, could not remove stainless steel bailer from within well, sampled around it.
Orange tint to water.
Turbidity meter malfunctioning.

PURGE PARAMETERS

TIME	pH	TEMP (^{0}C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
13:07	7.42	14.77	0.644	0.09	<50	2.8	150	4.71
13:12	7.25	14.39	0.641	0.05	<50	-7.3	150	NM
13:17	7.24	14.21	0.616	0.07	<50	-14.4	150	NM
13:22	7.21	14.09	0.599	0.06	<50	-21.9	150	5.12
13:27	7.20	13.98	0.594	0.06	<50	-24.7	150	5.21
13:32	7.17	14.12	0.583	0.08	<50	-26.9	150	5.26
13:37	7.18	14.16	0.566	0.09	<50	-28.0	150	5.28
13:42	7.16	14.22	0.560	0.07	<50	-26.5	150	5.28
13:47	7.17	14.40	0.557	0.07	<50	-26.9	150	5.27
13:52	7.12	14.51	0.557	0.06	<50	-28.3	150	5.27
Tolerance:	**0.1**	**---**	**3%**	**10%**	**10%**	**+ or - 10**	**---**	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft; 4 inch diameter well = 2470 ml/ft ($vol_{cyl} = \pi r^2 h$)

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 11175616.00000 Site: Pfohl Brothers Well I.D.: GW-1D

Date: 11/3/2010 Sampling Personnel: Rob Murphy, Tim Ifkovich Company: URS Corporation

Purging/Sampling Device: Geopump 2 Tubing Type: LDPE/Silicone Pump/Tubing Inlet Location: Screen midpoint

Measuring Point: Below Top of Riser Initial Depth to Water: 3.51' Depth to Well Bottom: 39.65' Well Diameter: 4" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 89.3 Estimated Purge Volume (liters): 34.2

Sample ID: GW-1D Sample Time: 14:56 QA/QC: None

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information: Sulfur odor
Dark Tint
Turbidity meter malfunctioning.

PURGE PARAMETERS

TIME	pH	TEMP (^{0}C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
14:11	7.71	13.33	1.313	0.13	>1000	-72.2	760	3.51
14:16	7.71	11.69	1.230	0.01	>1000	-133.7	760	3.51
14:21	7.82	11.48	1.224	0.00	<50	-163.7	760	3.51
14:26	7.84	11.45	1.225	0.00	<50	-179.3	760	3.51
14:31	7.86	11.43	1.224	0.00	<50	-191.2	760	3.51
14:36	7.87	11.46	1.229	0.00	<50	-199.7	760	3.51
14:41	7.87	11.48	1.238	0.00	<50	-207.3	760	3.51
14:46	7.85	11.52	1.250	0.00	<50	-211.4	760	3.51
14:51	7.85	11.54	1.257	0.00	<50	-217.2	760	3.51
14:56	7.84	11.53	1.252	0.00	<50	-222.6	760	3.51
Tolerance:	**0.1**	**---**	**3%**	**10%**	**10%**	**+ or - 10**	**---**	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft; 4 inch diameter well = 2470 ml/ft ($vol_{cyl} = \pi r^2 h$)

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 11175616.00000 Site: Pfohl Brothers Well I.D.: GW-3S

Date: 11/1/2010 Sampling Personnel: Rob Murphy, Tim Ifkovich Company: URS Corporation

Purging/Sampling Device: Geopump 2 Tubing Type: LDPE/Silicone Pump/Tubing Inlet Location: Screen midpoint

Measuring Point: Below Top of Riser Initial Depth to Water: 10.65' Depth to Well Bottom: 13.22' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 1.6 Estimated Purge Volume (liters): 6.7

Sample ID: GW-3S Sample Time: 14:35 QA/QC: None

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information:

PURGE PARAMETERS

TIME	pH	TEMP (^{0}C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
14:00	7.44	12.25	0.692	0.10	22	4.9	190	10.65
14:05	7.37	12.47	0.683	0.11	7	6.2	190	11.20
14:10	7.34	12.43	0.685	0.15	2	11.1	190	11.32
14:15	7.32	12.42	0.681	0.12	2	21.2	190	11.49
14:20	7.33	12.42	0.686	0.09	1.4	23.1	190	11.59
14:25	7.32	12.38	0.677	0.07	3.3	20.9	190	11.67
14:30	7.33	12.40	0.677	0.06	3.4	16.3	190	11.78
14:35	7.33	12.40	0.672	0.05	3.3	10.9	190	11.86
Tolerance:	**0.1**	**---**	**3%**	**10%**	**10%**	**+ or - 10**	**---**	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft; 4 inch diameter well = 2470 ml/ft ($vol_{cyl} = \pi r^2 h$)

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 11175616.00000 Site: Pfohl Brothers Well I.D.: GW-3D

Date: 11/1/2010 Sampling Personnel: Rob Murphy, Tim Ifkovich Company: URS Corporation

Purging/Sampling Device: Geopump 2 Tubing Type: LDPE/Silicone Pump/Tubing Inlet Location: Screen midpoint

Measuring Point: Below Top of Riser Initial Depth to Water: 2.49' Depth to Well Bottom: 35.70' Well Diameter: 4" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 82.0 Estimated Purge Volume (liters): 36.6

Sample ID: GW-3D Sample Time: 13:21 QA/QC: MS/MSD

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information:

PURGE PARAMETERS

TIME	pH	TEMP (^{0}C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
12:21	7.60	11.67	1.565	0.16	3.9	-42.6	610	2.49
12:26	7.41	11.88	1.282	0.10	1.60	-44.6	610	2.49
12:31	7.37	11.86	1.468	0.10	1.30	-43.5	610	2.49
12:36	7.34	11.88	1.482	0.08	1.10	-46.1	610	2.49
12:41	7.32	11.88	1.270	0.06	0.90	-47.0	610	2.49
12:46	7.31	11.88	1.478	0.05	0.70	-49.0	610	2.49
12:51	7.33	11.88	1.483	0.03	0.60	-49.1	610	2.49
12:56	7.31	11.87	1.277	0.02	0.60	-51.4	610	2.49
13:01	7.30	11.88	1.280	0.02	0.50	-51.2	610	2.49
13:06	7.32	11.86	1.274	0.01	0.20	-52.6	610	2.49
13:11	7.31	11.89	1.282	0.01	0.20	-53.5	610	2.49
13:16	7.32	11.84	1.276	0.01	0.10	-53.5	610	2.49
13:21	7.32	11.88	1.295	0.01	0.10	-55.2	610	2.49
Tolerance:	**0.1**	**---**	**3%**	**10%**	**10%**	**+ or - 10**	**---**	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft; 4 inch diameter well = 2470 ml/ft ($vol_{cyl} = \pi r^2 h$)

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 11175616.00000 Site: Pfohl Brothers Well I.D.: GW-4S

Date: 11/2/2010 Sampling Personnel: Rob Murphy, Tim Ifkovich Company: URS Corporation

Purging/Sampling Device: Geopump 2 Tubing Type: LDPE/Silicone Pump/Tubing Inlet Location: Screen midpoint

Measuring Point: Below Top of Riser Initial Depth to Water: 8.15' Depth to Well Bottom: 16.23' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 5.0 Estimated Purge Volume (liters): 22.2

Sample ID: GW-4S Sample Time: 13:10 QA/QC: None

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information: Well historically goes dry at very low purge rates (<75ml/min). Pumped dry and sampled after recovery.

PURGE PARAMETERS

TIME	pH	TEMP (^{0}C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
11:10	8.16	11.36	0.003	0.26	<50	81.8	740	8.15
11:15	Readjusted Tubing							12.40
11:25	8.16	11.36	0.003	0.26	<50	81.8	740	14.05
11:30	8.16	11.36	0.003	0.26	<50	81.8	740	14.28
11:35	8.16	11.36	0.003	0.26	<50	81.8	740	14.80
11:40	8.16	11.36	0.003	0.26	<50	81.8	740	15.43
11:45	8.16	11.36	0.003	0.26	<50	81.8	740	16.05
11:46	Reset YSI meter, Readings were frozen (not updating)						740	NM
11:50	8.11	12.03	0.245	0.02	<50	-99.3	740	DRY
Tolerance:	**0.1**	**---**	**3%**	**10%**	**10%**	**+ or - 10**	**---**	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft; 4 inch diameter well = 2470 ml/ft ($vol_{cyl} = \pi r^2 h$)

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 11175616.00000 Site: Pfohl Brothers Well I.D.: GW-4D

Date: 11/2/2010 Sampling Personnel: Rob Murphy, Tim Ifkovich Company: URS Corporation

Purging/Sampling Device: Geopump 2 Tubing Type: LDPE/Silicone Pump/Tubing Inlet Location: Screen midpoint

Measuring Point: Below Top of Riser Initial Depth to Water: 14.36' Depth to Well Bottom: 45.57' Well Diameter: 4" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 77.1 Estimated Purge Volume (liters): 8.0

Sample ID: GW-4D Sample Time: 12:50 QA/QC: None

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information:

PURGE PARAMETERS

TIME	pH	TEMP (^{0}C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
12:00	7.70	11.28	0.345	0.15	<50	-76.6	160	14.36
12:05	7.75	11.02	0.340	0.03	<50	-115.5	160	14.81
12:10	7.78	11.09	0.338	0.01	<50	-136.3	160	14.96
12:15	7.82	11.33	0.334	0.00	<50	-152.3	160	15.12
12:20	7.81	11.57	0.334	0.00	<50	-162.5	160	15.28
12:25	7.83	11.57	0.335	0.00	<50	-174.1	160	15.40
12:30	7.86	11.05	0.340	0.00	<50	-182.3	160	15.51
12:35	7.85	10.99	0.339	0.00	<50	-187.9	160	15.57
12:40	7.86	11.23	0.336	0.00	<50	-194.2	160	15.64
12:45	7.85	11.16	0.337	0.00	<50	-199.4	160	15.69
12:50	7.86	11.01	0.338	0.00	<50	-203.6	160	15.72
Tolerance:	**0.1**	**---**	**3%**	**10%**	**10%**	**+ or - 10**	**---**	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft; 4 inch diameter well = 2470 ml/ft ($vol_{cyl} = \pi r^2 h$)

WELL PURGING LOG

URS Corporation

SITE NAME: Pfohl Brothers Landfill WELL NO.: GW-7S

PROJECT NO.: 11175616.00000

STAFF: Rob Murphy, Tim Ifkovich

DATE(S): 11/1/10, 11/2/10

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	35.04	1"	0.040
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	6.31	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	28.73	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.17	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	4.9	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 3)	=		6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	7.5	8"	2.60

$V=0.0408 \times (\text{CASING DIAMETER [INCHES]})^2$

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	Init	3	5	7							
pH	8.26	8.30	8.29	8.33							
SPEC. COND. (mS/cm)	0.640	0.642	0.638	0.632							
DO (mg/l)	0.23	0.20	0.24	0.27							
TEMPERATURE (^{0}C)	10.87	10.57	10.49	10.10							
TURBIDITY (NTU)	10	20	70	110							
ORP (millivolts)	32.5	38.2	39.3	40							
TIME	11:30	11:35	11:40	11:48							

COMMENTS: 11:30 - Begin handbailing well.
11:53 - Well dry after removing 7.5 gallons

11/2/2010 17:40 - return to well, depth to water = 6.49 feet.
18:00 - Collect sample.

WELL PURGING LOG

URS Corporation

SITE NAME: Pfohl Brothers Landfill WELL NO.: GW-7D

PROJECT NO.: 11175616.00000

STAFF: Rob Murphy, Tim Ifkovich

DATE(S): 11/1/10, 11/2/10

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	60.45	1"	0.040
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	47.00	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	13.45	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.66	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	8.9	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 3)	=		6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	9.0	8"	2.60

$V=0.0408 \times (\text{CASING DIAMETER [INCHES]})^2$

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	Init	3	6	9							
pH	6.78	7.44	7.73	7.93							
SPEC. COND. (mS/cm)	0.875	0.861	0.888	0.900							
DO (mg/)	0.04	0.17	0.20	0.25							
TEMPERATURE (^{0}C)	10.25	10.10	9.95	9.52							
TURBIDITY (NTU)	4.7	19	23	45							
ORP (millivolts)	142.0	64.8	19.8	5.3							
TIME	10:45	10:55	11:12	11:21							

COMMENTS:

11:21 - Handbailed the well to dryness.

11/2/2010 17:40 - return to well, depth to water = 59.43 feet.

17:45 - Collect sample, only enough volume to fill 3 voa vials, 1 metals container and 1-1 liter Amber container.

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 11175616.00000 Site: Pfohl Brothers Well I.D.: GW-8SR

Date: 11/1/2010 Sampling Personnel: Rob Murphy, Tim Ifkovich Company: URS Corporation

Purging/Sampling Device: Geopump 2 Tubing Type: LDPE/Silicone Pump/Tubing Inlet Location: Screen midpoint

Measuring Point: Below Top of Riser Initial Depth to Water: 5.42' Depth to Well Bottom: 13.02' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 4.7 Estimated Purge Volume (liters): 10.8

Sample ID: GW-8SR Sample Time: 17:32 QA/QC: None

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information:

PURGE PARAMETERS

TIME	pH	TEMP (^{0}C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
16:37	7.07	12.65	1.363	0.09	260	-29.6	250	5.42
16:47	6.98	12.08	1.508	0.06	250	-39.3	185	7.10
16:52	6.93	11.98	1.483	0.04	200	-39.9	185	7.10
16:57	6.91	11.87	1.553	0.03	150	-40.1	185	7.11
17:02	6.88	11.83	1.528	0.03	120	-40.6	185	7.13
17:07	6.88	11.76	1.551	0.02	100	-41.7	185	7.14
17:12	6.87	11.72	1.568	0.01	80	-40.8	185	7.13
17:17	6.89	11.62	1.558	0.02	60	-42.2	185	7.13
17:22	6.86	11.58	1.567	0.01	45	-43.3	185	7.12
17:27	6.86	11.56	1.566	0.01	38	-43.2	185	7.12
17:32	6.89	11.55	1.573	0.01	35	-43.1	185	7.12
Tolerance:	**0.1**	**---**	**3%**	**10%**	**10%**	**+ or - 10**	**---**	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft; 4 inch diameter well = 2470 ml/ft ($vol_{cyl} = \pi r^2 h$)

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 11175616.00000 Site: Pfohl Brothers Well I.D.: GW-8D

Date: 11/1/2010 Sampling Personnel: Rob Murphy, Tim Ifkovich Company: URS Corporation

Purging/Sampling Device: Geopump 2 Tubing Type: LDPE/Silicone Pump/Tubing Inlet Location: Screen midpoint

Measuring Point: Below Top of Riser Initial Depth to Water: 6.46' Depth to Well Bottom: 36.54' Well Diameter: 4" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 74.3 Estimated Purge Volume (liters): 36.0

Sample ID: GW-8D Sample Time: 16:22 QA/QC: Duplicate (ID=Duplicate)

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information:

PURGE PARAMETERS

TIME	pH	TEMP (^{0}C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
15:22	7.37	11.36	2.806	0.05	600	-29.8	600	6.46
15:27	7.29	11.10	2.988	0.01	35	-31.3	600	6.46
15:32	7.20	11.45	2.985	0.00	13	-34.5	600	6.46
15:37	7.18	11.58	2.986	0.00	8	-37.8	600	6.46
15:42	7.18	11.61	2.985	0.00	5	-39.7	600	6.46
15:47	7.18	11.59	2.956	0.00	3.9	-43.2	600	6.46
15:52	7.23	11.52	2.582	0.00	2.9	-54.7	600	6.46
15:57	7.36	11.30	1.670	0.00	1.2	-57.6	600	6.46
16:02	7.36	11.20	1.508	0.00	0.8	-54.4	600	6.46
16:07	7.36	11.20	1.477	0.00	0.8	-51.4	600	6.46
16:12	7.34	11.21	1.468	0.00	0.7	-50.3	600	6.46
16:17	7.35	11.18	1.463	0.00	0.7	-49.1	600	6.46
16:22	7.36	11.38	1.457	0.00	0.7	-47.6	600	6.46
Tolerance:	**0.1**	**---**	**3%**	**10%**	**10%**	**+ or - 10**	**---**	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft; 4 inch diameter well = 2470 ml/ft ($vol_{cyl} = \pi r^2 h$)

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 11175616.00000 Site: Pfohl Brothers Well I.D.: GW-26D

Date: 11/2/2010 Sampling Personnel: Rob Murphy, Tim Ifkovich Company: URS Corporation

Purging/Sampling Device: Geopump 2 Tubing Type: LDPE/Silicone Pump/Tubing Inlet Location: Screen midpoint

Measuring Point: Below Top of Riser Initial Depth to Water: 7.31' Depth to Well Bottom: 40.70' Well Diameter: 4" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 82.5 Estimated Purge Volume (liters): 34.8

Sample ID: GW-26D Sample Time: 14:45 QA/QC: None

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information: Occasional pulses of iron stained particulates in purge water.

