DSS

The
Town of
Cheektowaga

ENGINEERING DEPARTMENT
275 ALEXANDER AVENUE
CHEEKTOWAGA, NEW YORK 14211
(716) 897-7288
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WILLIAM R. PUGH, P.E.
TOWN ENGINEER

February 28, 2011

Mr. David Szymanski
New York State
Department of Environmental Conservation
270 Michigan Avenue
Buffalo, New York 14203-2999

Re: Pfohl Bros. Landfill
Site No. 915043
Site Management Periodic Review Report

Dear Mr. Szymanski:

Enclosed please find the 2010 Periodic Review Report for the Pfohl Brothers Landfill, together with an executed original copy of the Institutional and Engineering Controls Certification Forms.

Following your review, should you have any questions, please contact this office @ 716-897-7288.

Very truly yours,

TOWN OF CHEEKTOWAGA

William R. Pugh, P.E.
Town Engineer

WRP/mj

encs.

cc: Jon Sundquist, PhD

PERIODIC REVIEW REPORT
2010
PFOHL BROTHERS LANDFILL
CHEEKTOWAGA, NY

Submitted to:

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

Prepared by:

URS CORPORATION
77 GOODELL STREET
BUFFALO, NEW YORK 14203

Prepared for:

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

FEBRUARY 2011

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1.0 INTRODUCTION

1.1 Background

This Pfohl Brothers Landfill Site (No. 915043) is a 130 acre landfill located on the north and south sides of Aero Drive in the Town of Cheektowaga, Erie County. The site is located in a commercial area just west of Transit Road. The landfill was operated between 1940 and 1969 receiving household and industrial wastes. The industrial waste materials included paints, waste solvents, thinners, pine tar pitch, cellulose, rubber, scrap metal and phenolic tars. A Remedial Investigation and Feasibility Study was completed in 1991. The data showed that on-site soils, groundwater, seeps, and sediments were contaminated with Volatile and Semi-Volatile Organic Compounds, and metals at various concentrations. The data did not show any significant off-site impact. A Record of Decision (ROD) was issued in 1992 requiring the landfill to be consolidated and closed. A second ROD was issued in 1994 which removed the northern portion of the site (located immediately south of Interstate 90) from the site description. The ROD also stated that there will be no action in regard to off-site groundwater. The final remedial design for the site was completed in 2000. The remedial construction consisted of waste consolidation; capping of landfills on either side of Aero Drive; providing leachate collection around these areas; restoring wetlands; and fencing the landfill. Work commenced in 2001 and was completed in 2002. The consolidated landfill was reduced to 94 acres. Deed restrictions have been filed by the Potentially Responsible Parties (PRPs). The Operation, Maintenance and Monitoring (OM&M) Plan was approved in March 2006 and is being implemented by the Town of Cheektowaga.

1.2 Effectiveness of Remedial Program

During 2010, the capping and remedial action remedy continued to successfully prevent exposure of buried waste to human health or environmental receptors. Effectiveness has been demonstrated through maintenance of the landfill cap, effective hydraulic control of groundwater beneath the cap, and regular semiannual groundwater sampling.

1.3 Compliance

The management of the site is in compliance with the OM&M Plan. Institutional controls in the form of deed restrictions remain in place.

1.4 Recommendations

No changes to the operation, maintenance, and monitoring of the site are recommended.

2.0 SITE OVERVIEW

2.1 Site Description

The boundaries of the site are shown on Figure 2-1. The site is located immediately southwest of the intersection of Interstate 90 and Transit Road in the Town of Cheektowaga. The site is bisected by the east/west Aero Drive. Each of the two portions of the landfill are covered with a cap comprising a gas venting layer, a low permeability synthetic membrane, and a barrier protection fill layer. Surrounding the entire site is a groundwater/leachate collection system consisting of a collection trench that drains into six wetwells. Leachate and groundwater collected in the wetwells is pumped via submersible pumps in the wetwells to a fifteen-inch sanitary sewer line on the south side of Aero Drive. This sanitary sewer, installed as part of the remedy, connects to the existing fifteen-inch sanitary sewer on Rein Road south of Aero Drive. The collected groundwater/leachate discharges to the sanitary sewer under a permit from the Buffalo Sewer Authority (BSA).

2.2 Chronology

The principal elements of the remedy were consolidation of waste materials, construction of a landfill cap and construction of a perimeter leachate collection system. Construction of the remedy was completed in 2002.

OM&M commenced in 2002 upon completion of construction. These efforts are performed in accordance with the OM&M plan issued as draft in 2002 and approved as final in 2006. Based upon the results of the first three years of surface water, sediment and monitoring results, the surface water/sediment sampling was discontinued in 2008, and the list of parameters evaluated during groundwater sampling was reduced in 2006 (limiting the list of VOC and SVOC parameters and metals) and 2007 (discontinuing dioxin and radionuclide analyses).

3.0 REMEDY PERFORMANCE, EFFECTIVENESS AND PROTECTIVENESS

The principal elements of the OM&M are:

- Groundwater Monitoring

- Surface Water/Sediment Sampling
- Effluent Monitoring
- Hydraulic Monitoring
- Wetlands Monitoring
- General physical and mechanical maintenance.

The Town of Cheektowaga submits OM&M reports to NYSDEC twice per year reporting on the performance, effectiveness, and protectiveness of each of these elements. The two reports covering the calendar year of 2010 are attached to this Periodic Review Report. A summary of the findings of performance, effectiveness, and protectiveness for 2010 is presented in the sections below.

3.1 Groundwater Monitoring

As the OM&M contractor for the Town of Cheektowaga, URS Corporation (URS) has performed twelve rounds of semi-annual groundwater sampling. Sampling was conducted in May and November 2010. Results of this sampling continue to show no impacts to groundwater from the landfill. In brief, no VOCs or SVOCs were detected, and metals detected are at concentrations similar to previous sampling events and are attributable to naturally occurring or offsite (e.g. road salting operations) sources. The attached semi-annual reports present the data from this sampling in tables, graphs, and charts.

3.2 Surface Water/Sediment Sampling

Surface water and sediment sampling was discontinued in 2008 after three years of sampling showed that no site-related contaminants were present in these media. This sampling was eliminated in accordance with the approved OM&M plan and as approved by NYSDEC.

3.3 Effluent Monitoring

URS performed effluent monitoring on a quarterly basis during 2010. The results of the sampling are reported in the attached semiannual reports. The parameter values in the effluent have always been well below the discharge criteria for all quarterly sampling events conducted since the start of the OM&M.

3.4 Hydraulic Monitoring

URS performed hydraulic monitoring on a quarterly basis during 2010. Hydraulic monitoring is performed through measuring the water elevation in each of the six wetwells and in nine manholes associated with the perimeter collection system, and comparing each of these elevations with the groundwater elevations in paired monitoring wells adjacent to each wetwell or manhole. Hydraulic control is demonstrated by an inward hydraulic gradient from the monitoring wells to the collection system. The hydraulic gradient has been towards the groundwater collection system for every quarterly measurement taken with one exception. The pairing of WW-6 and GW-34S exhibited an outward gradient during the September 8, 2010 monitoring event. However, the groundwater elevation recorded at GW-34S was the lowest it has been since 2002.

3.5 Wetlands Monitoring

The monitoring of wetlands mitigation has not gone as originally planned in the OM&M manual. Initially, the wetlands species planted for mitigation faired poorly due to trampling from geese and deer. Fences were erected in 2004 to keep this wildlife out. Some wetland vegetation was also lost during landfill cap mowing in 2005 when the mowing contractor mowed a greater area than had been specified. The wetland vegetation species were replanted in 2005. However, in the time since construction ended in 2002, the *Phragmites sp.* vegetation that is quite abundant in this area has spread and established itself throughout the areas formerly disturbed during construction. *Phragmites sp.* does not provide robust food source for wildlife, but does act to stabilize soil in the interface zone between the landfill and the existing pond and wetland.

3.6 General Physical and Mechanical Maintenance

The Town of Cheektowaga performs the necessary general physical and mechanical maintenance as needed. Example maintenance items are routine maintenance and replacement of pumps and instrumentation used for groundwater/leachate collection, annual cap mowing, snow plowing, etc. A summary of the general maintenance activities performed during 2010 is provided in the attached semiannual reports.

4.0 IC/EC PLAN COMPLIANCE

There is no formal Institutional Control/Engineering Control (IC/EC) plan for this site. However, there are institutional and engineering controls in place and they are functioning as intended. These are discussed below.

4.1 Institutional Controls

Institutional controls (ICs) consist of restrictions on land use for the various parcels that comprise this site. The parcels subject and their restrictions are listed on the attached Site Management Periodic Review Report Notice Institutional and Engineering Controls Certification Form. The restrictions address building use, groundwater use, and land use. Compliance with these ICs is evaluated by observation to see if any infringing activities are occurring on these parcels. These ICs remain in effect, as certified in Attachment C.

4.2 Engineering Controls

Engineering controls (ECs) consist of the landfill cap, fencing and access control, collection of the groundwater/leachate, and vapor mitigation. Compliance with these ECs is evaluated at a minimum through inspection of these elements during each semiannual monitoring event. In most cases, inspection is more frequent. For example collection of the groundwater/leachate is monitored continuously by Town of Cheektowaga personnel and effluent compliance reports are submitted quarterly. These ECs remain in effect, as certified in Attachment C.

5.0 OPERATION & MAINTENANCE AND MONITORING PLAN COMPLIANCE

The components of the OM&M Plan are discussed above in Section 3.0. Summaries of OM&M activities performed during 2010 are provided in the attached semiannual reports. The OM&M activities show that the landfill and its groundwater/leachate collection system are operating as intended, and receive repairs and maintenance as needed in a timely fashion. Sampling of the groundwater in monitoring wells and the effluent generated by the groundwater/leachate collection system show that no landfill contamination is migrating to these media, and therefore the wastes remain effectively contained. No changes to the OM&M for this site are recommended.

6.0 CONCLUSIONS AND RECOMMENDATIONS

The remedy at the Pfohl Brothers Site Landfill is operating as designed and remains protective of human health and the environment. No changes to the OM&M for this site are recommended.

FIGURES

N

SG-01
GW-03D
GW-03S
MH-01
MH-02
MH-03
MH-04
MH-05
MH-06
MH-07
MH-08
GW-08D
SG-02
GW-08SR
WW-01
WW-02
MH-09
MH-10
MH-11
MH-12
MH-28
WW-03
GW-28S
GW-01D
GW-01S
GW-34S
WW-06
MH-13
MH-27
AERO DRIVE
MH-23
MH-24
MH-25
GW-29S
MH-14
MH-15
TRANSIT ROAD
Control Building
GW-04D
GW-04S
GW-33S
MH-22
MH-16
GW-30S
WW-04
MH-21
MH-20
MH-17
GW-31S
GW-35S
GW-26D
WW-05
GW-32S
MH-18

Legend

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

300 0 300 Feet

PFOHL BROTHERS LANDFILL
SITE BOUNDARY AND MONITORING LOCATIONS

URS

FIGURE 2-1

N:\11172700.00000\GIS\ArcView\pfhol.apr SITE BOUNDARY & WELL LOCATIONS
2/1/2010

ATTACHMENTS

ATTACHMENT A

January 2010 – June 2010

Semi Annual Report

URS

August 31, 2010

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 twelfth 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, Ph.D.
Project Manager

Enclosures

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

URS Corporation
77 Goodell St.
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SEMI ANNUAL REPORT
OPERATION AND MAINTENANCE
JANUARY 2010 TO JUNE 2010
PFOHL BROTHERS LANDFILL
CHEEKTOWAGA, NY

Submitted to:

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

Prepared by:

URS CORPORATION
77 GOODELL STREET
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TOWN OF CHEEKTOWAGA
ENGINEERING DEPARTMENT
275 ALEXANDER AVE
CHEEKTOWAGA, NEW YORK 14211

AUGUST
2010

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APPENDICES

1.0 INTRODUCTION

1.1 Background

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

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

1.2 Operation and Maintenance Activities

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

Beginning in 2004, the Town and URS assumed all of the O&M activities described in the O&M plan. This report is the thirteenth 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 January 2010 through June 2010 include the following actions.

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

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

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

- Plowed snow to access the Control Building when necessary.

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

- Reprogrammed alarm codes for Control Building security system (February 2010).

- Replaced defective ¾ H.P. pump and discharge piping for WW-1 (March 2010).

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

- Wildlife trapper engaged as needed to control ground burrowing animals.

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 thirteenth semi-annual groundwater quality monitoring event (Section 3.1.1.3 of the O&M plan). A summary of the monitoring activities is presented in the following subsections. Hydraulic and groundwater sampling locations are shown on Figure 3-1.

3.1 Groundwater Hydraulic Monitoring

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

The data presented in Appendix C indicate that groundwater levels outside the collection system were higher than the levels measured in the corresponding wet well or manhole for each measurement date. These data verify that collection system is operating as designed.

3.2 Groundwater Quality Monitoring

The thirteenth semi-annual round of groundwater sampling was conducted between May 25, 2010 and May 28, 2010. All wells listed in Table 3.2 of the O&M plan were purged and sampled using dedicated/disposable equipment. Figure 3-1 shows the well locations. Low flow sampling techniques were used on most wells. Three wells, GW-4S, GW-7S, and GW-7D, were purged dry before a sample could be collected. These wells were sampled after their water levels recovered. Purge logs and sampling summary sheets are provided in Appendix D. Measurements of pH, specific conductivity, temperature, dissolved oxygen, oxidation reduction potential, and

turbidity taken during purging are provided in Appendix D. The samples were packed with ice in coolers and transported under chain-of-custody (CoC) control to Test America Laboratories of Amherst, New York.

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

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

Among the metals, iron, magnesium, manganese, and sodium routinely exceed Class GA standards in most site wells. The concentration of iron, magnesium, manganese, and sodium in most site wells was similar to the concentrations found during previous sampling events. Aresenic was detected at a concentration exceeding its groundwater standard in well GW-29S. Antimony, chromium and lead were each detected at concentrations exceeding their respective groundwater standard in upgradient well GW-07D. Nickel was detected at concentrations exceeding its groundwater standard in wells GW-03S and GW-07S.

Sodium concentrations were generally higher in bedrock wells (GW-1D, GW-3D, GW-8D and GW-26D) and shallow wells adjacent to roads (GW-1S and GW-30S). The sodium concentration was also elevated in GW-08SR. No significant changes in metals concentrations were observed when compared to previous sampling event analytical results. The higher sodium concentrations in the bedrock wells may be attributed to the local bedrock composition and the elevated concentration in the shallow wells may be the result of seasonal road de-icing activities.

Appendix E, Figures E-1 through E-19 presents a trend analysis of groundwater parameters that routinely exceed Class GA groundwater standards. A review of the trend analysis

indicated that no significant changes or trends in concentrations of any of the parameters exceeding groundwater standards have occurred over the thirteen semi-annual sampling events except as described below. Figure E-2 for GW-01S, indicates a consistent drop in sodium concentration over the thirteen sampling events. Figure E-4 for GW-03S indicates an upward trend for nickel since monitoring began (although concentrations were significantly lower during this event). Figure E-5 for GW-04D, indicates a slight increasing trend for magnesium. Figure E-9 for GW-08D shows a decreasing trend for both iron and manganese since monitoring began. Figure E-10 for GW-08SR shows an upward trend in sodium concentration over recent events. Figure E-12 for GW-28S, indicates decreasing trend for sodium since monitoring began. Figure E-13 for GW-29S, indicates a slight increasing trend in iron concentration since monitoring began and arsenic has been detected at concentrations exceeding its groundwater standard for 5 of the last 6 sampling events.

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

A Data 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 dated June 2010 is submitted separately from this report.

3.3 Groundwater Discharge Monitoring

URS completed two quarterly sampling events (March 2010 and June 2010) of the groundwater collection system discharge since the previous semi-annual report. The sampling was performed in accordance with the requirements of Discharge Permit No. 05-12-CH016 between the Buffalo Sewer Authority and the Town of Cheektowaga. A copy of Permit No. 05-12-CH016 is included as Appendix F.

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

3.4 Monitoring Well Inspections

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

4.0 SUMMARY AND RECOMMENDATIONS

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

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

Groundwater Quality Monitoring: Groundwater sample results indicate that only low levels of organic compounds and metals are present. Similar concentrations of most parameters were found during previous sampling events. The fourteenth round of groundwater sampling will be conducted in November 2010. Low flow sampling techniques will continue to be used on wells that historically have been purged to dryness. A review of the purge logs (Appendix D) has indicated that four wells (GW-4S, GW-7S, GW-7D, and GW-31S) can still be purged to dryness even using low flow sampling techniques.

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

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

Wetland Inspection Summary: An inspection of the wetlands during the May 2010 event indicated that most of the replanted wetland stock has flourished and the wetland areas are returning to their natural state.

TABLES

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

Location ID			GW-01D	GW-01S	GW-03D	GW-03S	GW-04D
Sample ID			GW-1D	GW-1S	GW-3D	GW-3S	GW-4D
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			05/28/10	05/28/10	05/25/10	05/25/10	05/28/10
Parameter	**Units**	*					
Volatile Organic Compounds							
1,2-Dichloroethene (total)	UG/L	5			0.93 J		
Acetone	UG/L	50					
Vinyl chloride	UG/L	2					
Semivolatile Organic Compounds							
1,3-Dichlorobenzene	UG/L	3			1.1 J		
1,4-Dichlorobenzene	UG/L	3			1.7 J		
bis(2-Ethylhexyl)phthalate	UG/L	5					
Antimony	MG/L	0.003					
Arsenic	MG/L	0.025					
Barium	MG/L	1	0.0648	0.160	0.0909	0.153	0.0562
Cadmium	MG/L	0.005					
Chromium	MG/L	0.05	0.0187			0.0214	0.0021 J
Copper	MG/L	0.2	0.0016 J				
Iron	MG/L	0.3	2.69	7.13	2.81	0.748	0.833
Lead	MG/L	0.025					
Magnesium	MG/L	35	33.1	14.5	19.0	78.3	59.9
Manganese	MG/L	0.3	0.0228	0.799	0.911	0.250	0.0212
Nickel	MG/L	0.1	0.0034 J		0.0044 J	0.175	0.0021 J
Sodium	MG/L	20	85.4	122	185	39.7	61.2
Zinc	MG/L	2	0.0263		0.0032 J	0.0121	0.101

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds

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

Only Detected Results Reported.

N:\11172700.00000\GIS\dB\Program\EDMS.md
Printed: 7/14/2010 2:37:57 PM
[LOGDATE] BETWEEN #5/25/2010# AND #5/28/2010# AND ([SACODE] = 'N' OR [SACODE] = 'FD'

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

Location ID			GW-04S	GW-07D	GW-07S	GW-08D	GW-08D
Sample ID			GW-4S	GW-7D	GW-7S	Duplicate	GW-8D
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			05/28/10	05/26/10	05/26/10	05/26/10	05/26/10
Parameter	**Units**	*				Field Duplicate (1-1)	
Volatile Organic Compounds							
1,2-Dichloroethene (total)	UG/L	5					
Acetone	UG/L	50		6.1			
Vinyl chloride	UG/L	2					
Semivolatile Organic Compounds							
1,3-Dichlorobenzene	UG/L	3					
1,4-Dichlorobenzene	UG/L	3					
bis(2-Ethylhexyl)phthalate	UG/L	5		3.0 J			
Antimony	MG/L	0.003		0.0088 J			
Arsenic	MG/L	0.025				0.0057 J	
Barium	MG/L	1	0.0852	0.0521	0.227	0.116	0.114
Cadmium	MG/L	0.005		0.0005 J			
Chromium	MG/L	0.05	0.0009 J	0.0868	0.0024 J	0.0052	0.0064
Copper	MG/L	0.2		0.0096 J			
Iron	MG/L	0.3	0.336	4.34	0.124	2.28	2.33
Lead	MG/L	0.025		0.0793			
Magnesium	MG/L	35	25.2	30.3	32.5	22.4	22.2
Manganese	MG/L	0.3	0.186	0.0588	0.0962	0.454	0.450
Nickel	MG/L	0.1	0.0046 J	0.0409	0.131	0.0042 J	0.0045 J
Sodium	MG/L	20	31.0	90.6	58.3	263	259
Zinc	MG/L	2	0.0036 J			0.0293	0.0267

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds

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

Only Detected Results Reported.

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

Location ID			GW-08SR	GW-26D	GW-28S	GW-29S	GW-30S
Sample ID			GW-8S(R)	GW-26D	GW-28S	GW-29S	GW-30S
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			05/26/10	05/28/10	05/27/10	05/27/10	05/27/10
Parameter	**Units**	*					
Volatile Organic Compounds							
1,2-Dichloroethene (total)	UG/L	5		1.9 J			
Acetone	UG/L	50					
Vinyl chloride	UG/L	2		1.3			
Semivolatile Organic Compounds							
1,3-Dichlorobenzene	UG/L	3					
1,4-Dichlorobenzene	UG/L	3					
bis(2-Ethylhexyl)phthalate	UG/L	5					
Antimony	MG/L	0.003					
Arsenic	MG/L	0.025	0.0094 J	0.0080 J		0.0379	
Barium	MG/L	1	0.503	0.136	0.0694	0.291	0.411
Cadmium	MG/L	0.005					
Chromium	MG/L	0.05	0.0016 J				
Copper	MG/L	0.2					
Iron	MG/L	0.3	24.3	7.62	0.327	17.9	20.8
Lead	MG/L	0.025					
Magnesium	MG/L	35	48.7	21.8	33.4	80.0	46.9
Manganese	MG/L	0.3	1.07	1.24	0.992	0.784	2.33
Nickel	MG/L	0.1	0.0043 J	0.0030 J	0.0026 J		
Sodium	MG/L	20	283	248	22.8	13.0	686
Zinc	MG/L	2					

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds

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

Only Detected Results Reported.

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

Location ID			GW-31S	GW-32S	GW-33S	GW-34S	GW-35S
Sample ID			GW-31S	GW-32S	GW-33S	GW-34S	GW-35S
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			05/27/10	05/27/10	05/27/10	05/25/10	05/28/10
Parameter	**Units**	*					
Volatile Organic Compounds							
1,2-Dichloroethene (total)	UG/L	5					
Acetone	UG/L	50					
Vinyl chloride	UG/L	2					
Semivolatile Organic Compounds							
1,3-Dichlorobenzene	UG/L	3					
1,4-Dichlorobenzene	UG/L	3					
bis(2-Ethylhexyl)phthalate	UG/L	5					
Antimony	MG/L	0.003					
Arsenic	MG/L	0.025					
Barium	MG/L	1	0.0548	0.0546	0.0181	0.164	0.0583
Cadmium	MG/L	0.005					
Chromium	MG/L	0.05			0.0012 J		
Copper	MG/L	0.2					
Iron	MG/L	0.3	0.272		0.138	0.260	0.027 J
Lead	MG/L	0.025					
Magnesium	MG/L	35	30.0	34.8	43.7	54.4	23.8
Manganese	MG/L	0.3	0.935	0.760	0.341	0.408	0.459
Nickel	MG/L	0.1	0.0026 J	0.0031 J	0.0042 J	0.0052 J	0.0019 J
Sodium	MG/L	20	6.0	4.9	6.5	31.9	2.7
Zinc	MG/L	2				0.0034 J	0.0076 J

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds

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

Only Detected Results Reported.

TABLE 3-2

APPROVED REVISION OF TABLE 3.2 FROM THE O&M PLAN

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

LOCATIONS

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

FREQUENCY

semi-annually for overburden and bedrock groundwater

PARAMETERS

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

TABLE 3-2 (continued)

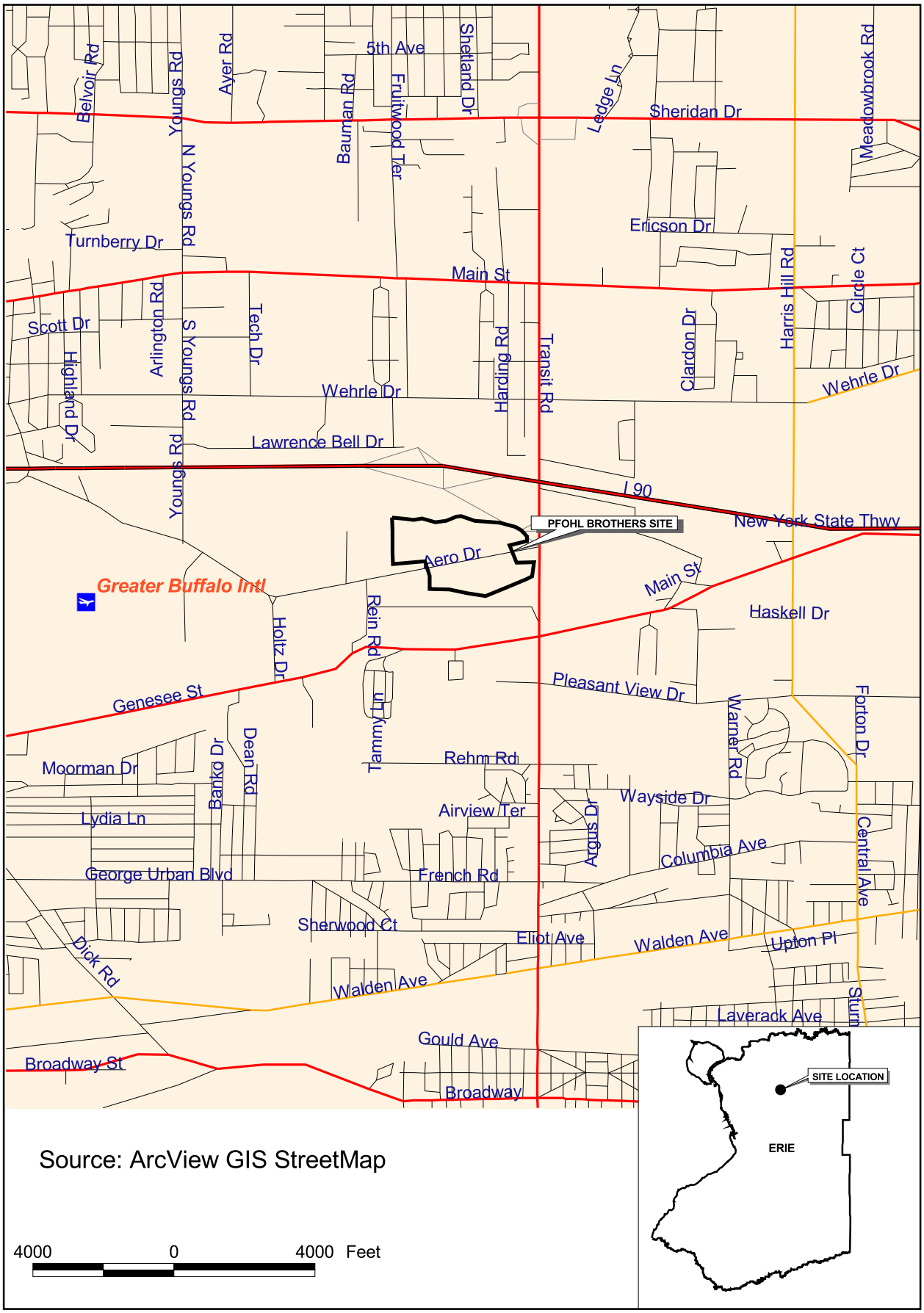
APPROVED REVISION OF TABLE 3.2 FROM THE O&M PLAN

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

PARAMETERS (cont'd)

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

FIGURES



URS	PFOHL BROTHERS LANDFILL SITE LOCATION MAP	FIGURE 1-1

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

N

AERO LAKE

SG-01
GW-03D
GW-03S
MH-01
MH-02
MH-03
MH-04
MH-06
MH-07
MH-05
WW-01
MH-08
GW-08D
SG-02
GW-08SR
WW-02
MH-09
MH-10
MH-11
MH-28
MH-12
WW-03
GW-28S
GW-01D
GW-01S
GW-34S
WW-06
MH-13
MH-27
AERO DRIVE
TRANSIT ROAD
GW-29S
MH-23
MH-24
MH-25
MH-14
MH-15
Control Building
GW-04D
GW-04S
GW-33S
MH-22
MH-16
GW-30S
WW-04
MH-21
MH-20
MH-17
GW-31S
GW-35S
GW-26D
WW-05
GW-32S
MH-18
GW-07S
GW-07D

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: 1/12/10 — Weather conditions: COLD CLOUDY

Time: 1:50 — Read by: BILL PUGH

	Level of Water from bottom (ft.)	Flow gallons / minute	Flow Totals gallons	Pump Run Time Hrs.
WW-3	5.6	0	34	1343
WW-2	4.6	0	13,792	57
WW-1	3.9	0	799,096	2021
WW-6	6.4	56.4	3,241,991	3598
WW-4	7.0	0	388,894	3744
WW-5	7.3	0	3,151,849	3539

Flow Totalizer at Meter chamber: 7,623,733

Heat Trace

Outside temp T = 27°

Current A = 2.2

Set point SP = 40

Surge Suppressor events: 414,322

Motor Control Center

Volts: 480 volts

Amps: 5 amps

Which WW was running?

1☐ 2☐ 3☐ 4☐ 5☐ 6☒

Filter — Checked ☐ — Changed ☐

Comments and/or Current Conditions

RESET LEVEL INVALID ALARM WW6 (OK)

Pfohl Brothers Landfill Site

Daily Logsheet — **Town of Cheektowaga**

Date 4/7/10 — Weather conditions LT. RAIN 60°

Time 1:00 PM — Read by: B. PUGH

	Level of Water from bottom (ft.)	Flow gallons / minute	Flow Totals gallons	Pump Run Time Hrs.
WW-3	5.6	0	65	1343
WW-2	4.6	0	13,788	57
WW-1	4.5	0	1,360,325	202
WW-6	7.3	54.1	4,460,834	3963
WW-4	6.9	24.2	444130	3783
WW-5	7.0	0	4,819,626	4299

Flow Totalizer at Meter chamber: 11,119,461

Heat Trace

Outside temp T = 60

Current A = 0

Set point SP = 40

Large Suppressor events: 414,361

Motor Control Center

Volts 480 volts

Amps 9 amps

Which WW was running?

1☐ 2☐ 3☐ 4☑ 5☐ 6☑

Filter **Checked** ☐ **Changed** ☐

Comments and/or Current Conditions

RESET ALARMS → W.W. 2 FLOW INVALID; W.W. 6 – LEVEL INVALID; W.W. 4 – FLOW FAILURE → O.K.

APPENDIX B

MONTHLY FLOW SUMMARIES
JANUARY 2010 – JUNE 2010

THE TOWN OF
CHEEKTOWAGA

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

JON W. NICHY
Superintendent

February 9, 2010

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

Re: Pfohl Bros. Flow Data

Dear Mr. Pugh,

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

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

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

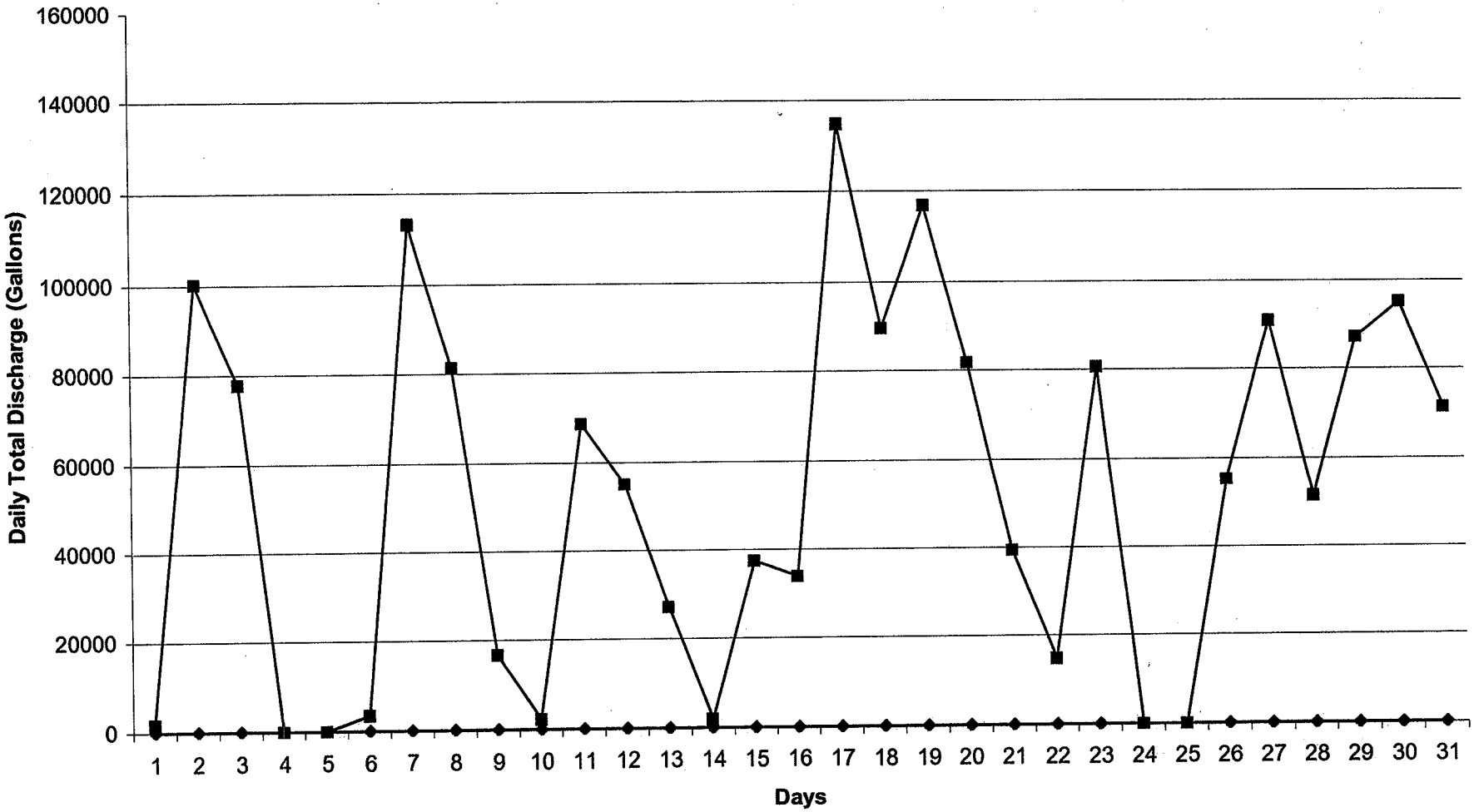
Yours truly,
Town of Cheektowaga

Jon W. Nichy
Superintendent
Main Pump Station

Direct Discharge Flow Data

12/31/2009		7108085	22,023	7,553,129	
January-10	**Time; 11:58pm unless otherwise stated**	**Totalizer Reading (Gallons)**	**Daily Total Discharge (Gallons)**		**Notes**
1		7109839	1,754	7,554,883	
2		7209962	100,123	7,655,006	
3		7287743	77,782	7,732,788	
4		7287743	0	7,732,788	
5		7287743	0	7,732,788	
6		7291156	3,413	7,736,201	
7		7404278	113,122	7,849,323	
8		7485574	81,296	7,930,619	
9		7502208	16,634	7,947,253	
10		7504405	2,197	7,949,450	
11		7573068	68,664	8,018,114	
12		7628007	54,939	8,073,053	
13		7655045	27,038	8,100,091	
14		7656997	1,952	8,102,043	
15		7694429	37,432	8,139,475	
16		7728292	33,864	8,173,339	
17		7862998	134,706	8,308,045	
18		7952628	89,630	8,397,675	
19		8069403	116,775	8,514,450	
20		8151053	81,651	8,596,101	
21		8190446	39,393	8,635,494	
22		8205140	14,694	8,650,188	
23		8285728	80,589	8,730,777	
24		8285728	0	8,730,777	
25		8285728	0	8,730,777	
26		8340900	55,172	8,785,949	
27		8431776	90,877	8,876,826	
28		8483126	51,350	8,928,176	
29		8570240	87,114	9,015,290	
30		8665280	95,040	9,110,330	
31		8736477	71,197	9,181,527	
		1,628,392	**1,628,398**	**1,628,398**	

Pfohl Bros.
January
2010



PFOHL BROTHERS LANDFILL SITE
CHEEKTOWAGA, NEW YORK

Auto Dialer System Log

DATE	PUMP Inhibit -08 (Off)	TIME Enable -07 (On)	COMMENTS
~~1/7~~			
1/7/10	1048am	1230pm	
1/24/10	145pm		
1/26/10		0747am	
1/28/10	1057am	942pm	

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

March 4, 2010

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

Re: Pfohl Bros. Flow Data

Dear Mr. Pugh,

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

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

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

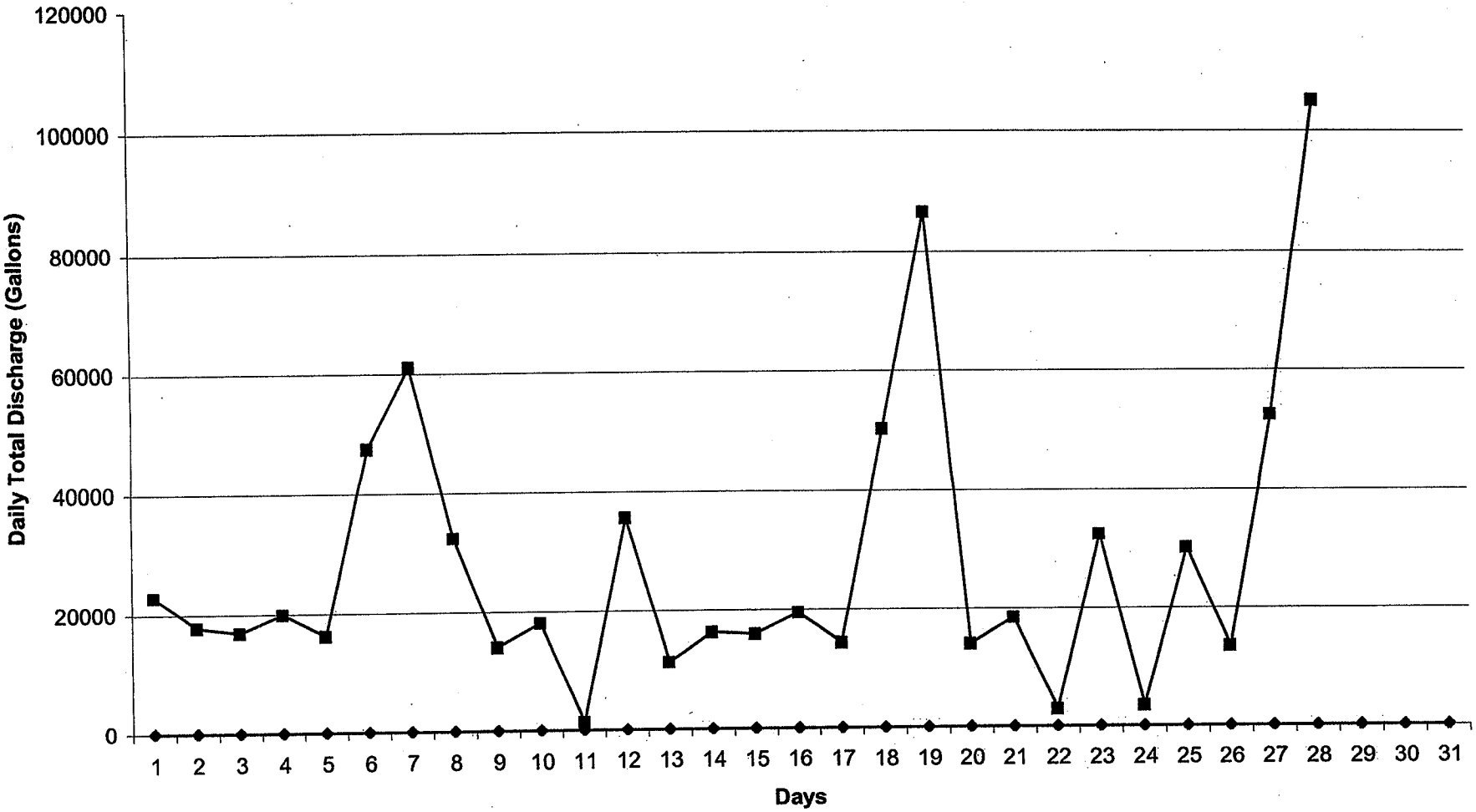
Yours truly,
Town of Cheektowaga

Jon W. Nichy
Superintendent
Main Pump Station

Direct Discharge Flow Data

1/31/2010		8736477	71,197	9,181,527	
February-10	**Time; 11:58pm unless otherwise stated**	**Totalizer Reading (Gallons)**	**Daily Total Discharge (Gallons)**		**Notes**
1		8759488	23,011	9,204,538	
2		8777278	17,790	9,222,328	
3		8794150	16,872	9,239,200	
4		8814075	19,925	9,259,125	
5		8830347	16,272	9,275,397	
6		8877997	47,650	9,323,047	
7		8939031	61,034	9,384,081	
8		8971553	32,522	9,416,603	
9		8985730	14,177	9,430,780	
10		9003766	18,036	9,448,816	
11		9005196	1,430	9,450,246	
12		9040928	35,732	9,485,978	
13		9052342	11,414	9,497,392	
14		9068605	16,263	9,513,655	
15		9084512	15,907	9,529,562	
16		9104041	19,529	9,549,091	
17		9118428	14,387	9,563,478	
18		9168747	50,319	9,613,797	
19		9255274	86,527	9,700,324	
20		9269377	14,103	9,714,427	
21		9287841	18,464	9,732,891	
22		9290752	2,911	9,735,802	
23		9323233	32,481	9,768,283	
24		9326725	3,492	9,771,775	
25		9356875	30,150	9,801,925	
26		9370444	13,569	9,815,494	
27		9422996	52,552	9,868,046	
28		9527840	104,844	9,972,890	
29				9,972,890	
30				9,972,890	
31				9,972,890	
		791,363	**791,363**	**791,363**	

Pfohl Bros.
February
2010



PFOHL BROTHERS LANDFILL SITE
CHEEKTOWAGA, NEW YORK

Auto Dialer System Log

DATE	PUMP TIME Inhibit -08 (Off)	 Enable -07 (On)	COMMENTS
2/28/10	1136 PM	—	SNOW MELT

THE TOWN OF
CHEEKTOWAGA

Main Pump Station
171 Central Boulevard
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Phone: 716-896-1777
Fax: 716-896-6437

JON W. NICHY
Superintendent

April 3, 2010

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

Re: Pfohl Bros. Flow Data

Dear Mr. Pugh,

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

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

On April 3, 2010 I removed numerous trash objects in the vicinity of Transit and Aero Drive.

