URS

February 12, 2010

Mr. David Szymanski
New York State Department of Environmental Conservation
270 Michigan Ave.
Buffalo, NY 14203

Re: 2009 Periodic Review Report
Pfohl Brothers Landfill, Town of Cheektowaga, New York
Site 915043

Dear Mr. Walia:

Enclosed is the 2009 Periodic Review Report for the Pfohl Brothers Landfill in Cheektowaga, New York. URS has prepared this report on the behalf of the Town of Cheektowaga in accordance with your correspondence to Mr. William Pugh, Town of Cheektowaga Engineer, received January 4, 2010.

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: 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

PERIODIC REVIEW REPORT
2009
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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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 2009, 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 2009 are attached to this Periodic Review Report. A summary of the findings of performance, effectiveness, and protectiveness for 2009 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 2009. 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 2009. The results of the sampling are reported in the attached semiannual report. 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 2009. 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 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.

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 2009 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 2009 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-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
MH-23
MH-24
MH-25
AERO DRIVE
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 2009 – June 2009

Semi Annual Report

SEMI ANNUAL REPORT
OPERATION AND MAINTENANCE
JANUARY 2009 TO JUNE 2009
PFOHL BROTHERS LANDFILL
CHEEKTOWAGA, NY

Submitted to:

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

AUGUST
2009

URS

August 14, 2009

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 eleventh 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)

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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 eleventh 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 2009 through June 2009 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 2009 through June 2009, 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.

- Activated remote pump station shutdown during wet weather flow conditions as necessary. Shutdown events are recorded and included with the monthly flow data as previously requested by NYSDEC.

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

- Prepared bid specifications for mowing landfill cap and awarded new contract for calendar years 2009, 2010, and 2011 (March 2009),
- Purchased and installed replacement flow transmitter in WW-3 (March 2009),
- Engaged wildlife trapper to control woodchuck activity (May 2009),
- Made repairs to discharge hose WW-4 (February 2009),
- Installed post mounted signs to identify all wetwells and manholes (May 2009)

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 eleventh 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 eleventh semi-annual round of groundwater sampling was conducted between May 4, 2009 and May 7, 2009. 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 date 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 were detected at concentrations above the Class GA water quality standards at any location. One SVOC, bis(2-ethylhexyl)phthalate, was detected at a concentration slightly exceeding its Class GA water quality standard in the upgradient well GW-07D.

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. Lead exceeded its groundwater standard in upgradient well GW-07D. Nickel was detected at a concentration 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). 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 eleven semi-annual sampling events except as described below. Figure E-2 for GW-01S, indicates a consistent drop in sodium concentration over the last four sampling events. Figure E-4 for GW-03S indicates an upward trend for manganese over recent sampling events. Figure E-5 for GW-04D, indicates a slight drop in magnesium concentration which had been increasing over several sampling events. Figure E-7 provides a trend analysis for upgradient monitoring well GW-7D for chromium, iron, lead, and sodium. The metals concentrations at this upgradient well had been slowly increasing over several monitoring events but concentrations were drastically lower during the last two events. Figure E-13 for GW-29S, indicates a drop in iron concentration after concentrations had been slowly increasing over the three previous 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 2009 is submitted separately from this report.

3.3 Groundwater Discharge Monitoring

URS completed two quarterly sampling events (March 2009 and June 2009) 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 2009 and June 2009, 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 2009 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 riser on GW-07D, and new damage to the risers at GW-01S and GW-01D. It appears that the weep holes in the protective casing at GW-01S and GW-01D corroded shut allowing water to accumulate in the annular space between the riser and protective casing and freeze during the winter thus indenting the stainless steel risers. Sampling could still be conducted, however the stainless steel bailer present in GW-01S could not be removed. The weep holes were redrilled during the June quarterly effluent sampling event to prevent further damage. The locks at GW-01S, GW-01D, and GW-07S required lubrication and were functioning properly afterwards. 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 twelfth round of groundwater sampling will be conducted in November 2009. 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 2009 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 2009

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			05/07/09	05/07/09	05/05/09	05/05/09	05/07/09
Parameter	**Units**	*					
Volatile Organic Compounds							
1,2-Dichloroethene (total)	UG/L	-			0.97 J		
Acetone	UG/L	-					
Vinyl chloride	UG/L	-			0.81 J		
Semivolatile Organic Compounds							
bis(2-Ethylhexyl)phthalate	UG/L	0.6					
Metals							
Arsenic	MG/L	0.15					
Barium	MG/L	-	0.0611	0.154	0.0864	0.154	0.0543
Cadmium	MG/L	-	0.0003 J	0.0007 J		0.0004 J	
Chromium	MG/L	193	0.0028 J	0.0033 J	0.0012 J	0.0275	
Copper	MG/L	24.3		0.0016 J		0.0028 J	
Iron	MG/L	0.3	0.536	11.9	2.13	0.951	0.166
Lead	MG/L	13.1					
Magnesium	MG/L	-	30.8	13.8	19.0	78.2	58.8
Manganese	MG/L	-	0.0216	0.757	0.990	0.521	0.0201
Nickel	MG/L	140		0.0017 J	0.0054 J	0.366	
Sodium	MG/L	-	86.6	163	206	41.0	57.4
Zinc	MG/L	223	0.0103	0.0158	0.0061 J	0.0200	0.0135

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds

UJ - Not detected. The reported quantitation limit is an estimated value.

Only Detected Results Reported.

Advanced Selection: AMK-TEMF
N:\11172700.00000\GIS\dB\Program\EDMS.md
Printed: 8/14/2009 6:20:21 PM
[LOGDATE] BETWEEN #05/01/09# AND #05/30/09# AND ([SACODE] = 'N' OR [SACODE] = 'FD'

TABLE 3-1
GROUNDWATER SAMPLE ANALYTICAL RESULTS
PFOHL BROTHERS LANDFILL SITE
MAY 2009

Location ID			GW-04S	GW-07D	GW-07S	GW-08D	GW-08D
Sample ID			GW-4S	GW-7D	GW-7S	FD-050509	GW-8D
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			05/07/09	05/05/09	05/05/09	05/05/09	05/05/09
Parameter	**Units**	*				Field Duplicate (1-1)	
Volatile Organic Compounds							
1,2-Dichloroethene (total)	UG/L	-					
Acetone	UG/L	-		7.4			
Vinyl chloride	UG/L	-					
Semivolatile Organic Compounds							
bis(2-Ethylhexyl)phthalate	UG/L	0.6		14			
Metals							
Arsenic	MG/L	0.15	0.0051 J			0.0046 J	0.0057 J
Barium	MG/L	-	0.115	0.0450	0.205	0.0657	0.0659
Cadmium	MG/L	-	0.0004 J	0.0009 J			
Chromium	MG/L	193	0.0204	0.0356		0.0031 J	0.0028 J
Copper	MG/L	24.3	0.0057 J	0.0112			
Iron	MG/L	0.3	4.61	4.04	0.171	2.61	2.60
Lead	MG/L	13.1		0.117			
Magnesium	MG/L	-	25.6	23.3	30.2	15.3	15.3
Manganese	MG/L	-	0.286	0.0560	0.0805	0.510	0.509
Nickel	MG/L	140	0.0160	0.0248	0.111	0.0026 J	0.0030 J
Sodium	MG/L	-	29.9	75.3	56.2	157	158
Zinc	MG/L	223	0.0477	0.0297	0.0079 J	0.0151	0.0154

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

Flags assigned during chemistry validation are shown.

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Only Detected Results Reported.

Advanced Selection: AMK-TEMF
N:\11172700.00000\GIS\dB\Program\EDMS.md
Printed: 8/14/2009 6:20:21 PM
[LOGDATE] BETWEEN #05/01/09# AND #05/30/09# AND ([SACODE] = 'N' OR [SACODE] = 'FD'

TABLE 3-1
GROUNDWATER SAMPLE ANALYTICAL RESULTS
PFOHL BROTHERS LANDFILL SITE
MAY 2009

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			05/05/09	05/07/09	05/06/09	05/06/09	05/06/09
Parameter	**Units**	*					
Volatile Organic Compounds							
1,2-Dichloroethene (total)	UG/L	-		2.0 J			
Acetone	UG/L	-	1.8 J				
Vinyl chloride	UG/L	-	0.91 J	1.8			
Semivolatile Organic Compounds							
bis(2-Ethylhexyl)phthalate	UG/L	0.6					
Metals							
Arsenic	MG/L	0.15	0.0079 J			0.0212	
Barium	MG/L	-	0.506	0.127	0.0563	0.288	0.416
Cadmium	MG/L	-					
Chromium	MG/L	193	0.0009 J	0.0027 J			
Copper	MG/L	24.3					
Iron	MG/L	0.3	20.9	7.02	0.407	15.1	17.1
Lead	MG/L	13.1					
Magnesium	MG/L	-	48.6	19.7	36.9	77.8	51.3
Manganese	MG/L	-	0.982	1.07	1.04	0.727	2.57
Nickel	MG/L	140	0.0021 J	0.0020 J	0.0028 J		
Sodium	MG/L	-	238	222	30.0	13.9	728
Zinc	MG/L	223	0.0050 J	0.0037 J	0.0049 J	0.0184	

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds

UJ - Not detected. The reported quantitation limit is an estimated value.

Only Detected Results Reported.

TABLE 3-1
GROUNDWATER SAMPLE ANALYTICAL RESULTS
PFOHL BROTHERS LANDFILL SITE
MAY 2009

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			05/06/09	05/06/09	05/06/09	05/04/09	05/07/09
Parameter	**Units**	*					
Volatile Organic Compounds							
1,2-Dichloroethene (total)	UG/L	-					
Acetone	UG/L	-					
Vinyl chloride	UG/L	-					
Semivolatile Organic Compounds							
bis(2-Ethylhexyl)phthalate	UG/L	0.6					
Metals							
Arsenic	MG/L	0.15					
Barium	MG/L	-	0.0386	0.0557	0.0156	0.137	0.0523
Cadmium	MG/L	-					
Chromium	MG/L	193					0.0009 J
Copper	MG/L	24.3					
Iron	MG/L	0.3	0.443	0.063		0.202	0.019 J
Lead	MG/L	13.1					
Magnesium	MG/L	-	28.9	41.2	37.2	46.8	23.8
Manganese	MG/L	-	0.800	0.561	0.190	0.475	0.403
Nickel	MG/L	140	0.0025 J	0.0015 J	0.0044 J	0.0048 J	0.0018 J
Sodium	MG/L	-	5.7	4.1	5.4	35.9	2.7
Zinc	MG/L	223	0.0059 J	0.0261	0.0124	0.0044 J	0.0217

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

Flags assigned during chemistry validation are shown.

(oval) Concentration Exceeds

UJ - Not detected. The reported quantitation limit is an estimated value.

Only Detected Results Reported.

Advanced Selection: AMK-TEMF
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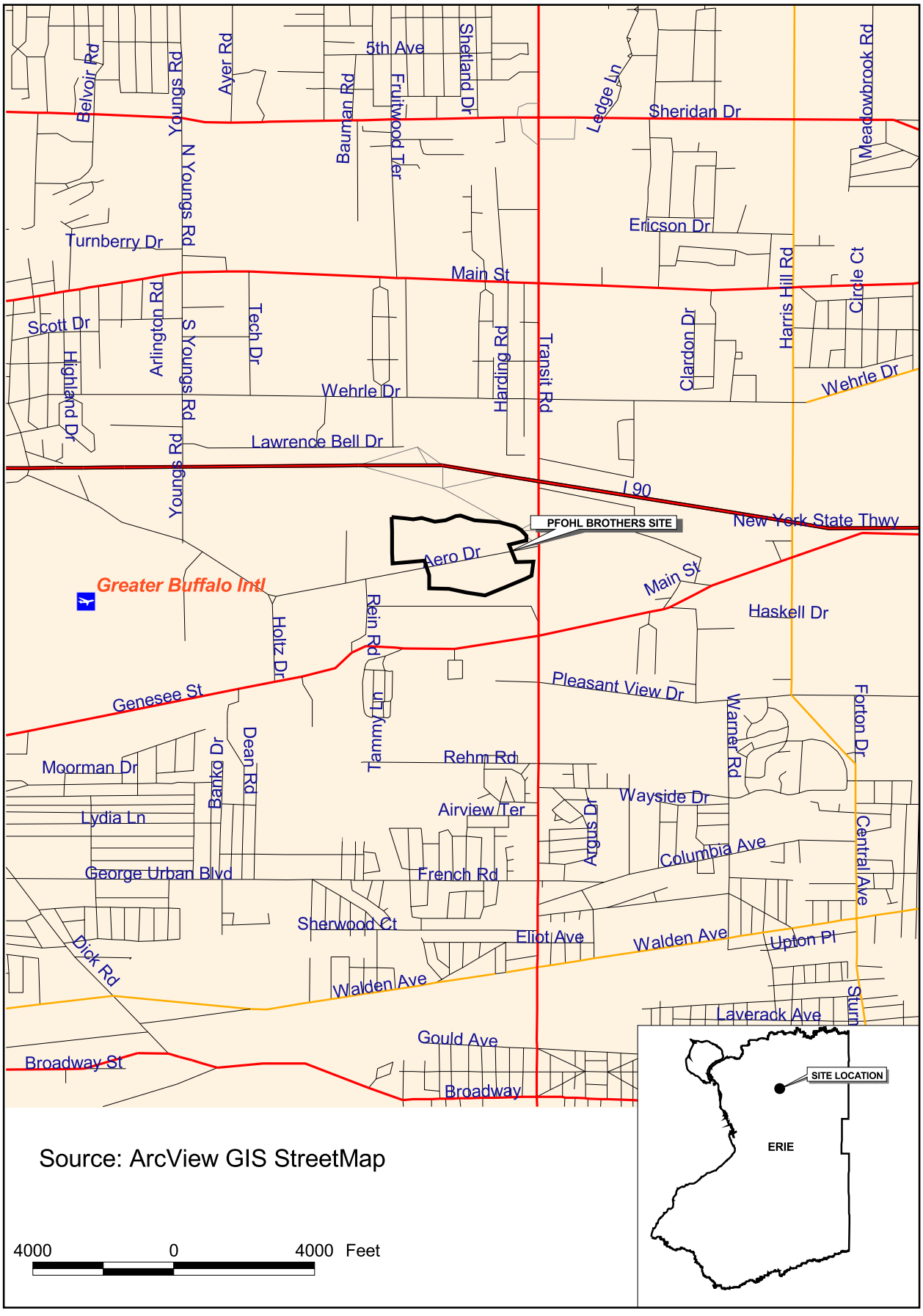
Printed: 8/14/2009 6:20:22 PM
[LOGDATE] BETWEEN #05/01/09# AND #05/30/09# AND ([SACODE] = 'N' OR [SACODE] = 'FD'

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 2-6-09

Time 1:50

Weather conditions SUNNY COLD 30°

Read by: B. PUGH

	Level of Water from bottom (ft.)	Flow gallons / minute	Flow Totals gallons	Pump Run Time Hrs.
WW-3	5.2	0	208,888	1295
WW-2	4.6	0	41,496	30
WW-1	3.9	0	588,770	1171
WW-6	6.5	57.0	3,512,522	2318
WW-4	7.0	0	470,980	3337
WW-5	7.1	0	3,089,491	1157

Flow Totalizer at Meter chamber 8,255,964

Heat Trace

Outside temp **T** = 30

Current **A** = 2.3

Set point **SP** = 40

Surge Suppressor events 168

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

J. NICHY ALSO AT SITE TO TROUBLESHOOT WW 4. HOSE CONNECTION AT BASE OF PUMP NEEDS REPAIR. WILL REVISIT SITE NEXT WEEK TO REPAIR. POWER TURNED OFF TO PUMP #4.

SIGNIFICANT DRIFTED SNOW COVER ON SITE.

Pfohl Brothers Landfill Site

Daily Logsheet

Town of Cheektowaga

Date 3-27-09

Time 1:00

Weather conditions SUNNY 55°

Read by: B. PUGH

	Level of Water from bottom (ft.)	Flow gallons / minute	Flow Totals gallons	Pump Run Time Hrs.
WW-3	4.1	35.5	284,005	1337
WW-2	4.7	0	40,745	30
WW-1	4.1	0	1,147,272	1390
WW-6	6.8	48.2	3,985,096	2459
WW-4	7.1	0	541,976	3379
WW-5	7.8	0	4,139,076	1574

Flow Totalizer at Meter chamber 10,478,551

Heat Trace

Outside temp **T** = 55

Current **A** = 0

Set point **SP** = 40°

Surge Suppressor events 208

Motor Control Center

Volts 480 **volts**

Amps 7 **amps**

Which WW was running?

