SEMI-ANNUAL REPORT
OPERATION AND MAINTENANCE
JULY 2007 TO DECEMBER 2007
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

March 2008

URS

March 21, 2008

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 are two copies of the eighth 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 are Data Usability Summary Reports for laboratory analyses associated with the sampling events. 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, PhD
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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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 prepared by Conestoga-Rovers & Associates in July 2002. This report is the eighth 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 2007 through December 2007 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 sheets 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 August 2007 through December 2007, including graphs showing daily total discharge (gallons) as a function of calendar day, are presented in Appendix B. The Totalizer readings were reset on June 30, 2007 to zero, to coincide with the Buffalo Sewer Authority (BSA) fiscal year for cost allocation purposes.

- The wet well pumps were shutdown during wet weather flow conditions throughout the year to reduce hydraulic loading to the sewer. As recommended by NYSDEC, the Town of Cheektowaga has started tracking shutdown events in December 2007. The first shutdown event log is attached to the December 2007 Direct Discharge Flow Data Report, located in Appendix B.

- Plowed snow to access the Control Building when necessary.

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

- Calibration and repair of flow meter, level instrumentation, replacement of surge suppressors, and replacement of fuses occurred throughout the July and December 2007 period.

- Surge suppressor equipment was replaced in WW2 on August 14, 2007 and in WW5 on December 21, 2007.

- On/off set points were adjusted for WW6 to prevent pump shutdown due to turbulence.

- A new Dell desktop computer was acquired and installation began on July 13, 2007. Software installation/configuration was completed during the latter part of July. A new UPS unit was installed for the new computer on October 12, 2007.

- Engaged contractor to haul and spread additional stone over the entire length of the perimeter access road on the north side of Aero Drive from July 23-31, 2007. The south side of Aero Drive may be re-stoned/re-surfaced in 2008.

- Verizon crews repaired the phone service overhead line to the Control Building.

- A wildlife technician performed woodchuck trapping in July and August 2007 with 15 woodchucks being caught and disposed of.

A review of the total cumulative effluent flow rates and volumes presented in Appendix B indicates that discharge did not occur for 24 days between August and December 2007. The lack of discharge is attributable to level sensor instrumentation failures, which required operating the pumps in manual mode, power outages, and well shutdowns during heavy precipitation events. No discharge data is available for the month of July due to the site computer failing. A new computer was installed, but the data for the month of July could not be recovered. Additionally, on September 9, 2007, lightning briefly interrupted the power to the control room. The new process computer was unable to accurately tabulate the Daily Total Discharge for three days following this event. The error resulted in a large disparity between the totalilzer monthly summation and the daily total monthly summation. This situation involving brief interruptions was mitigated with the installation of a new UPS unit on the control computer.

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 eighth 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. In March 2008, URS surveyed and obtained an elevation for SG-02. The staff gauge elevation enabled us to determine the water elevations during this reporting period. Tables 1 and 2 of this appendix list the measured elevations. Table 3 provides a comparison of the measured levels in the wells and corresponding manholes/wet wells. For the wet wells, where water elevations vary with pump activity, the set point elevation of the pump switch is also presented.

The surface water elevations for the wetlands are presented on the following table.

Location ID	Water Elevation (ft amsl) 9/26/07	Water Elevation (ft amsl) 12/3/2007
SG-01	690.97	691.82
SG-02	693.40	693.73

The data presented in Table 3, Appendix C indicates that groundwater levels outside the collection system were higher than the levels measured in the corresponding wet well or manhole for each measurement date. This data verifies that collection system is operating as designed.

The NYSDEC has requested that the Town of Cheektowaga determine whether the site will remain under hydraulic control when the pumps are shut down. To test whether the site will remain under hydraulic control, URS proposes to 1) collect a round of water levels at the site, 2) proceed to shut down groundwater pumping stations for 3 days to let the groundwater system equilibrate, and 3) collect a second round of water levels prior to the groundwater pumping stations resuming. The proposed hydraulic gradient evaluation will occur in spring or summer 2008, when access will not be impeded by snow and in a timeframe where little or no precipitation is expected that might influence hydraulic gradient. URS will tabulate the data as presented in Appendix C and include an evaluation in the next semi-annual report.

3.2 Groundwater Quality Monitoring

The eighth semi-annual round of groundwater sampling was conducted between December 4, 2007 and December 7, 2007. All wells listed in Table 3.2 of the O&M plan were purged and sampled using dedicated equipment. Figure 3-1 shows the well locations. 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 to Test America, Inc. (formerly Severn Trent Laboratories) located in 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 NYSDEC authorizing a reduction in the parameters analysis. Specifically, the following parameter classes were analyzed for a subset of these parameter classes: volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), metals, and cyanide. Table 3-1 of this report presents a summary of analytical results compared with Class GA water quality standards.

Vinyl chloride was detected at a concentration of 2.5 µg/L, slightly above the Class GA water quality standards of 2 µg/L at monitoring well location GW-8D. No other VOCs exceeded the Class GA water quality standards.

Two SVOCs, 1,4-dichlorobenzene and bis(2-ethylhexyl)phthalate, exceeded their respective Class GA water quality standards. 1,4-Dichlorobenzene was detected at 4.0 µg/L in GW-3D, which is slightly above its Class GA water quality standard of 3.0 µg/L. Bis(2-ethylhexyl)phthalate was reported at 7.0 µg/L in GW-7D, which is slightly above its Class GA water quality standard of 5.0 µg/L.

Among the metals, iron, magnesium, manganese, and sodium routinely exceed Class GA standards in many site wells. The concentrations of iron, magnesium, manganese, and sodium in the site wells were similar to the concentrations found during previous sampling events. Chromium exceeded the Class GA standard of 0.05 mg/L in two wells, GW-03S and GW-7D where it was detected at a concentration of 0.18 and 0.21 mg/L, respectively. Lead exceeded the Class GA standard of 0.025 mg/L also in GW-7D where it was detected at a concentration of 0.70 mg/L. Nickel exceeded its standard of 0.1 mg/L in two wells, GW-3S and GW-7D where it was detected at a concentration of 0.28 mg/L and 0.12 mg/L, respectively. These detections of chromium, lead, and nickel were similar to earlier semi-annual sampling results. Additionally, cyanide was not detected during this sampling event, which is consistent with past sampling events.

A review of the historical data indicated an upward trend in concentrations of several metals in GW-7D and GW- 33S. GW-7D has shown an increasing trend in chromium, iron, and lead concentrations over the past 2-3 sampling events. GW-07D is an upgradient well so these trends are not likely related to the landfill. GW-7D has historically been a very low recharge well. During the last 2-3 sampling events, GW-7D has been purged dry and sampled one to two days later with very little recharge occurring. During the December 2007 sampling event, the GW-33S magnesium concentration showed a significant spike in concentration from 26 ppm to 132 ppm. The magnesium concentration for GW-33S is the highest concentration recorded at this location since January 2004. No other significant changes or trends in concentrations of any of the parameters exceeding groundwater standards have occurred over the eight semi-annual sampling events. Graphs for individual parameters demonstrating patterns have been included in Appendix E as Figures E-1 through E-19.

The groundwater analytical data package was prepared by Test America - Buffalo in accordance with NYSDEC Category A deliverable requirements. A limited review for

compliance with analytical method requirements and the following guidelines was performed: USEPA *Contract Laboratory Program (CLP) National Functional Guidelines for Organic Data Review*, EPA-540-R-99-008, October 1999 and USEPA *CLP National Functional Guidelines for Inorganic Data Review*, EPA-540-R-01-008, July 2002. Qualifiers applied to the data include "J" (estimated concentration) and "U" (not detected).

A Data Usability Summary Report (DUSR) was prepared following the guidelines provided in NYSDEC Division of Environmental Remediation *Guidance for the Development of Data Usability Summary Reports*, dated June 1999. The DUSR was submitted separately from this report.

3.3 Groundwater Discharge Monitoring

URS completed two quarterly sampling events (September 2007 and December 2007) of the groundwater collection system discharge since the previous semi-annual report dated September 2007. The sampling was performed in accordance with the requirements of Discharge Permit No. 05-12-CH016 between the Buffalo Sewer Authority (BSA) and the Town of Cheektowaga. A copy of Permit No. 05-12-CH016 is included as Appendix F.

During all sampling events, each regulated parameter was below the limits set by the permit. Copies of the data summary tables that were included with the discharge monitoring reports to the BSA are included as Appendix G.

3.4 Monitoring Well Inspections

During the December 2007 groundwater sampling event, a well inspection was performed. All wells appeared to be in good condition with the exception of damage to the riser on GW-7D. Well locks were replaced on GW-7D and GW-34S. During the sampling event, URS discovered that GW-1D had lost the dedicated stainless steel bailer from the steel line due to rust and damage to the steel line clamp that held the bailer to the line. URS will attempt to retrieve the bailer from the well during the next sampling event. The monitoring well inspection logs can be found in Appendix H.

4.0 SUMMARY

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.

Groundwater Quality Monitoring: Groundwater sample results indicate that only low levels of contamination are present. Similar concentrations of most contaminants were found during previous sampling events. The ninth round of groundwater sampling will be conducted during May 2008. 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) indicates that two wells (GW-07S and GW-07D) can still be purged to dryness even using low flow sampling techniques. Monitoring well GW-4S was purged using low flow sampling techniques, but URS encountered some difficulty in achieving a stable oxidation-reduction potential and a stable depth to water despite using a very low flow rate.

Groundwater Discharge Monitoring: Groundwater discharges remain within permit limits.

Wetland Inspection Summary: An inspection of the wetlands during the December 2007 event indicated no substantial changes or damage to the wetlands since the last semi-annual monitoring event.

TABLES

TABLE 3-1
GROUNDWATER SAMPLE RESULTS
PFOHL BROTHERS LANDFILL SITE
DECEMBER 2007

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			12/05/07	12/05/07	12/04/07	12/04/07	12/05/07
Parameter	**Units**	*					
Volatile Organic Compounds							
1,1,2-Trichloroethane	UG/L	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene (total)	UG/L	5	2.0 U	2.0 U	1.0 J	2.0 U	2.0 U
Acetone	UG/L	50	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzene	UG/L	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	UG/L	2	1.0 U	1.0 U	0.81 J	1.0 U	1.0 U
Semivolatile Organic Compounds							
1,3-Dichlorobenzene	UG/L	3	10 U	10 U	2 J	9 U	9 U
1,4-Dichlorobenzene	UG/L	3	10 U	10 U	4 J	9 U	9 U
bis(2-Ethylhexyl)phthalate	UG/L	5	5 U	5 U	5 U	5 U	5 U
Phenol	UG/L	1	5 U	5 U	5 U	5 U	5 U
Metals							
Antimony	MG/L	0.003	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U
Arsenic	MG/L	0.025	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Barium	MG/L	1	0.078	0.40	0.086	0.20	0.056
Cadmium	MG/L	0.005	0.0027	0.0010 U	0.0037	0.0010 U	0.0010 U
Chromium	MG/L	0.05	0.043	0.0040 U	0.048	0.18	0.0043
Copper	MG/L	0.2	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Iron	MG/L	0.3	1.5	14.3	3.6	2.9	0.59
Lead	MG/L	0.025	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U
Magnesium	MG/L	35	41.8	49.8	17.3	84.0	57.2
Manganese	MG/L	0.3	0.042	1.2	0.85	0.12	0.021
Mercury	MG/L	7.00E-04	0.00020 U	0.00020 U	0.00020 U	0.00020 U	0.00020 U

*- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. June 1998 (includes 4/2000 Addendum). Class GA.

Flags assigned during chemistry validation are shown.

Concentration Exceeds

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

U - Not detected above the reported quantitation limit.

Detection Limits shown are PQL

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TABLE 3-1
GROUNDWATER SAMPLE RESULTS
PFOHL BROTHERS LANDFILL SITE
DECEMBER 2007

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			12/05/07	12/05/07	12/04/07	12/04/07	12/05/07
Parameter	**Units**	*					
Metals							
Nickel	MG/L	0.1	0.010 U	0.010 U	0.012	0.28	0.010 U
Silver	MG/L	0.05	0.0030 U	0.0030 U	0.0030 U	0.0030 U	0.0030 U
Sodium	MG/L	20	113	356	193	36.7	56.8
Zinc	MG/L	2	0.010 U	0.010 U	0.010 U	0.038	0.010 U
Miscellaneous Parameters							
Cyanide	UG/L	200	10 U	10 U	10 U	10 U	10 U

*- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. June 1998 (includes 4/2000 Addendum). Class GA.

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TABLE 3-1
GROUNDWATER SAMPLE RESULTS
PFOHL BROTHERS LANDFILL SITE
DECEMBER 2007

Location ID			GW-04S	GW-07D	GW-07S	GW-08D	GW-08SR
Sample ID			GW-4S	GW-7D	GW-7S	GW-8D	120407_DUP
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			12/05/07	12/07/07	12/05/07	12/04/07	12/04/07
Parameter	**Units**	*					Field Duplicate (0-1)
Volatile Organic Compounds							
1,1,2-Trichloroethane	UG/L	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene (total)	UG/L	5	2.0 U	2.0 U	2.0 U	2.1	2.0 U
Acetone	UG/L	50	5.0 U	6.1	5.0 U	5.0 U	5.0 U
Benzene	UG/L	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	UG/L	2	1.0 U	1.0 U	1.0 U	2.5	1.8
Semivolatile Organic Compounds							
1,3-Dichlorobenzene	UG/L	3	9 U	10 U	10 U	11 U	11 U
1,4-Dichlorobenzene	UG/L	3	9 U	10 U	10 U	11 U	11 U
bis(2-Ethylhexyl)phthalate	UG/L	5	5 U	7	5 U	5 U	5 U
Phenol	UG/L	1	5 U	5 U	5 U	5 U	5 U
Metals							
Antimony	MG/L	0.003	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U
Arsenic	MG/L	0.025	0.010 U	0.010 U	0.010 U	0.010 U	0.012
Barium	MG/L	1	0.093	0.094	0.21	0.16	0.48
Cadmium	MG/L	0.005	0.0010 U	0.0014	0.0010 U	0.0010 U	0.0010 U
Chromium	MG/L	0.05	0.0040 U	0.21	0.0076	0.0040 U	0.0040 U
Copper	MG/L	0.2	0.010 U	0.090	0.010 U	0.010 U	0.010 U
Iron	MG/L	0.3	1.3	38.0	0.60	7.5	14.1
Lead	MG/L	0.025	0.0050 U	0.70	0.0050 U	0.0050 U	0.0050 U
Magnesium	MG/L	35	21.5	28.6	27.4	26.4	44.1
Manganese	MG/L	0.3	0.13	0.28	0.085	1.4	0.80
Mercury	MG/L	7.00E-04	0.00020 U	0.00020 U	0.00020 U	0.00020 U	0.00020 U

*- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. June 1998 (includes 4/2000 Addendum). Class GA.

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TABLE 3-1
GROUNDWATER SAMPLE RESULTS
PFOHL BROTHERS LANDFILL SITE
DECEMBER 2007

Location ID			GW-04S	GW-07D	GW-07S	GW-08D	GW-08SR
Sample ID			GW-4S	GW-7D	GW-7S	GW-8D	120407_DUP
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			12/05/07	12/07/07	12/05/07	12/04/07	12/04/07
Parameter	**Units**	*					Field Duplicate (0-1)
Metals							
Nickel	MG/L	0.1	0.010 U	0.12	0.010 U	0.010 U	0.010 U
Silver	MG/L	0.05	0.0030 U	0.0030 U	0.0030 U	0.0030 U	0.0030 U
Sodium	MG/L	20	27.5	83.5	56.5	238	197
Zinc	MG/L	2	0.010 U	0.36	0.010	0.020	0.010 U
Miscellaneous Parameters							
Cyanide	UG/L	200	10 U	10 U	10 U	10 U	10 U

*- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. June 1998 (includes 4/2000 Addendum). Class GA.

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TABLE 3-1
GROUNDWATER SAMPLE RESULTS
PFOHL BROTHERS LANDFILL SITE
DECEMBER 2007

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			12/04/07	12/06/07	12/07/07	12/07/07	12/06/07
Parameter	**Units**	*					
Volatile Organic Compounds							
1,1,2-Trichloroethane	UG/L	1	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U
1,2-Dichloroethene (total)	UG/L	5	2.0 U	1.2 J	2.0 U	2.0 U	10 U
Acetone	UG/L	50	5.0 U	5.0 U	5.0 U	5.0 U	25 U
Benzene	UG/L	1	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U
Vinyl chloride	UG/L	2	2.0	0.99 J	1.0 U	1.0 U	5.0 U
Semivolatile Organic Compounds							
1,3-Dichlorobenzene	UG/L	3	11 U	10 U	10 U	10 U	9 U
1,4-Dichlorobenzene	UG/L	3	11 U	10 U	10 U	10 U	9 U
bis(2-Ethylhexyl)phthalate	UG/L	5	6 U	5 U	5 U	5 U	5 U
Phenol	UG/L	1	6 U	5 U	5 U	5 U	5 U
Metals							
Antimony	MG/L	0.003	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U
Arsenic	MG/L	0.025	0.011	0.010 U	0.010 U	0.032	0.010 U
Barium	MG/L	1	0.49	0.14	0.075	0.24	0.35
Cadmium	MG/L	0.005	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
Chromium	MG/L	0.05	0.0040 U	0.0040 U	0.0040 U	0.0040 U	0.0040 U
Copper	MG/L	0.2	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Iron	MG/L	0.3	14.4	3.6	0.28	13.1	11.3
Lead	MG/L	0.025	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U
Magnesium	MG/L	35	43.9	20.3	48.2	70.7	46.9
Manganese	MG/L	0.3	0.80	0.63	1.2	0.82	2.0
Mercury	MG/L	7.00E-04	0.00020 U	0.00020 U	0.00020 U	0.00020 U	0.00020 U

*- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. June 1998 (includes 4/2000 Addendum). Class GA.

Flags assigned during chemistry validation are shown.

Concentration Exceeds

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

U - Not detected above the reported quantitation limit.

Detection Limits shown are PQL

Advanced Selection: AMK-TEMP
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[MATRIX] = 'WG' AND ([SACODE] = 'N' OR [SACODE] = 'FD') AND [LOGDATE] BETWEEN #12/01/07# AND #12/31/07# AND [LOCID] <> 'EFFLUENT'

TABLE 3-1
GROUNDWATER SAMPLE RESULTS
PFOHL BROTHERS LANDFILL SITE
DECEMBER 2007

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			12/04/07	12/06/07	12/07/07	12/07/07	12/06/07
Parameter	**Units**	*					
Metals							
Nickel	MG/L	0.1	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Silver	MG/L	0.05	0.0030 U	0.0030 U	0.0030 U	0.0030 U	0.0030 U
Sodium	MG/L	20	200	264	53.0	18.3	644
Zinc	MG/L	2	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Miscellaneous Parameters							
Cyanide	UG/L	200	10 U	10 U	10 U	10 U	10 U

*- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. June 1998 (includes 4/2000 Addendum). Class GA.

Flags assigned during chemistry validation are shown.

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U - Not detected above the reported quantitation limit.

Detection Limits shown are PQL

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Printed: 3/20/2008 9:51:41 AM
[MATRIX] = 'WG' AND ([SACODE] = 'N' OR [SACODE] = 'FD') AND [LOGDATE] BETWEEN #12/01/07# AND #12/31/07# AND [LOCID] <> 'EFFLUENT'

TABLE 3-1
GROUNDWATER SAMPLE RESULTS
PFOHL BROTHERS LANDFILL SITE
DECEMBER 2007

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			12/06/07	12/06/07	12/06/07	12/05/07	12/06/07
Parameter	**Units**	*					
Volatile Organic Compounds							
1,1,2-Trichloroethane	UG/L	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene (total)	UG/L	5	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Acetone	UG/L	50	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzene	UG/L	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	UG/L	2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Semivolatile Organic Compounds							
1,3-Dichlorobenzene	UG/L	3	10 U	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	UG/L	3	10 U	10 U	10 U	10 U	10 U
bis(2-Ethylhexyl)phthalate	UG/L	5	5 U	5 U	5 U	5 U	5 U
Phenol	UG/L	1	5 U	5 U	5 U	5 U	5 U
Metals							
Antimony	MG/L	0.003	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U
Arsenic	MG/L	0.025	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Barium	MG/L	1	0.080	0.054	0.033	0.10	0.11
Cadmium	MG/L	0.005	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
Chromium	MG/L	0.05	0.0087	0.0040 U	0.0058	0.0040 U	0.0040 U
Copper	MG/L	0.2	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Iron	MG/L	0.3	0.39	0.21	0.050 U	0.30	0.050 U
Lead	MG/L	0.025	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U
Magnesium	MG/L	35	44.6	40.9	132	29.2	64.8
Manganese	MG/L	0.3	1.0	0.13	0.017	0.0090	0.11
Mercury	MG/L	7.00E-04	0.00020 U	0.00020 U	0.00020 U	0.00020 U	0.00020 U

*- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. June 1998 (includes 4/2000 Addendum). Class GA.

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TABLE 3-1
GROUNDWATER SAMPLE RESULTS
PFOHL BROTHERS LANDFILL SITE
DECEMBER 2007

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			12/06/07	12/06/07	12/06/07	12/05/07	12/06/07
Parameter	**Units**	*					
Metals							
Nickel	MG/L	0.1	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Silver	MG/L	0.05	0.0030 U	0.0030 U	0.0030 U	0.0030 U	0.0030 U
Sodium	MG/L	20	8.1	9.0	14.0	31.7	9.2
Zinc	MG/L	2	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Miscellaneous Parameters							
Cyanide	UG/L	200	10 U	10 U	10 U	10 U	10 U

*- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. June 1998 (includes 4/2000 Addendum). Class GA.