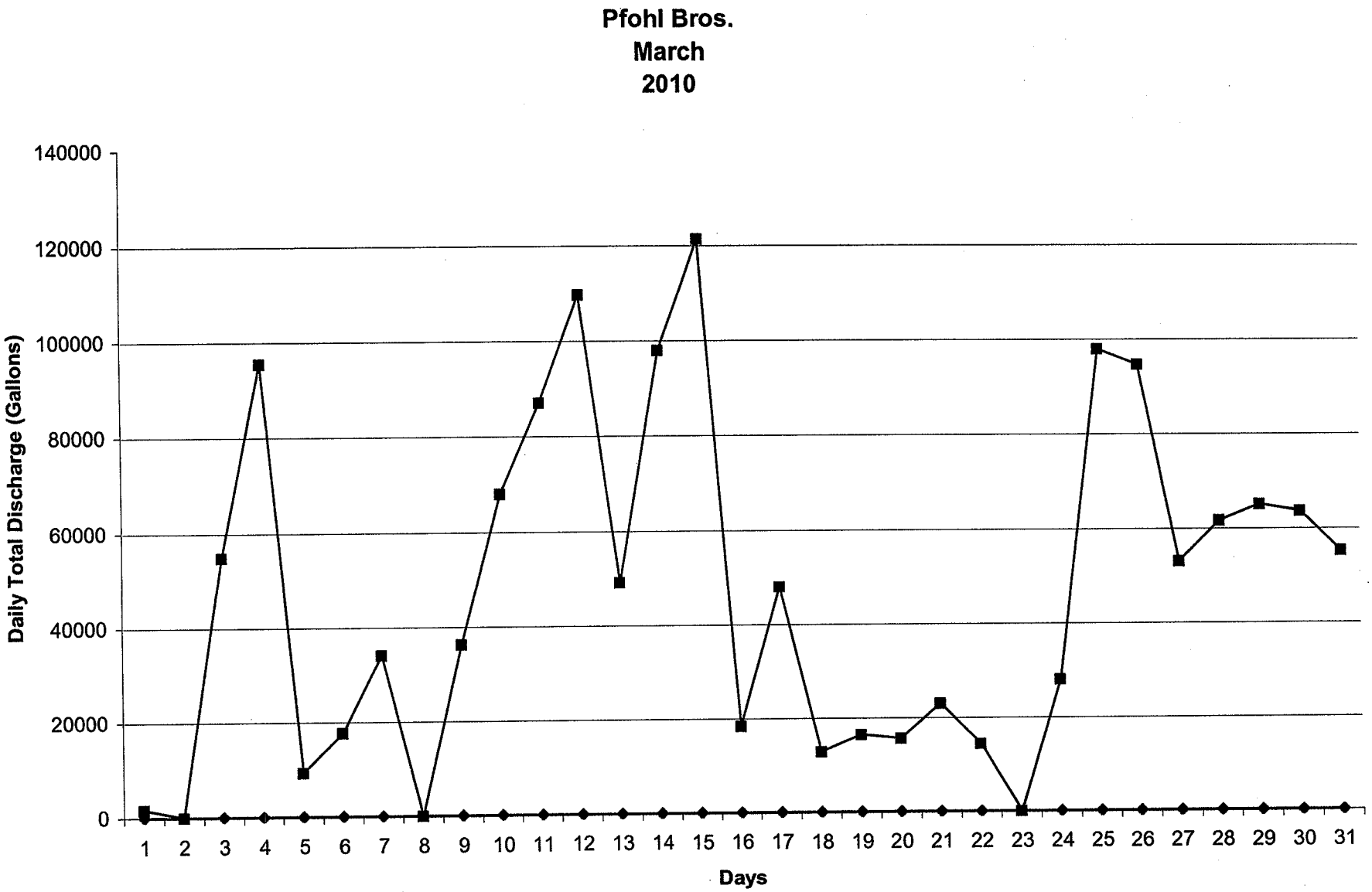
Should you have any other questions or comments regarding this submittal, please contact this office @ 896-1777.

Yours truly,
Town of Cheektowaga

Jon W. Nichy
Superintendent
Main Pump Station

Direct Discharge Flow Data

2/28/2010		9527840	104,844	9,181,527	
March-10	**Time; 11:58pm unless otherwise stated**	**Totalizer Reading (Gallons)**	**Daily Total Discharge (Gallons)**		**Notes**
1		9529472	1,632	9,183,159	
2		9529472	0	9,183,159	
3		9584369	54,897	9,238,056	
4		9679791	95,422	9,333,478	
5		9689189	9,398	9,342,876	
6		9706919	17,730	9,360,606	
7		9741110	34,191	9,394,797	
8		9741110	0	9,394,797	
9		9777413	36,303	9,431,100	
10		9845479	68,066	9,499,166	
11		9932428	86,949	9,586,115	
12		10042297	109,869	9,695,984	
13		10091547	49,250	9,745,234	
14		10189459	97,912	9,843,146	
15		10310732	121,273	9,964,419	
16		10329209	18,477	9,982,896	
17		10377265	48,056	10,030,952	
18		10390169	12,904	10,043,856	
19		10406653	16,484	10,060,340	
20		10422331	15,678	10,076,018	
21		10445422	23,091	10,099,109	
22		10459813	14,391	10,113,500	
23		10459813	0	10,113,500	
24		10487812	27,999	10,141,499	
25		10585797	97,985	10,239,484	
26		10680404	94,607	10,334,091	
27		10733627	53,223	10,387,314	
28		10795338	61,711	10,449,025	
29		10860431	65,093	10,514,118	
30		10924122	63,691	10,577,809	
31		10979527	55,405	10,633,214	
		1,451,687	**1,451,687**	**1,451,687**	


Pfohl Bros.
March
2010
Daily Total Discharge (Gallons)
140000
120000
100000
80000
60000
40000
20000
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

PFOHL BROTHERS LANDFILL SITE
CHEEKTOWAGA, NEW YORK

Auto Dialer System Log

DATE	PUMP Inhibit -08 (Off)	TIME Enable -07 (On)	COMMENTS
3/8/10	4:00 PM	7:10 PM	SNOW MELT / FLOW LOW
3/9/10	3:09 PM	10:23 PM	SNOW MELT / FLOW LOW
3/11/10		3:53 PM	SUNNY
3/22/10	3:30 PM		RAIN
3/24/10		4:45 PM	SUNNY
3/28/10	7:40 PM	11:10 PM	RAIN / CLOUDY

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

May 4, 2010

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

Re: Pfohl Bros. Flow Data

Dear Mr. Pugh,

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

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

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

Yours truly,
Town of Cheektowaga

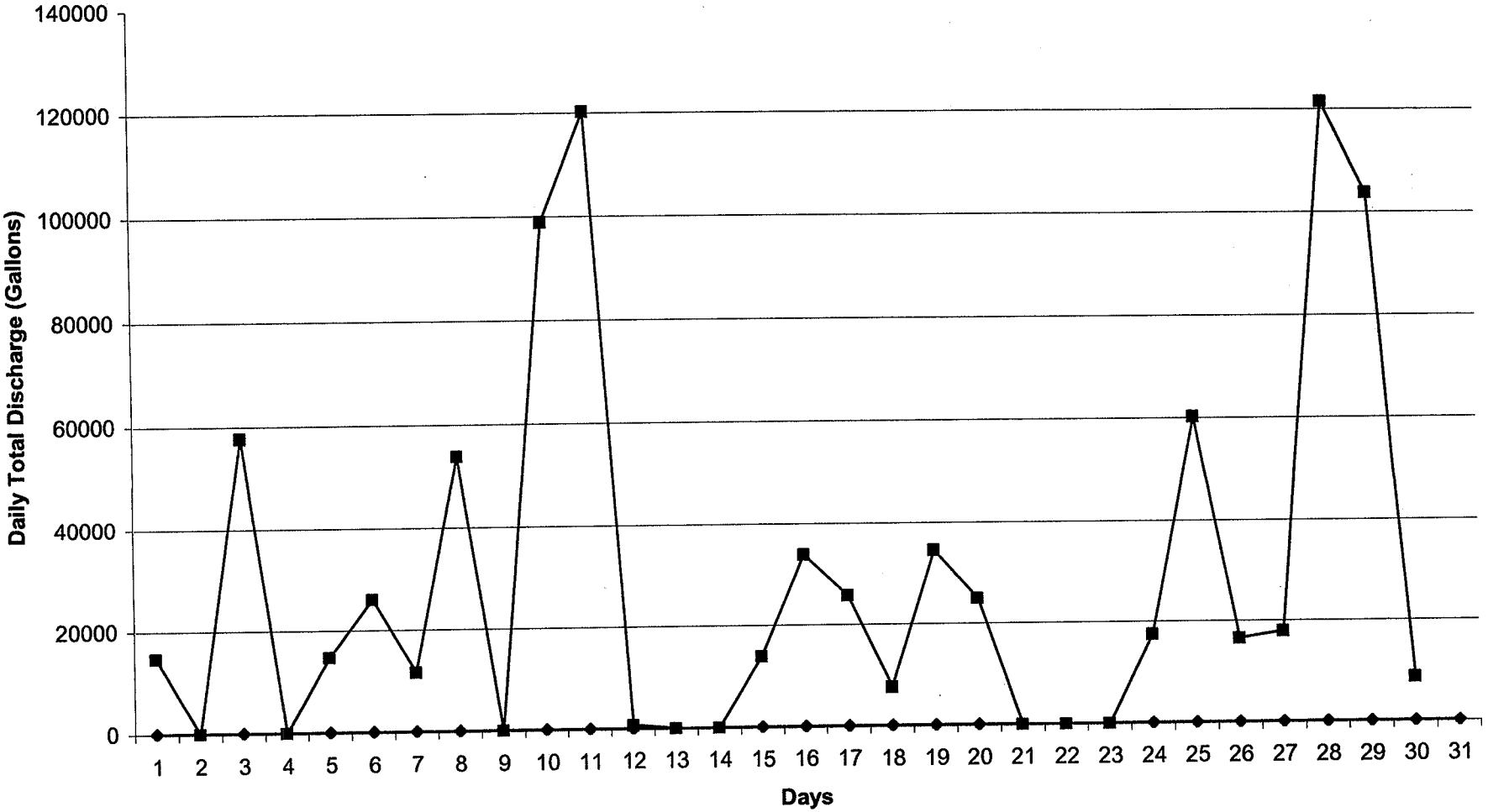
Jon W. Nichy
Superintendent
Main Pump Station

RECEIVED
MAY – 5 2010
ENGINEERING
DEPT

Direct Discharge Flow Data

3/31/2010		10979527	55,405	10,633,214	
April-10	**Time; 11:58pm unless otherwise stated**	**Totalizer Reading (Gallons)**	**Daily Total Discharge (Gallons)**		**Notes**
1		10994269	14,742	10,647,956	
2		10994269	0	10,647,956	
3		11051974	57,705	10,705,661	
4		11051974	0	10,705,661	
5		11066759	14,785	10,720,446	
6		11092789	26,030	10,746,476	
7		11104459	11,668	10,758,144	
8		11158373	53,916	10,812,060	
9		11158373	0	10,812,060	
10		11257215	98,842	10,910,902	
11		11377424	120,209	11,031,111	
12		11378192	768	11,031,879	
13		11378192	0	11,031,879	
14		11378192	0	11,031,879	
15		11392069	13,877	11,045,756	
16		11425979	33,910	11,079,666	
17		11451857	25,878	11,105,544	
18		11459536	7,679	11,113,223	
19		11494096	34,560	11,147,783	
20		11519110	25,014	11,172,797	
21		11519110	0	11,172,797	
22		11519110	0	11,172,797	
23		11519110	0	11,172,797	
24		11536623	17,513	11,190,310	
25		11156862	60,239	11,250,549	
26		11613515	16,653	11,267,202	
27		11631436	17,921	11,285,123	
28		11752782	121,346	11,406,469	
29		11856492	103,710	11,510,179	
30		11865195	8,703	11,518,882	
31					
		885,668	**885,668**	**885,668**	

Pfohl Bros.
April
2010



PFOHL BROTHERS LANDFILL SITE
CHEEKTOWAGA, NEW YORK

Auto Dialer System Log

DATE	PUMP Inhibit -08 (Off)	TIME Enable -07 (On)	COMMENTS
4/7/10	10:38pm		RAIN
4/9/10	~~08~~	0810	
4/25/10	0:605am		RAIN
4/26/10		6:39pm	CLEAR
4/16/10	6:45pm off		
4/17/10		724pm on	

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

June 5, 2010

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

Re: Pfohl Bros. Flow Data

Dear Mr. Pugh,

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

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

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

Yours truly,
Town of Cheektowaga

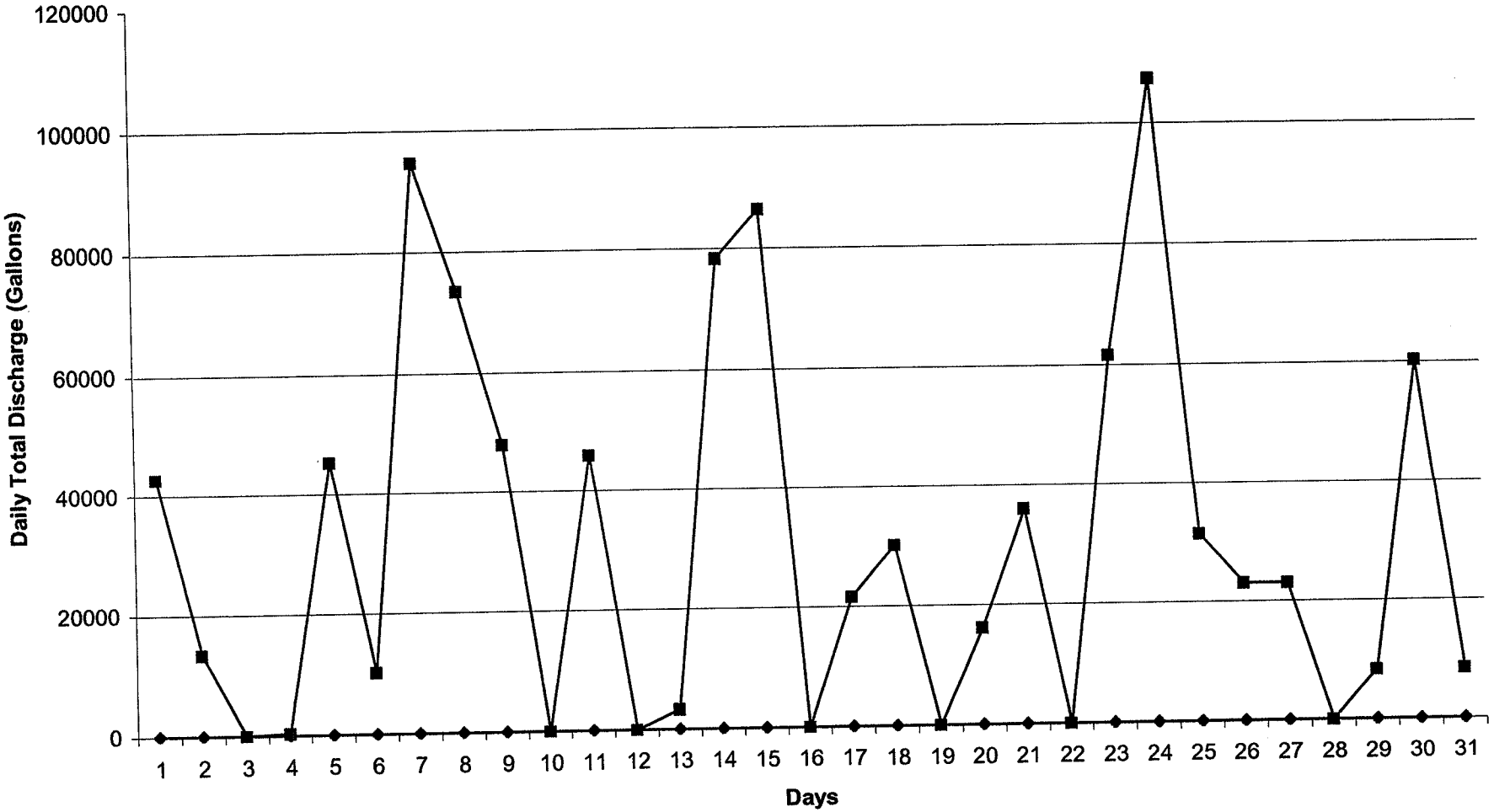
Jon W. Nichy
Superintendent
Main Pump Station

Direct Discharge Flow Data

4/30/2010		11865195	8,703	11,518,882	
May-10	**Time; 11:58pm unless otherwise stated**	**Totalizer Reading (Gallons)**	**Daily Total Discharge (Gallons)**		**Notes**
1		11907973	42,778	11,561,660	
2		11921401	13,428	11,575,088	
3		11921401	0	11,575,088	
4		11921766	365	11,575,453	
5		11967180	45,414	11,620,867	
6		11977415	10,235	11,631,102	
7		12072080	94,665	11,725,767	
8		12145484	73,404	11,799,171	
9		12193456	47,972	11,847,143	
10		12193456	0	11,847,143	
11		12239516	46,060	11,893,203	
12		12239516	0	11,893,203	
13		12242770	3,254	11,896,457	
14		12321073	78,303	11,974,760	
15		12407388	86,315	12,061,075	
16		12407388	0	12,061,075	
17		12429046	21,658	12,082,733	
18		12459187	30,141	12,112,874	
19		12459187	0	12,112,874	
20		12475292	16,105	12,128,979	
21		12511220	35,928	12,164,907	
22		12511220	0	12,164,907	
23		12572805	61,585	12,226,492	
24		12680075	107,270	12,333,762	
25		12711533	31,458	12,365,220	
26		12734345	23,012	12,388,232	
27		12757589	23,044	12,411,276	
28		12757589	0	12,411,276	
29		12765945	8,356	12,419,632	
30		12826215	60,270	12,479,902	
31		12834710	8,495	12,488,397	
		969,515	**969,515**	**969,515**	

Pfohl Bros.
May

2010



PFOHL BROTHERS LANDFILL SITE
CHEEKTOWAGA, NEW YORK

Auto Dialer System Log

DATE	PUMP TIME Inhibit -08 (Off)	 Enable -07 (On)	COMMENTS
5/5/10	8:45 PM		RAIN
5/6/10		7:00 PM	CLEAR
5/7/10	924 pm		
5/8/10		927 am	
5/11/10	11:40 pm		RAIN
5/13/10		9:20 PM	CLEAR
5/13/10	1049		RAIN
5/14/10		927 am	

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

July 7, 2010

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

Re: Pfohl Bros. Flow Data

Dear Mr. Pugh,

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

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

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

Yours truly,
Town of Cheektowaga

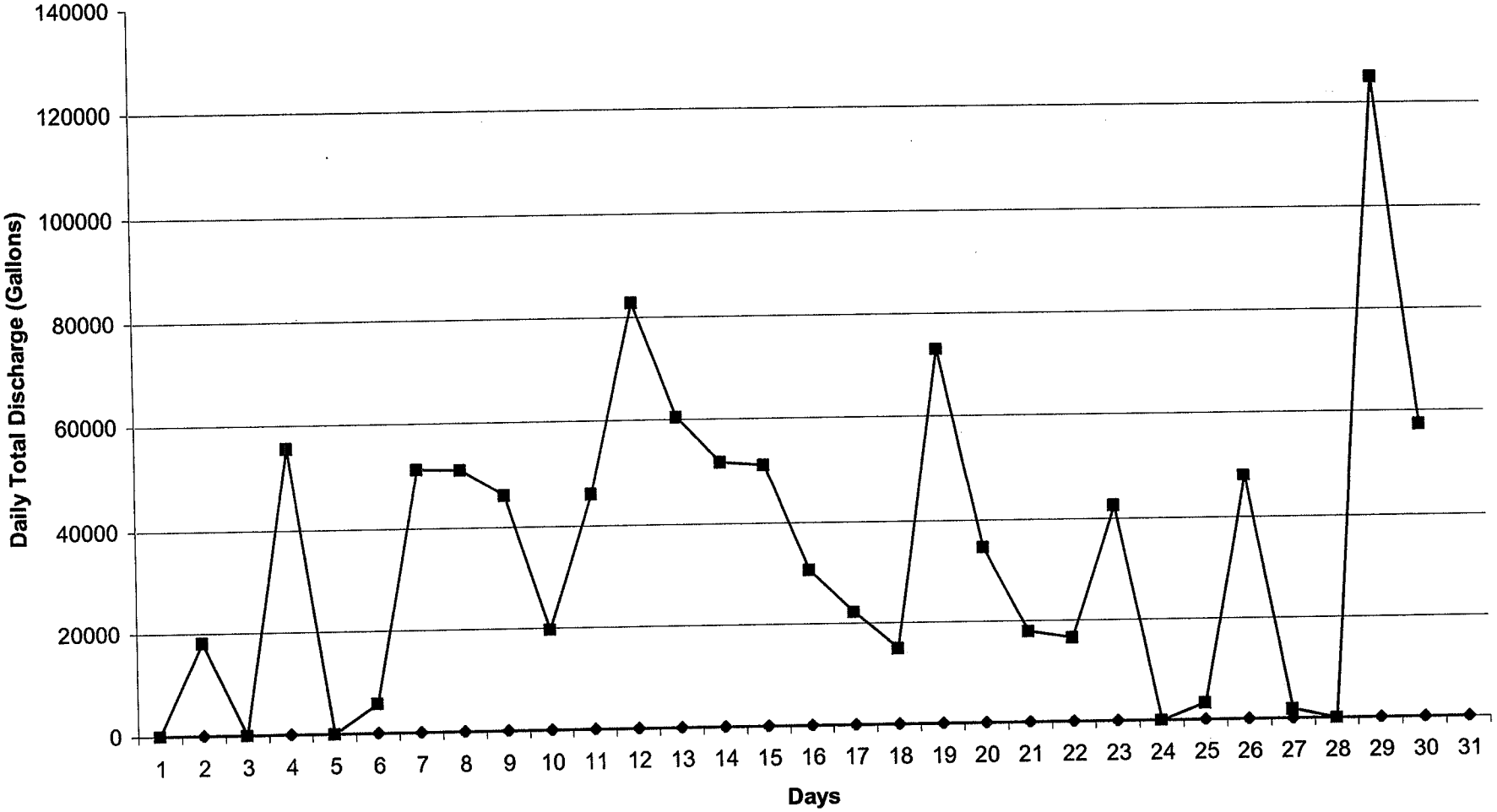
Jon W. Nichy
Superintendent
Main Pump Station

RECEIVED
JUL - 8 2010
ENGINEERING
DEPT

Direct Discharge Flow Data

5/31/2010		12834710	8,495	12,488,397	
June-10	**Time; 11:58pm unless otherwise stated**	**Totalizer Reading (Gallons)**	**Daily Total Discharge (Gallons)**		**Notes**
1		12834710	0	12,488,397	
2		12852887	18,177	12,506,574	
3		12852887	0	12,506,574	
4		12908542	55,655	12,562,229	
5		12908542	0	12,562,229	
6		12914317	5,775	12,568,004	
7		12965595	51,278	12,619,282	
8		13016712	51,117	12,670,399	
9		13062761	46,049	12,716,448	
10		13082480	19,719	12,736,167	
11		13128528	46,048	12,782,215	
12		13211343	82,815	12,865,030	
13		13271834	60,491	12,925,521	
14		13323638	51,804	12,977,325	
15		13374865	51,227	13,028,552	
16		13405620	30,755	13,059,307	
17		13427949	22,329	13,081,636	
18		13442932	14,983	13,096,619	
19		13515853	72,921	13,169,540	
20		13550525	34,672	13,204,212	
21		13568412	17,887	13,222,099	
22		13584967	16,555	13,238,654	
23		13627393	42,426	13,281,080	
24		13627393	0	13,281,080	
25		13630705	3,312	13,284,392	
26		13678637	47,932	13,332,324	
27		13680524	1,887	13,334,211	
28		13680524	0	13,334,211	
29		13805337	124,813	13,459,024	
30		13862636	57,299	13,516,323	
31					
		1,027,926	**1,027,926**	**1,027,926**	

Pfohl Bros.
June
2010



PFOHL BROTHERS LANDFILL SITE
CHEEKTOWAGA, NEW YORK

Auto Dialer System Log

DATE	PUMP Inhibit -08 (Off)	TIME Enable -07 (On)	COMMENTS
6/1/10	138 am	155 pm	
6/2/10	942 pm		
6/3/10		1202 am	
6/3/10	1005 pm		
6/6/10		844 pm	
6/10/10	1002 am	247 pm	
6/15/10	1127 pm		
6/16/10		920 am	
6/22/10	337 pm	1131 pm	
6/23/10	1146 pm		
6/25/10		1013 pm	
6/27/10	942 pm		
6/28/10		1124 pm	

APPENDIX C

HYDRAULIC MONITORING TABLES

TABLE 1
PFOHL BROTHERS LANDFILL SITE
GROUNDWATER ELEVATIONS
JANUARY - JUNE 2010

Location ID / Type	Northing	Easting	Ground Elevation (ft)	Casing Elevation (ft)	Meas.point (Riser)Elev.(ft)	Geol. Zone	Specific Gravity	Date / Time	Depth to Water (ft)	Water Elev. (ft)	Product Thick. (ft)	Corrected Water Elev. (ft)	Remark
GW-01D	1073088.634	1117968.213	694.41	NM	696.12	D	1						
MNW								5/25/2010 0000	3.32	692.80	0.00	692.80	
MNW								6/15/2010 0000	2.58	693.54	0.00	693.54	
GW-01S	1073087.779	1117961.500	694.53	NM	696.19	S	1						
MNW								5/25/2010 0000	4.52	691.67	0.00	691.67	
MNW								6/15/2010 0000	4.10	692.09	0.00	692.09	
GW-03D	1073819.106	1114602.426	692.35	NM	693.88	D	1						
MNW								5/25/2010 0000	2.35	691.53	0.00	691.53	
MNW								6/15/2010 0000	2.07	691.81	0.00	691.81	
GW-03S	1073812.622	1114605.762	692.61	NM	693.80	S	1						
MNW								3/25/2010 0000	2.09	691.71	0.00	691.71	
MNW								5/25/2010 0000	3.13	690.67	0.00	690.67	
MNW								6/15/2010 0000	3.05	690.75	0.00	690.75	
GW-04D	1072289.432	1114685.625	690.89	NM	692.75	D	1						
MNW								5/25/2010 0000	13.37	679.38	0.00	679.38	
MNW								6/15/2010 0000	13.16	679.59	0.00	679.59	
GW-04S	1072284.456	1114685.127	690.76	NM	692.72	S	1						
MNW								3/25/2010 0000	3.97	688.75	0.00	688.75	
MNW								5/25/2010 0000	4.78	687.94	0.00	687.94	
MNW								6/15/2010 0000	4.27	688.45	0.00	688.45	
GW-07D	1071242.458	1117669.925	697.15	NM	699.94	D	1						
MNW								5/25/2010 0000	43.20	656.74	0.00	656.74	
MNW								6/15/2010 0000	58.09	641.85	0.00	641.85	

NM - No Measurement

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

Type:

MH	Manhole Monitoring Point
MNW	Monitoring Well
SG	Staff Gauge

TABLE 1
PFOHL BROTHERS LANDFILL SITE
GROUNDWATER ELEVATIONS
JANUARY - JUNE 2010

Location ID / Type	Northing	Easting	Ground Elevation (ft)	Casing Elevation (ft)	Meas.point (Riser)Elev.(ft)	Geol. Zone	Specific Gravity	Date / Time	Depth to Water (ft)	Water Elev. (ft)	Product Thick. (ft)	Corrected Water Elev. (ft)	Remark
GW-07S	1071238.157	1117666.265	697.47	NM	699.51	S	1						
MNW								3/25/2010 0000	4.04	695.47	0.00	695.47	
MNW								5/25/2010 0000	5.20	694.31	0.00	694.31	
MNW								6/15/2010 0000	4.29	695.22	0.00	695.22	
GW-08D	1073713.617	1116795.328	695.28	NM	697.79	D	1						
MNW								5/25/2010 0000	6.33	691.46	0.00	691.46	
MNW								6/15/2010 0000	6.04	691.75	0.00	691.75	
GW-08SR	1073714.172	1116786.343	695.08	NM	697.50	S	1						
MNW								3/25/2010 0000	5.17	692.33	0.00	692.33	
MNW								5/25/2010 0000	5.39	692.11	0.00	692.11	
MNW								6/15/2010 0000	5.35	692.15	0.00	692.15	
GW-26D	1071698.573	1115997.470	696.01	NM	698.50	D	1						
MNW								5/25/2010 0000	7.17	691.33	0.00	691.33	
MNW								6/15/2010 0000	6.90	691.60	0.00	691.60	
GW-28S	1073129.479	1117648.927	698.60	NM	700.95	S	1						
MNW								3/25/2010 0000	8.15	692.80	0.00	692.80	
MNW								5/25/2010 0000	9.53	691.42	0.00	691.42	
MNW								6/15/2010 0000	8.78	692.17	0.00	692.17	
GW-29S	1072552.638	1117761.993	697.50	NM	699.63	S	1						
MNW								3/25/2010 0000	6.47	693.16	0.00	693.16	
MNW								5/25/2010 0000	8.79	690.84	0.00	690.84	
MNW								6/15/2010 0000	7.95	691.68	0.00	691.68	
GW-30S	1072096.109	1117743.563	693.67	NM	696.58	S	1						
MNW								3/25/2010 0000	7.50	689.08	0.00	689.08	
MNW								5/25/2010 0000	8.14	688.44	0.00	688.44	

NM - No Measurement

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

Type:

MH	Manhole Monitoring Point
MNW	Monitoring Well
SG	Staff Gauge

TABLE 1
PFOHL BROTHERS LANDFILL SITE
GROUNDWATER ELEVATIONS
JANUARY - JUNE 2010

Location ID / Type	Northing	Easting	Ground Elevation (ft)	Casing Elevation (ft)	Meas.point (Riser)Elev.(ft)	Geol. Zone	Specific Gravity	Date / Time	Depth to Water (ft)	Water Elev. (ft)	Product Thick. (ft)	Corrected Water Elev. (ft)	Remark
MNW								6/15/2010 0000	8.02	688.56	0.00	688.56	
GW-31S	1071786.280	1117191.441	695.84	NM	698.62	S	1						
MNW								3/25/2010 0000	2.17	696.45	0.00	696.45	
MNW								5/25/2010 0000	3.76	694.86	0.00	694.86	
MNW								6/15/2010 0000	2.79	695.83	0.00	695.83	
GW-32S	1071613.793	1116364.200	696.19	NM	698.37	S	1						
MNW								3/25/2010 0000	2.19	696.18	0.00	696.18	
MNW								5/25/2010 0000	4.04	694.33	0.00	694.33	
MNW								6/15/2010 0000	3.06	695.31	0.00	695.31	
GW-33S	1072165.625	1115561.866	695.94	NM	698.24	S	1						
MNW								3/25/2010 0000	3.28	694.96	0.00	694.96	
MNW								5/25/2010 0000	5.59	692.65	0.00	692.65	
MNW								6/15/2010 0000	4.63	693.61	0.00	693.61	
GW-34S	1072979.205	1114730.200	692.51	NM	694.77	S	1						
MNW								3/25/2010 0000	2.70	692.07	0.00	692.07	
MNW								5/25/2010 0000	3.27	691.50	0.00	691.50	
MNW								6/15/2010 0000	3.07	691.70	0.00	691.70	
GW-35S	1071701.925	1115985.585	696.19	NM	697.39	S	1						
MNW								3/25/2010 0000	2.85	694.54	0.00	694.54	
MNW								5/25/2010 0000	4.26	693.13	0.00	693.13	
MNW								6/15/2010 0000	3.49	693.90	0.00	693.90	
MH-01	1073806.665	1114810.501	698.62	NM	698.62	NA	1						
MH								3/25/2010 0000	9.37	689.25	0.00	689.25	
MH								5/25/2010 0000	10.91	687.71	0.00	687.71	
MH								6/15/2010 0000	10.26	688.36	0.00	688.36	

NM - No Measurement

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

Type:

MH	Manhole Monitoring Point
MNW	Monitoring Well
SG	Staff Gauge

TABLE 1
PFOHL BROTHERS LANDFILL SITE
GROUNDWATER ELEVATIONS
JANUARY - JUNE 2010

Location ID / Type	Northing	Easting	Ground Elevation (ft)	Casing Elevation (ft)	Meas.point (Riser)Elev.(ft)	Geol. Zone	Specific Gravity	Date / Time	Depth to Water (ft)	Water Elev. (ft)	Product Thick. (ft)	Corrected Water Elev. (ft)	Remark
MH-03	1073736.789	1115259.334	699.40	NM	699.40	NA	1						
MH								3/25/2010 0000	10.29	689.11	0.00	689.11	
MH								5/25/2010 0000	11.89	687.51	0.00	687.51	
MH								6/15/2010 0000	11.11	688.29	0.00	688.29	
MH-07	1073838.229	1116243.757	696.82	NM	696.82	NA	1						
MH								3/25/2010 0000	8.52	688.30	0.00	688.30	
MH								5/25/2010 0000	9.96	686.86	0.00	686.86	
MH								6/15/2010 0000	9.31	687.51	0.00	687.51	
MH-10	1073540.729	1117381.524	703.01	NM	703.01	NA	1						
MH								3/25/2010 0000	14.48	688.53	0.00	688.53	
MH								5/25/2010 0000	14.43	688.58	0.00	688.58	
MH								6/15/2010 0000	14.87	688.14	0.00	688.14	
MH-15	1072531.567	1117761.125	699.02	NM	699.02	NA	1						
MH								3/25/2010 0000	14.41	684.61	0.00	684.61	
MH								5/25/2010 0000	14.86	684.16	0.00	684.16	
MH								6/15/2010 0000	14.87	684.15	0.00	684.15	
MH-16	1072133.714	1117748.238	698.57	NM	698.57	NA	1						
MH								3/25/2010 0000	14.11	684.46	0.00	684.46	
MH								5/25/2010 0000	14.45	684.12	0.00	684.12	
MH								6/15/2010 0000	14.44	684.13	0.00	684.13	
MH-17	1071813.137	1117180.019	702.16	NM	702.16	NA	1						
MH								3/25/2010 0000	17.92	684.24	0.00	684.24	
MH								5/25/2010 0000	18.11	684.05	0.00	684.05	
MH								6/15/2010 0000	18.11	684.05	0.00	684.05	

NM - No Measurement

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

Type:

MH	Manhole Monitoring Point
MNW	Monitoring Well
SG	Staff Gauge

TABLE 1
PFOHL BROTHERS LANDFILL SITE
GROUNDWATER ELEVATIONS
JANUARY - JUNE 2010

Location ID / Type	Northing	Easting	Ground Elevation (ft)	Casing Elevation (ft)	Meas.point (Riser)Elev.(ft)	Geol. Zone	Specific Gravity	Date / Time	Depth to Water (ft)	Water Elev. (ft)	Product Thick. (ft)	Corrected Water Elev. (ft)	Remark
MH-20	1071756.395	1115997.024	706.20	NM	706.20	NA	1						
MH								3/25/2010 0000	19.56	686.64	0.00	686.64	
MH								5/25/2010 0000	19.74	686.46	0.00	686.46	
MH								6/15/2010 0000	19.70	686.50	0.00	686.50	
MH-22	1072158.023	1115589.309	698.05	NM	698.05	NA	1						
MH								3/25/2010 0000	8.55	689.50	0.00	689.50	
MH								5/25/2010 0000	8.98	689.07	0.00	689.07	
MH								6/15/2010 0000	9.05	689.00	0.00	689.00	
MH-25	1072483.928	1114820.313	698.17	NM	698.17	NA	1						
MH								3/25/2010 0000	8.72	689.45	0.00	689.45	
MH								5/25/2010 0000	10.52	687.65	0.00	687.65	
MH								6/15/2010 0000	9.83	688.34	0.00	688.34	
SG-01	1073882.887	1114813.101	NM	NM	690.00	NA	1						
SG								3/25/2010 0000	-1.37	691.37	0.00	691.37	
SG								5/25/2010 0000	-1.00	691.00	0.00	691.00	
SG								6/15/2010 0000	-1.18	691.18	0.00	691.18	
SG-02	1073738.27	1116805.85	NM	NM	690.00	NA	1						
SG								3/25/2010 0000	-3.35	693.35	0.00	693.35	
SG								5/25/2010 0000	-2.98	692.98	0.00	692.98	
SG								6/15/2010 0000	-3.18	693.18	0.00	693.18	
WW-01	1073676.903	1115710.476	NM	NM	684.02	NA	1						
MH								3/25/2010 0000	-4.9	688.92	0.00	688.92	
MH								5/25/2010 0000	-3.3	687.32	0.00	687.32	
MH								6/15/2010 0000	-4.1	688.12	0.00	688.12	

NM - No Measurement

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

Type:

MH	Manhole Monitoring Point
MNW	Monitoring Well
SG	Staff Gauge

TABLE 1
PFOHL BROTHERS LANDFILL SITE
GROUNDWATER ELEVATIONS
JANUARY - JUNE 2010

Location ID / Type	Northing	Easting	Ground Elevation (ft)	Casing Elevation (ft)	Meas.point (Riser)Elev.(ft)	Geol. Zone	Specific Gravity	Date / Time	Depth to Water (ft)	Water Elev. (ft)	Product Thick. (ft)	Corrected Water Elev. (ft)	Remark
WW-02	1073684.724	1116792.311	NM	NM	684.18	NA	1						
MH								3/25/2010 0000	-4.7	688.88	0.00	688.88	
MH								5/25/2010 0000	-4.7	688.88	0.00	688.88	
MH								6/15/2010 0000	-4.3	688.48	0.00	688.48	
WW-03	1073140.339	1117618.499	NM	NM	683.80	NA	1						
MH								3/25/2010 0000	-5.6	689.40	0.00	689.40	
MH								5/25/2010 0000	-5.6	689.40	0.00	689.40	
MH								6/15/2010 0000	-5.6	689.40	0.00	689.40	
WW-04	1072057.563	1117610.508	NM	NM	676.62	NA	1						
MH								3/25/2010 0000	-7.3	683.92	0.00	683.92	
MH								5/25/2010 0000	-7.0	683.62	0.00	683.62	
MH								6/15/2010 0000	NM	-	NM	-	
WW-05	1071661.368	1116370.876	NM	NM	676.14	NA	1						
MH								3/25/2010 0000	-7.6	683.74	0.00	683.74	
MH								5/25/2010 0000	-7.0	683.14	0.00	683.14	
MH								6/15/2010 0000	-7.2	683.34	0.00	683.34	
WW-06	1072988.420	1114811.518	NM	NM	681.89	NA	1						
MH								3/25/2010 0000	NM	-	NM	-	
MH								5/25/2010 0000	-5.9	687.79	0.00	687.79	
MH								6/15/2010 0000	-6.7	688.59	0.00	688.59	

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 Gauge

TABLE 2
PFOHL BROTHERS LANDFILL SITE
OVERBURDEN HYDRAULIC GRADIENT

WELL PAIR:	WW-1	*	Level	WW-2	GW-8SR	Level	SG-02	Level
	Water Level	Water Level	Difference	Water Level	Water Level	Difference	Water Level	Difference
DATE	(ft amsl)	(ft amsl)	(ft)	(ft amsl)	(ft amsl)	(ft)	(ft amsl)	(ft)
3/25/2010	688.92	---	---	688.88	692.33	3.45	693.35	4.47
5/25/2010	687.32	---	---	688.88	692.11	3.23	692.98	4.10
6/15/2010	688.12	---	---	688.48	692.15	3.67	693.18	4.70

WELL PAIR:	WW-3	GW-28S	Level	WW-4	*	Level
	Water Level	Water Level	Difference	Water Level	Water Level	Difference
DATE	(ft amsl)	(ft amsl)	(ft)	(ft amsl)	(ft amsl)	(ft)
3/25/2010	689.40	692.80	3.40	683.92	---	---
5/25/2010	689.40	691.42	2.02	683.62	---	---
6/15/2010	689.40	692.17	2.77	NM	---	---

WELL PAIR:	WW-5	GW-32S	Level	WW-6	GW-34S	Level
	Water Level	Water Level	Difference	Water Level	Water Level	Difference
DATE	(ft amsl)	(ft amsl)	(ft)	(ft amsl)	(ft amsl)	(ft)
3/25/2010	683.74	696.18	12.44	NM	692.07	NA
5/25/2010	683.14	694.33	11.19	687.79	691.50	3.71
6/15/2010	683.34	695.31	11.97	688.59	691.70	3.11

WELL PAIR:	MH-1	SG-1	Level	MH-15	GW-29S	Level
	Water Level	Water Level	Difference	Water Level	Water Level	Difference
DATE	(ft amsl)	(ft amsl)	(ft)	(ft amsl)	(ft amsl)	(ft)
3/25/2010	689.25	691.37	2.12	684.61	693.16	8.55
5/25/2010	687.71	691.00	3.29	684.16	690.84	6.68
6/15/2010	688.36	691.18	2.82	684.15	691.68	7.53

WELL PAIR:	MH-16	GW-30S	Level	MH-17	GW-31S	Level
	Water Level	Water Level	Difference	Water Level	Water Level	Difference
DATE	(ft amsl)	(ft amsl)	(ft)	(ft amsl)	(ft amsl)	(ft)
3/25/2010	684.46	689.08	4.62	684.24	696.45	12.21
5/25/2010	684.12	688.44	4.32	684.05	694.86	10.81
6/15/2010	684.13	688.56	4.43	684.05	695.83	11.78

WELL PAIR:	MH-20	GW-35S	Level	MH-22	GW-33S	Level
	Water Level	Water Level	Difference	Water Level	Water Level	Difference
DATE	(ft amsl)	(ft amsl)	(ft)	(ft amsl)	(ft amsl)	(ft)
3/25/2010	686.64	694.54	7.90	689.50	694.96	5.46
5/25/2010	686.46	693.13	6.67	689.07	692.65	3.58
6/15/2010	686.50	693.90	7.40	689.00	693.61	4.61

Notes:

* = No corresponding monitoring well.