1☐ 2☐ 3☒ 4☐ 5☐ 6☒

Filter **Checked** ☒ **Changed** ☐

Comments and/or Current Conditions

* WW 3 & WW 6 - LEVEL ALARM (99) RESET AND PUMPS BOTH CAME ON - OK FOR NOW
* KEEP EYE ON WW2 - FLOW TOTAL THIS VISIT LESS THAN PRIOR VISIT - NEG. FLOW ALARM RESET

X CLEARED ALL ALARM HISTORY

* CLOCK NEEDS TO BE MOVED FORWARD 1 HOUR ON COMPUTER PROCESS DISPLAY

APPENDIX B

MONTHLY FLOW SUMMARIES
JANUARY 2009 – JUNE 2009

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

February 7, 2009

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 2009** Direct Discharge Flow Data Report, prepared by Jon W. Nichy.

There were no instances of inhibiting pumping operation, during this period.

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

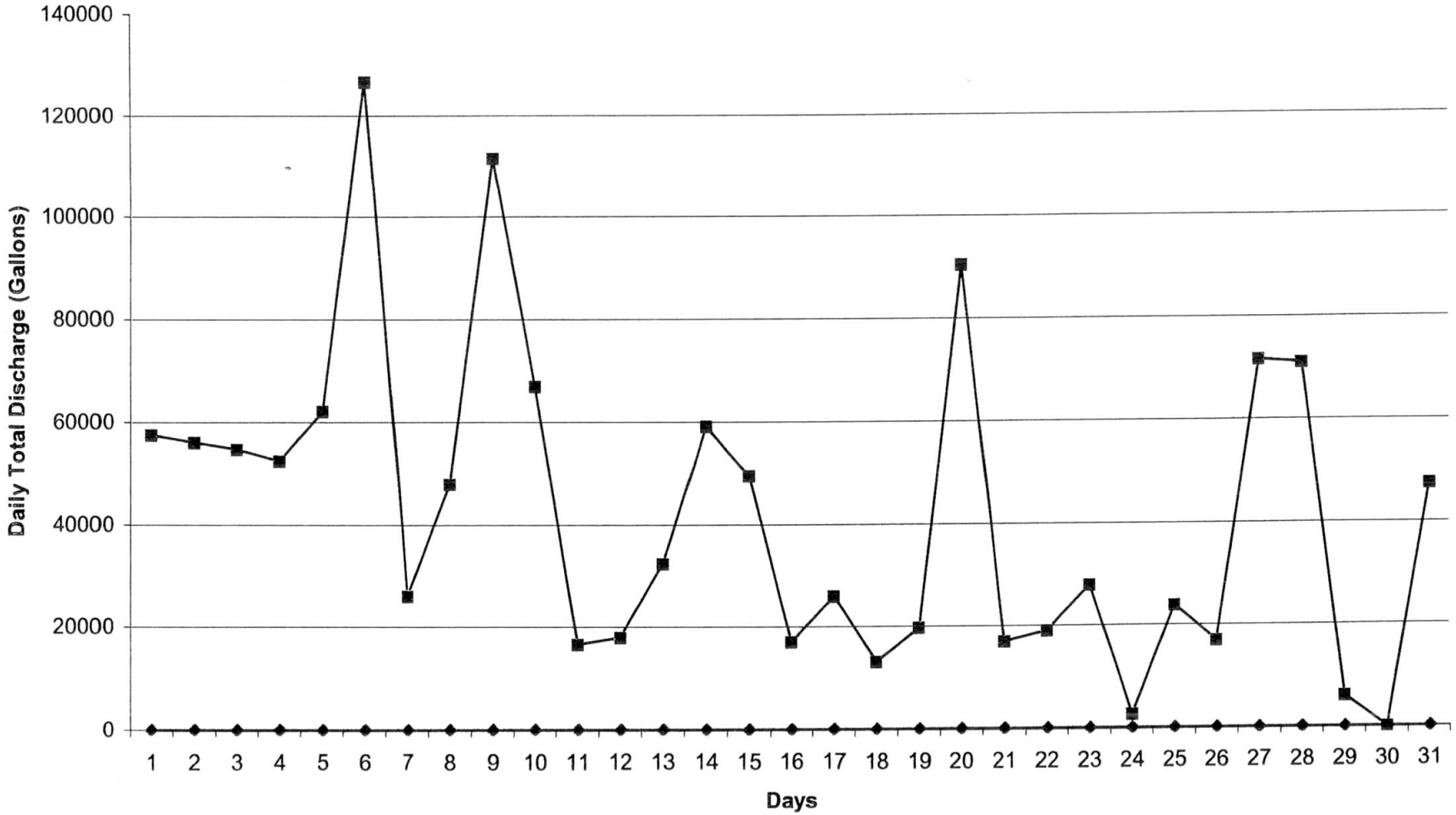
Yours truly,
Town of Cheektowaga

Jon W. Nichy
Superintendent
Main Pump Station

Direct Discharge Flow Data

12/31/2008		6755366	64,538	6,755,391	
January-09	**Time; 11:58pm unless otherwise stated**	**Totalizer Reading (Gallons)**	**Daily Total Discharge (Gallons)**		**Notes**
1		6812926	57,560	6,812,951	
2		6868979	56,053	6,869,004	
3		6923737	54,758	6,923,762	
4		6976166	52,429	6,976,191	
5		7038272	62,106	7,038,297	
6		7164863	126,591	7,164,888	
7		7190956	26,093	7,190,981	
8		7238847	47,892	7,238,873	
9		7350287	111,440	7,350,313	
10		7417174	66,888	7,417,201	
11		7433800	16,626	7,433,827	
12		7451806	18,006	7,451,833	
13		7484257	32,451	7,484,284	
14		7543346	59,090	7,543,374	
15		7592796	49,450	7,592,824	
16		7609879	17,083	7,609,907	
17		7635814	25,935	7,635,842	
18		7648882	13,069	7,648,911	
19		7668564	19,682	7,668,593	
20		7758789	90,226	7,758,819	
21		7775754	16,965	7,775,784	
22		7794722	18,968	7,794,752	
23		7822681	27,959	7,822,711	
24		7825342	2,662	7,825,373	
25		7849238	23,896	7,849,269	
26		7866142	16,904	7,866,173	
27		7937676	71,535	7,937,708	
28		8008592	70,916	8,008,624	
29		8014598	6,007	8,014,631	
30		8014598	0	8,014,631	
31		8061906	47,308	8,061,939	
		1,306,540	**1,306,548**	**1,306,548**	

Pfohl Bros.
January
2009



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

March 6, 2009

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 2009** 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.

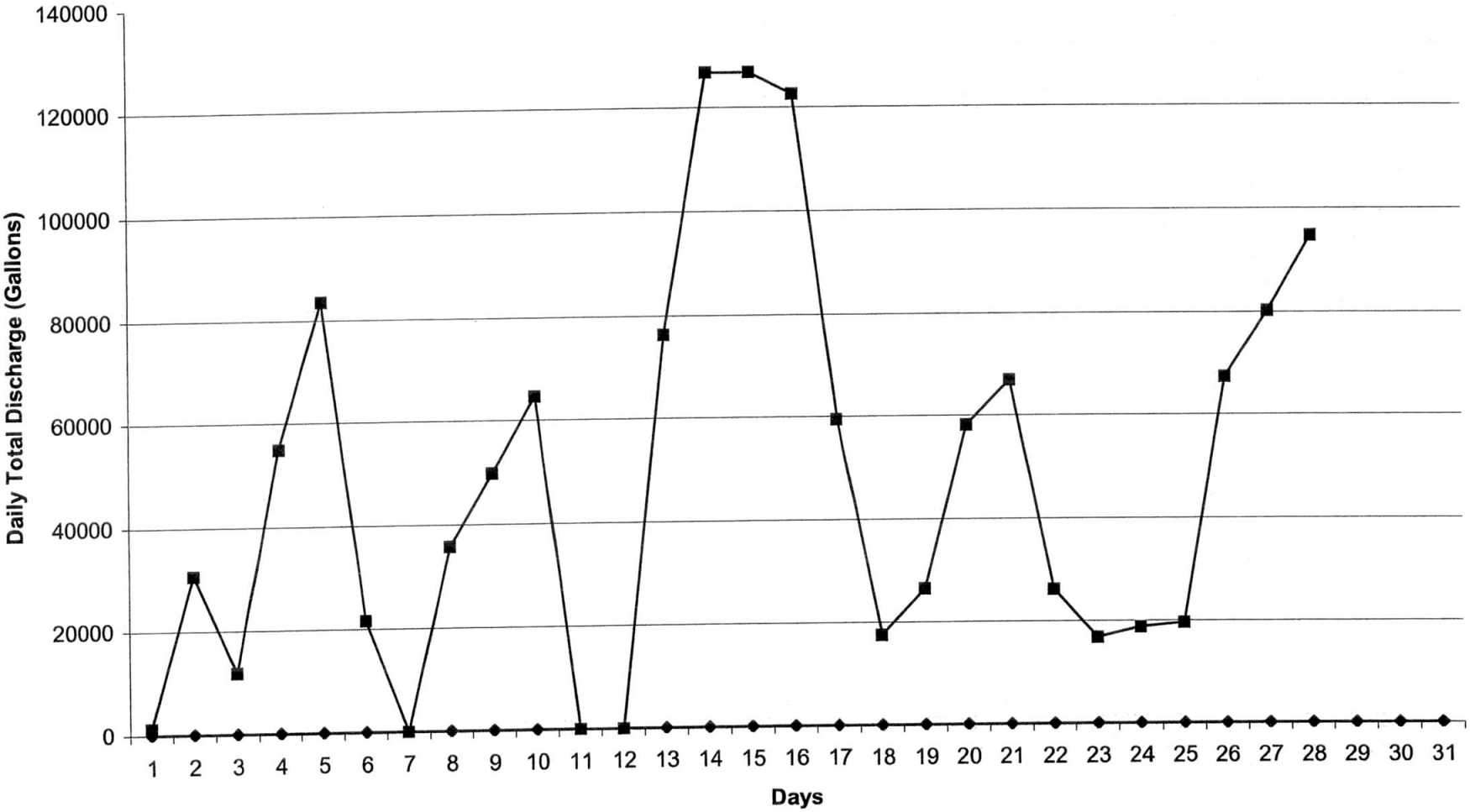
Yours truly,
Town of Cheektowaga

Jon W. Nichy
Superintendent
Main Pump Station

Direct Discharge Flow Data

1/31/2009		8061906	47,308	8,061,939	
February-09	**Time; 11:58pm unless otherwise stated**	**Totalizer Reading (Gallons)**	**Daily Total Discharge (Gallons)**		**Notes**
1		8063154	1,249	8,063,188	
2		8093747	30,593	8,093,781	
3		8105566	11,820	8,105,601	
4		8160494	54,928	8,160,529	
5		8244018	83,525	8,244,054	
6		8265577	21,559	8,265,613	
7		8265577	0	8,265,613	
8		8301294	35,717	8,301,330	
9		8351039	49,746	8,351,076	
10		8415614	64,575	8,415,651	
11		8415614	0	8,415,651	
12		8415614	0	8,415,651	
13		8491851	76,237	8,491,888	
14		8618571	126,720	8,618,608	
15		8745291	126,720	8,745,328	
16		8867706	122,415	8,867,743	
17		8927103	59,397	8,927,140	
18		8944643	17,540	8,944,680	
19		8971168	26,525	8,971,205	
20		9029334	58,166	9,029,371	
21		9096229	66,895	9,096,266	
22		9122375	26,146	9,122,412	
23		9139164	16,789	9,139,201	
24		9158014	18,850	9,158,051	
25		9177684	19,670	9,177,721	
26		9244972	67,288	9,245,009	
27		9325156	80,184	9,325,193	
28		9419879	94,722	9,419,915	
29					
30					
31					
		1,357,973	**1,357,976**	**1,357,976**	

Pfohl Bros.
February
2009



PFOHL BROTHERS LANDFILL SITE
CHEEKTOWAGA, NEW YORK

Auto Dialer System Log

DATE	PUMP Inhibit -08 (Off)	TIME Enable -07 (On)	COMMENTS
2/4/09	1201 pm	1202 pm	
2/7/09	428 pm		
2/8/09		911 am	
2/10/09	3:10 pm		
2/13/09		853 am	
2/27/09	853 am	644 pm	

THE TOWN OF
CHEEKTOWAGA

JON W. NICHY
Superintendent

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

April 9, 2009

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 2009** 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.

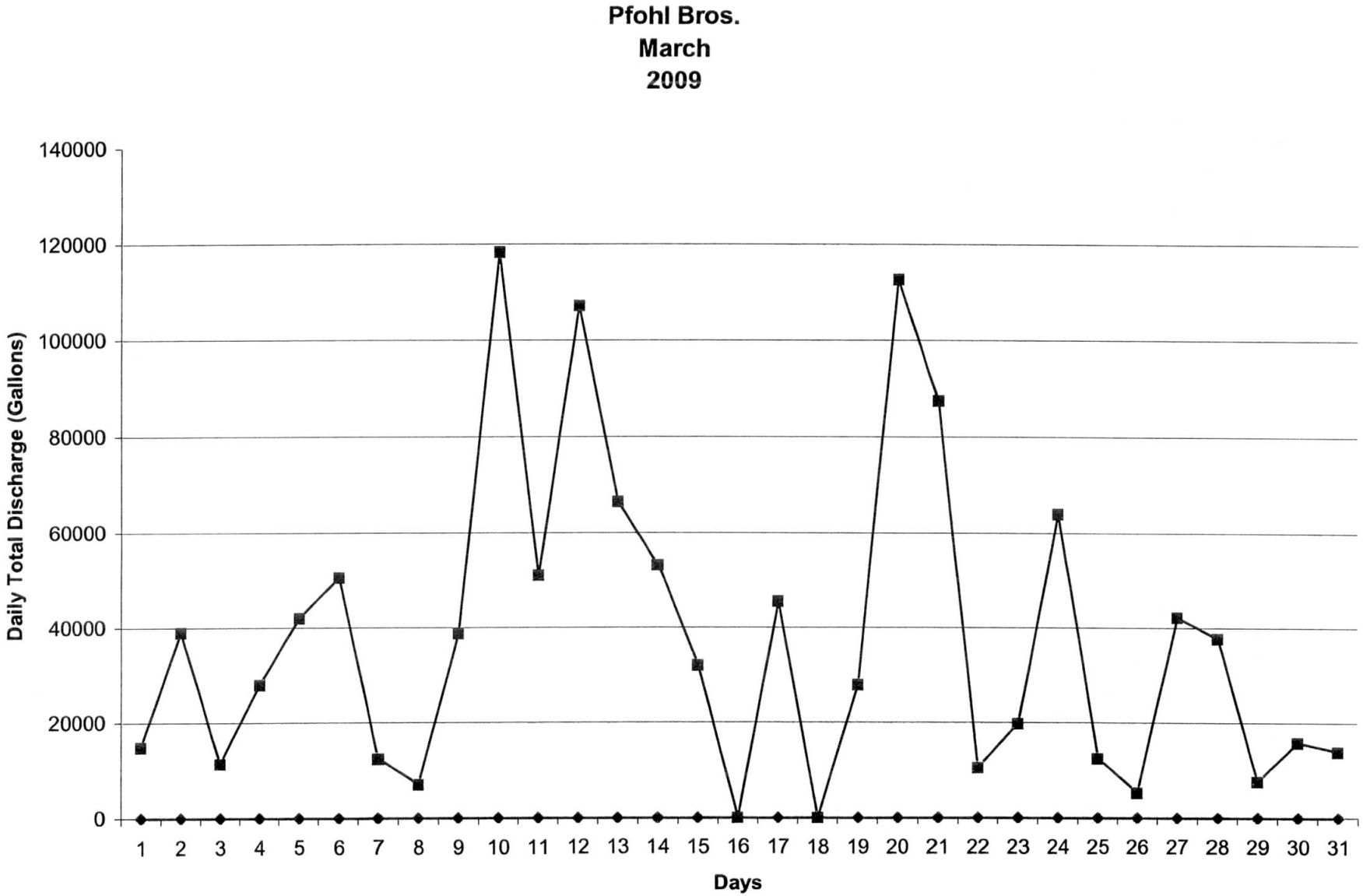
Should you have any other questions or comments regarding this submittal, please contact this office @ 896-1777.