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Detection Limits shown are PQL

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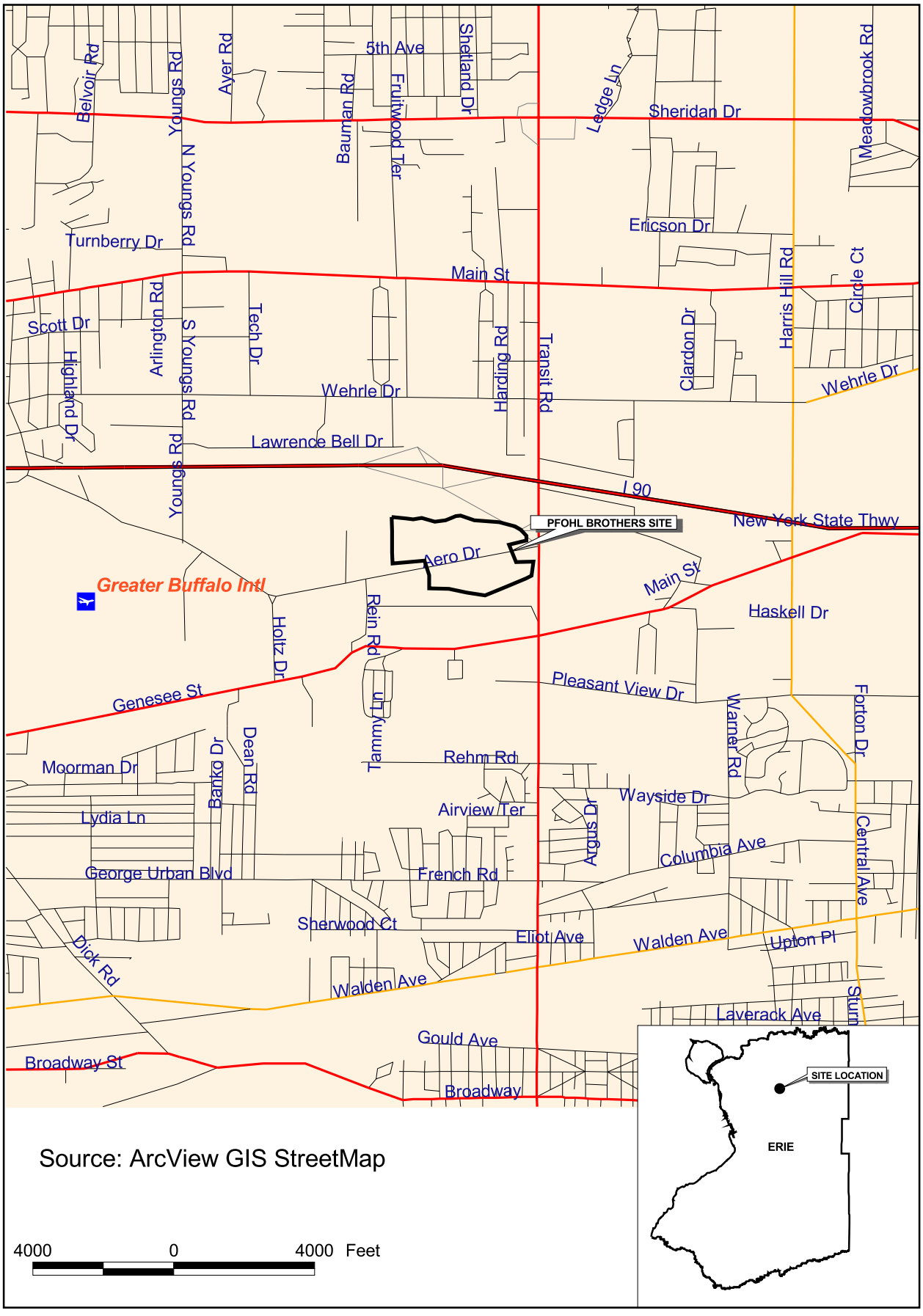
N:\11172700.00000\GIS\dB\Program\EDMS.mde
Printed: 3/20/2008 9:51:41 AM
[MATRIX] = 'WG' AND ([SACODE] = 'N' OR [SACODE] = 'FD') AND [LOGDATE] BETWEEN #12/01/07# AND #12/31/07# AND [LOCID] <> 'EFFLUENT'

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 11/27/07 — Weather conditions CLOUDY/SLEET 40°

Time 2:20 — Read by: BILL PUGH

	Level of Water from bottom (ft.)	Flow gallons / minute	Flow Totals gallons	Pump Run Time Hrs.
WW-3	4.6	0	509,077	300
WW-2	4.6	0	124	0
WW-1	4.5	0	564,123	209
WW-6	7.3	63.0	1,330,693	347
WW-4	7.9	15.2	1,555,428	1513
WW-5	8.6	0	369,591	160

Flow Totalizer at Meter chamber _____

Heat Trace

Outside temp T = 40 — Set point SP = 40

Current A = 2.2

Surge Suppressor events 2662

Motor Control Center

Volts 480 volts — Which WW was running?

Amps 8 amps — 1☐ 2☐ 3☐ 4☒ 5☐ 6☒

Filter **Checked** ☐ **Changed** ☐

Comments and/or Current Conditions

WW6 - LEVEL INVALID - RESET - OK

WW5 - FLOW INVALID - WILL NOT RESET

HAD TO REBOOT PC - MOUSE DEAD - OK

CHECK HISTORY OF FLOW RATE WW4 - ONLY PUMPING @ 15.2 gpm

Pfohl Brothers Landfill Site

Daily Logsheet — Town of Cheektowaga

Date 7/23/07 — Weather conditions OVERCAST 75°

Time 2:17 — Read by: BI PUGH

	Level of Water from bottom (ft.)	Flow gallons / minute	Flow Totals gallons	Pump Run Time Hrs.
WW-3	4.9	0	49,660	31
WW-2	2.3	0	-46	0
WW-1	3.3	0	149,001	58
WW-6	4.5	53.6	183,391	56
WW-4	5.3	17.6	255,104	238
WW-5	4.4	0	99,549	42

Flow Totalizer at Meter chamber 223,264

Heat Trace

Outside temp T = 75 — Set point SP = 40

Current A = 0

Surge Suppressor events 2596

Motor Control Center

Volts 480 volts — Which WW was running?

Amps 7 amps — 1☐ 2☐ 3☐ 4☑ 5☐ 6☑

Filter **Checked** ☐ **Changed** ☐

Comments and/or Current Conditions

* NEW P.C. LOOKS GOOD
* RESET ALL ALARMS — OK
* DOZER @ SITE (N.L.M.) — 5 LOADS OF STONE DUMPED @ CONTROL BLDG AREA TO BE SPREAD

APPENDIX B

MONTHLY FLOW SUMMARIES
AUGUST 2007 – DECEMBER 2007

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

September 4, 2007

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

Re: Pfohl Bros. Flow Data

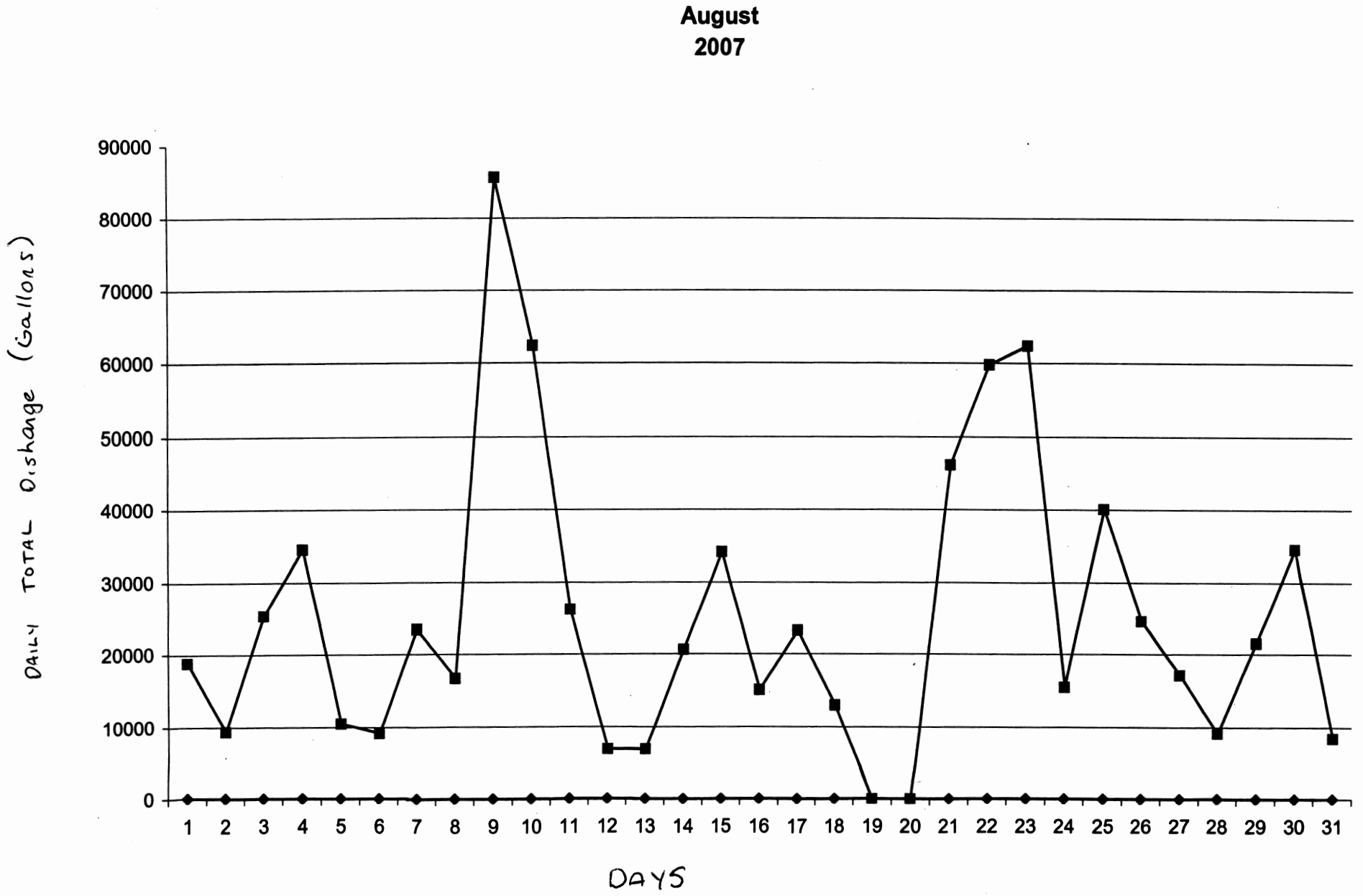
Dear Mr. Pugh,

Enclosed for your review, please find a copy of the **August 2007** 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,
Town of Cheektowaga

Jon W. Nichy
Superintendent
Main Pump Station


August
2007
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

Direct Discharge Flow Data

7/31/2007		470588	19,228	470,588	
August-07	**Time; 11:58pm unless otherwise stated**	**Totalizer Reading (Gallons)**	**Daily Total Discharge (Gallons)**		**Notes**
1		489431	18,843	489,431	
2		498794	9,364	498,795	
3		524081	25,287	524,082	
4		558562	34,481	558,563	
5		569111	10,549	569,112	
6		578280	9,169	578,281	
7		601654	23,374	601,655	
8		618304	16,650	618,305	
9		703938	85,634	703,939	
10		766288	62,350	766,289	
11		792446	26,158	792,447	
12		799380	6,934	799,381	
13		799380	6,934	806,315	
14		819956	20,576	826,891	
15		854082	34,127	861,018	
16		869154	15,072	876,090	
17		892324	23,170	899,260	
18		905297	12,973	912,233	
19		905297	0	912,233	
20		905297	0	912,233	
21		951482	46,185	958,418	
22		1011258	59,775	1,018,193	
23		1073593	62,335	1,080,528	
24		1089057	15,464	1,095,992	
25		1129115	40,058	1,136,050	
26		1153612	24,497	1,160,547	
27		1170738	17,127	1,177,674	
28		1179834	9,096	1,186,770	
29		1201309	21,475	1,208,245	
30		1235773	34,465	1,242,710	
31		1244176	8,402	1,251,112	
		773,588	**780,524**	**780,524**	

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

October 4, 2007

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 2007** Direct Discharge Flow Data Report, prepared by Jon W. Nichy. On September 9th lightning briefly interrupted the power to the control room on site. Consequently the new process computer was unable to accurately tabulate the Daily Total Discharge for 3 days following this event. The error resulted in a large disparity between the Totalizer monthly summation and the Daily Total monthly summation. This situation involving brief interruptions will be mitigated with the installation of a new UPS unit.

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

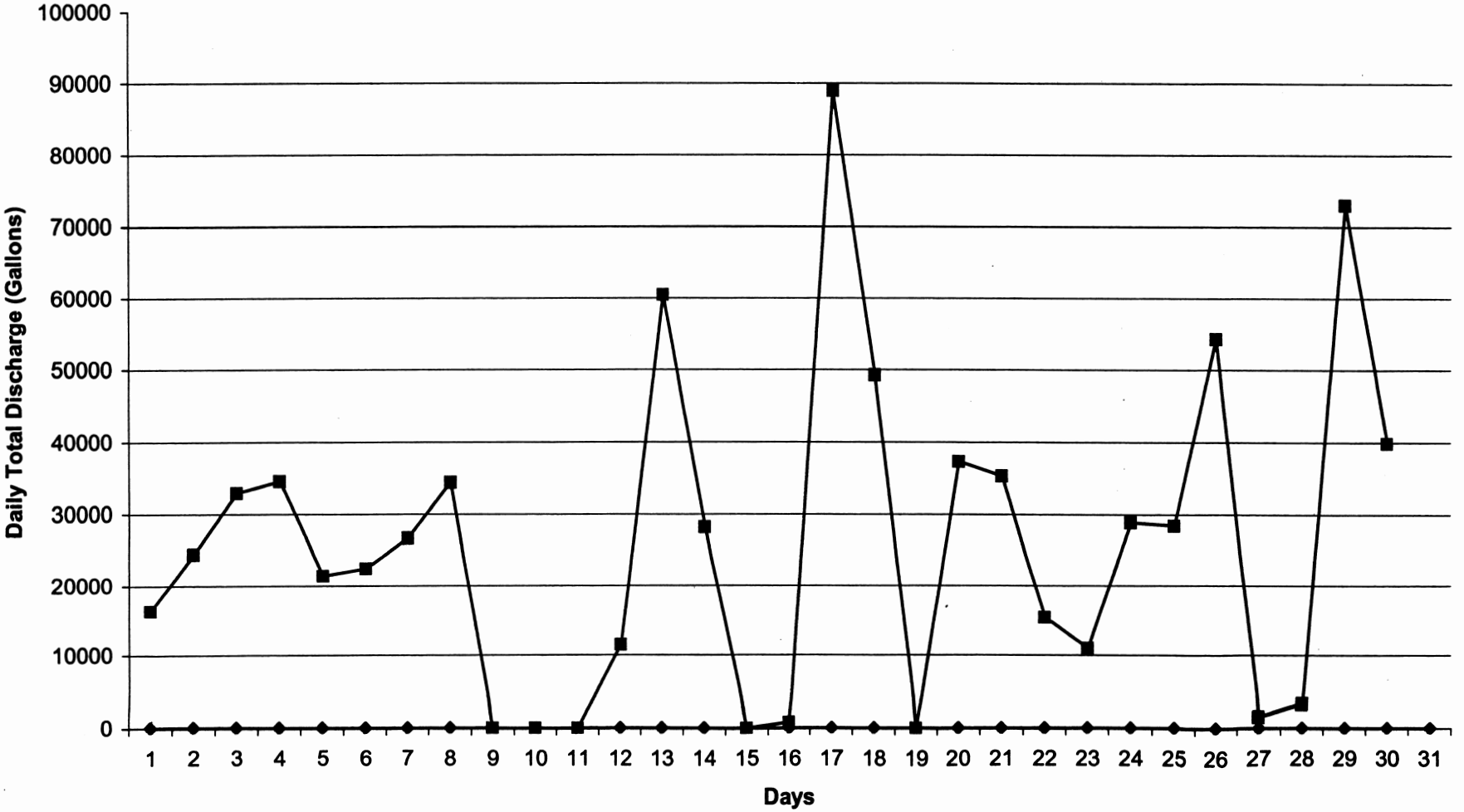
Yours truly,
Town of Cheektowaga

Jon W. Nichy
Superintendent
Main Pump Station

Direct Discharge Flow Data

8/31/2007		1244176	8,402	1,251,112	
September-07	**Time; 11:58pm unless otherwise stated**	**Totalizer Reading (Gallons)**	**Daily Total Discharge (Gallons)**		**Notes**
1		1260476	16,300	1,267,412	
2		1284928	24,452	1,291,864	
3		1317812	32,885	1,324,749	
4		1352295	34,483	1,359,232	
5		1373721	21,426	1,380,658	
6		1396165	22,443	1,403,101	
7		1479377	26,717	1,429,818	
8		1513690	34,314	1,464,132	
9		1513690	0	1,464,132	
10		1513690	0	1,464,132	
11		1513690	0	1,464,132	
12		1525180	11,490	1,475,622	
13		1585652	60,472	1,536,094	
14		1613805	28,153	1,564,247	
15		1613805	0	1,564,247	
16		1614606	801	1,565,048	
17		1703577	88,971	1,654,019	
18		1752802	49,225	1,703,244	
19		1752802	0	1,703,244	
20		1790020	37,219	1,740,463	
21		1825242	35,222	1,775,685	
22		1840561	15,319	1,791,004	
23		1851575	11,014	1,802,018	
24		1880421	28,846	1,830,864	
25		1908859	28,438	1,859,302	
26		1963074	54,215	1,913,517	
27		1964637	1,563	1,915,080	
28		1967941	3,305	1,918,385	
29		2040864	72,922	1,991,307	
30		2080737	39,873	2,031,180	
31					
		836,561	**780,068**	**780,068**	

Pfohl Bros.
September
2007



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

November 7, 2007

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 2007** 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.

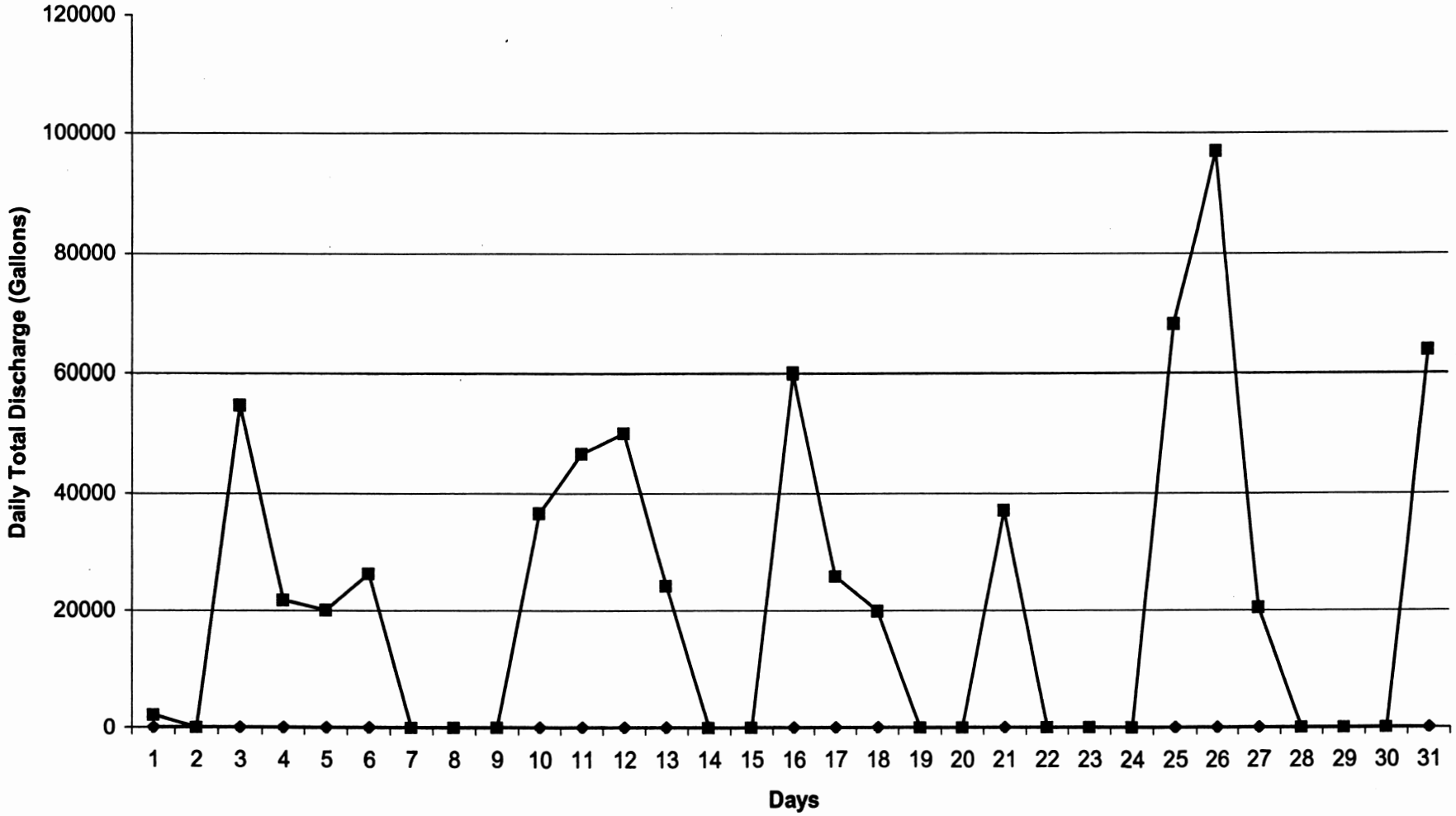
Yours truly,
Town of Cheektowaga

Jon W. Nichy
Superintendent
Main Pump Station

Direct Discharge Flow Data

9/30/2007		2080737	39,873	1,862,175	
October-07	**Time; 11:58pm unless otherwise stated**	**Totalizer Reading (Gallons)**	**Daily Total Discharge (Gallons)**		**Notes**
1		2083003	2,266	1,864,441	
2		2083003	0	1,864,441	
3		2137876	54,873	1,919,314	
4		2159662	21,787	1,941,101	
5		2179787	20,125	1,961,226	
6		2206132	26,345	1,987,571	
7		2206132	0	1,987,571	
8		2206132	0	1,987,571	
9		2206132	0	1,987,571	
10		2242694	36,562	2,024,133	
11		2289293	46,599	2,070,732	
12		2339292	49,999	2,120,731	
13		2363464	24,173	2,144,904	
14		2363464	0	2,144,904	
15		2363464	0	2,144,904	
16		2423454	59,990	2,204,894	
17		2449374	25,920	2,230,814	
18		2469336	19,962	2,250,776	
19		2469336	0	2,250,776	
20		2469336	0	2,250,776	
21		2506469	37,134	2,287,910	
22		2506469	0	2,287,910	
23		2506469	0	2,287,910	
24		2506469	0	2,287,910	
25		2574484	68,015	2,355,925	
26		2671304	96,820	2,452,745	
27		2691797	20,493	2,473,238	
28		2691797	0	2,473,238	
29		2691797	0	2,473,238	
30		2691797	0	2,473,238	
31		2755513	63,717	2,536,955	
		674,776	**674,780**	**674,780**	

Pfohl Bros.
October
2007



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

December 6, 2007

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 2007** Direct Discharge Flow Data Report, prepared by Jon W. Nichy.

As per your request, a monthly log sheet indicating suspension and enabling of pumping operation at the site has been created. This log sheet will henceforth be included with the monthly report.