NA = Not applicable

APPENDIX D

GROUNDWATER PURGE AND SAMPLE COLLECTION LOGS

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

Date: 5/28/2010 Sampling Personnel: Rob Murphy, Tim Ifkovich Company: URS Corporation

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

Measuring Point: Below Top of Riser Initial Depth to Water: 4.75' Depth to Well Bottom: 14.94' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 6.3 Estimated Purge Volume (liters): 8.3

Sample ID: GW-1S Sample Time: 11:44 QA/QC: None

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information: Riser pipe is bulged inwards, could not remove stainless steel bailer from within well, sampled around it.

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)
10:54	7.39	12.20	0.074	7.50	370	-104.0	190	4.75
10:59	7.13	11.48	0.078	1.33	290	-99.5	190	5.08
11:04	7.12	11.49	0.077	0.92	130	-104.5	190	5.32
11:09	7.12	11.46	0.075	0.65	110	-103.0	190	5.57
11:14	7.18	11.92	0.073	0.58	110	-105.3	150	5.48
11:19	7.18	11.99	0.072	0.67	75	-101.2	150	5.47
11:24	7.07	12.02	0.072	0.65	50	-99.2	150	5.47
11:29	7.09	11.83	0.072	0.49	31	-99.1	150	5.47
11:34	7.08	11.90	0.072	0.47	21	-97.8	150	5.47
11:39	7.09	11.94	0.072	0.41	15	-97.7	150	5.47
11:44	7.09	11.97	0.072	0.36	13	-96.7	150	5.47
Tolerance:	**0.1**	**---**	**3%**	**10%**	**10%**	**+ or - 10**	**---**	

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

Date: 5/28/2010 Sampling Personnel: Rob Murphy, Tim Ifkovich Company: URS Corporation

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

Measuring Point: Below Top of Riser Initial Depth to Water: 3.37' Depth to Well Bottom: 39.65' Well Diameter: 4" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 89.6 Estimated Purge Volume (liters): 56.0

Sample ID: GW-1D Sample Time: 10:41 QA/QC: None

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information: Sulfur odor

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)
9:45	7.52	11.56	0.084	8.00	85	-105.5	1000	3.37
9:50	7.46	10.33	0.095	0.70	50	-140.6	1000	3.44
9:55	7.48	10.28	0.080	0.65	4.6	-131.6	1000	3.44
10:00	7.46	10.15	0.080	0.48	4.6	-138.1	1000	3.44
10:05	7.40	10.07	0.079	0.31	30	-146.5	1000	3.44
10:10	7.38	10.07	0.077	0.30	21	-158.2	1000	3.44
10:15	7.37	9.96	0.078	0.22	13	-175.2	1000	3.44
10:20	7.36	9.96	0.078	0.22	8.0	-197.1	1000	3.44
10:25	7.41	9.92	0.078	0.16	7.6	-210.5	1000	3.44
10:30	7.38	9.91	0.079	0.15	9.1	-222.1	1000	3.44
10:35	7.38	9.91	0.078	0.15	5.3	-234.8	1000	3.44
10:38	7.40	9.91	0.079	0.15	5.1	-232.6	1000	3.44
10:41	7.39	9.91	0.079	0.14	4.6	-235.8	1000	3.44
Tolerance:	**0.1**	**---**	**3%**	**10%**	**10%**	**+ or - 10**	**---**	

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

Date: 5/25/2010 Sampling Personnel: Rob Murphy, Tim Ifkovich Company: URS Corporation

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

Measuring Point: Below Top of Riser Initial Depth to Water: 3.13' Depth to Well Bottom: 13.23' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 6.2 Estimated Purge Volume (liters): 7.1

Sample ID: GW-3S Sample Time: 15:27 QA/QC: None

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information:

PURGE PARAMETERS

TIME	pH	TEMP (^{0}C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
14:36	7.14	12.74	1.215	2.02	100	-21.4	235	3.13
14:41	7.09	12.10	1.199	1.37	70	-13.2	190	5.70
14:46	7.08	12.67	1.193	1.08	33	17.7	140	6.09
14:51	7.07	12.87	1.196	0.90	17	42.0	140	6.38
14:56	7.05	12.77	1.195	0.73	9.7	65.9	140	6.62
15:01	7.04	12.80	1.195	0.07	9.5	83.6	110	6.80
15:06	7.04	12.82	1.195	0.05	7.4	97.3	110	6.91
15:11	7.02	12.83	1.195	0.05	8.2	107.3	110	6.98
15:16	7.00	12.83	1.196	0.06	6.7	121.8	110	7.04
15:21	7.00	12.83	1.196	0.04	5.5	130.2	110	7.12
15:24	6.99	12.83	1.196	0.04	5.2	134.4	110	7.17
15:27	6.97	12.83	1.196	0.03	5.0	137.5	110	7.22
Tolerance:	**0.1**	**---**	**3%**	**10%**	**10%**	**+ or - 10**	**---**	

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

Date: 5/25/2010 Sampling Personnel: Rob Murphy, Tim Ifkovich Company: URS Corporation

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

Measuring Point: Below Top of Riser Initial Depth to Water: 2.35' Depth to Well Bottom: 35.70' Well Diameter: 4" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 82.4 Estimated Purge Volume (liters): 80.1

Sample ID: GW-3D Sample Time: 14:12 QA/QC: MS/MSD

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information:

13:22-13:42- Took probe apart to dry out connections causing errors.

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)
12:42	6.91	9.96	1.450	2.50	3.5	-35.5	890	2.35
12:47	6.82	9.73	1.450	0.84	0.30	-37.5	890	2.35
12:52	6.80	9.68	1.451	0.52	0.55	-38.9	890	2.35
12:57	6.81	9.72	1.451	0.49	0.00	-42.3	890	2.35
13:02	6.82	9.68	1.451	0.41	0.00	-41.0	890	2.35
13:07	6.82	9.71	1.451	0.43	0.00	-42.3	890	2.35
13:12	6.83	9.69	1.451	0.36	0.00	-37.5	890	2.35
13:17	6.87	ERROR	ERROR	ERROR	0.00	-44.1	890	2.35
13:22	6.88	ERROR	ERROR	ERROR	0.15	-45.8	890	2.35
13:42	6.83	9.82	1.454	1.68	0.00	-26.7	890	2.35
13:47	6.79	9.68	1.451	1.28	0.20	-30.0	890	2.35
13:52	6.81	9.67	1.451	0.98	0.00	-34.2	890	2.35
13:57	6.83	9.71	1.450	0.86	0.00	-37.0	890	2.35
14:02	6.84	9.68	1.450	0.70	0.00	-38.1	890	2.35
14:07	6.85	9.74	1.451	0.49	0.00	-39.6	890	2.35
14:12	6.86	9.89	1.450	0.32	0.00	-39.9	890	2.35
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: 11175616.00000 Site: Pfohl Brothers Well I.D.: GW-4S

Date: 5/28/2010 Sampling Personnel: Rob Murphy, Tim Ifkovich Company: URS Corporation

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

Measuring Point: Below Top of Riser Initial Depth to Water: 5.12' Depth to Well Bottom: 16.23' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 6.9 Estimated Purge Volume (liters): 22.5

Sample ID: GW-4S Sample Time: 14:30 QA/QC: None

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information:

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

PURGE PARAMETERS

TIME	pH	TEMP (^{0}C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
12:32	8.30	10.79	0.067	10.02	32	-45.0	980	5.12
12:37	8.21	9.57	0.067	1.63	9.9	-83.5	980	10.66
12:42	8.11	10.21	0.066	2.42	9.4	-90.8	980	14.55
12:47	8.01	9.11	0.068	0.60	2.6	-97.1	980	15.35
12:52	7.91	9.13	0.068	0.41	7.6	-121.9	980	16.18
12:55	7.90	9.17	0.067	0.36	4.3	-141.7	980	DRY
14:28								15.02
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: 11175616.00000 Site: Pfohl Brothers Well I.D.: GW-4D

Date: 5/28/2010 Sampling Personnel: Rob Murphy, Tim Ifkovich Company: URS Corporation

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

Measuring Point: Below Top of Riser Initial Depth to Water: 13.07' Depth to Well Bottom: 45.57' Well Diameter: 4" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 80.3 Estimated Purge Volume (liters): 6.3

Sample ID: GW-4D Sample Time: 14:01 QA/QC: None

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information:

PURGE PARAMETERS

TIME	pH	TEMP (^{0}C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
13:01	7.56	12.30	0.071	4.06	100	-109.8	165	13.07
13:06	7.53	13.25	0.072	0.72	29	-146.3	100	13.47
13:11	7.52	14.14	0.069	0.58	17	-145.8	100	13.52
13:16	7.49	14.59	0.066	0.42	16	-139.9	100	13.60
13:21	7.48	14.75	0.066	0.31	11	-153.6	100	13.69
13:26	7.48	14.45	0.067	0.23	3.5	-165.3	100	13.76
13:31	7.48	14.36	0.067	0.17	5.1	-182.2	100	13.80
13:36	7.48	14.33	0.067	0.17	5.1	-190.0	100	13.85
13:41	7.50	14.72	0.066	0.18	9.4	-194.0	100	13.90
13:46	7.54	14.08	0.067	0.10	7.2	-217.6	100	13.94
13:51	7.52	14.11	0.067	0.09	5.6	-236.6	100	13.97
13:56	7.51	14.42	0.066	0.12	3.9	-234.5	100	14.02
14:01	7.52	14.48	0.066	0.08	3.4	-242.2	100	14.05
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 ($vol_{cyl} = \pi r^2 h$)

WELL PURGING LOG

URS Corporation

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

PROJECT NO.: 11175616.00000

STAFF: Rob Murphy, Tim Ifkovich

DATE(S): 5/25/10, 5/26/10

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	35.04	1"	0.040
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	5.20	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	29.84	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)	=	5.1	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 3)	=		6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	7.5	8"	2.60

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

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	Initial	2	4	6	7.5						
pH	8.17	8.12	8.10	8.10	8.09						
SPEC. COND. (mS/cm)	0.599	0.585	0.588	0.591	0.575						
DO (mg/l)	8.29	3.93	8.40	10.51	10.19						
TEMPERATURE (^{0}C)	11.05	10.25	10.59	11.28	11.69						
TURBIDITY (NTU)	16	28	65	150	260						
ORP (millivolts)	20.4	29.3	36.0	51.6	46.6						
TIME	11:41	11:49	11:52	11:58	12:03						

COMMENTS: - Begin handbailing well.
12:03 - Well dry after removing 7.5 gallons

5/25/2010 12:25 - return to well, depth to water = 5.41 feet.
12:30 - Collect sample.

WELL PURGING LOG

URS Corporation

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

PROJECT NO.: 11175616.00000

STAFF: Rob Murphy, Tim Ifkovich

DATE(S): 5/25/10, 5/26/10

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	60.45	1"	0.040
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	43.20	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	17.25	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)	=	11.4	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 3)	=		6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	11.5	8"	2.60

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

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	Initial	3	6	9	11.5						
pH	7.75	7.79	7.88	7.96	8.03						
SPEC. COND. (mS/cm)	0.938	0.692	0.733	0.767	0.805						
DO (mg/)	3.83	9.01	9.37	9.16	6.51						
TEMPERATURE (^{0}C)	13.31	12.18	11.79	11.80	12.78						
TURBIDITY (NTU)	6.7	17	20	22	24						
ORP (millivolts)	-194.6	-80.6	-93.0	-98.3	-102.5						
TIME	10:42	10:52	11:04	11:12	11:30						

COMMENTS:

11:30 - Handbailed the well to dryness.

5/26/2010 12:38 - return to well, depth to water = 59.47 feet.

12:40 - Collect sample, only enough volume to fill 3 voa vials, 1 metals container and 1-1 liter Amber container.

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

Date: 5/26/2010 Sampling Personnel: Rob Murphy, Tim Ifkovich Company: URS Corporation

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

Measuring Point: Below Top of Riser Initial Depth to Water: 5.42' Depth to Well Bottom: 13.03' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 4.7 Estimated Purge Volume (liters): 8.7

Sample ID: GW-8SR Sample Time: 9:36 QA/QC: None

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information:

PURGE PARAMETERS

TIME	pH	TEMP (^{0}C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
8:46	6.66	12.51	2.396	3.56	400	-13.6	215	5.42
8:51	6.65	12.41	2.397	1.84	230	-24.2	170	7.18
8:56	6.62	12.33	2.403	1.18	160	-33.2	170	7.26
9:01	6.57	12.26	2.399	1.04	100	-42.5	170	7.33
9:06	6.55	12.41	2.394	0.93	85	-46.4	170	7.42
9:11	6.54	12.34	2.395	0.90	60	-48.8	170	7.48
9:16	6.52	12.38	2.387	0.75	45	-51.0	170	7.55
9:21	6.51	12.24	2.379	0.79	38	-52.6	170	7.57
9:26	6.50	12.32	2.377	0.77	38	-54.1	170	7.63
9:31	6.52	12.29	2.364	0.73	37	-56.2	170	7.62
9:36	6.52	12.36	2.361	0.74	28	-56.7	170	7.65
Tolerance:	**0.1**	**---**	**3%**	**10%**	**10%**	**+ or - 10**	**---**	

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

Date: 5/26/2010 Sampling Personnel: Rob Murphy, Tim Ifkovich Company: URS Corporation

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

Measuring Point: Below Top of Riser Initial Depth to Water: 6.36' Depth to Well Bottom: 36.54' Well Diameter: 4" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 74.5 Estimated Purge Volume (liters): 43.7

Sample ID: GW-8D Sample Time: 11:10 QA/QC: Duplicate (ID=Duplicate)

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information:

10:31 - take probe apart to dry out inside connections, in addition highspeed side of pump breaks.

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)
9:56	6.98	10.87	1.869	1.05	290	-20.5	980	6.36
10:01	6.88	10.63	1.866	0.53	65	-29.9	980	6.35
10:06	6.88	10.65	1.864	0.46	34	-31.9	980	6.35
10:11	6.88	10.54	1.862	0.46	18	-28.3	980	6.35
10:16	6.87	10.45	1.859	0.41	12	-22.2	980	6.35
10:26	6.86	10.47	1.857	0.34	3.5	-13.7	980	6.35
10:31	6.89	ERROR	ERROR	ERROR	4.3	-12.6	980	6.35
10:50	6.87	11.89	1.844	1.04	5.9	30.4	470	6.35
10:55	6.80	11.62	1.854	0.70	5.0	15.3	470	6.35
11:00	6.80	11.84	1.849	0.57	3.3	11.4	470	6.35
11:05	6.81	11.35	1.855	0.50	3.3	9.0	470	6.35
11:10	6.86	11.32	1.850	0.48	3.6	7.5	470	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: 11175616.00000 Site: Pfohl Brothers Well I.D.: GW-26D

Date: 5/28/2010 Sampling Personnel: Rob Murphy, Tim Ifkovich Company: URS Corporation

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

Measuring Point: Below Top of Riser Initial Depth to Water: 7.26' Depth to Well Bottom: 40.72' Well Diameter: 4" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 82.6 Estimated Purge Volume (liters): 52.8

Sample ID: GW-26D Sample Time: 8:27 QA/QC: None

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information:

Occasional pulses of iron stained particulates in purge water.

PURGE PARAMETERS

TIME	pH	TEMP (^{0}C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
7:32	7.57	11.35	0.105	2.59	450	-83.3	960	7.26
7:37	7.05	11.18	0.115	0.88	60	-75.7	960	7.26
7:42	6.91	11.17	0.102	0.61	8.0	-75.4	960	7.26
7:47	6.87	11.18	0.099	0.45	9.0	-75.6	960	7.26
7:52	6.83	11.17	0.099	0.41	0.9	-75.7	960	7.26
7:57	6.80	11.18	0.094	0.31	15	-75.5	960	7.26
8:02	6.78	11.19	0.098	0.26	36	-75.0	960	7.26
8:07	6.78	11.19	0.099	0.22	1.1	-74.6	960	7.26
8:12	6.76	11.21	0.094	0.22	8.4	-74.6	960	7.26
8:17	6.75	11.24	0.095	0.20	1.9	-74.3	960	7.26
8:22	6.76	11.21	0.094	0.19	6.4	-73.8	960	7.26
8:27	6.74	11.22	0.093	0.18	0.0	-73.5	960	7.26
Tolerance:	**0.1**	**---**	**3%**	**10%**	**10%**	**+ or - 10**	**---**	

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

Date: 5/27/2010 Sampling Personnel: Rob Murphy, Tim Ifkovich Company: URS Corporation

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

Measuring Point: Below Top of Riser Initial Depth to Water: 9.54' Depth to Well Bottom: 15.53' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 3.7 Estimated Purge Volume (liters): 12.2

Sample ID: GW-28S Sample Time: 11:05 QA/QC: None

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information:

PURGE PARAMETERS

TIME	pH	TEMP (^{0}C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
10:00	7.22	12.59	0.680	2.80	36	136.5	240	9.54
10:05	7.19	12.47	0.665	1.21	11	121.4	240	10.87
10:10	7.17	13.42	0.659	1.04	13	107.2	160	10.82
10:15	7.16	13.34	0.653	1.09	9.3	90.8	180	10.88
10:20	7.17	13.17	0.659	1.15	8.0	76.7	180	10.94
10:25	7.12	13.00	0.667	1.05	6.0	57.4	180	11.03
10:30	7.08	13.06	0.672	0.93	6.4	48.3	180	11.07
10:35	7.08	12.88	0.678	0.84	5.3	35.7	180	11.09
10:40	7.05	12.78	0.685	0.73	5.1	27.2	180	11.11
10:45	7.03	12.73	0.692	0.69	4.8	25.0	180	11.14
10:50	7.02	12.63	0.695	0.60	3.8	19.9	180	11.18
10:55	7.02	12.75	0.701	0.52	4.1	16.5	180	11.20
10:59	7.03	12.92	0.703	0.41	4.0	5.3	180	11.25
11:02	7.03	12.69	0.706	0.41	3.8	3.7	180	11.28
11:05	7.03	12.71	0.705	0.41	3.7	2.8	180	11.30
Tolerance:	**0.1**	**---**	**3%**	**10%**	**10%**	**+ or - 10**	**---**	

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

Date: 5/27/2010 Sampling Personnel: Rob Murphy, Tim Ifkovich Company: URS Corporation

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

Measuring Point: Below Top of Riser Initial Depth to Water: 8.89' Depth to Well Bottom: 19.96' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 6.8 Estimated Purge Volume (liters): 9.9

Sample ID: GW-29S Sample Time: 12:36 QA/QC: None

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information: Water red brown at beginning of purge.

PURGE PARAMETERS

TIME	pH	TEMP (^{0}C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
11:34	Establish flow rate and bypass orange floc round flow cell						250	8.89
11:36	Establish flow rate and bypass orange floc round flow cell						175	-
11:40	7.23	15.85	1.268	18.00	550	-115.2	175	10.35
11:45	7.06	14.43	1.225	1.10	500	-104.0	175	10.63
11:50	7.03	14.14	1.218	0.73	340	-98.4	150	10.92
11:55	7.00	14.61	1.206	0.61	280	-95.5	150	11.03
12:00	7.00	14.43	1.213	0.61	260	-95.9	150	11.11
12:05	6.95	14.56	1.214	0.49	190	-94.0	150	11.20
12:10	6.94	14.62	1.218	0.46	170	-91.9	150	11.28
12:15	6.91	14.58	1.225	0.44	150	-92.7	150	11.32
12:20	6.89	14.47	1.223	0.38	130	-91.2	150	11.35
12:25	6.89	14.58	1.225	0.37	110	-91.3	150	11.39
12:30	6.89	14.53	1.225	0.36	100	-92.9	150	11.41
12:33	6.89	14.25	1.227	0.37	95	-93.1	150	11.43
12:36	6.90	13.94	1.226	0.34	90	-92.8	150	11.45
Tolerance:	**0.1**	**---**	**3%**	**10%**	**10%**	**+ or - 10**	**---**	

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

Date: 5/27/2010 Sampling Personnel: Rob Murphy, Tim Ifkovich Company: URS Corporation

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

Measuring Point: Below Top of Riser Initial Depth to Water: 8.19' Depth to Well Bottom: 17.95' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 6.0 Estimated Purge Volume (liters): 16.2

Sample ID: GW-30S Sample Time: 13:45 QA/QC: None

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information:

PURGE PARAMETERS

TIME	pH	TEMP (^{0}C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
13:15	7.36	11.24	0.111	6.87	180	-96.9	540	8.19
13:20	7.08	10.75	0.100	1.11	36	-98.1	540	8.28
13:25	7.08	10.61	0.089	0.67	15	-99.9	540	8.27
13:30	7.12	10.59	0.516	0.44	9.4	-101.0	540	8.27
13:35	7.14	10.62	0.529	0.33	11	-102.5	540	8.29
13:40	7.07	10.58	0.538	0.28	7.0	-103.7	540	8.29
13:45	6.98	10.60	0.519	0.24	5.5	-104.1	540	8.29
Tolerance:	**0.1**	**---**	**3%**	**10%**	**10%**	**+ or - 10**	**---**	

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

Date: 5/27/2010 Sampling Personnel: Rob Murphy, Tim Ifkovich Company: URS Corporation

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

Measuring Point: Below Top of Riser Initial Depth to Water: 4.21' Depth to Well Bottom: 9.57' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 3.3 Estimated Purge Volume (liters): 3.6

Sample ID: GW-31S Sample Time: 14:40 QA/QC: None

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information:

PURGE PARAMETERS

TIME	pH	TEMP (^{0}C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
14:05	7.11	17.08	0.124	4.14	40	-35.6	140	4.21
14:10	7.21	16.73	0.116	0.80	9.5	-10.3	140	5.77
14:15	7.24	15.85	0.123	0.81	4.4	3.1	140	6.47
14:20	7.24	16.00	0.120	2.48	4.4	9.0	140	7.09
14:25	7.24	15.99	0.125	2.94	4.1	12.0	140	7.42
14:30	7.24	16.24	0.119	3.50	6.6	15.9	120	7.86
14:35	7.21	16.26	0.129	3.50	4.5	19.2	120	8.14
14:40	7.20	16.15	0.135	3.20	6.6	19.5	120	8.41
Tolerance:	**0.1**	**---**	**3%**	**10%**	**10%**	**+ or - 10**	**---**	

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

Date: 5/27/2010 Sampling Personnel: Rob Murphy, Tim Ifkovich Company: URS Corporation

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

Measuring Point: Below Top of Riser Initial Depth to Water: 4.40' Depth to Well Bottom: 9.92' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 3.4 Estimated Purge Volume (liters): 4.8

Sample ID: GW-32S Sample Time: 15:44 QA/QC: None

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information:

PURGE PARAMETERS

TIME	pH	TEMP (^{0}C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
15:14	7.73	15.43	0.179	5.01	16	20.4	160	4.40
15:19	7.51	14.61	0.167	1.51	5.2	20.3	160	4.88
15:24	7.55	13.97	0.169	1.07	2.4	19.6	160	4.90
15:29	7.49	14.02	0.163	0.87	1.1	19.3	160	4.93
15:34	7.60	13.96	0.287	0.65	1.8	9.9	160	4.94
15:39	7.55	13.95	0.275	0.56	0.70	11.1	160	4.94
15:44	7.53	14.00	0.276	0.46	0.40	10.8	160	4.94
Tolerance:	**0.1**	**---**	**3%**	**10%**	**10%**	**+ or - 10**	**---**	

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

Date: 5/27/2010 Sampling Personnel: Rob Murphy, Tim Ifkovich Company: URS Corporation

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

Measuring Point: Below Top of Riser Initial Depth to Water: 6.04' Depth to Well Bottom: 8.18' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 1.3 Estimated Purge Volume (liters): 5.4

Sample ID: GW-33S Sample Time: 16:55 QA/QC: None

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information:

PURGE PARAMETERS

TIME	pH	TEMP (^{0}C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
16:10	7.33	17.06	0.120	10.18	12	57.4	155	6.04
16:15	7.16	15.89	0.131	1.93	2.0	50.4	115	6.60
16:20	7.12	16.50	0.123	1.44	1.8	50.3	115	6.73
16:25	7.10	16.16	0.109	1.24	1.1	49.7	115	6.84
16:30	7.10	16.00	0.114	1.04	0.70	49.7	115	7.01
16:35	7.08	15.91	0.109	0.85	0.50	50.3	115	7.13
16:40	7.06	15.77	0.104	0.71	1.0	51.3	115	7.25
16:45	7.07	15.69	0.104	0.64	0.50	51.7	115	7.37
16:50	7.05	15.72	0.104	0.61	0.50	52.6	115	7.48
16:55	7.05	15.86	0.106	0.58	0.45	52.8	115	7.60
Tolerance:	**0.1**	**---**	**3%**	**10%**	**10%**	**+ or - 10**	**---**	

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

Date: 5/25/2010 Sampling Personnel: Rob Murphy, Tim Ifkovich Company: URS Corporation

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

Measuring Point: Below Top of Riser Initial Depth to Water: 3.27' Depth to Well Bottom: 10.00' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 4.2 Estimated Purge Volume (liters): 8.7

Sample ID: GW-34S Sample Time: 17:01 QA/QC: None

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information:

16:40-16:55 take probe apart to remove moisture from connections.

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)
16:15	6.67	15.00	1.537	1.92	4.5	67.2	265	3.27
16:20	6.47	13.18	1.452	0.74	2.7	107.4	180	4.32
16:25	6.48	13.27	1.348	0.61	1.0	126.8	180	4.46
16:30	6.47	12.99	1.329	0.56	1.2	126.3	180	4.50
16:35	6.62	ERROR	ERROR	ERROR	0.65	114.3	180	4.55
16:40	6.54	13.04	1.284	1.34	0.50	127.4	180	4.60
16:55	6.70	12.93	1.198	1.30	0.50	103.3	180	4.65
16:58	6.68	12.70	1.193	1.30	0.50	102.7	180	4.66
17:01	6.64	12.70	1.185	1.01	0.50	106.0	180	4.66
Tolerance:	**0.1**	**---**	**3%**	**10%**	**10%**	**+ or - 10**	**---**	

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

Date: 5/28/2010 Sampling Personnel: Rob Murphy, Tim Ifkovich Company: URS Corporation

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

Measuring Point: Below Top of Riser Initial Depth to Water: 4.48' Depth to Well Bottom: 7.47' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 1.8 Estimated Purge Volume (liters): 9.0

Sample ID: GW-35S Sample Time: 9:13 QA/QC: None

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information:

PURGE PARAMETERS

TIME	pH	TEMP (^{0}C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
8:38	7.10	13.45	0.076	2.75	12	-42.3	300	4.48
8:43	7.18	13.53	0.074	1.37	4.2	34.3	300	5.41
8:48	7.22	13.67	0.345	0.80	1.3	-28.0	240	5.28
8:53	7.22	13.57	0.420	0.67	0.60	-24.3	240	5.28
8:58	7.22	13.73	0.257	0.47	0.50	-20.6	240	5.32
9:03	7.22	13.47	0.266	0.42	0.30	-16.8	240	5.35
9:08	7.22	13.37	0.260	0.40	0.25	-12.4	240	5.38
9:13	7.21	13.35	0.257	0.38	0.00	-10.4	240	5.39
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 ($vol_{cyl} = \pi r^2 h$)

GROUNDWATER SAMPLING - SAMPLE COLLECTION DATA SHEET

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

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

Date of Sampling: *May 25, 2010*

Sample I.D. Number	***Well Number***	***Well Volume (liters)***	***Volume Purged (liters)***	***Sample Time***	***Sample Description***	***Analysis Required***	***Chain-of-Custody Number***
GW-3D	GW-3D	82.4	80.1	14:12	Groundwater	VOCs/SVOCs/ Metals	Not Applicable
GW-3D-MS	GW-3D	82.4	80.1	14:12	Matrix Spike		Not Applicable
GW-3D-MSD	GW-3D	82.4	80.1	14:12	Matrix Spike Duplicate		Not Applicable
GW-3S	GW-3S	6.2	7.1	15:27	Groundwater		Not Applicable
GW-34S	GW-34S	4.2	8.7	17:01	Groundwater		Not Applicable
TB-052510	---	---	---	---	Trip Blank	VOCs	Not Applicable

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

GROUNDWATER SAMPLING - SAMPLE COLLECTION DATA SHEET

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

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

Date of Sampling: *May 26, 2010*

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	8.7	9:36	Groundwater	VOCs/SVOCs/ Metals	Not Applicable
GW-8D	GW-8D	74.5	43.7	11:10	Groundwater		Not Applicable
DUPLICATE	GW-8D	74.5	43.7	11:10	Blind Duplicate		Not Applicable
GW-7S	GW-7S	5.1	7.5	12:30	Groundwater		Not Applicable
GW-7D	GW-7D	11.4	11.5	12:40	Groundwater		Not Applicable
TB-052610	---	---	---	---	Trip Blank	VOCs	Not Applicable

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

GROUNDWATER SAMPLING - SAMPLE COLLECTION DATA SHEET

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

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

Date of Sampling: *May 27, 2010*

Sample I.D. Number	***Well Number***	***Well Volume (liters)***	***Volume Purged (liters)***	***Sample Time***	***Sample Description***	***Analysis Required***	***Chain-of-Custody Number***
GW-28S	GW-28S	3.7	12.2	11:05	Groundwater	VOCs/SVOCs/ Metals	Not Applicable
GW-29S	GW-29S	6.8	9.9	12:36	Groundwater		Not Applicable
GW-30S	GW-30S	6.0	16.2	13:45	Groundwater		Not Applicable
GW-31S	GW-31S	3.3	3.6	14:40	Groundwater		Not Applicable
GW-32S	GW-32S	3.4	4.8	15:44	Groundwater		Not Applicable
GW-33S	GW-33S	1.3	5.4	16:55	Groundwater		Not Applicable
TB-052710	---	---	---	---	Trip Blank	VOCs	Not Applicable

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

GROUNDWATER SAMPLING - SAMPLE COLLECTION DATA SHEET

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

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

Date of Sampling: *May 28, 2010*

Sample I.D. Number	***Well Number***	***Well Volume (liters)***	***Volume Purged (liters)***	***Sample Time***	***Sample Description***	***Analysis Required***	***Chain-of-Custody Number***
GW-26D	GW-26D	82.6	52.8	8:27	Groundwater	VOCs/SVOCs/ Metals	Not Applicable
GW-35S	GW-35S	1.8	9.0	9:13	Groundwater		Not Applicable
GW-1D	GW-1D	89.6	56.0	10:41	Groundwater		Not Applicable
GW-1S	GW-1S	6.3	8.3	11:44	Groundwater		Not Applicable
GW-4D	GW-4D	80.3	6.3	14:01	Groundwater		Not Applicable
GW-4S	GW-4S	6.9	22.5	14:30	Groundwater		Not Applicable
TB-052810	---	---	---	---	Trip Blank	VOCs	Not Applicable