Yours truly,
Town of Cheektowaga

Jon W. Nichy
Superintendent
Main Pump Station

Direct Discharge Flow Data

2/2//09		9419879	94,722	9,419,915	
March-09	**Time; 11:58pm unless otherwise stated**	**Totalizer Reading (Gallons)**	**Daily Total Discharge (Gallons)**		**Notes**
1		9434859	14,981	9,434,896	
2		9473804	38,945	9,473,841	
3		9485190	11,386	9,485,227	
4		9513135	27,945	9,513,172	
5		9555142	42,007	9,555,179	
6		9605616	50,474	9,605,653	
7		9618049	12,433	9,618,086	
8		9625160	7,111	9,625,197	
9		9663859	38,699	9,663,896	
10		9782194	118,335	9,782,231	
11		9833138	50,944	9,833,175	
12		9940270	107,132	9,940,307	
13		10006723	66,453	10,006,760	
14		10059888	53,165	10,059,925	
15		10091862	31,974	10,091,899	
16		10091862	0	10,091,899	
17		10137402	45,540	10,137,439	
18		10137402	0	10,137,439	
19		10165357	27,955	10,165,394	
20		10278062	112,705	10,278,099	
21		10365459	87,397	10,365,496	
22		10376045	10,586	10,376,082	
23		10395919	19,874	10,395,956	
24		10459862	63,943	10,459,899	
25		10472392	12,530	10,472,429	
26		10477666	5,274	10,477,703	
27		10519832	42,166	10,519,869	
28		10557567	37,735	10,557,604	
29		10565235	7,668	10,565,272	
30		10581174	15,939	10,581,211	
31		10595179	14,005	10,595,216	
		1,175,300	**1,175,301**	**1,137,689**	


Pfohl Bros.
March
2009
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
3/7/09	18:03 pm		
3/8/09		0842	
3/8/09	23:00 PM		HEAVY RAIN
3/9/09		16:00 PM	CLEAN
3/10/09	22:15 PM		RAIN
3/11/09		0959	
3/11/09			Power Failure
3/29/09	1046	1425	
[redacted]			RAIN

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

May 2, 2009

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 2009** 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

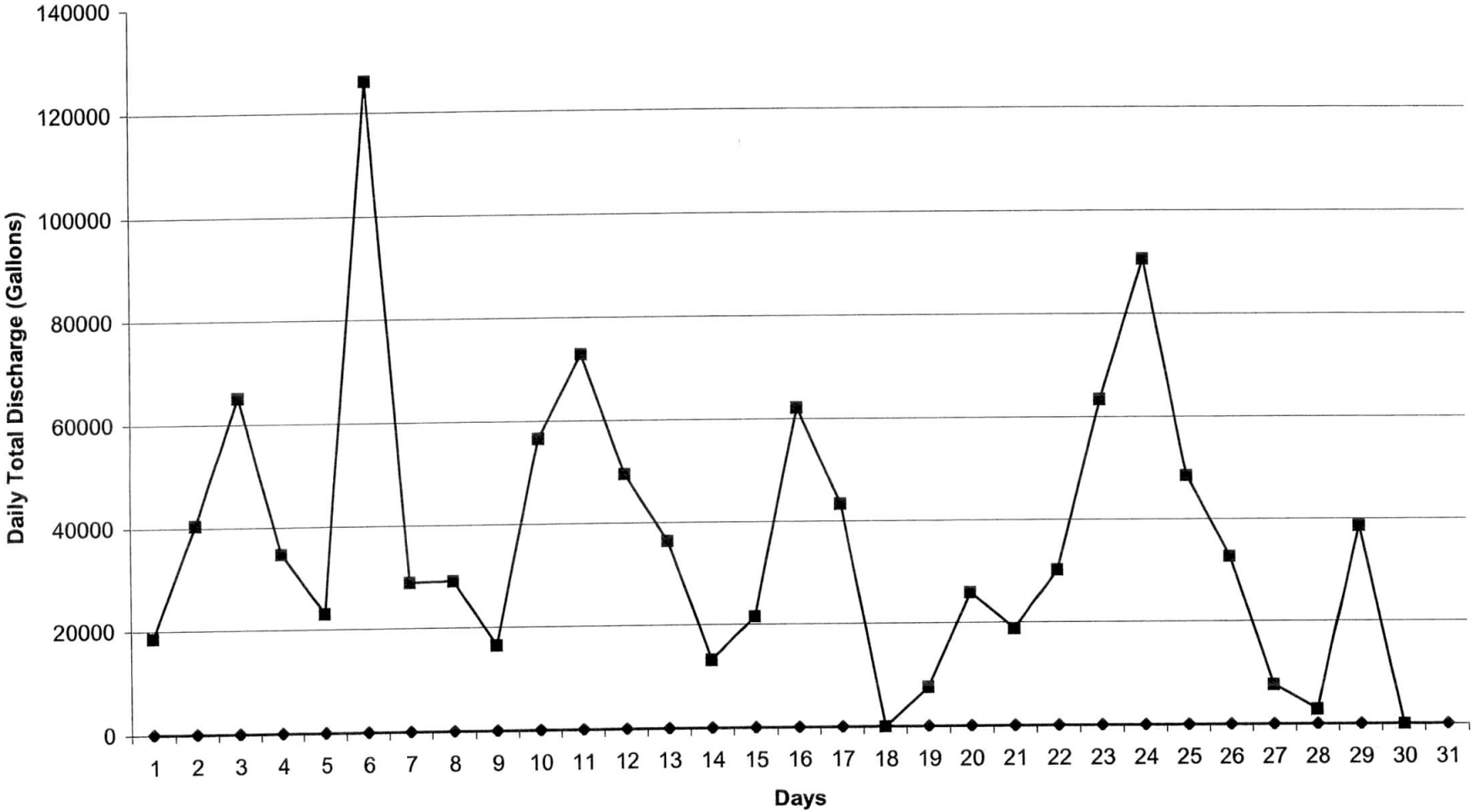
3/31//09		10595179	14,005	10,595,216	
April-09	**Time; 11:58pm unless otherwise stated**	**Totalizer Reading (Gallons)**	**Daily Total Discharge (Gallons)**		**Notes**
1		10613816	18,637	10,613,853	
2		10654202	40,386	10,654,239	
3		10719287	65,085	10,719,324	
4		10753943	34,656	10,753,980	
5		10753943	23,022	10,777,002	
6		10879841	125,898	10,902,900	
7		10908678	28,837	10,931,737	
8		10937720	29,042	10,960,779	
9		10954182	16,462	10,977,241	
10		11010830	56,648	11,033,889	
11		11083600	72,770	11,106,659	
12		11133051	49,451	11,156,110	
13		11169439	36,388	11,192,498	
14		11182619	13,180	11,205,678	
15		11204080	21,461	11,227,139	
16		11289245	62,143	11,289,282	
17		11332528	43,283	11,332,565	
18		11332528	0	11,332,565	
19		11340161	7,633	11,340,198	
20		11366044	25,883	11,366,081	
21		11384820	18,776	11,384,857	
22		11414958	30,138	11,414,995	
23		11478276	63,318	11,478,313	
24		11568815	90,539	11,568,852	
25		11617229	48,414	11,617,266	
26		11649859	32,630	11,649,896	
27		11657526	7,667	11,657,563	
28		11660429	2,903	11,660,466	
29		11698973	38,544	11,699,010	
30		11698973	0	11,699,010	
31					
		1,103,794	**1,103,794**	**1,103,794**	

PFOHL BROTHERS LANDFILL SITE
CHEEKTOWAGA, NEW YORK

Auto Dialer System Log

DATE April	PUMP Inhibit -08 (Off)	TIME Enable -07 (On)	COMMENTS
4/1/09	1045am	139pm	
4/3/09	550pm		
4/4/09		127pm	
4/20/09	9:30 AM		RAIN
4/21/09		440 PM	LT. RAIN

Pfohl Bros.
April
2009



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

June 9, 2009

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 2009** Direct Discharge Flow Data Report, prepared by Jon W. Nichy.

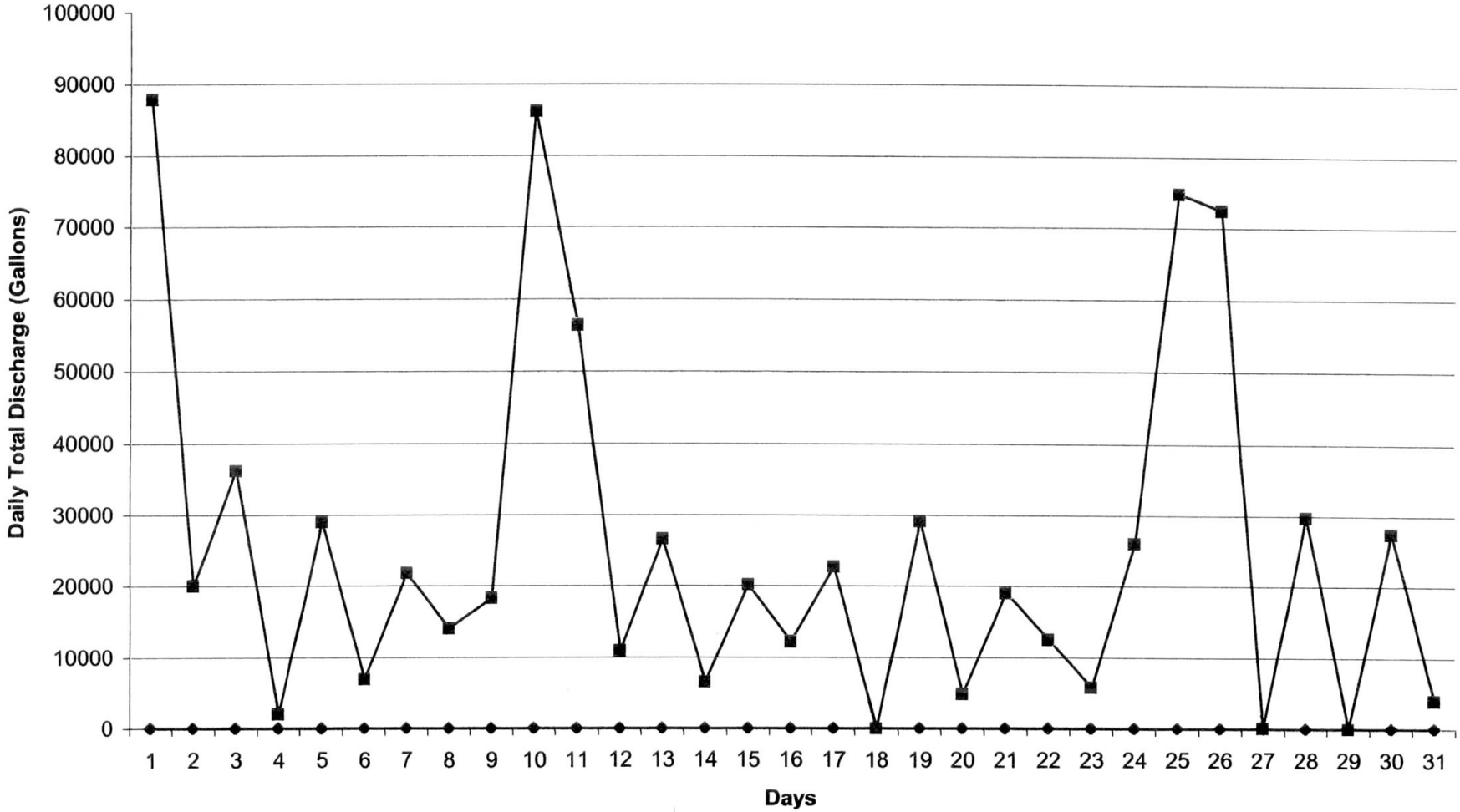
A monthly log sheet indicating inhibiting and enabling of pumping operation at the site is included with this package.

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

Pfohl Bros.
May
2009



Direct Discharge Flow Data

4/30//09		11698973	0	11,699,010	
May-09	**Time; 11:58pm unless otherwise stated**	**Totalizer Reading (Gallons)**	**Daily Total Discharge (Gallons)**		**Notes**
1		11786788	87,815	11,786,825	
2		11806814	20,026	11,806,851	
3		11842959	36,145	11,842,996	
4		11845026	2,067	11,845,063	
5		11874033	29,007	11,874,070	
6		11881029	6,996	11,881,066	
7		11902838	21,809	11,902,875	
8		11935227	14,068	11,916,943	
9		11935227	18,321	11,935,264	
10		12021421	86,194	12,021,458	
11		12077867	56,446	12,077,904	
12		12088832	10,965	12,088,869	
13		12115464	26,632	12,115,501	
14		12122045	6,581	12,122,082	
15		12142190	20,145	12,142,227	
16		12154464	12,274	12,154,501	
17		12177191	22,727	12,177,228	
18		12177191	0	12,177,228	
19		12206352	29,161	12,206,389	
20		12211235	4,883	12,211,272	
21		12230324	19,089	12,230,361	
22		12242845	12,521	12,242,882	
23		12248676	5,831	12,248,713	
24		12274710	26,034	12,274,747	
25		12349483	74,773	12,349,520	
26		12421956	72,473	12,421,993	
27		12422078	122	12,422,115	
28		12451800	29,722	12,451,837	
29		12451800	0	12,451,837	
30		12479256	27,456	12,479,293	
31		12483226	3,970	12,483,263	
		784,253	**784,253**	**784,253**	

PFOHL BROTHERS LANDFILL SITE
CHEEKTOWAGA, NEW YORK

Auto Dialer System Log

DATE May	PUMP Inhibit -08 (Off)	TIME Enable -07 (On)	COMMENTS
5/1/09	1130pm		Rain
5/2/09		8:34am	
5/27/09	10:30 PM	—	RAIN
5/28/09		8:53am	

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

July 10, 2009

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 2009** Direct Discharge Flow Data Report, prepared by Jon W. Nichy.

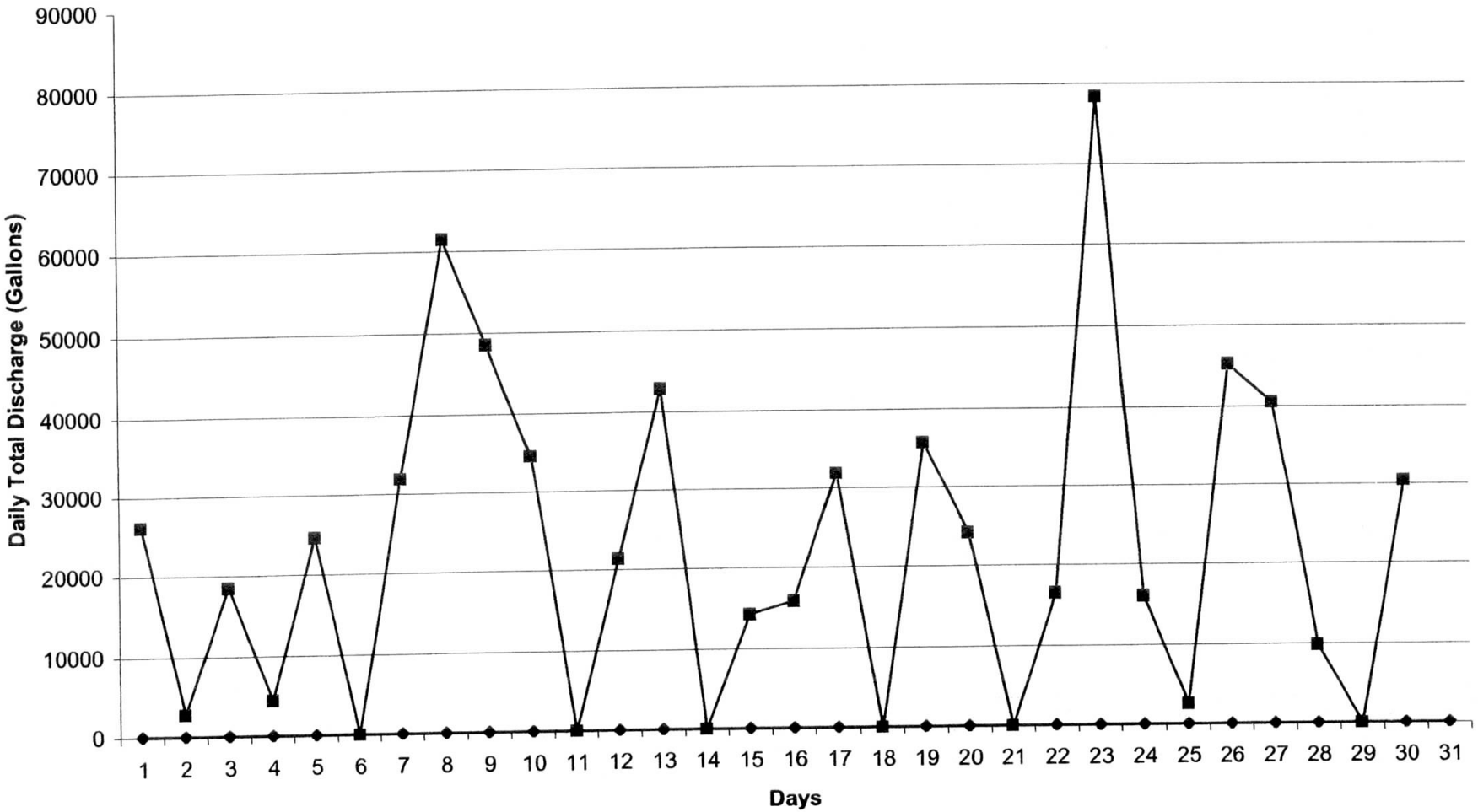
A monthly log sheet indicating inhibiting and enabling of pumping operation at the site is included with this package.