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

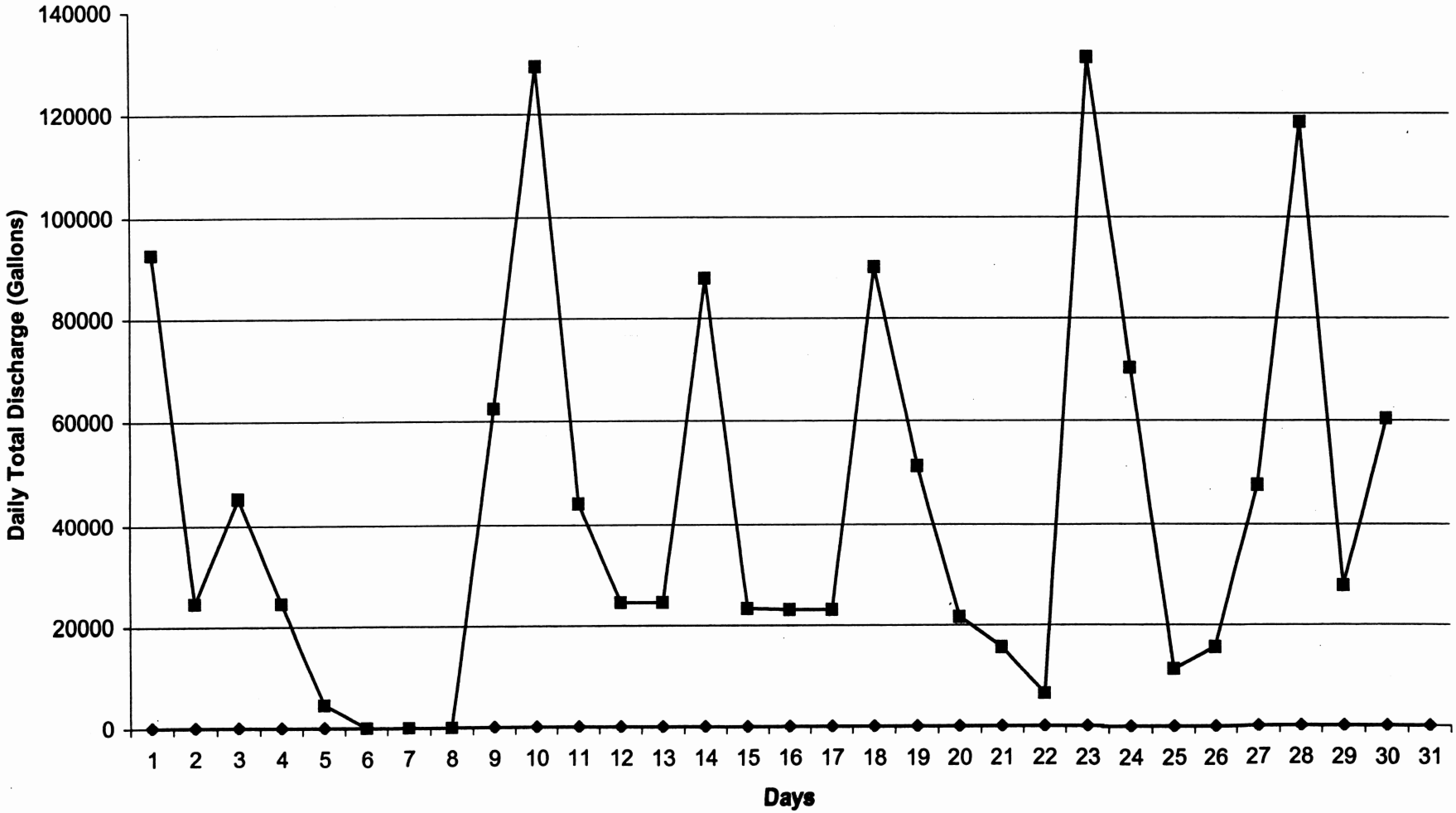
Yours truly,
Town of Cheektowaga

Jon W. Nichy
Superintendent
Main Pump Station

Direct Discharge Flow Data

10/31/2007		2755513	63,717	2,536,955	
November-07	**Time; 11:58pm unless otherwise stated**	**Totalizer Reading (Gallons)**	**Daily Total Discharge (Gallons)**		**Notes**
1		2848096	92,582	2,629,537	
2		2872598	24,502	2,654,039	
3		2917902	45,305	2,699,344	
4		2942382	24,480	2,723,824	
5		2946934	4,552	2,728,376	
6		2946934	0	2,728,376	
7		2946934	0	2,728,376	
8		2946934	0	2,728,376	
9		3009379	62,445	2,790,821	
10		3138639	129,260	2,920,081	
11		3182830	44,191	2,964,272	
12		3207310	24,480	2,988,752	
13		3231807	24,497	3,013,249	
14		3319550	87,744	3,100,993	
15		3342822	23,272	3,124,265	
16		3365878	23,056	3,147,321	
17		3388902	23,024	3,170,345	
18		3478879	89,977	3,260,322	
19		3530079	51,200	3,311,522	
20		3551679	21,600	3,333,122	
21		3567452	15,773	3,348,895	
22		3574134	6,683	3,355,578	
23		3705126	130,992	3,486,570	
24		3775486	70,360	3,556,930	
25		3787029	11,544	3,568,474	
26		3802860	15,830	3,584,304	
27		3850408	47,548	3,631,852	
28		3968601	118,194	3,750,046	
29		3996292	27,691	3,777,737	
30		4056671	60,378	3,838,115	
31					
		1,301,158	**1,301,160**	**1,301,160**	

Pfohl Bros.
November
2007



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

January 8, 2008

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 2007** 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.

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

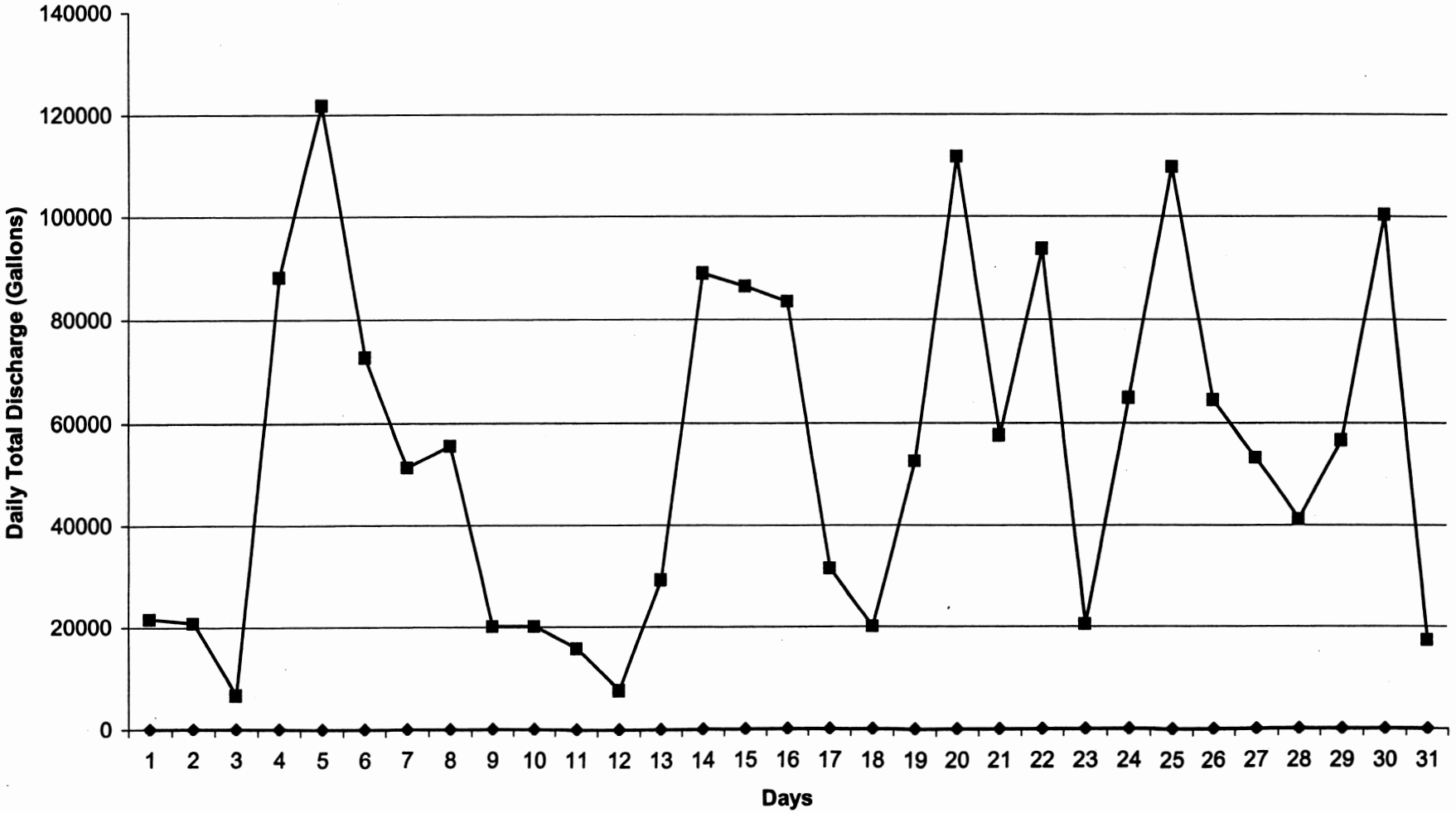
Yours truly,
Town of Cheektowaga

Jon W. Nichy
Superintendent
Main Pump Station

Direct Discharge Flow Data

11/30/2007		4056671	60,378	3,838,115	
December-07	**Time; 11:58pm unless otherwise stated**	**Totalizer Reading (Gallons)**	**Daily Total Discharge (Gallons)**		**Notes**
1		4078390	21,719	3,859,834	
2		4099228	20,839	3,880,673	
3		4105927	6,699	3,887,372	
4		4194282	88,355	3,975,727	
5		4315995	121,713	4,097,440	
6		4388658	72,663	4,170,103	
7		4439978	51,321	4,221,424	
8		4495689	55,711	4,277,135	
9		4515849	20,160	4,297,295	
10		4536009	20,160	4,317,455	
11		4551721	15,712	4,333,167	
12		4559398	7,677	4,340,844	
13		4588737	29,339	4,370,183	
14		4677875	89,138	4,459,321	
15		4764534	86,659	4,545,980	
16		4848126	83,593	4,629,573	
17		4879657	31,531	4,661,104	
18		4899817	20,160	4,681,264	
19		4952409	52,592	4,733,856	
20		5063979	111,570	4,845,426	
21		5121604	57,625	4,903,051	
22		5215250	93,646	4,996,697	
23		5235808	20,558	5,017,255	
24		5300749	64,941	5,082,196	
25		5410189	109,440	5,191,636	
26		5474697	64,508	5,256,144	
27		5527976	53,279	5,309,423	
28		5569096	41,121	5,350,544	
29		5625827	56,731	5,407,275	
30		5726201	100,374	5,507,649	
31		5743506	17,306	5,524,955	
		1,686,835	**1,686,840**	**1,686,840**	

Pfohl Bros.
December
2007



PFOHL BROTHERS LANDFILL SITE
CHEEKTOWAGA, NEW YORK

Auto Dialer System Log

DATE	PUMP Inhibit -08 (Off)	TIME Enable -07 (On)	COMMENTS
12/11/07	5:30 PM	cont.	Rain
12/12/07	→	0842	
12/12/07	13.11	CONT.	Melt - Sunny -
12/12/07	→	1805	
12/23/07	0700	cont.	Melt - Rain
12/24/07	→	0831	Snow
12/29/07	0130	cont	Rain
12/29/07	→	1300	

APPENDIX C

HYDRAULIC MONITORING TABLES

TABLE 1
PFOHL BROTHERS LANDFILL SITE
GROUNDWATER ELEVATIONS
SEPTEMBER 2007

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-03S MNW	1073812.622	1114605.762	692.61	NM	693.80	S	1	9/26/2007 0000	12.39	681.41	0.00	681.41	
GW-04S MNW	1072284.456	1114685.127	690.76	NM	692.72	S	1	9/26/2007 0000	9.61	683.11	0.00	683.11	
GW-07S MNW	1071238.157	1117666.265	697.47	NM	699.51	S	1	9/26/2007 0000	8.13	691.38	0.00	691.38	
GW-08SR MNW	1073714.172	1116786.343	695.08	NM	697.50	S	1	9/26/2007 0000	5.31	692.19	0.00	692.19	
GW-28S MNW	1073129.479	1117648.927	698.60	NM	700.95	S	1	9/26/2007 0000	9.52	691.43	0.00	691.43	
GW-29S MNW	1072552.638	1117761.993	697.50	NM	699.63	S	1	9/26/2007 0000	9.77	689.86	0.00	689.86	
GW-30S MNW	1072096.109	1117743.563	693.67	NM	696.58	S	1	9/26/2007 0000	10.63	685.95	0.00	685.95	
GW-31S MNW	1071786.280	1117191.441	695.84	NM	698.62	S	1	9/26/2007 0000	8.08	690.54	0.00	690.54	
GW-32S MNW	1071613.793	1116364.200	696.19	NM	698.37	S	1	9/26/2007 0000	7.62	690.75	0.00	690.75	
GW-33S MNW	1072165.625	1115561.866	695.94	NM	698.24	S	1	9/26/2007 0000	NM	-	0.00	-	DRY
GW-34S MNW	1072979.205	1114730.200	692.51	NM	694.77	S	1	9/26/2007 0000	NM	-	0.00	-	DRY

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 Guage

NA - Not Applicable

S - Shallow Monitoring Well

Filter = ((tblGWD.LOGDATE=#9/26/2007#))

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TABLE 1
PFOHL BROTHERS LANDFILL SITE
GROUNDWATER ELEVATIONS
SEPTEMBER 2007

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 MNW	1071701.925	1115985.585	696.19	NM	697.39	S	1	9/26/2007 0000	NM	-	0.00	-	DRY
MH-01 MH	1073806.665	1114810.501	698.62	NM	698.62	NA	1	9/26/2007 0000	11.30	687.32	0.00	687.32	
MH-03 MH	1073736.789	1115259.334	699.40	NM	699.40	NA	1	9/26/2007 0000	11.21	688.19	0.00	688.19	
MH-07 MH	1073838.229	1116243.757	696.82	NM	696.82	NA	1	9/26/2007 0000	9.46	687.36	0.00	687.36	
MH-10 MH	1073540.729	1117381.524	703.01	NM	703.01	NA	1	9/26/2007 0000	14.46	688.55	0.00	688.55	
MH-15 MH	1072531.567	1117761.125	699.02	NM	699.02	NA	1	9/26/2007 0000	15.12	683.90	0.00	683.90	
MH-16 MH	1072133.714	1117748.238	698.57	NM	698.57	NA	1	9/26/2007 0000	16.03	682.54	0.00	682.54	
MH-17 MH	1071813.137	1117180.019	702.16	NM	702.16	NA	1	9/26/2007 0000	18.38	683.78	0.00	683.78	
MH-20 MH	1071756.395	1115997.024	706.20	NM	706.20	NA	1	9/26/2007 0000	19.70	686.50	0.00	686.50	
MH-22 MH	1072158.023	1115589.309	698.05	NM	698.05	NA	1	9/26/2007 0000	NM	-	0.00	-	DRY
MH-25 MH	1072483.928	1114820.313	698.17	NM	698.17	NA	1	9/26/2007 0000	10.88	687.29	0.00	687.29	

NM - No Measurement

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Type:

MH	Manhole Monitoring Point
MNW	Monitoring Well
SG	Staff Guage

NA - Not Applicable
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Filter = ((tblGWD.LOGDATE=#9/26/2007#))

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TABLE 1
PFOHL BROTHERS LANDFILL SITE
GROUNDWATER ELEVATIONS
SEPTEMBER 2007

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-01 SG	1073882.887	1114813.101	NM	NM	690.00	NA	1	9/26/2007 0000	-0.970	690.97	0.00	690.97	
SG-02	1073738.27	1116805.85	NM	NM	690.00	NA	1	9/26/2007 0000	-3.40	693.40	0.00	693.40	
WW-01 MH	1073676.903	1115710.476	NM	NM	684.02	NA	1	9/26/2007 0000	-4.0	688.02	0.00	688.02	
WW-02 MH	1073684.724	1116792.311	NM	NM	684.18	NA	1	9/26/2007 0000	-4.7	688.88	0.00	688.88	
WW-03 MH	1073140.339	1117618.499	NM	NM	683.80	NA	1	9/26/2007 0000	-4.7	688.50	0.00	688.50	
WW-04 MH	1072057.563	1117610.508	NM	NM	676.62	NA	1	9/26/2007 0000	-5.3	681.92	0.00	681.92	
WW-05 MH	1071661.368	1116370.876	NM	NM	676.14	NA	1	9/26/2007 0000	-4.8	680.94	0.00	680.94	
WW-06 MH	1072988.420	1114811.518	NM	NM	681.89	NA	1	9/26/2007 0000	-5.7	687.59	0.00	687.59	

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 Guage

NA - Not Applicable
S - Shallow Monitoring Well

Filter = ((tblGWD.LOGDATE=#9/26/2007#))

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TABLE 2
PFOHL BROTHERS LANDFILL SITE
GROUNDWATER ELEVATIONS
DECEMBER 2007

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-03S MNW	1073812.622	1114605.762	692.61	NM	693.80	S	1	12/3/2007 0000	6.53	687.27	0.00	687.27	
GW-04S MNW	1072284.456	1114685.127	690.76	NM	692.72	S	1	12/3/2007 0000	4.18	688.54	0.00	688.54	
GW-07S MNW	1071238.157	1117666.265	697.47	NM	699.51	S	1	12/3/2007 0000	4.5	695.01	0.00	695.01	
GW-08SR MNW	1073714.172	1116786.343	695.08	NM	697.50	S	1	12/3/2007 0000	4.96	692.54	0.00	692.54	
GW-28S MNW	1073129.479	1117648.927	698.60	NM	700.95	S	1	12/3/2007 0000	9.02	691.93	0.00	691.93	
GW-29S MNW	1072552.638	1117761.993	697.50	NM	699.63	S	1	12/3/2007 0000	7.77	691.86	0.00	691.86	
GW-30S MNW	1072096.109	1117743.563	693.67	NM	696.58	S	1	12/3/2007 0000	8.30	688.28	0.00	688.28	
GW-31S MNW	1071786.280	1117191.441	695.84	NM	698.62	S	1	12/3/2007 0000	1.99	696.63	0.00	696.63	
GW-32S MNW	1071613.793	1116364.200	696.19	NM	698.37	S	1	12/3/2007 0000	2.47	695.90	0.00	695.90	
GW-33S MNW	1072165.625	1115561.866	695.94	NM	698.24	S	1	12/3/2007 0000	2.86	695.38	0.00	695.38	
GW-34S MNW	1072979.205	1114730.200	692.51	NM	694.77	S	1	12/3/2007 0000	2.91	691.86	0.00	691.86	

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 Guage

NA - Not Applicable
S - Shallow Monitoring Well

TABLE 2
PFOHL BROTHERS LANDFILL SITE
GROUNDWATER ELEVATIONS
DECEMBER 2007

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 MNW	1071701.925	1115985.585	696.19	NM	697.39	S	1	12/3/2007 0000	2.80	694.59	0.00	694.59	
MH-01 MH	1073806.665	1114810.501	698.62	NM	698.62	NA	1	12/3/2007 0000	9.54	689.08	0.00	689.08	
MH-03 MH	1073736.789	1115259.334	699.40	NM	699.40	NA	1	12/3/2007 0000	10.39	689.01	0.00	689.01	
MH-07 MH	1073838.229	1116243.757	696.82	NM	696.82	NA	1	12/3/2007 0000	8.60	688.22	0.00	688.22	
MH-10 MH	1073540.729	1117381.524	703.01	NM	703.01	NA	1	12/3/2007 0000	14.47	688.54	0.00	688.54	
MH-15 MH	1072531.567	1117761.125	699.02	NM	699.02	NA	1	12/3/2007 0000	14.36	684.66	0.00	684.66	
MH-16 MH	1072133.714	1117748.238	698.57	NM	698.57	NA	1	12/3/2007 0000	13.79	684.78	0.00	684.78	
MH-17 MH	1071813.137	1117180.019	702.16	NM	702.16	NA	1	12/3/2007 0000	17.45	684.71	0.00	684.71	
MH-20 MH	1071756.395	1115997.024	706.20	NM	706.20	NA	1	12/3/2007 0000	19.71	686.49	0.00	686.49	
MH-22 MH	1072158.023	1115589.309	698.05	NM	698.05	NA	1	12/3/2007 0000	8.88	689.17	0.00	689.17	
MH-25 MH	1072483.928	1114820.313	698.17	NM	698.17	NA	1	12/3/2007 0000	9.01	689.16	0.00	689.16	

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 Guage

NA - Not Applicable
S - Shallow Monitoring Well

Filter = ((tblGWD.LOGDATE=#12/3/2007#))

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TABLE 2
PFOHL BROTHERS LANDFILL SITE
GROUNDWATER ELEVATIONS
DECEMBER 2007

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-01 SG	1073882.887	1114813.101	NM	NM	690.00	NA	1	12/3/2007 0000	-1.82	691.82	0.00	691.82	
SG-02 SG	1073738.27	1116805.85	NM	NM	690.00	NA	1	12/3/2007 0000	-3.73	693.73	0.00	693.73	
WW-01 MH	1073676.903	1115710.476	NM	NM	684.02	NA	1	12/3/2007 0000	-4.8	688.82	0.00	688.82	
WW-02 MH	1073684.724	1116792.311	NM	NM	684.18	NA	1	12/3/2007 0000	-4.6	688.78	0.00	688.78	
WW-03 MH	1073140.339	1117618.499	NM	NM	683.80	NA	1	12/3/2007 0000	-4.4	688.20	0.00	688.20	
WW-04 MH	1072057.563	1117610.508	NM	NM	676.62	NA	1	12/3/2007 0000	-7.7	684.32	0.00	684.32	
WW-05 MH	1071661.368	1116370.876	NM	NM	676.14	NA	1	12/3/2007 0000	-8.4	684.54	0.00	684.54	
WW-06 MH	1072988.420	1114811.518	NM	NM	681.89	NA	1	12/3/2007 0000	NM	-	NM	-	Pump Error

NM - No Measurement

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Type:

MH	Manhole Monitoring Point
MNW	Monitoring Well
SG	Staff Guage

NA - Not Applicable
S - Shallow Monitoring Well

Filter = ((tblGWD.LOGDATE=#12/3/2007#))

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TABLE 3
PFOHL BROTHERS LANDFILL SITE
OVERBURDEN HYDRAULIC GRADIENT

WELL PAIR:	WW-1		*		WW-2		GW-8SR		SG-02	
	Set Point	Water Level	Water Level	Gradient	Set Point	Water Level	Water Level	Gradient	Water Level	Gradient
DATE										
9/26/2007	689.02	688.02	---	---	689.18	688.88	692.19	3.31	693.40	4.52
12/3/2007	689.02	688.82	---	---	689.18	688.78	692.54	3.76	693.73	4.95