PURGE PARAMETERS

TIME	pH	TEMP (^{0}C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
13:45	7.56	12.45	2.512	0.06	<50	-51.9	580	7.31
13:55	7.31	11.82	2.616	0.00	<50	-69.6	580	7.32
14:05	7.26	11.80	2.610	0.00	<50	-73.0	580	7.32
14:10	7.25	11.71	2.609	0.00	<50	-72.8	580	7.32
14:15	7.22	11.67	2.622	0.00	<50	-73.9	580	7.32
14:20	7.21	11.60	2.606	0.00	<50	-75.0	580	7.32
14:25	7.23	11.69	2.604	0.00	<50	-75.2	580	7.32
14:30	7.23	11.69	2.604	0.00	<50	-75.2	580	7.32
14:35	7.22	11.69	2.620	0.00	<50	-76.4	580	7.32
14:40	7.19	11.74	2.615	0.00	<50	-75.9	580	7.32
14:45	7.19	11.70	2.619	0.00	<50	-75.2	580	7.32
Tolerance:	**0.1**	**---**	**3%**	**10%**	**10%**	**+ or - 10**	**---**	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft; 4 inch diameter well = 2470 ml/ft ($vol_{cyl} = \pi r^2 h$)

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 11175616.00000 Site: Pfohl Brothers Well I.D.: GW-28S

Date: 11/2/2010 Sampling Personnel: Rob Murphy, Tim Ifkovich Company: URS Corporation

Purging/Sampling Device: Geopump 2 Tubing Type: LDPE/Silicone Pump/Tubing Inlet Location: Screen midpoint

Measuring Point: Below Top of Riser Initial Depth to Water: 10.54' Depth to Well Bottom: 15.54' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 3.1 Estimated Purge Volume (liters): 4.8

Sample ID: GW-28S Sample Time: 10:16 QA/QC: None

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information: Turbidity meter malfunctioning.

PURGE PARAMETERS

TIME	pH	TEMP (^{0}C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
9:46	8.00	11.11	0.437	0.13	644	115.5	200	10.54
9:51	7.71	11.64	0.415	0.08	<50	110.9	150	11.21
9:56	7.59	11.84	0.415	0.05	<50	108.1	150	11.34
10:01	7.54	11.81	0.417	0.04	<50	104.6	150	11.40
10:06	7.51	11.89	0.415	0.03	<50	99.6	150	11.45
10:11	7.52	12.00	0.414	0.03	<50	96.2	150	11.48
10:16	7.50	12.05	0.417	0.03	<50	94.5	150	11.51
Tolerance:	**0.1**	**---**	**3%**	**10%**	**10%**	**+ or - 10**	**---**	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft; 4 inch diameter well = 2470 ml/ft ($vol_{cyl} = \pi r^2 h$)

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 11175616.00000 Site: Pfohl Brothers Well I.D.: GW-29S

Date: 11/3/2010 Sampling Personnel: Rob Murphy, Tim Ifkovich Company: URS Corporation

Purging/Sampling Device: Geopump 2 Tubing Type: LDPE/Silicone Pump/Tubing Inlet Location: Screen midpoint

Measuring Point: Below Top of Riser Initial Depth to Water: 10.05' Depth to Well Bottom: 20.02' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 6.2 Estimated Purge Volume (liters): 5.4

Sample ID: GW-29S Sample Time: 9:22 QA/QC: None

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information: Water red brown at beginning of purge.

PURGE PARAMETERS

TIME	pH	TEMP (^{0}C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
8:47	7.45	13.24	0.696	0.07	<50	-23.8	240	10.05
8:52	7.41	12.44	0.708	0.03	<50	-35.3	140	11.37
8:57	7.38	12.32	0.698	0.02	<50	-42.6	140	11.45
9:02	7.35	12.23	0.715	0.02	<50	-46.9	140	11.51
9:07	7.36	12.11	0.706	0.03	<50	-50.8	140	11.46
9:12	7.34	11.97	0.708	0.02	<50	-54.4	140	11.43
9:17	7.30	12.04	0.714	0.02	<50	-58.3	140	11.43
9:22	7.29	12.10	0.720	0.01	<50	-59.2	140	11.42
Tolerance:	**0.1**	**---**	**3%**	**10%**	**10%**	**+ or - 10**	**---**	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft; 4 inch diameter well = 2470 ml/ft ($vol_{cyl} = \pi r^2 h$)

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 11175616.00000 Site: Pfohl Brothers Well I.D.: GW-30S

Date: 11/3/2010 Sampling Personnel: Rob Murphy, Tim Ifkovich Company: URS Corporation

Purging/Sampling Device: Geopump 2 Tubing Type: LDPE/Silicone Pump/Tubing Inlet Location: Screen midpoint

Measuring Point: Below Top of Riser Initial Depth to Water: 8.31' Depth to Well Bottom: 17.97' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 6.0 Estimated Purge Volume (liters): 21.9

Sample ID: GW-30S Sample Time: 10:32 QA/QC: None

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information:

PURGE PARAMETERS

TIME	pH	TEMP (^{0}C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
10:02	7.23	12.47	3.387	0.13	<50	-37.0	730	8.31
10:07	7.19	13.41	3.964	0.02	<50	-62.4	730	8.41
10:12	7.19	13.47	4.002	0.00	<50	-70.4	730	8.41
10:17	7.19	13.51	4.044	0.00	<50	-77.6	730	8.41
10:22	7.19	13.56	4.060	0.00	<50	-82.4	730	8.41
10:27	7.20	13.57	4.069	0.00	<50	-84.4	730	8.41
10:32	7.19	13.59	4.073	0.00	<50	-86.5	730	8.41
Tolerance:	**0.1**	**---**	**3%**	**10%**	**10%**	**+ or - 10**	**---**	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft; 4 inch diameter well = 2470 ml/ft ($vol_{cyl} = \pi r^2 h$)

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 11175616.00000 Site: Pfohl Brothers Well I.D.: GW-31S

Date: 11/3/2010 Sampling Personnel: Rob Murphy, Tim Ifkovich Company: URS Corporation

Purging/Sampling Device: Geopump 2 Tubing Type: LDPE/Silicone Pump/Tubing Inlet Location: Screen midpoint

Measuring Point: Below Top of Riser Initial Depth to Water: 6.43' Depth to Well Bottom: 9.57' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 1.9 Estimated Purge Volume (liters): 2.8

Sample ID: GW-31S Sample Time: 11:20 QA/QC: None

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information:

PURGE PARAMETERS

TIME	pH	TEMP (^{0}C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
10:55	8.08	13.26	0.512	0.10	<50	-17.4	175	6.43
11:00	7.80	13.04	0.495	0.04	<50	-7.5	95	7.96
11:05	7.74	12.80	0.479	0.03	<50	-4.0	95	8.22
11:10	7.70	12.71	0.464	0.03	<50	-1.3	95	8.56
11:15	7.66	12.68	0.460	0.04	<50	1.6	95	8.84
11:20	7.62	12.81	0.454	0.03	<50	4.4	95	8.95
Tolerance:	**0.1**	**---**	**3%**	**10%**	**10%**	**+ or - 10**	**---**	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft; 4 inch diameter well = 2470 ml/ft ($vol_{cyl} = \pi r^2 h$)

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 11175616.00000 Site: Pfohl Brothers Well I.D.: GW-32S

Date: 11/3/2010 Sampling Personnel: Rob Murphy, Tim Ifkovich Company: URS Corporation

Purging/Sampling Device: Geopump 2 Tubing Type: LDPE/Silicone Pump/Tubing Inlet Location: Screen midpoint

Measuring Point: Below Top of Riser Initial Depth to Water: 5.99' Depth to Well Bottom: 9.93' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 2.4 Estimated Purge Volume (liters): 4.5

Sample ID: GW-32S Sample Time: 12:30 QA/QC: None

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information:

PURGE PARAMETERS

TIME	pH	TEMP (^{0}C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
12:05	7.93	13.34	0.462	0.13	<50	55.2	190	5.99
12:10	7.92	12.96	0.421	0.12	<50	52.8	190	6.53
12:15	7.89	12.99	0.408	0.12	<50	48.9	175	6.48
12:20	7.87	12.95	0.366	0.09	<50	47.0	175	6.50
12:25	7.86	12.96	0.360	0.06	<50	46.0	175	6.52
12:30	7.85	12.97	0.357	0.05	<50	45.3	175	6.52
Tolerance:	**0.1**	**---**	**3%**	**10%**	**10%**	**+ or - 10**	**---**	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft; 4 inch diameter well = 2470 ml/ft ($vol_{cyl} = \pi r^2 h$)

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 11175616.00000 Site: Pfohl Brothers Well I.D.: GW-33S

Date: 11/2/2010 Sampling Personnel: Rob Murphy, Tim Ifkovich Company: URS Corporation

Purging/Sampling Device: Geopump 2 Tubing Type: LDPE/Silicone Pump/Tubing Inlet Location: Screen midpoint

Measuring Point: Below Top of Riser Initial Depth to Water: 6.20' Depth to Well Bottom: 8.21' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 1.2 Estimated Purge Volume (liters): 3.5

Sample ID: GW-33S Sample Time: 16:37 QA/QC: None

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information:

PURGE PARAMETERS

TIME	pH	TEMP (^{0}C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
16:07	7.56	13.68	1.274	0.34	<50	45.2	140	6.20
16:12	7.49	13.85	0.770	0.36	<50	49.6	140	6.88
16:17	7.42	13.87	0.837	0.37	<50	51.7	140	7.14
16:22	7.36	13.80	0.807	0.35	<50	57.6	95	7.38
16:27	7.36	13.89	0.717	0.31	<50	58.5	95	7.43
16:32	7.35	13.80	0.723	0.30	<50	59.0	95	7.50
16:37	7.35	13.54	0.703	0.29	<50	58.3	95	7.55
Tolerance:	**0.1**	**---**	**3%**	**10%**	**10%**	**+ or - 10**	**---**	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft; 4 inch diameter well = 2470 ml/ft ($vol_{cyl} = \pi r^2 h$)

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 11175616.00000 Site: Pfohl Brothers Well I.D.: GW-34S

Date: 11/2/2010 Sampling Personnel: Rob Murphy, Tim Ifkovich Company: URS Corporation

Purging/Sampling Device: Geopump 2 Tubing Type: LDPE/Silicone Pump/Tubing Inlet Location: Screen midpoint

Measuring Point: Below Top of Riser Initial Depth to Water: 5.62' Depth to Well Bottom: 10.00' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 2.7 Estimated Purge Volume (liters): 6.0

Sample ID: GW-34S Sample Time: 9:05 QA/QC: None

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information:

PURGE PARAMETERS

TIME	pH	TEMP (^{0}C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
8:35	7.77	10.78	1.194	0.20	0	113.5	250	5.62
8:40	7.77	10.78	1.194	0.20	0	113.5	250	6.23
8:45	7.46	10.80	1.094	0.21	0	115.4	175	6.55
8:50	7.42	10.68	0.612	0.22	0	118.6	175	6.73
8:55	7.43	10.61	0.627	0.22	0	122.3	175	7.00
9:00	7.41	10.59	0.616	0.23	0	123.0	175	7.19
9:05	7.41	10.53	0.613	0.25	0	125.1	175	7.39
Tolerance:	**0.1**	**---**	**3%**	**10%**	**10%**	**+ or - 10**	**---**	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft; 4 inch diameter well = 2470 ml/ft ($vol_{cyl} = \pi r^2 h$)

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 11175616.00000 Site: Pfohl Brothers Well I.D.: GW-35S

Date: 11/2/2010 Sampling Personnel: Rob Murphy, Tim Ifkovich Company: URS Corporation

Purging/Sampling Device: Geopump 2 Tubing Type: LDPE/Silicone Pump/Tubing Inlet Location: Screen midpoint

Measuring Point: Below Top of Riser Initial Depth to Water: 6.26' Depth to Well Bottom: 7.46' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 0.7 Estimated Purge Volume (liters): 6.5

Sample ID: GW-35S Sample Time: 15:32 QA/QC: None

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information:

PURGE PARAMETERS

TIME	pH	TEMP (^{0}C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
14:57	7.59	13.42	1.097	0.14	<50	-29.8	390	6.26
15:02	7.48	13.14	0.906	0.06	<50	-26.4	150	6.66
15:07	7.46	13.07	0.795	0.07	<50	-22.6	150	6.67
15:12	7.46	13.07	0.795	0.07	<50	-22.6	150	6.69
15:17	7.39	12.67	0.824	0.06	<50	-13.4	150	6.71
15:22	7.39	12.65	0.822	0.05	<50	-11.3	150	6.73
15:27	7.39	12.54	0.816	0.06	<50	-10.3	150	6.74
15:32	7.39	12.64	0.812	0.07	<50	-8.2	150	6.75
Tolerance:	**0.1**	**---**	**3%**	**10%**	**10%**	**+ or - 10**	**---**	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft; 4 inch diameter well = 2470 ml/ft ($vol_{cyl} = \pi r^2 h$)

GROUNDWATER SAMPLING - SAMPLE COLLECTION DATA SHEET

Project Name: *Pfohl Brothers* Project Number: *11175616.00000*

Sampling Crew Members: *R. Murphy, T. Ifkovich* Supervisor: *J. Sundquist*

Date of Sampling: *November 1, 2010*

Sample I.D. Number	***Well Number***	***Well Volume (liters)***	***Volume Purged (liters)***	***Sample Time***	***Sample Description***	***Analysis Required***	***Chain-of-Custody Number***
GW-3D	GW-3D	82.0	36.6	13:21	Groundwater	VOCs/SVOCs/ Metals	Not Applicable
GW-3D-MS	GW-3D	82.0	36.6	13:21	Matrix Spike		Not Applicable
GW-3D-MSD	GW-3D	82.0	36.6	13:21	Matrix Spike Duplicate		Not Applicable
GW-3S	GW-3S	1.6	6.7	14:35	Groundwater		Not Applicable
GW-8D	GW-8D	74.3	36.0	16:22	Groundwater		Not Applicable
DUPLICATE	GW-8D	74.3	36.0	16:22	Blind Duplicate		Not Applicable
GW-8SR	GW-8SR	4.7	10.8	17:32	Groundwater		Not Applicable

Additional Comments: All wells were purged using low flow methods until parameter stabilization. Some wells went dry even at very low flow conditions.

GROUNDWATER SAMPLING - SAMPLE COLLECTION DATA SHEET

Project Name: *Pfohl Brothers* Project Number: *11175616.00000*

Sampling Crew Members: *R. Murphy, T. Ifkovich* Supervisor: *J. Sundquist*

Date of Sampling: *November 1, 2010*

Sample I.D. Number	***Well Number***	***Well Volume (liters)***	***Volume Purged (liters)***	***Sample Time***	***Sample Description***	***Analysis Required***	***Chain-of-Custody Number***
TB-110110	---	---	---	---	Trip Blank	VOCs	Not Applicable

Additional Comments: All wells were purged using low flow methods until parameter stabilization. Some wells went dry even at very low flow conditions.

GROUNDWATER SAMPLING - SAMPLE COLLECTION DATA SHEET

Project Name: *Pfohl Brothers* Project Number: *11175616.00000*

Sampling Crew Members: *R. Murphy, T. Ifkovich* Supervisor: *J. Sundquist*

Date of Sampling: *November 2, 2010*

Sample I.D. Number	***Well Number***	***Well Volume (liters)***	***Volume Purged (liters)***	***Sample Time***	***Sample Description***	***Analysis Required***	***Chain-of-Custody Number***
GW-34S	GW-34S	2.7	6.0	9:05	Groundwater	VOCs/SVOCs/ Metals	Not Applicable
GW-28S	GW-28S	3.1	4.8	10:16	Groundwater		Not Applicable
GW-4D	GW-4D	77.1	8.0	12:50	Groundwater		Not Applicable
GW-4S	GW-4S	5.0	22.2	13:10	Groundwater		Not Applicable
GW-26D	GW-26D	82.5	34.8	14:45	Groundwater		Not Applicable
GW-35S	GW-35S	0.7	6.5	15:32	Groundwater		Not Applicable
GW-33S	GW-33S	1.2	3.5	16:37	Groundwater		Not Applicable

Additional Comments: All wells were purged using low flow methods until parameter stabilization.
Some wells went dry even at very low flow conditions.

GROUNDWATER SAMPLING - SAMPLE COLLECTION DATA SHEET

Project Name: *Pfohl Brothers* Project Number: *11175616.00000*

Sampling Crew Members: *R. Murphy, T. Ifkovich* Supervisor: *J. Sundquist*

Date of Sampling: *November 2, 2010*

Sample I.D. Number	***Well Number***	***Well Volume (liters)***	***Volume Purged (liters)***	***Sample Time***	***Sample Description***	***Analysis Required***	***Chain-of-Custody Number***
GW-7D	GW-34S	33.7	34.1	17:45	Groundwater	VOCs/SVOCs/ Metals	Not Applicable
GW-7S	GW-28S	18.5	28.4	18:00	Groundwater		Not Applicable
TB-110110	---	---	---	---	Trip Blank	VOCs	Not Applicable

Additional Comments: All wells were purged using low flow methods until parameter stabilization. Some wells went dry even at very low flow conditions.