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

Pfohl Bros.
June
2009



Direct Discharge Flow Data

5/31//09		12483226	3,970	12,483,263	
June-09	**Time; 11:58pm unless otherwise stated**	**Totalizer Reading (Gallons)**	**Daily Total Discharge (Gallons)**		**Notes**
1		12509360	26,134	12,509,397	
2		12512150	2,790	12,512,187	
3		12530662	18,512	12,530,699	
4		12535134	4,472	12,535,171	
5		12559764	24,630	12,559,801	
6		12559764	0	12,559,801	
7		12591586	31,822	12,591,623	
8		12653055	61,469	12,653,092	
9		12701608	48,553	12,701,645	
10		12736214	34,606	12,736,251	
11		12736214	0	12,736,251	
12		12757593	21,379	12,757,630	
13		12800465	42,872	12,800,502	
14		12800465	0	12,800,502	
15		12814769	14,304	12,814,806	
16		12830654	15,885	12,830,691	
17		12862486	31,832	12,862,523	
18		12862486	0	12,862,523	
19		12898213	35,727	12,898,250	
20		12922351	24,138	12,922,388	
21		12922351	0	12,922,388	
22		12938883	16,532	12,938,920	
23		13017267	78,384	13,017,304	
24		13033358	16,091	13,033,395	
25		13035929	2,571	13,035,966	
26		13081164	45,235	13,081,201	
27		13121665	40,501	13,121,702	
28		13131574	9,909	13,131,611	
29		13131574	0	13,131,611	
30		13161919	30,345	13,161,956	
31					
		678,693	**678,693**	**678,693**	

PFOHL BROTHERS LANDFILL SITE
CHEEKTOWAGA, NEW YORK

Auto Dialer System Log

DATE	PUMP Inhibit -08 (Off)	TIME Enable -07 (On)	COMMENTS
6/18/09			No Flow Heavy Rains
6/20/09	1126		
6/22/09		0938	
6/25/09	1458		
6/26/09		0637	
6/28/09	2240		
6/30/09		1033	

APPENDIX C

HYDRAULIC MONITORING TABLES

TABLE 1
PFOHL BROTHERS LANDFILL SITE
GROUNDWATER ELEVATIONS
JANUARY - JUNE 2009

Location ID / Type	Northing	Easting	Ground Elevation (ft)	Casing Elevation (ft)	Meas.point (Riser)Elev.(ft)	Geol. Zone	Specific Gravity	Date / Time	Depth to Water (ft)	Water Elev. (ft)	Product Thick. (ft)	Corrected Water Elev. (ft)	Remark
GW-03S	1073812.622	1114605.762	692.61	NM	693.80	S	1						
MNW								3/19/2009 0000	2.43	691.37	0.00	691.37	
MNW								5/4/2009 0000	2.5	691.30	0.00	691.30	
MNW								6/22/2009 0000	4.92	688.88	0.00	688.88	
GW-04S	1072284.456	1114685.127	690.76	NM	692.72	S	1						
MNW								3/19/2009 0000	4.05	688.67	0.00	688.67	
MNW								5/4/2009 0000	4.3	688.42	0.00	688.42	
MNW								6/22/2009 0000	5.47	687.25	0.00	687.25	
GW-07S	1071238.157	1117666.265	697.47	NM	699.51	S	1						
MNW								3/19/2009 0000	4.28	695.23	0.00	695.23	
MNW								5/4/2009 0000	5.02	694.49	0.00	694.49	
MNW								6/22/2009 0000	5.98	693.53	0.00	693.53	
GW-08SR	1073714.172	1116786.343	695.08	NM	697.50	S	1						
MNW								3/19/2009 0000	5.38	692.12	0.00	692.12	
MNW								5/4/2009 0000	5.37	692.13	0.00	692.13	
MNW								6/22/2009 0000	5.42	692.08	0.00	692.08	
GW-28S	1073129.479	1117648.927	698.60	NM	700.95	S	1						
MNW								3/19/2009 0000	8.97	691.98	0.00	691.98	
MNW								5/4/2009 0000	9.58	691.37	0.00	691.37	
MNW								6/22/2009 0000	10.74	690.21	0.00	690.21	
GW-29S	1072552.638	1117761.993	697.50	NM	699.63	S	1						
MNW								3/19/2009 0000	8.12	691.51	0.00	691.51	
MNW								5/4/2009 0000	9.07	690.56	0.00	690.56	
MNW								6/22/2009 0000	10.21	689.42	0.00	689.42	

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

Filter = ((tblGWD.LOGDATE>=#1/1/2009#))

Printed: 7/15/2009 4:12:57 PM
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TABLE 1
PFOHL BROTHERS LANDFILL SITE
GROUNDWATER ELEVATIONS
JANUARY - JUNE 2009

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-30S	1072096.109	1117743.563	693.67	NM	696.58	S	1						
MNW								3/19/2009 0000	8.36	688.22	0.00	688.22	
MNW								5/4/2009 0000	8.34	688.24	0.00	688.24	
MNW								6/22/2009 0000	8.47	688.11	0.00	688.11	
GW-31S	1071786.280	1117191.441	695.84	NM	698.62	S	1						
MNW								3/19/2009 0000	2.60	696.02	0.00	696.02	
MNW								5/4/2009 0000	3.33	695.29	0.00	695.29	
MNW								6/22/2009 0000	5.76	692.86	0.00	692.86	
GW-32S	1071613.793	1116364.200	696.19	NM	698.37	S	1						
MNW								3/19/2009 0000	2.80	695.57	0.00	695.57	
MNW								5/4/2009 0000	3.57	694.80	0.00	694.80	
MNW								6/22/2009 0000	5.13	693.24	0.00	693.24	
GW-33S	1072165.625	1115561.866	695.94	NM	698.24	S	1						
MNW								3/19/2009 0000	4.21	694.03	0.00	694.03	
MNW								5/4/2009 0000	4.88	693.36	0.00	693.36	
MNW								6/22/2009 0000	6.55	691.69	0.00	691.69	
GW-34S	1072979.205	1114730.200	692.51	NM	694.77	S	1						
MNW								3/19/2009 0000	2.74	692.03	0.00	692.03	
MNW								5/4/2009 0000	2.92	691.85	0.00	691.85	
MNW								6/22/2009 0000	3.62	691.15	0.00	691.15	
GW-35S	1071701.925	1115985.585	696.19	NM	697.39	S	1						
MNW								3/19/2009 0000	2.96	694.43	0.00	694.43	
MNW								5/4/2009 0000	3.67	693.72	0.00	693.72	
MNW								6/22/2009 0000	5.36	692.03	0.00	692.03	

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
JANUARY - JUNE 2009

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-01	1073806.665	1114810.501	698.62	NM	698.62	NA	1						
MH								3/19/2009 0000	9.72	688.90	0.00	688.90	
MH								5/4/2009 0000	10.31	688.31	0.00	688.31	
MH								6/22/2009 0000	9.82	688.80	0.00	688.80	
MH-03	1073736.789	1115259.334	699.40	NM	699.40	NA	1						
MH								3/19/2009 0000	10.60	688.80	0.00	688.80	
MH								5/4/2009 0000	11.18	688.22	0.00	688.22	
MH								6/22/2009 0000	10.70	688.70	0.00	688.70	
MH-07	1073838.229	1116243.757	696.82	NM	696.82	NA	1						
MH								3/19/2009 0000	8.79	688.03	0.00	688.03	
MH								5/4/2009 0000	9.39	687.43	0.00	687.43	
MH								6/22/2009 0000	8.9	687.92	0.00	687.92	
MH-10	1073540.729	1117381.524	703.01	NM	703.01	NA	1						
MH								3/19/2009 0000	14.48	688.53	0.00	688.53	
MH								5/4/2009 0000	14.46	688.55	0.00	688.55	
MH								6/22/2009 0000	14.43	688.58	0.00	688.58	
MH-15	1072531.567	1117761.125	699.02	NM	699.02	NA	1						
MH								3/19/2009 0000	14.53	684.49	0.00	684.49	
MH								5/4/2009 0000	14.67	684.35	0.00	684.35	
MH								6/22/2009 0000	14.68	684.34	0.00	684.34	
MH-16	1072133.714	1117748.238	698.57	NM	698.57	NA	1						
MH								3/19/2009 0000	14.21	684.36	0.00	684.36	
MH								5/4/2009 0000	14.46	684.11	0.00	684.11	
MH								6/22/2009 0000	14.41	684.16	0.00	684.16	

NM - No Measurement

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Type:

MH	Manhole Monitoring Point
MNW	Monitoring Well
SG	Staff Gauge

TABLE 1
PFOHL BROTHERS LANDFILL SITE
GROUNDWATER ELEVATIONS
JANUARY - JUNE 2009

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-17	1071813.137	1117180.019	702.16	NM	702.16	NA	1						
MH								3/19/2009 0000	17.83	684.33	0.00	684.33	
MH								5/4/2009 0000	18.12	684.04	0.00	684.04	
MH								6/22/2009 0000	18.05	684.11	0.00	684.11	
MH-20	1071756.395	1115997.024	706.20	NM	706.20	NA	1						
MH								3/19/2009 0000	19.72	686.48	0.00	686.48	
MH								5/4/2009 0000	19.72	686.48	0.00	686.48	
MH								6/22/2009 0000	19.72	686.48	0.00	686.48	
MH-22	1072158.023	1115589.309	698.05	NM	698.05	NA	1						
MH								3/19/2009 0000	9.00	689.05	0.00	689.05	
MH								5/4/2009 0000	8.97	689.08	0.00	689.08	
MH								6/22/2009 0000	8.98	689.07	0.00	689.07	
MH-25	1072483.928	1114820.313	698.17	NM	698.17	NA	1						
MH								3/19/2009 0000	9.35	688.82	0.00	688.82	
MH								5/4/2009 0000	9.90	688.27	0.00	688.27	
MH								6/22/2009 0000	9.40	688.77	0.00	688.77	
SG-01	1073882.887	1114813.101	NM	NM	690.00	NA	1						
SG								3/19/2009 0000	-1.20	691.20	0.00	691.20	
SG								5/4/2009 0000	-1.0	691.00	0.00	691.00	
SG								6/22/2009 0000	NM	-	NM	-	DRY
SG-02	1073738.27	1116805.85	NM	NM	690.00	NA	1						
SG								3/19/2009 0000	-2.18	692.18	0.00	692.18	
SG								5/4/2009 0000	-3.2	693.20	0.00	693.20	
SG								6/22/2009 0000	-3.1	693.10	0.00	693.10	

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 2009

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-01	1073676.903	1115710.476	NM	NM	684.02	NA	1						
MH								3/19/2009 0000	-4.7	688.72	0.00	688.72	
MH								5/4/2009 0000	-4.0	688.02	0.00	688.02	
MH								6/22/2009 0000	-4.5	688.52	0.00	688.52	
WW-02	1073684.724	1116792.311	NM	NM	684.18	NA	1						
MH								3/19/2009 0000	-4.7	688.88	0.00	688.88	
MH								5/4/2009 0000	-4.6	688.78	0.00	688.78	
MH								6/22/2009 0000	-4.7	688.88	0.00	688.88	
WW-03	1073140.339	1117618.499	NM	NM	683.80	NA	1						
MH								3/19/2009 0000	-5.5	689.30	0.00	689.30	
MH								5/4/2009 0000	-5.6	689.40	0.00	689.40	
MH								6/22/2009 0000	-5.6	689.40	0.00	689.40	
WW-04	1072057.563	1117610.508	NM	NM	676.62	NA	1						
MH								3/19/2009 0000	-7.3	683.92	0.00	683.92	
MH								5/4/2009 0000	-7.0	683.62	0.00	683.62	
MH								6/22/2009 0000	-7.1	683.72	0.00	683.72	
WW-05	1071661.368	1116370.876	NM	NM	676.14	NA	1						
MH								3/19/2009 0000	-8.0	684.14	0.00	684.14	
MH								5/4/2009 0000	-7.5	683.64	0.00	683.64	
MH								6/22/2009 0000	-7.8	683.94	0.00	683.94	
WW-06	1072988.420	1114811.518	NM	NM	681.89	NA	1						
MH								3/19/2009 0000	NM	-	0.00	-	PLC Error
MH								5/4/2009 0000	-6.8	688.69	0.00	688.69	
MH								6/22/2009 0000	-7.2	689.09	0.00	689.09	

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)
3/19/2009	688.72	---	---	688.88	692.12	3.24	692.18	3.30
5/4/2009	688.02	---	---	688.78	692.13	3.35	693.20	4.42
6/22/2009	688.52	---	---	688.88	692.08	3.20	693.10	4.22

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)
3/19/2009	689.30	691.98	2.68	683.92	---	---
5/4/2009	689.40	691.37	1.97	683.62	---	---
6/22/2009	689.40	690.21	0.81	683.72	---	---

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)
3/19/2009	684.14	695.57	11.43	**	692.03	NA
5/4/2009	683.64	694.80	11.16	688.69	691.85	3.16
6/22/2009	683.94	693.24	9.30	689.09	691.15	2.06

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)
3/19/2009	688.90	691.20	2.30	684.49	691.51	7.02
5/4/2009	688.31	691.00	2.69	684.35	690.56	6.21
6/22/2009	688.80	DRY	--	684.34	689.42	5.08

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)
3/19/2009	684.36	688.22	3.86	684.33	696.02	11.69
5/4/2009	684.11	688.24	4.13	684.04	695.29	11.25
6/22/2009	684.16	688.11	3.95	684.11	692.86	8.75

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)
3/19/2009	686.48	694.43	7.95	686.48	694.03	7.55
5/4/2009	686.48	693.72	7.24	689.08	693.36	4.28
6/22/2009	686.48	692.03	5.55	689.07	691.69	2.62

Notes:

* = No corresponding monitoring well.

** = PLC Level gauge malfunctioning

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: 5/7/2009 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: 3.80' Depth to Well Bottom: 14.94' Well Diameter: 2" Screen Length:

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

Sample ID: GW-1S Sample Time: 9:48 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.
Weep hole in protective casing may have corroded shut.

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)
9:03	Start pumping, bypassed flow through cell due to abundant orange particulates						250	3.80
9:12	6.79	9.38	1.136	4.31	442	-81.0	130	4.41
9:17	6.78	9.19	1.131	1.36	335	-75.5	130	4.45
9:22	6.78	9.17	1.116	1.32	226	-71.5	130	4.46
9:27	6.80	9.04	1.091	1.00	142	-63.0	130	4.47
9:32	6.79	8.98	1.086	0.92	113	-65.3	130	4.48
9:37	6.78	9.02	1.086	0.84	95	-68.6	130	4.43
9:42	6.77	9.06	1.089	0.82	84	-68.9	130	4.41
9:45	6.76	9.06	1.095	0.78	77	-71.6	130	4.40
9:48	6.75	9.10	1.100	0.75	72	-73.1	130	4.39
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-1D

Date: 5/7/2009 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: 2.93' Depth to Well Bottom: 39.63' Well Diameter: 4" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 90.6 Estimated Purge Volume (liters): 66.2

Sample ID: GW-1D Sample Time: 11:25 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)
10:15	7.13	9.78	0.997	2.52	44	-165.7	945	2.93
10:25	7.15	9.60	1.002	0.30	16	-185.0	945	2.98
10:30	7.14	9.53	1.003	0.17	17	-189.1	945	2.98
10:35	7.14	9.41	1.002	0.15	6	-192.8	945	2.98
10:45	7.13	9.31	1.000	0.10	5	-207.7	945	2.98
10:55	7.13	9.34	0.998	0.06	6	-220.7	945	2.98
11:05	7.12	9.32	0.998	0.04	5	-234.5	945	2.98
11:15	7.12	9.37	0.994	0.03	6	-242.6	945	2.98
11:20	7.11	9.33	0.994	0.03	5	-245.7	945	2.98
11:25	7.11	9.40	0.993	0.03	6	-246.4	945	2.98
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: 5/5/2009 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: 2.56' Depth to Well Bottom: 13.24' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 6.6 Estimated Purge Volume (liters): 7.4

Sample ID: GW-3S Sample Time: 9:47 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)
9:02	7.02	9.57	1.155	4.36	162	-65.8	240	4.07
9:07	6.78	8.81	1.137	1.54	120	-55.2	185	4.64
9:12	6.76	8.79	1.133	1.22	73	-50.3	150	4.97
9:17	6.77	8.77	1.128	0.96	50	-38.4	150	5.37
9:22	6.79	8.78	1.127	1.09	29	-30.8	150	5.59
9:27	6.77	8.88	1.124	0.84	13	-21.8	150	5.91
9:32	6.76	9.23	1.117	0.62	12	-13.2	150	6.18
9:37	6.76	9.06	1.118	0.62	10	-12.1	150	6.31
9:42	6.75	8.90	1.116	0.59	8	-10.5	150	6.52
9:47	6.78	8.87	1.115	0.67	9	-6.2	150	6.65
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-3D