WELL PAIR:	WW-3		GW-28S		WW-4		*		WW-5		GW-32S	
	Set Point	Water Level	Water Level	Gradient	Set Point	Water Level	Water Level	Gradient	Set Point	Water Level	Water Level	Gradient
DATE												
9/26/2007	688.80	688.50	691.43	2.93	681.62	681.92	---	---	681.04	680.94	690.75	9.81
12/3/2007	688.80	688.20	691.93	3.73	681.62	684.32	---	---	681.04	684.54	695.9	11.36

WELL PAIR:	WW-6		GW-34S		MH-1		SG-1		MH-15		GW-29S	
	Set Point	Water Level	Water Level	Gradient	Set Point	Water Level	Water Level	Gradient	Set Point	Water Level	Water Level	Gradient
DATE												
9/26/2007	686.89	687.59	***	---	---	687.32	690.97	3.65	---	683.90	689.86	5.96
12/3/2007	686.89	**	691.86	---	---	689.08	691.82	2.74	---	684.66	691.86	7.20

WELL PAIR:	MH-16		GW-30S		MH-17		GW-31S		MH-20		GW-35S	
	Set Point	Water Level	Water Level	Gradient	Set Point	Water Level	Water Level	Gradient	Set Point	Water Level	Water Level	Gradient
DATE												
9/26/2007	---	682.54	685.95	3.41	---	683.78	690.54	6.76	---	686.50	***	---
12/3/2007	---	684.78	688.28	3.50	---	684.71	696.63	11.92	---	686.49	694.59	8.10

WELL PAIR:	MH-22		GW-33S	
	Set Point	Water Level	Water Level	Gradient
DATE				
9/26/2007	---	***	***	---
12/3/2007	---	689.17	695.38	6.21

Notes:

* = No corresponding monitoring well.
** = No water level available from Programable Logic Controller (PLC).
*** = No water present - dry conditions

APPENDIX D

GROUNDWATER PURGE AND SAMPLING LOGS

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 11172700.00004 Site: Pfohl Brothers Well I.D.: GW-1S

Date: 12/5/2007 Sampling Personnel: Matt Kandefer, George Kisluk Company: URS Corporation

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

Measuring Point: Below Top of Riser Initial Depth to Water: 3.11' Depth to Well Bottom: 14.94' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 7.3 Estimated Purge Volume (liters): 12.7

Sample ID: GW-1S Sample Time: 16:25 QA/QC: None

Sample Parameters: VOCs, SVOCs, TAL Metals, and Total Cyanide

Other Information:

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
15:35	6.4	9.3	3.43	0.16	237	-92	400	4.18
15:40	6.3	8.9	3.43	0.04	151	-100	400	4.65
15:45	6.3	8.6	3.40	0.00	62	-107	175	4.78
15:50	6.3	8.6	3.39	0.00	78	-108	250	4.26
15:55	6.3	8.3	3.41	0.00	68	-111	220	4.11
16:00	6.3	8.2	3.41	0.00	54	-111	220	4.06
16:05	6.3	8.6	3.38	2.51	106	-111	220	4.08
16:10	6.3	7.9	3.34	0.00	109	-110	220	4.02
16:15	6.3	7.6	3.33	0.03	98.0	-103	220	4.02
16:20	6.3	7.40	3.32	0.00	107.00	-103	220	4.02
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: 11172700.00004 Site: Pfohl Brothers Well I.D.: GW-1D

Date: 12/5/2007 Sampling Personnel: Matt Kandefer, George Kisluk Company: URS Corporation

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

Measuring Point: Below Top of Riser Initial Depth to Water: 2.06' Depth to Well Bottom: 39.64' Well Diameter: 4" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 92.8 Estimated Purge Volume (liters): 10.0

Sample ID: GW-1D Sample Time: 17:05 QA/QC: None

Sample Parameters: VOCs, SVOCs, TAL Metals, and Total Cyanide

Other Information:

PURGE PARAMETERS

TIME	pH	TEMP (^{0}C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
16:45	7.1	9.6	1.36	1.17	8	-183	300	2.10
16:51	7.1	9.8	1.35	0.02	7	-197	350	2.10
16:55	7.1	10.1	1.34	0.00	9	-200	450	2.10
17:00	7.1	10.1	1.33	0.00	7	-203	450	2.10
17:05	7.1	10.0	1.31	0.00	10	-210	450	2.10
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: 11172700.00004 Site: Pfohl Brothers Well I.D.: GW-3S

Date: 12/4/2007 Sampling Personnel: Matt Kandefer, Rob Piurek Company: URS Corporation

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

Measuring Point: Below Top of Riser Initial Depth to Water: 3.67' Depth to Well Bottom: 13.26' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 5.9 Estimated Purge Volume (liters): 4.5

Sample ID: GW-3S Sample Time: 16:15 QA/QC: None

Sample Parameters: VOCs, SVOCs, TAL Metals, and Total Cyanide

Other Information:

PURGE PARAMETERS

TIME	pH	TEMP (^{0}C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
15:30	6.9	7.2	1.27	3.24	95	1	100	3.67
15:35	6.9	7.9	1.25	2.83	89	5	100	4.70
15:40	6.9	8.1	1.25	2.66	80	9	100	5.26
15:45	6.9	8.3	1.25	2.56	71	12	100	5.65
15:50	6.9	7.8	1.25	2.59	72	16	100	5.86
15:55	6.9	7.9	1.25	2.42	62	17	100	6.03
16:00	6.9	8.2	1.25	2.44	50	20	100	6.23
16:05	6.9	8.0	1.25	2.45	43	23	100	6.34
16:10	6.9	7.6	1.26	2.41	44	25	100	6.39
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: 11172700.00004 Site: Pfohl Brothers Well I.D.: GW-3D

Date: 12/4/2007 Sampling Personnel: Matt Kandefer, Rob Piurek Company: URS Corporation

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

Measuring Point: Below Top of Riser Initial Depth to Water: 2.02' Depth to Well Bottom: 35.65' Well Diameter: 4" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 83.1 Estimated Purge Volume (liters): 17.0

Sample ID: GW-3D Sample Time: 15:15 QA/QC: None

Sample Parameters: VOCs, SVOCs, TAL Metals, and Total Cyanide

Other Information:

PURGE PARAMETERS

TIME	pH	TEMP (^{0}C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
14:35	7.2	8.8	1.50	1.18	48	-73	425	1.37
14:40	7.0	8.5	1.49	0.16	53	-72	425	1.37
14:45	7.0	8.8	1.47	0.09	45	-76	425	1.37
14:50	7.0	8.8	1.47	0.03	52	-76	425	1.37
14:55	6.9	8.6	1.48	0.01	39	-77	425	1.37
15:00	6.9	8.8	1.49	0.03	31	-79	425	1.37
15:05	6.9	9.0	1.54	0.04	25	-80	425	1.37
15:10	6.9	9.3	1.59	0.01	22	-81	425	1.37
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: 11172700.00004 Site: Pfohl Brothers Well I.D.: GW-4S

Date: 12/5/2007 Sampling Personnel: Matt Kandefer, George Kisluk Company: URS Corporation

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

Measuring Point: Below Top of Riser Initial Depth to Water: 4.40' Depth to Well Bottom: 16.28' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 7.3 Estimated Purge Volume (liters): 3.2

Sample ID: GW-4S Sample Time: 13:35 QA/QC: None

Sample Parameters: VOCs, SVOCs, TAL Metals, and Total Cyanide

Other Information:

PURGE PARAMETERS

TIME	pH	TEMP (^{0}C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
12:55	7.6	7.7	0.323	1.60	91	157	90	4.42
13:00	7.7	6.3	0.570	0.28	50	138	90	5.51
13:05	7.8	6.1	0.408	0.17	35	106	90	6.12
13:10	7.8	5.6	0.350	0.09	22	34	75	6.50
13:15	7.8	6.3	0.335	0.16	23	-4	75	6.80
13:20	7.8	6.0	0.337	0.12	20	-56	75	7.15
13:25	7.8	6.5	0.330	0.15	18	-69	75	7.49
13:30	7.8	6.5	0.333	0.15	15	-80	75	7.81
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: 11172700.00004 Site: Pfohl Brothers Well I.D.: GW-4D

Date: 12/5/2007 Sampling Personnel: Matt Kandefer, George Kisluk Company: URS Corporation

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

Measuring Point: Below Top of Riser Initial Depth to Water: 12.65' Depth to Well Bottom: 45.56' Well Diameter: 4" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 81.3 Estimated Purge Volume (liters): 6.3

Sample ID: GW-4D Sample Time: 14:40 QA/QC: None

Sample Parameters: VOCs, SVOCs, TAL Metals, and Total Cyanide

Other Information:

PURGE PARAMETERS

TIME	pH	TEMP (^{0}C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
14:05	7.1	9.2	0.85	0.96	10	-183	250	12.80
14:10	7.0	9.1	0.86	0.04	5	-241	210	13.05
14:15	7.0	9.0	0.86	0.01	6	-269	200	13.28
14:20	7.0	8.6	0.86	0.00	7	-284	150	13.42
14:25	7.0	8.7	0.86	0.00	7	-292	150	13.51
14:30	7.0	8.8	0.86	0.00	8	-296	150	13.57
14:35	7.0	8.8	0.86	0.00	8	-301	150	13.61
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.: 11172700.00004

STAFF: Matt Kandefer, George Kisluk

DATE(S): 12/4/07 and 12/5/07

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	35.02	1"	0.040
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	4.50	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	30.52	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)	=	5.2	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 3)	=	15.6	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	8	8"	2.60

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

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	0	3	5	8	sample 12/5/07						
pH	7.22	7.41	7.61	7.79		6.00					
SPEC. COND. (mS/cm)	-751.000	-664.000	0.674	0.674		0					
DO (mg/l)	3.06	11.69	11.33	10.87		7					
TEMPERATURE (^{0}C)	8.3	7.1	6.1	6.0		7.0					
TURBIDITY (NTU)	460	155	191	>1000		16					
ORP (millivolts)	4	71	17	30		176					
Water Level (BTOR-feet)	4.5	16.27	22.05	30.5		4.41					

COMMENTS:

Purged with dedicated stainless steel bailer. Well went dry after removing about 8 gallons. Return on 12/5/07 and sample with dedicated stainless steel bailer.

Sample Parameters: VOCs, SVOCs, TAL Metals, and Total Cyanide

Depth to water was 4.41' on 12/5/07

Sample time 8:50 on 12/5/07

WELL PURGING LOG

URS Corporation

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

PROJECT NO.: 11172700.00004

STAFF: Matt Kandefer, George Kisluk

DATE(S): 12/5/07 - 12/7/07

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	60.60	1"	0.040
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	39.80	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	20.80	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)	=	13.7	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 3)	=	41.2	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	13.0	8"	2.60

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

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	0	4	9	13							
pH	7.3	7.5	7.8	7.9							
SPEC. COND. (mS/cm)	9.000	0.906	0.938	0.990							
DO (mg/)	11.000	10.920	10.720	10.490							
TEMPERATURE (^{0}C)	7.0	6.2	5.7	4.0							
TURBIDITY (NTU)	95	192	248	139							
ORP (millivolts)	126	1	60	-13							
Water Level (BTOR-feet)	39.8	45.85	51.8	57.75							

COMMENTS:

Purged with a dedicated whale pump and tubing. Well went dry after removing about 14.5 gallons. Return on 5/24/07 and sample with dedicated stainless steel bailer.

Sample time 8:25 on 12/7/07

Depth to water was 57.75' on 12/7/07

Sample Parameters: VOCs, SVOCs, TAL Metals, and Total Cyanide

Need new steel cable for bailer or new double whale for well.

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 11172700.00004 Site: Pfohl Brothers Well I.D.: GW-8SR

Date: 12/4/2007 Sampling Personnel: Matt Kandefer, Rob Piurek Company: URS Corporation

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

Measuring Point: Below Top of Riser Initial Depth to Water: 5.46' Depth to Well Bottom: 13.03' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 4.7 Estimated Purge Volume (liters): 12.9

Sample ID: GW-8SR Sample Time: 11:55 QA/QC: Dup-120407 @ 1200

Sample Parameters: VOCs, SVOCs, TAL Metals, and Total Cyanide

Other Information:

PURGE PARAMETERS

TIME	pH	TEMP (^{0}C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
10:45	7.3	9.9	2.14	1.20	no measure	-94	420	5.46
10:50	6.8	8.4	2.07	0.70	229	-89	300	6.93
10:55	6.7	7.8	2.09	0.53	239	-91	170	7.12
11:00	6.6	7.6	2.11	0.30	173	-94	170	7.06
11:05	6.6	8.0	2.28	0.18	158	-98	170	6.92
11:10	6.6	8.2	2.32	0.07	135	-101	170	6.81
11:15	6.6	7.2	2.21	0.02	109	-101	170	6.64
11:20	6.5	6.9	2.12	0.01	28	-102	170	6.63
11:25	6.6	7.5	2.07	0.00	76	-102	140	6.56
11:30	6.6	6.8	2.09	0.00	60	-102	140	6.53
11:35	6.6	7.3	2.05	0.00	51	-102	140	6.50
11:40	6.6	6.9	2.02	0.00	44	-102	140	6.50
11:45	6.6	7.6	2.02	0.00	37.0	-103	140	6.56
11:50	6.6	7.1	2.05	0.00	28.0	-103	140	6.55
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: 11172700.00004 Site: Pfohl Brothers Well I.D.: GW-8D

Date: 12/4/2007 Sampling Personnel: Matt Kandefer, Rob Piurek Company: URS Corporation

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

Measuring Point: Below Top of Riser Initial Depth to Water: 5.15' Depth to Well Bottom: 36.58' Well Diameter: 4" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 77.6 Estimated Purge Volume (liters): 27.5

Sample ID: GW-8D Sample Time: 13:35 QA/QC: MS/MSD

Sample Parameters: VOCs, SVOCs, TAL Metals, and Total Cyanide

Other Information:

PURGE PARAMETERS

TIME	pH	TEMP (^{0}C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
12:40	7.3	9.8	1.43	3.23	77	32	500	5.15
12:45	7.2	10.0	1.43	0.44	66	12	500	5.17
12:50	7.2	10.2	1.43	0.40	64	10	500	5.17
12:55	7.2	10.0	1.42	0.42	49	8	500	5.17
13:00	7.2	10.0	1.42	0.35	47	7	500	5.17
13:05	7.2	10.2	1.42	0.36	60	3	500	5.17
13:10	7.2	10.0	1.46	0.40	66	-38	500	5.17
13:15	7.0	10.5	2.02	0.06	24	-96	500	5.17
13:20	6.9	10.6	2.15	0.00	11	-121	500	5.17
13:25	6.81	10.8	2.13	0.00	12	-126	500	5.17
13:30	6.8	10.4	2.12	0.00	10	-129	500	5.17
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: 11172700.00004 Site: Pfohl Brothers Well I.D.: GW-26D

Date: 12/6/2007 Sampling Personnel: Matt Kandefer, George Kisluk Company: URS Corporation

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

Measuring Point: Below Top of Riser Initial Depth to Water: 6.38' Depth to Well Bottom: 40.75' Well Diameter: 4" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 84.9 Estimated Purge Volume (liters): 8.3

Sample ID: GW-26D Sample Time: 14:50 QA/QC:

Sample Parameters: VOCs, SVOCs, TAL Metals, and Total Cyanide

Other Information:

PURGE PARAMETERS

TIME	pH	TEMP (^{0}C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
14:30	6.7	9.8	1.78	2.46	4	-117	350	6.34
14:35	6.8	10.2	1.82	0.06	2	-129	330	6.36
14:40	6.8	10.2	1.81	0.00	1	-135	330	6.35
14:45	6.8	10.1	1.82	0.00	2	-138	330	6.35
14:50	6.8	10.1	1.82	0.00	2	-140	330	6.35
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: 11172700.00004 Site: Pfohl Brothers Well I.D.: GW-28S

Date: 12/7/2007 Sampling Personnel: Matt Kandefer, George Kisluk Company: URS Corporation

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

Measuring Point: Below Top of Riser Initial Depth to Water: 9.06' Depth to Well Bottom: 15.58' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 4.0 Estimated Purge Volume (liters): 6.6

Sample ID: GW-28S Sample Time: 10:00 QA/QC: -

Sample Parameters: VOCs, SVOCs, TAL Metals, and Total Cyanide

Other Information:

PURGE PARAMETERS

TIME	pH	TEMP (^{0}C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
9:20	7.6	7.6	0.73	4.46	31	69	170	9.40
9:25	6.8	8.7	0.79	0.48	16	41	135	9.90
9:30	6.7	8.5	0.91	0.24	13	31	150	10.00
9:35	6.7	8.6	0.90	0.21	10	16	145	10.05
9:40	6.7	8.6	9.01	0.15	7	4	145	10.05
9:45	6.7	8.4	0.89	0.04	7	-9	145	10.05
9:50	6.7	8.4	0.88	0.06	6	-12	145	10.05
9:55	6.7	8.2	0.86	0.04	5	-16	145	10.05
10:00	6.7	8.2	0.85	0.02	7	-19	145	10.05
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: 11172700.00004 Site: Pfohl Brothers Well I.D.: GW-29S

Date: 12/7/2007 Sampling Personnel: Matt Kandefer, George Kisluk Company: URS Corporation

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

Measuring Point: Below Top of Riser Initial Depth to Water: 8.19' Depth to Well Bottom: 20.02' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 7.3 Estimated Purge Volume (liters): 5.8

Sample ID: GW-29S Sample Time: 12:15 QA/QC: -

Sample Parameters: VOCs, SVOCs, TAL Metals, and Total Cyanide

Other Information: We let well purge for 15-20 minutes prior to measurements due to visibly high turbidity readings

PURGE PARAMETERS

TIME	pH	TEMP (^{0}C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
11:20	6.9	8.8	0.75	2.21	730	-199	95	10.02
11:25	6.7	8.6	0.78	1.06	682	-120	95	9.95
11:30	6.7	8.6	0.78	0.95	417	-121	90	9.95
11:35	6.7	9.3	0.78	0.67	331	-123	90	9.95
11:40	6.6	9.1	0.79	0.54	231	-125	90	9.95
11:45	6.6	9.4	0.79	0.46	203	-1254	90	9.95
11:50	6.6	9.6	0.79	0.36	166	-126	90	9.95
11:55	equipment down						90	9.95
12:00	6.6	9.0	0.82	0.56	56	-122	105	9.90
12:05	6.6	8.9	0.82	0.28	43	-123	105	9.90
12:10	6.6	9.2	0.81	0.19	42.0	-125	105	9.90
12:15	6.6	9.5	0.81	0.24	50	-126	105	9.90
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: 11172700.00004 Site: Pfohl Brothers Well I.D.: GW-30S

Date: 12/6/2007 Sampling Personnel: Matt Kandefer, George Kisluk Company: URS Corporation

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

Measuring Point: Below Top of Riser Initial Depth to Water: 8.30' Depth to Well Bottom: 17.98' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 6.0 Estimated Purge Volume (liters): 10.0

Sample ID: GW-30S Sample Time: 15:40 QA/QC: none

Sample Parameters: VOCs, SVOCs, TAL Metals, and Total Cyanide

Other Information:

PURGE PARAMETERS

TIME	pH	TEMP (^{0}C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
15:20	6.9	10.8	4.18	0.52	42	-134	400	8.35
15:25	6.7	10.7	4.12	0.06	30	-151	400	8.35
15:30	6.7	10.5	4.15	0.00	22	-159	400	8.35
15:35	6.7	10.7	4.16	0.00	22	-164	400	8.35
15:40	6.7	10.6	4.17	0.00	14	-167	400	8.35
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: 11172700.00004 Site: Pfohl Brothers Well I.D.: GW-31S

Date: 12/6/2007 Sampling Personnel: Matt Kandefer, George Kisluk Company: URS Corporation

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

Measuring Point: Below Top of Riser Initial Depth to Water: 2.92' Depth to Well Bottom: 9.55' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 4.1 Estimated Purge Volume (liters): 2.7

Sample ID: GW-31S Sample Time: 8:55 QA/QC: none

Sample Parameters: VOCs, SVOCs, TAL Metals, and Total Cyanide

Other Information:

PURGE PARAMETERS

TIME	pH	TEMP (^{0}C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
8:30	7.1	4.7	0.68	4.20	27	102	130	2.50
8:35	6.7	3.1	0.72	0.11	28	104	90	3.95
8:40	6.7	2.5	0.72	0.05	23	94	80	4.45
8:45	6.7	3.6	0.72	0.06	17	66	80	4.95
8:50	6.7	3.5	0.73	0.04	19	45	80	5.40
8:55	6.7	2.2	0.74	0.10	14	30	80	5.54
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-31S

PROJECT NO.: 11172700.00004

STAFF: Matt Kandefer, George Kisluk

DATE(S): 12/6/07

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	9.55	1"	0.040
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	2.92	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	6.63	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)	=	1.1	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 3)	=	3.4	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=		8"	2.60

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

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	0	4	5	9	13						
pH	7.1	6.7	6.7	6.7	6.7	6.7					
SPEC. COND. (mS/cm)	0.680	0.719	0.724	0.721	0.728	1					
DO (mg/)	4.200	0.110	0.050	0.060	0.040	0					
TEMPERATURE (^{0}C)	4.7	3.1	2.5	3.6	3.5	2.2					
TURBIDITY (NTU)	27	28	23	17	19	14					
ORP (millivolts)	102	104	94	66	45	30					
Water Level (BTOR-feet)	2.5	3.95	4.45	4.95	5.4	5.54					
Flow Rate	130	90	80	80	80	80					

COMMENTS:

Purged with a Geopump 2 and HDPE tubing . Well went dry after removing about 2 gallons. Return on 5/25/07 and sample with Geopump 2 and HDPE tubing.