GROUNDWATER SAMPLING - SAMPLE COLLECTION DATA SHEET

Project Name: *Pfohl Brothers* Project Number: *11175616.00000*

Sampling Crew Members: *R. Murphy, T. Ifkovich* Supervisor: *J. Sundquist*

Date of Sampling: *November 3, 2010*

Sample I.D. Number	***Well Number***	***Well Volume (liters)***	***Volume Purged (liters)***	***Sample Time***	***Sample Description***	***Analysis Required***	***Chain-of-Custody Number***
GW-29S	GW-29S	6.2	5.4	9:22	Groundwater	VOCs/SVOCs/ Metals	Not Applicable
GW-30S	GW-30S	6.8	21.9	10:32	Groundwater		Not Applicable
GW-31S	GW-31S	1.9	2.8	11:20	Groundwater		Not Applicable
GW-32S	GW-32S	2.4	4.5	12:30	Groundwater		Not Applicable
GW-1S	GW-1S	6.8	6.8	13:52	Groundwater		Not Applicable
GW-1D	GW-1D	89.3	34.2	14:56	Groundwater		Not Applicable
TB-110310	---	---	---	---	Trip Blank	VOCs	Not Applicable

Additional Comments: All wells were purged using low flow methods until parameter stabilization. Some wells went dry even at very low flow conditions.