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

APPENDIX E

HISTORICAL ANALYTICAL RESULTS

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

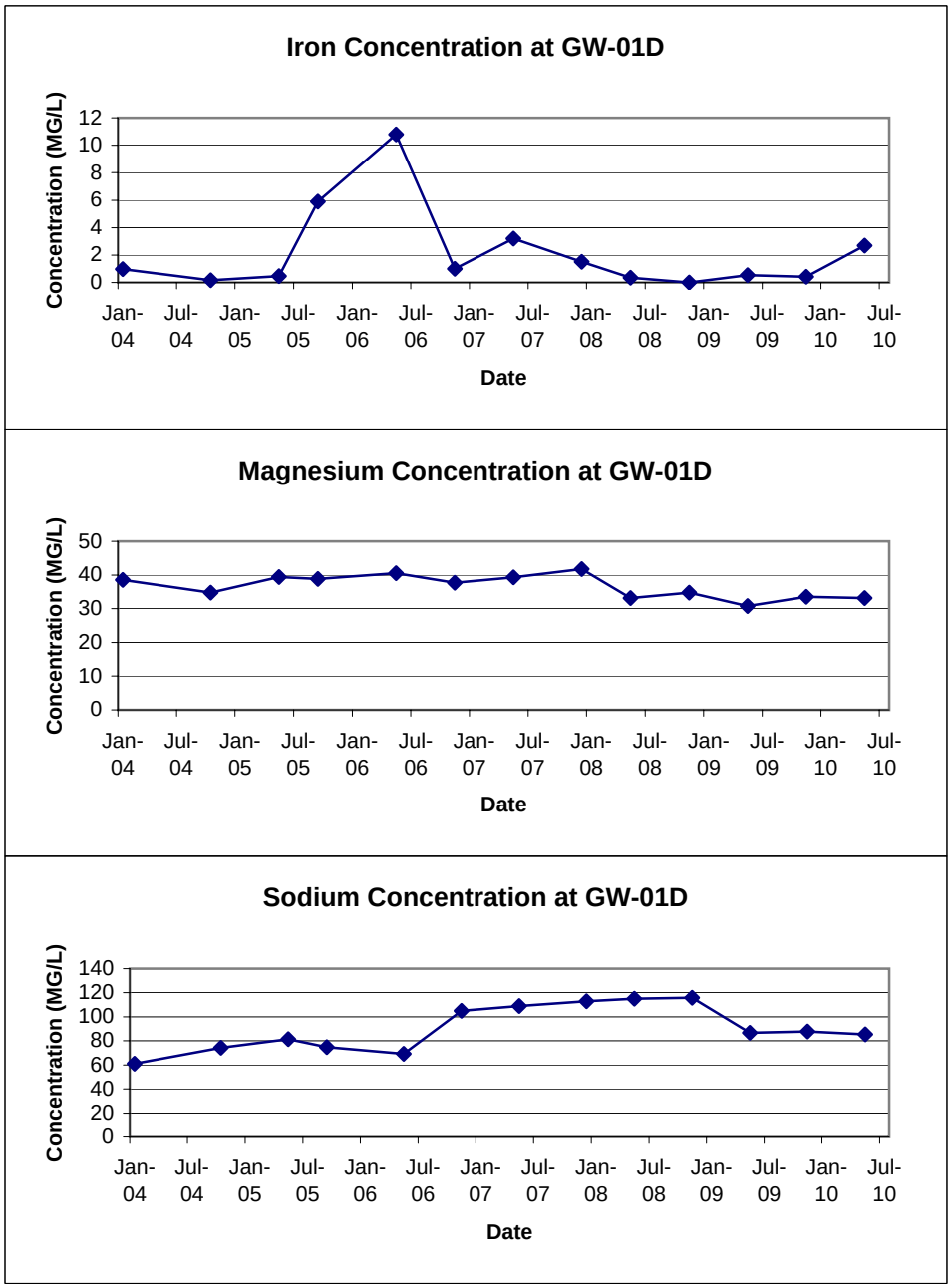


FIGURE E-2
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-1S

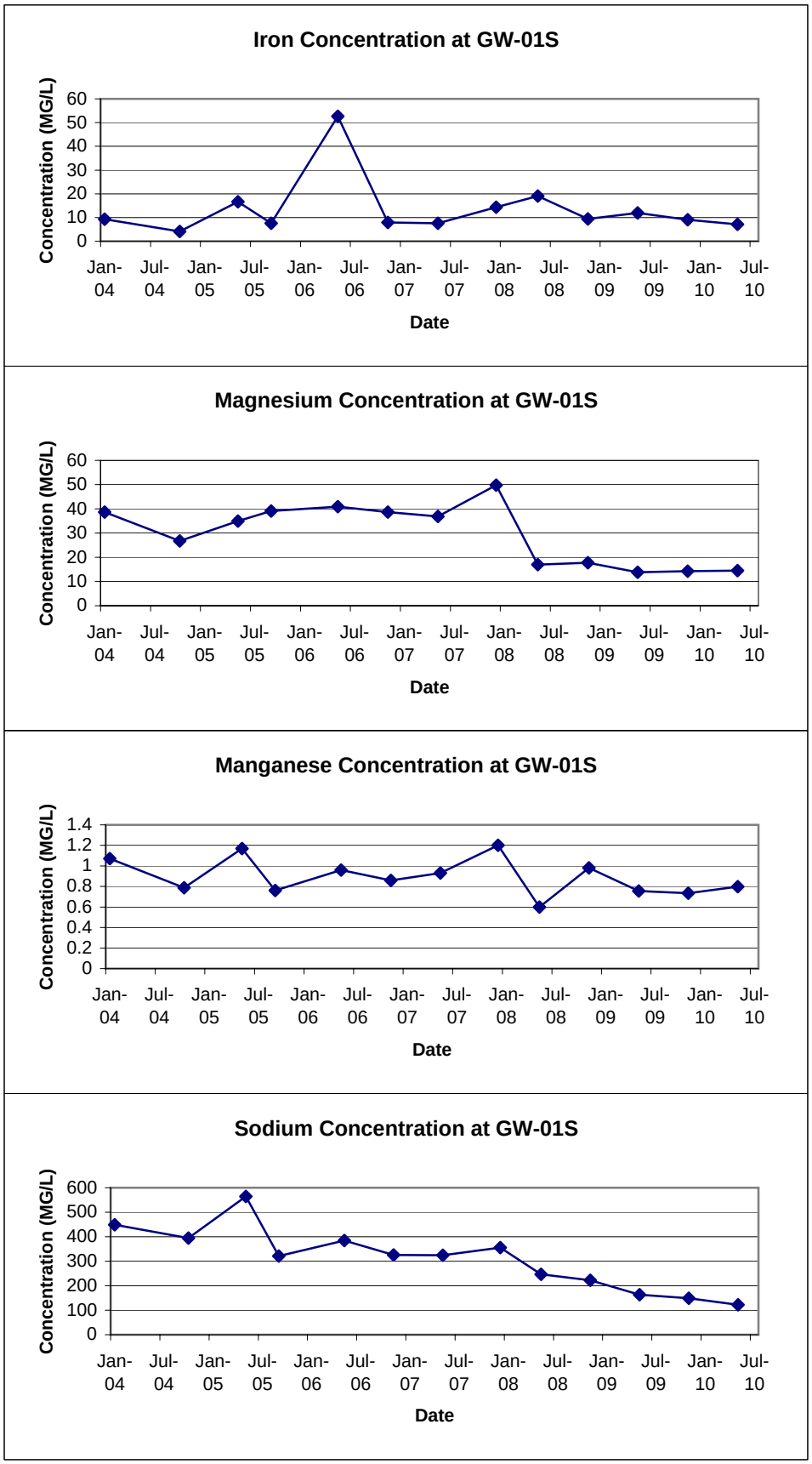


FIGURE E-3
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-3D

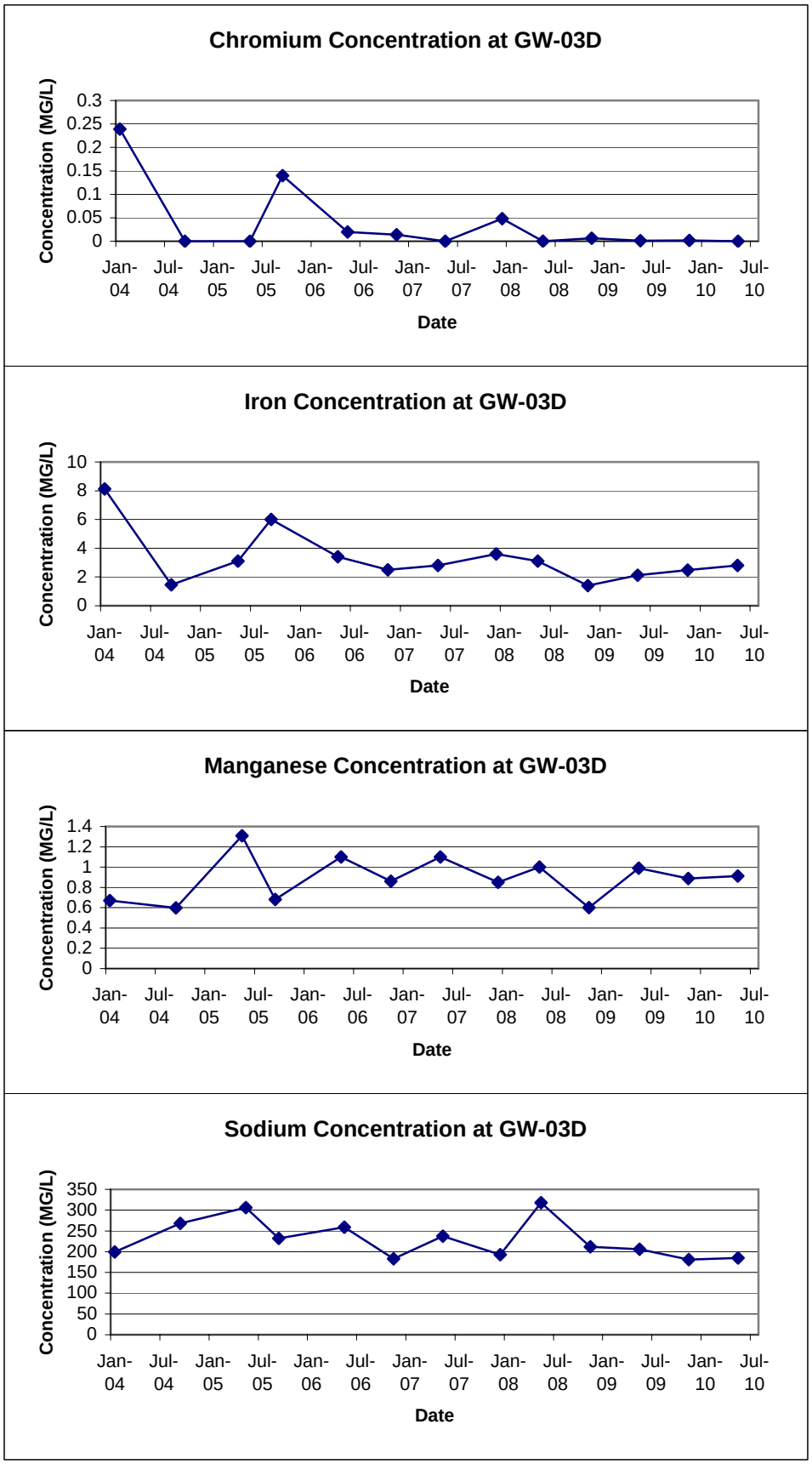


FIGURE E-4
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-3S

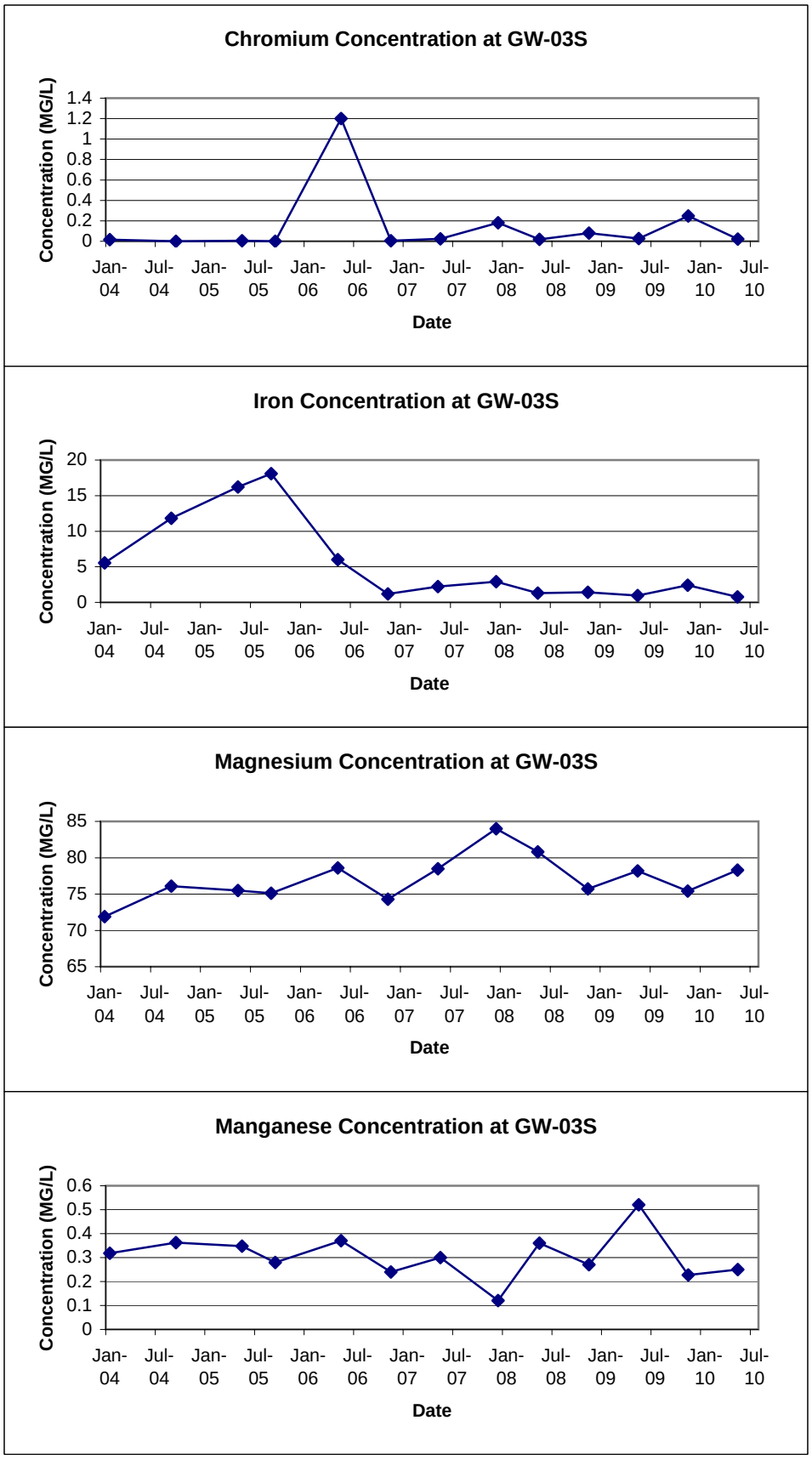


FIGURE E-4
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-3S

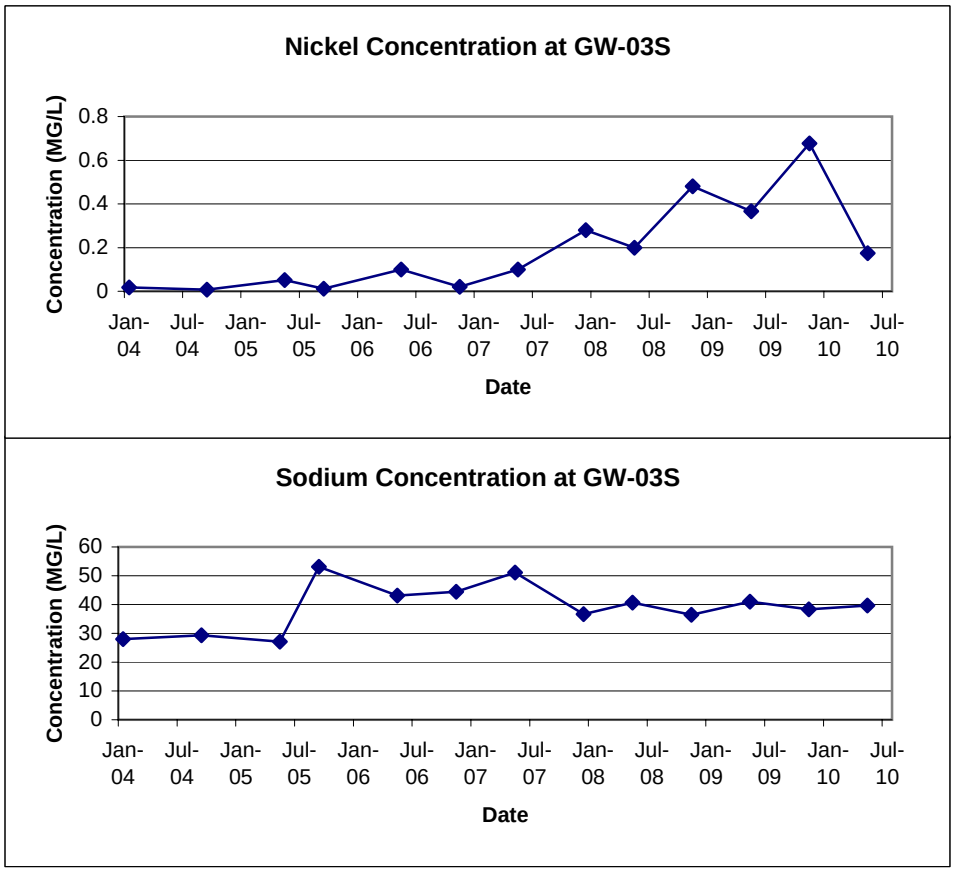


FIGURE E-5
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-4D

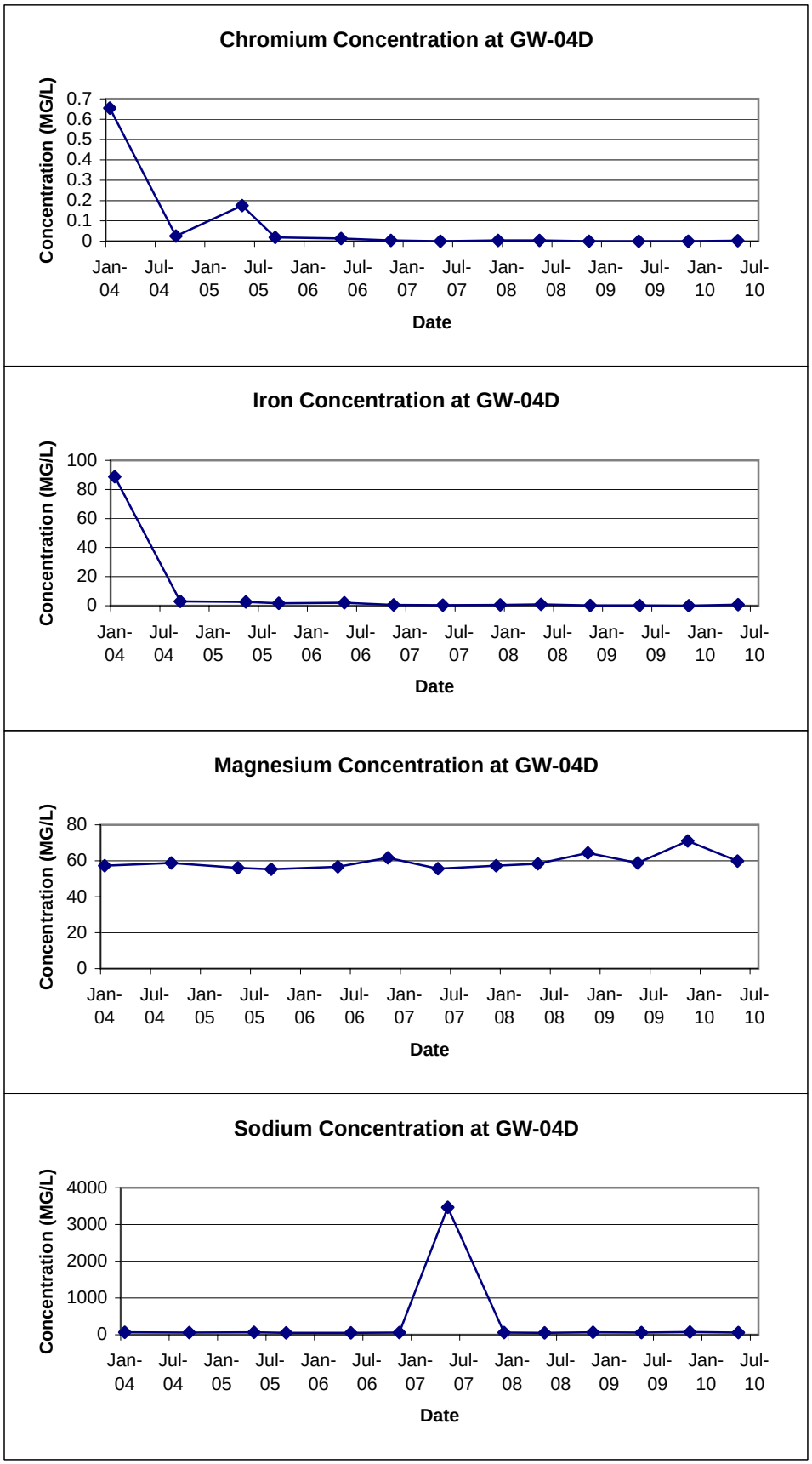


FIGURE E-6
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-4S

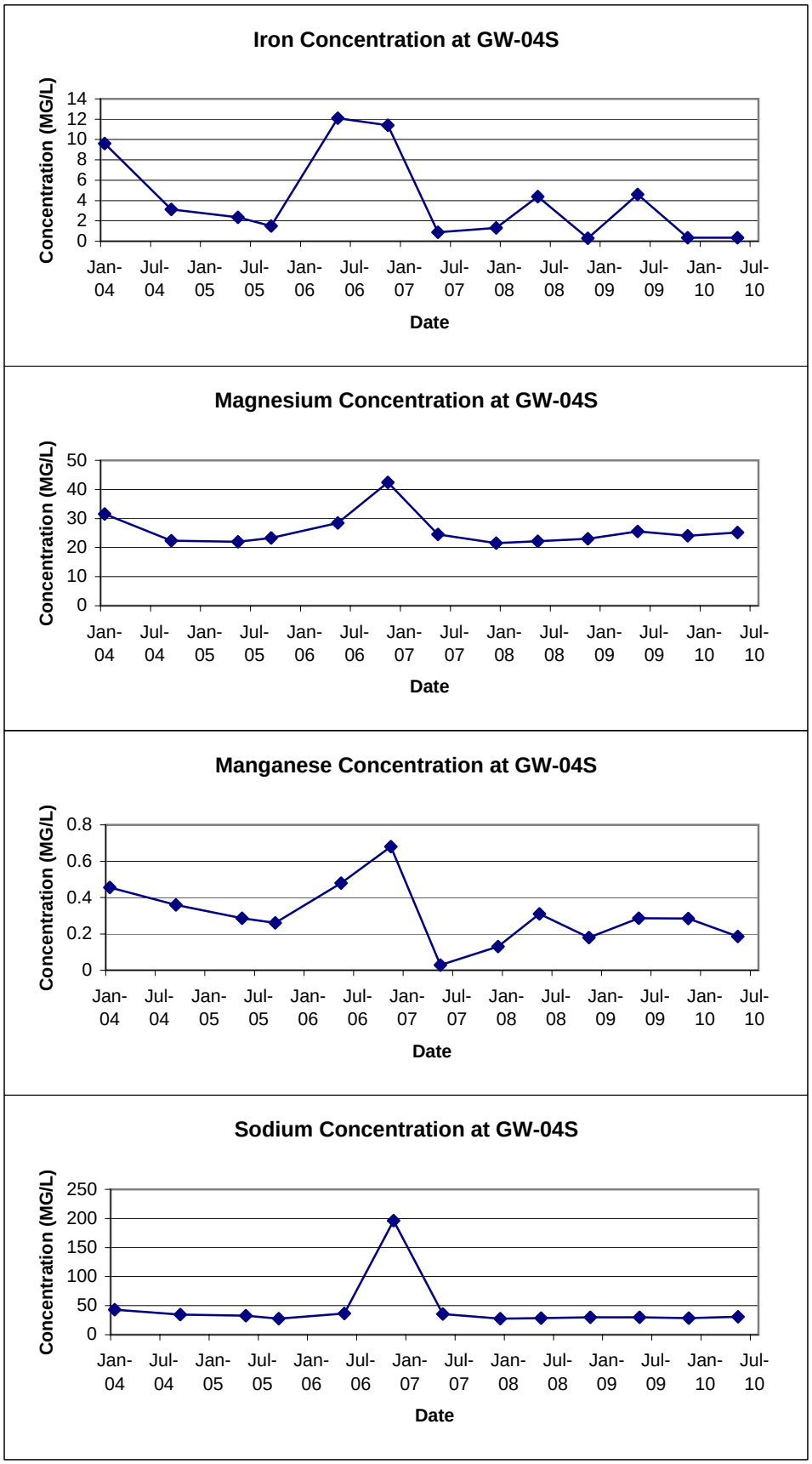


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FIGURE E-7
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-7D