Sample time 8:00 on 5/25/07

Depth to water was 5.21' on 5/25/07

Sample Parameters: VOCs, SVOCs, TAL Metals, and Total Cyanide

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 11172700.00004 Site: Pfohl Brothers Well I.D.: GW-32S

Date: 12/6/2007 Sampling Personnel: Matt Kandefer, George Kisluk Company: URS Corporation

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

Measuring Point: Below Top of Riser Initial Depth to Water: 2.60' Depth to Well Bottom: 9.92' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 4.5 Estimated Purge Volume (liters): 11.4

Sample ID: GW-32S Sample Time: 11:50 QA/QC: -

Sample Parameters: VOCs, SVOCs, TAL Metals, and Total Cyanide

Other Information:

PURGE PARAMETERS

TIME	pH	TEMP (^{0}C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
10:55	7.1	5.7	0.510	4.30	30	141	265	3.06
11:00	7.1	6.1	0.488	2.47	119	131	150	3.05
11:05	7.1	6.0	0.476	1.86	104	120	150	3.05
11:10	7.2	6.1	0.466	1.37	72	105	150	3.07
11:15	7.2	6.3	0.464	1.33	67	92	225	3.15
11:20	7.3	6.3	0.456	0.82	41	75	190	3.10
11:25	7.3	6.1	0.453	0.72	34	64	190	3.10
11:30	7.30	6.6	0.440	0.60	28	51	190	3.10
11:35	7.2	6.7	0.446	0.34	21	41	190	3.10
11:40	7.2	7.1	0.442	0.24	15.0	33	190	3.10
11:45	7.2	7.0	0.441	0.24	14.0	28	190	3.15
11:50	7.2	6.8	0.440	0.16	13	24	190	3.18
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: 11172700.00004 Site: Pfohl Brothers Well I.D.: GW-33S

Date: 12/6/2007 Sampling Personnel: Matt Kandefer, George Kisluk Company: URS Corporation

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

Measuring Point: Below Top of Riser Initial Depth to Water: 4.12' Depth to Well Bottom: 8.22' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 2.5 Estimated Purge Volume (liters): 4.7

Sample ID: GW-33S Sample Time: 10:10 QA/QC: -

Sample Parameters: VOCs, SVOCs, TAL Metals, and Total Cyanide

Other Information:

PURGE PARAMETERS

TIME	pH	TEMP (^{0}C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
9:35	7.00	5.0	2.21	8.03	11	117	175	4.75
9:40	6.90	4.4	2.27	7.85	11	114	125	5.25
9:45	6.80	4.0	2.40	7.21	5	114	105	5.50
9:50	6.70	3.8	2.48	6.15	5	116	95	5.72
9:55	6.60	4.6	2.54	5.02	5	119	110	5.91
10:00	6.60	4.4	2.60	4.72	3	121	110	6.08
10:05	6.60	4.2	2.61	4.62	3	122	110	6.12
10:10	6.60	4.4	2.66	4.29	4	124	110	6.15
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: 11172700.00004 Site: Pfohl Brothers Well I.D.: GW-34S

Date: 12/5/2007 Sampling Personnel: Matt Kandefer, George Kisluk Company: URS Corporation

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

Measuring Point: Below Top of Riser Initial Depth to Water: 3.30' Depth to Well Bottom: 10.01' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 4.1 Estimated Purge Volume (liters): 4.7

Sample ID: GW-34S Sample Time: 11:15 QA/QC:

Sample Parameters: VOCs, SVOCs, TAL Metals, and Total Cyanide

Other Information:

PURGE PARAMETERS

TIME	pH	TEMP (^{0}C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
10:45	6.8	6.9	0.601	7.26	44	167	200	3.25
10:50	6.7	6.0	0.603	7.41	35	142	170	4.80
10:55	6.7	6.0	0.602	7.22	25	134	175	5.10
11:00	6.7	6.1	0.601	7.14	22	133	130	5.05
11:05	6.7	6.0	0.601	7.16	30	133	130	5.08
11:10	6.7	6.1	0.600	7.11	20	132	130	5.10
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: 11172700.00004 Site: Pfohl Brothers Well I.D.: GW-35S

Date: 12/6/2007 Sampling Personnel: Matt Kandefer, George Kisluk Company: URS Corporation

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

Measuring Point: Below Top of Riser Initial Depth to Water: 2.60' Depth to Well Bottom: 7.45' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 3.0 Estimated Purge Volume (liters): 6.9

Sample ID: GW-35S Sample Time: 14:00 QA/QC: -

Sample Parameters: VOCs, SVOCs, TAL Metals, and Total Cyanide

Other Information:

PURGE PARAMETERS

TIME	pH	TEMP (^{0}C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
13:20	7.2	5.8	0.672	5.79	17	133	260	3.40
13:25	6.8	6.8	0.828	1.01	8	116	200	4.46
13:35	6.8	6.1	0.865	0.57	4	84	130	3.33
13:40	6.8	6.1	0.855	0.64	3	74	130	3.35
13:45	6.8	6.5	0.846	0.92	3	61	115	3.35
13:50	6.8	6.3	0.850	0.94	2	55	115	3.35
13:55	6.8	6.5	0.860	0.61	4	50	115	3.35
14:00	6.8	6.8	0.85	0.85	2	51	115	3.35
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: *11172700.00005*

Sampling Crew Members: *M. Kandefer, R. Piurek* Supervisor: *J. Stachowski*

Date of Sampling: *December 4, 2007*

Sample I.D. Number	***Well Number***	***Well Volume (liters)***	***Volume Purged (liters)***	***Sample Time***	***Sample Description***	***Analysis Required***	***Chain-of-Custody Number***
GW-8SR	GW-8SR	4.7	12.9	11:55	Groundwater	VOCs/SVOCs/ Metals/Cyanide	Not Applicable
120407-Dup	GW-8SR	4.7	12.9	12:00	Duplicate		Not Applicable
GW-8D	GW-8D	77.6	27.5	13:35	Groundwater		Not Applicable
GW-8D MS	GW-8D	77.6	27.5	13:35	Matrix Spike		Not Applicable
GW-8D MSD	GW-8D	77.6	27.5	13:35	Matrix Spike Duplicate		Not Applicable
GW-3S	GW-3S	5.9	4.5	15:15	Groundwater		Not Applicable
GW-3D	GW-3D	83.1	17.0	16:15	Groundwater		Not Applicable
120407-TB	---	---	---	12:30	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: *11172700.00005*

Sampling Crew Members: *M. Kandefer, G. Kisluk* Supervisor: *J. Stachowski*

Date of Sampling: *December 5, 2007*

Sample I.D. Number	***Well Number***	***Well Volume (liters)***	***Volume Purged (liters)***	***Sample Time***	***Sample Description***	***Analysis Required***	***Chain-of-Custody Number***
GW-07S	GW-07S	19.6	30.3	8:50	Groundwater	VOCs/SVOCs/ Metals/Cyanide	Not Applicable
GW-34S	GW-34S	4.1	4.7	11:15	Groundwater		Not Applicable
GW-4S	GW-4S	7.3	3.2	13:35	Groundwater		Not Applicable
GW-4D	GW-4D	81.3	6.3	14:40	Groundwater		Not Applicable
GW-1S	GW-1S	7.3	12.7	16:25	Groundwater		Not Applicable
GW-1D	GW-1D	92.8	10	17:05	Groundwater		
TB-120507	---	---	---	---	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: *11172700.00005*

Sampling Crew Members: *M. Kandefer, G. Kisluk* Supervisor: *J. Stachowski*

Date of Sampling: *December 6, 2007*

Sample I.D. Number	***Well Number***	***Well Volume (liters)***	***Volume Purged (liters)***	***Sample Time***	***Sample Description***	***Analysis Required***	***Chain-of-Custody Number***
GW-31S	GW-31S	57.9	54.9	8:55	Groundwater	VOCs/SVOCs/ Metals/Cyanide	Not Applicable
GW-33S	GW-33S	1.5	15.1	10:10	Groundwater		Not Applicable
GW-32S	GW-32S	1.5	15.1	11:50	Groundwater		Not Applicable
GW-35S	GW-35S	84.6	34.1	14:00	Groundwater		Not Applicable
GW-26D	GW-26D	8.4	11.3	14:50	Groundwater		Not Applicable
GW-30S	GW-30S	8.4	11.3	15:40	Groundwater		Not Applicable
TB-120607	---	---	---	---	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: *11172700.00005*

Sampling Crew Members: *M. Kandefer, G. Kisluk* Supervisor: *J. Stachowski*

Date of Sampling: *December 7, 2007*

Sample I.D. Number	***Well Number***	***Well Volume (liters)***	***Volume Purged (liters)***	***Sample Time***	***Sample Description***	***Analysis Required***	***Chain-of-Custody Number***
GW-07D	GW-07D	19.0	22.1	8:25	Groundwater	VOCs/SVOCs/ Metals/Cyanide	Not Applicable
GW-28S	GW-28S	57.9	54.9	10:00	Groundwater		Not Applicable
GW-29S	GW-29S	1.5	15.1	12:15	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.

APPENDIX E

TRENDS OF PARAMETERS ROUTINLY EXCEEDING GROUNDWATER STANDARDS

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

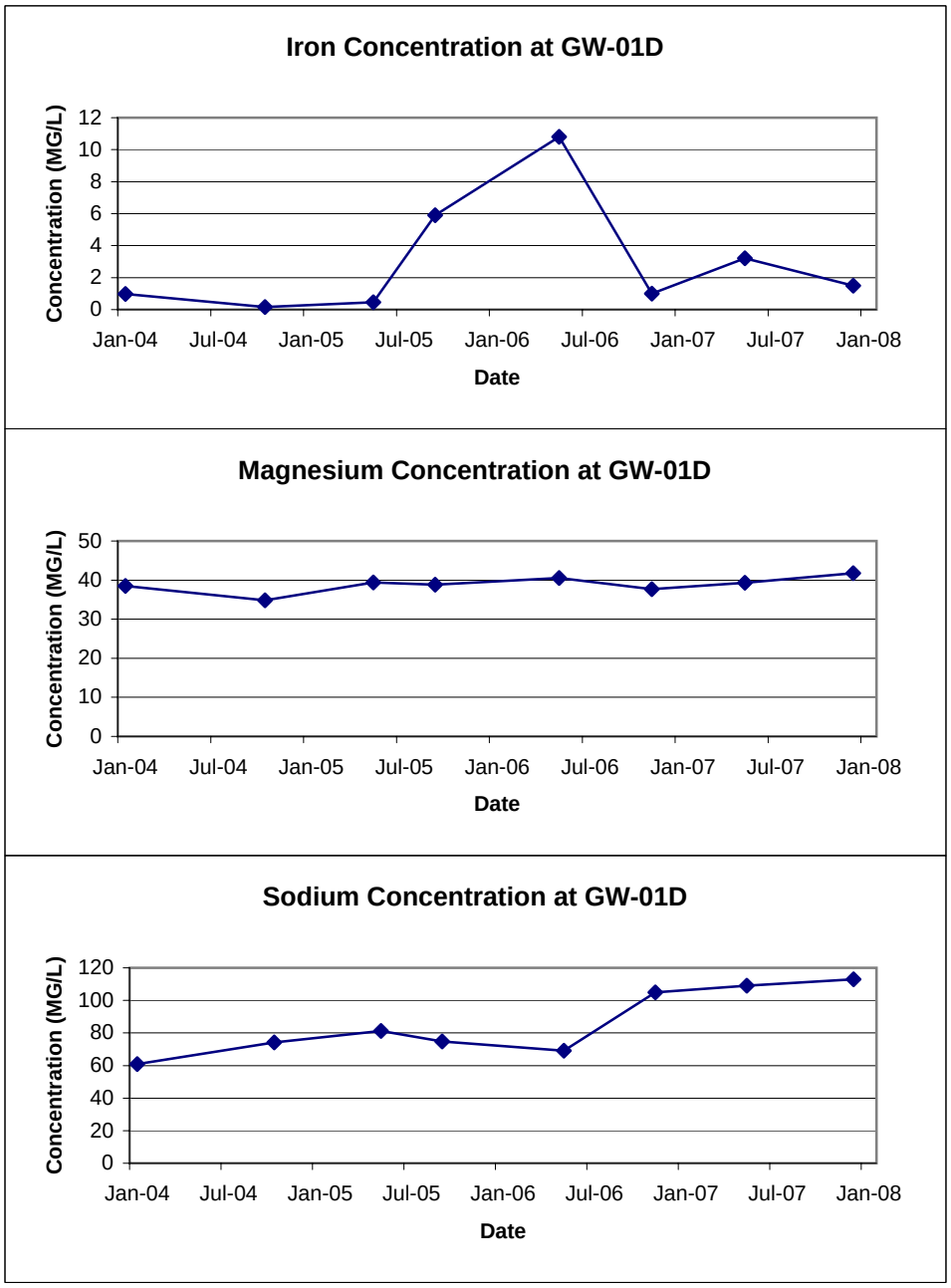


FIGURE E-2
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-1S

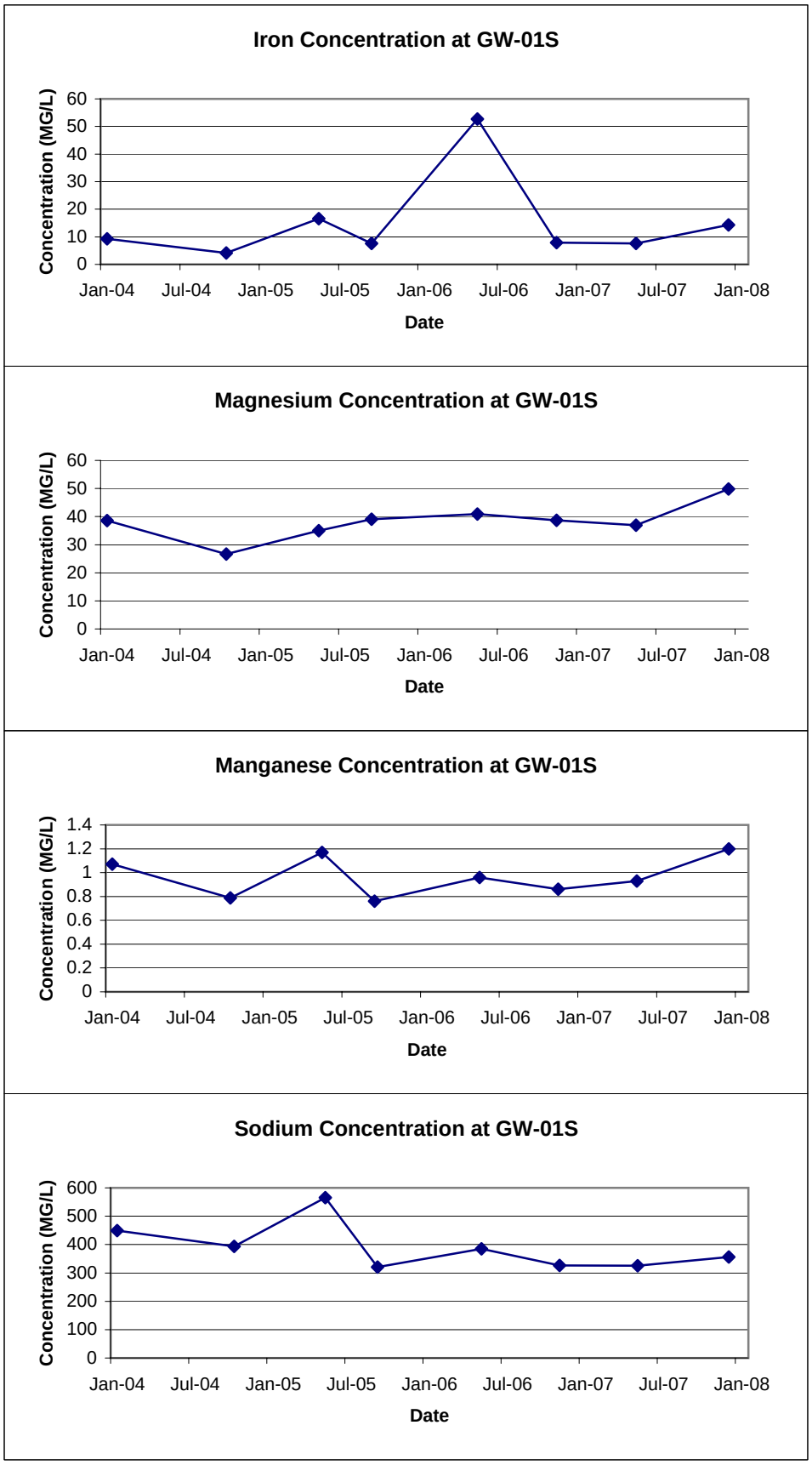


FIGURE E-3
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-3D

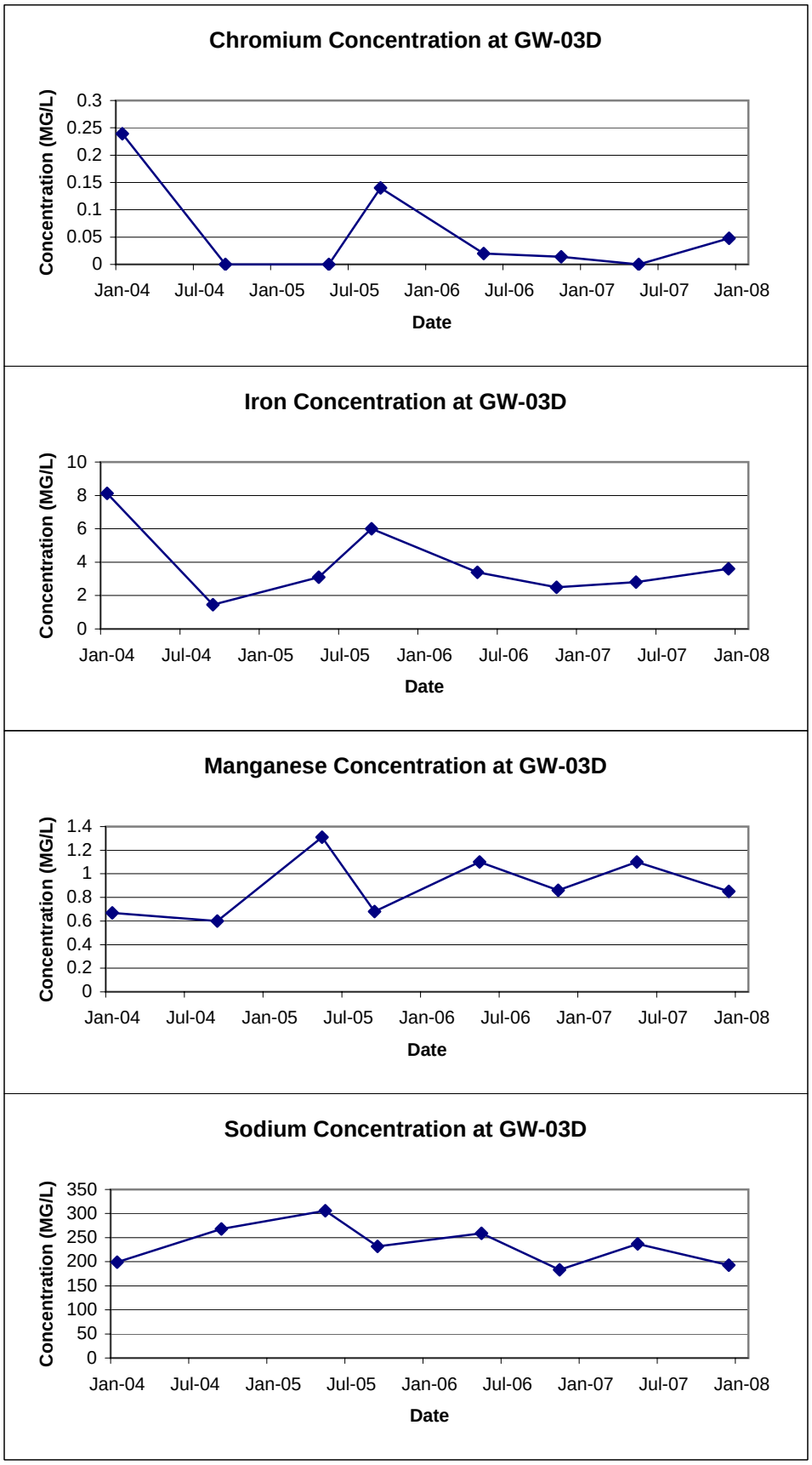
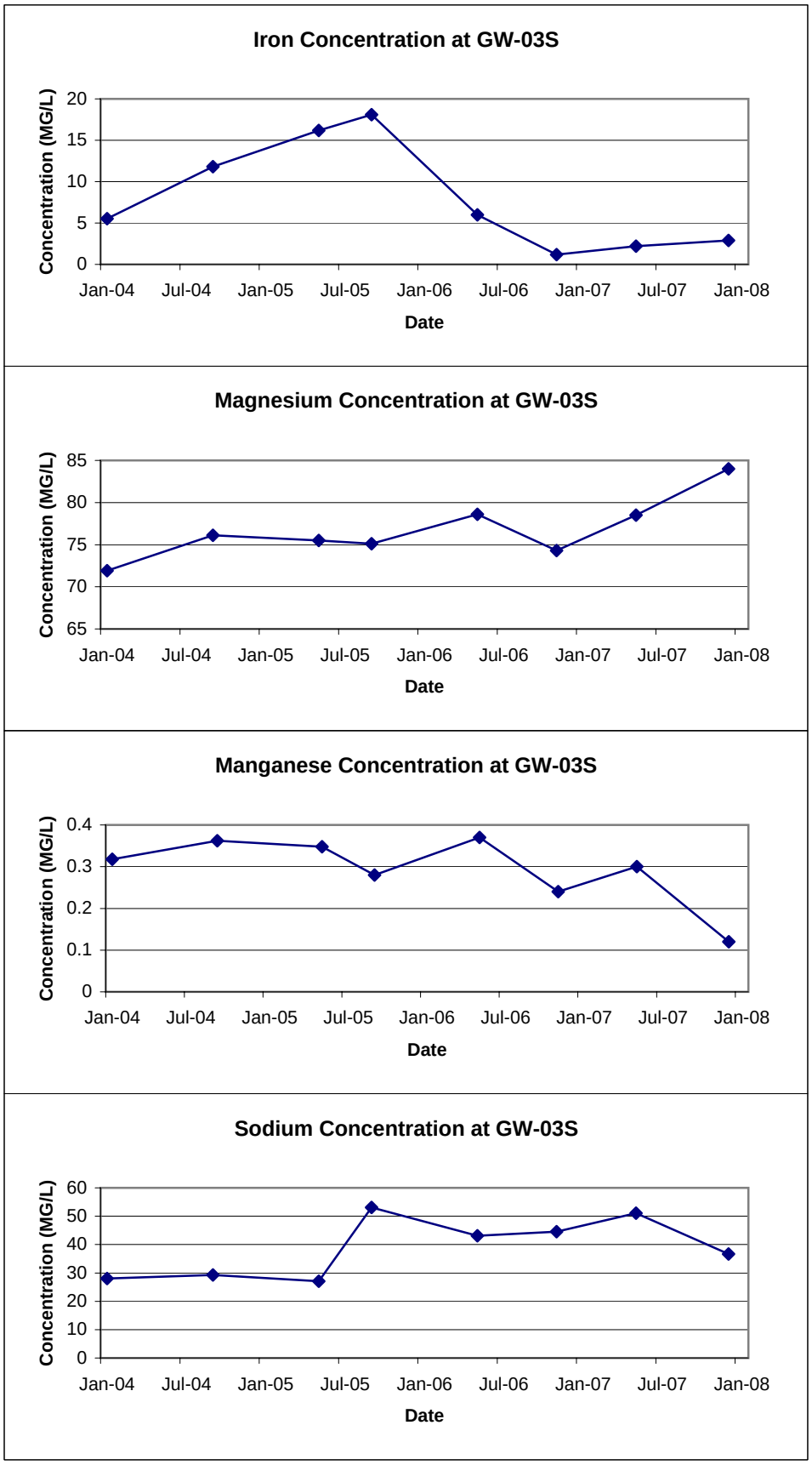
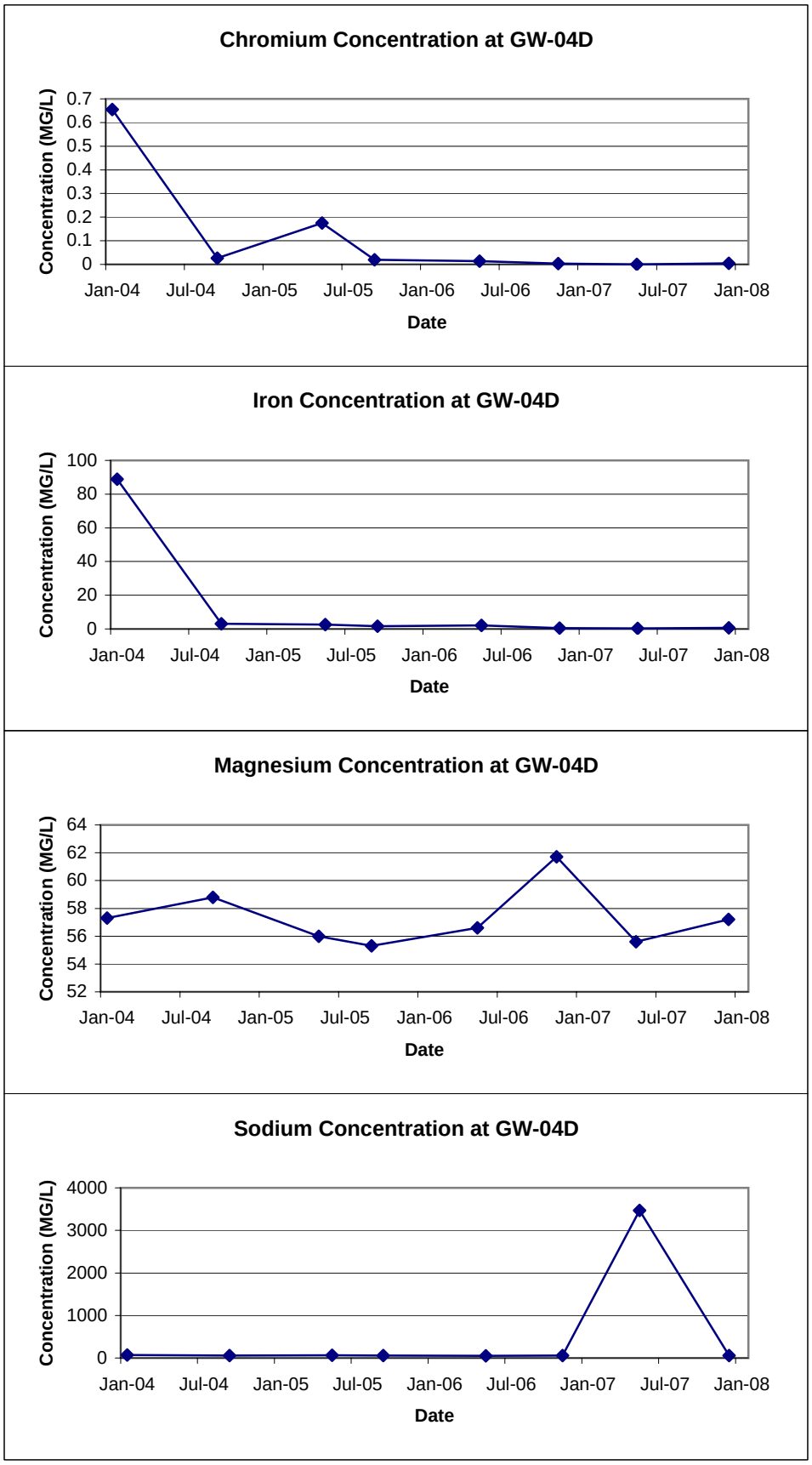