APPENDIX E

HISTORICAL ANALYTICAL RESULTS

FIGURE E-1
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-1D

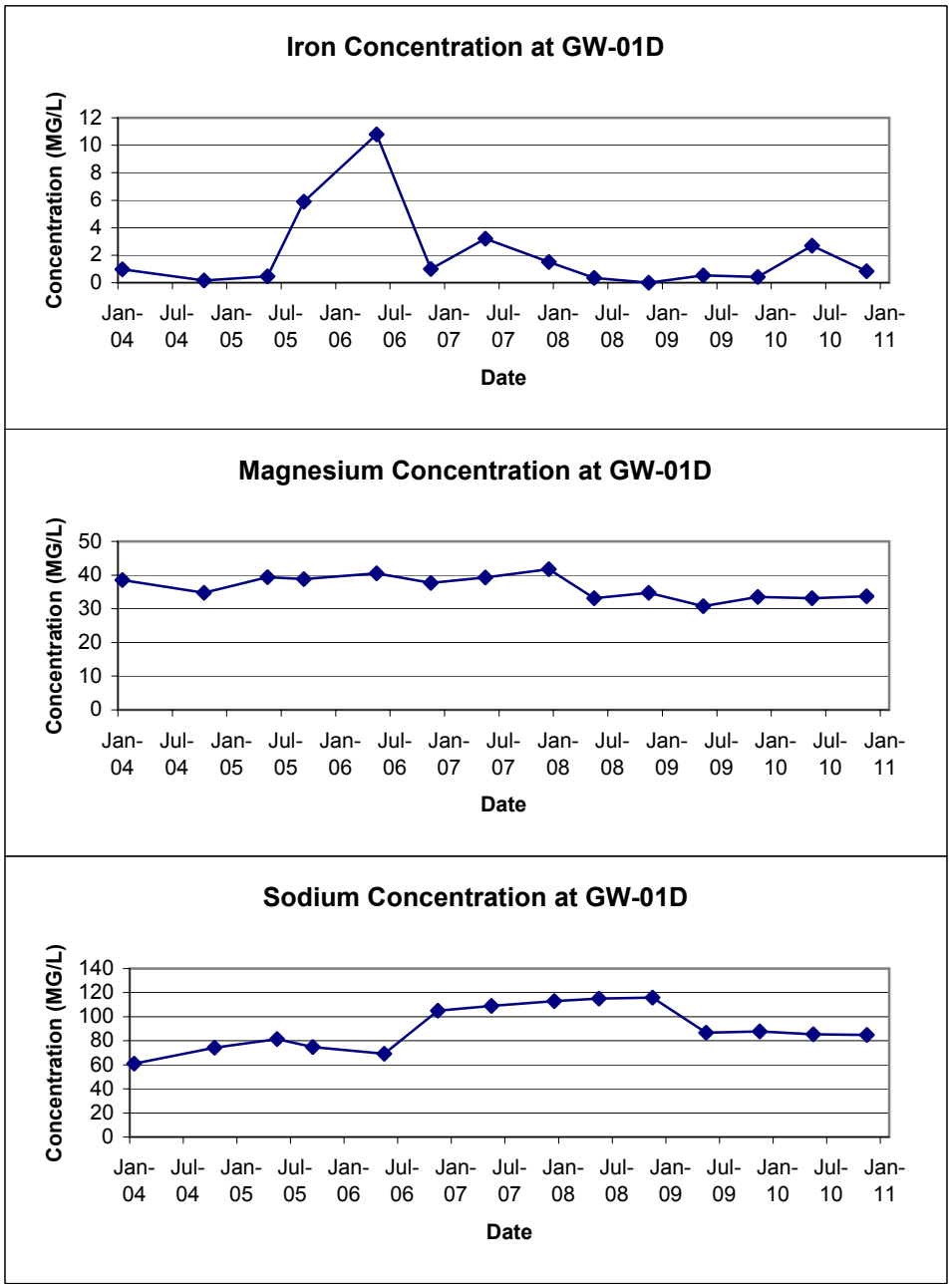


FIGURE E-2
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-1S

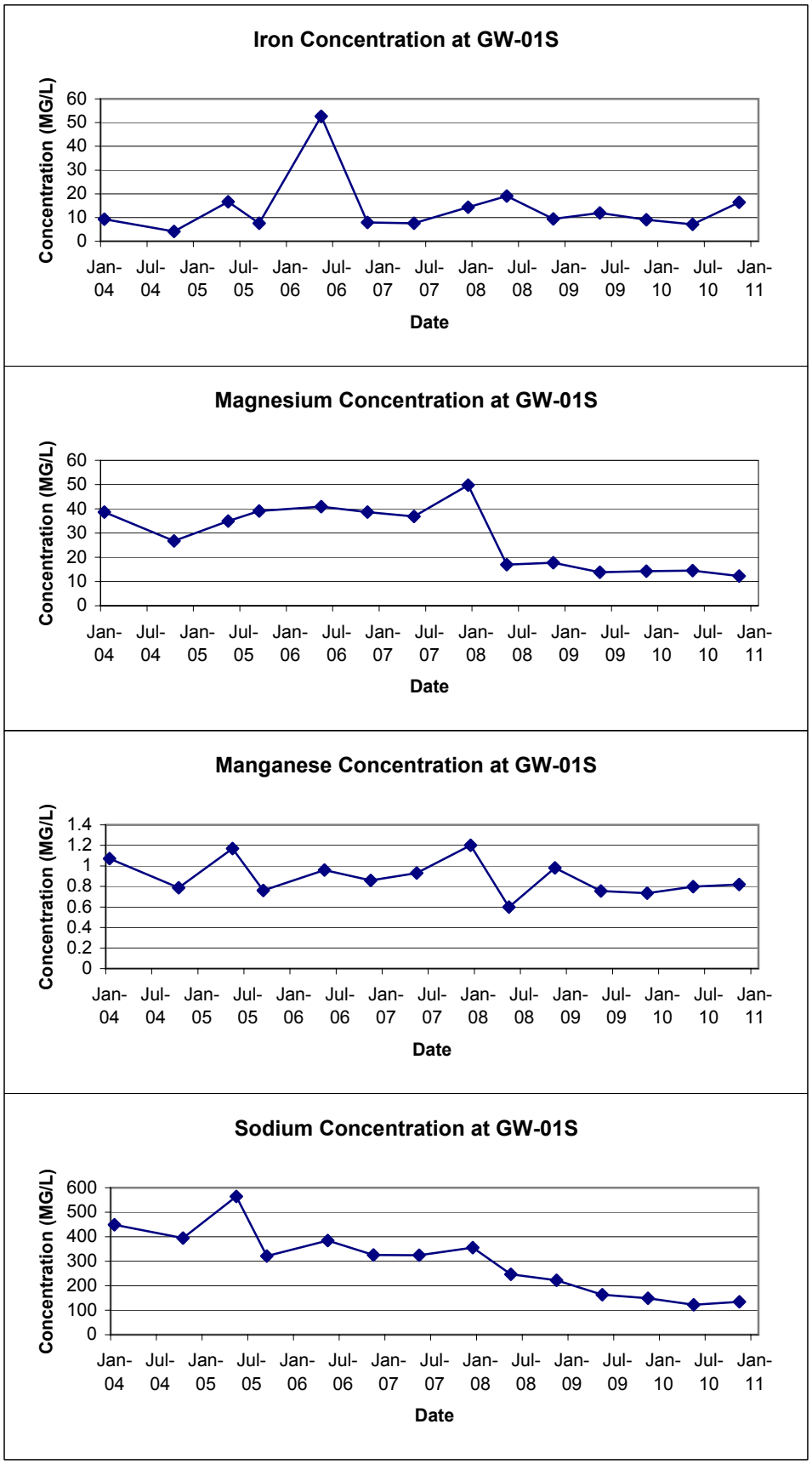


FIGURE E-3
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-3D

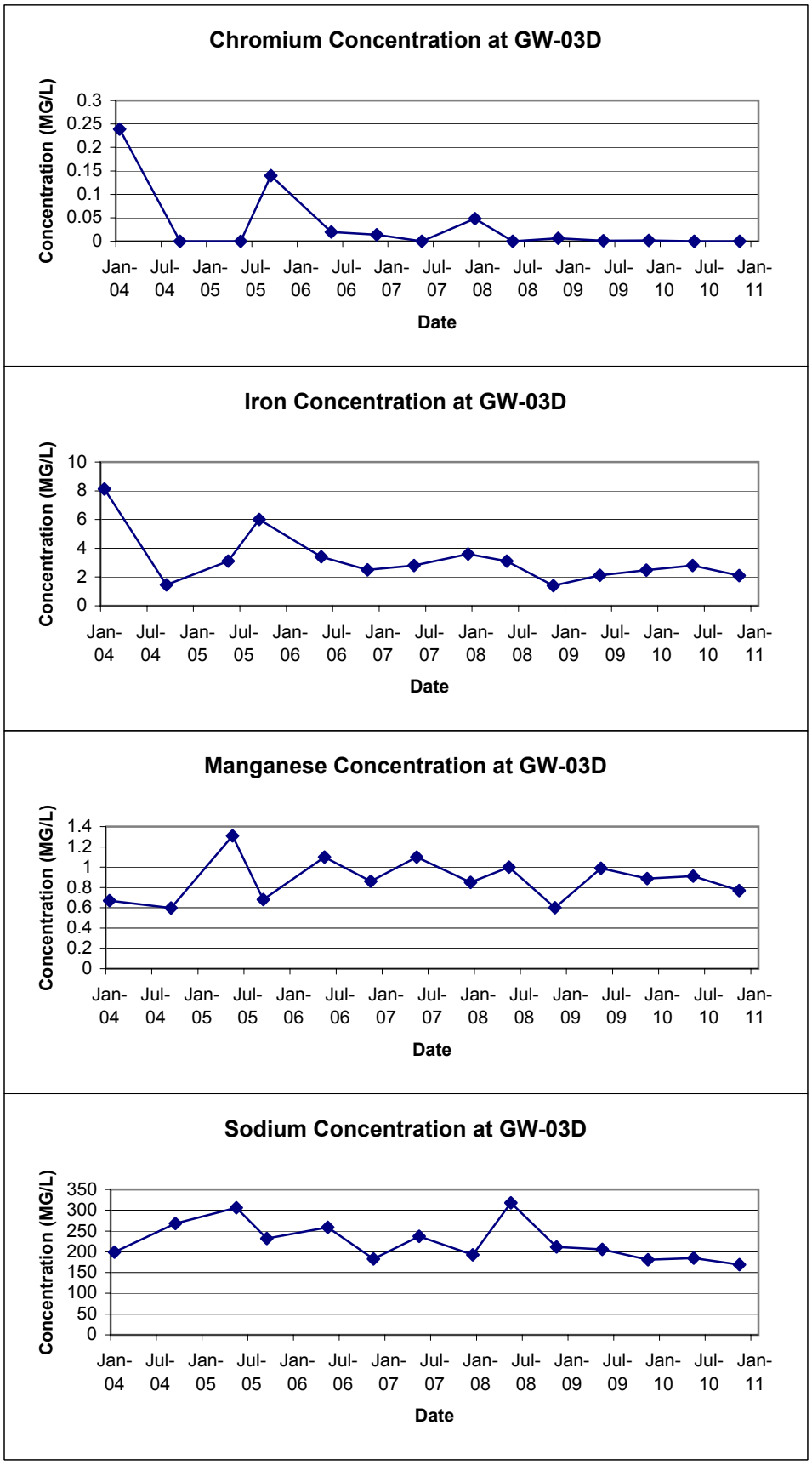


FIGURE E-4
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-3S

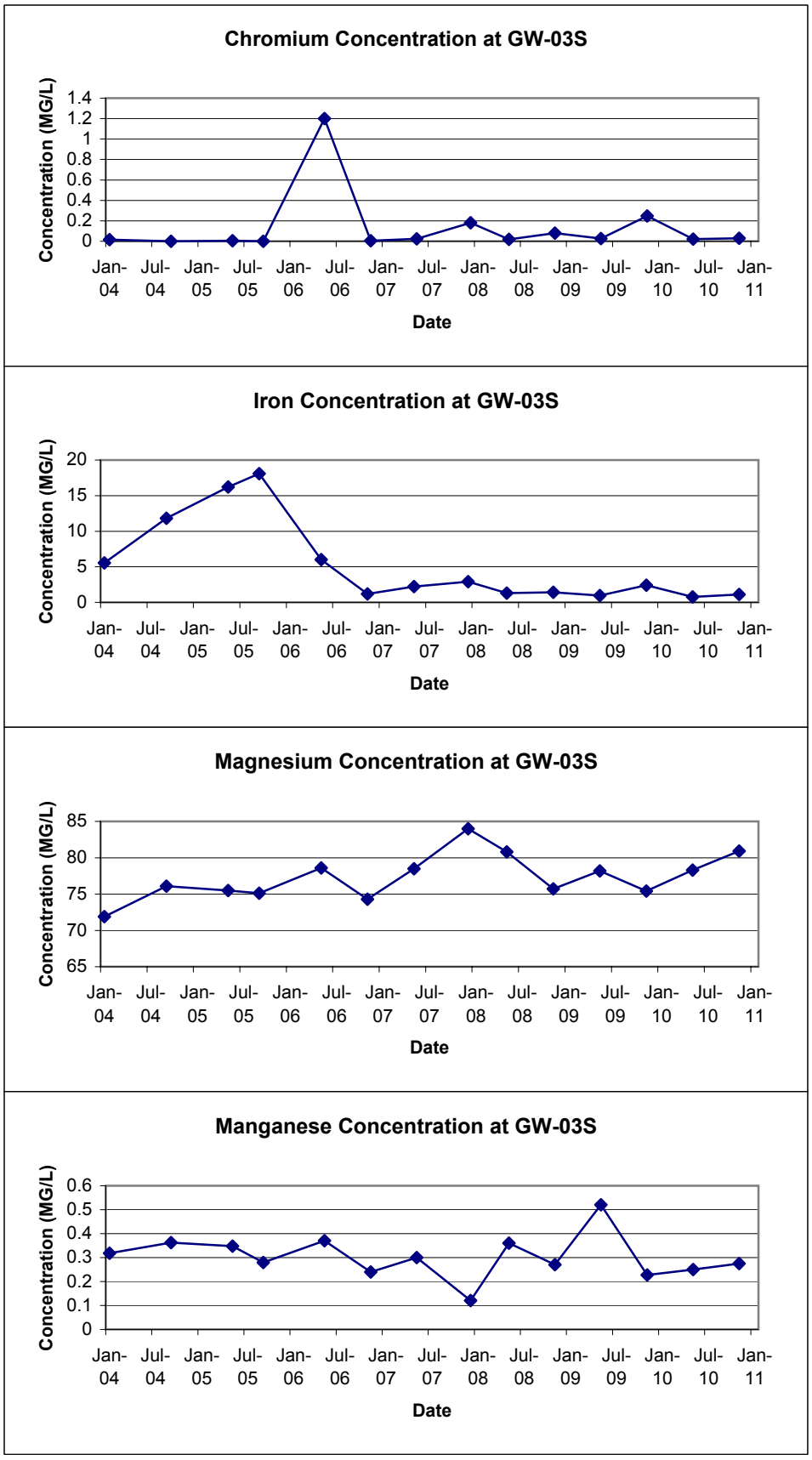


FIGURE E-4
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-3S

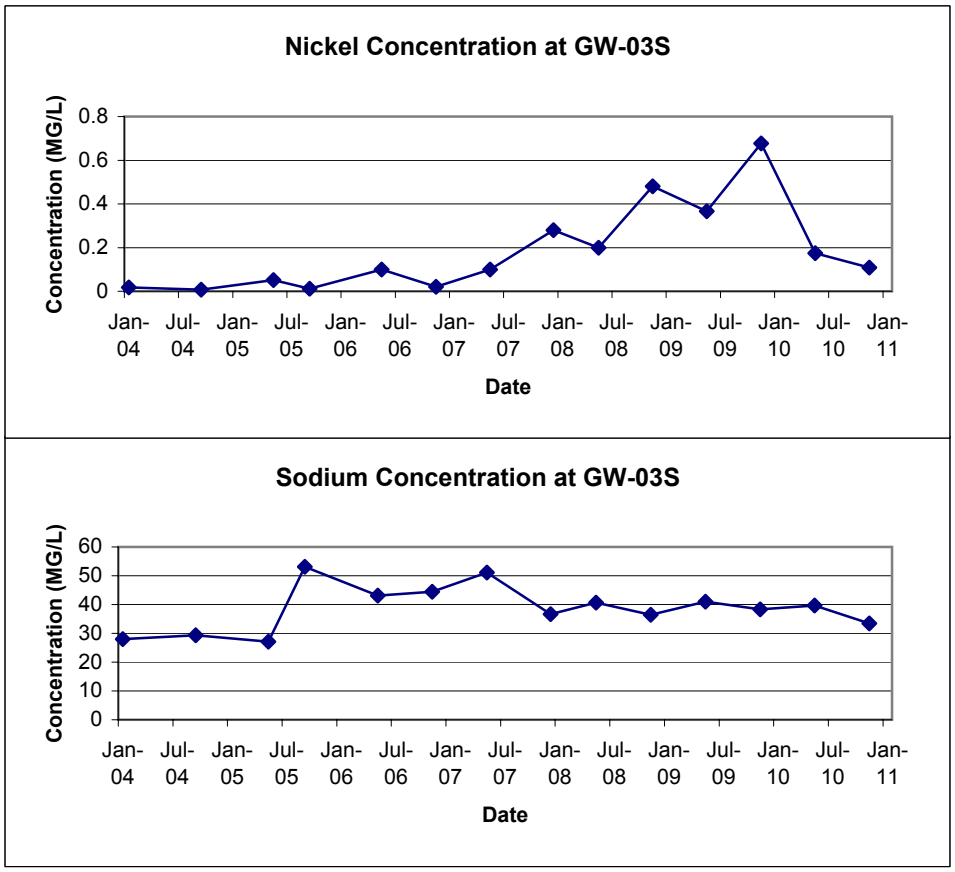


FIGURE E-5
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-4D

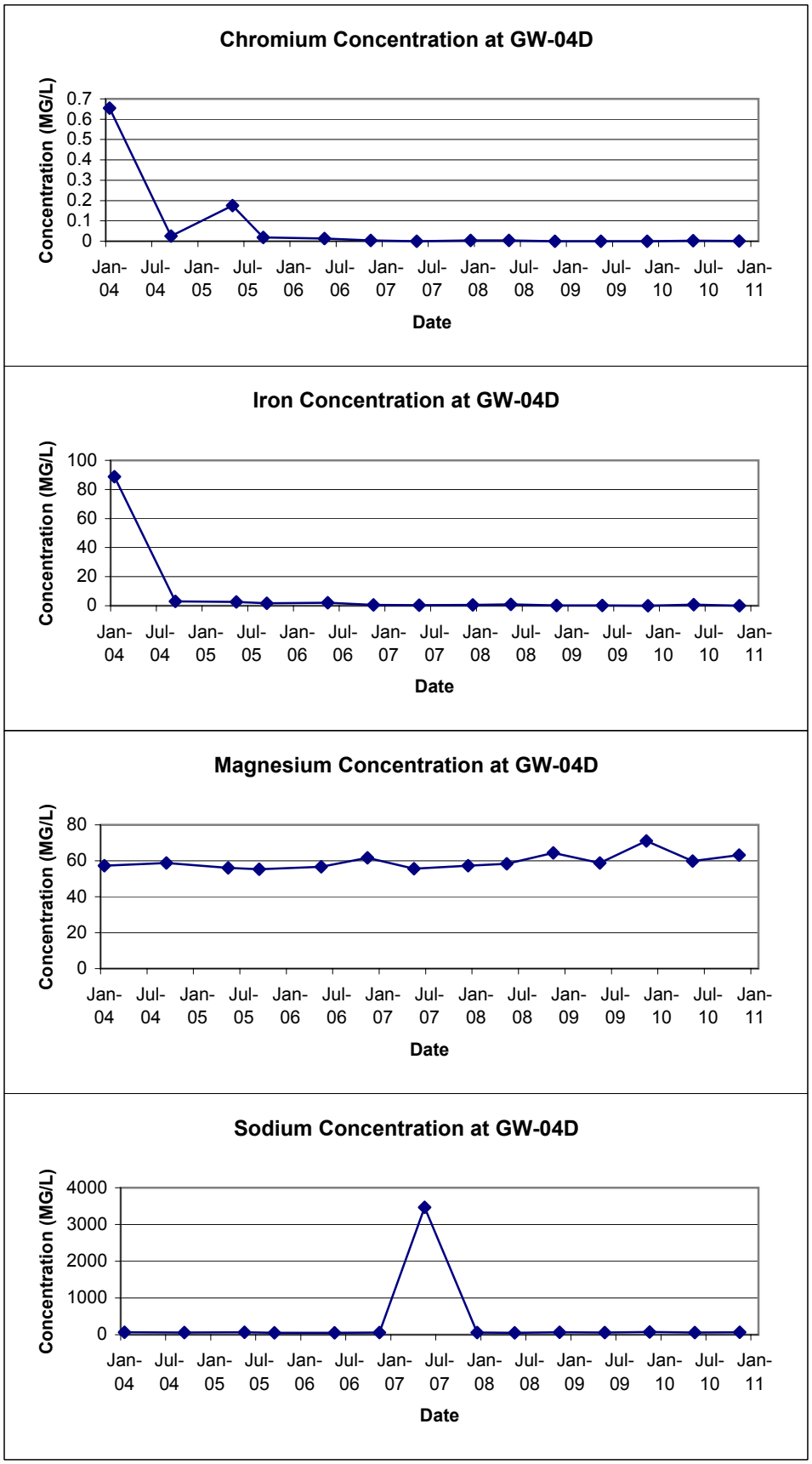


FIGURE E-6
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-4S

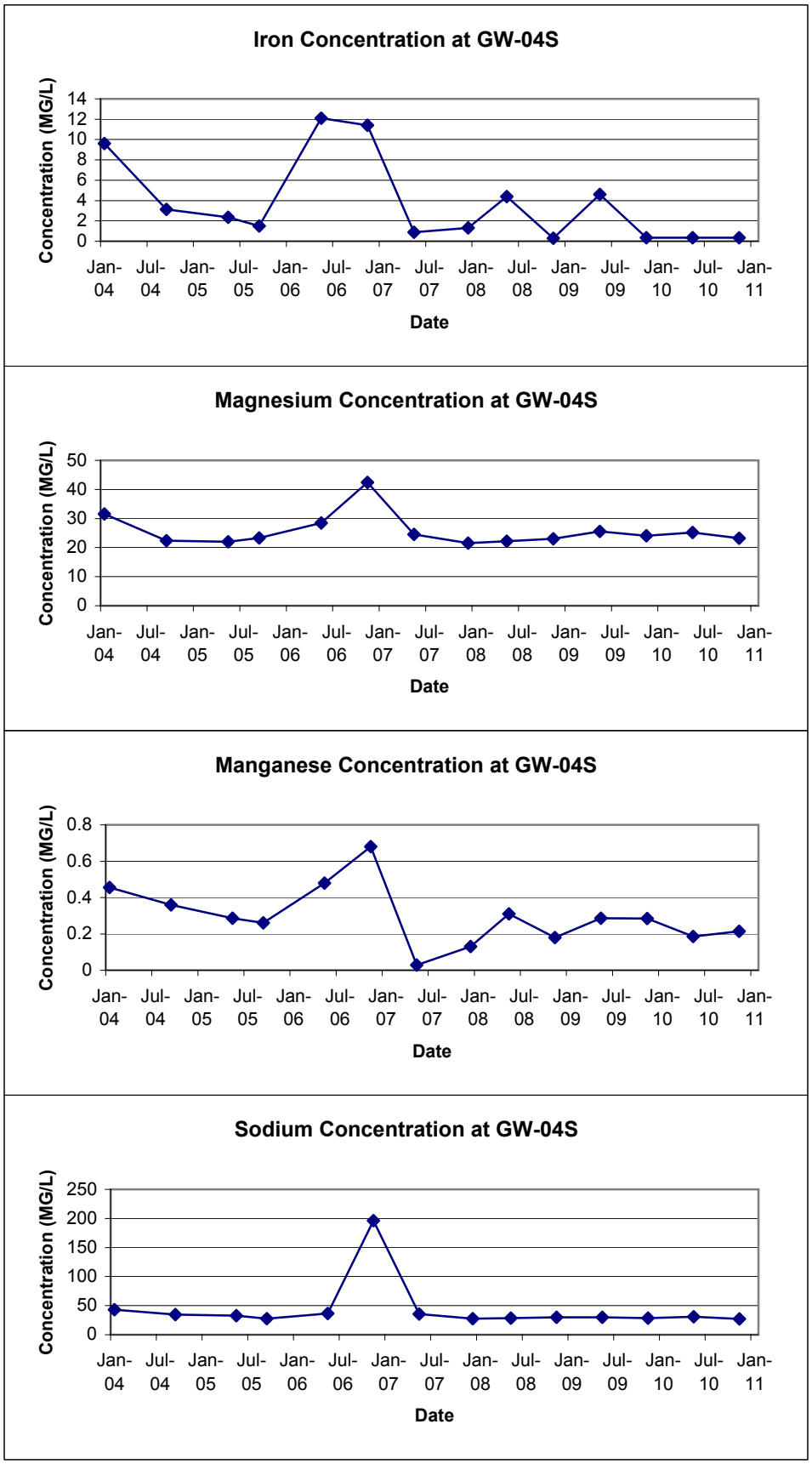


FIGURE E-7
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-7D

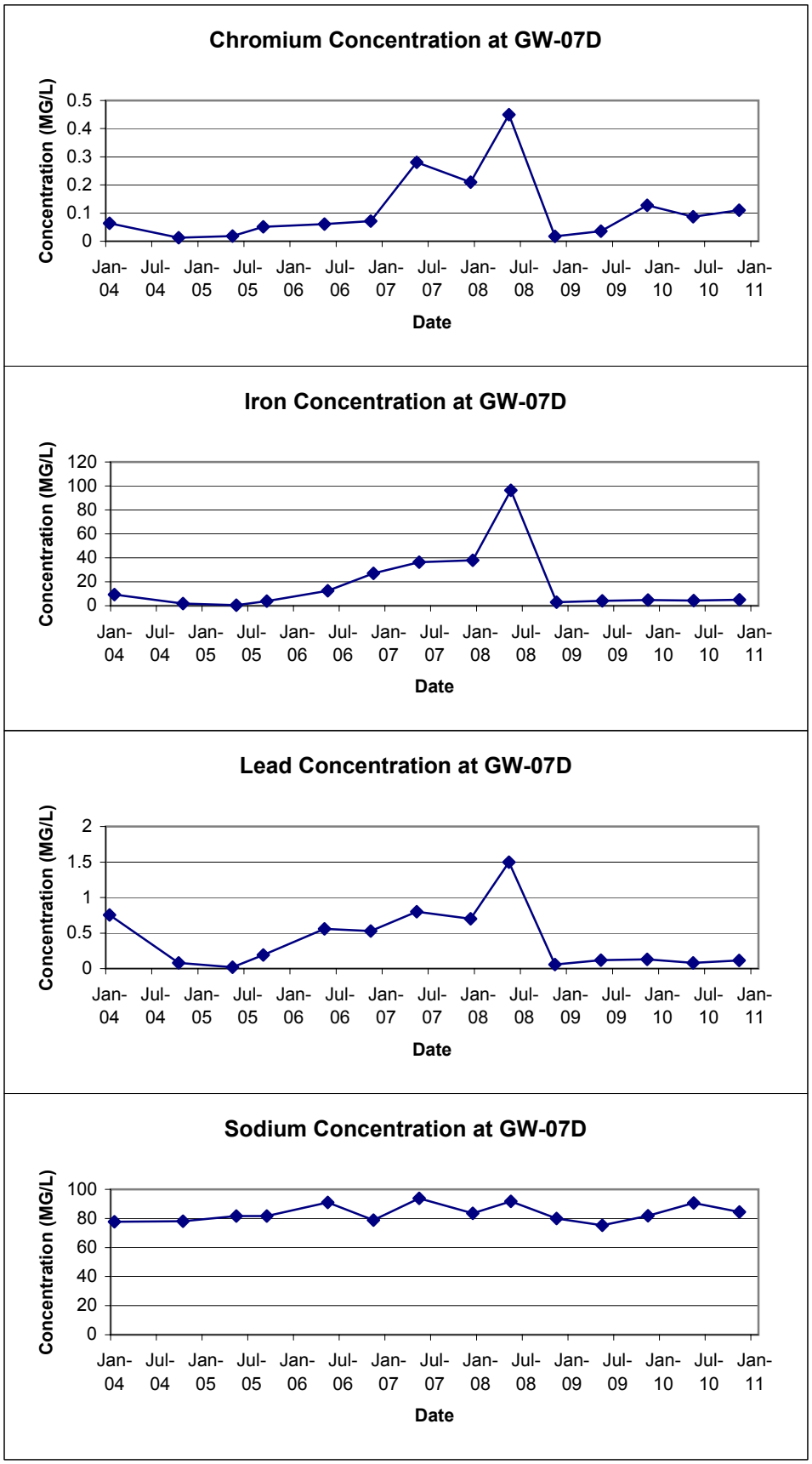


FIGURE E-8
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-7S

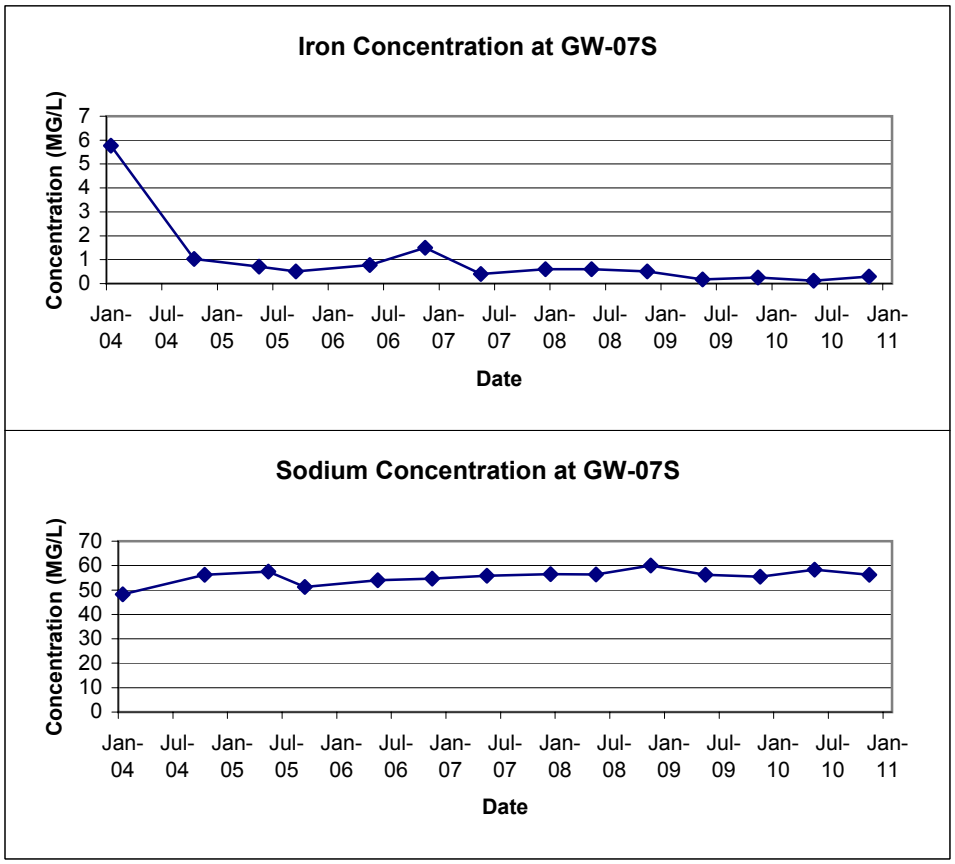


FIGURE E-9
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-8D

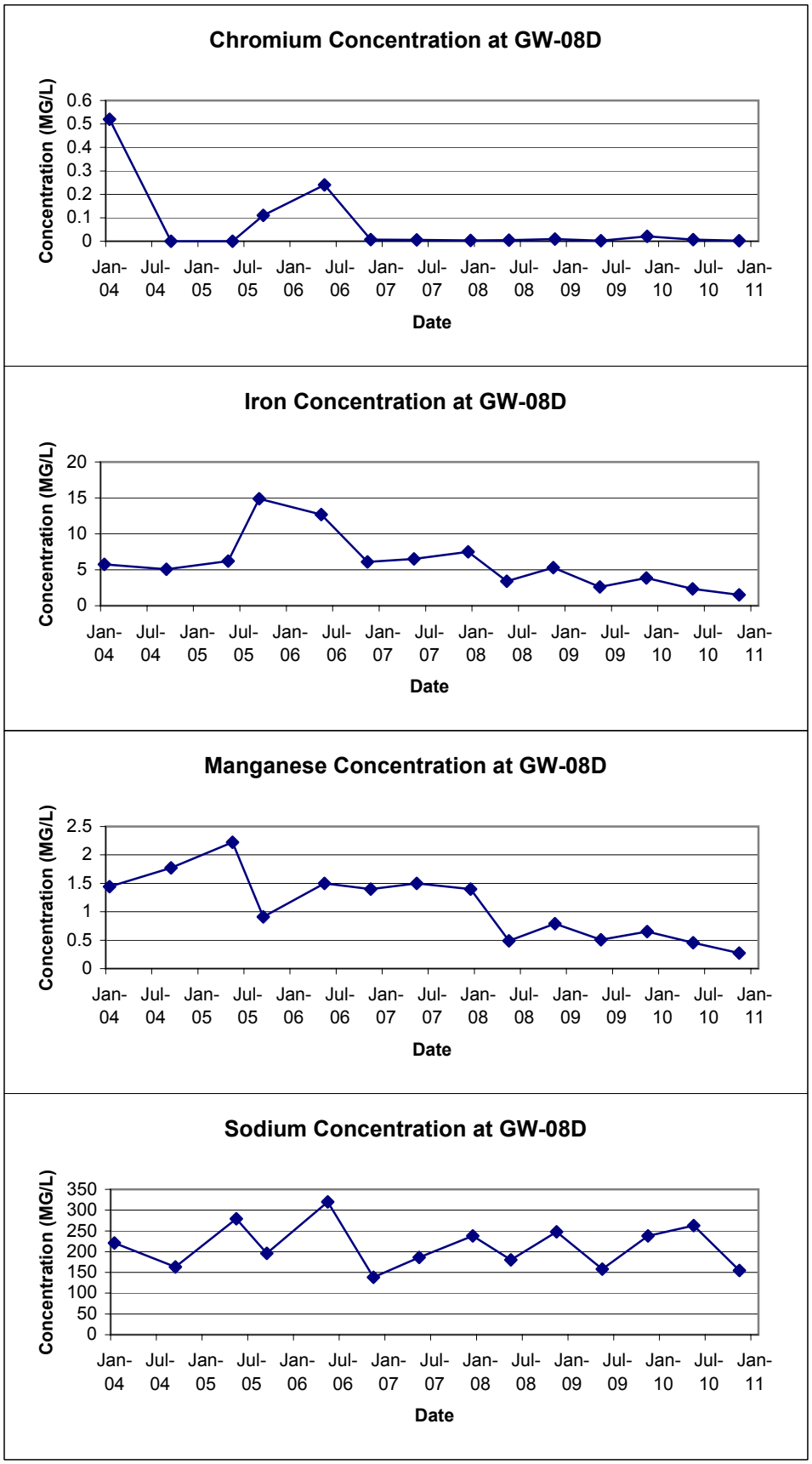


FIGURE E-10
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-8SR

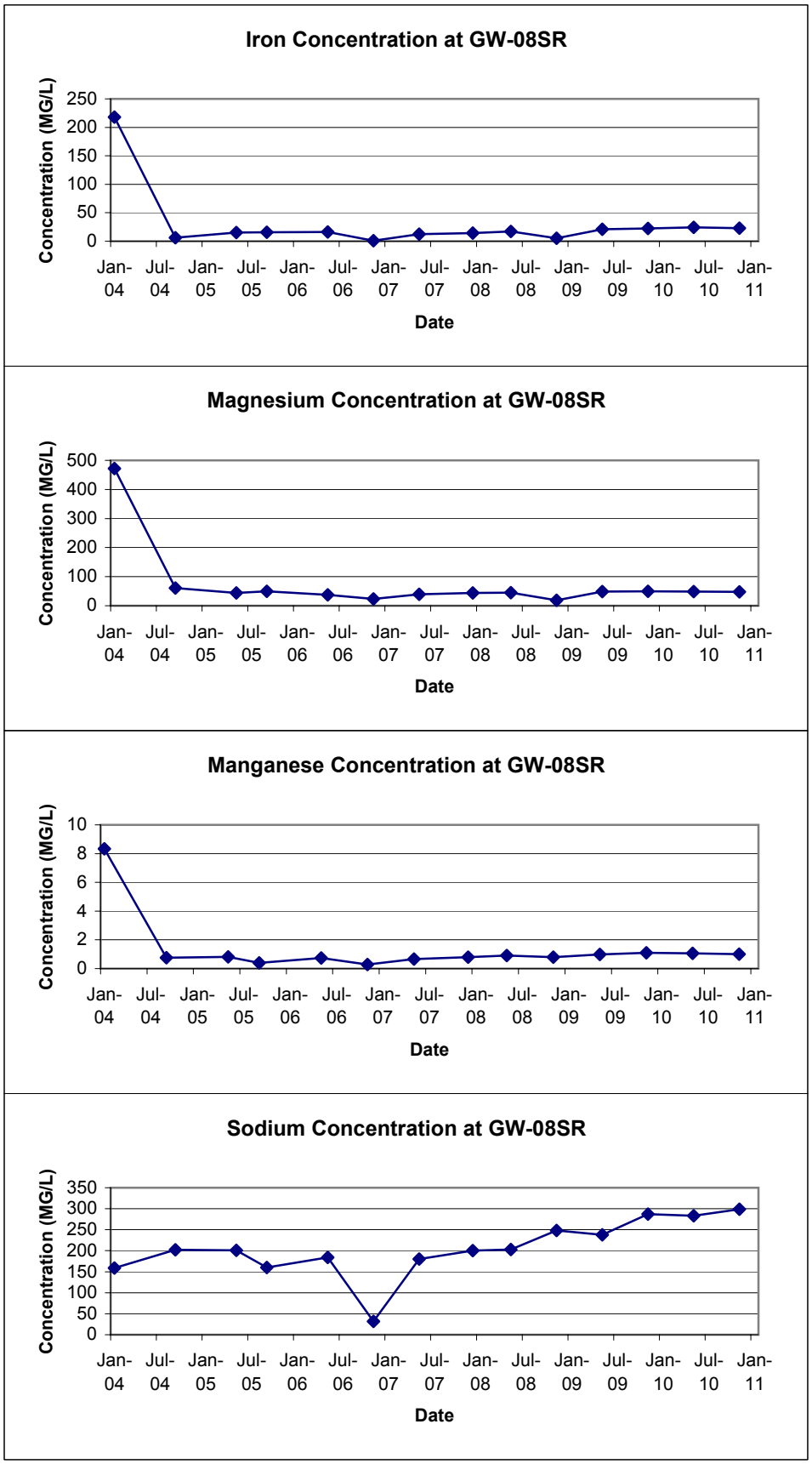


FIGURE E-11
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-26D

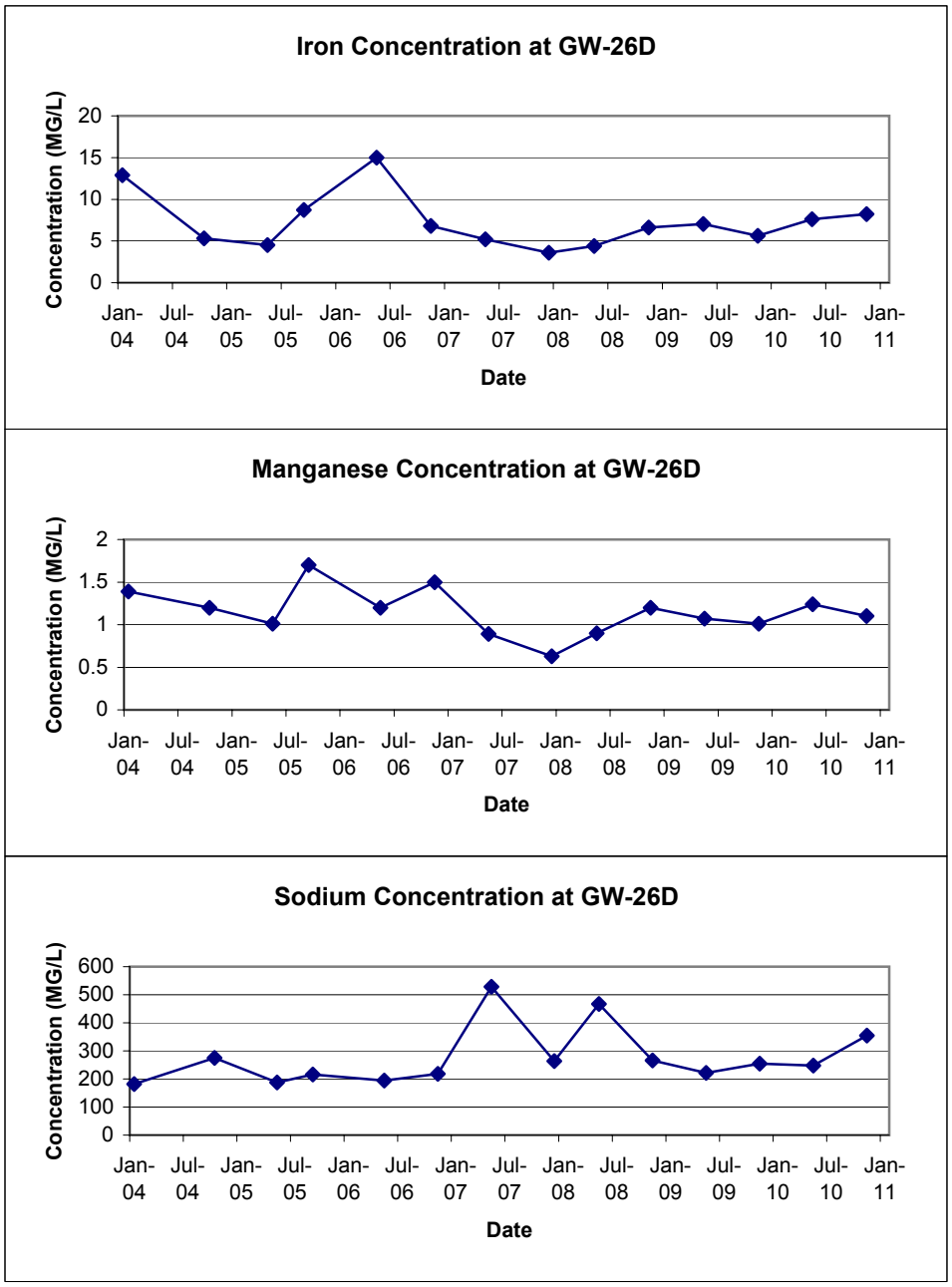


FIGURE E-12
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-28S

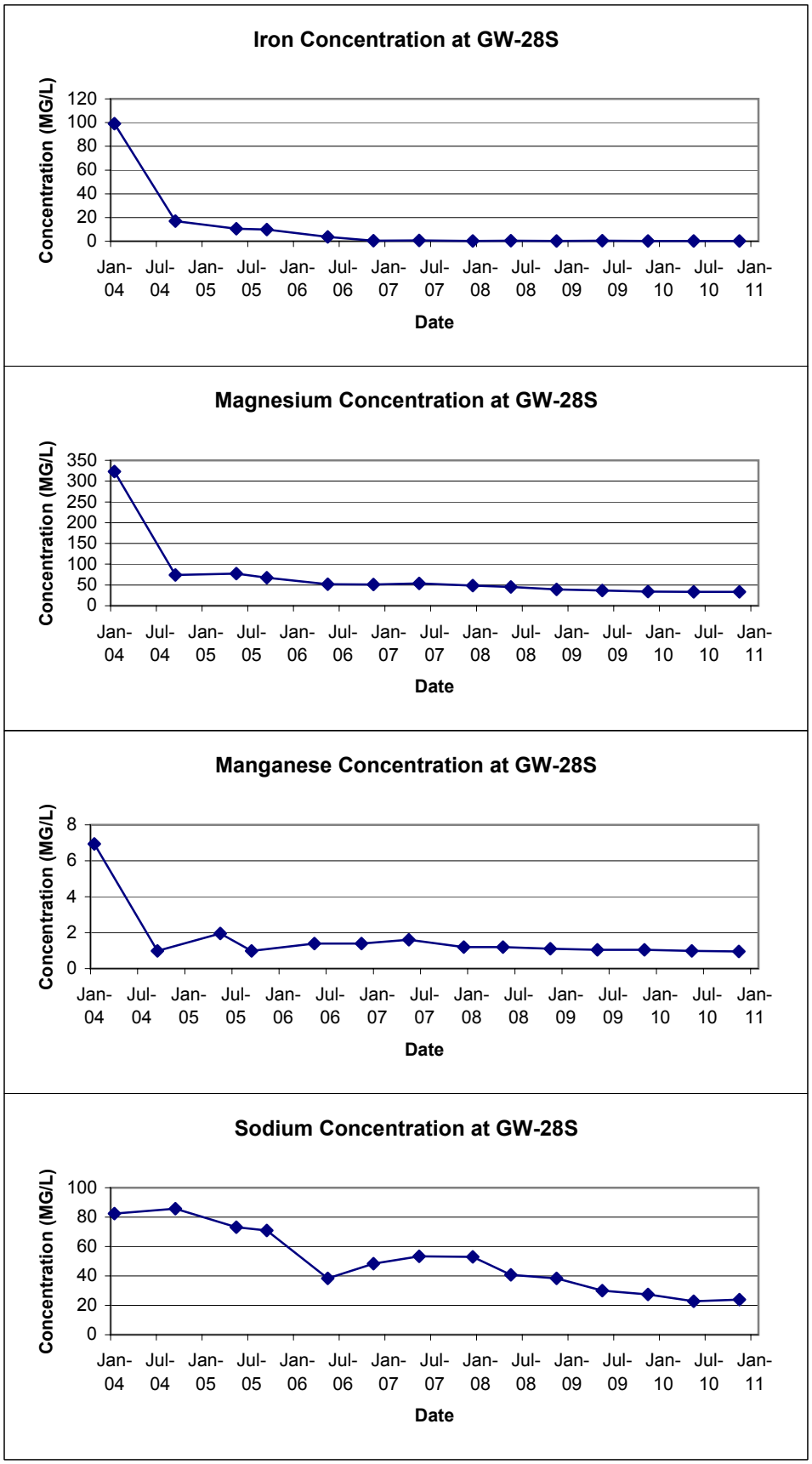


FIGURE E-13
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-29S

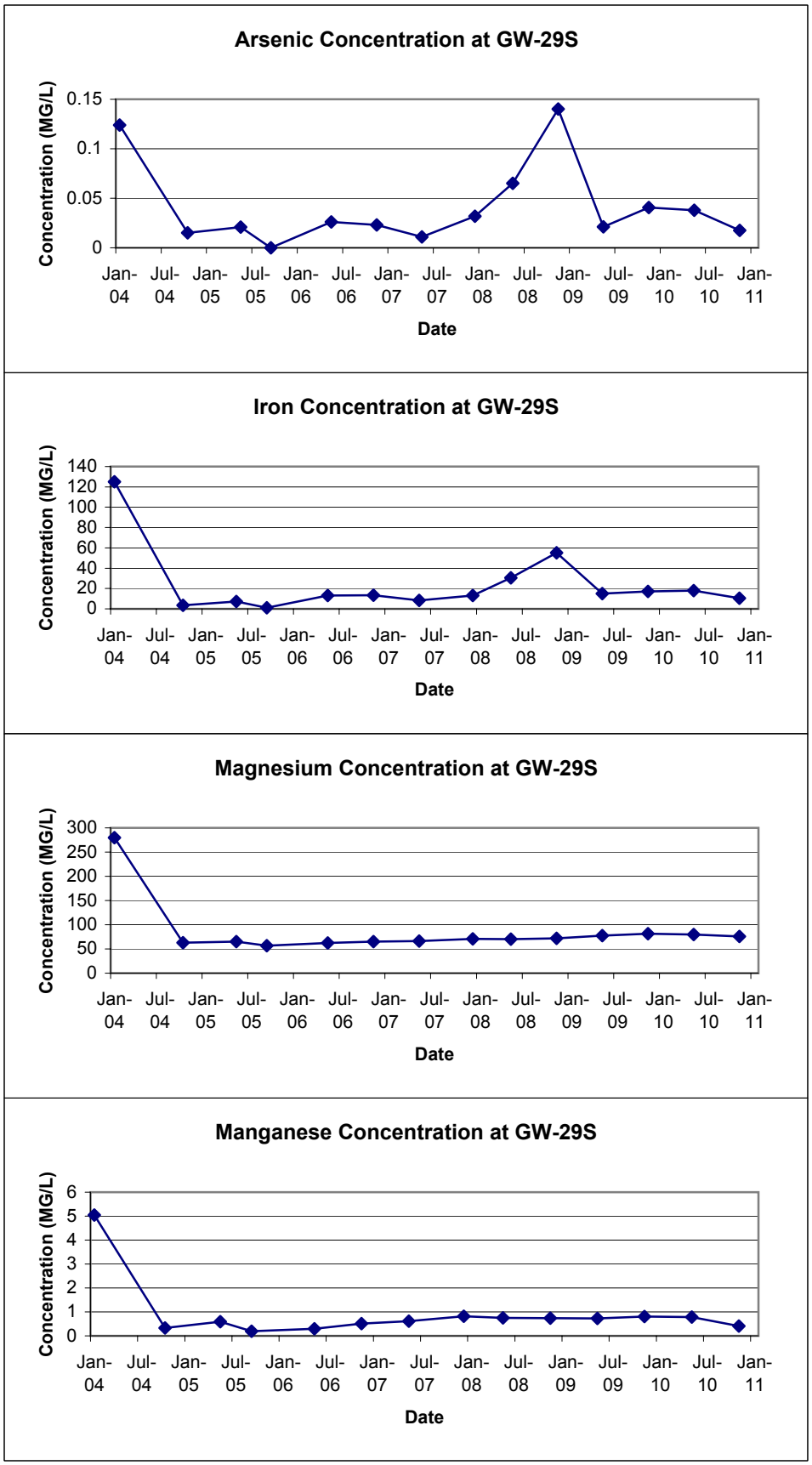


FIGURE E-13
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-29S

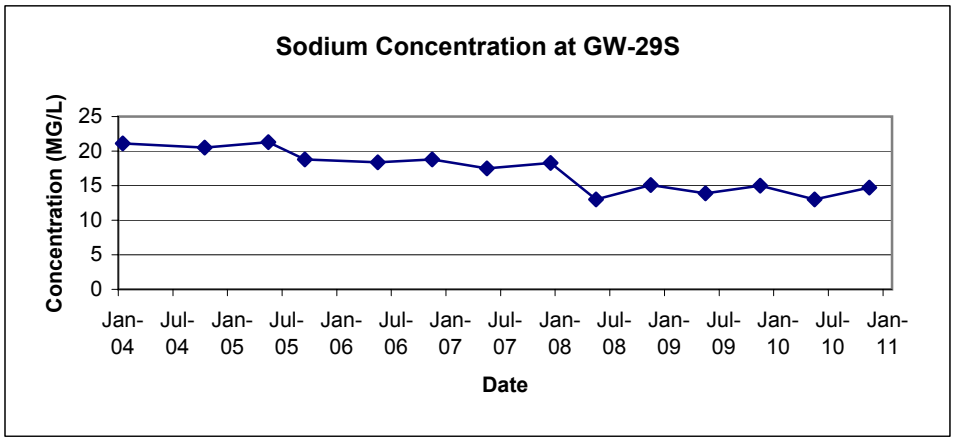


FIGURE E-14
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-30S

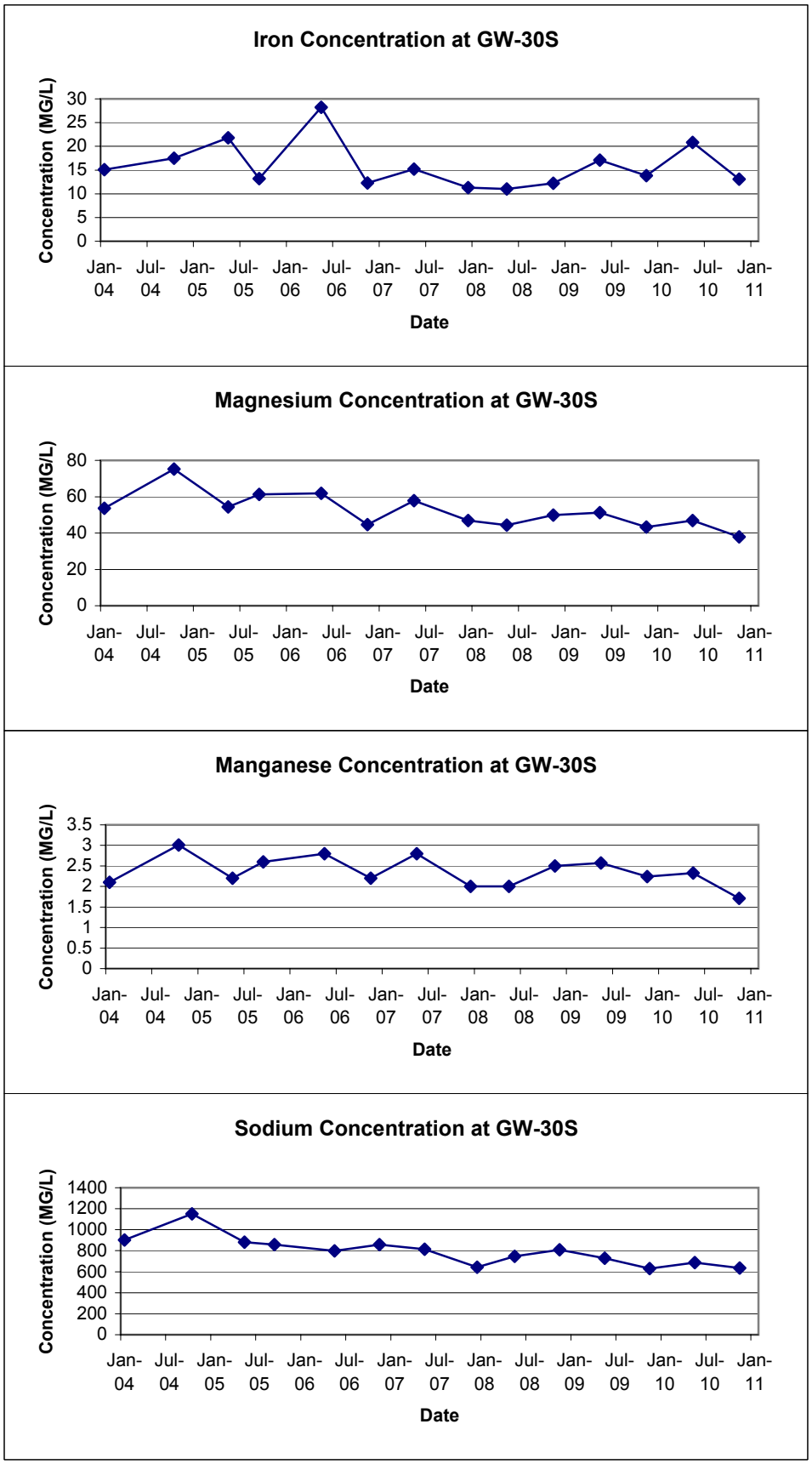


FIGURE E-15
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-31S

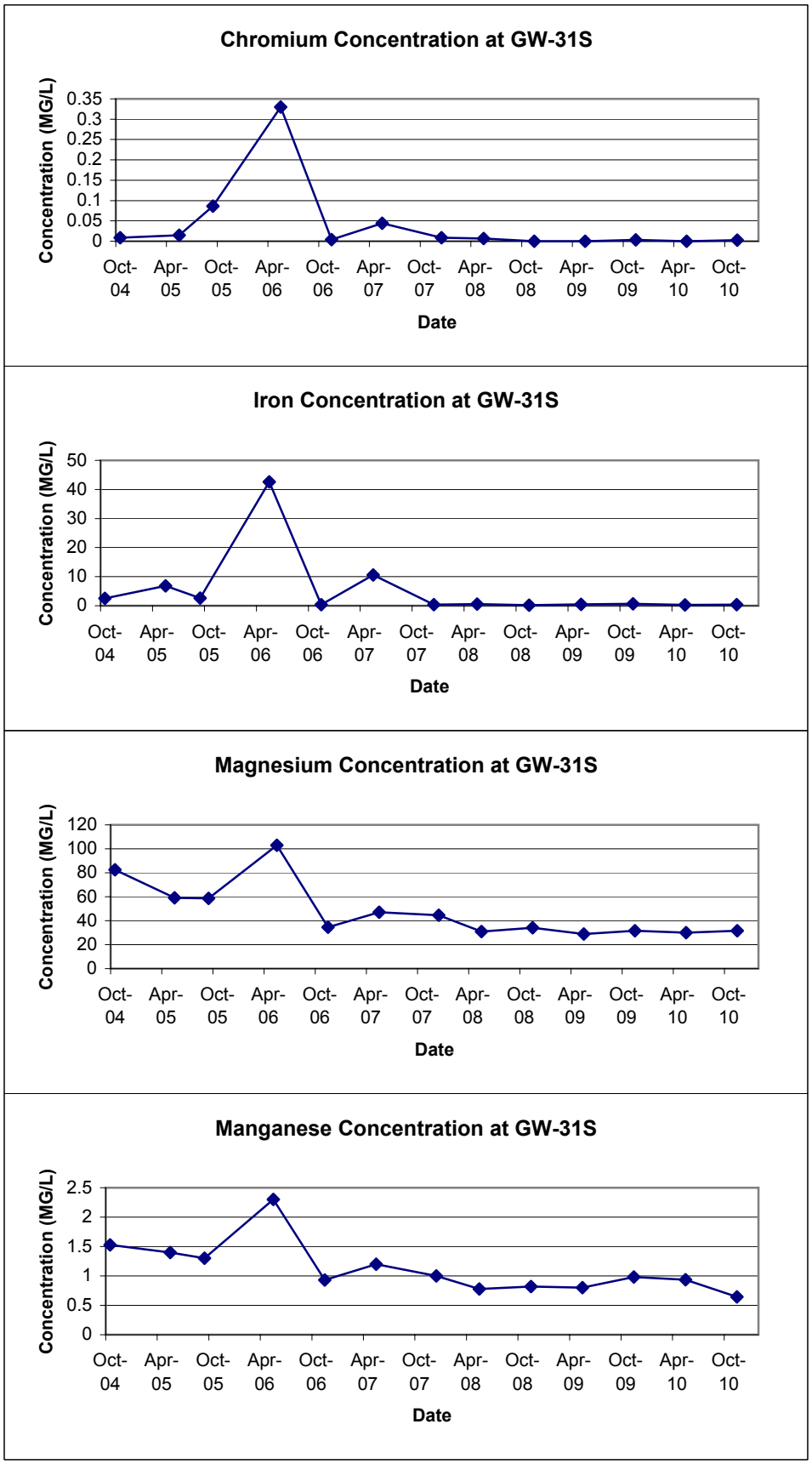


FIGURE E-16
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-32S