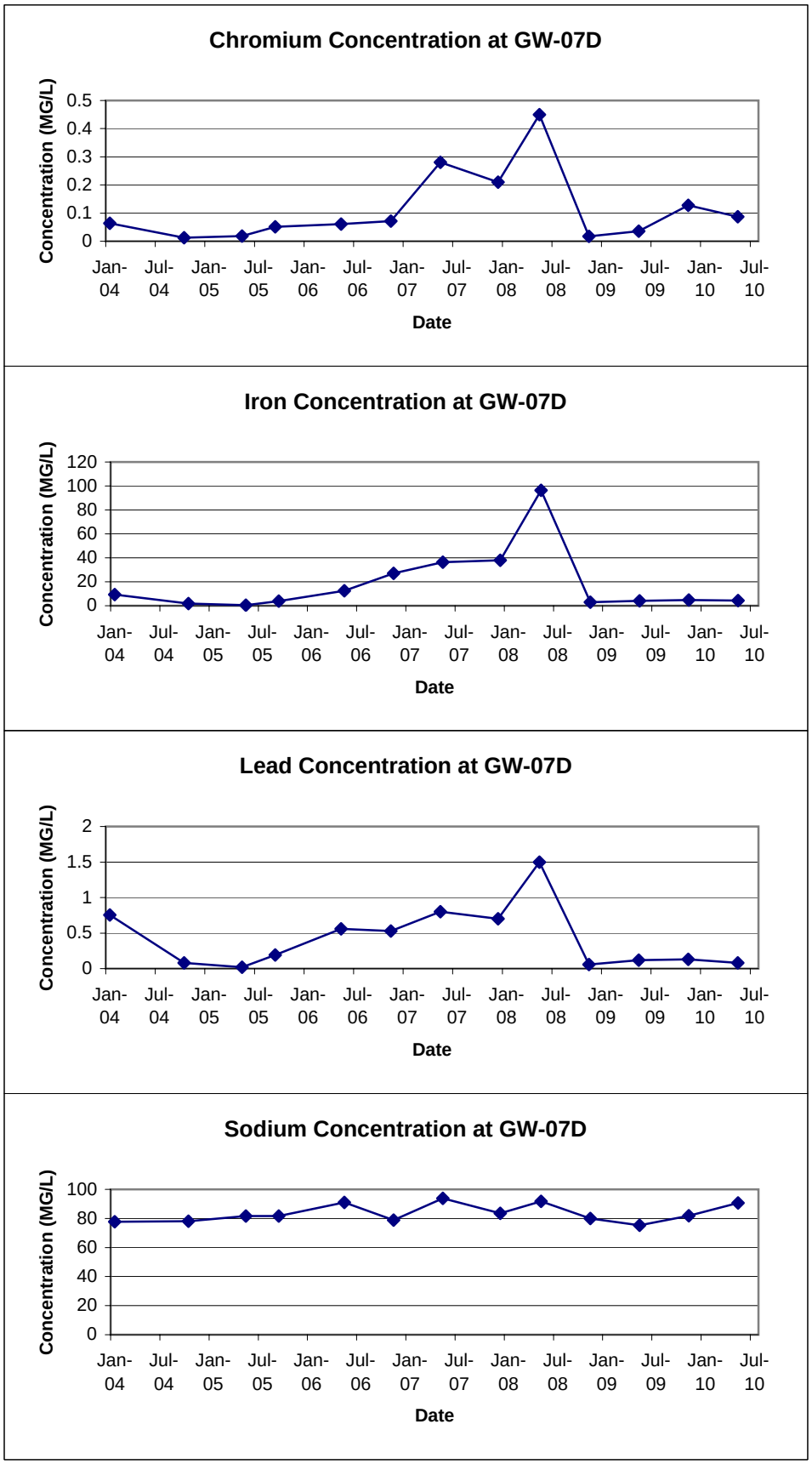


FIGURE E-8
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-7S

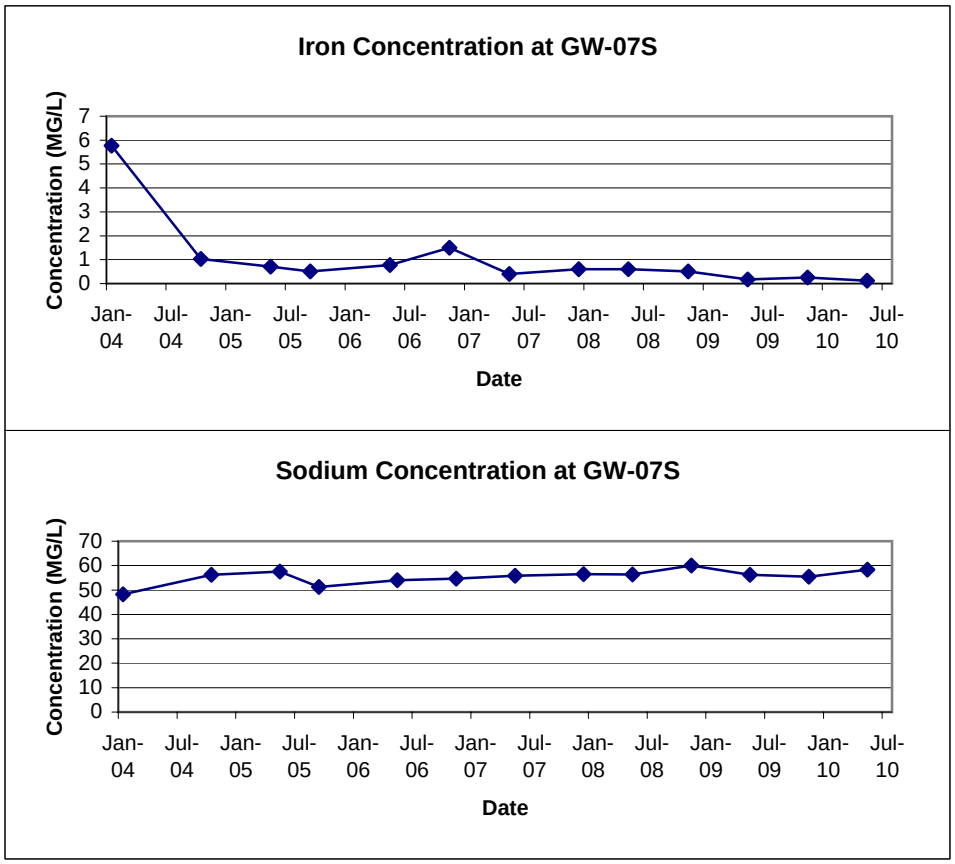


FIGURE E-9
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-8D

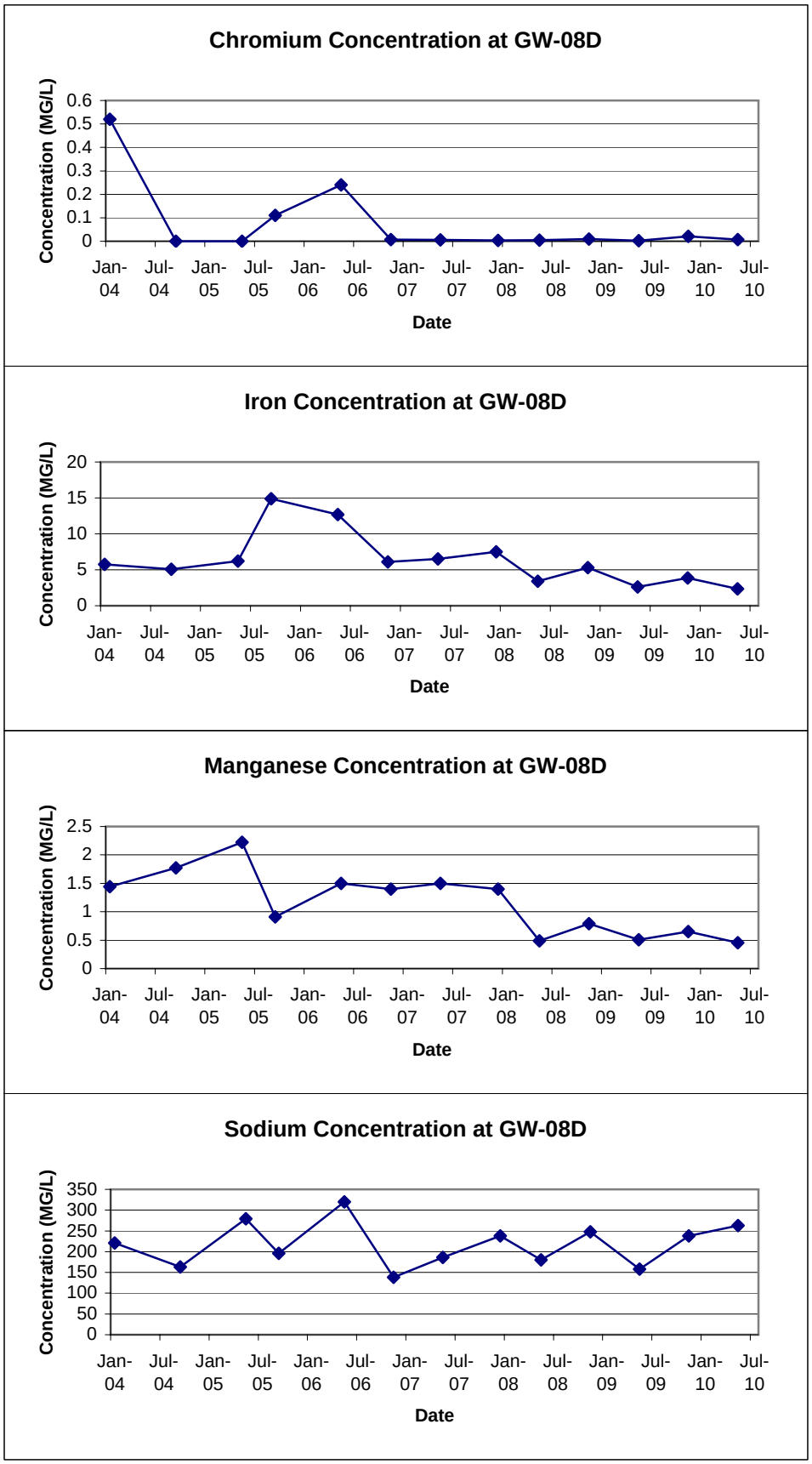


FIGURE E-10
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-8SR

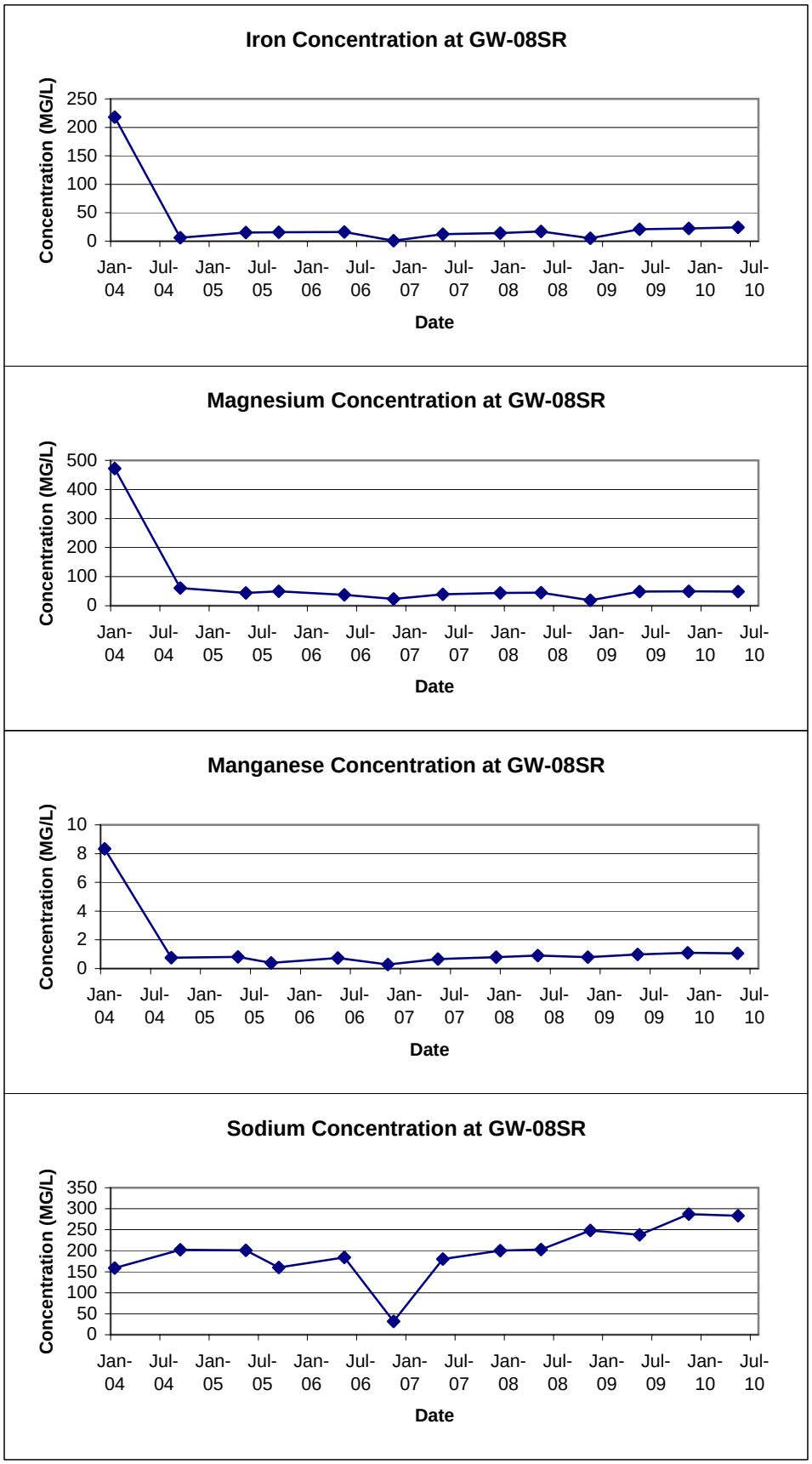


FIGURE E-11
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-26D

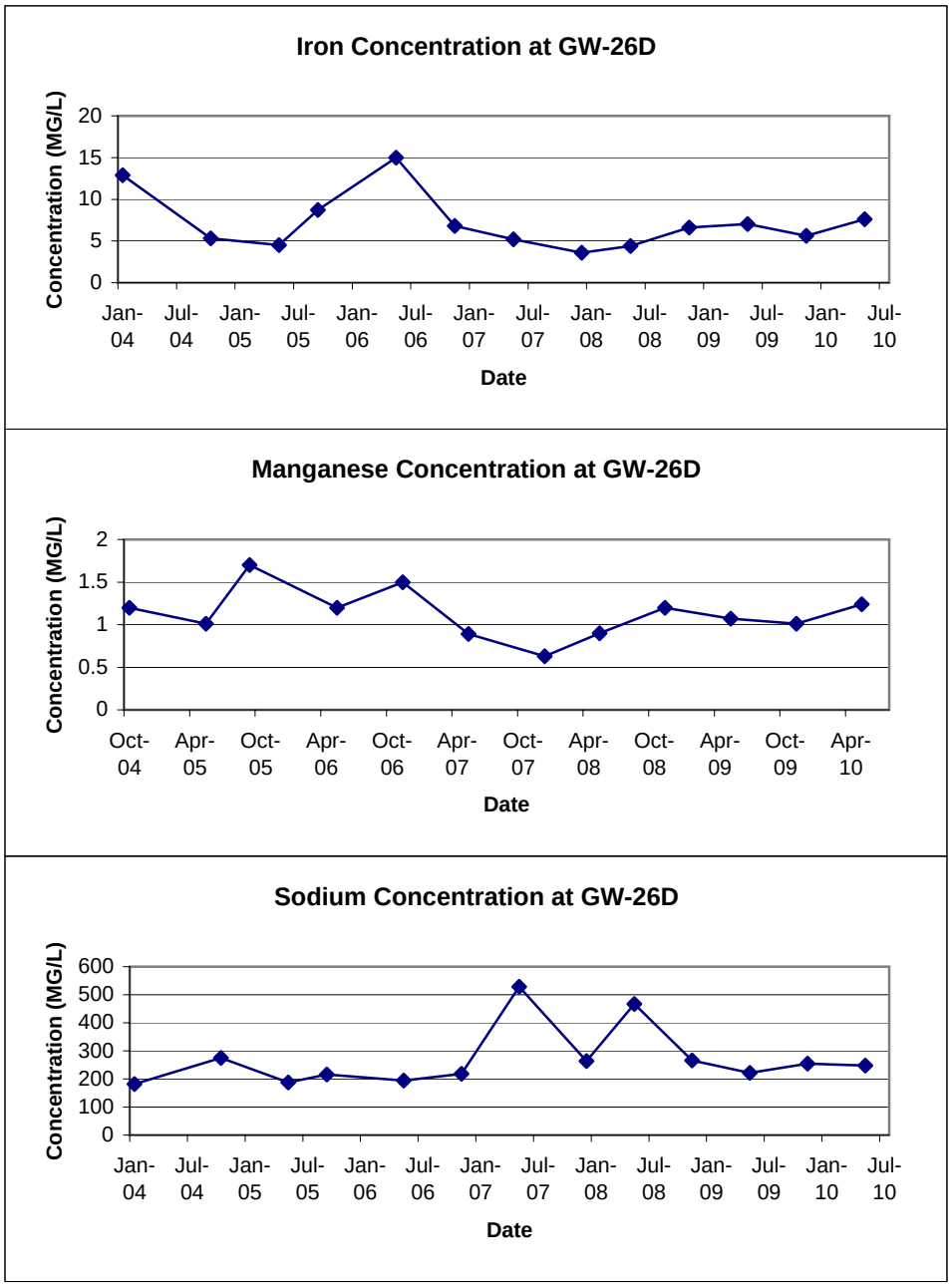


FIGURE E-12
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-28S

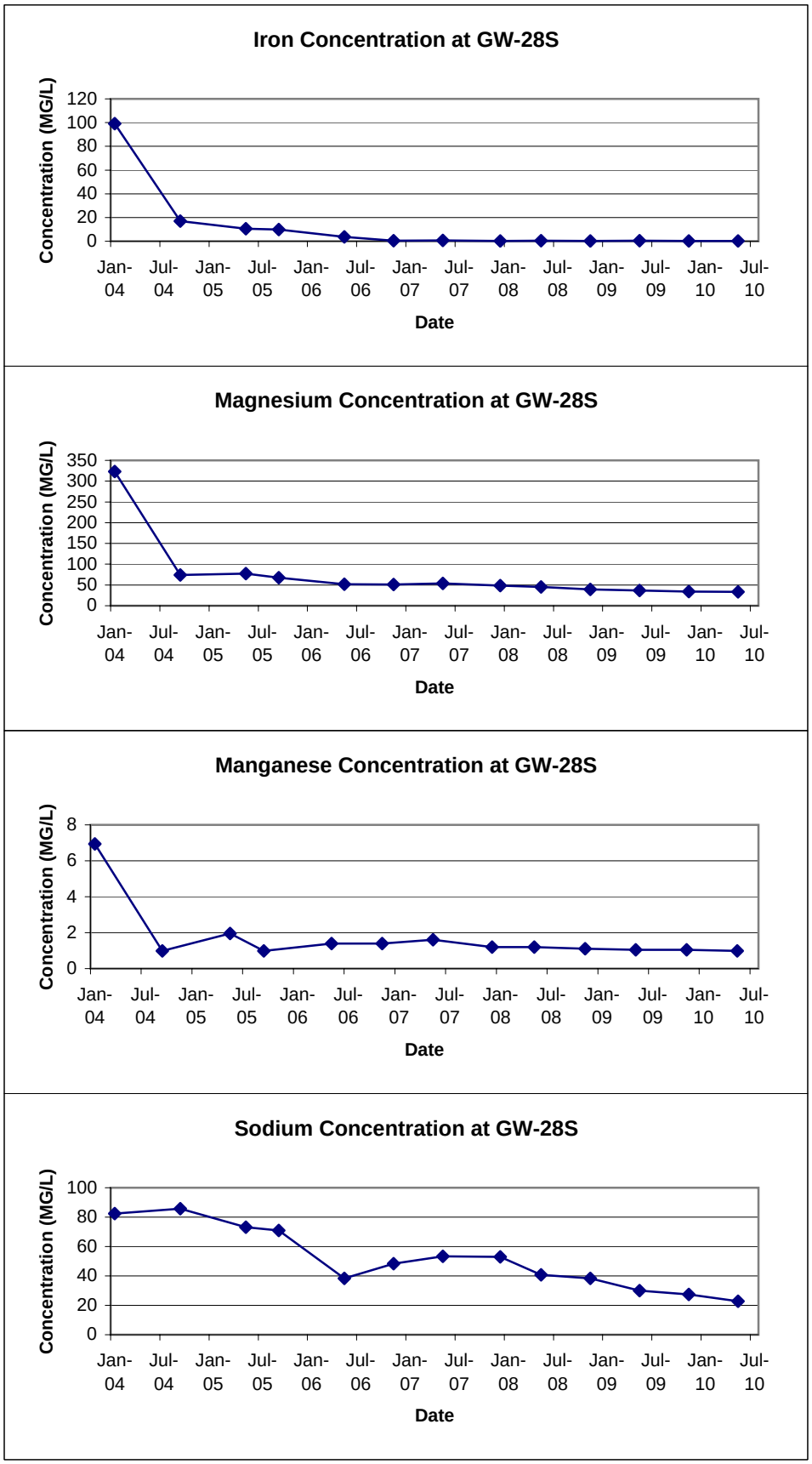


FIGURE E-13
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-29S

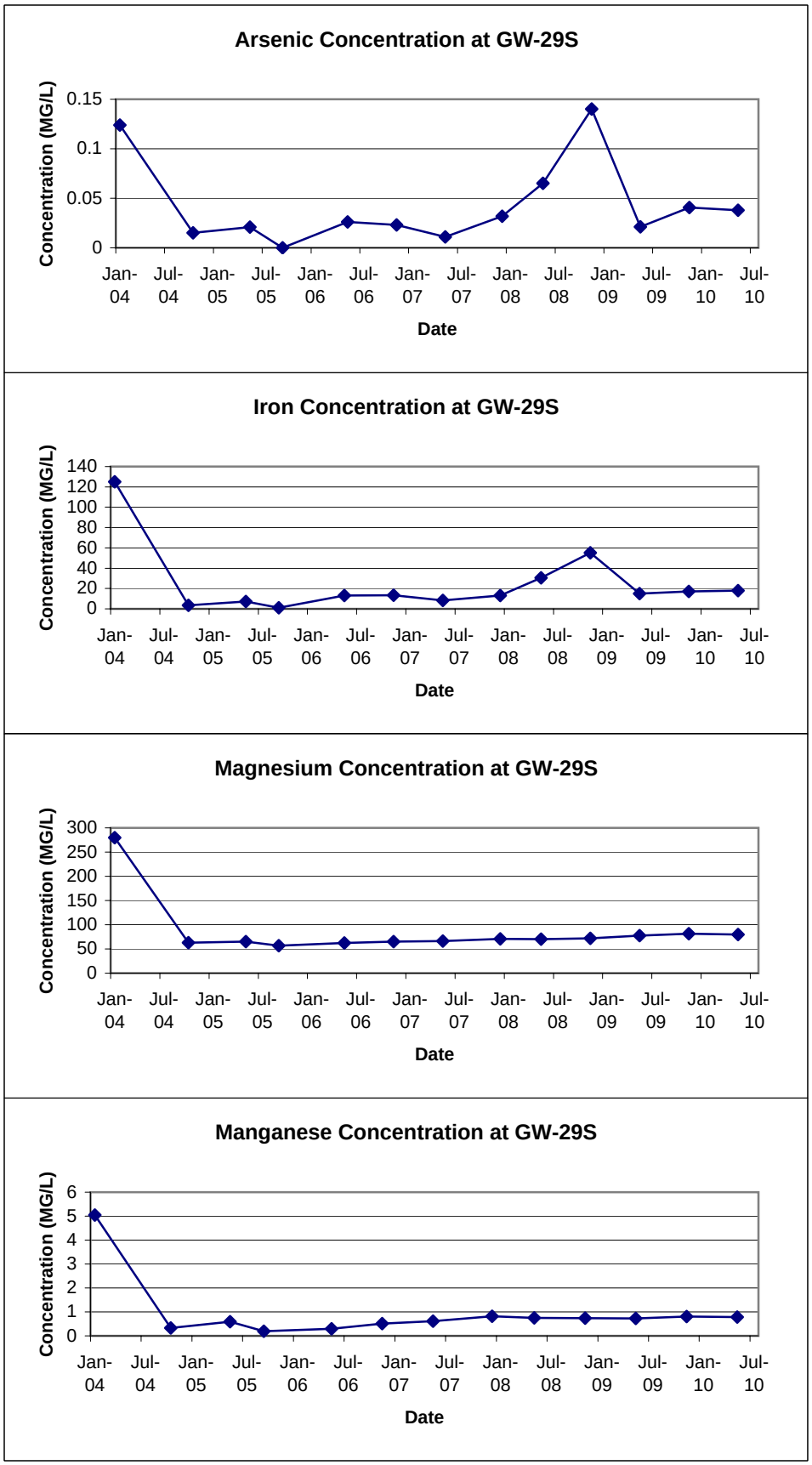


FIGURE E-13
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-29S

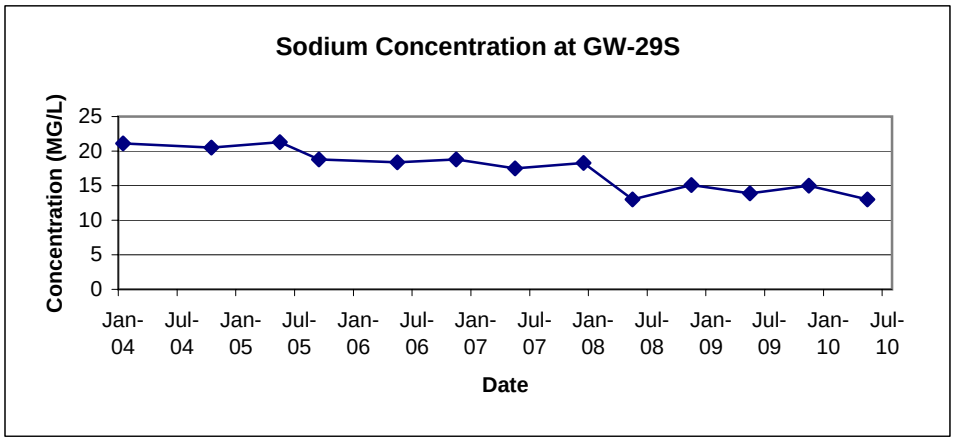


FIGURE E-14
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-30S

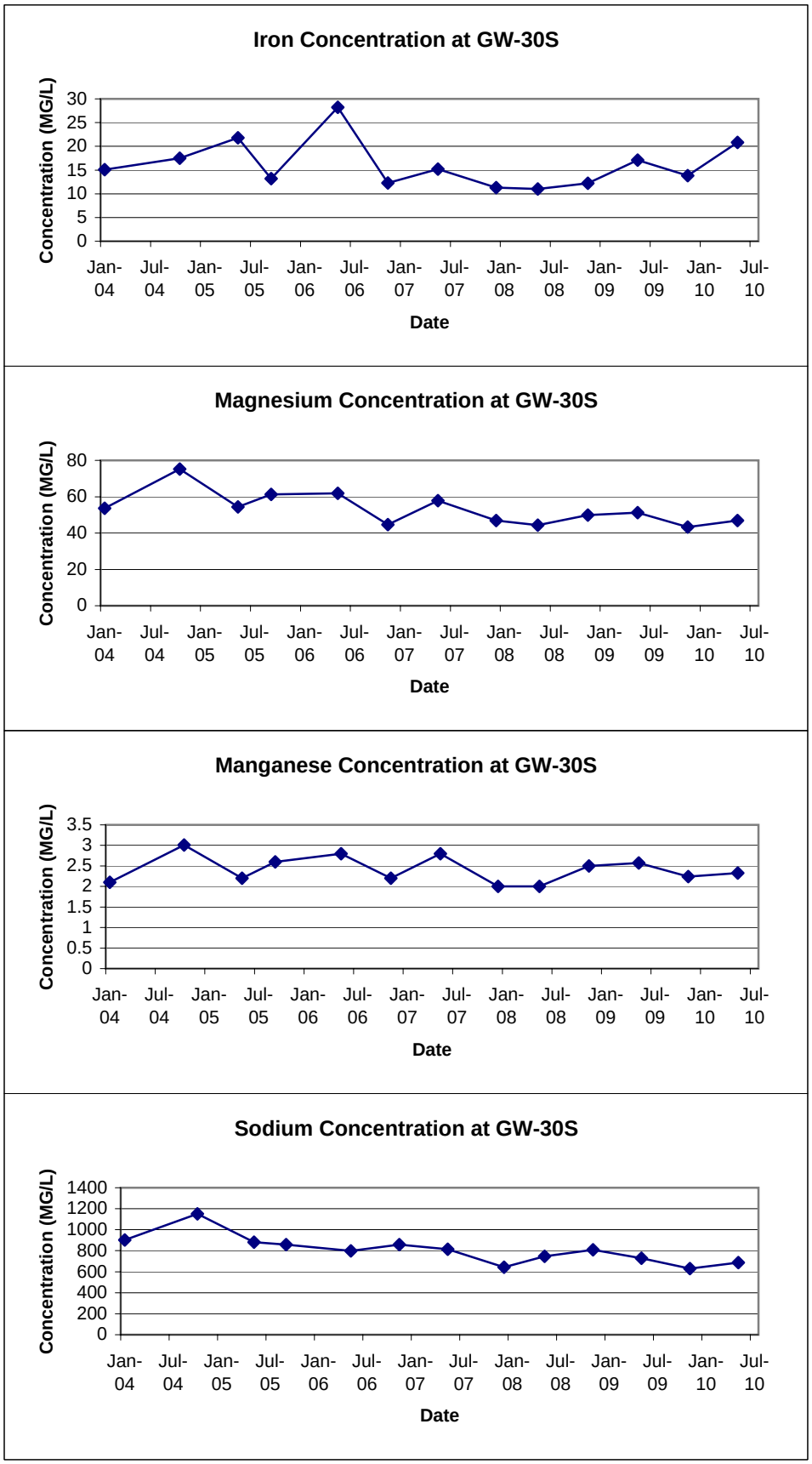


FIGURE E-15
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-31S

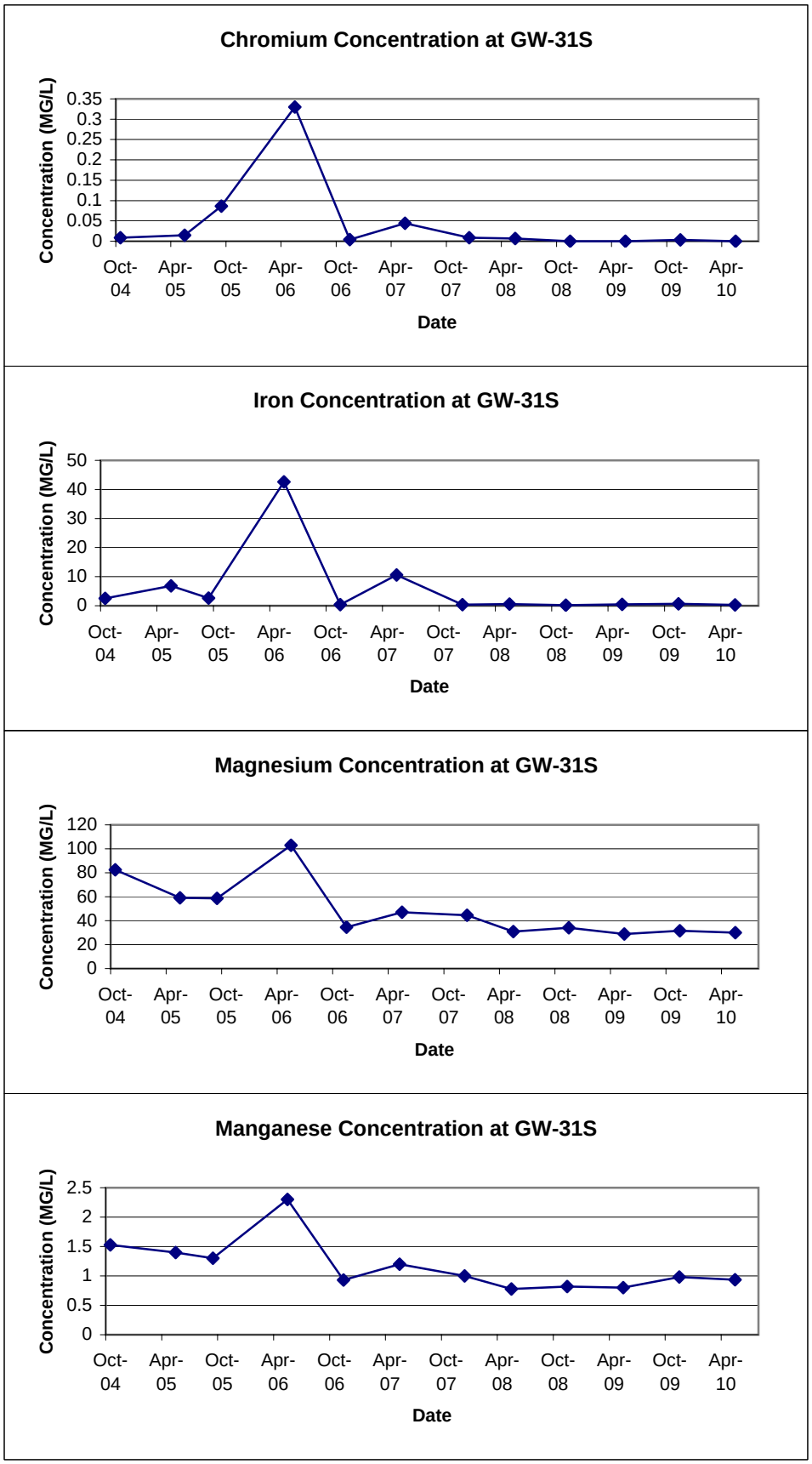


FIGURE E-16
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-32S

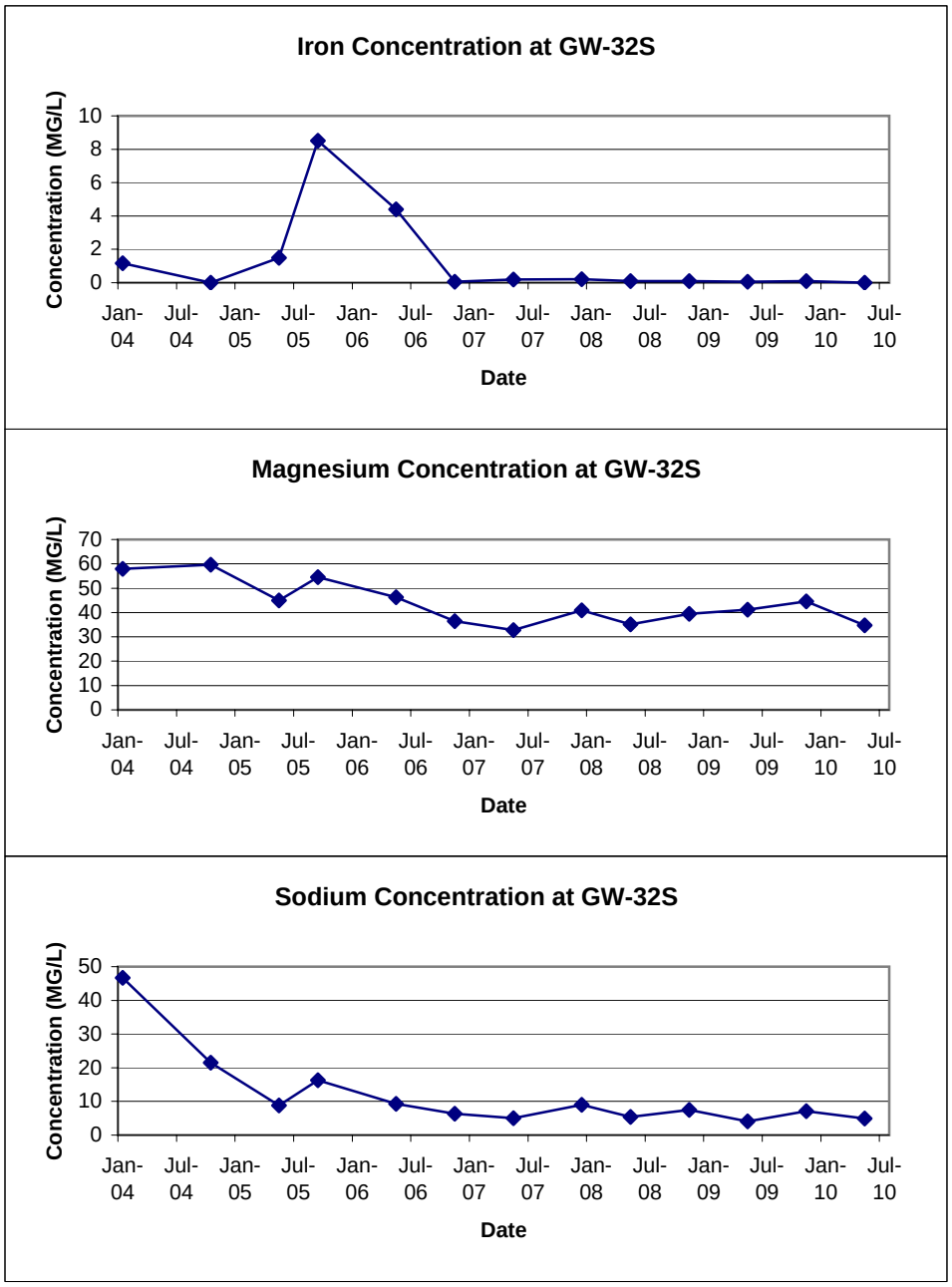


FIGURE E-17
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-33S

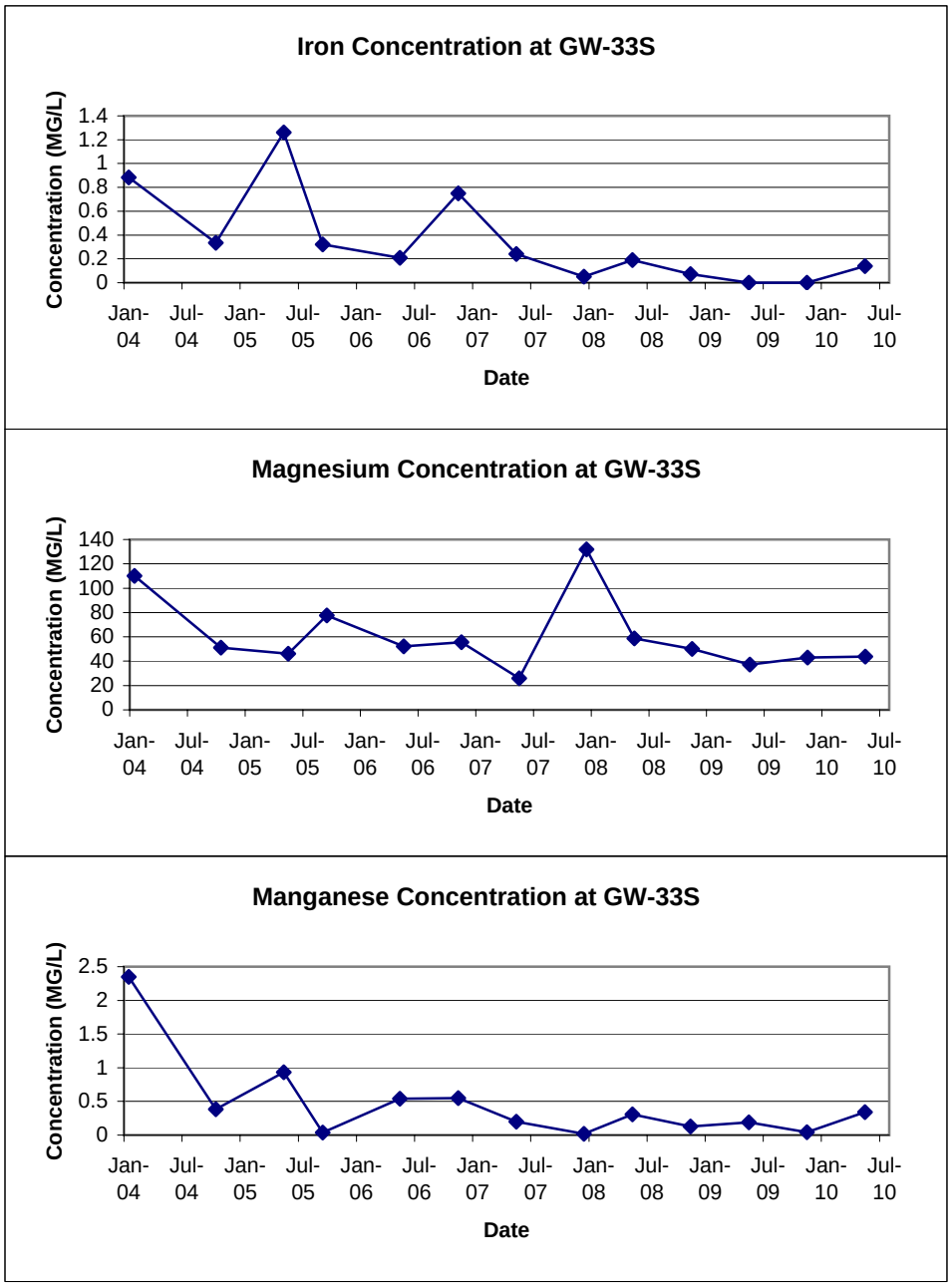


FIGURE E-18
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-34S

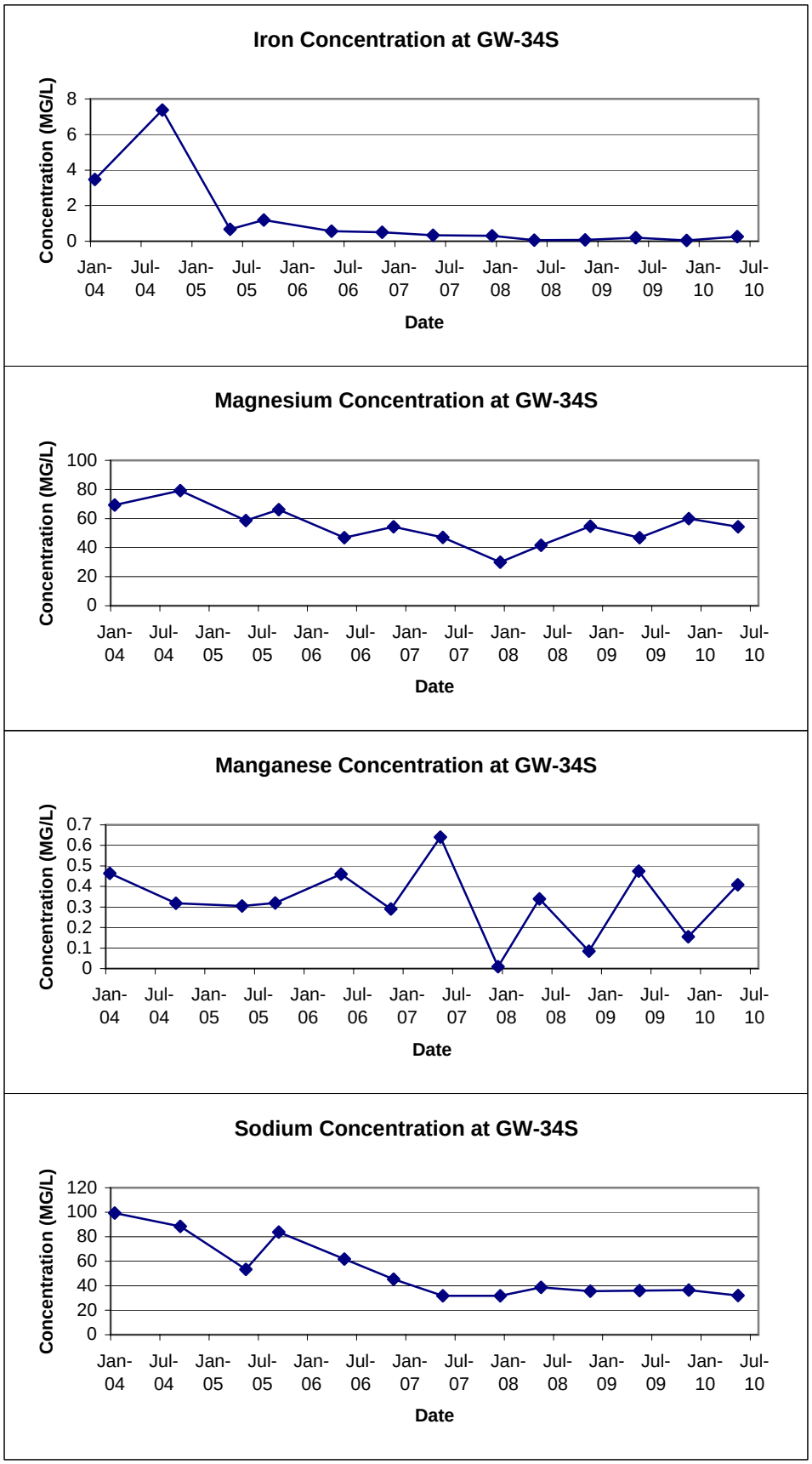
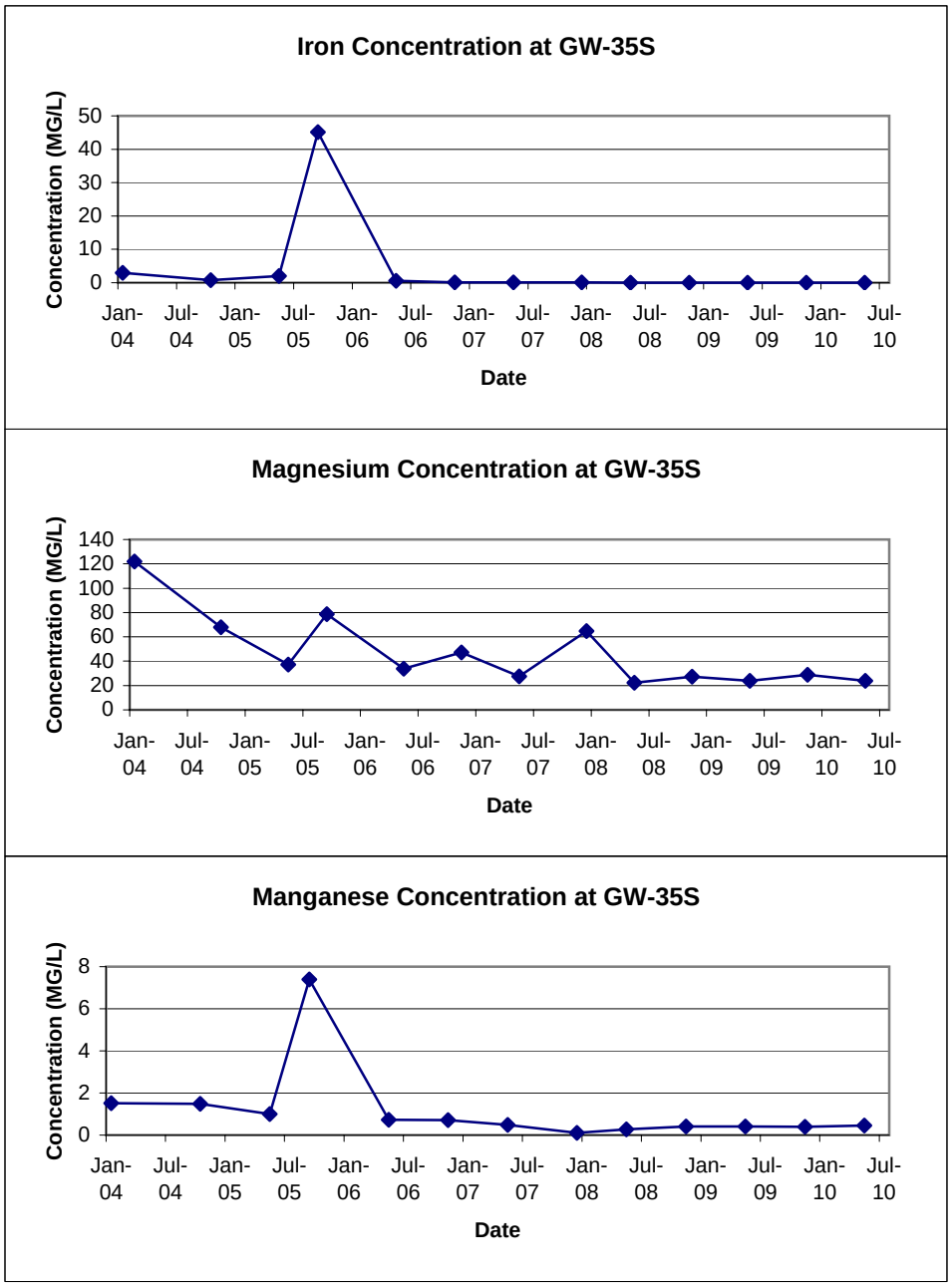


FIGURE E-19
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-35S



APPENDIX F

BSA PERMIT NO. 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 Point	Parameter	Discharge Limitations[1] Daily Max	Sampling Requirements Period	Type
001	Total Mercury	0.001 lbs.	1 day	Composite[2]
	USEPA Test Method 608[4]	To be monitored	1 day	Grab[3]
	USEPA Test Method 624[4]	To be monitored	1 day	Grab[3]
	USEPA Test Method 625[4]	To be monitored	1 day	Grab[3]

Footnotes are explained on page 5.

PART I: SPECIFIC CONDITIONS

B. DISCHARGE MONITORING REPORTING REQUIREMENTS

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

Sample		**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.

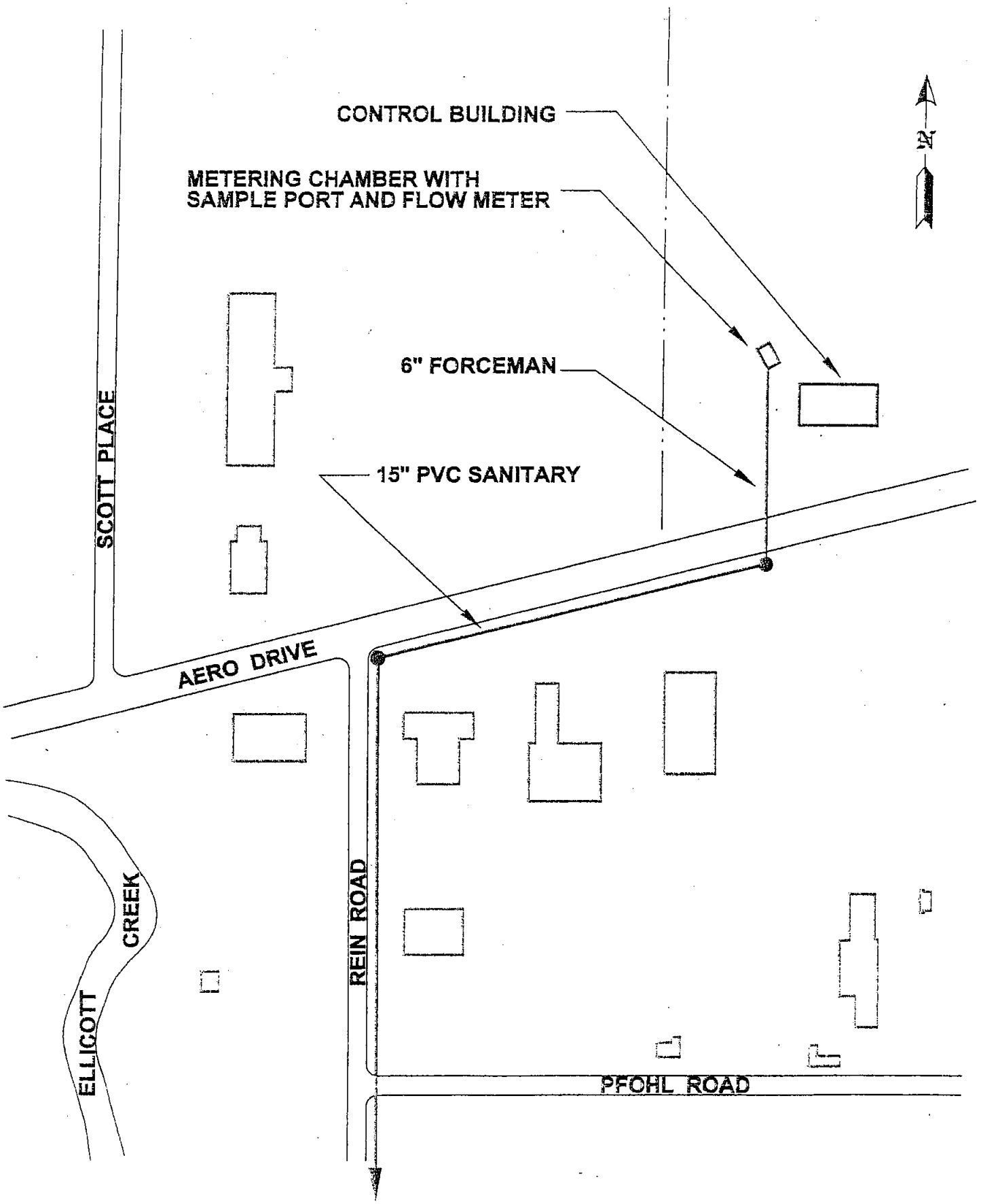
2. Composite samples may be time proportioned.

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: 3/25/10 Crew: R. Murphy, R. Piurek, T. Ifkovich

Weather: 40° F, cloudy, light rain

Sampling Device: NA

Time of Installation: 10:40 Type of Sample: Composite

Sample Interval: NA Sample Volume: NA

Comments and Observations: Wells WW-01 and WW-5 were running at the time of sample setup.
PLC display volumes: WW-01 (1,097,869 gals), WW-02 (13,788 gals), WW-03 (65 gals),
WW-04 (444,033 gals), WW-05 (4,532,161 gals), WW-06 (4,425,596 gals) & MH-25 (10,531,739 gals).

Date: 3/26/10 Crew: R. Murphy, R. Piurek, T. Ifkovich

Weather: 28° F, clear

Time of Collection: 10:50

Field Measurements:

10:55/RJM
(time/initial)

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

pH Measurement: 7.0

Temperature: 7.5°C

Identification: EFF-032610

Physical Observations:

Laboratory: TestAmerica, Buffalo, NY

Comments: Wells WW-01 and WW-5 were running at the time of sample collection.
PLC display volumes: WW-01 (1,142,801 gals), WW-02 (13,788 gals), WW-03 (65 gals),
WW-04 (444,033 gals), WW-05 (4,585,420 gals), WW-06 (4,425,596 gals) & MH-25 (10,630,269 gals).

Reviewed By: Date:
(Supervisor)

TABLE 1

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

Sample ID	**EFF-032610**			
Matrix	**Effluent Water**			
Date Sampled	**3/26/2010**			
Parameter	**Result**	**Mass Loading**	**Discharge Limitation**	**Violations**
	(mg/L)	**(lbs/day)**	**(lbs/day)**	**(Y/N)**
Total Barium	0.228	0.187	2.34	No
Total Cadmuim	ND [1]	NA [2]	1.17	No
Total Chromium	ND	NA	1.17	No
Total Copper	0.0019	0.002	3.74	No
Total Lead	0.0044	0.004	1.17	No
Total Nickel	0.0033	0.003	3.27	No
Total Zinc	0.0523	0.043	5.84	No
Total Suspended Solids	4.8	NA	250 [3]	No
pH [4]	6.99	NA	5.0 - 12.0	No
Total Flow [5]		98,530	140,000	No

Notes:

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

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

SAMPLING FIELD SHEET

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: 6/15/10 Crew: R. Murphy, T. Ifkovich, M. Kandefer

Weather: 79° F, mostly clear

Sampling Device: NA

Time of Installation: 13:55 Type of Sample: Composite

Sample Interval: NA Sample Volume: NA

Comments and Observations: Well WW-5 was running at the time of sample setup.
PLC display volumes: WW-01 (1,839,370 gals), WW-02 (45,596 gals), WW-03 (65 gals),
WW-04 (785,133 gals), WW-05 (5,568,914 gals), WW-06 (5,098,601 gals) & MH-25 (13,353,815 gals).

Date: 6/16/10 Crew: R. Murphy, T. Ifkovich, M. Kandefer

Weather: 80° F, partly cloudy, windy

Time of Collection: 13:55

Field Measurements:

13:55/RJM
(time/initial)

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

pH Measurement: 7.2

Temperature: 17.9°C

Identification: EFF-061610

Physical Observations:

Laboratory: TestAmerica, Buffalo, NY

Comments: Wells WW-01 and WW-5 were running at the time of sample collection.
PLC display volumes: WW-01 (1,839,370 gals), WW-02 (45,596 gals), WW-03 (65 gals),
WW-04 (785,133 gals), WW-05 (5,598,858 gals), WW-06 (5,098,601 gals) & MH-25 (13,384,255 gals).

Reviewed By: Date:
(Supervisor)

TABLE 1

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

Sample ID	**EFF-061610**			
Matrix	**Effluent Water**			
Date Sampled	**6/16/2010**			
Parameter	**Result**	**Mass Loading**	**Discharge Limitation**	**Violations**
	(mg/L)	**(lbs/day)**	**(lbs/day)**	**(Y/N)**
Total Barium	0.269	0.068	2.34	No
Total Cadmuim	ND [1]	NA [2]	1.17	No
Total Chromium	ND	NA	1.17	No
Total Copper	0.0021	0.001	3.74	No
Total Lead	ND	NA	1.17	No
Total Nickel	0.0064	0.002	3.27	No
Total Zinc	0.014	0.004	5.84	No
Total Suspended Solids	ND	NA	250 [3]	No
pH [4]	6.99	NA	5.0 - 12.0	No
Total Flow [5]		30,440	140,000	No

Notes:

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

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

APPENDIX H

MONITORING WELL INSPECTION LOGS

WELL INSPECTION SUMMARY

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

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

Date(s) of Inspection: *May 25, 2010*

Well I.D. Number	*Lock*	*Surface Seal*	*Protective Casing*	*Riser*	*Water Level (ft. BTOC)*	*Well Depth (ft. BTOC)*	*Other Comments*
GW-1S	OK	OK	OK	Bulged	4.52	14.94	
GW-1D	OK	OK	OK	Bulged	3.32	39.65	Replaced Lock
GW-3S	OK	OK	OK	OK	3.13	13.23	
GW-3D	OK	OK	OK	OK	2.35	35.7	
GW-4S	OK	OK	OK	OK	4.78	16.23	
GW-4D	OK	OK	OK	OK	13.37	45.57	
GW-7S	OK	OK	OK	OK	5.20	35.04	
GW-7D	OK	OK	OK	Damaged	43.20	60.45	

Additional Comments: _____

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WELL INSPECTION SUMMARY

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

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

Date(s) of Inspection: *May 25, 2010*

Well I.D. Number	*Lock*	*Surface Seal*	*Protective Casing*	*Riser*	*Water Level (ft. BTOC)*	*Well Depth (ft. BTOC)*	*Other Comments*
GW-8SR	OK	OK	OK	OK	5.39	13.03	
GW-8D	OK	OK	OK	OK	6.33	36.54	
GW-26D	OK	OK	OK	OK	7.17	40.72	
GW-28S	OK	OK	OK	OK	9.53	15.53	
GW-29S	OK	OK	OK	OK	8.79	19.96	
GW-30S	OK	OK	OK	OK	8.14	17.95	
GW-31S	OK	OK	OK	OK	3.76	9.57	
GW-32S	OK	OK	OK	OK	4.04	9.92	

Additional Comments: _____

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WELL INSPECTION SUMMARY

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

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

Date(s) of Inspection: *May 25, 2010*

Well I.D. Number	*Lock*	*Surface Seal*	*Protective Casing*	*Riser*	*Water Level (ft. BTOC)*	*Well Depth (ft. BTOC)*	*Other Comments*
GW-33S	OK	OK	OK	OK	5.50	8.18	
GW-34S	OK	OK	OK	OK	3.27	10.00	
GW-35S	OK	OK	OK	OK	4.26	7.47	

Additional Comments: _____

_____

_____

ATTACHMENT B

July 2010 – December 2010

Semi Annual Report

URS

February 23, 2011

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

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

Dear Mr. Walia:

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

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

Sincerely,

URS CORPORATION

Jon Sundquist, Ph.D.
Project Manager

Enclosures

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

URS Corporation
77 Goodell St.
Buffalo, NY 14203
Tel: 716.856.5636
Fax: 716.856.2545

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

Submitted to:

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

Prepared by:

URS CORPORATION
77 GOODELL STREET
BUFFALO, NEW YORK 14203

Prepared for:

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

FEBRUARY
2010

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TABLES

FIGURES

APPENDICES

1.0 INTRODUCTION

1.1 Background

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

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

1.2 Operation and Maintenance Activities

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

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

2.0 GENERAL MAINTENANCE ACTIVITIES

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

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

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

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

- Plowed snow to access the Control Building when necessary.

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

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

- Repaired defective discharge piping for WW-4.

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

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

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

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

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

3.0 MONITORING ACTIVITIES

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

3.1 Groundwater Hydraulic Monitoring

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

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

3.2 Groundwater Quality Monitoring

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

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

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

Results

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

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

Comparison to Historical Results

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

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

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

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

Trend Analysis

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

Laboratory Report

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

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

3.3 Groundwater Discharge Monitoring

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

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

3.4 Monitoring Well Inspections

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

4.0 SUMMARY AND RECOMMENDATIONS

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

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

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

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

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

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TABLES

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

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

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds

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

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

Only Detected Results Reported.

N:\11172700.00000\GIS\dB\Program\EDMS.md
Printed: 2/17/2011 4:18:59 PM
[LOGDATE] BETWEEN #11/01/2010# AND #11/03/2010# AND ([SACODE] = 'N' OR [SACODE] = 'FD

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

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

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds

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

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

Only Detected Results Reported.

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

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

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds

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

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

Only Detected Results Reported.

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

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

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds

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

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

Only Detected Results Reported.

TABLE 3-2

APPROVED REVISION OF TABLE 3.2 FROM THE O&M PLAN

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

LOCATIONS

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

FREQUENCY

semi-annually for overburden and bedrock groundwater

PARAMETERS

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

TABLE 3-2 (continued)

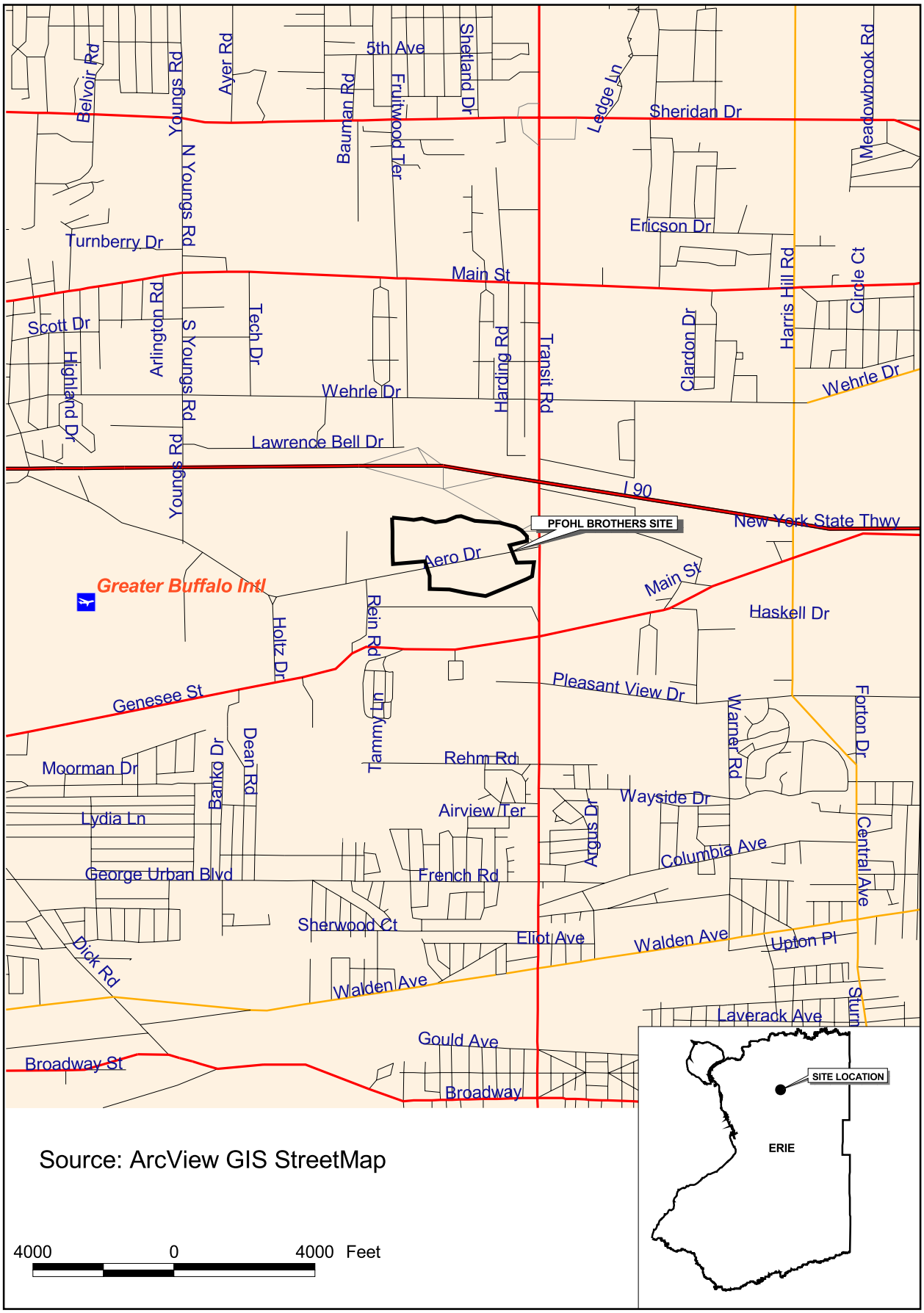
APPROVED REVISION OF TABLE 3.2 FROM THE O&M PLAN

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

PARAMETERS (cont'd)

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

FIGURES



URS	PFOHL BROTHERS LANDFILL SITE LOCATION MAP	FIGURE 1-1

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

Legend

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

400 0 400 Feet

PFOHL BROTHERS LANDFILL
MONITORING LOCATIONS

URS

FIGURE 3-1

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

APPENDIX A

EXAMPLE DAILY INSPECTION SHEETS

Pfohl Brothers Landfill Site

Daily Logsheet — **Town of Cheektowaga**

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

Time: 12:50 — Read by: BILL PUGH

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

Flow Totalizer at Meter chamber: 13,862,636

Heat Trace

Outside temp T = 71

Current A = 0

Set point SP = 40

Surge Suppressor events: 414,386

Motor Control Center

Volts 480 volts

Amps 2 amps

Which WW was running?

1☐ 2☐ 3☐ 4☐ 5☐ 6☐

Filter **Checked** ☐ **Changed** ☐

Comments and/or Current Conditions

RESET FLOW ALARM WW3

RESET LEVEL ALARM WW4 - WOULD NOT RESET

Pfohl Brothers Landfill Site

Daily Logsheet — **Town of Cheektowaga**

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

Time: 1:05 — Read by: BILL PUGH

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

Flow Totalizer at Meter chamber: 14,773539

Heat Trace

Outside temp T = 85

Current A = 0

Set point SP = 40

Surge Suppressor events: 414,397

Motor Control Center

Volts 475 volts

Amps 5 amps

Which WW was running?

1☐ 2☐ 3☐ 4☐ 5☐ 6☐

Filter **Checked** ☐ **Changed** ☐

Comments and/or Current Conditions

RESET ALARMS (OK)

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

Pfohl Brothers Landfill Site

Daily Logsheet — Town of Cheektowaga

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

Time: 1:40 PM — Read by: BILL P.

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

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

Heat Trace

Outside temp T = 68

Current A = 0

Set point SP = 40

Large Suppressor events: 414,405

Motor Control Center

Volts 480 volts

Amps 2 amps

Which WW was running?