Date: 5/5/2009 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: 1.91' Depth to Well Bottom: 35.69' Well Diameter: 4" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 83.4 Estimated Purge Volume (liters): 85.0

Sample ID: GW-3D Sample Time: 11:58 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)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
10:18	6.94	10.26	1.390	4.65	9	-23.7	850	1.91
10:23	6.61	9.24	1.410	0.65	100	-47.3	850	1.91
10:33	6.54	9.21	1.432	0.24	20	-63.8	850	1.91
10:43	6.49	9.20	1.428	0.14	6	-68.8	850	1.91
10:53	6.47	9.26	1.422	0.12	4	-80.3	850	1.91
11:03	6.47	9.34	1.421	0.11	5	-77.3	850	1.91
11:13	6.43	9.42	1.424	0.11	6	-76.5	850	1.91
11:18	6.25	9.55	1.420	0.12	3	-60.2	850	1.91
11:28	6.17	9.66	1.426	0.11	3	-74.5	850	1.91
11:38	6.15	9.70	1.422	0.10	2	-73.6	850	1.91
11:48	6.19	9.74	1.424	0.10	2	-77.3	850	1.91
11:53	6.18	9.74	1.422	0.11	2	-76.4	850	1.91
11:58	6.18	9.77	1.420	0.10	2	-76.6	850	1.91
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: 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: 4.41' Depth to Well Bottom: 16.25' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 7.3 Estimated Purge Volume (liters): 28.7

Sample ID: GW-4S Sample Time: 14:25 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)
12:05	7.68	8.44	0.466	2.56	57	-161.1	820	4.41
12:10	7.66	7.93	0.459	0.62	31	-180.4	820	10.80
12:15	7.71	8.33	0.457	0.72	73	-167.8	820	13.14
12:20	7.72	8.32	0.462	1.14	44	-154.3	820	14.48
12:25	7.62	8.10	0.457	0.53	5	-145.2	820	14.93
12:30	7.60	8.14	0.451	0.36	4	-143.2	820	15.52
12:35	7.66	8.27	0.449	0.31	4	-148.6	820	16.05
12:40	7.70	8.38	0.446	0.30	4	-154.9	820	16.20
								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: 5/7/2009 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: 12.46' Depth to Well Bottom: 45.57' Well Diameter: 4" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 81.8 Estimated Purge Volume (liters): 8.4

Sample ID: GW-4D Sample Time: 13:59 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)
12:59	7.36	10.70	1.179	4.04	3	-167.4	150	12.74
13:04	7.29	10.75	1.182	2.00	3	-173.3	200	12.97
13:09	7.27	10.68	1.184	1.43	2	-169.7	200	13.12
13:14	7.26	10.66	1.184	0.96	2	-176.6	200	12.32
13:19	7.24	11.02	1.184	0.71	2	-182.5	115	13.37
13:29	7.22	11.20	1.190	0.50	2	-169.5	115	13.43
13:39	7.20	11.05	1.191	0.32	1	-177.9	115	13.50
13:49	7.19	11.70	1.196	0.22	1	-184.5	115	13.50
13:54	7.18	11.39	1.190	0.20	1	-192.0	115	13.50
13:59	7.19	11.65	1.191	0.20	1	-187.7	115	13.50
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): 5/4/09, 5/5/09

			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.)	=	5.02	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	30.02	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						
pH	8.00	7.96	7.96	7.95	7.91						
SPEC. COND. (mS/cm)	0.397	0.378	0.384	0.388	0.391						
DO (mg/l)	8.81	11.02	8.72	9.95	7.14						
TEMPERATURE (^{0}C)	11.21	9.35	10.19	10.81	11.61						
TURBIDITY (NTU)	139	39	27	135	116						
ORP (millivolts)	-3.1	4.6	15.5	7.3	1.9						
TIME	14:05	14:12	14:20	14:27	14:35						

COMMENTS: 14:05 - Begin handbailing well.
14:40 - Well dry after removing 7.5 gallons

5/5/2009 16:05 - return to well, depth to water = 5.26 feet.
16:40 - 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): 5/4/09, 5/5/09

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	60.30	1"	0.040
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	41.95	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	18.35	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)	=	12.1	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 3)	=		6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	12.0	8"	2.60

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

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	Initial	3	6	9	12						
pH	8.48	8.23	7.81	7.82	7.90						
SPEC. COND. (mS/cm)	0.644	0.727	0.483	0.474	0.480						
DO (mg/)	3.19	7.17	7.45	7.54	9.41						
TEMPERATURE (^{0}C)	13.83	12.67	12.66	11.98	11.98						
TURBIDITY (NTU)	4	3	15	39	45						
ORP (millivolts)	-195.4	-194.8	-63.2	-53.8	-48.1						
TIME	12:45	12:51	13:40	13:49	13:56						

COMMENTS: 13:00 - Difficulty with whale pump, try another vehicle/battery and had same result of low flow.
13:30 - Begin handbailing the well to dryness.

5/5/2009 16:05 - return to well, depth to water = 59.19 feet.
16:10 - 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: 5/5/2009 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: 5.38' 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): 7.8

Sample ID: GW-8SR Sample Time: 13:50 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)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
13:00	6.32	11.66	2.114	1.57	644	-65.2	200	5.38
13:05	6.18	11.94	2.092	0.34	510	-56.6	150	6.91
13:15	6.14	12.15	2.089	0.20	316	-50.5	150	7.03
13:25	6.09	11.65	2.100	0.16	145	-42.2	150	7.09
13:30	6.08	11.48	2.099	0.14	94	-40.7	150	7.09
13:35	6.08	11.39	2.096	0.14	63	-41.0	150	7.09
13:40	6.08	11.72	2.081	0.13	47	-38.6	150	7.09
13:45	6.08	11.91	2.090	0.14	33	-29.8	150	7.09
13:50	6.08	12.03	2.079	0.13	21	-36.5	150	7.09
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: 5/5/2009 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: 5.88' Depth to Well Bottom: 36.60' Well Diameter: 4" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 75.9 Estimated Purge Volume (liters): 65.0

Sample ID: GW-8D Sample Time: 15:35 QA/QC: Duplicate (FD-050509)

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)
14:30	6.95	11.05	1.213	1.63	258	-86.2	1000	5.88
14:40	6.66	10.55	1.154	0.24	15	-82.2	1000	5.87
14:50	6.60	10.37	1.148	0.17	6	-76.0	1000	5.86
15:00	6.57	10.40	1.146	0.13	6	-72.0	1000	5.86
15:05	6.57	10.33	1.147	0.12	4	-70.5	1000	5.86
15:10	6.57	10.33	1.146	0.12	4	-70.3	1000	5.86
15:15	6.58	10.22	1.146	0.11	2	-69.2	1000	5.86
15:20	6.57	10.32	1.146	0.11	3	-67.9	1000	5.86
15:25	6.54	10.37	1.145	0.10	2	-66.2	1000	5.86
15:30	6.54	10.36	1.147	0.10	3	-65.8	1000	5.86
15:35	6.54	10.36	1.145	0.10	2	-64.9	1000	5.86
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-26D

Date: 5/7/2009 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: 6.69' Depth to Well Bottom: 40.71' Well Diameter: 4" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 84.0 Estimated Purge Volume (liters): 42.8

Sample ID: GW-26D Sample Time: 15:50 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)
15:05	6.94	11.89	1.568	4.76	452	-100.6	950	6.69
15:10	6.57	11.29	1.560	1.63	292	-126.3	950	6.70
15:15	6.54	11.28	1.560	0.49	23	-135.1	950	6.70
15:20	6.53	11.31	1.560	0.19	111	-142.0	950	6.70
15:25	6.53	11.27	1.560	0.14	146	-144.7	950	6.70
15:30	6.54	11.27	1.561	0.11	77	-146.9	950	6.70
15:35	6.53	11.55	1.560	0.10	56	-146.5	950	6.70
15:40	6.53	11.46	1.564	0.08	27	-149.8	950	6.70
15:45	6.52	11.52	1.562	0.08	25	-149.6	950	6.70
15:50	6.50	11.51	1.563	0.07	24	-148.9	950	6.70
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: 5/6/2009 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: 9.65' Depth to Well Bottom: 15.55' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 3.6 Estimated Purge Volume (liters): 6.3

Sample ID: GW-28S Sample Time: 9:30 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)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
8:55	6.90	8.80	0.704	2.20	200	-33.2	240	9.65
9:00	6.85	8.94	0.704	1.01	120	-29.4	170	10.87
9:05	6.90	9.19	0.698	N/A	47	-15.9	170	10.95
9:10	6.84	9.11	0.695	1.59	29	-12.7	170	10.98
9:15	6.84	9.05	0.697	1.25	21	-9.6	170	11.03
9:20	6.84	9.07	0.700	1.07	14	-7.2	170	11.07
9:25	6.84	9.12	0.707	1.03	10	-5.1	170	11.08
9:30	6.84	9.16	0.710	0.95	8	-4.1	170	11.10
Tolerance:	**0.1**	**---**	**3%**	**10%**	**10%**	**+ or - 10**	**---**	

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

Date: 5/6/2009 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: 9.11' Depth to Well Bottom: 19.98' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 6.7 Estimated Purge Volume (liters): 7.2

Sample ID: GW-29S Sample Time: 10:47 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)
10:07	6.88	10.67	1.044	5.34	950	-63.7	245	9.11
10:12	6.74	10.59	1.008	1.08	455	-59.9	170	11.36
10:17	6.70	10.66	1.019	1.28	286	-60.0	170	11.52
10:22	6.62	10.59	1.049	0.94	158	-61.5	170	11.64
10:27	6.58	10.73	1.066	0.62	95	-61.8	170	11.70
10:32	6.54	10.80	1.097	0.55	54	-63.1	170	11.76
10:37	6.53	10.92	1.112	0.51	40	-62.1	170	11.74
10:42	6.52	11.08	1.123	0.51	35	-60.6	170	11.70
10:47	6.51	11.37	1.128	0.49	30	-57.1	170	11.60
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-30S

Date: 5/6/2009 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: 8.35' Depth to Well Bottom: 17.95' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 5.9 Estimated Purge Volume (liters): 10.8

Sample ID: GW-30S Sample Time: 12:05 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)
11:35	6.48	11.06	4.093	1.49	162	-60.3	360	8.35
11:40	6.26	10.17	4.160	0.50	53	-56.4	360	8.40
11:45	6.21	9.68	4.180	0.32	23	-60.2	360	8.40
11:50	6.22	9.59	4.205	0.21	13	-68.5	360	8.40
11:55	6.20	9.54	4.234	0.15	12	-67.6	360	8.40
12:00	6.19	9.34	4.252	0.14	5	-72.4	360	8.40
12:05	6.17	9.42	4.259	0.13	4	-75.1	360	8.40
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: 5/6/2009 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: 5.61' Depth to Well Bottom: 9.57' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 2.4 Estimated Purge Volume (liters): 9.1

Sample ID: GW-31S Sample Time: 13:36 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)
12:30	7.08	12.48	0.710	3.62	652	-7.3	195	5.61
12:35	6.75	11.15	0.655	0.91	449	5.6	195	6.32
12:40	6.70	11.18	0.613	0.98	141	7.8	195	7.18
12:45	6.68	11.25	0.573	2.31	116	10.4	145	7.73
12:50	6.67	11.25	0.575	2.82	96	13.0	145	8.09
12:55	6.65	11.54	0.570	3.04	36	14.2	115	8.26
13:00	6.64	11.37	0.588	3.16	29	15.1	115	8.39
13:05	6.61	11.49	0.607	2.82	31	14.5	115	8.48
13:10	6.59	11.39	0.623	2.67	35	13.2	115	8.56
13:15	6.62	11.53	0.641	2.57	23	10.1	115	8.62
13:20	6.60	11.21	0.652	2.26	16	8.7	115	8.67
13:25	6.60	11.40	0.661	2.06	15	7.3	115	8.75
13:30	6.61	11.32	0.664	1.86	12	4.4	115	8.82
13:33	6.61	11.15	0.669	1.79	11	2.4	115	8.86
13:36	6.62	10.99	0.671	1.67	10	1.8	115	8.90
Tolerance:	**0.1**	**---**	**3%**	**10%**	**10%**	**+ or - 10**	**---**	

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

Date: 5/6/2009 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: 3.79' Depth to Well Bottom: 9.92' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 3.8 Estimated Purge Volume (liters): 6.0

Sample ID: GW-32S Sample Time: 14:55 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)
14:20	7.06	11.58	0.670	2.26	294	-5.3	170	3.79
14:30	6.82	10.61	0.594	0.83	53	14.2	170	4.32
14:40	6.82	10.54	0.593	0.62	10	18.6	170	4.33
14:45	6.83	10.50	0.593	0.58	3	18.5	170	4.34
14:50	6.85	10.48	0.594	0.54	2	18.7	170	4.34
14:55	6.84	10.29	0.598	0.52	2	19.2	170	4.34
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: 5/6/2009 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: 5.22' Depth to Well Bottom: 8.20' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 1.8 Estimated Purge Volume (liters): 4.1

Sample ID: GW-33S Sample Time: 15:55 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)
15:25	6.67	11.91	0.920	1.64	9	18.4	190	5.22
15:30	6.57	11.79	0.800	0.98	7	24.2	145	6.30
15:35	6.60	11.97	0.731	0.95	3	23.9	120	6.41
15:40	6.61	11.60	0.720	1.22	3	23.9	120	6.51
15:45	6.58	11.40	0.717	1.27	2	25.3	120	6.59
15:50	6.57	11.79	0.721	1.22	2	25.1	120	6.62
15:55	6.65	12.45	0.701	1.20	2	26.1	120	6.64
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: 5/4/2009 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: 2.92' Depth to Well Bottom: 10.00' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 4.4 Estimated Purge Volume (liters): 16.5

Sample ID: GW-34S Sample Time: 16:33 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)
15:32	6.50	7.85	1.314	9.08	26	3.3	500	4.48
15:37	6.38	8.87	1.337	6.81	21	8.7	300	4.60
15:42	6.38	8.36	1.200	5.09	5	8.0	300	4.72
15:47	6.38	8.45	1.150	4.50	1	12.7	240	4.51
15:52	6.37	8.41	1.147	4.11	1	12.9	240	4.48
15:57	6.34	8.42	1.142	3.27	1	17.5	240	4.48
16:02	6.34	8.42	1.112	2.69	1	14.4	240	4.52
16:07	6.33	8.40	1.078	2.28	1	14.5	240	4.55
16:12	6.34	8.30	1.059	2.02	1	15.2	240	4.56
16:17	6.35	8.47	1.032	1.65	1	15.6	240	4.57
16:22	6.35	8.42	1.025	1.36	1	14.6	240	4.61
16:27	6.35	8.43	1.022	1.06	1	9.6	240	4.62
16:30	6.35	8.34	1.025	0.98	1	6.1	240	4.65
16:33	6.35	8.36	1.023	0.96	1	5.4	240	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 ($vol_{yl} = \pi r^2 h$)

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

Date: 5/7/2009 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: 3.52' Depth to Well Bottom: 7.45' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 2.4 Estimated Purge Volume (liters): 9.2

Sample ID: GW-35S Sample Time: 16:36 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)
16:00	7.05	12.93	0.578	2.31	6	-60.7	290	3.52
16:05	7.06	12.58	0.489	1.31	5	-50.5	250	4.41
16:10	7.02	12.80	0.466	1.35	2	-48.5	250	4.39
16:15	7.00	12.85	0.466	0.93	3	-50.8	250	4.40
16:20	7.00	12.17	0.471	0.63	1	-53.5	250	4.43
16:25	7.03	12.13	0.474	0.50	1	-60.1	250	4.43
16:30	7.04	12.21	0.475	0.44	1	-62.9	250	4.43
16:33	7.04	12.27	0.475	0.40	1	-66.7	250	4.43
16:36	7.04	12.31	0.476	0.38	1	-70.6	250	4.43
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 4, 2009*

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	4.4	16.5	16:33	Groundwater	VOCs/SVOCs/ Metals	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 5, 2009*

Sample I.D. Number	***Well Number***	***Well Volume (liters)***	***Volume Purged (liters)***	***Sample Time***	***Sample Description***	***Analysis Required***	***Chain-of-Custody Number***
GW-3S	GW-3S	6.6	7.4	9:47	Groundwater		Not Applicable
GW-3D	GW-3D	83.4	85	11:58	Groundwater		Not Applicable
GW-3D MS	GW-3D	83.4	85	11:58	Matrix Spike	VOCs/SVOCs/ Metals	Not Applicable
GW-3D MSD	GW-3D	83.4	85	11:58	Matrix Spike Duplicate		Not Applicable
GW-8SR	GW-8SR	4.7	7.8	13:50	Groundwater		Not Applicable
GW-8D	GW-8D	75.9	65	15:35	Groundwater		Not Applicable
FD-050509	GW-8D	75.9	65	15:35	Blind Duplicate		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 5, 2009 (continued)*