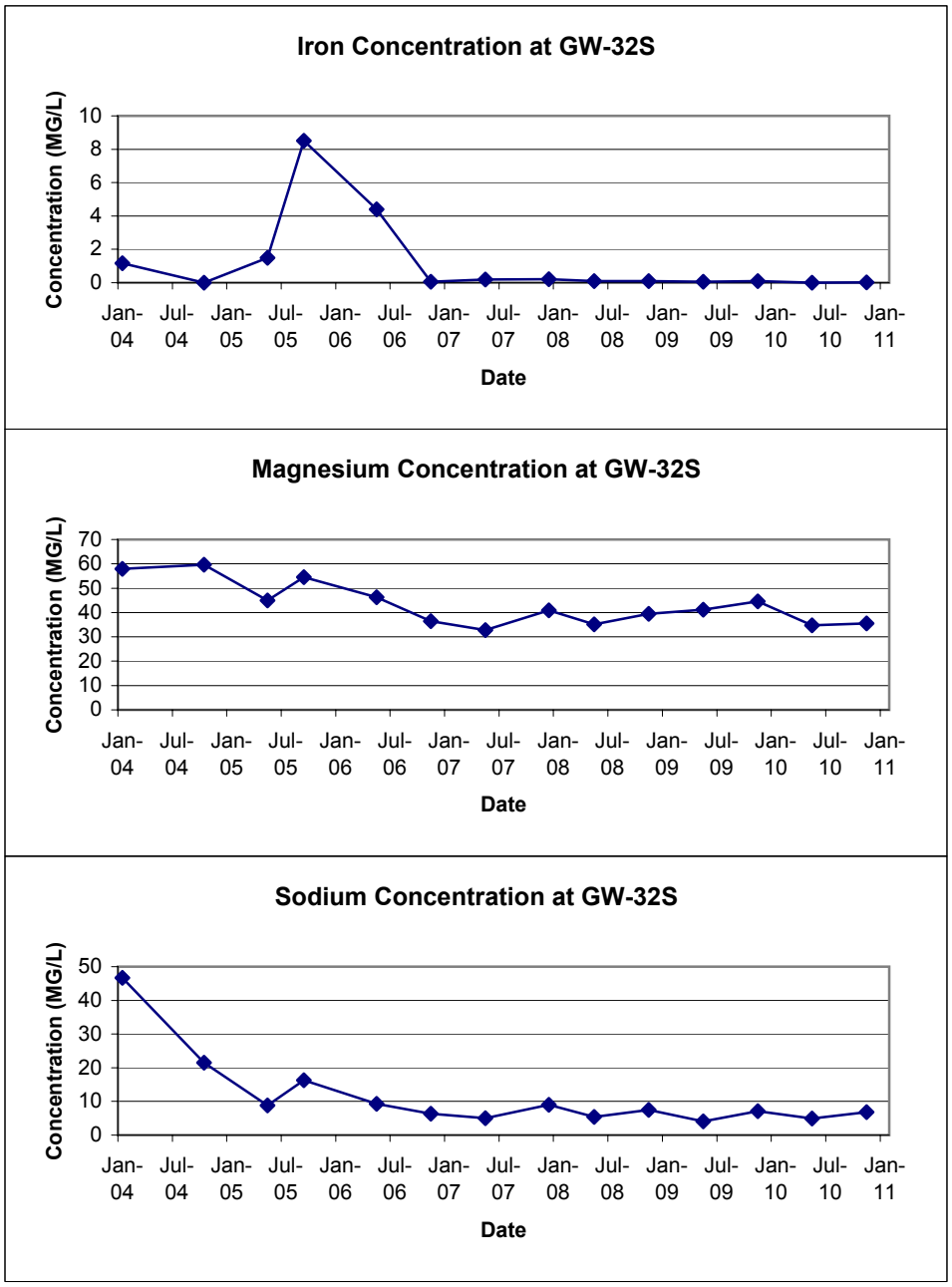


FIGURE E-17
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-33S

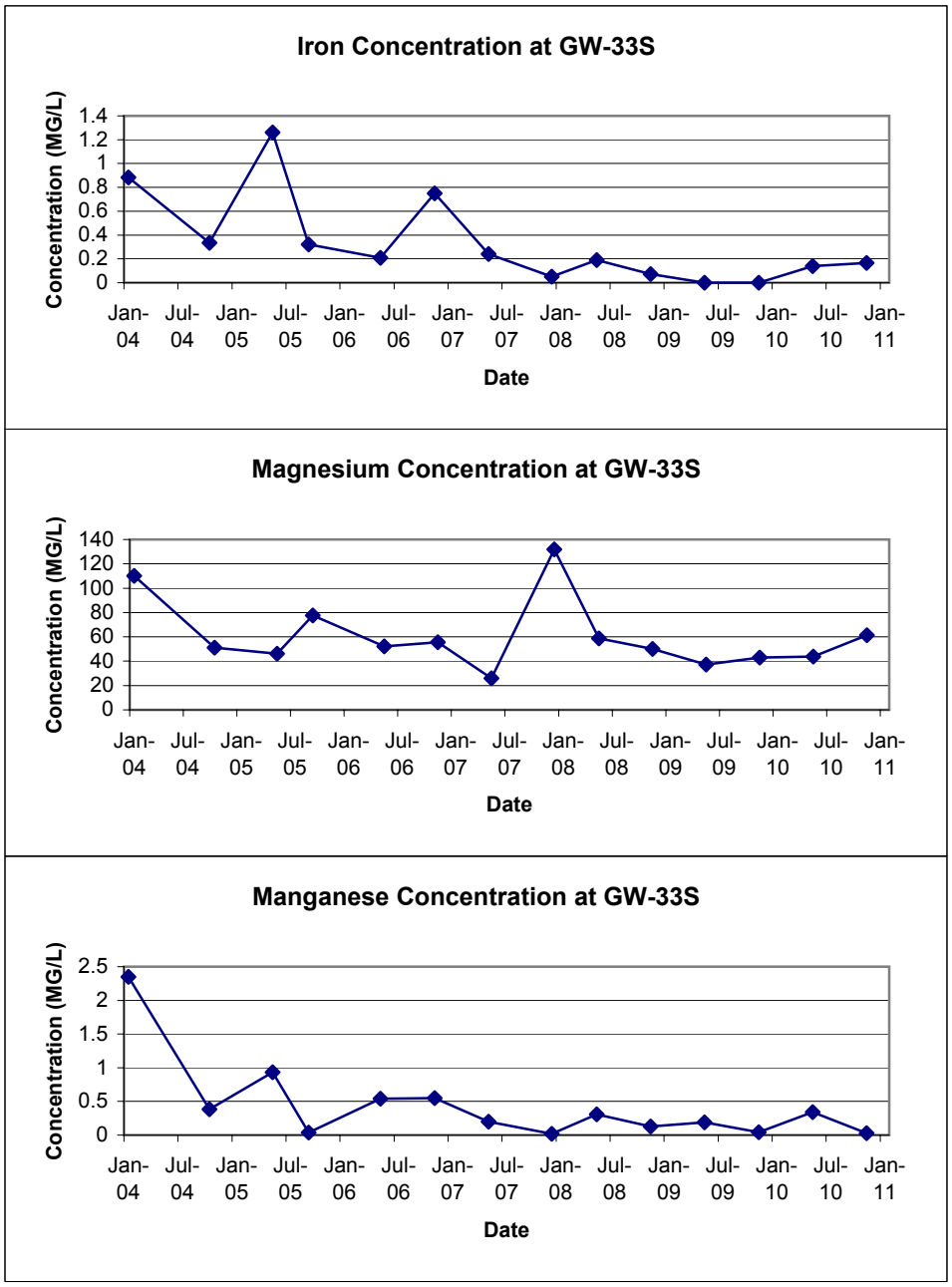


FIGURE E-18
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-34S

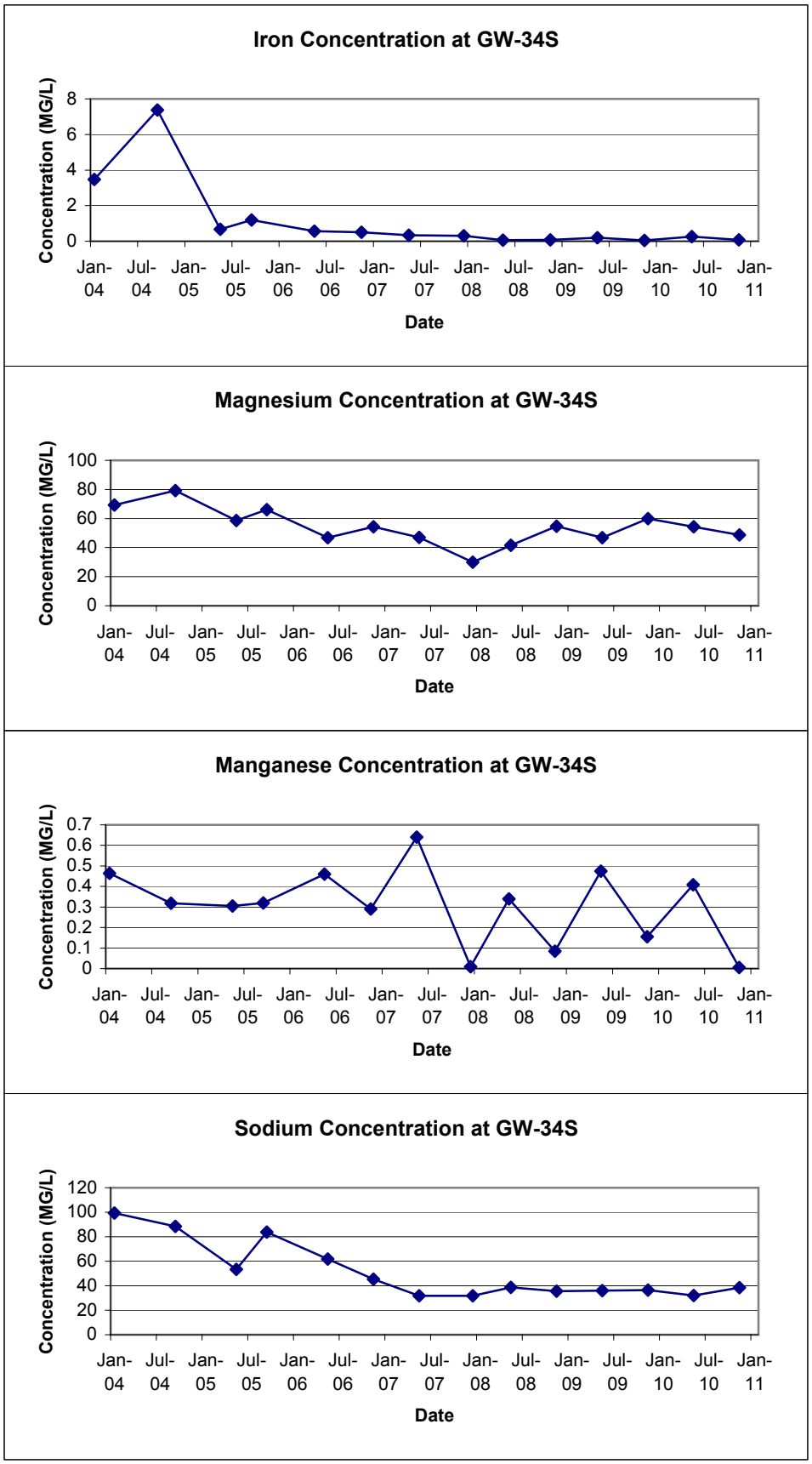
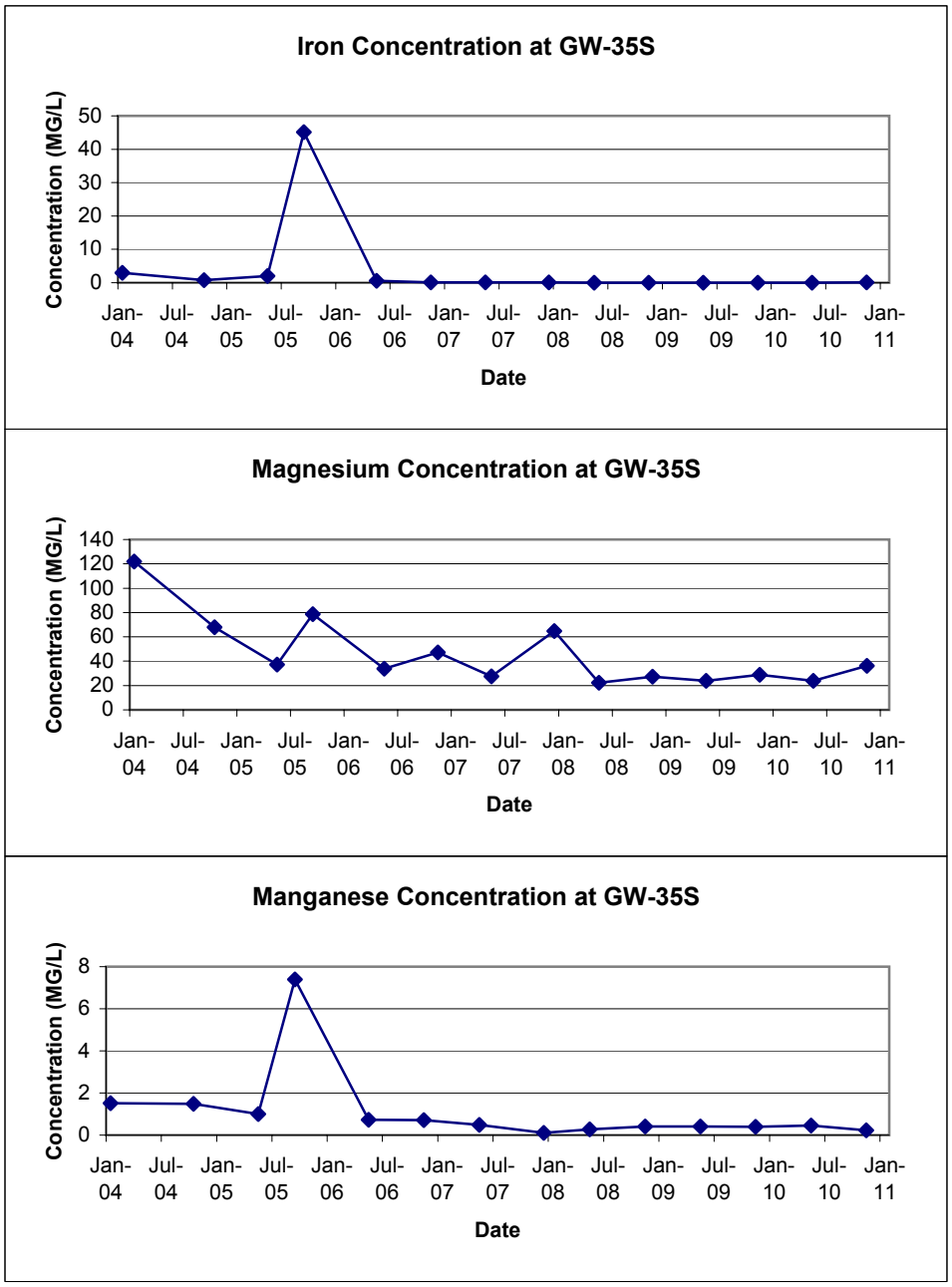


FIGURE E-19
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-35S



APPENDIX F

BSA PERMIT NO. 10-11-CH016

AUTHORIZATION TO DISCHARGE UNDER THE BUFFALO POLLUTANT DISCHARGE ELIMINATION SYSTEM

PERMIT NO. 10-11-CH016
USEPA Category 40 CFR Part 403

In accordance with the provisions of the Federal Water Pollution Control Act, as amended, and the Sewer Regulations of the Buffalo Sewer Authority, authorization is hereby granted to:

THE TOWN OF CHEEKTOWAGA

to discharge wastewater from a facility located at:

PFOHL BROTHERS LANDFILL REMEDIATION SITE
1000 AERO DRIVE
CHEEKTOWAGA, NEW YORK 14225

The wastewater permitted herein shall be discharged to the Town of Cheektowaga sewer system, which is connected to the Buffalo Municipal Sewer System and Treatment facilities, and which wastewater will be treated at the Buffalo Sewer Authority's Treatment Plant.

Issuance of this permit is based upon a permit application filed on **November 3, 2005** analytical data. This permit is granted in accordance with discharge limitations, monitoring requirements and other conditions set forth in Parts I and II hereof.

Effective this 1st day of November, 2010

To Expire the 31st day of March, 2013

General Manager

Signed this 30th **day of** September **, 2010**

PART I: SPECIFIC CONDITIONS

A. DISCHARGE LIMITATIONS & MONITORING REQUIREMENTS

During the period beginning the effective date of this Permit and lasting until the expiration date, discharge from the permitted facility outfall (see attached map) shall be limited and monitored **quarterly** by the permittee as specified below.

Sample Point	Parameter	Discharge Limitations[1] Daily Max	Sampling Requirements Period	Type