FIGURE E-4
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-3S



N/11172700/EXCEL/pfohl trends thru Jan 08.xls

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



N/11172700/EXCEL/pfohl trends thru Jan 08.xls

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

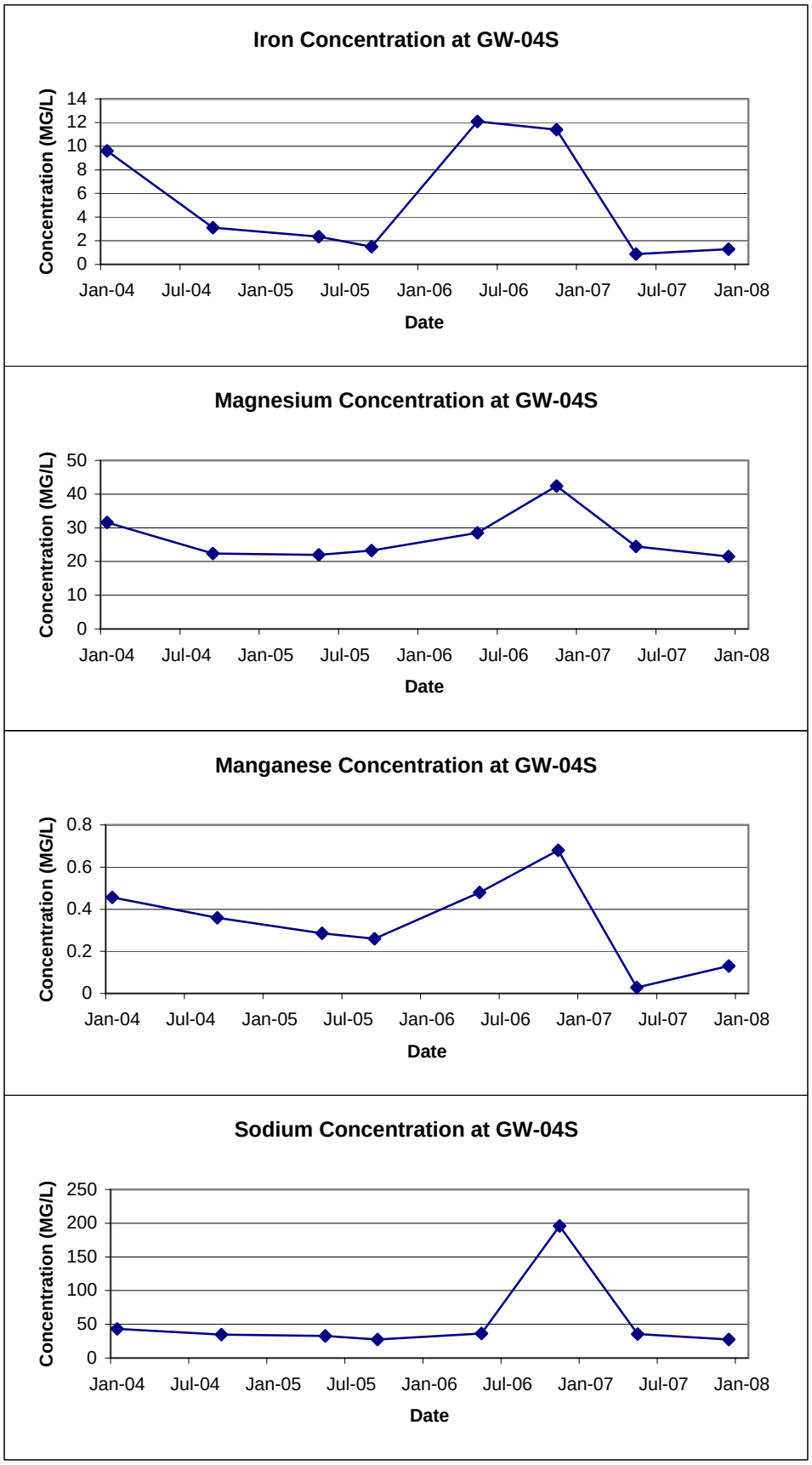


FIGURE E-7
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-7D

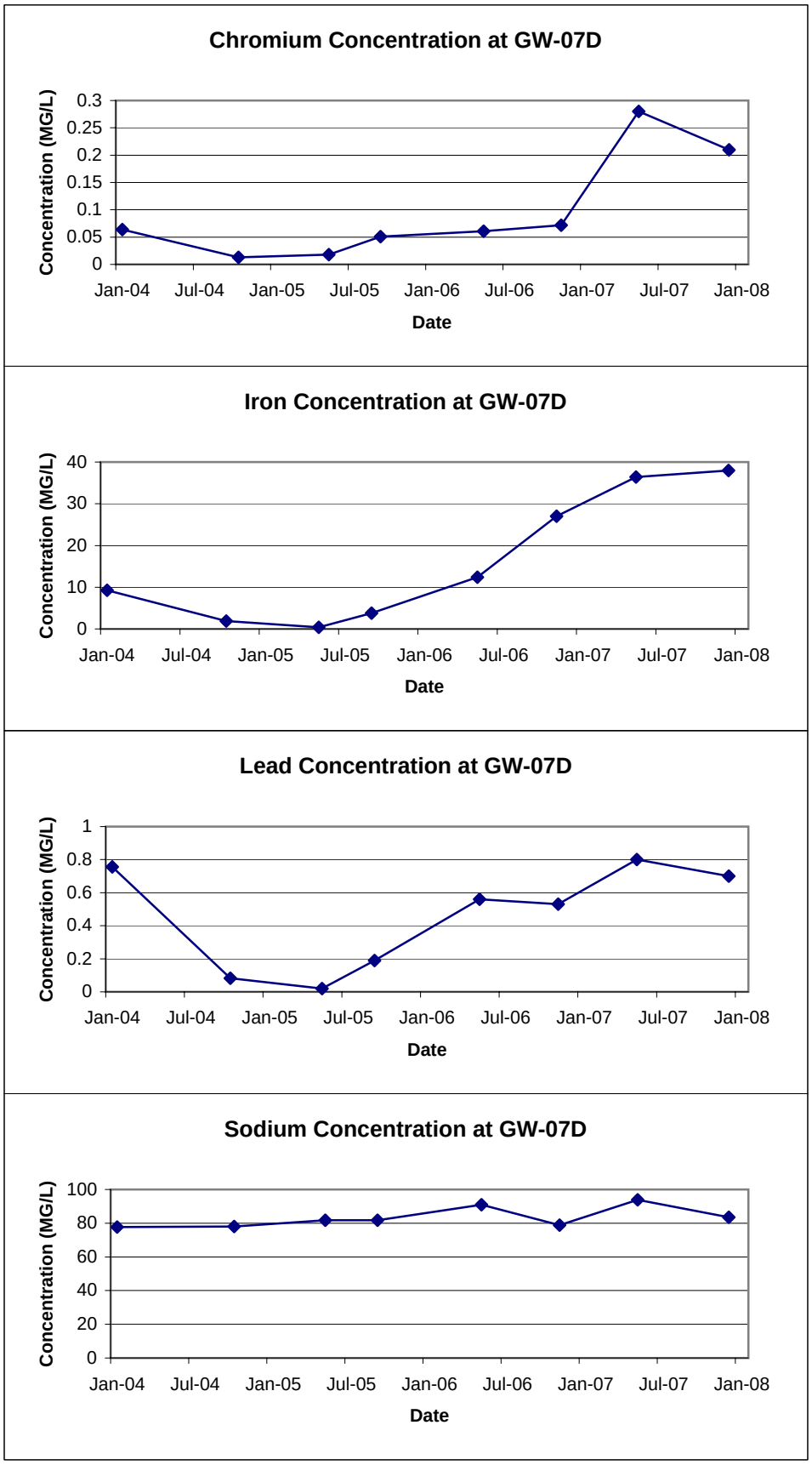


FIGURE E-8
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-7S

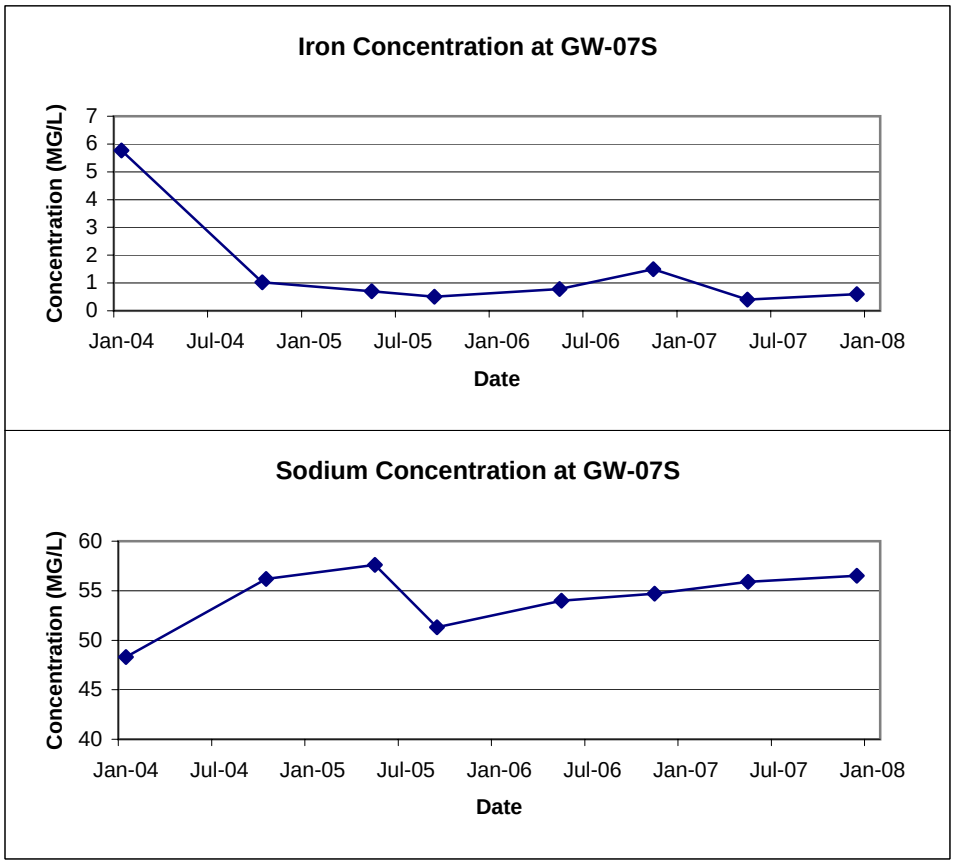


FIGURE E-9
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-8D

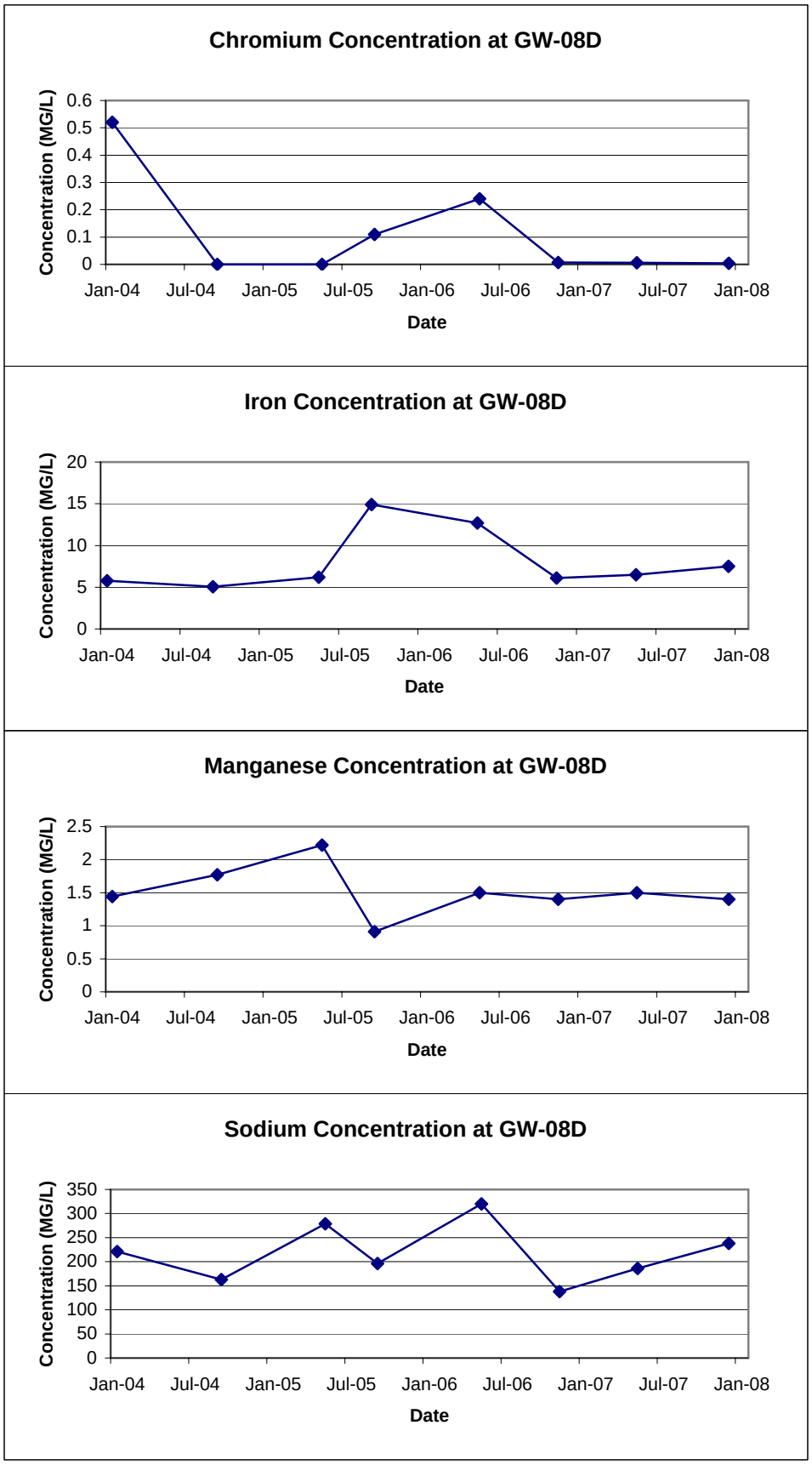
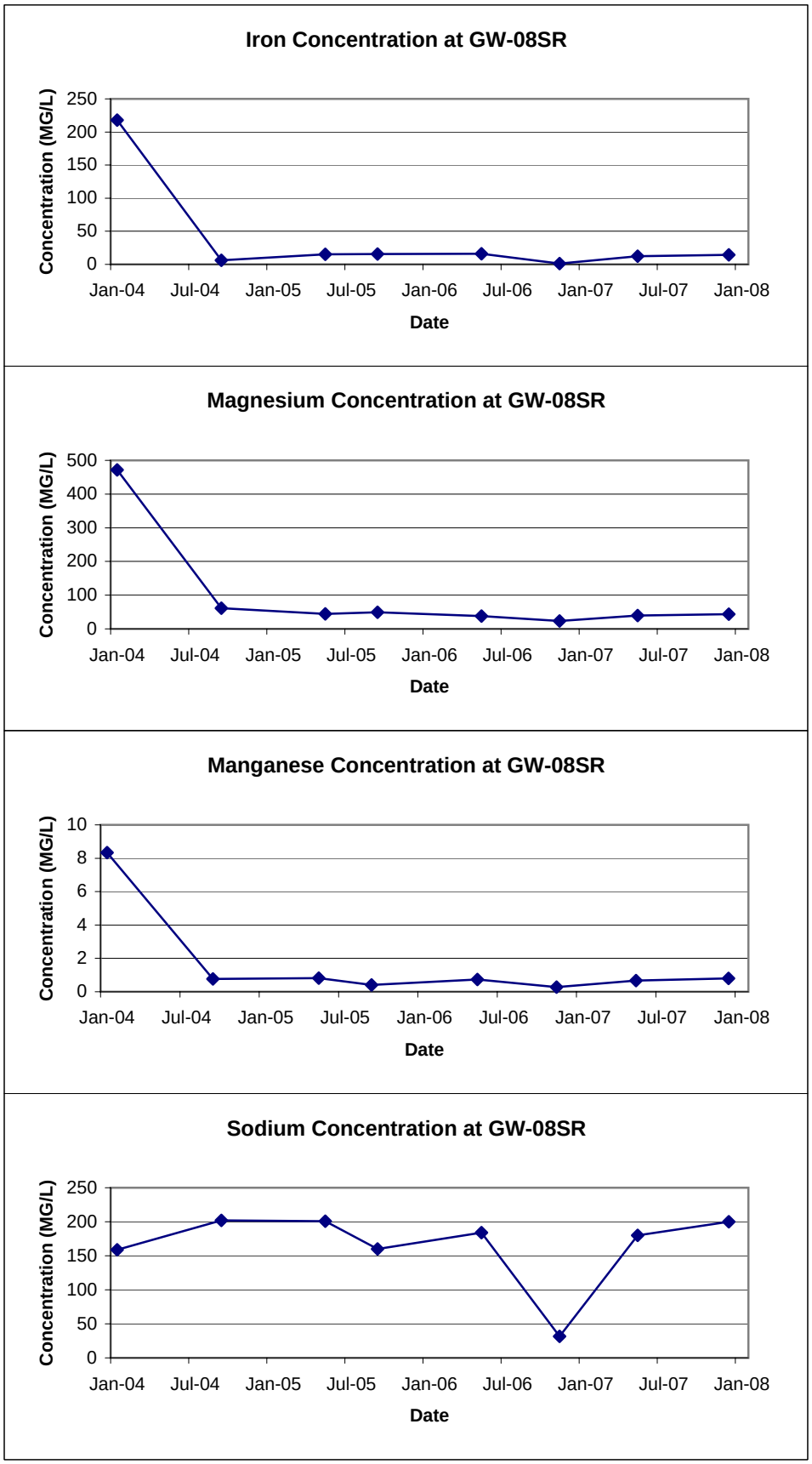