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-7D	45.8	45.4	16:10	Groundwater	VOCs/SVOCs/ Metals	Not Applicable
GW-7S	GW-7S	19.3	28.4	16:40	Groundwater		Not Applicable
TB-050509	---	---	---	---	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 6, 2009*

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	3.6	6.3	9:30	Groundwater	VOCs/SVOCs/ Metals	Not Applicable
GW-29S	GW-29S	6.7	7.2	10:47	Groundwater		Not Applicable
GW-30S	GW-30S	5.9	10.8	12:05	Groundwater		Not Applicable
GW-31S	GW-31S	2.4	9.1	13:36	Groundwater		Not Applicable
GW-32S	GW-32S	3.8	6	14:55	Groundwater		Not Applicable
GW-33S	GW-33S	1.8	4.1	15:55	Groundwater		Not Applicable
TB-050609	---	---	---	---	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 7, 2009*

Sample I.D. Number	***Well Number***	***Well Volume (liters)***	***Volume Purged (liters)***	***Sample Time***	***Sample Description***	***Analysis Required***	***Chain-of-Custody Number***
GW-1S	GW-1S	6.9	6.9	9:48	Groundwater	VOCs/SVOCs/ Metals	Not Applicable
GW-1D	GW-1D	90.6	66.2	11:25	Groundwater		Not Applicable
GW-4D	GW-4D	81.8	8.4	13:59	Groundwater		Not Applicable
GW-4S	GW-4S	7.3	28.7	14:25	Groundwater		Not Applicable
GW-26D	GW-26D	84	42.8	15:50	Groundwater		Not Applicable
GW-35S	GW-35S	2.4	9.2	16:36	Groundwater		Not Applicable
TB-050709	---	---	---	---	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

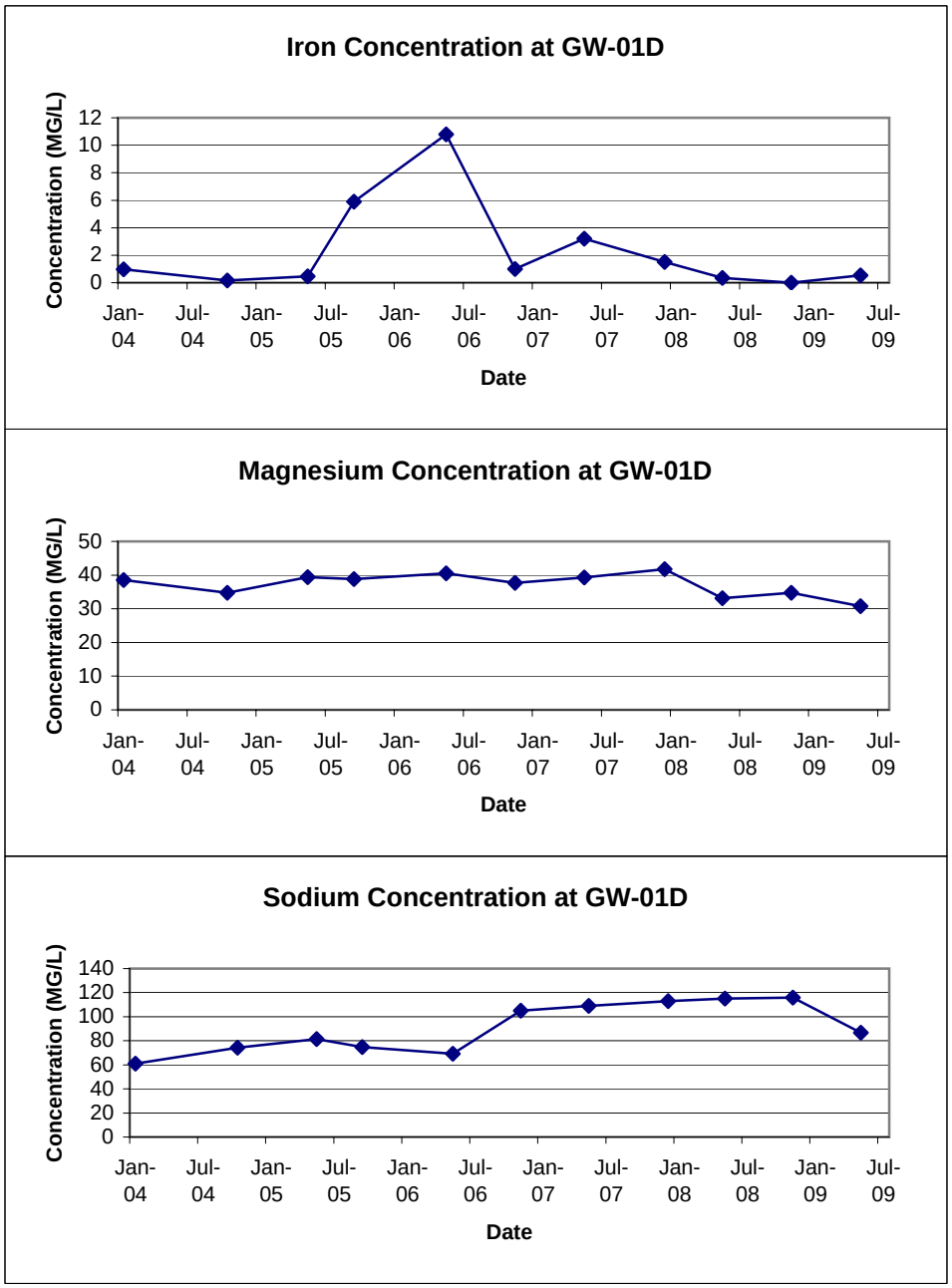

FIGURE E-2
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-1S

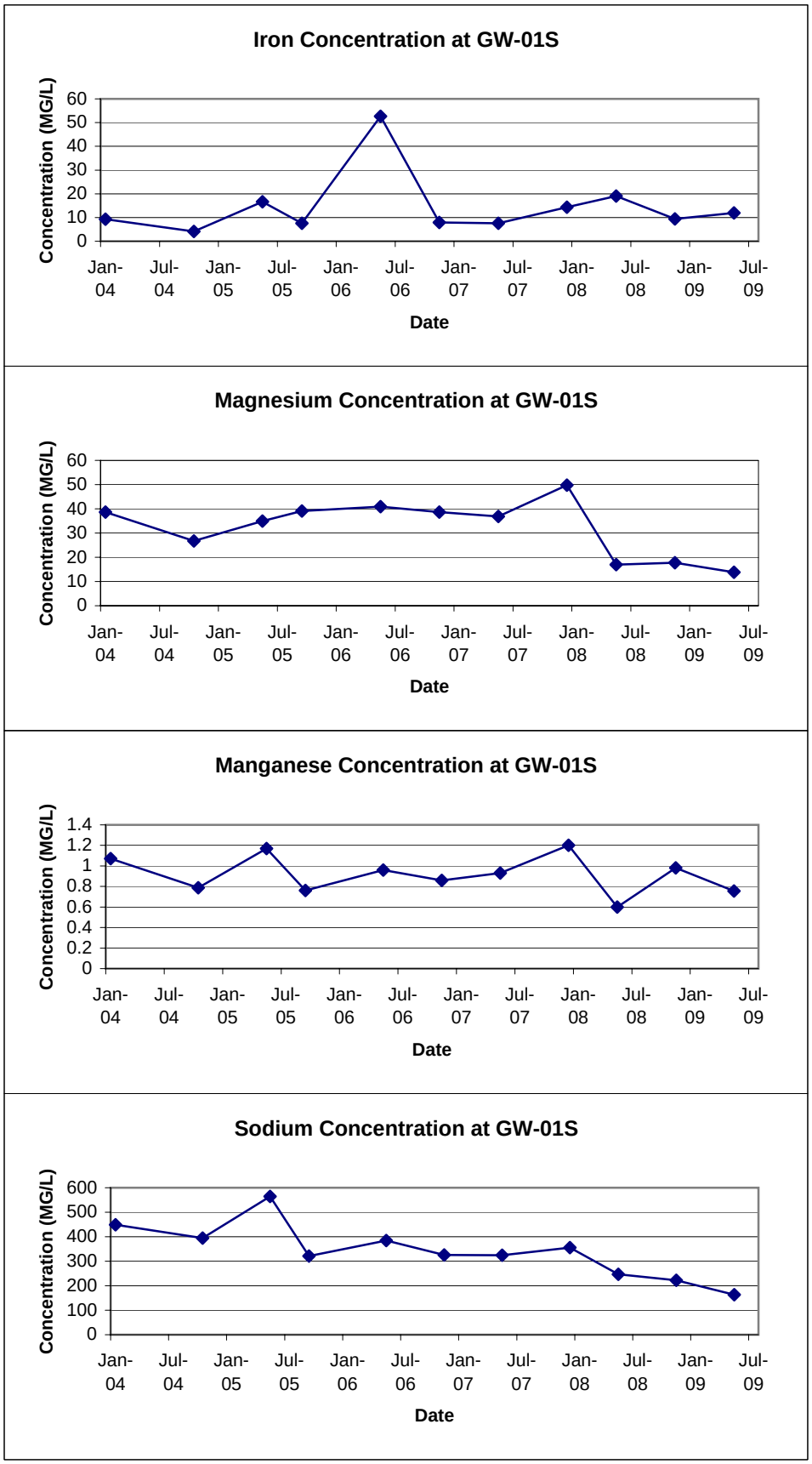

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FIGURE E-3
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-3D

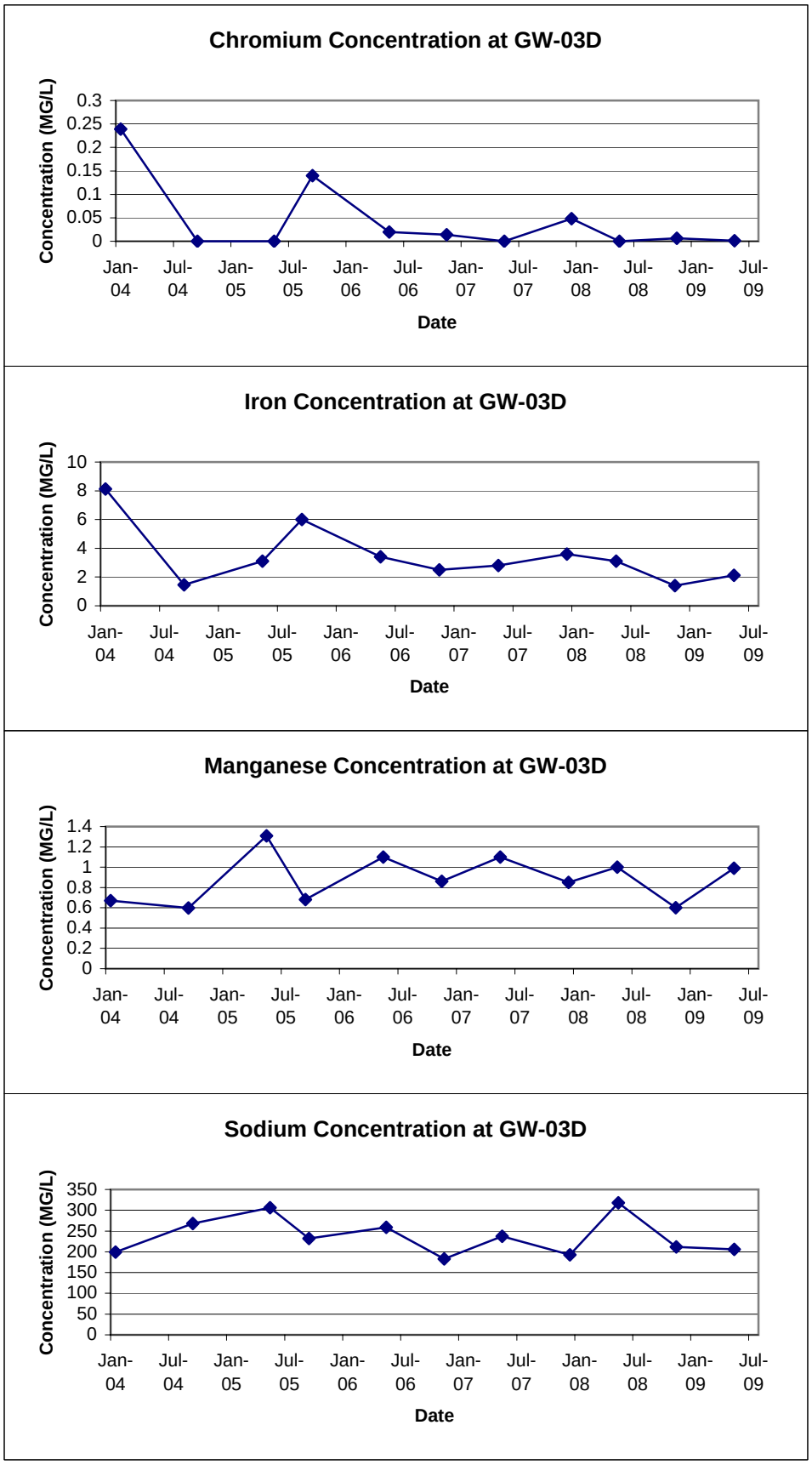

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FIGURE E-4
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-3S

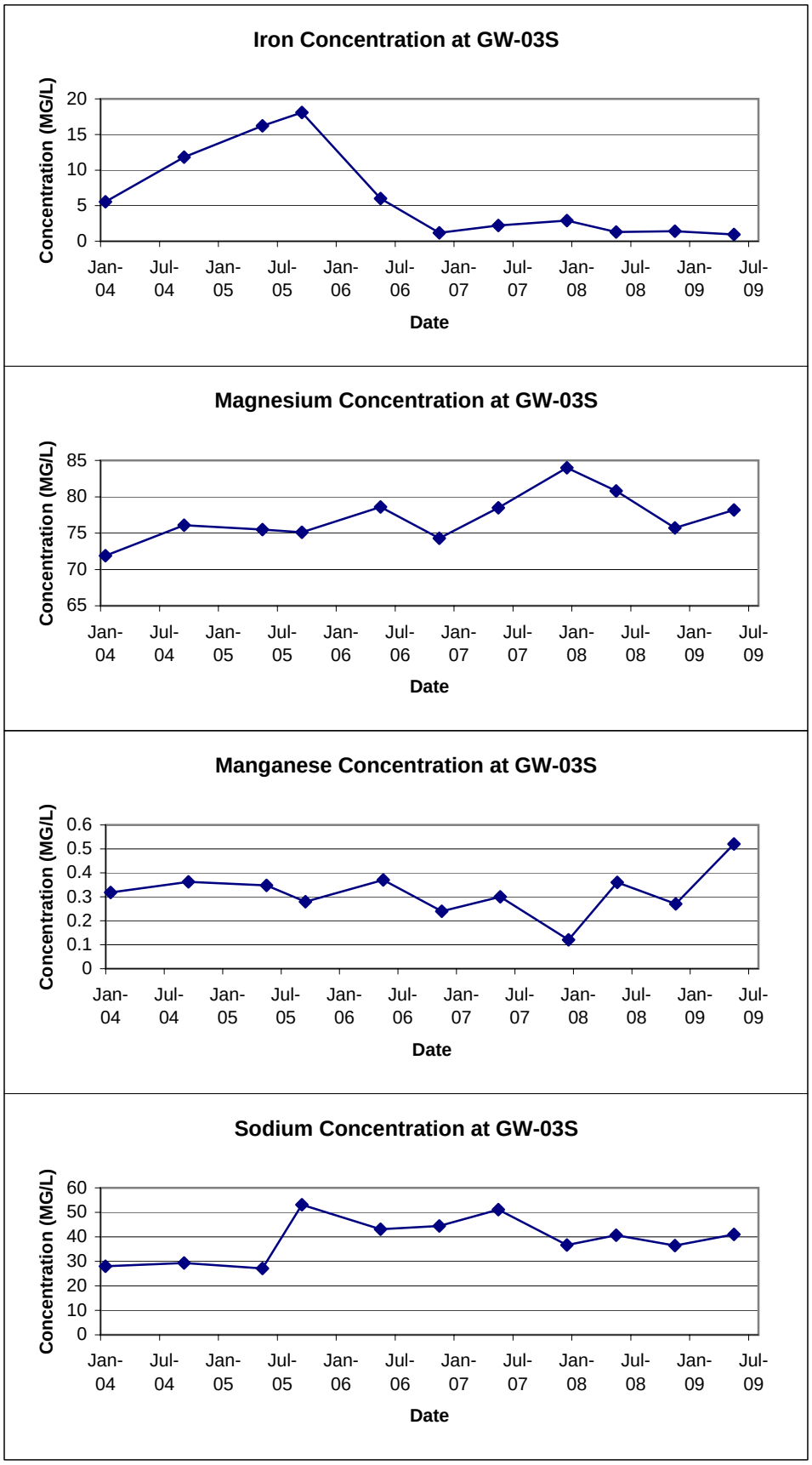

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FIGURE E-5
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-4D