001	pH	5.0 – 12.0 S.U.	1 day	Composite[2]
	Total Cadmium	1.17 lbs.	1 day	Composite[2]
	Total Chromium	1.17 lbs.	1 day	Composite[2]
	Total Copper	3.74 lbs.	1 day	Composite[2]
	Total Lead	1.17 lbs.	1 day	Composite[2]
	Total Nickel	3.27 lbs.	1 day	Composite[2]
	Total Zinc	5.84 lbs.	1 day	Composite[2]
	Total Barium	2.34 lbs.	1 day	Composite[2]
	Total Suspended Solids[5]	250 mg/l	1 day	Composite[2]
	Total Flow	140,100 gallons[6]	1 day	Discharge meter reading

Footnotes are explained on page 5.

PART I: SPECIFIC CONDITIONS

A. DISCHARGE LIMITATIONS & MONITORING REQUIREMENTS

During the period beginning the effective date of this Permit and lasting until the expiration date, discharge from the permitted facility outfall (see attached map) shall be limited and monitored **once** by the permittee as specified below.

Sample Point	Parameter	Discharge Limitations[1] Daily Max	Sampling Requirements Period	Type
001	Total Mercury	0.001 lbs.	1 day	Composite[2]
	USEPA Test Method 608[4]	To be monitored	1 day	Grab[3]
	USEPA Test Method 624[4]	To be monitored	1 day	Grab[3]
	USEPA Test Method 625[4]	To be monitored	1 day	Grab[3]

Footnotes are explained on page 5.

PART I: SPECIFIC CONDITIONS

B. DISCHARGE MONITORING REPORTING REQUIREMENTS

During the period beginning the effective date of this permit and lasting until the expiration date, discharge monitoring results shall be summarized and reported **quarterly** by the permittee on the days specified below:

Sample Point	Parameter	Reporting Requirements	
		Initial Report	**Subsequent Reports**
001	All except USEPA Test Methods 608, 624, 625 & T Mercury	March 31, 2011	Every March 31st, June 30th, September 30th and December 31st
	USEPA Test Methods 608, 624 and 625 & T Mercury	March 31, 2011	

PART I: SPECIFIC CONDITIONS

C. SPECIAL REQUIREMENTS

1. Mass limits based on an average discharge of 140,100 gpd.

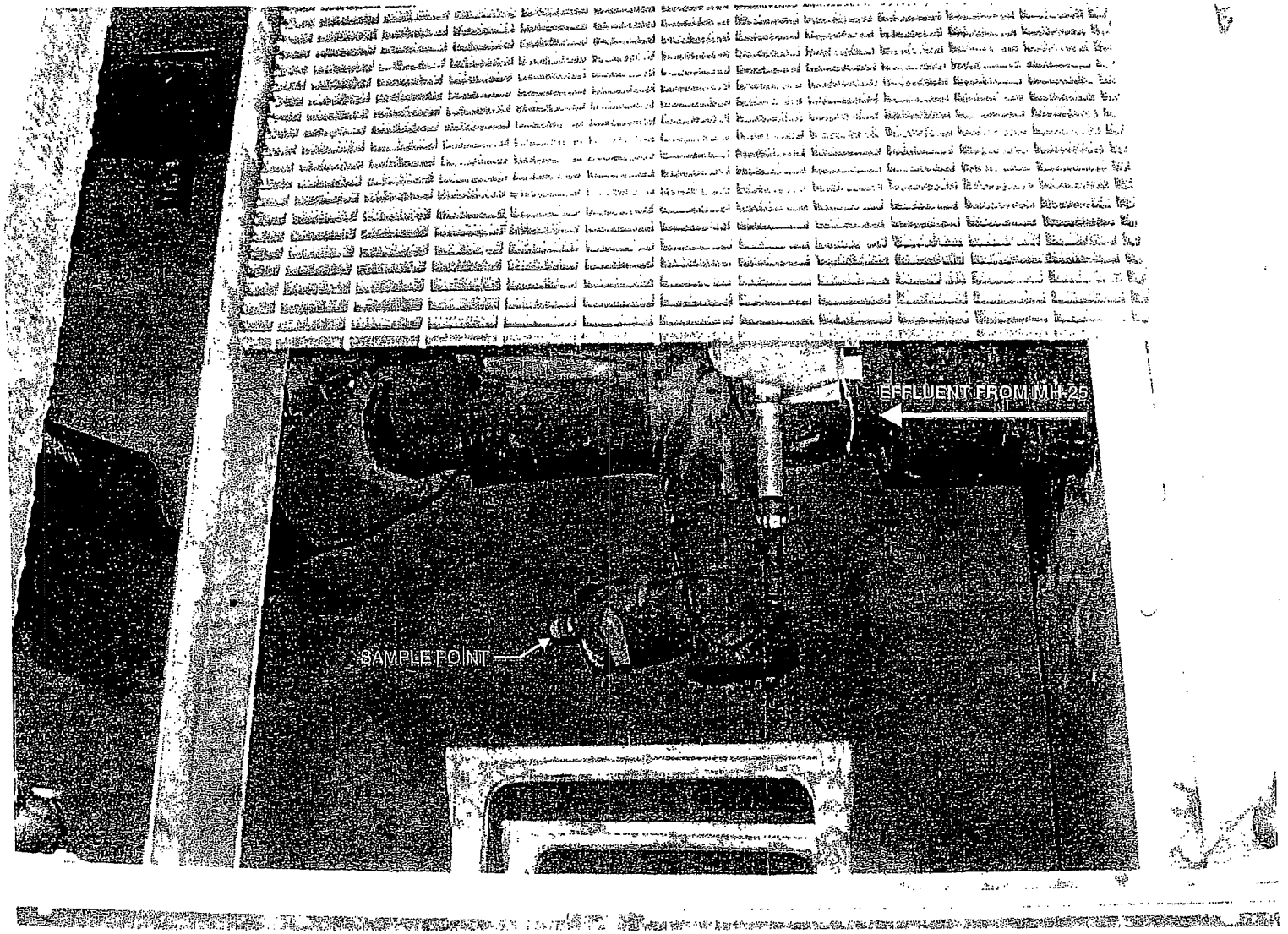
2. Composite samples may be time proportioned.