FIGURE E-10
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-8SR



N/11172700/EXCEL/pfohl trends thru Jan 08.xls

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

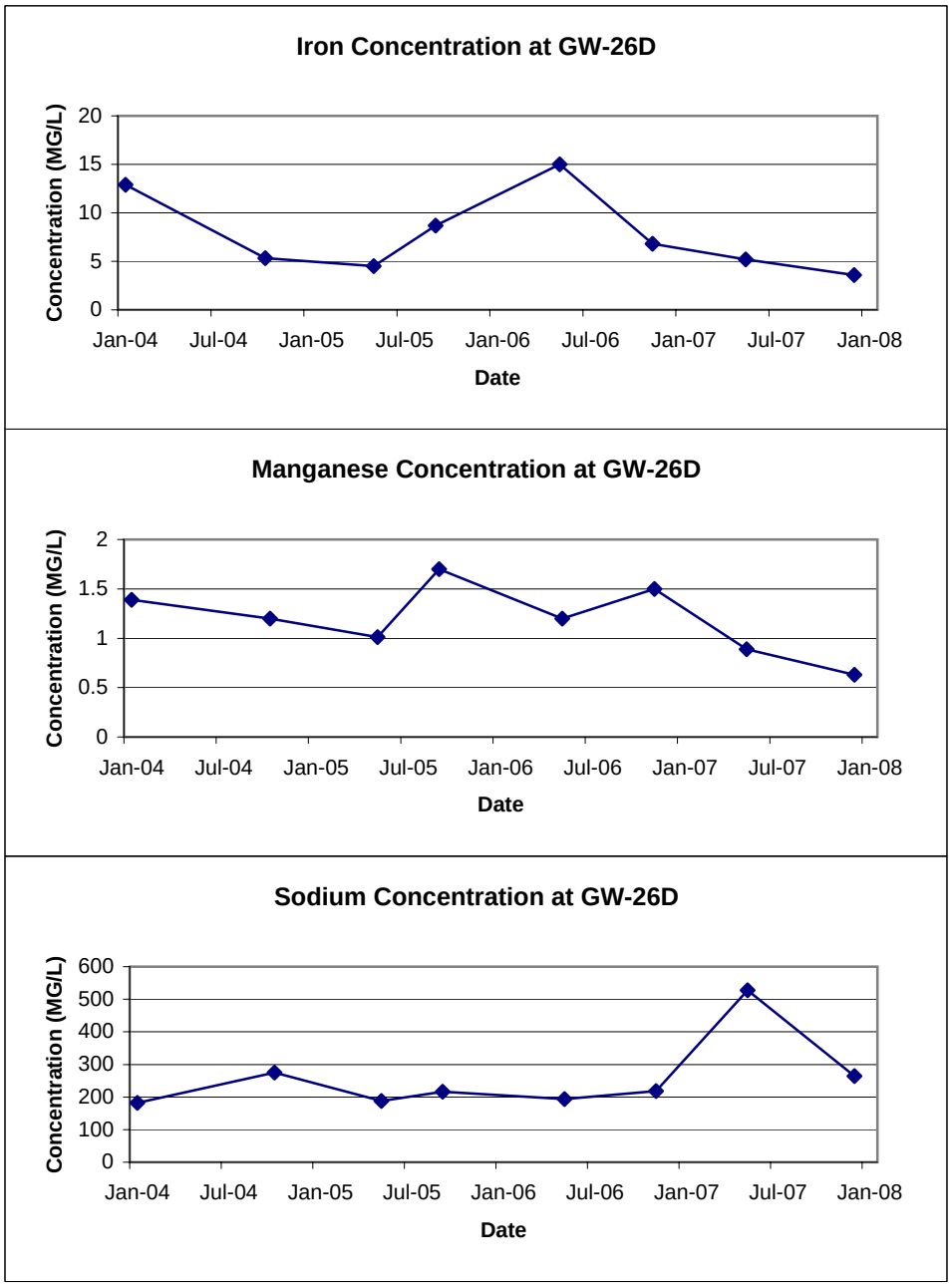
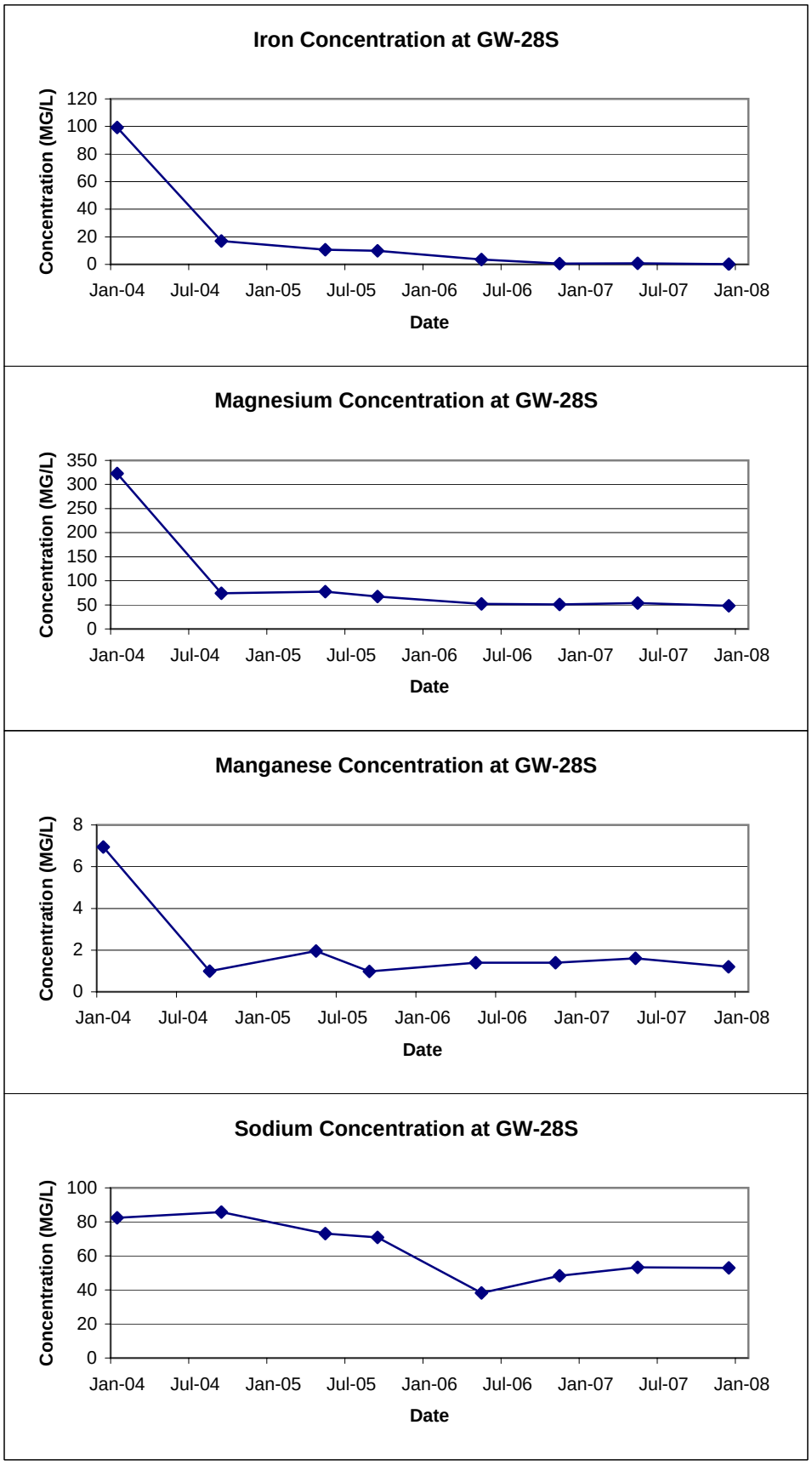
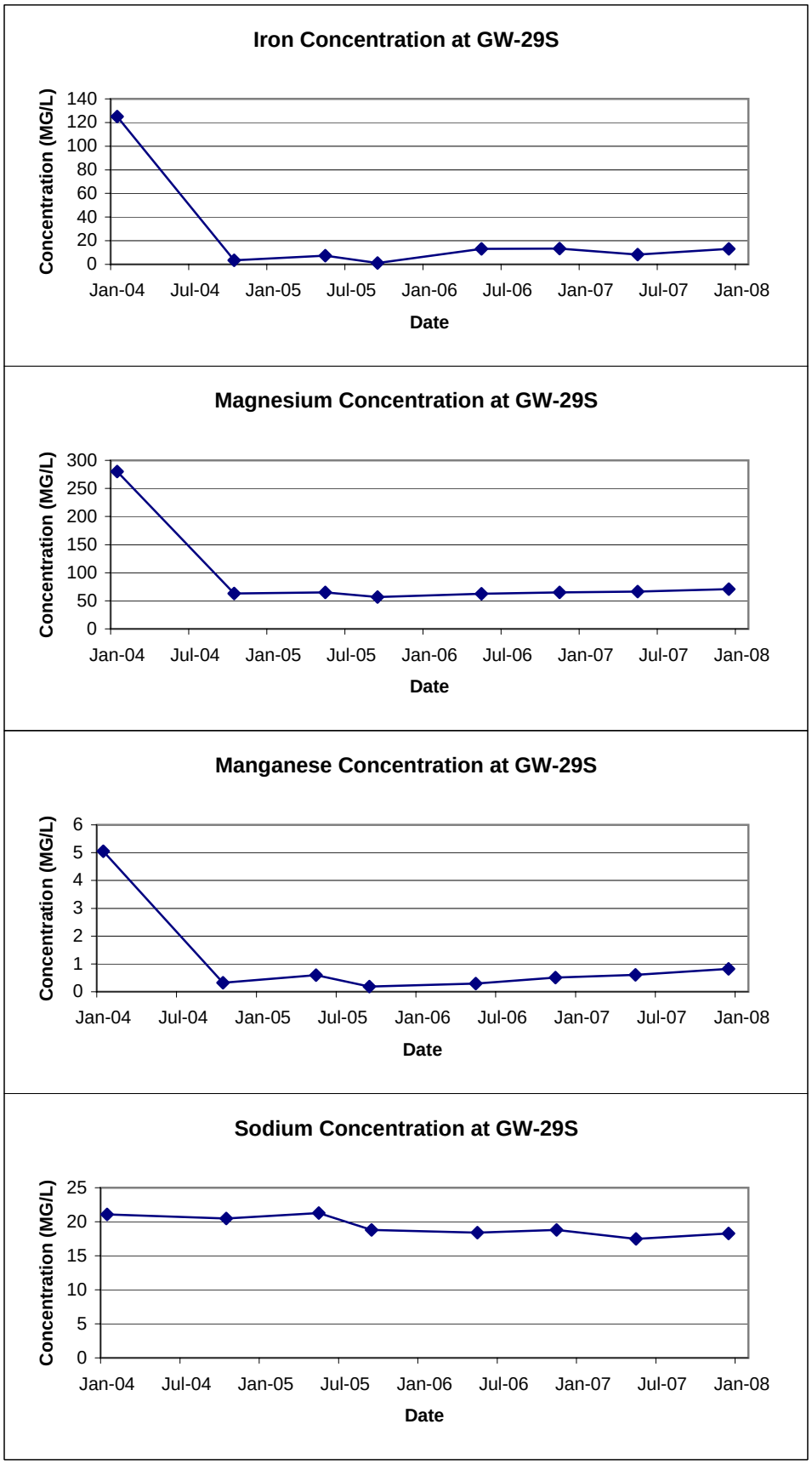


FIGURE E-12
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-28S



N/11172700/EXCEL/pfohl trends thru Jan 08.xls

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



N/11172700/EXCEL/pfohl trends thru Jan 08.xls

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

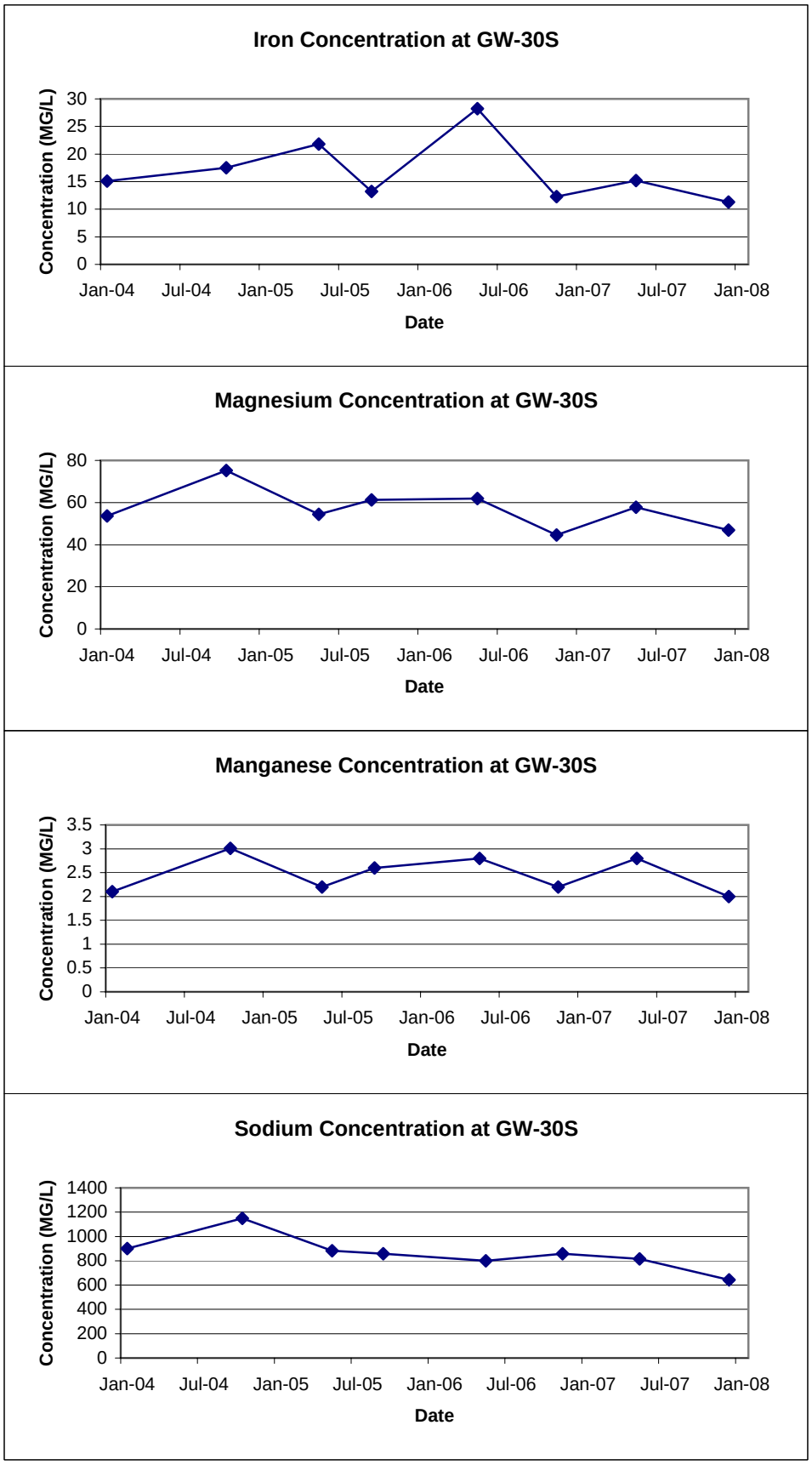
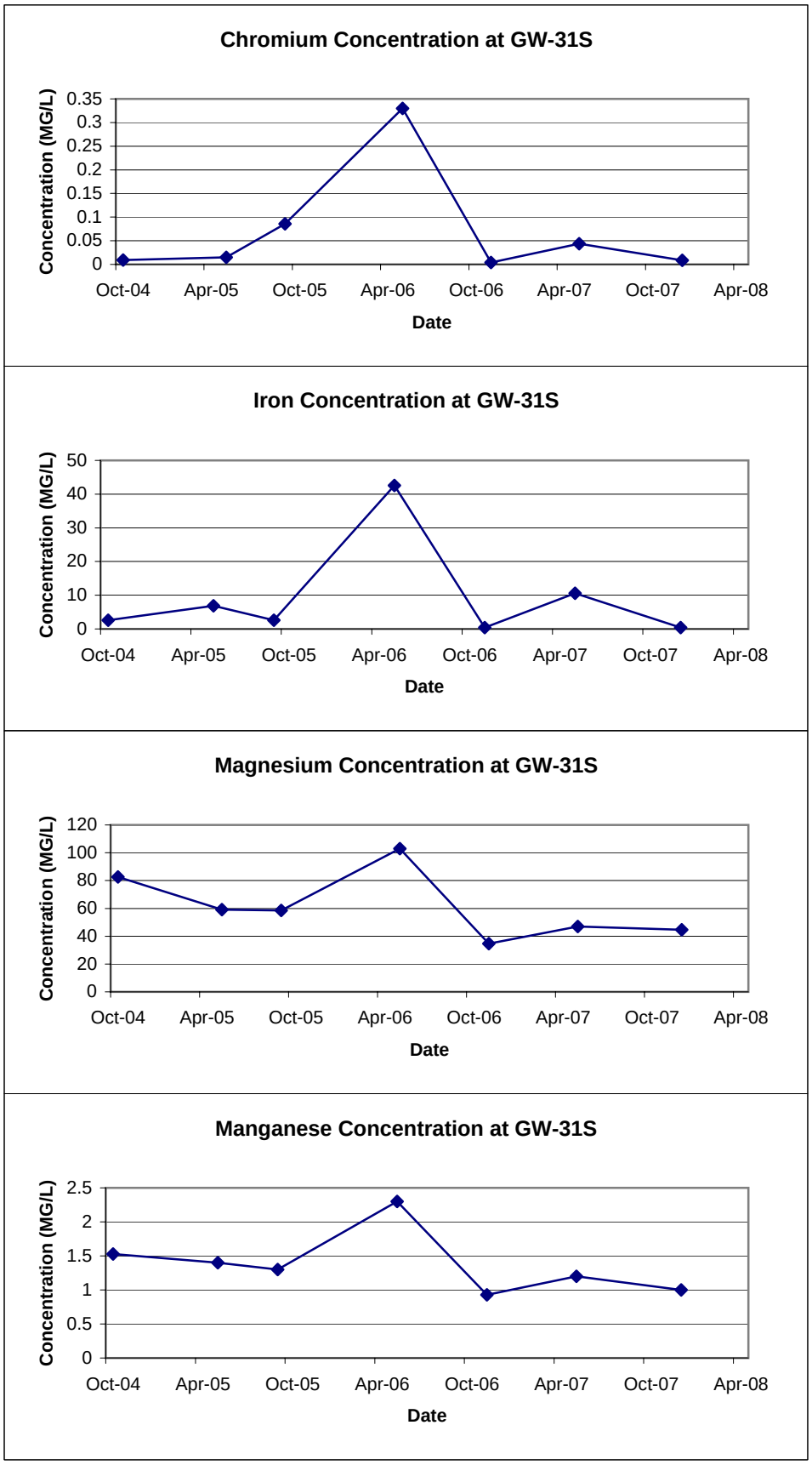