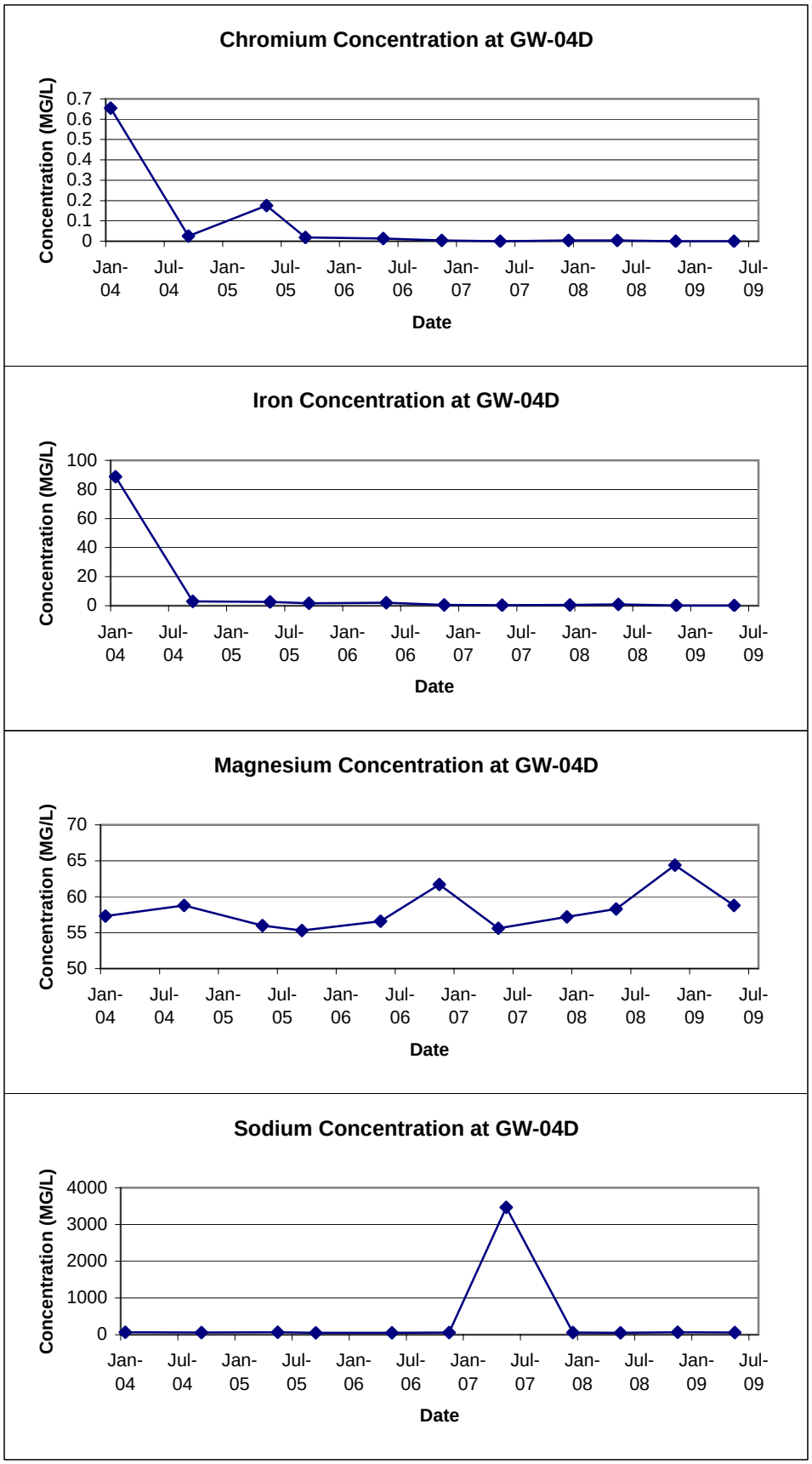

FIGURE E-6
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-4S

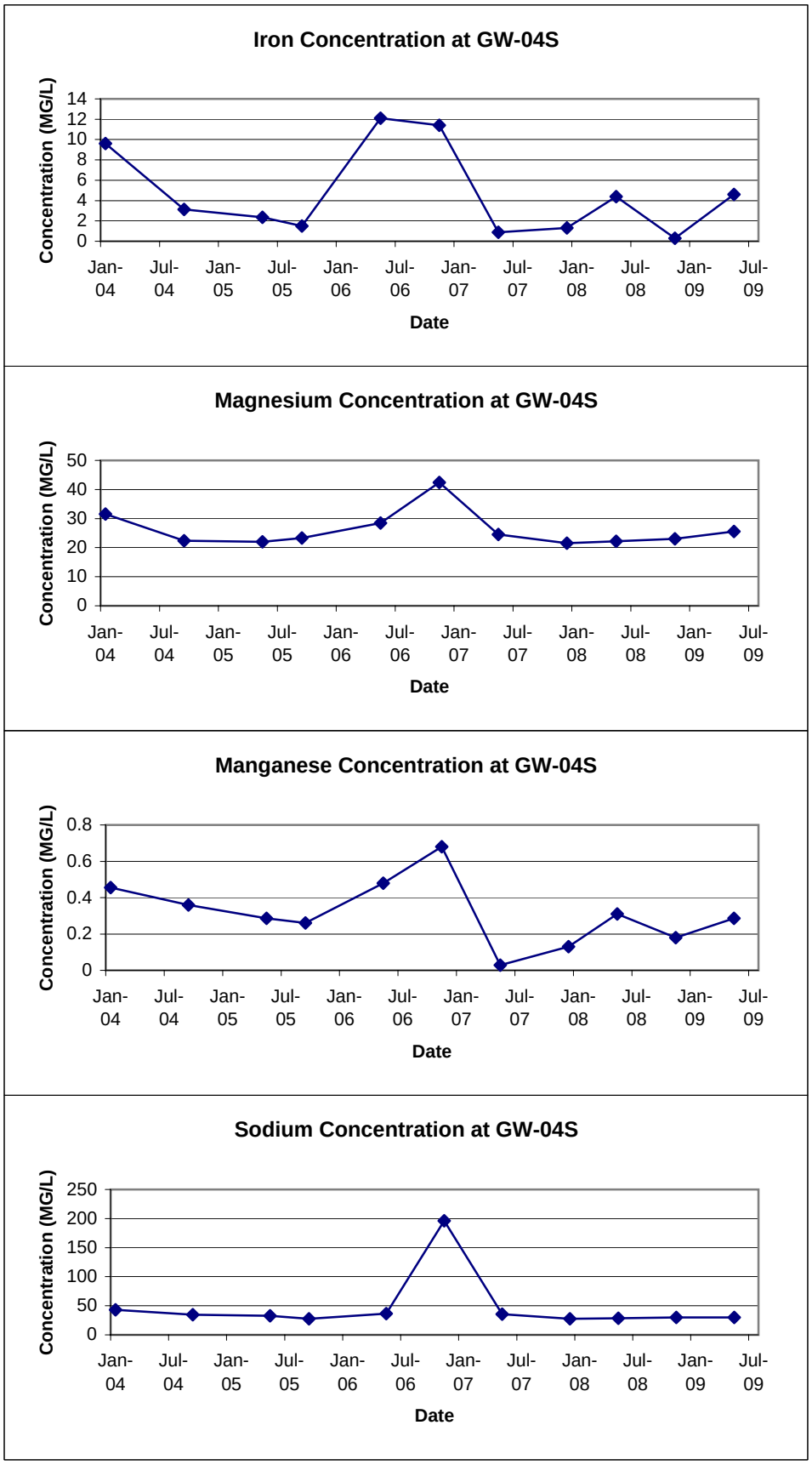

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FIGURE E-7
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-7D

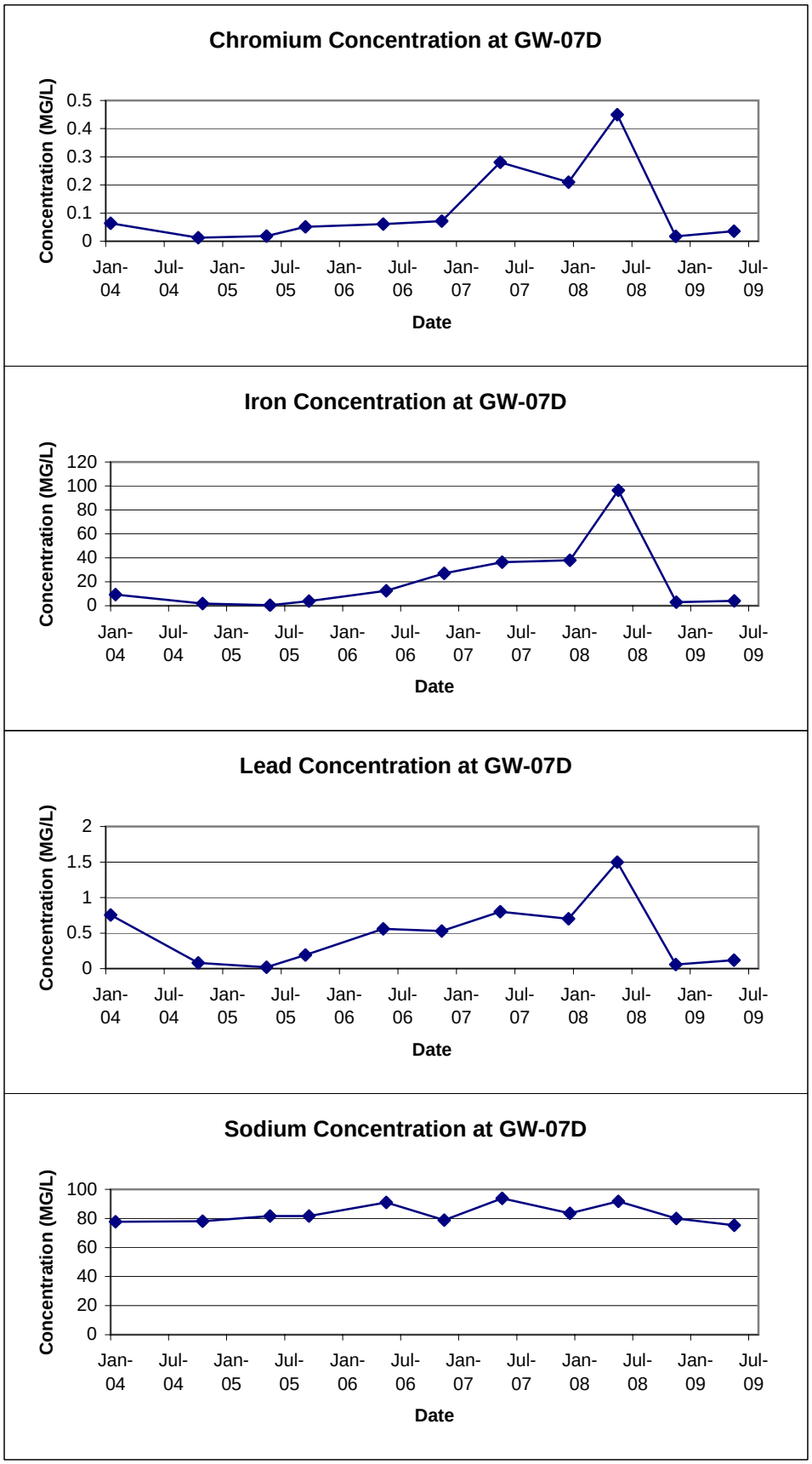

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FIGURE E-8
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-7S

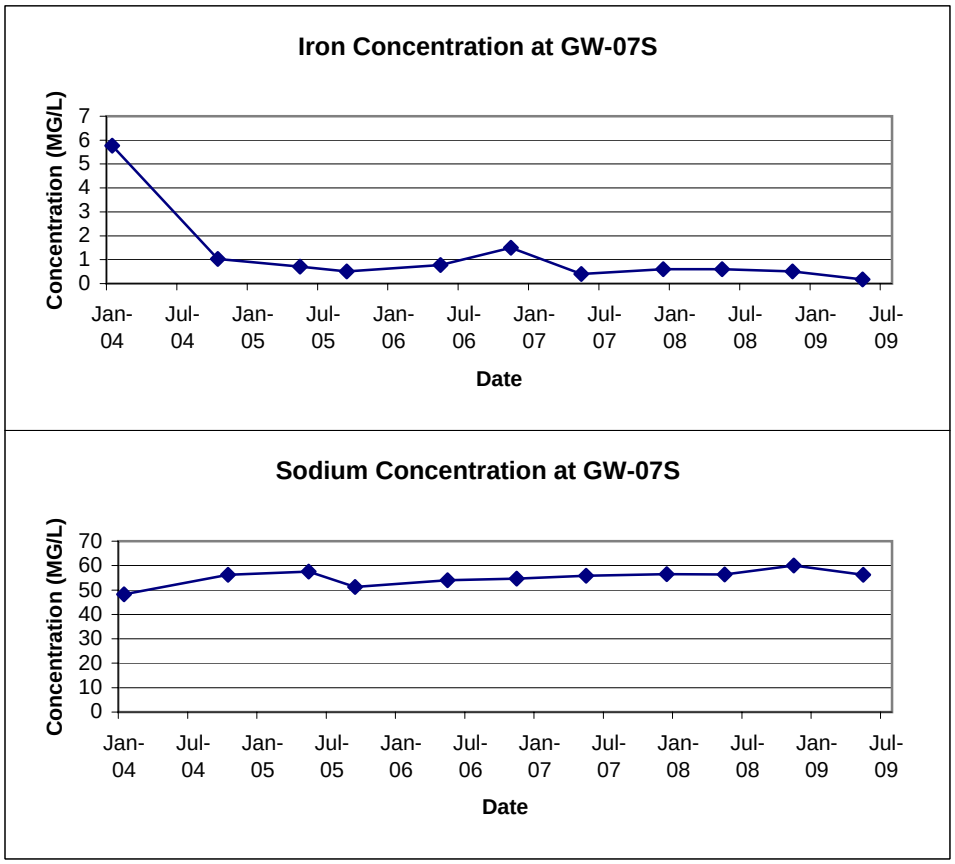

FIGURE E-9
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-8D

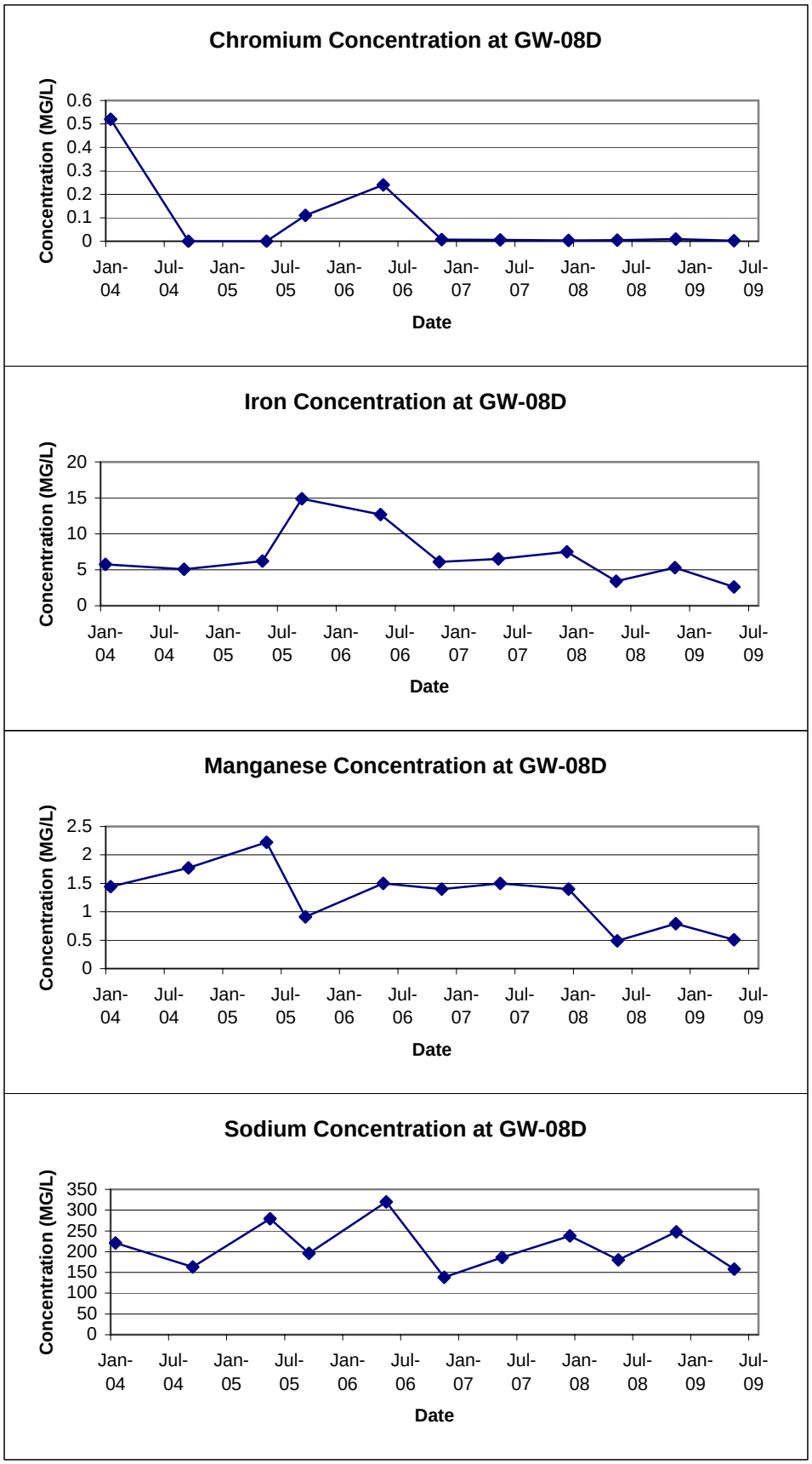

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FIGURE E-10
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-8SR