3. Four grab samples must be collected at equally spaced intervals throughout the sample day. The four (4) grab samples must be composited by a NYSDOH certified laboratory prior to analysis.

4. The permittee must report any compound whose concentration is equal to or greater than 0.01 mg/L. The permittee is not authorized to discharge any of the parameters evaluated by these test procedures which may cause or contribute to a violation of water quality standards or harm the sewerage system. Any parameter detected may, at the discretion of the BSA, be specifically limited and incorporated in this permit.

5. Surchargeable over 250 mg/L.

6. Flow is an action level only. If the permittee consistently exceeds this level, the BSA must be notified so that this permit can be modified.



URS

PFOHL BROTHERS LANDFILL
EFFLUENT SAMPLE POINT

FIGURE 1

PART II GENERAL CONDITIONS

A. MONITORING AND REPORTING

1. Local Limits

Except as otherwise specified in this permit, the permit holder shall comply with all specific prohibitions, limits on pollutants or pollutant parameters set forth in the Buffalo Sewer Authority Sewer Use Regulations, as amended from time to time, and such prohibitions, limits and parameters shall be deemed pretreatment standards for purposes of the Clean Water Act

2. Definitions

Definitions of terms contained in this permit are as defined in the Town of Cheektowaga Local Law No. 2 and the Buffalo Sewer Authority Sewer Use Regulations.

3. Discharge Sampling Analysis

All Wastewater discharge samples and analyses and flow measurements shall be representative of the volume and character of the monitored discharge. Methods employed for flow measurements and sample collections and analyses shall conform to the Buffalo Sewer Authority "Sampling Measurement and Analytical Guidelines Sheet."

4. Recording of Results

For each measurement or sample taken pursuant to the requirements of the permit, the Permittee shall record the information as required in the "Sampling Measurement and Analytical Guidelines Sheet."