FIGURE E-15
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-31S



N/11172700/EXCEL/pfohl trends thru Jan 08.xls

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

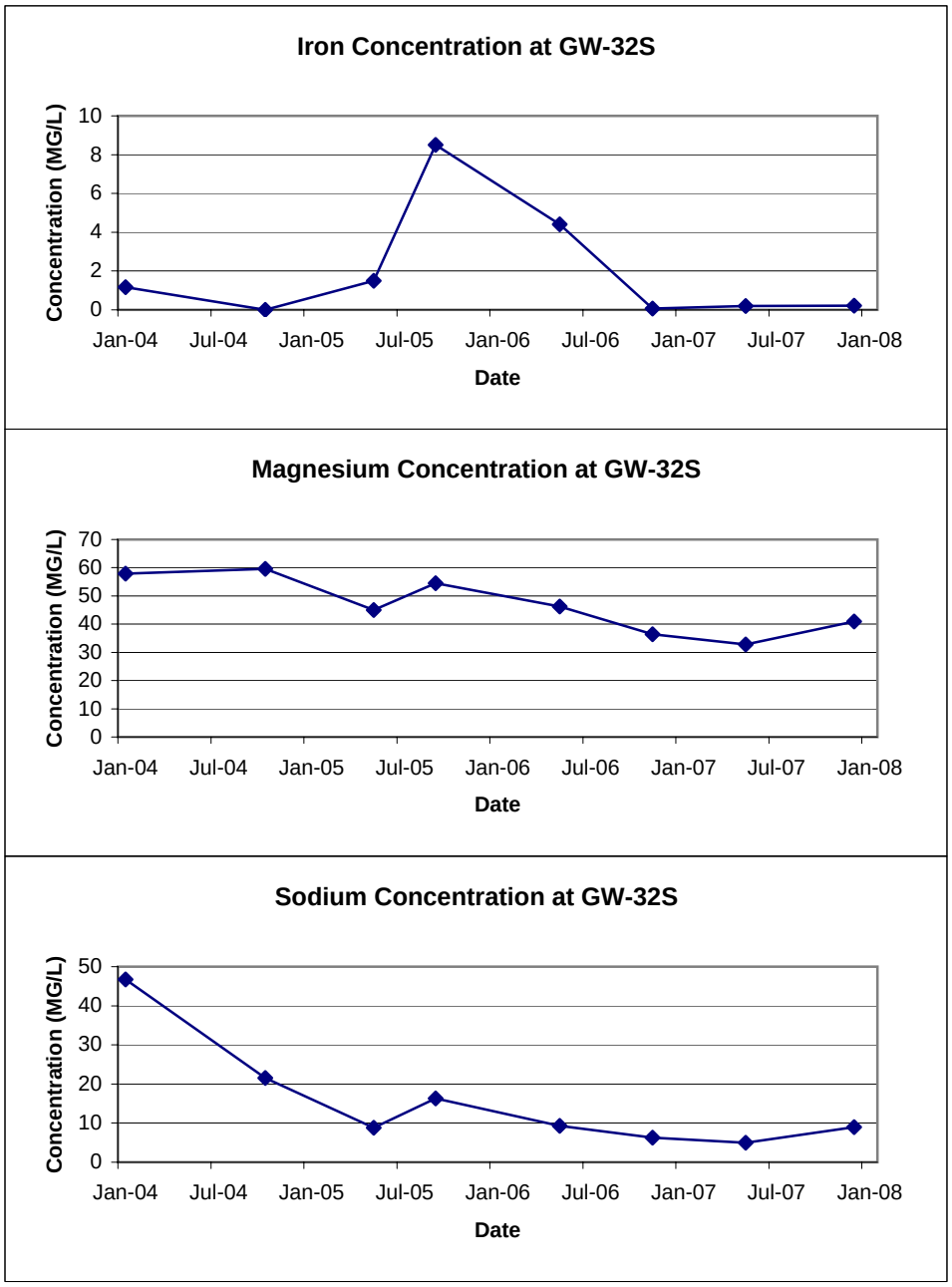


FIGURE E-17
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-33S

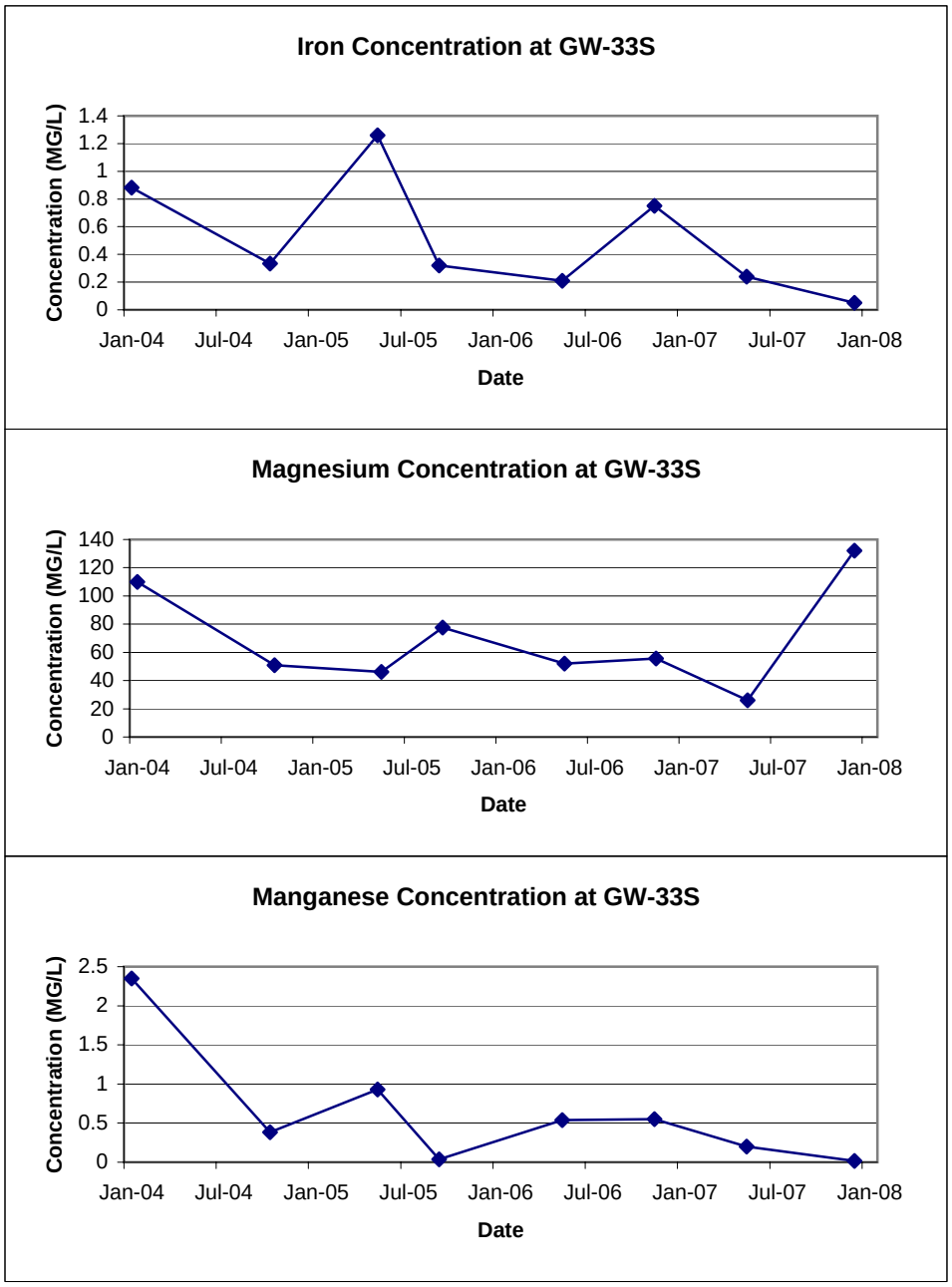
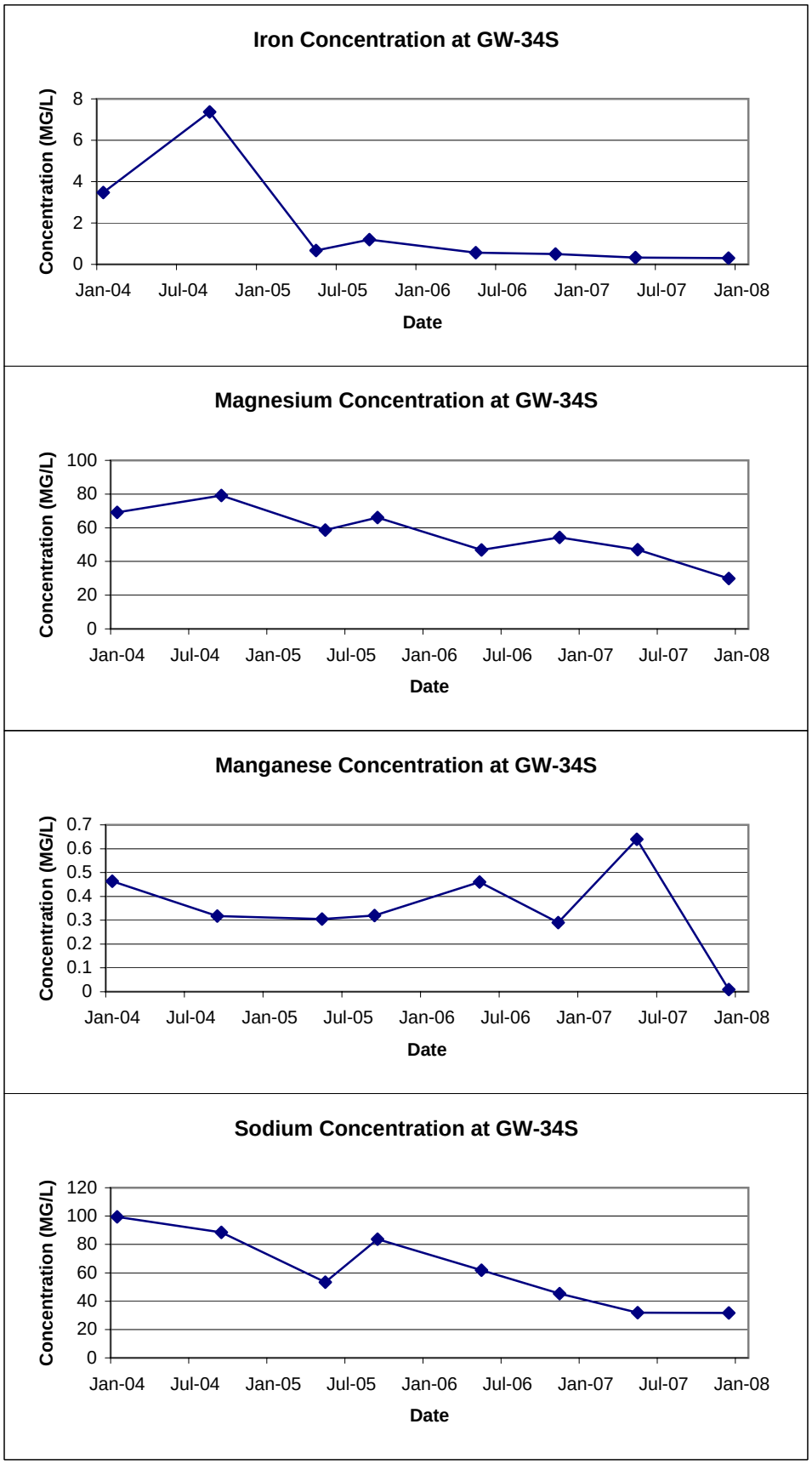
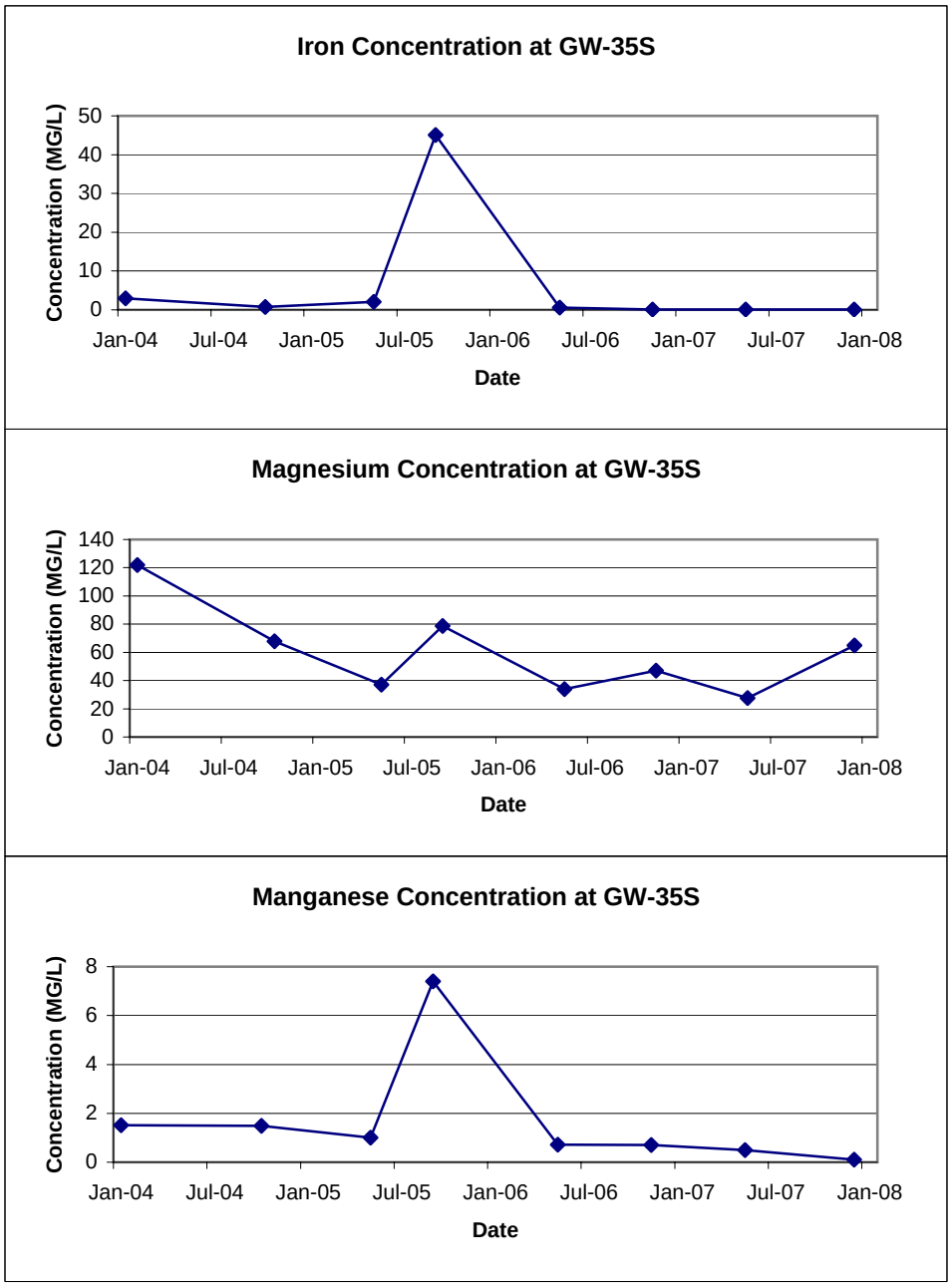


FIGURE E-18
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-34S



N/11172700/EXCEL/pfohl trends thru Jan 08.xls

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



APPENDIX F

BSA PERMIT NO. 05-12-CH016

AUTHORIZATION TO DISCHARGE UNDER THE BUFFALO POLLUTANT DISCHARGE ELIMINATION SYSTEM

PERMIT NO. 05-12-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 April, 2006

To Expire the 31st day of March, 2009

General Manager

Signed this 30th **day of** March **, 2006**

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		Discharge Limitations[1]	Sampling Requirements	
Point	**Parameter**	**Daily Max**	**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		**Reporting Requirements**	
Point	**Parameter**	**Initial Report**	**Subsequent Reports**
001	All except USEPA Test Methods 608, 624, 625 & T Mercury	June 30, 2006	Every March 31st, June 30th, September 30th and December 31st
	USEPA Test Methods 608, 624 and 625 & T Mercury	March 31, 2008	

PART I: SPECIFIC CONDITIONS

C. SPECIAL REQUIREMENTS

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

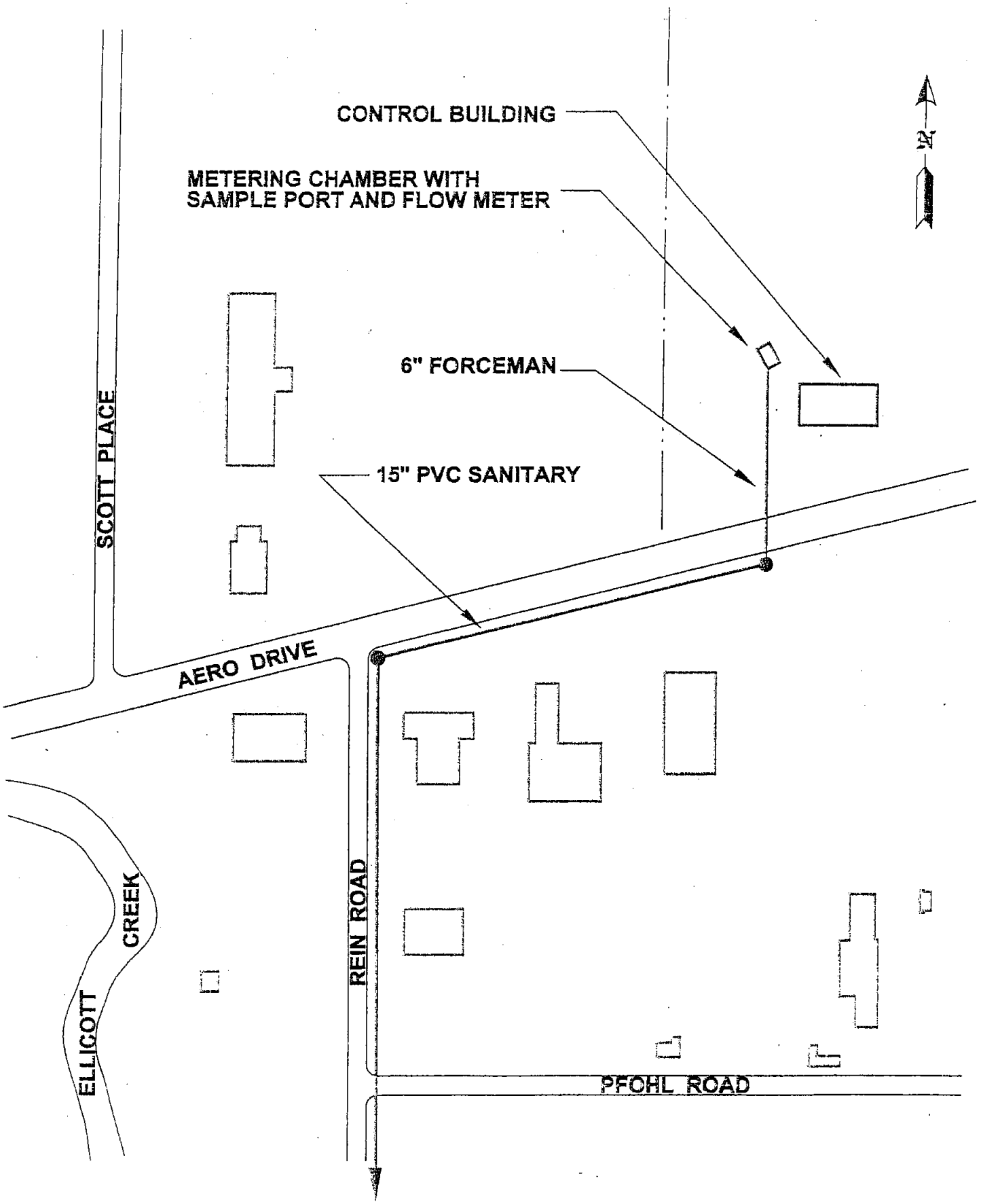
2. Composite samples may be time proportioned.

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.



GROWING IN A NEW DIRECTION
TOWN OF CHEEKTOWAGA
Erie County, New York

TOWN OF CHEEKTOWAGA
CHEEKTOWAGA ENGINEERING DEPT.
ALEXANDER COMMUNITY CENTER
275 ALEXANDER AVE.
CHEEKTOWAGA, NEW YORK 14221
PHONE: (716) 897-7288
FAX: (716) 897-7299

PFOHL BROTHERS LANDFILL SITE

DRAWN BY:	MARK J. CHRISTEL
DATE:	10/28/2002
REVISED:	-
SCALE:	NONE

EXHIBIT

1

FILE: (M: PFOHL BROS.)

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: 9/26/07 Crew: M. Kandefer, M. Panasiewicz, R. Murphy

Weather: 75° F, cloudy

Sampling Device: NA

Time of Installation: 10:45 Type of Sample: Composite

Sample Interval: NA Sample Volume: NA

Comments and Observations: Wet wells WW-04, WW-05, and WW-06 were pumping at the time of sample set-up. PLC display volumes: WW-01 (564,123 gals), WW-02 (-213 gals), WW-03 (236,096 gals), WW-04 (843,866 gals), WW-05 (352,650 gals), WW-06 (437,196 gals) & MH-25 (1,917,269 gals).

Date: 9/27/07 Crew: M. Kandefer, M. Panasiewicz, R. Murphy

Weather: 72° F, cloudy

Time of Collection: 10:50

Field Measurements:

10:50 (time/initial)

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

pH Measurement: 6.44

Temperature: 19.4°C

Identification: EFF-092707

Physical Observations:

Laboratory: Severn Trent, Buffalo, NY

Comments: No wells were pumping at the conclusion of the sampling period. PLC display volumes: WW-01 (564,123 gals), WW-02 (-215 gals), WW-03 (236,096 gals), WW-04 (857,610 gals), WW-05 (369,607 gals), WW-06 (453,951 gals) & MH-25 (1,964,637 gals).

Reviewed By: (Supervisor) Date:

TABLE 1

PFOHL BROTHERS LANDFILL - EFFLUENT MONITORING ANALYTICAL RESULTS, TOTAL FLOW, AND MASS LOADINGS SEPTEMBER 2007

Sample ID	**EFFLUENT**			
Matrix	**Effluent Water**			
Date Sampled	**9/27/2007**			
Parameter	**Result**	**Mass Loading**	**Discharge Limitation**	**Violations**
	(mg/L)	**(lbs/day)**	**(lbs/day)**	**(Y/N)**
Total Barium	0.35	0.138	2.34	No
Total Cadmuim	ND[(1)]	NA[(2)]	1.17	No
Total Chromium	ND	NA	1.17	No
Total Copper	ND	NA	3.74	No
Total Lead	ND	NA	1.17	No
Total Nickel	ND	NA	3.27	No
Total Zinc	0.010	0.0040	5.84	No
Total Suspended Solids	6.8	NA	250 [(3)]	No
pH [(4)]	6.44	NA	5.0 - 12.0	No
Total Flow [(5)]		47,368	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

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

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: 12/04/07 Crew: M. Kandefer, R. Piurek, G. Kisluk

Weather: 28° F, Overcast and Windy

Sampling Device: NA

Time of Installation: 10:35 Type of Sample: Composite

Sample Interval: NA Sample Volume: NA

Comments and Observations: Wet wells WW-01 and WW-04 were pumping at the time of sample set-up.
PLC display volumes: WW-01 (587,970 gals), WW-02 (61 gals), WW-03 (547,936 gals),
WW-04 (1,685,550 gals), WW-05 (369,591 gals), WW-06 (1,465,077 gals) & MH-25 (4,138,009 gals).

Date: 12/05/07 Crew: M. Kandefer, S. Fischer, G. Kisluk

Weather: 28° F, Clear and Windy

Time of Collection: 10:35

Field Measurements:

10:35 (time/initial)

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

pH Measurement: 7.65

Temperature: 4.22°C

Identification: EFF-120507

Physical Observations:

Laboratory: Severn Trent, Buffalo, NY

Comments: No wells were pumping at the conclusion of the sampling period.
PLC display volumes: WW-01 (657,856 gals), WW-02 (61 gals), WW-03 (547,936 gals),
WW-04 (1,706,684 gals), WW-05 (369,591 gals), WW-06 (1,465,077 gals) & MH-25 (4,228,925 gals).

Reviewed By: (Supervisor) Date:

TABLE 1

PFOHL BROTHERS LANDFILL - EFFLUENT MONITORING ANALYTICAL RESULTS, TOTAL FLOW, AND MASS LOADINGS DECEMBER 2007

Sample ID	**EFFLUENT**			
Matrix	**Effluent Water**			
Date Sampled	**12/5/2007**			
Parameter	**Result**	**Mass Loading**	**Discharge Limitation**	**Violations**
	(mg/L)	**(lbs/day)**	**(lbs/day)**	**(Y/N)**
Total Barium	0.27	0.205	2.34	No
Total Cadmuim	ND[(1)]	NA[(2)]	1.17	No
Total Chromium	ND	NA	1.17	No
Total Copper	ND	NA	3.74	No
Total Lead	ND	NA	1.17	No
Total Nickel	ND	NA	3.27	No
Total Zinc	0.016	0.0121	5.84	No
Total Suspended Solids	ND	NA	250 [(3)]	No
pH [(4)]	7.65	NA	5.0 - 12.0	No
Total Flow [(5)]		90,916	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

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: *11172700.00004*

Inspection Crew Members: *M. Kandefer, G. Kisluk* Supervisor: *J. Stachowski*

Date(s) of Inspection: *December 7, 2007*

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	OK	3.11	14.94	
GW-1D	OK	OK	OK	OK	2.06	39.64	Stainless steel bailer at bottom of well
GW-3S	OK	OK	OK	OK	3.67	13.26	
GW-3D	OK	OK	OK	OK	2.02	35.65	
GW-4S	OK	OK	OK	OK	4.4	16.28	
GW-4D	OK	OK	OK	OK	12.65	45.56	
GW-7S	OK	OK	OK	OK	4.5	35.02	
GW-7D	Replaced	OK	OK	Damaged	39.80	60.60	Lock not functional

Additional Comments: _____

_____

_____

WELL INSPECTION SUMMARY

Project Name: *Pfohl Brothers Landfill* Project Number: *11172700.00004*

Inspection Crew Members: *M. Kandefer, G. Kisluk* Supervisor: *J. Stachowski*

Date(s) of Inspection: *December 7, 2007*

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	5.46	13.03	
GW-8D	OK	OK	OK	OK	5.15	36.58	
GW-26D	OK	OK	OK	OK	6.38	40.75	
GW-28S	OK	OK	OK	OK	9.06	15.58	
GW-29S	OK	OK	OK	OK	8.19	20.02	
GW-30S	OK	OK	OK	OK	8.3	17.98	
GW-31S	OK	OK	OK	OK	2.92	9.55	
GW-32S	OK	OK	OK	OK	2.60	9.92	

Additional Comments: _____

_____

_____

WELL INSPECTION SUMMARY

Project Name: *Pfohl Brothers Landfill* Project Number: *11172700.00004*

Inspection Crew Members: *M. Kandefer, G. Kisluk* Supervisor: *J. Stachowski*

Date(s) of Inspection: *December 7, 2007*

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	4.12	8.22	
GW-34S	Replaced	OK	OK	OK	3.3	10.01	Lock not functional
GW-35S	OK	OK	OK	OK	2.6	7.45	

Additional Comments: _____

_____

_____