1☐ 2☐ 3☐ 4☐ 5☐ 6☐ NONE

Filter **Checked** ☐ **Changed** ☐

Comments and/or Current Conditions

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

MOWING CONTRACTOR ON SITE - N. SIDE

APPENDIX B

MONTHLY FLOW SUMMARIES
JULY 2010 – DECEMBER 2010

THE TOWN OF
CHEEKTOWAGA

JON W. NICHY
Superintendent

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

August 11, 2010

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

Re: Pfohl Bros. Flow Data

Dear Mr. Pugh,

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

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

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

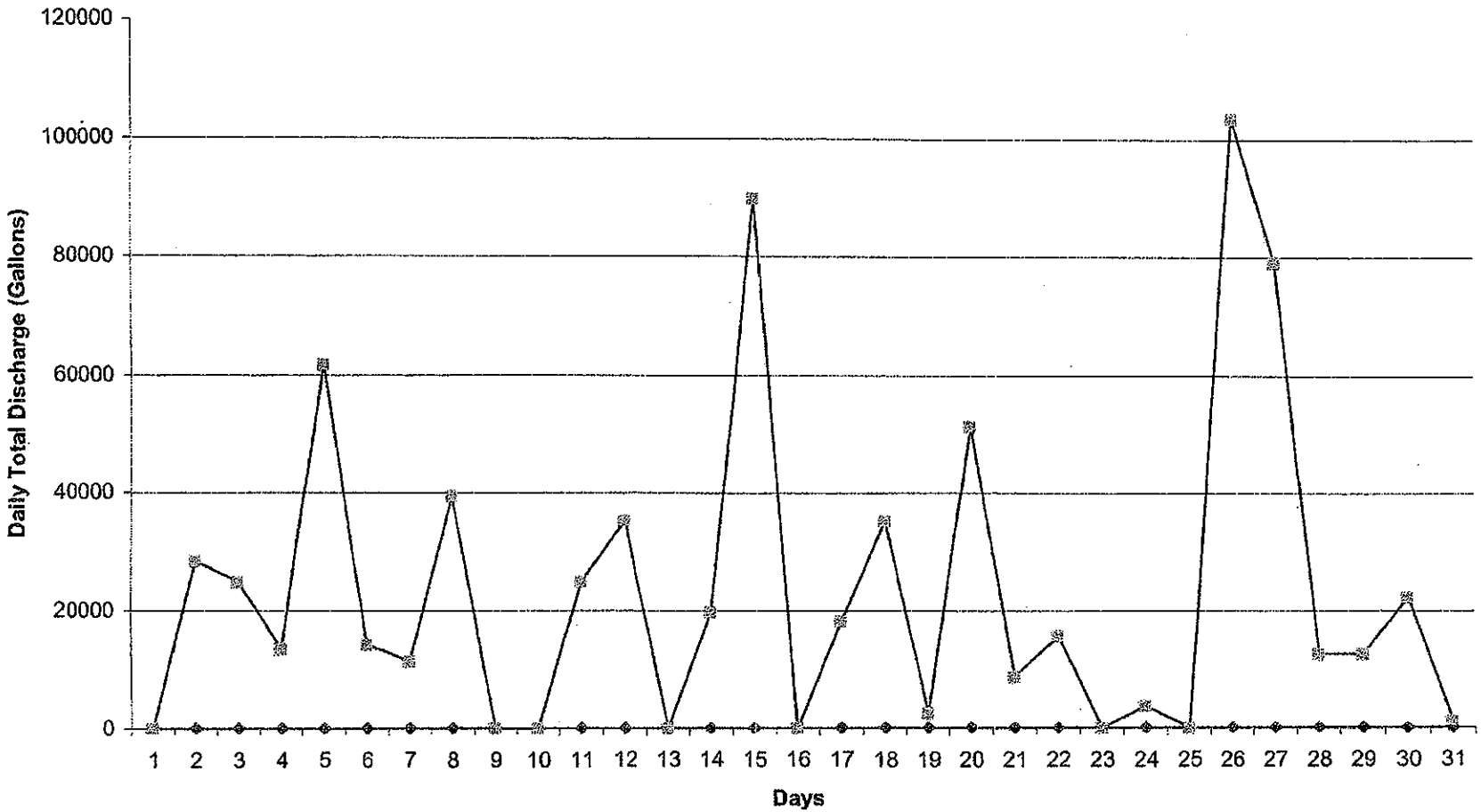
Yours truly,
Town of Cheektowaga

Jon W. Nichy
Superintendent
Main Pump Station

Direct Discharge Flow Data

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

Pfohl Bros.
July
2010



PFOHL BROTHERS LANDFILL SITE
CHEEKTOWAGA, NEW YORK

Auto Dialer System Log

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

THE TOWN OF
CHEEKTOWAGA

JON W. NICHY
Superintendent

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

September 1, 2010

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

Re: Pfohl Bros. Flow Data

Dear Mr. Pugh,

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

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

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

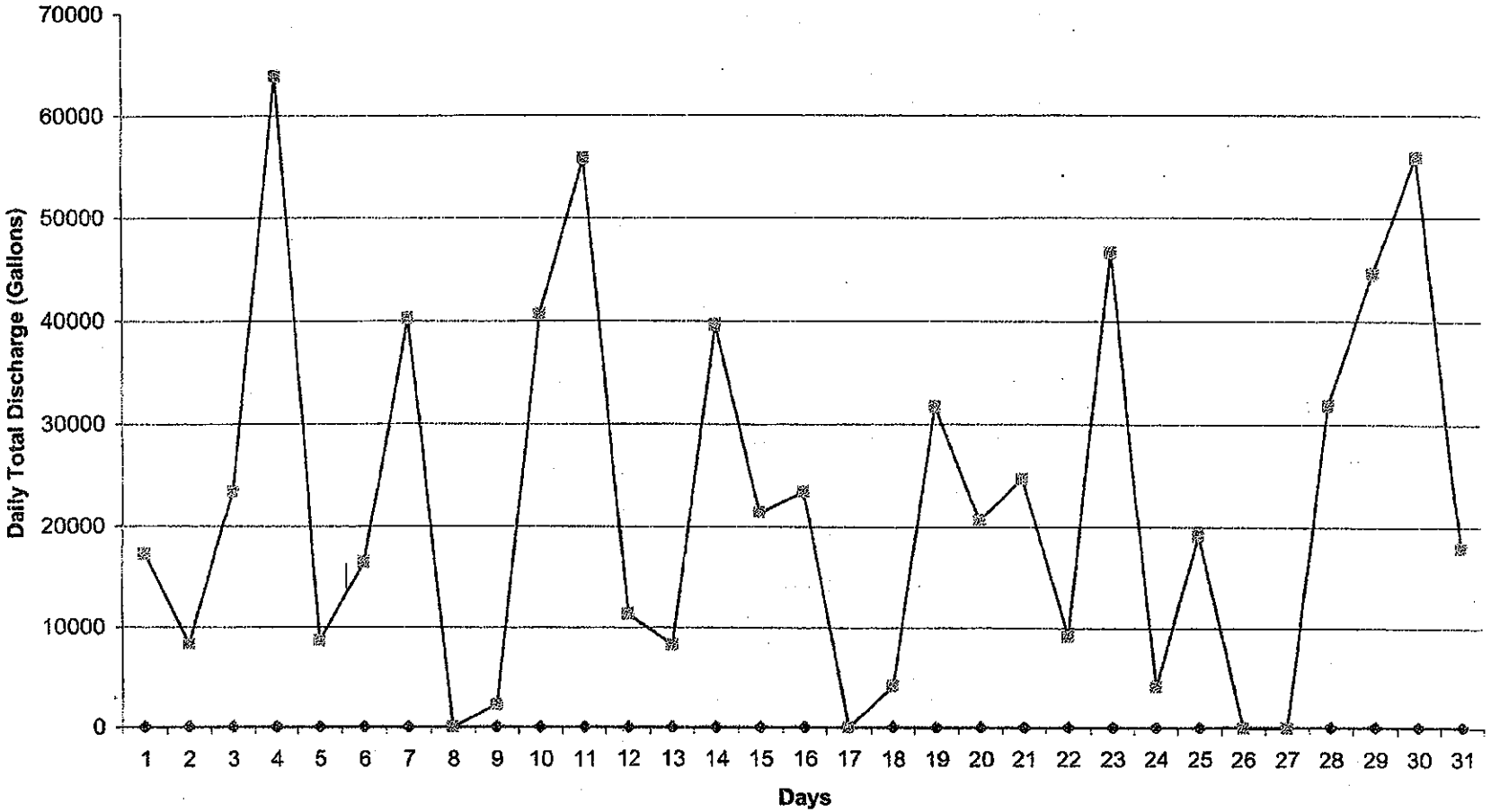
Yours truly,
Town of Cheektowaga

Jon W. Nichy
Superintendent
Main Pump Station

Direct Discharge Flow Data

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

Pfohl Bros.
August
2010



THE TOWN OF
CHEEKTOWAGA

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

JON W. NICHY
Superintendent

October 5, 2010

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

Re: Pfohl Bros. Flow Data

Dear Mr. Pugh,

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

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

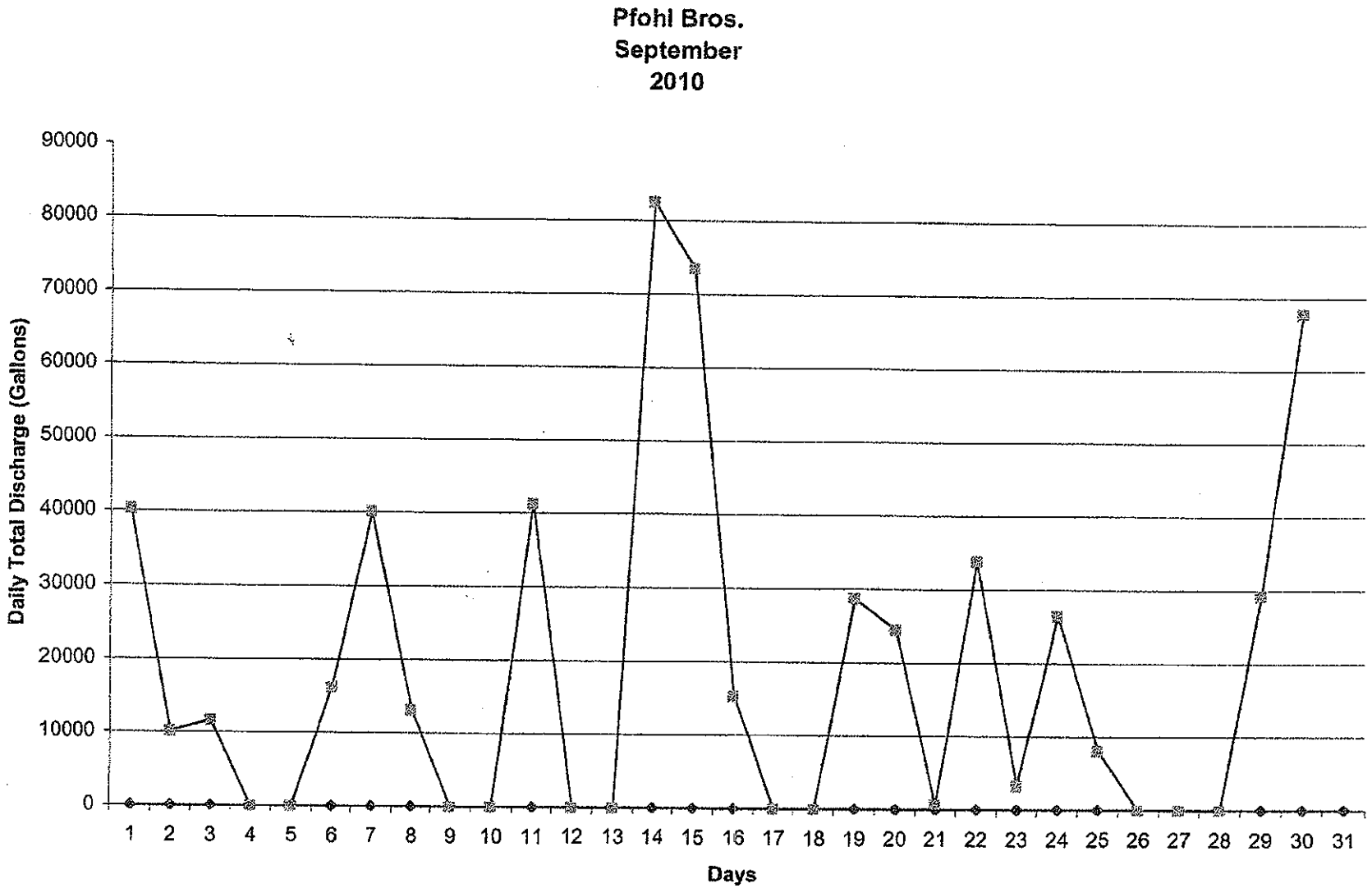
Should you have any other questions or comments regarding this submittal, please contact this office @ 896-1777.

Yours truly,
Town of Cheektowaga

Jon W. Nichy
Superintendent
Main Pump Station

Direct Discharge Flow Data

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


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

THE TOWN OF
CHEEKTOWAGA

JON W. NICHY
Superintendent

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

November 11, 2010

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

Re: Pfohl Bros. Flow Data

Dear Mr. Pugh,

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

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

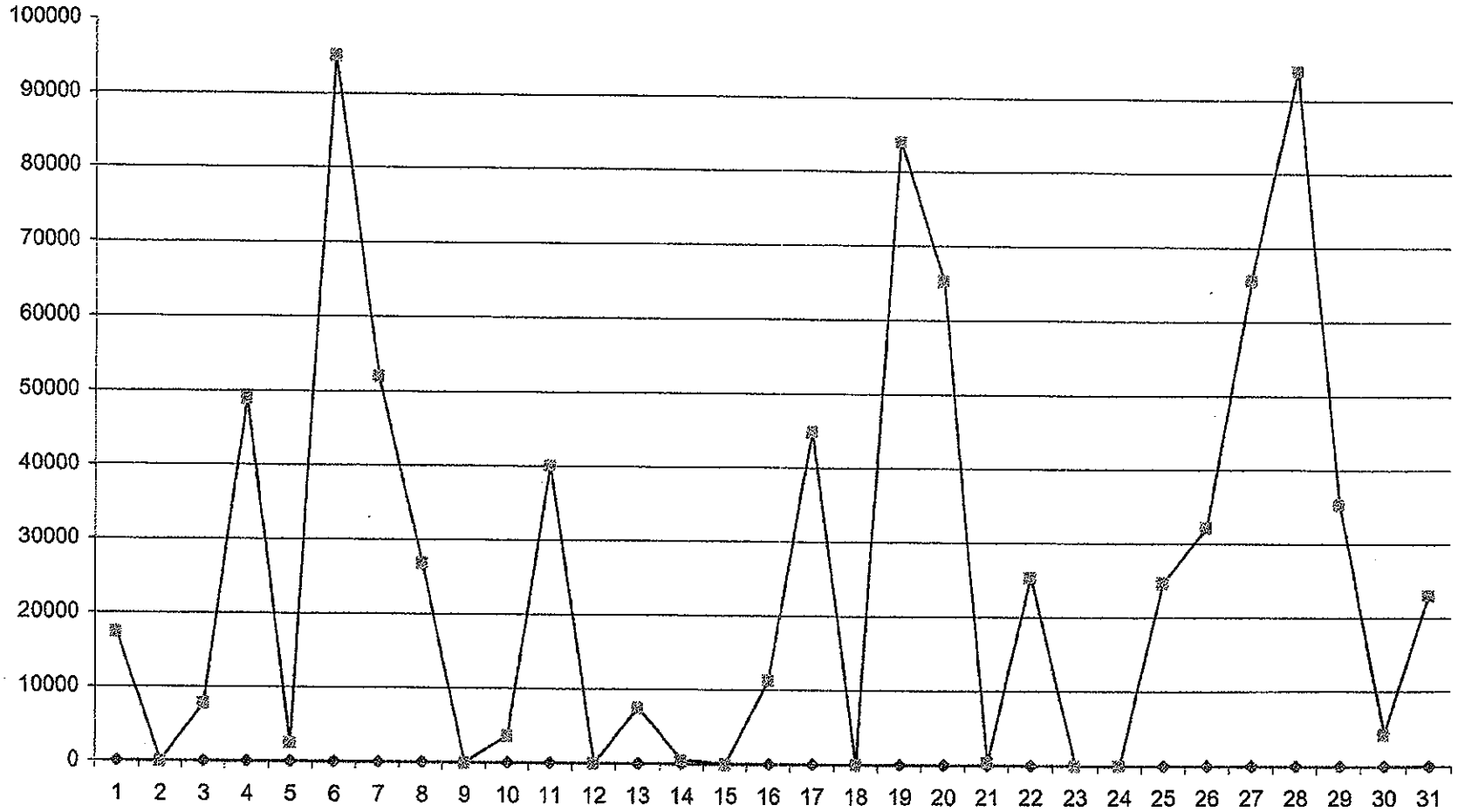
Yours truly,

Jon W. Nichy
Superintendent
Main Pump Station

Direct Discharge Flow Data

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

October
2010



THE TOWN OF
CHEEKTOWAGA

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

JON W. NICHY
Superintendent

December 8, 2010

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

Re: Pfohl Bros. Flow Data

Dear Mr. Pugh,

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

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

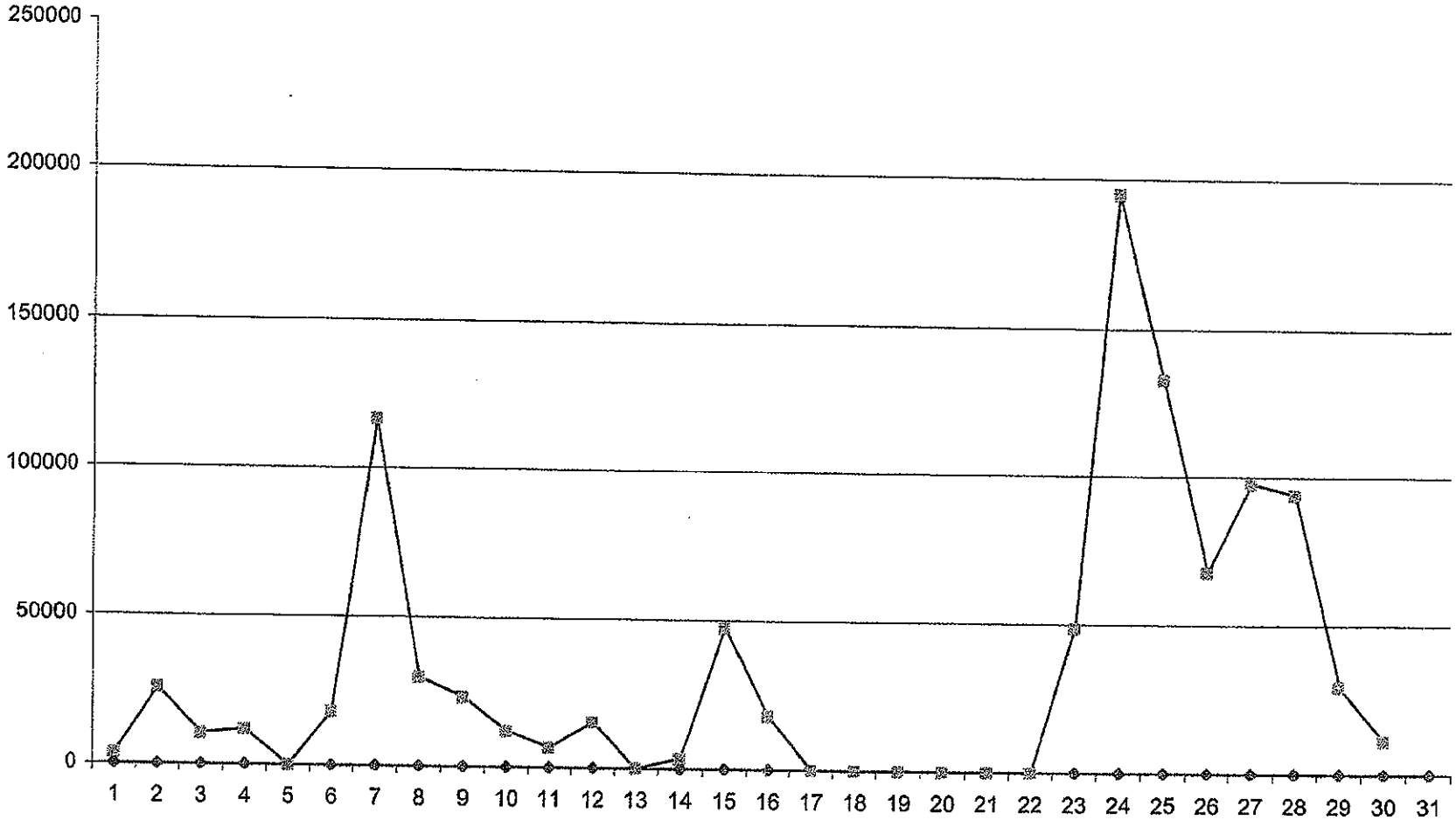
Yours truly,

Jon W. Nichy
Superintendent
Main Pump Station

Direct Discharge Flow Data

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

November
2010



The
TOWN OF
CHEEKTOWAGA

Jon W. Nichy
Superintendent

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

January 5, 2011

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

Re: Pfohl Bros. Flow Data

Dear Mr. Pugh,

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

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

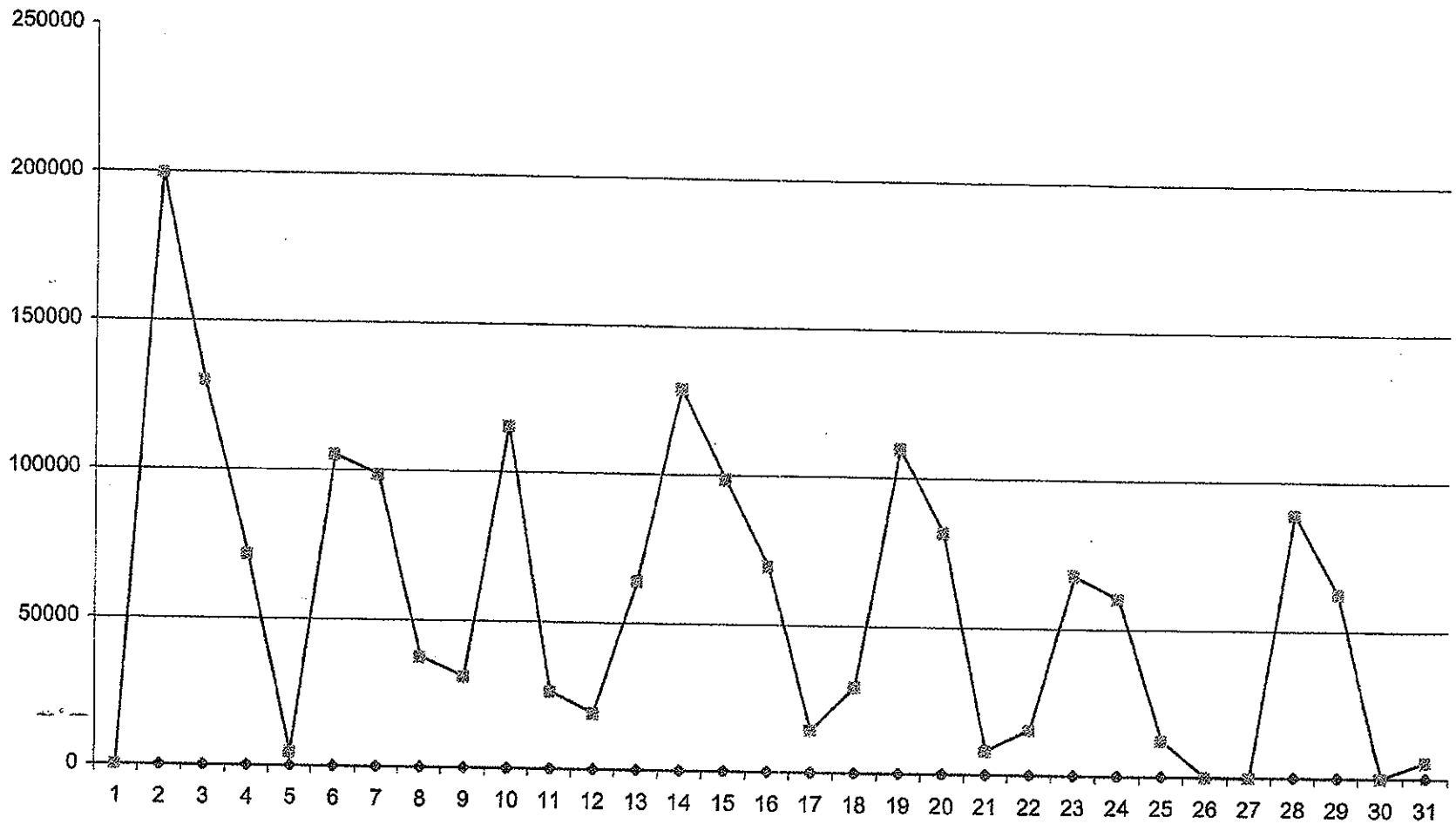
Yours truly,

Jon W. Nichy
Superintendent
Main Pump Station

Direct Discharge Flow Data

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

December
2010



APPENDIX C

HYDRAULIC MONITORING TABLES

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

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

NM - No Measurement

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

Type:

MH	Manhole Monitoring Point
MNW	Monitoring Well
SG	Staff Gauge

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

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

NM - No Measurement

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

Type:

MH	Manhole Monitoring Point
MNW	Monitoring Well
SG	Staff Gauge

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

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

NM - No Measurement

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

Type:

MH	Manhole Monitoring Point
MNW	Monitoring Well
SG	Staff Gauge

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

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

NM - No Measurement

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

Type:

MH	Manhole Monitoring Point
MNW	Monitoring Well
SG	Staff Gauge

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

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

NM - No Measurement

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

Type:

MH	Manhole Monitoring Point
MNW	Monitoring Well
SG	Staff Gauge

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

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

NM - No Measurement

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

Type:

MH	Manhole Monitoring Point
MNW	Monitoring Well
SG	Staff Gauge

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

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

NM - No Measurement

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

Type:

MH	Manhole Monitoring Point
MNW	Monitoring Well
SG	Staff Gauge

TABLE 2
PFOHL BROTHERS LANDFILL SITE
OVERBURDEN HYDRAULIC GRADIENT

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

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

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

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

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

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

Notes:

* = No corresponding monitoring well.

NA = Not applicable

APPENDIX D

GROUNDWATER PURGE AND SAMPLE COLLECTION LOGS

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

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

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

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

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

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

Sample Parameters: VOCs, SVOCs, and TAL Metals

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

PURGE PARAMETERS

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

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

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

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

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

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

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

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information: Sulfur odor
Dark Tint
Turbidity meter malfunctioning.

PURGE PARAMETERS

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

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

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

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

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

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

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

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information:

PURGE PARAMETERS

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

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

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

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

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

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

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

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information:

PURGE PARAMETERS

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

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

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

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

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

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

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

Sample Parameters: VOCs, SVOCs, and TAL Metals

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

PURGE PARAMETERS

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

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

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

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

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

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

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

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information:

PURGE PARAMETERS

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

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

WELL PURGING LOG

URS Corporation

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

PROJECT NO.: 11175616.00000

STAFF: Rob Murphy, Tim Ifkovich

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

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

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

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

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

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

WELL PURGING LOG

URS Corporation

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

PROJECT NO.: 11175616.00000

STAFF: Rob Murphy, Tim Ifkovich

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

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

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

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

COMMENTS:

11:21 - Handbailed the well to dryness.

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

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

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

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

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

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

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

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information:

PURGE PARAMETERS

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

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

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

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

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

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

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

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information:

PURGE PARAMETERS

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

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

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

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

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

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

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

Sample Parameters: VOCs, SVOCs, and TAL Metals

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

PURGE PARAMETERS

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

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

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

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

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

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

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

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information: Turbidity meter malfunctioning.

PURGE PARAMETERS

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

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

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

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

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

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

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

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information: Water red brown at beginning of purge.

PURGE PARAMETERS

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

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

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

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

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

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

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

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information:

PURGE PARAMETERS

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

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

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

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

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

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

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

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information:

PURGE PARAMETERS

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

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

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

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

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

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

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

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information:

PURGE PARAMETERS

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

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

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

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

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

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

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

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information:

PURGE PARAMETERS

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

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

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

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

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

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

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

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information:

PURGE PARAMETERS

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

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

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

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

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

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

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

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information:

PURGE PARAMETERS

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

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

GROUNDWATER SAMPLING - SAMPLE COLLECTION DATA SHEET

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

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

Date of Sampling: *November 1, 2010*

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

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

GROUNDWATER SAMPLING - SAMPLE COLLECTION DATA SHEET

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

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

Date of Sampling: *November 1, 2010*

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

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

GROUNDWATER SAMPLING - SAMPLE COLLECTION DATA SHEET

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

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

Date of Sampling: *November 2, 2010*

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

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

GROUNDWATER SAMPLING - SAMPLE COLLECTION DATA SHEET

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

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

Date of Sampling: *November 2, 2010*

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

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

GROUNDWATER SAMPLING - SAMPLE COLLECTION DATA SHEET

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

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

Date of Sampling: *November 3, 2010*

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

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

APPENDIX E

HISTORICAL ANALYTICAL RESULTS

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

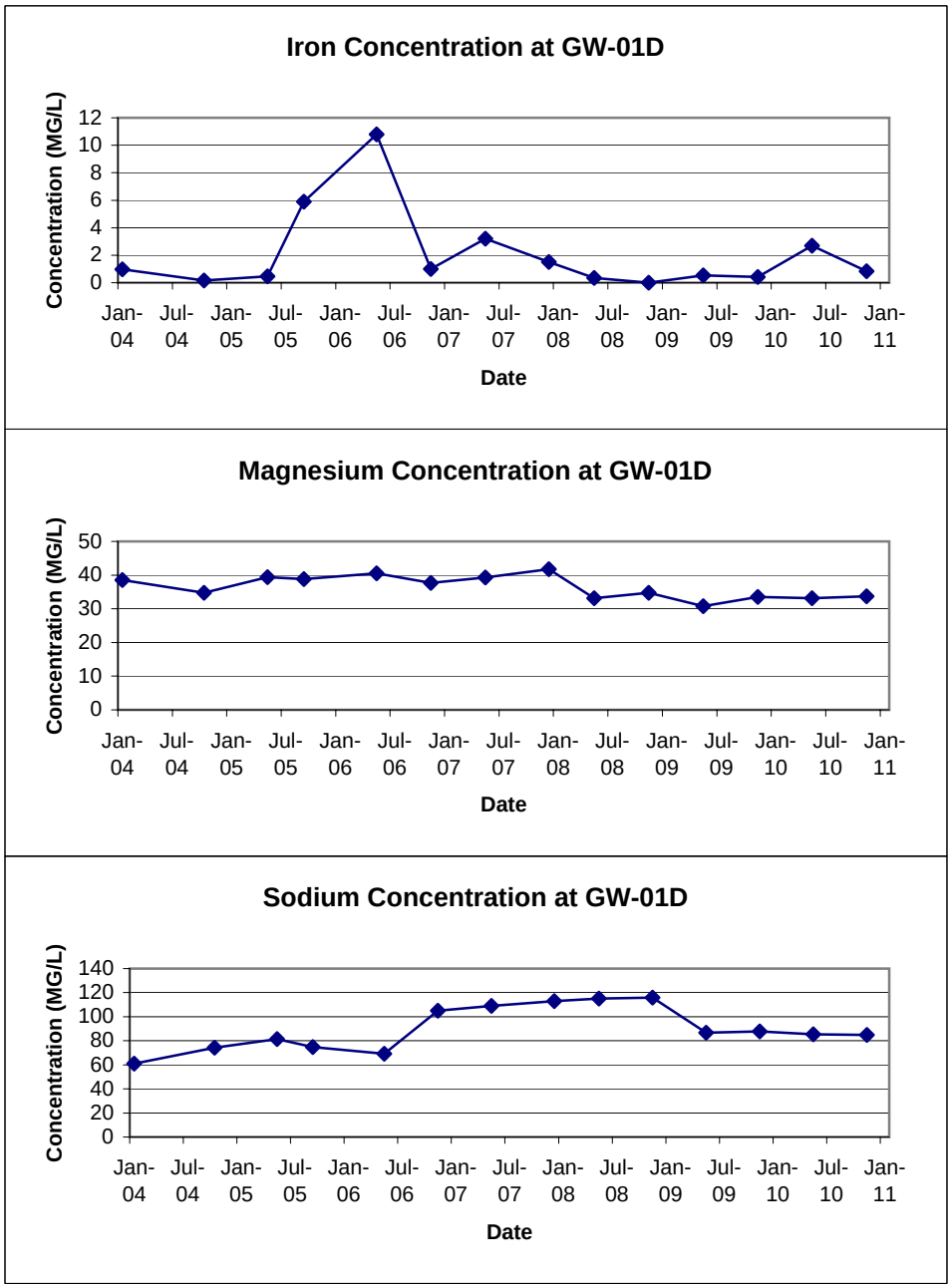


FIGURE E-2
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-1S

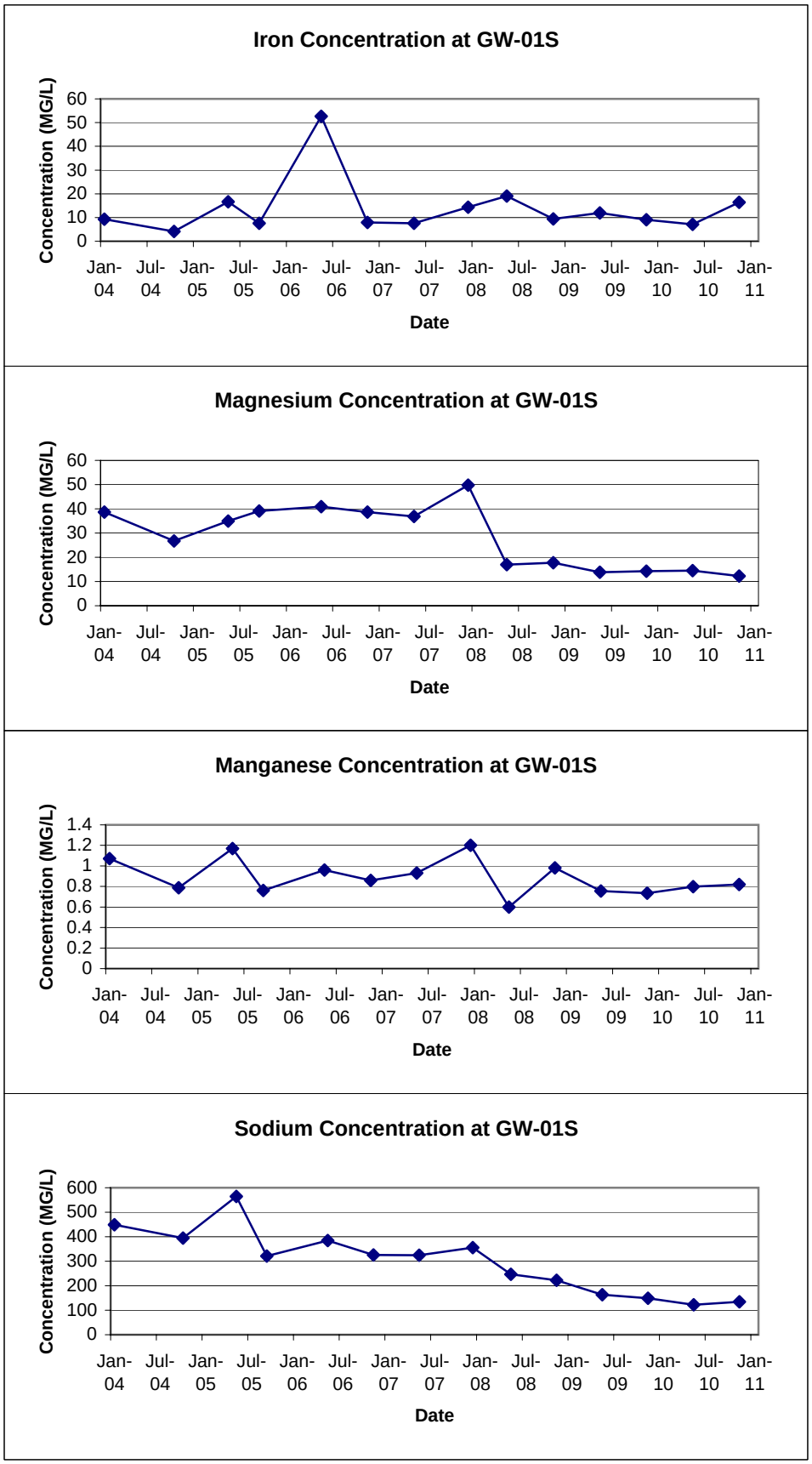


FIGURE E-3
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-3D

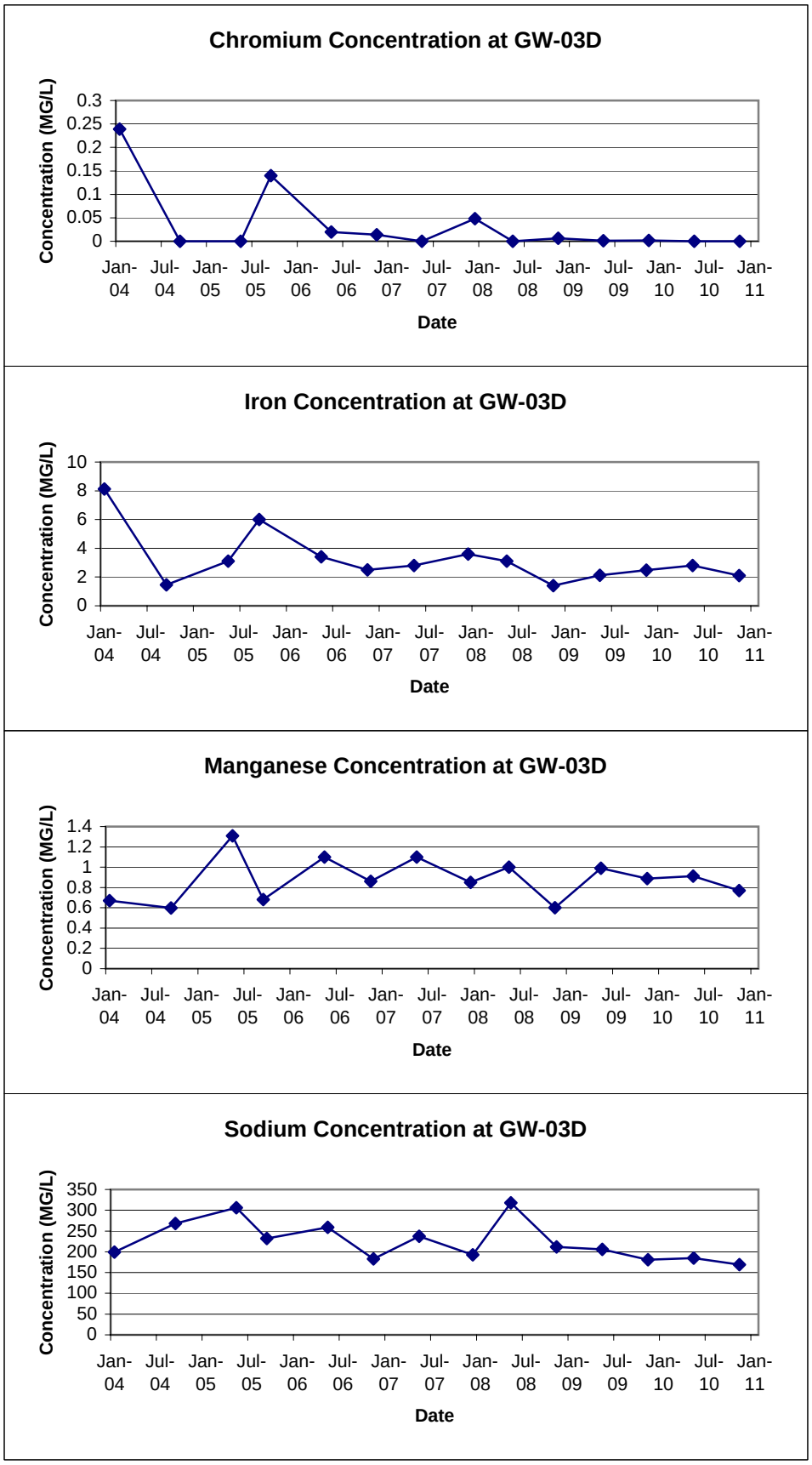


FIGURE E-4
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-3S

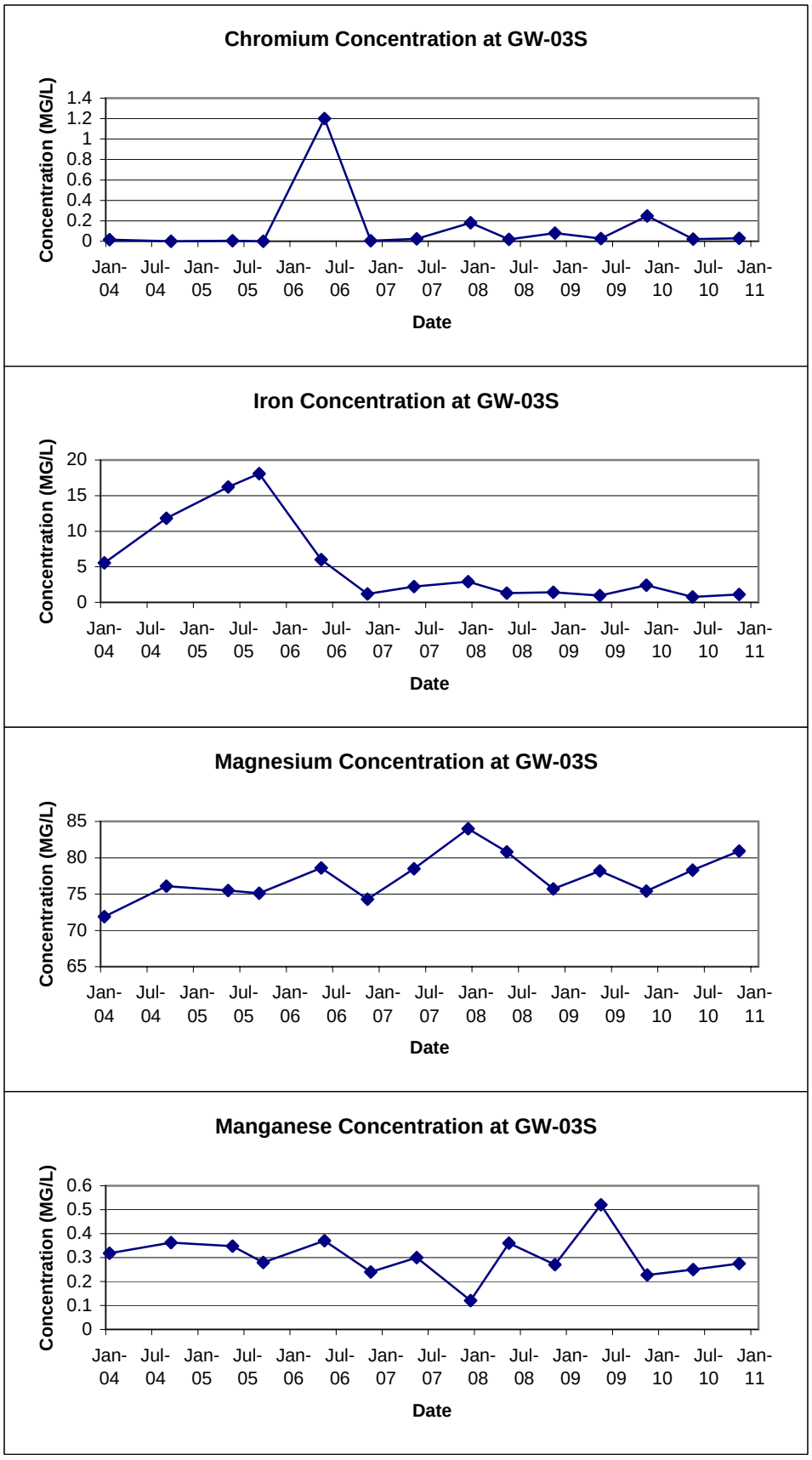


FIGURE E-4
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-3S

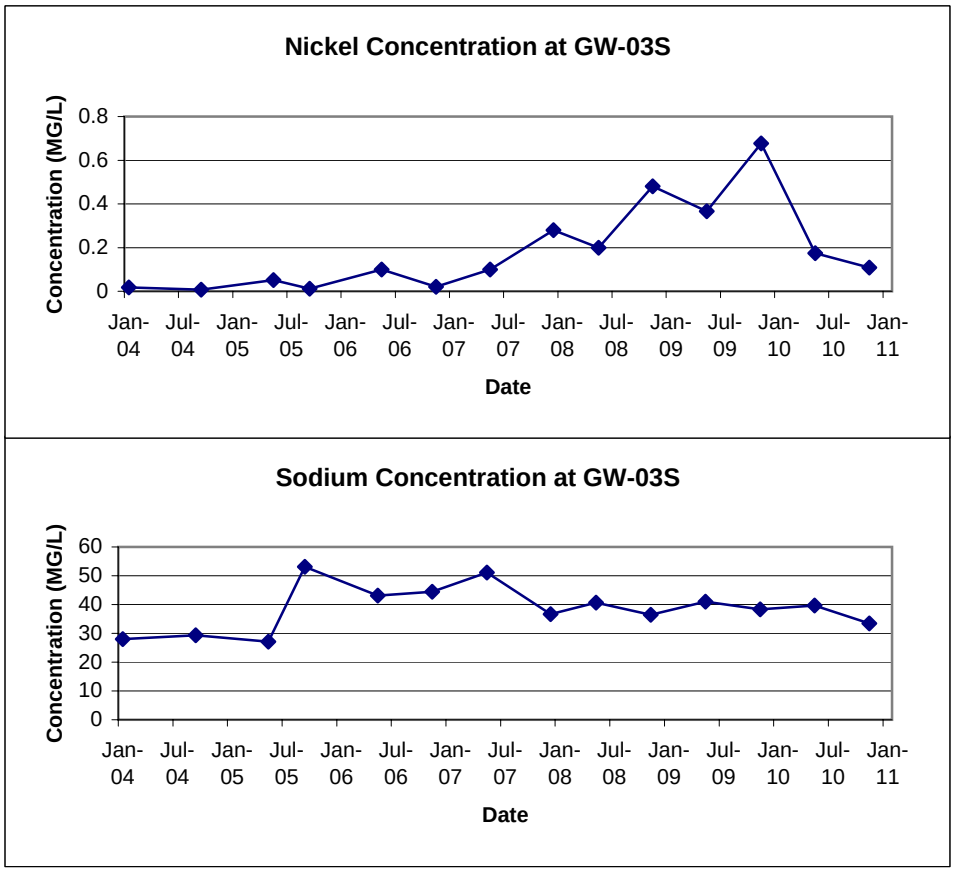


FIGURE E-5
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-4D

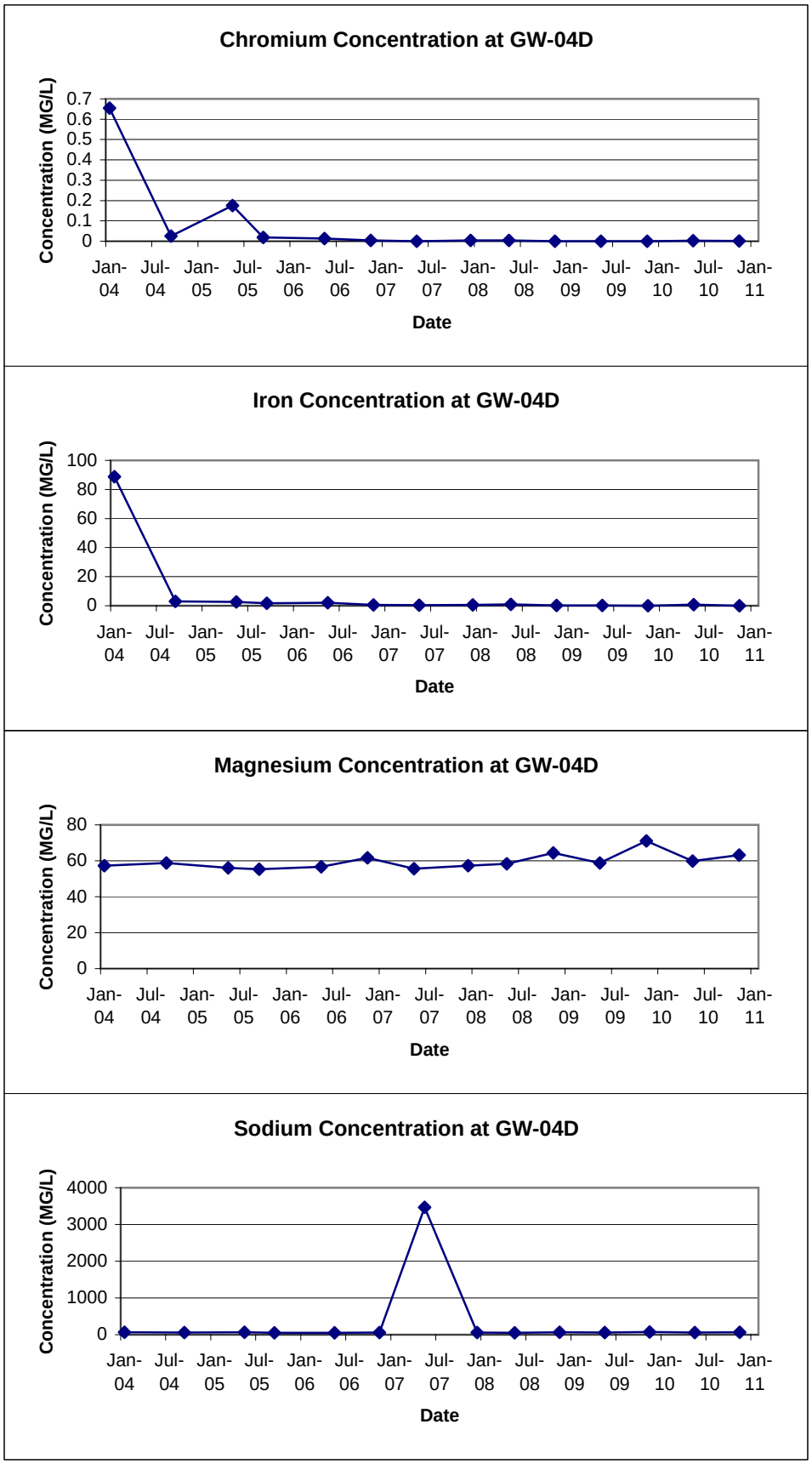


FIGURE E-6
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-4S

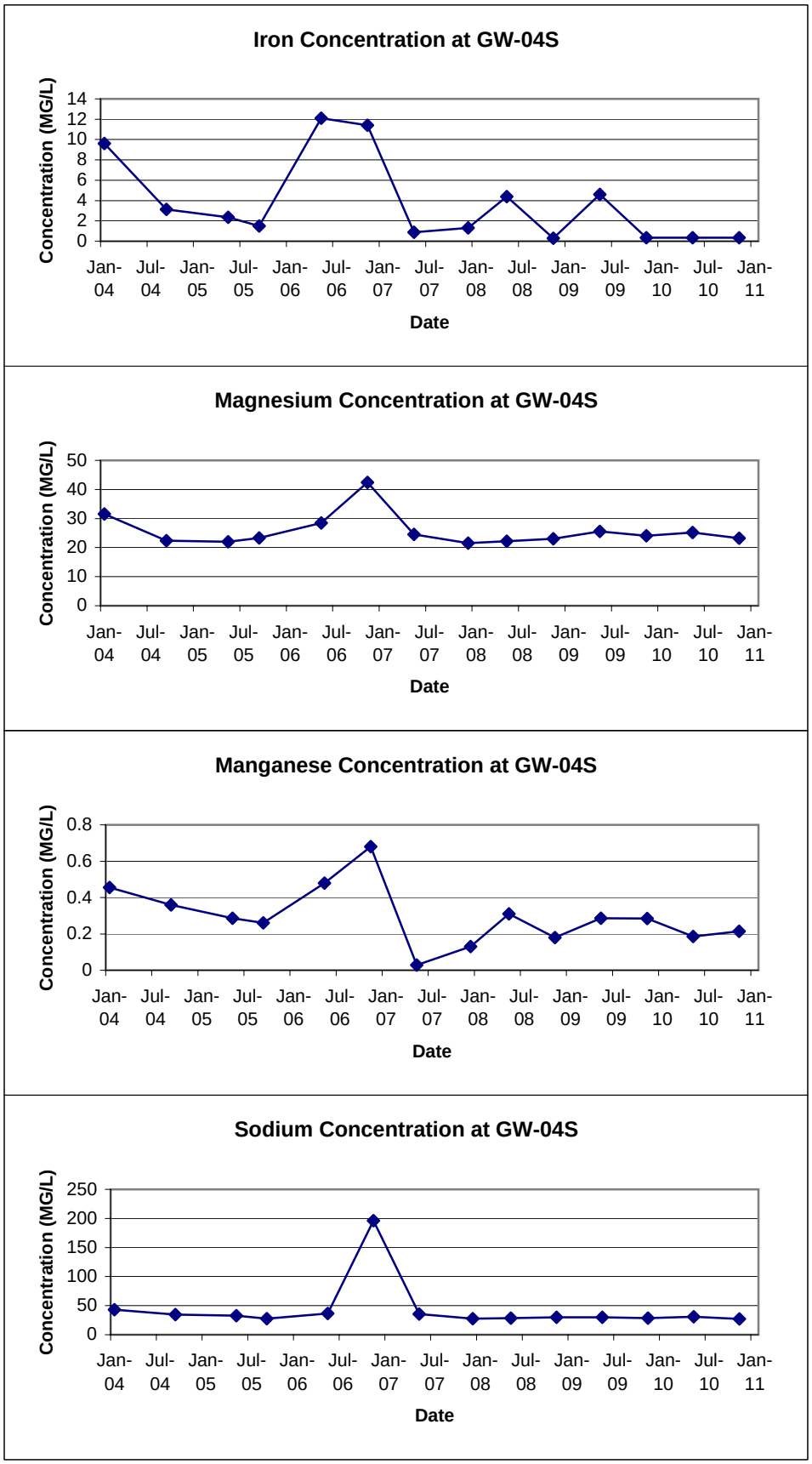


FIGURE E-7
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-7D

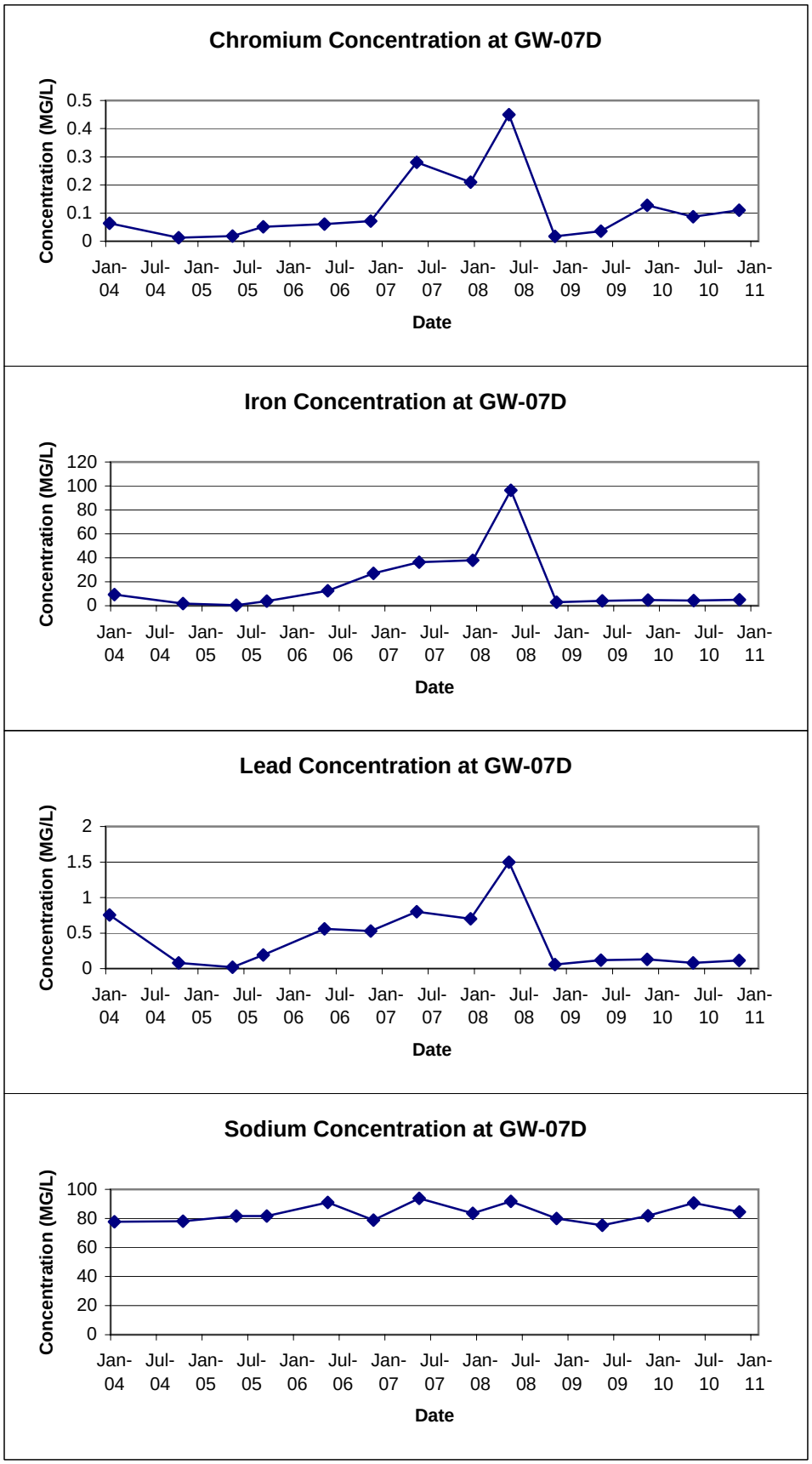


FIGURE E-8
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-7S

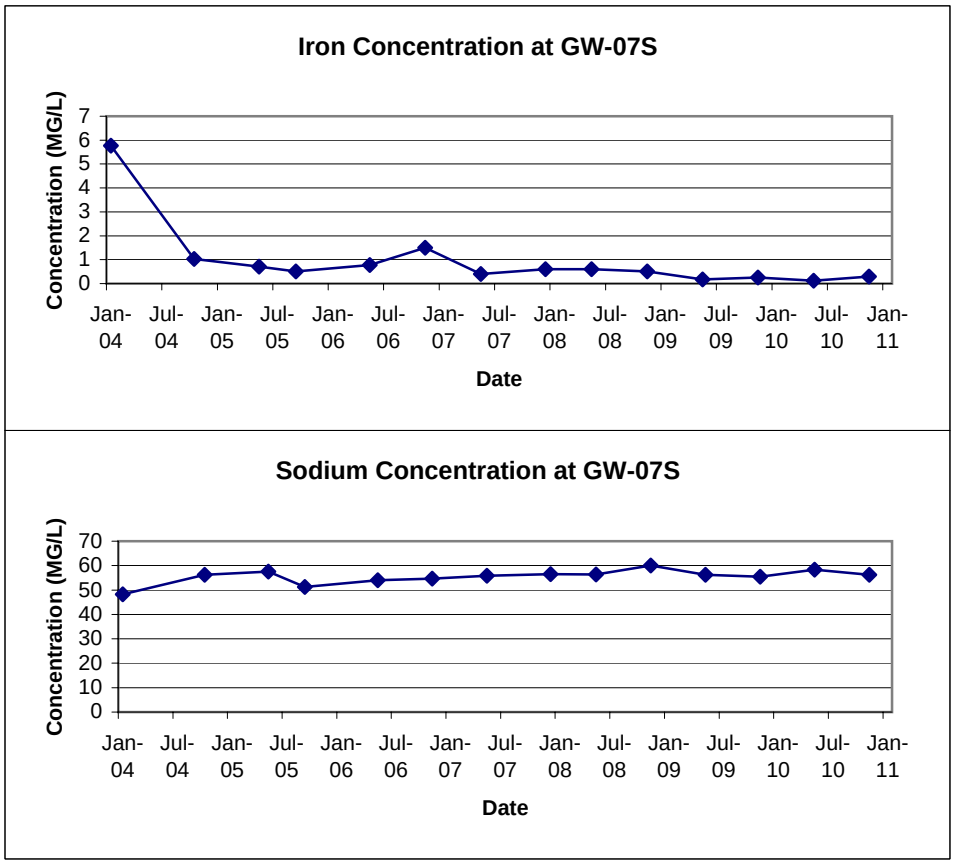


FIGURE E-9
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-8D

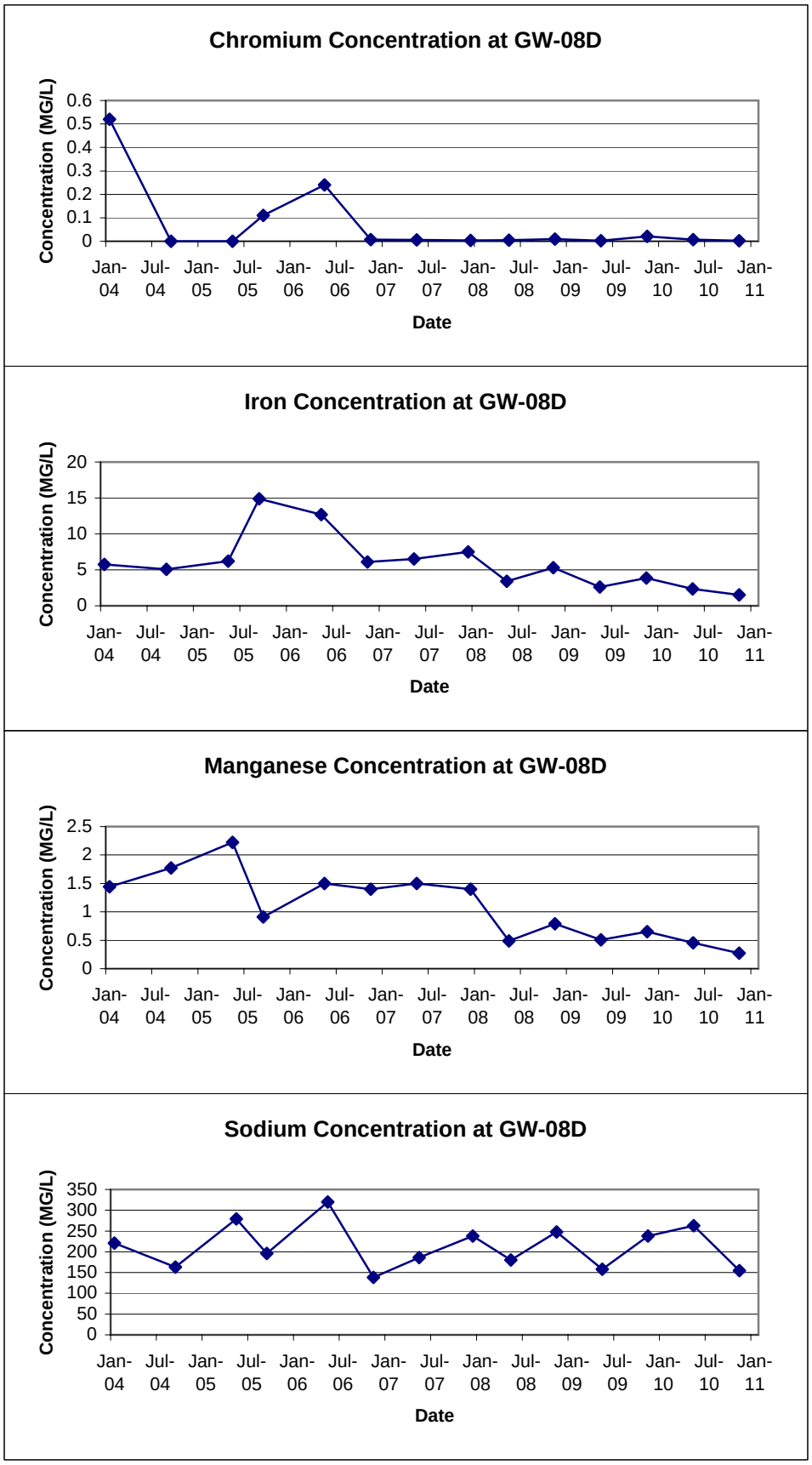


FIGURE E-10
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-8SR

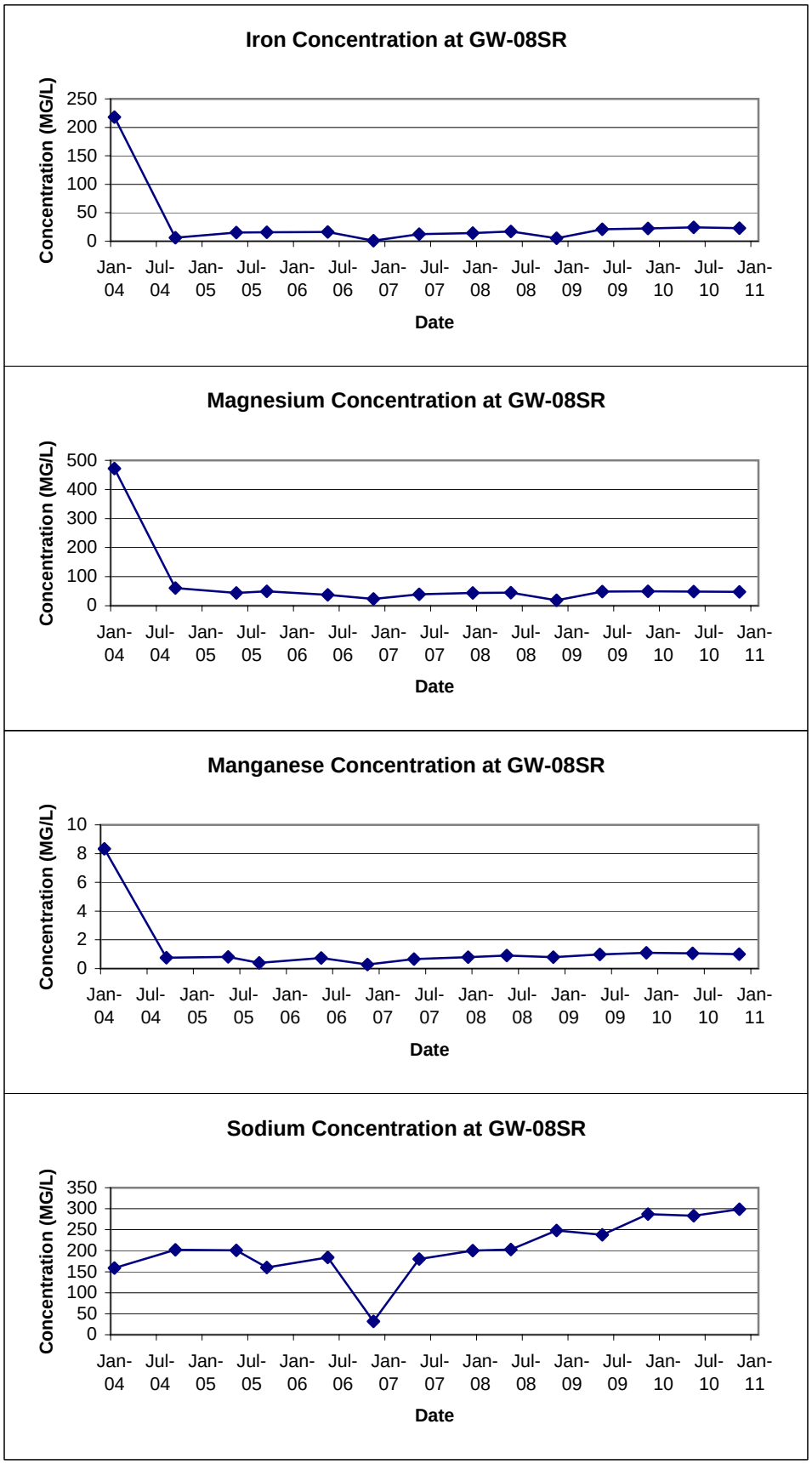


FIGURE E-11
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-26D

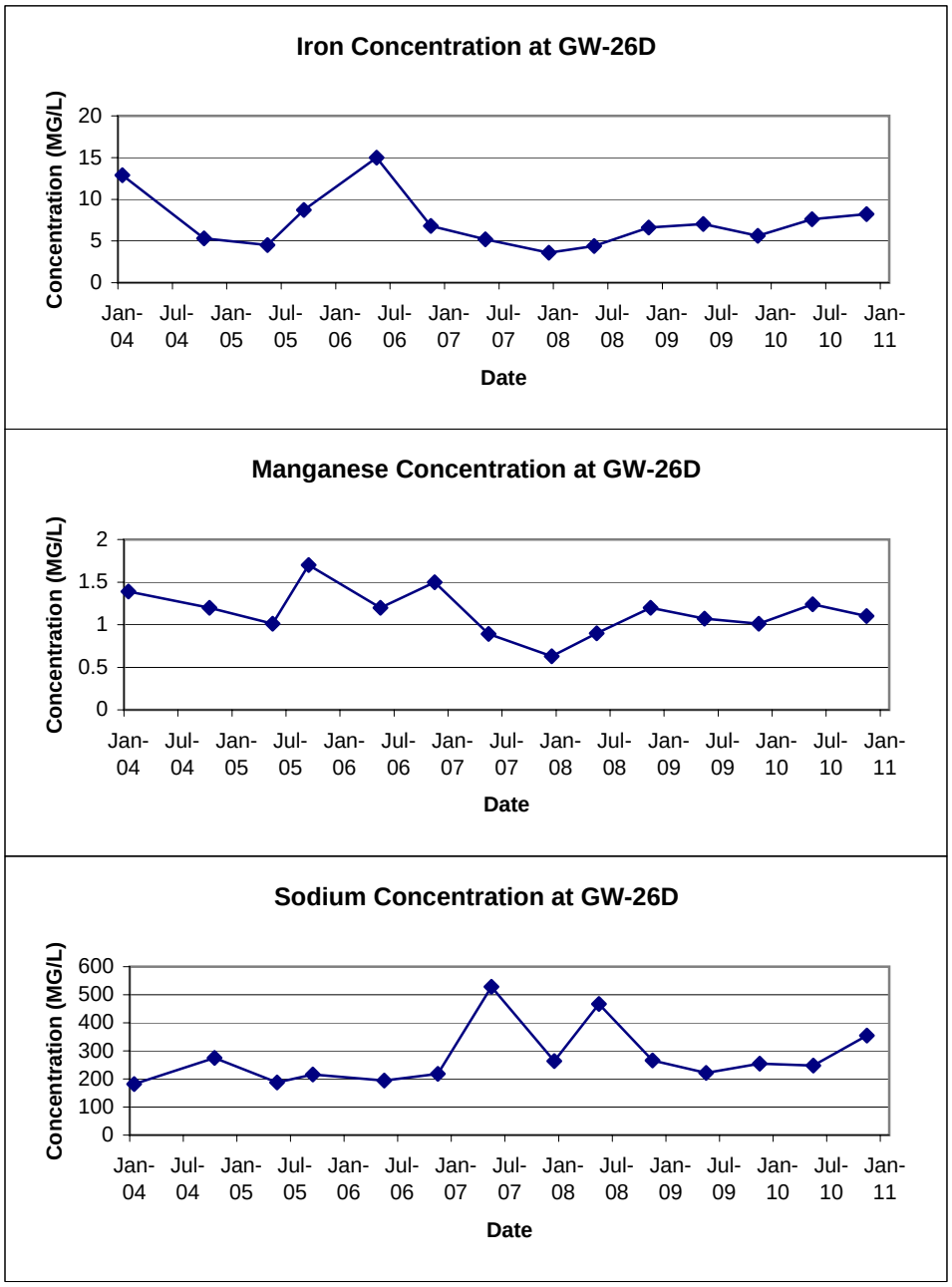


FIGURE E-12
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-28S

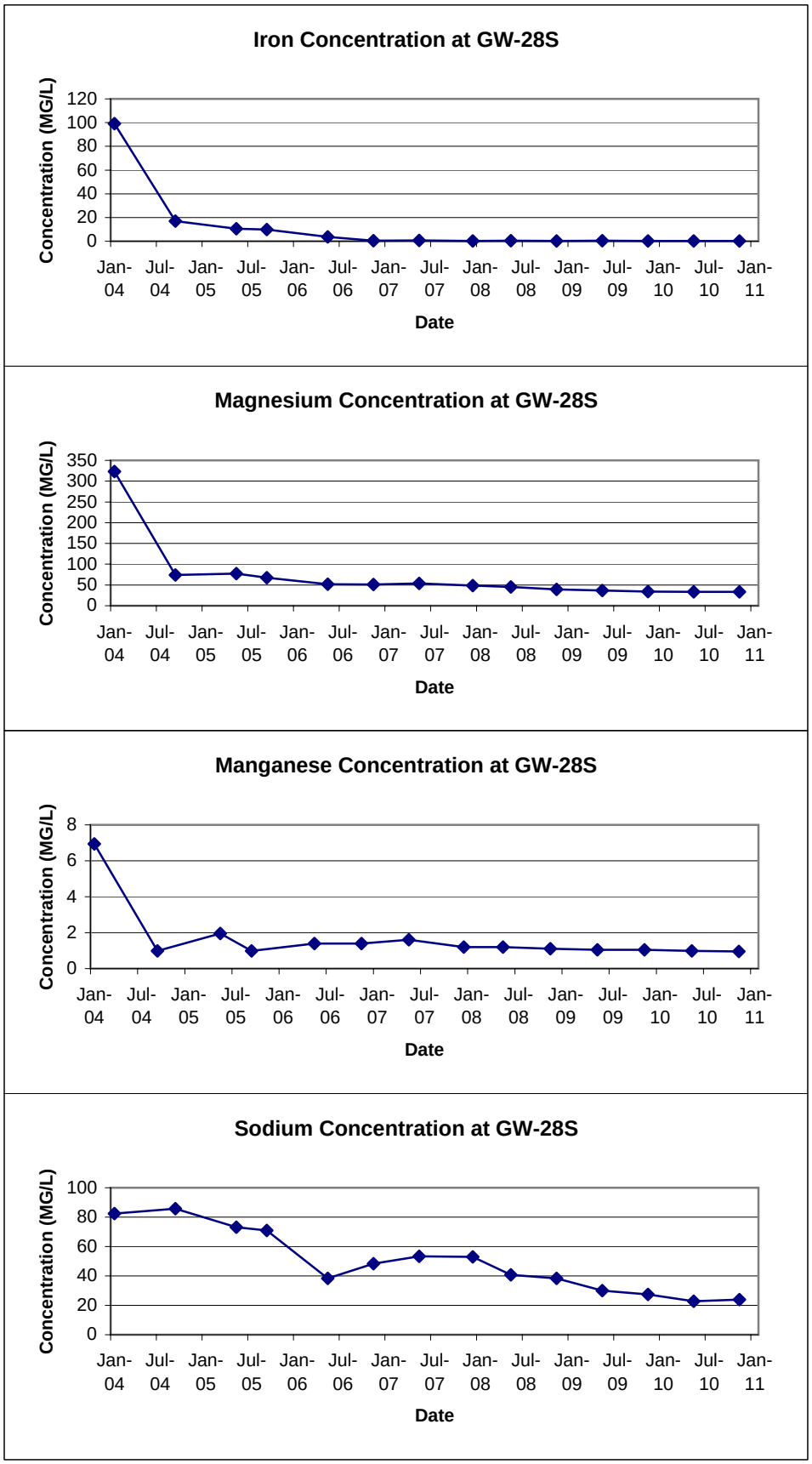


FIGURE E-13
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-29S

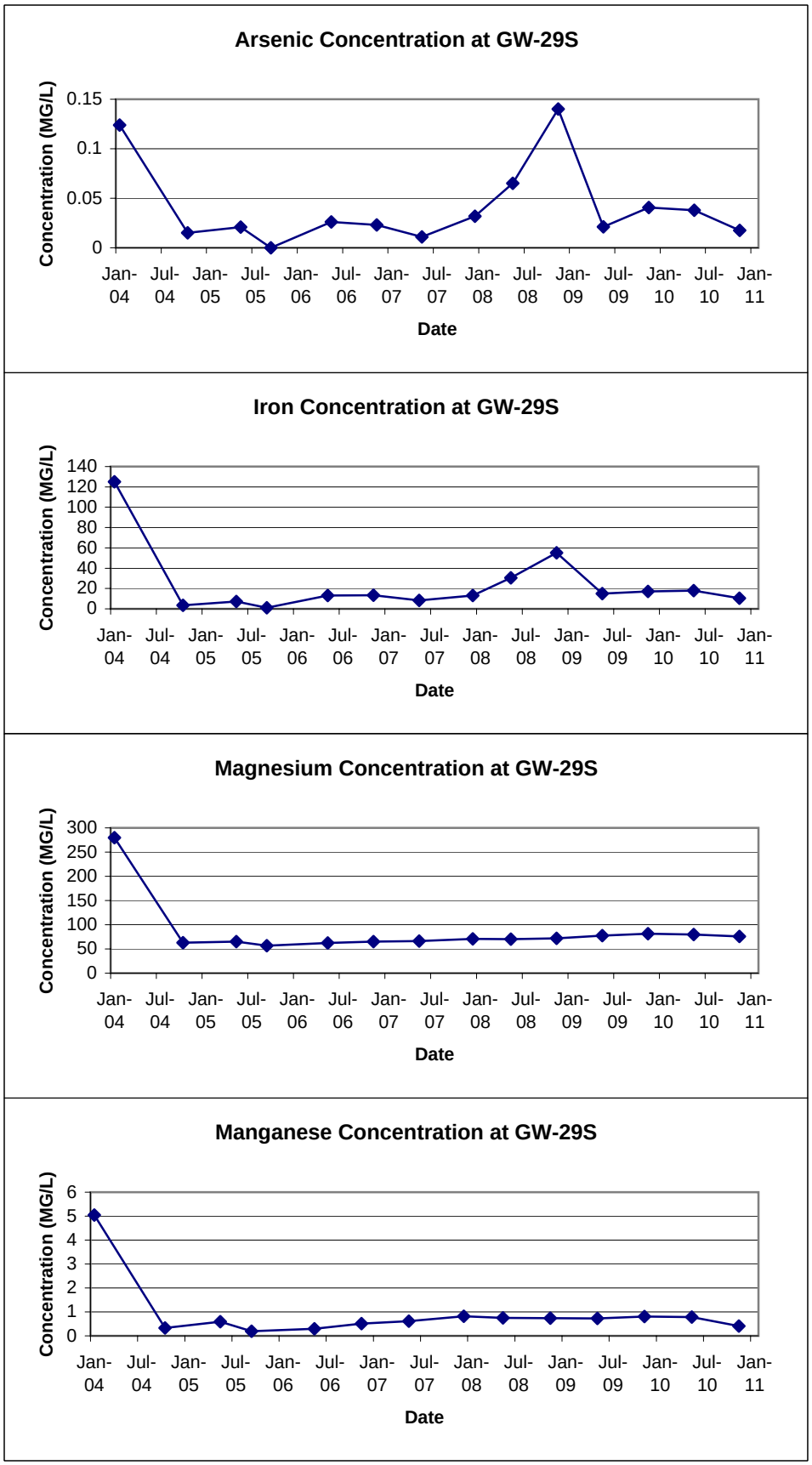


FIGURE E-13
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-29S

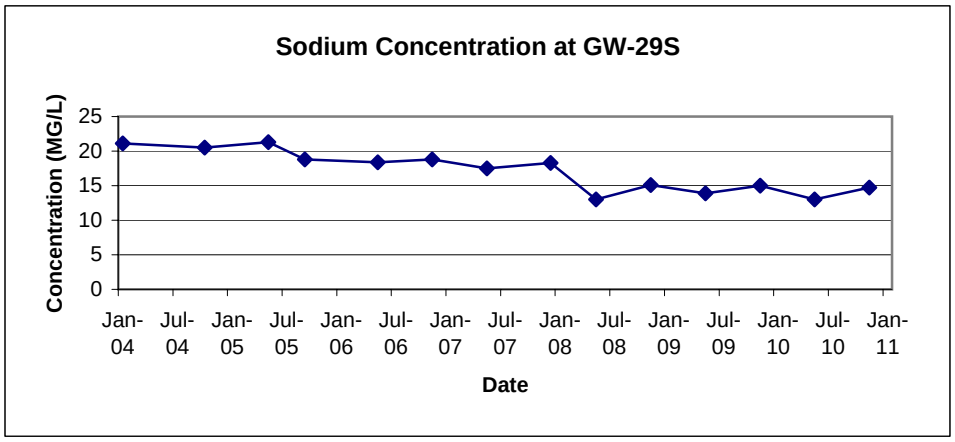


FIGURE E-14
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-30S

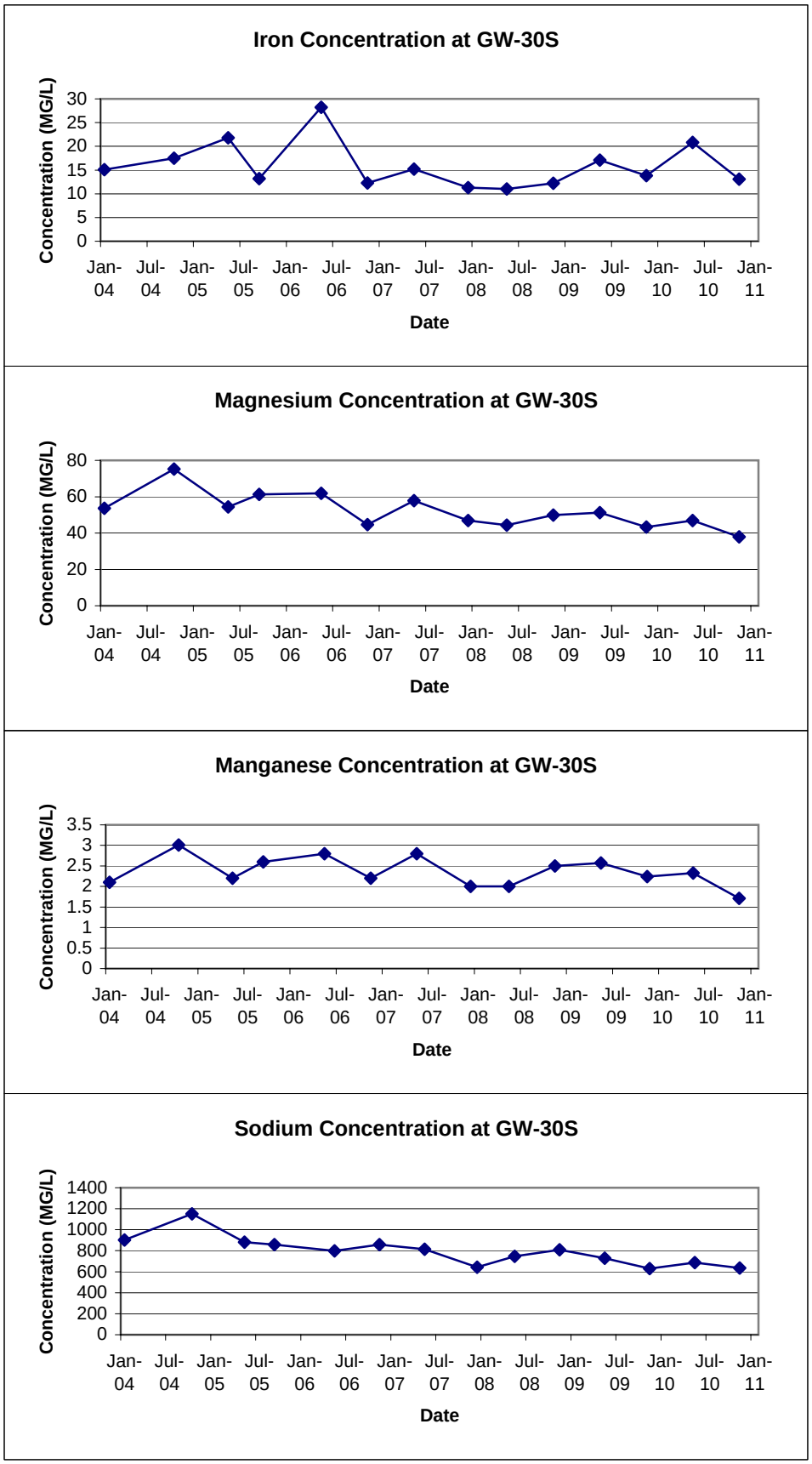


FIGURE E-15
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-31S

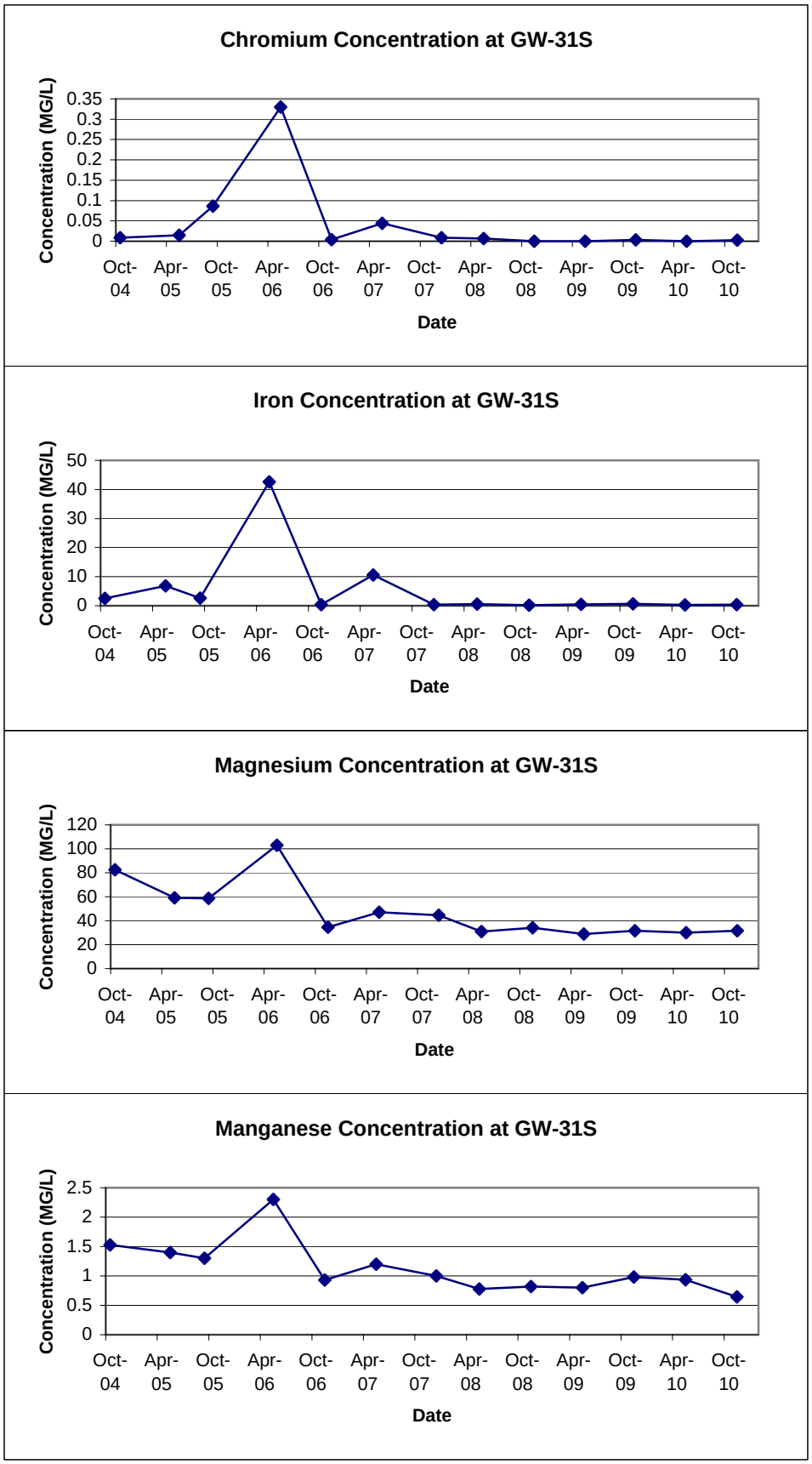


FIGURE E-16
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-32S

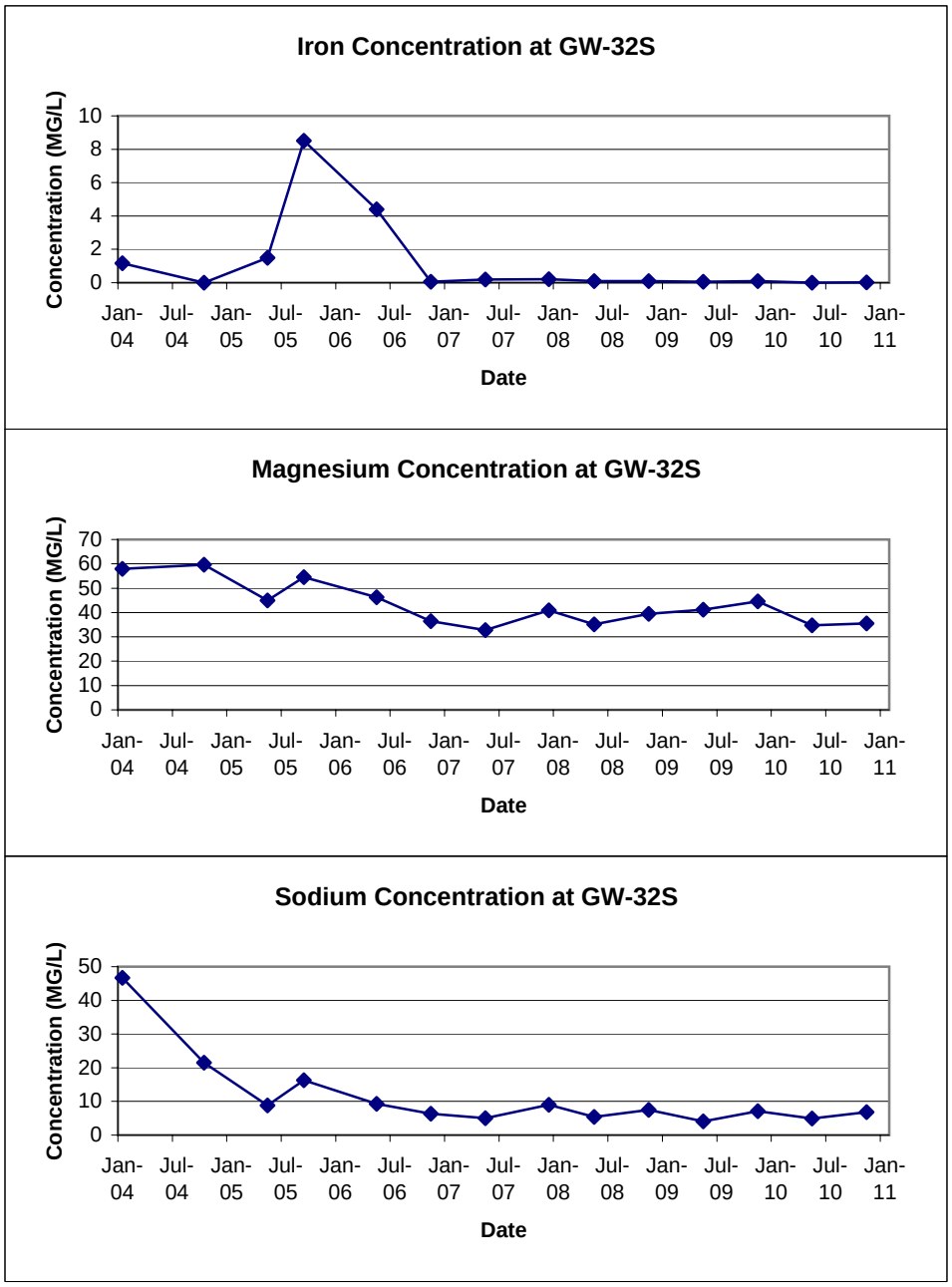


FIGURE E-17
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-33S

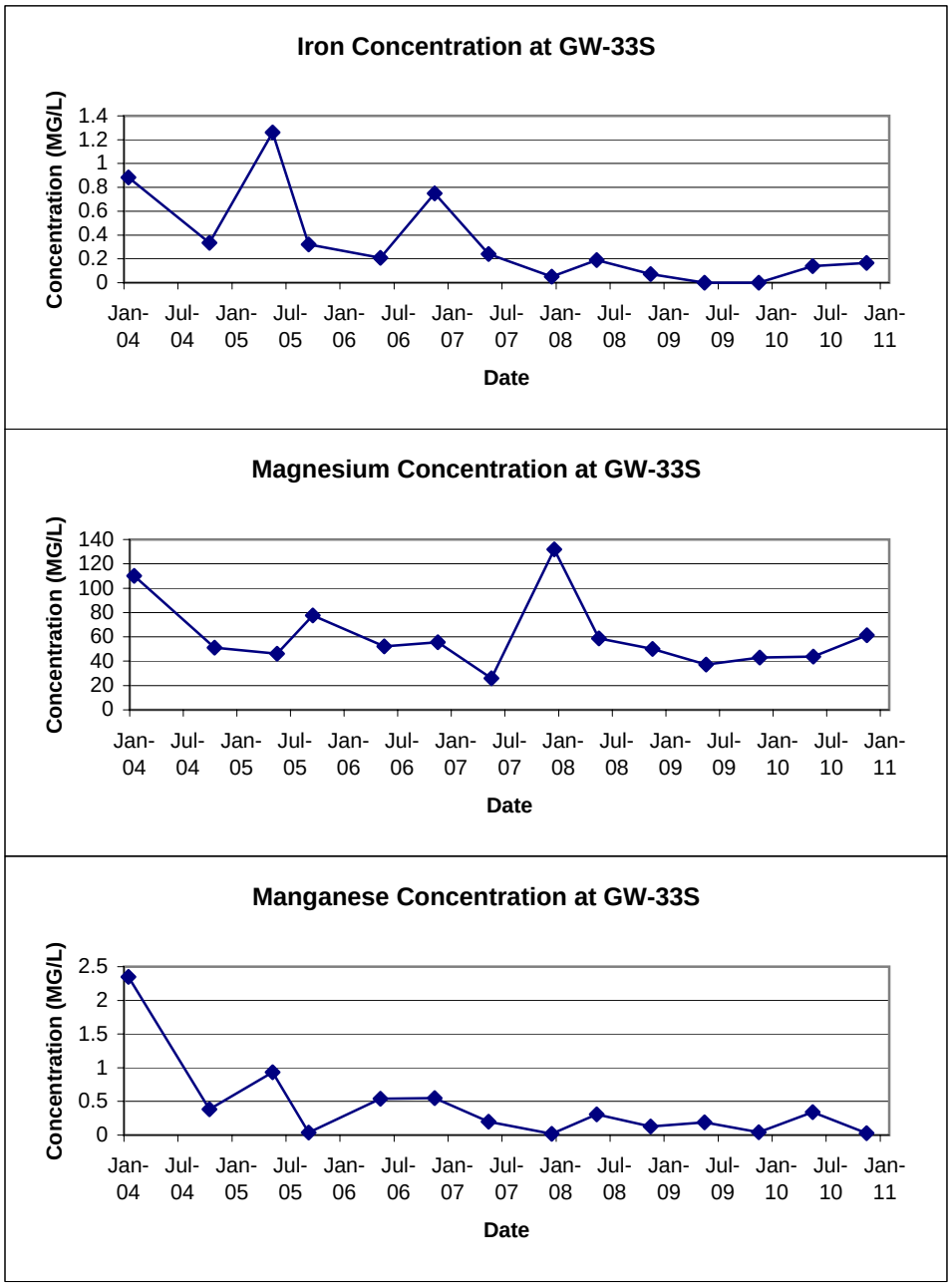


FIGURE E-18
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-34S

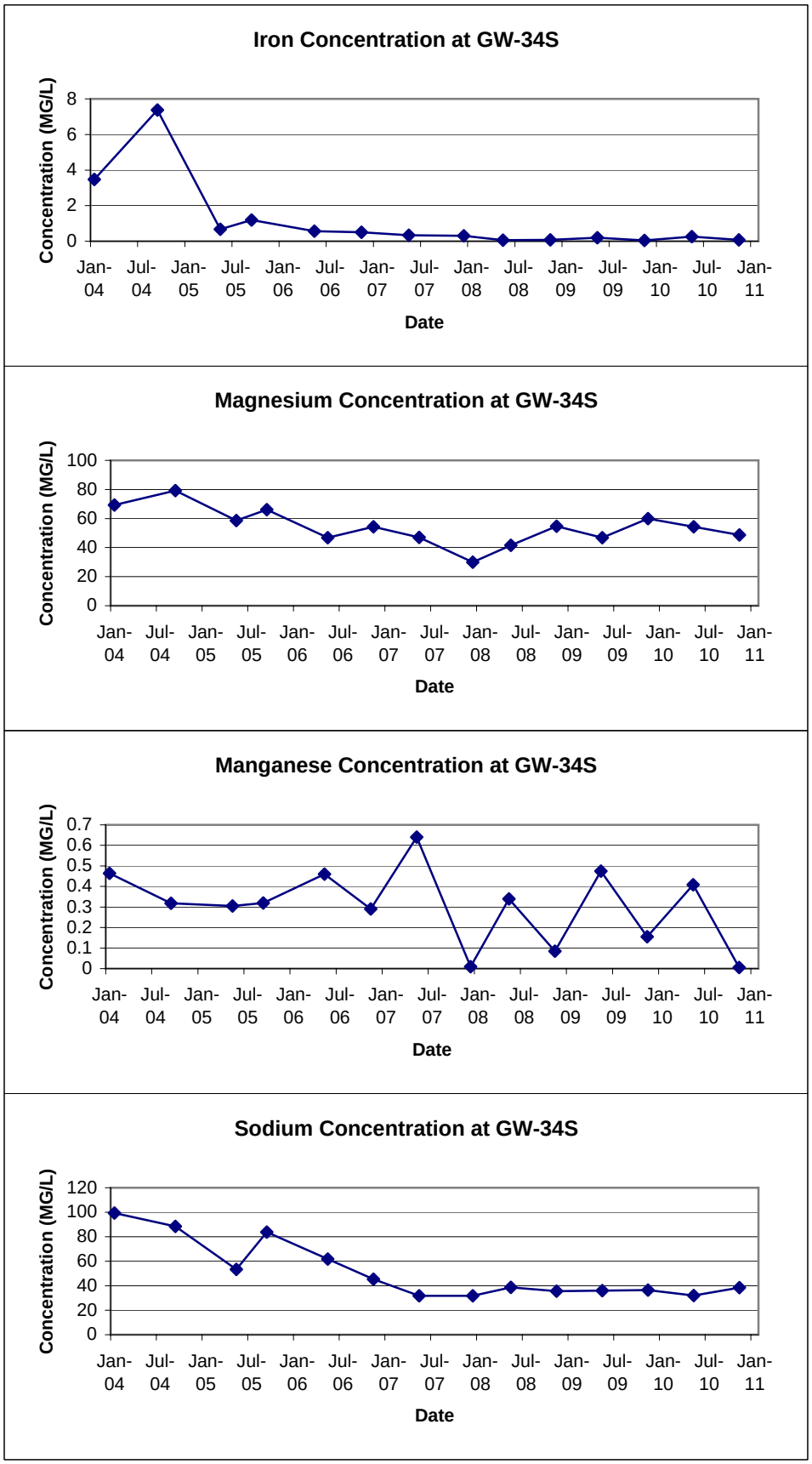
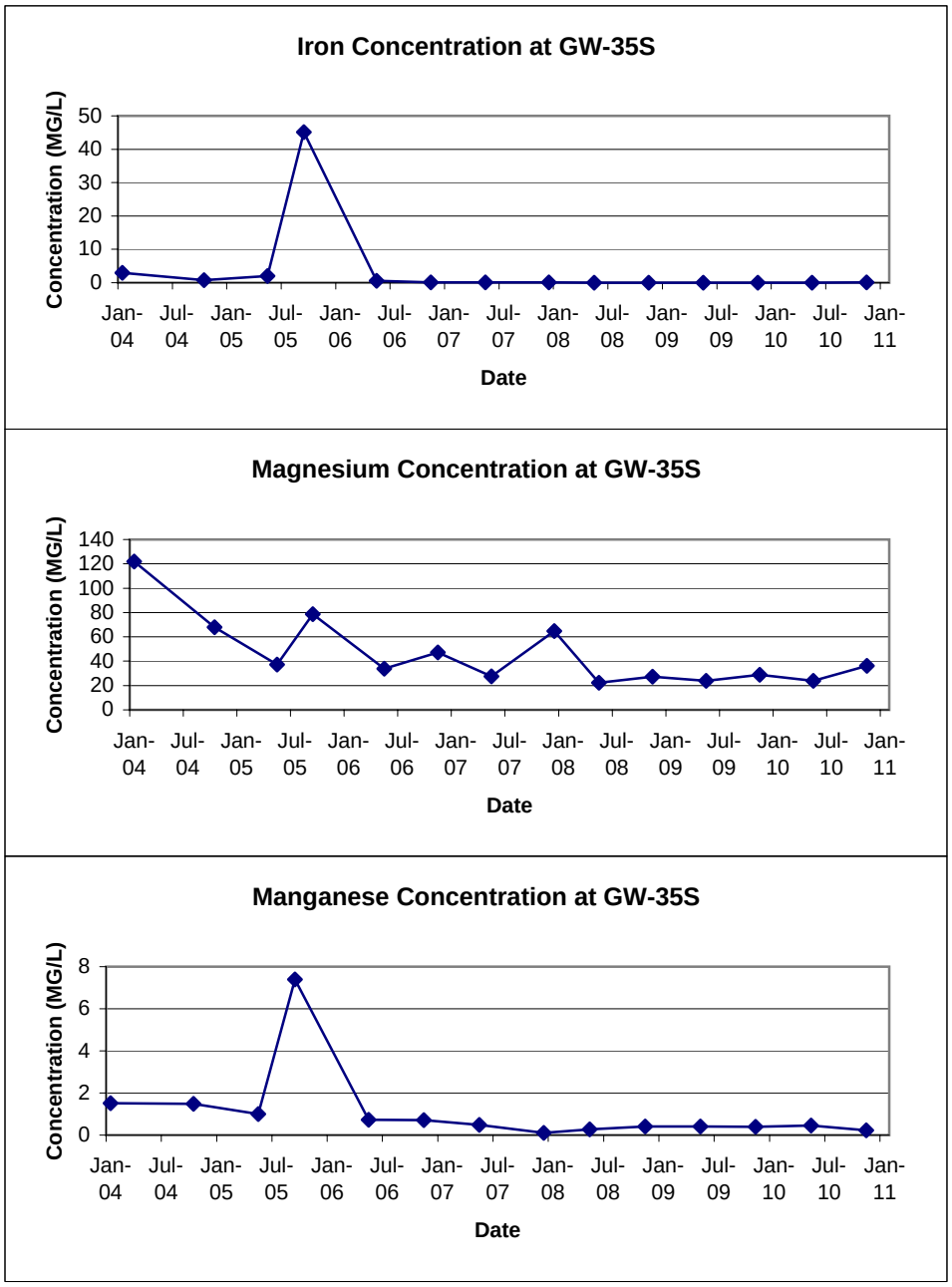


FIGURE E-19
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-35S



APPENDIX F

BSA PERMIT NO. 10-11-CH016

AUTHORIZATION TO DISCHARGE UNDER THE BUFFALO POLLUTANT DISCHARGE ELIMINATION SYSTEM

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

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

THE TOWN OF CHEEKTOWAGA

to discharge wastewater from a facility located at:

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

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

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

Effective this 1st day of November, 2010

To Expire the 31st day of March, 2013

General Manager

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

PART I: SPECIFIC CONDITIONS

A. DISCHARGE LIMITATIONS & MONITORING REQUIREMENTS

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

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

Footnotes are explained on page 5.

PART I: SPECIFIC CONDITIONS

A. DISCHARGE LIMITATIONS & MONITORING REQUIREMENTS

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

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

Footnotes are explained on page 5.

PART I: SPECIFIC CONDITIONS

B. DISCHARGE MONITORING REPORTING REQUIREMENTS

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

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

PART I: SPECIFIC CONDITIONS

C. SPECIAL REQUIREMENTS

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

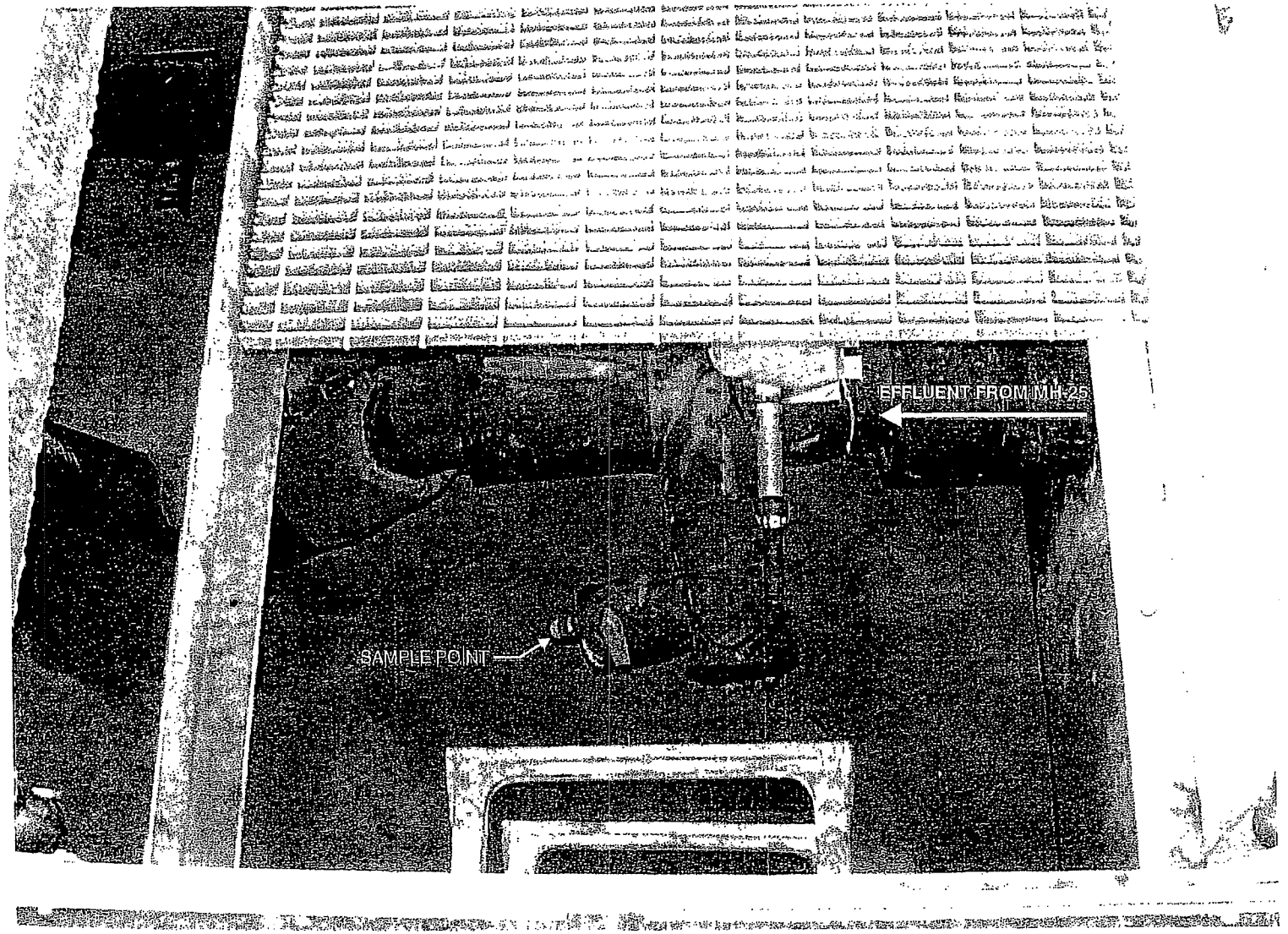
2. Composite samples may be time proportioned.

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

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

5. Surchargeable over 250 mg/L.

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



URS

PFOHL BROTHERS LANDFILL
EFFLUENT SAMPLE POINT

FIGURE 1

PART II GENERAL CONDITIONS

A. MONITORING AND REPORTING

1. Local Limits

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

2. Definitions

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

3. Discharge Sampling Analysis

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

4. Recording of Results

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

5. Additional Monitoring by Permittee

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

6. Reporting

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

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

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

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

B. PERMITTEE REQUIREMENTS

1. Change in Discharge

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

2. Records Retention

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

3. Notification of Slug, Accidental Discharge or Spill

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

4. Noncompliance Notification

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

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

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

5. Adverse Impact

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

6. Waste Residuals

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

7. Power Failures

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

8. Treatment Upsets

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

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

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

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

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

9. Treatment Bypasses

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

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

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

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

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

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

C. PERMITTEE RESPONSIBILITIES

1. Permit Availability

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

2. Inspections

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

3. Transfer of Ownership or Control

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

D. PERMITTEE LIABILITIES

1. Permit Modification

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

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

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

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

2. Imminent Danger

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

3. Civil and Criminal Liability

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

4. Penalties for Violations of Permit Conditions

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

E. NATIONAL PRETREATMENT STANDARDS

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

F. PLANT CLOSURE

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

G. CONFIDENTIALITY

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

H. SEVERABILITY

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

APPENDIX G

DISCHARGE REPORT SUMMARY TABLES

SAMPLING FIELD SHEET

Client Name: Pfohl Brothers Landfill

Address: Aero Drive, Cheektowaga, NY

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

Installation:

Sample Point: SP-001

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

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

Weather: 64° F, cloudy

Sampling Device: NA

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

Sample Interval: NA Sample Volume: NA

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

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

Weather: 64° F, cloudy

Time of Collection: 14:12

Field Measurements:

14:15/RJM
(time/initial)

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

pH Measurement: 7.9

Temperature: 20.0°C

Identification: EFF-090910

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

Laboratory: TestAmerica, Buffalo, NY

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

Reviewed By: _____ Date: _____
(Supervisor)

TABLE 1

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

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

Notes:

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

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

SAMPLING FIELD SHEET

Client Name: Pfohl Brothers Landfill

Address: Aero Drive, Cheektowaga, NY

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

Installation:

Sample Point: SP-001

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

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

Weather: 32° F, partly cloudy

Sampling Device: NA

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

Sample Interval: NA Sample Volume: NA

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

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

Weather: 29° F, cloudy

Time of Collection: 13:30

Field Measurements:

13:30/RJM
(time/initial)

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

pH Measurement: 7.8

Temperature: 14.0°C

Identification: EFF-122210

Physical Observations:

Laboratory: TestAmerica, Buffalo, NY

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

Reviewed By: Date:
(Supervisor)

TABLE 1

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

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

Notes:

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

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

APPENDIX H

MONITORING WELL INSPECTION LOGS

WELL INSPECTION SUMMARY

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

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

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

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

Additional Comments:

WELL INSPECTION SUMMARY

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

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

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

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

Additional Comments: _____

_____

_____

WELL INSPECTION SUMMARY

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

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

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

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

Additional Comments: _____

_____

_____

ATTACHMENT C

IC/EC CERTIFICATION

Enclosure 1
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Site Management Periodic Review Report Notice
Institutional and Engineering Controls Certification Form

Site Details **Box 1**

Site No. 915043

Site Name Pfohl Brothers Landfill

Site Address: Aero Drive and Transit Road Zip Code: ~~14221~~ 14225
City/Town: Cheektowaga
County: Erie
Site Acreage: 94.0

Reporting Period: February 12, 2010 to February 12, 2011

	YES	NO
1. Is the information above correct?	☐	☒
If NO, include handwritten above or on a separate sheet.		
2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?	☐	☒
3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?	☐	☒
4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?	☐	☒
If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.		
5. Is the site currently undergoing development?	☐	☒

Box 2

	YES	NO
6. Is the current site use consistent with the use(s) listed below?	☒	☐
7. Are all ICs/ECs in place and functioning as designed?	☒	☐

IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