5. Additional Monitoring by Permittee

If the Permittee monitors any pollutants at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified in 40 CFR Part 136 the results of such monitoring shall be included in the calculation and reporting of values required under Part I, B. Such increased frequency shall also be indicated.

6. Reporting

All reports prepared in accordance with this Permit shall be submitted to:

Mr. William Pugh, P.E.
Town Engineer
275 Alexander Ave.
Cheektowaga, New York, 14211

All self-monitoring reports shall be prepared in accordance with the BSA "Sampling Measurement and Analytical Guidelines Sheet." These reporting requirements shall not relieve the Permittee of any other reports, which may be required by the

N.Y.S.D.E.C. or the U.S.E.P.A.

B. PERMITTEE REQUIREMENTS

1. Change in Discharge

All discharges authorized herein shall be consistent with the terms and conditions of this permit and with the information contained in the TC/BPDES Permit Application on which basis this permit is granted. In the event of any facility expansions, production increases, process modifications or the installation, modification or repair of any pretreatment equipment which may result in new, different or increased discharges of pollutants, a new TC/BPDES Permit Application must be submitted prior to any change. Following receipt of an amended application, the BSA may modify this permit to specify and limit any pollutants not previously limited. In the event that the proposed change will be covered under an applicable Categorical Standard, a Baseline Monitoring Report must be submitted at least ninety (90) days prior to any discharge.

2. Records Retention

All records and information resulting from the monitoring activities required by this permit including all records of analyses performed, calibration and maintenance of instrumentation, and recordings from continuous monitoring instrumentation shall be retained at this facility for a minimum of three (3) years, or longer if requested by the General Manager and/or Town Engineer.

3. Notification of Slug, Accidental Discharge or Spill

In the event that a slug, accidental discharge or any spill occurs at the facility for which this permit is issued, it is the responsibility of the Permittee to immediately notify the B.S.A. Treatment Plant at 883-1820 of the quantity and character of such discharge. If requested by the B.S.A., within five (5) days following all such discharges, the Permittee shall submit a report describing the character and duration of the discharge, the cause of the discharge, and measures taken or that will be taken to prevent a recurrence of such discharge.

4. Noncompliance Notification

If, for any reason, the Permittee does not comply with or will be unable to comply with any discharge limitation specified in this permit, the Permittee or their assigns must verbally notify the Industrial Waste Section at 883-1820 within twenty-four (24) hours of becoming aware of the violation. The Permittee shall provide the Industrial Waste Section with the following information, in writing, within five (5) days of becoming aware of such condition:

a. a description of the discharge and cause of noncompliance and;

b. the period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate and prevent recurrence of the noncomplying discharge.

5. Adverse Impact

The Permittee shall take all reasonable steps to minimize any adverse impact to the Buffalo and Town Sewerage System resulting from noncompliance with any discharge limitations specified in this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

6. Waste Residuals

Solids, sludges, filter backwash or other pollutants removed in the course of treatment or control of wastewaters and/or the treatment of intake waters, shall be disposed of in a manner such as to prevent any pollutant from such materials from entering the Buffalo or Town Sewer System.

7. Power Failures

In order to maintain compliance with the discharge limitations and prohibitions of this permit, the Permittee shall provide an alternative power source sufficient to operate the wastewater control facilities; or, if such alternative power source is not provided the Permittee shall halt, reduce or otherwise control production and/or controlled discharges upon the loss of power to the wastewater control facilities.

8. Treatment Upsets

a. Any industrial user which experiences an upset in operations that places it in a temporary state of noncompliance, which is not the result of operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation, shall inform the Industrial Waste Section immediately upon becoming aware of the upset. Where such information is given verbally, a written report shall be filed by the user within five (5) days. The report shall contain:

   (i) A description of the upset, its cause(s) and impact on the discharger's compliance status.

   (ii) The duration of noncompliance, including exact dates and times of noncompliance, and if the noncompliance is continuing, the time by which compliance is reasonably expected to be restored

   (iii) All steps taken or planned to reduce, eliminate, and prevent recurrence of such an upset.

b. An industrial user which complies with the notification provisions of this Section in a timely manner shall have an affirmative defense to any enforcement action brought by the Industrial Waste Section/Town Engineer for any noncompliance of the limits in this permit, which arises out of violations attributable to and alleged to have occurred during the period of the documented and verified upset.

9. Treatment Bypasses

a. A bypass of the treatment system is prohibited unless the following conditions are met:

(i) The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; or

(ii) There was no feasible alternative to the bypass, including the use of auxiliary treatment or retention of the wastewater; and

(iii) The industrial user properly notified the Industrial Waste Section as described in paragraph b. below.

b. Industrial users must provide immediate notice to the Industrial Waste Section upon delivery of an unanticipated bypass. If necessary, the Industrial Waste Section may require the industrial user to submit a written report explaining the cause(s), nature, and duration of the bypass, and the steps being taken to prevent its recurrence.

c. An industrial user may allow a bypass to occur which does not cause pretreatment standards or requirements to be violated, but only if it is for essential maintenance to ensure efficient operation of the treatment system. Industrial users anticipating a bypass must submit notice to the Industrial Waste Section at least ten (10) days in advance. The Industrial Waste Section may only approve the anticipated bypass if the circumstances satisfy those set forth in paragraph a. above.

C. PERMITTEE RESPONSIBILITIES

1. Permit Availability

The originally signed permit must be available upon request at all times for review at the address stated on the first page of this permit.

2. Inspections

The Permittee shall allow the representatives of the Buffalo Sewer Authority or Town of Cheektowaga upon the presentation of credentials and during normal working hours or at any other reasonable times, to have access to and copy any records required in this permit; and to sample any discharge of pollutants.

3. Transfer of Ownership or Control

In the event of any change in control or ownership of facilities for which this permit has been issued the permit shall become null and void. The succeeding owner shall submit a completed Town of Cheektowaga/ Buffalo Sewer Authority permit application prior to discharge to the sewer system.

D. PERMITTEE LIABILITIES

1. Permit Modification

After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to the following:

a. Violation of any terms or conditions of this permit,

b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts,

c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

2. Imminent Danger

In the event there exists an imminent danger to health or property, the permitter reserves the right to take immediate action to halt the permitted discharge to the sewerage works.

3. Civil and Criminal Liability

Nothing in this permit shall relieve the Permittee from any requirements, liabilities, or penalties under provisions of the Town of Cheektowaga Local Law No. 2, the "Sewer Regulations of the Buffalo Sewer Authority" or any Federal, State and/or local laws or regulations.

4. Penalties for Violations of Permit Conditions

The "Sewer Regulations of the Buffalo Sewer Authority" and Town of Cheektowaga Local Law No. 2, provide that any person who violates a B.P.D.E.S. permit condition is liable to the Authority and/or the Town for a civil penalty of up to $10,000 per day for each violation. Any person who willfully or negligently violates permit conditions will be referred to the New York State Attorney General.

E. NATIONAL PRETREATMENT STANDARDS

If a pretreatment standard or prohibition (including any Schedule of Compliance specified in such pretreatment standard or prohibition) is established under Section 307 (b) of the Act for a pollutant which is present in the discharge and such standard or prohibition is more stringent than any limitation for such pollutant in this permit, this permit shall be revised or modified in accordance with such pretreatment standard or prohibition.

F. PLANT CLOSURE

In the event of plant closure, the Permittee is required to notify the Industrial Waste Section/Town Engineer in writing as soon as an anticipated closure date is determined, but in no case later than five (5) days of the actual closure.

G. CONFIDENTIALITY

Except for data determined to be confidential under Section 308 of the Act, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Buffalo Sewer Authority or Town Engineer of the Town of Cheektowaga. As required by the Act, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the Act.

H. SEVERABILITY

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

APPENDIX G

DISCHARGE REPORT SUMMARY TABLES

SAMPLING FIELD SHEET

URS

Client Name: Pfohl Brothers Landfill

Address: Aero Drive, Cheektowaga, NY

Contact: Bill Pugh, P.E. Phone: 716-897-7288

Installation:

Sample Point: SP-001

Sample Location: Meter Chamber - ball valve on 6" HDPE forcemain

Date: 9/8/10 Crew: R. Murphy, T. Ifkovich, R. Piurek

Weather: 64° F, cloudy

Sampling Device: NA

Time of Installation: 14:12 Type of Sample: Composite

Sample Interval: NA Sample Volume: NA

Comments and Observations: Well WW-5 was running at the time of sample setup.
PLC display volumes: WW-01 (2,478,443 gals), WW-02 (45,595 gals), WW-03 (72 gals),
WW-04 (865,682 gals), WW-05 (6,730,360 gals), WW-06 (5,224,667 gals) & MH-25 (15,410,096 gals).

Date: 9/9/10 Crew: R. Murphy, T. Ifkovich, R. Piurek

Weather: 64° F, cloudy

Time of Collection: 14:12

Field Measurements:

14:15/RJM
(time/initial)

pH Calibration: Buffer 7- 7 Buffer 4- 4 Buffer 10- 10

pH Measurement: 7.9

Temperature: 20.0°C

Identification: EFF-090910

Physical Observations: Note there was negative flow present at WW-04, the check valve must be faulty/ allowing backflow.

Laboratory: TestAmerica, Buffalo, NY

Comments: No wells were running at the time of sample collection.
PLC display volumes: WW-01 (2,478,443 gals), WW-02 (45,595 gals), WW-03 (72 gals),
WW-04 (863,255 gals), WW-05 (6,735,752 gals), WW-06 (5,224,667 gals) & MH-25 (15,415,703 gals).

Reviewed By: _____ Date: _____
(Supervisor)

TABLE 1

PFOHL BROTHERS LANDFILL - EFFLUENT MONITORING ANALYTICAL RESULTS, TOTAL FLOW, AND MASS LOADINGS SEPTEMBER 2010

Sample ID	EFF-090910			
Matrix	Effluent Water			
Date Sampled	9/9/2010			
Parameter	Result	Mass Loading	Discharge Limitation	Violations
	(mg/L)	(lbs/day)	(lbs/day)	(Y/N)
Total Barium	0.272	0.013	2.34	No
Total Cadmuim	0.0003	0.00001	1.17	No
Total Chromium	0.0014	0.00007	1.17	No
Total Copper	0.0018	0.00008	3.74	No
Total Lead	ND(1)	NA(2)	1.17	No
Total Nickel	0.0062	0.0003	3.27	No
Total Zinc	0.0056	0.0003	5.84	No
Total Suspended Solids	8.0	NA	250 (3)	No
pH (4)	7.9	NA	5.0 - 12.0	No
Total Flow (5)		5,607	140,000	No

Notes:

(1) ND = Not Detected
(2) NA = Not Applicable
(3) Discharge Limitation in units of mg/L
(4) pH measurement and Discharge Limitation in Standard Units
(5) Total Flow reported in gallons, sample was collected over a 24 hour period

Calculation: $$\left(\frac{x\ mg}{L}\right)\left(\frac{y\ gal}{day}\right)\left(\frac{1\ lb}{453{,}600\ mg}\right)\left(\frac{3.785\ L}{gal}\right) = \frac{x \times y}{119{,}841}\ \frac{lb}{day}$$

SAMPLING FIELD SHEET

Client Name: Pfohl Brothers Landfill

Address: Aero Drive, Cheektowaga, NY

Contact: Bill Pugh, P.E. Phone: 716-897-7288

Installation:

Sample Point: SP-001

Sample Location: Meter Chamber - ball valve on 6" HDPE forcemain

Date: 12/21/10 Crew: R. Murphy, R. Piurek, M. Kandefer

Weather: 32° F, partly cloudy

Sampling Device: NA

Time of Installation: 13:18 Type of Sample: Composite

Sample Interval: NA Sample Volume: NA

Comments and Observations: No wells running at the time of sample setup.
PLC display volumes: WW-01 (2,643,258 gals), WW-02 (40,673 gals), WW-03 (144,111 gals),
WW-04 (705,503 gals), WW-05 (8,230,988 gals), WW-06 (7,092,713 gals) & MH-25 (19,124,434 gals).

Date: 12/22/10 Crew: R. Murphy, R. Piurek, M. Kandefer

Weather: 29° F, cloudy

Time of Collection: 13:30

Field Measurements:

13:30/RJM
(time/initial)

pH Calibration: Buffer 7- 7 Buffer 4- 4 Buffer 10- 10

pH Measurement: 7.8

Temperature: 14.0°C

Identification: EFF-122210

Physical Observations:

Laboratory: TestAmerica, Buffalo, NY

Comments: No wells were running at the time of sample collection.
PLC display volumes: WW-01 (2,643,258 gals), WW-02 (40,673 gals), WW-03 (144,111 gals),
WW-04 (705,503 gals), WW-05 (8,245,214 gals), WW-06 (7,092,713 gals) & MH-25 (19,139,738 gals).

Reviewed By: _____ Date: _____
(Supervisor)

TABLE 1

PFOHL BROTHERS LANDFILL - EFFLUENT MONITORING ANALYTICAL RESULTS, TOTAL FLOW, AND MASS LOADINGS DECEMBER 2010

Sample ID	**EFF-122210**			
Matrix	**Effluent Water**			
Date Sampled	**12/22/2010**			
Parameter	**Result**	**Mass Loading**	**Discharge Limitation**	**Violations**
	(mg/L)	**(lbs/day)**	**(lbs/day)**	**(Y/N)**
Total Barium	0.279	0.036	2.34	No
Total Cadmuim	0.0005	0.00006	1.17	No
Total Chromium	ND[(1)]	NA[(2)]	1.17	No
Total Copper	ND	NA	3.74	No
Total Lead	ND	NA	1.17	No
Total Nickel	0.0043	0.0005	3.27	No
Total Zinc	0.0068	0.0009	5.84	No
Total Suspended Solids	6.0	NA	250 [(3)]	No
pH [(4)]	7.8	NA	5.0 - 12.0	No
Total Flow [(5)]		15,304	140,000	No

Notes:

(1) ND = Not Detected
(2) NA = Not Applicable
(3) Discharge Limitation in units of mg/L
(4) pH measurement and Discharge Limitation in Standard Units
(5) Total Flow reported in gallons, sample was collected over a 24 hour period

Calculation: $$\left(\frac{x\ mg}{L}\right)\left(\frac{y\ gal}{day}\right)\left(\frac{1\ lb}{453{,}600\ mg}\right)\left(\frac{3.785\ L}{gal}\right) = \frac{x \times y}{119{,}841}\ \frac{lb}{day}$$

APPENDIX H

MONITORING WELL INSPECTION LOGS

WELL INSPECTION SUMMARY

Project Name: *Pfohl Brothers Landfill* Project Number: *11175616.00000*

Inspection Crew Members: *R. Murphy, T. Ifkovich* Supervisor: *J. Sundquist*

Date(s) of Inspection: *November 1, 2010*

Well I.D. Number	*Lock*	*Surface Seal*	*Protective Casing*	*Riser*	*Water Level (ft. BTOC)*	*Well Depth (ft. BTOC)*	*Other Comments*
GW-1S	OK	OK	OK	Bulged	4.73	14.94	
GW-1D	OK	OK	OK	Bulged	3.57	39.65	
GW-3S	OK	OK	OK	OK	10.79	13.22	
GW-3D	OK	OK	OK	OK	2.46	35.7	
GW-4S	OK	OK	OK	OK	8.12	16.23	
GW-4D	OK	OK	OK	OK	14.28	45.57	
GW-7S	OK	OK	OK	OK	6.31	35.04	
GW-7D	OK	OK	OK	Damaged	47.00	60.45	

Additional Comments: _____

_____

_____

WELL INSPECTION SUMMARY

Project Name: *Pfohl Brothers Landfill* Project Number: *11175616.00000*

Inspection Crew Members: *R. Murphy, T. Ifkovich* Supervisor: *J. Sundquist*

Date(s) of Inspection: *November 1, 2010*

Well I.D. Number	*Lock*	*Surface Seal*	*Protective Casing*	*Riser*	*Water Level (ft. BTOC)*	*Well Depth (ft. BTOC)*	*Other Comments*
GW-8SR	OK	OK	OK	OK	5.38	13.02	
GW-8D	OK	OK	OK	OK	6.46	36.54	
GW-26D	OK	OK	OK	OK	7.31	40.70	
GW-28S	OK	OK	OK	OK	10.60	15.54	
GW-29S	OK	OK	OK	OK	10.05	20.02	
GW-30S	OK	OK	OK	OK	8.33	17.97	
GW-31S	OK	OK	OK	OK	6.50	9.57	
GW-32S	OK	OK	OK	OK	6.04	9.93	

Additional Comments: _____

_____

_____

WELL INSPECTION SUMMARY

Project Name: *Pfohl Brothers Landfill* Project Number: *11175616.00000*

Inspection Crew Members: *R. Murphy, T. Ifkovich* Supervisor: *J. Sundquist*

Date(s) of Inspection: *November 1, 2010*

Well I.D. Number	*Lock*	*Surface Seal*	*Protective Casing*	*Riser*	*Water Level (ft. BTOC)*	*Well Depth (ft. BTOC)*	*Other Comments*
GW-33S	OK	OK	OK	OK	6.26	8.21	
GW-34S	OK	OK	OK	OK	5.62	10.00	
GW-35S	OK	OK	OK	OK	6.27	7.46	

Additional Comments: _____

_____

_____