Signature of Owner, Remedial Party or Designated Representative

Date

SITE NO. 915043 Box 3

Description of Institutional Controls

Parcel	Owner	Institutional Control
82.03-4-9.11	Aero Land, Inc. c/o Jerome Hirsh	Building Use Restriction Ground Water Use Restriction Landuse Restriction
82.03-4-9.2	Aero Land, Inc. c/o Jerome Hirsh	Building Use Restriction Ground Water Use Restriction Landuse Restriction
82.03-4-10	Elizabeth L. McBride	Building Use Restriction Ground Water Use Restriction Landuse Restriction
82.03-4-5	Paul Pfohl	Building Use Restriction Ground Water Use Restriction Landuse Restriction
81.04-1-27	Paul Pfohl	Building Use Restriction Ground Water Use Restriction Landuse Restriction
81.04-1-28.1	Paul Pfohl	Building Use Restriction Ground Water Use Restriction Landuse Restriction
81.04-2-9.1	Paul Pfohl	Building Use Restriction Ground Water Use Restriction Landuse Restriction
81.04-2-10.1	Paul Pfohl	Building Use Restriction Ground Water Use Restriction Landuse Restriction
81.04-2-11	Paul Pfohl	Building Use Restriction Ground Water Use Restriction Landuse Restriction
82.03-4-11	Paul Pfohl	Building Use Restriction Ground Water Use Restriction Landuse Restriction
82.03-4-6	Paul Pfohl	Building Use Restriction Ground Water Use Restriction Landuse Restriction
82.03-4-8	Paul Pfohl	Building Use Restriction Ground Water Use Restriction Landuse Restriction
82.03-4-9.12	Stuart Jenkins	Building Use Restriction Ground Water Use Restriction Landuse Restriction
81.04-1-26	William A. Pfohl	Building Use Restriction Ground Water Use Restriction

Landuse Restriction
Soil Management Plan
Surface Water Use Restriction

Box 4

Description of Engineering Controls

Parcel	Engineering Control
82.03-4-9.11	Cover System Fencing/Access Control Leachate Collection Vapor Mitigation
82.03-4-9.2	Cover System Fencing/Access Control Leachate Collection Vapor Mitigation
82.03-4-10	Cover System Fencing/Access Control Leachate Collection Vapor Mitigation
82.03-4-5	Cover System Fencing/Access Control Leachate Collection Vapor Mitigation
81.04-1-27	Cover System Fencing/Access Control Leachate Collection Vapor Mitigation
81.04-1-28.1	Cover System Fencing/Access Control Leachate Collection Vapor Mitigation
81.04-2-9.1	Cover System Fencing/Access Control Leachate Collection Vapor Mitigation
81.04-2-10.1	Cover System Fencing/Access Control Leachate Collection Vapor Mitigation
81.04-2-11	Cover System Fencing/Access Control Leachate Collection Vapor Mitigation
82.03-4-11	Cover System Fencing/Access Control Leachate Collection Vapor Mitigation
82.03-4-6	Cover System Fencing/Access Control Leachate Collection Vapor Mitigation
82.03-4-8	Cover System

Parcel	Engineering Control
	Fencing/Access Control
	Leachate Collection
	Vapor Mitigation
82.03-4-9.12	
	Cover System
	Fencing/Access Control
	Leachate Collection
	Vapor Mitigation
81.04-1-26	
	Cover System
	Fencing/Access Control
	Leachate Collection
	Vapor Mitigation

Control Description for Site No. 915043

Parcel: 81.04-1-26

In accordance with the Declaration of Covenants and Restrictions filed with the Erie County Clerk's Office on 4/25/03 and included as Appendix P in the Remedial Action Construction Report, Vol. II, the following Controls are in place:

A. Entire Site: i) Groundwater use prohibition, ii) Surface water use prohibition.

B. Capped Area: i) Fencing, ii) No Excavation, iii) Planting trees/shrubs prohibited.

C. Cleared Portion within the Perimeter Barrier System: i) Only Commercial/Industrial Development is allowed. Construction restrictions.

Parcel: 81.04-1-27

In accordance with the Declaration of Covenants and Restrictions filed with the Erie County Clerk's Office on 4/25/03 and included as Appendix P in the Remedial Action Construction Report, Vol. II, the following Controls are in place:

A. Entire Site: i) Groundwater use prohibition, ii) Surface water use prohibition.

B. Capped Area: i) Fencing, ii) No Excavation, iii) Planting trees/shrubs prohibited.

C. Cleared Portion within the Perimeter Barrier System: i) Only Commercial/Industrial Development is allowed. Construction restrictions.

Parcel: 81.04-1-28.1

In accordance with the Declaration of Covenants and Restrictions filed with the Erie County Clerk's Office on 4/25/03 and included as Appendix P in the Remedial Action Construction Report, Vol. II, the following Controls are in place:

A. Entire Site: i) Groundwater use prohibition, ii) Surface water use prohibition.

B. Capped Area: i) Fencing, ii) No Excavation, iii) Planting trees/shrubs prohibited.

C. Cleared Portion within the Perimeter Barrier System: i) Only Commercial/Industrial Development is allowed. Construction restrictions.

Parcel: 81.04-2-10.1

In accordance with the Declaration of Covenants and Restrictions filed with the Erie County Clerk's Office on 4/25/03 and included as Appendix P in the Remedial Action Construction Report, Vol. II, the following Controls are in place:

A. Entire Site: i) Groundwater use prohibition, ii) Surface water use prohibition.

B. Capped Area: i) Fencing, ii) No Excavation, iii) Planting trees/shrubs prohibited.

C. Cleared Portion within the Perimeter Barrier System: i) Only Commercial/Industrial Development is allowed. Construction restrictions.

Parcel: 81.04-2-11

In accordance with the Declaration of Covenants and Restrictions filed with the Erie County Clerk's Office on 4/25/03 and included as Appendix P in the Remedial Action Construction Report, Vol. II, the following Controls are in place:

A. Entire Site: i) Groundwater use prohibition, ii) Surface water use prohibition.

B. Capped Area: i) Fencing, ii) No Excavation, iii) Planting trees/shrubs prohibited.

C. Cleared Portion within the Perimeter Barrier System: i) Only Commercial/Industrial Development is allowed. Construction restrictions.

Control Description for Site No. 915043

Parcel: 81.04-2-9.1

In accordance with the Declaration of Covenants and Restrictions filed with the Erie County Clerk's Office on 4/25/03 and included as Appendix P in the Remedial Action Construction Report, Vol. II, the following Controls are in place:

A. Entire Site: i) Groundwater use prohibition, ii) Surface water use prohibition.

B. Capped Area: i) Fencing, ii) No Excavation, iii) Planting trees/shrubs prohibited.

C. Cleared Portion within the Perimeter Barrier System: i) Only Commercial/Industrial Development is allowed. Construction restrictions.

Parcel: 82.03-4-10

In accordance with the Declaration of Covenants and Restrictions filed with the Erie County Clerk's Office on 4/25/03 and included as Appendix P in the Remedial Action Construction Report, Vol. II, the following Controls are in place:

A. Entire Site: i) Groundwater use prohibition, ii) Surface water use prohibition.

B. Capped Area: i) Fencing, ii) No Excavation, iii) Planting trees/shrubs prohibited.

C. Cleared Portion within the Perimeter Barrier System: i) Only Commercial/Industrial Development is allowed. Construction restrictions.

Parcel: 82.03-4-11

In accordance with the Declaration of Covenants and Restrictions filed with the Erie County Clerk's Office on 4/25/03 and included as Appendix P in the Remedial Action Construction Report, Vol. II, the following Controls are in place:

A. Entire Site: i) Groundwater use prohibition, ii) Surface water use prohibition.

B. Capped Area: i) Fencing, ii) No Excavation, iii) Planting trees/shrubs prohibited.

C. Cleared Portion within the Perimeter Barrier System: i) Only Commercial/Industrial Development is allowed. Construction restrictions.

Parcel: 82.03-4-5

In accordance with the Declaration of Covenants and Restrictions filed with the Erie County Clerk's Office on 4/25/03 and included as Appendix P in the Remedial Action Construction Report, Vol. II, the following Controls are in place:

A. Entire Site: i) Groundwater use prohibition, ii) Surface water use prohibition.

B. Capped Area: i) Fencing, ii) No Excavation, iii) Planting trees/shrubs prohibited.

C. Cleared Portion within the Perimeter Barrier System: i) Only Commercial/Industrial Development is allowed. Construction restrictions.

Parcel: 82.03-4-6

In accordance with the Declaration of Covenants and Restrictions filed with the Erie County Clerk's Office on 4/25/03 and included as Appendix P in the Remedial Action Construction Report, Vol. II, the following Controls are in place:

A. Entire Site: i) Groundwater use prohibition, ii) Surface water use prohibition.

B. Capped Area: i) Fencing, ii) No Excavation, iii) Planting trees/shrubs prohibited.

C. Cleared Portion within the Perimeter Barrier System: i) Only Commercial/Industrial Development is allowed. Construction restrictions.

Parcel: 82.03-4-8

In accordance with the Declaration of Covenants and Restrictions filed with the Erie County Clerk's Office on 4/25/03 and included as Appendix P in the Remedial Action Construction Report, Vol. II, the following Controls are in place:

A. Entire Site: i) Groundwater use prohibition, ii) Surface water use prohibition.

B. Capped Area: i) Fencing, ii) No Excavation, iii) Planting trees/shrubs prohibited.

C. Cleared Portion within the Perimeter Barrier System: i) Only Commercial/Industrial Development is allowed. Construction restrictions.

Parcel: 82.03-4-9.11

In accordance with the Declaration of Covenants and Restrictions filed with the Erie County Clerk's Office on 4/25/03 and included as Appendix P in the Remedial Action Construction Report, Vol. II, the following Controls are in place:

A. Entire Site: i) Groundwater use prohibition, ii) Surface water use prohibition.

B. Capped Area: i) Fencing, ii) No Excavation, iii) Planting trees/shrubs prohibited.

C. Cleared Portion within the Perimeter Barrier System: i) Only Commercial/Industrial Development is allowed. Construction restrictions.

Control Description for Site No. 915043

Parcel: 82.03-4-9.12

In accordance with the Declaration of Covenants and Restrictions filed with the Erie County Clerk's Office on 4/25/03 and included as Appendix P in the Remedial Action Construction Report, Vol. II, the following Controls are in place:

A. Entire Site: i) Groundwater use prohibition, ii) Surface water use prohibition.

B. Capped Area: i) Fencing, ii) No Excavation, iii) Planting trees/shrubs prohibited.

C. Cleared Portion within the Perimeter Barrier System: i) Only Commercial/Industrial Development is allowed. Construction restrictions.

Parcel: 82.03-4-9.2

In accordance with the Declaration of Covenants and Restrictions filed with the Erie County Clerk's Office on 4/25/03 and included as Appendix P in the Remedial Action Construction Report, Vol. II, the following Controls are in place:

A. Entire Site: i) Groundwater use prohibition, ii) Surface water use prohibition.

B. Capped Area: i) Fencing, ii) No Excavation, iii) Planting trees/shrubs prohibited.

C. Cleared Portion within the Perimeter Barrier System: i) Only Commercial/Industrial Development is allowed. Construction restrictions.

Box 5

Periodic Review Report (PRR) Certification Statements

1. I certify by checking "YES" below that:

   a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

   b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and the information presented is accurate and compete.

YES	NO
☒	☐

2. If this site has an IC/EC Plan (or equivalent as required in the Decision Document), for each Institutional or Engineering control listed in Boxes 3 and/or 4, I certify by checking "YES" below that all of the following statements are true:

   (a) the Institutional Control and/or Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

   (b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

   (c) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control;

   (d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and

   (e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

YES	NO
☒	☐

IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

Signature of Owner, Remedial Party or Designated Representative

Date

IC CERTIFICATIONS
SITE NO. 915043

SITE O & M MANAGER

Box 6

~~SITE OWNER~~ OR DESIGNATED REPRESENTATIVE SIGNATURE

I certify that all information and statements in Boxes 2 and/or 3 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I WILLIAM R. PUGH, P.E. at TOWN OF CHEEKTOWAGA ENGINEERING DEPT. 275 ALEXANDER AVENUE CHEEKTOWAGA, N.Y. 14211,
print name print business address

am certifying as SITE O & M MANAGER (~~Owner~~ or ~~Remedial Party~~)

for the Site named in the Site Details Section of this form.

W. R. Pugh 2/24/11
Signature of ~~Owner~~ or ~~Remedial Party~~ Rendering Certification Date

SITE O & M MANAGER

IC/EC CERTIFICATIONS

Box 7

Professional Engineer Signature

I certify that all information in Boxes 4 and 5 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I WILLIAM R. PUGH, P.E. at TOWN OF CHEEKTOWAGA ENGINEERING DEPT. 275 ALEXANDER AVENUE CHEEKTOWAGA N.Y. 14211,
print name print business address

am certifying as a Professional Engineer for the TOWN OF CHEEKTOWAGA (~~Owner or Remedial Party~~)

SITE O & M PROVIDER/MANAGER

STATE OF NEW YORK WILLIAM RAYMOND PUGH LICENSE NO. 063939 LICENSED PROFESSIONAL ENGINEER

W. R. Pugh, P.E. 2/24/11
Signature of Professional Engineer, for the ~~Owner or Remedial Party~~, Rendering Certification Stamp (Required for PE) Date

SITE O & M PROVIDER/MANAGER