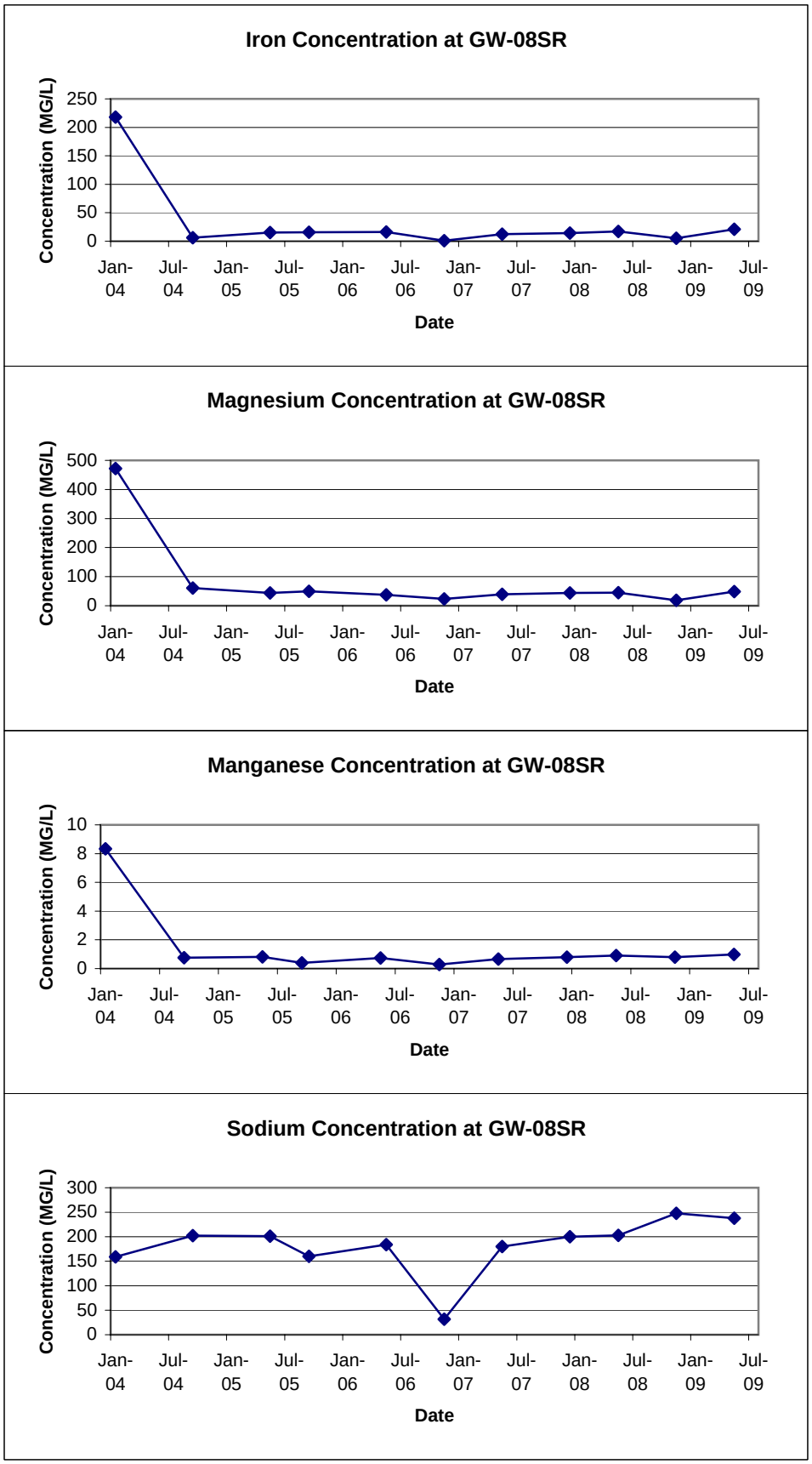

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FIGURE E-11
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-26D

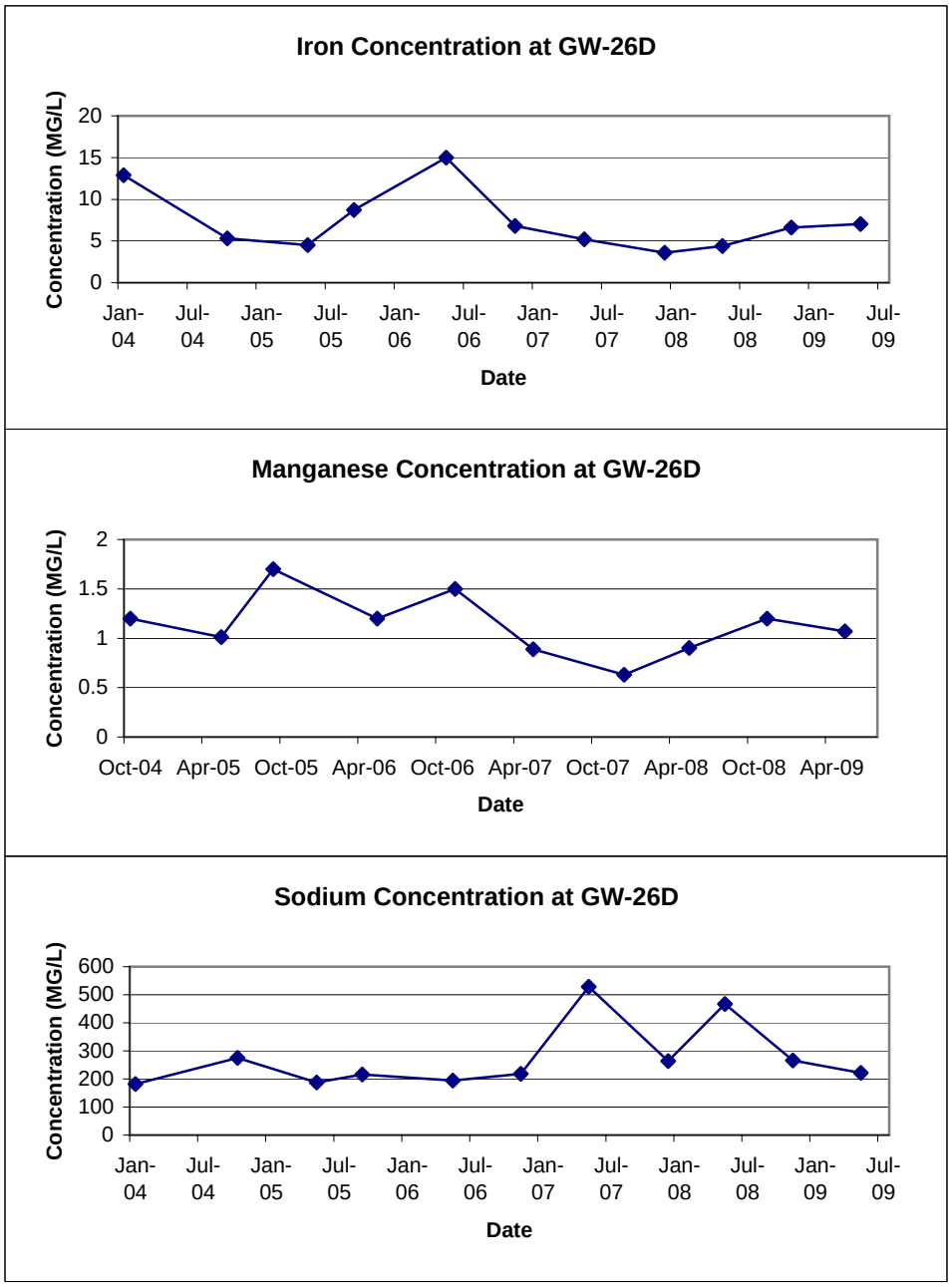

FIGURE E-12
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-28S

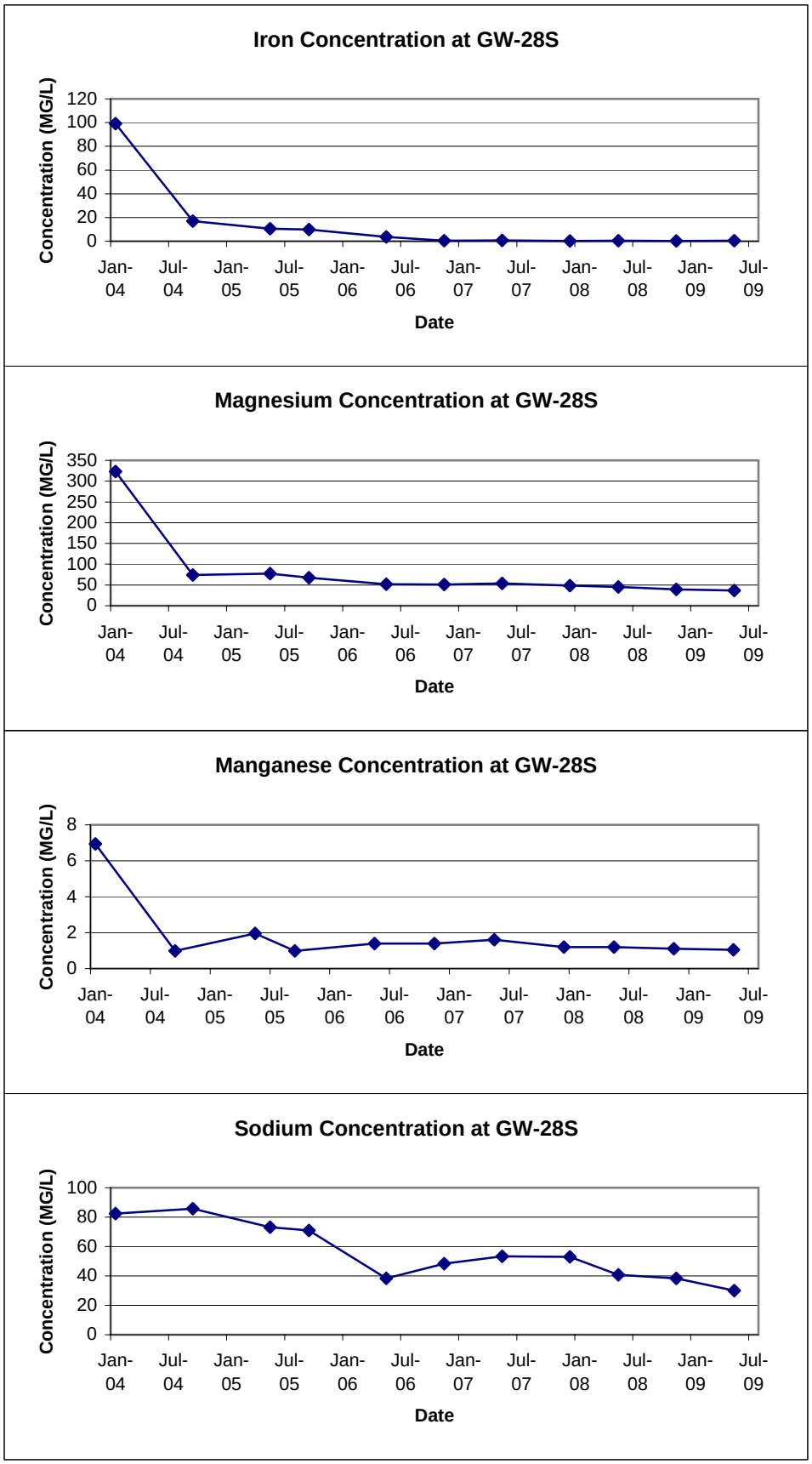

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FIGURE E-13
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-29S

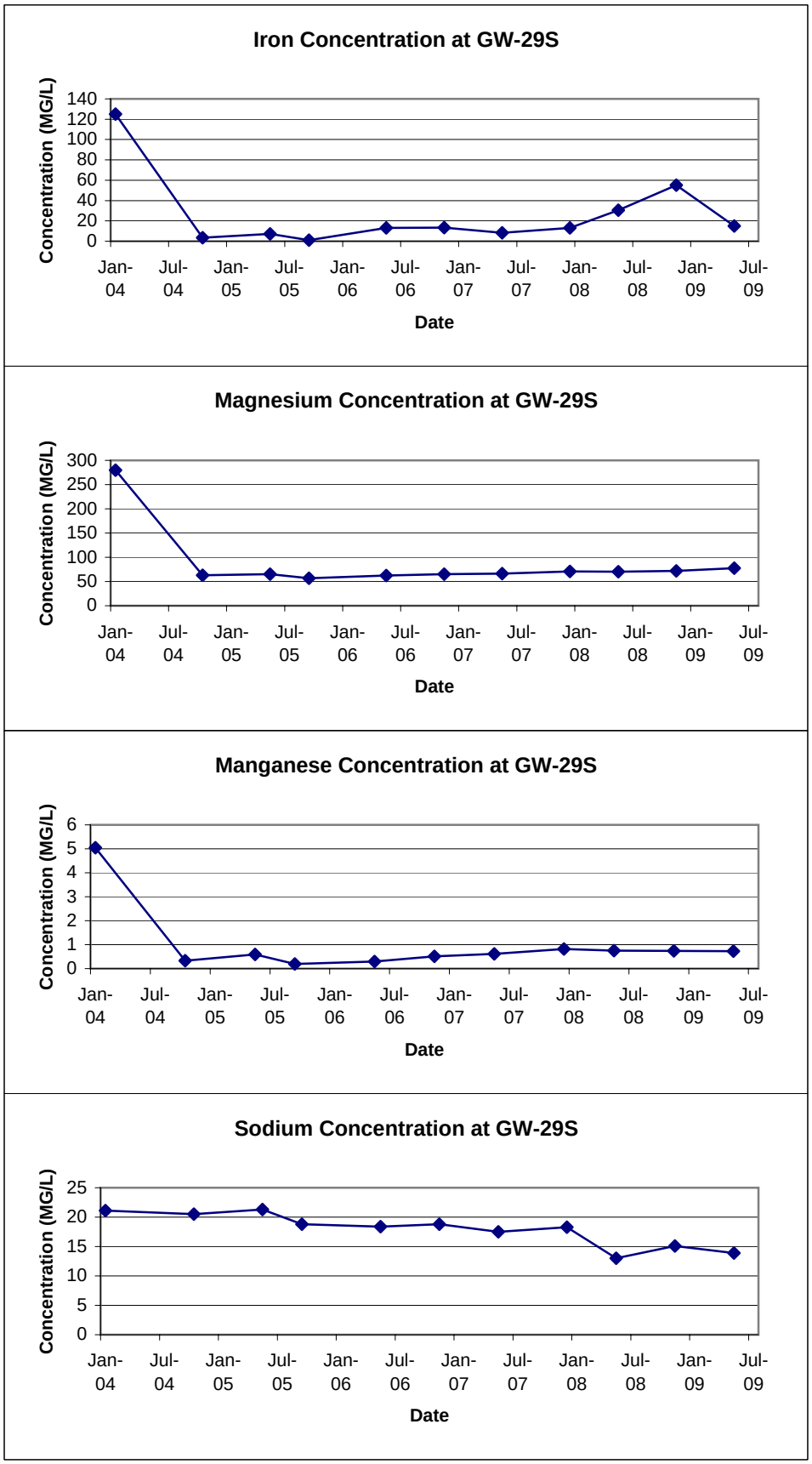

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FIGURE E-14
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-30S

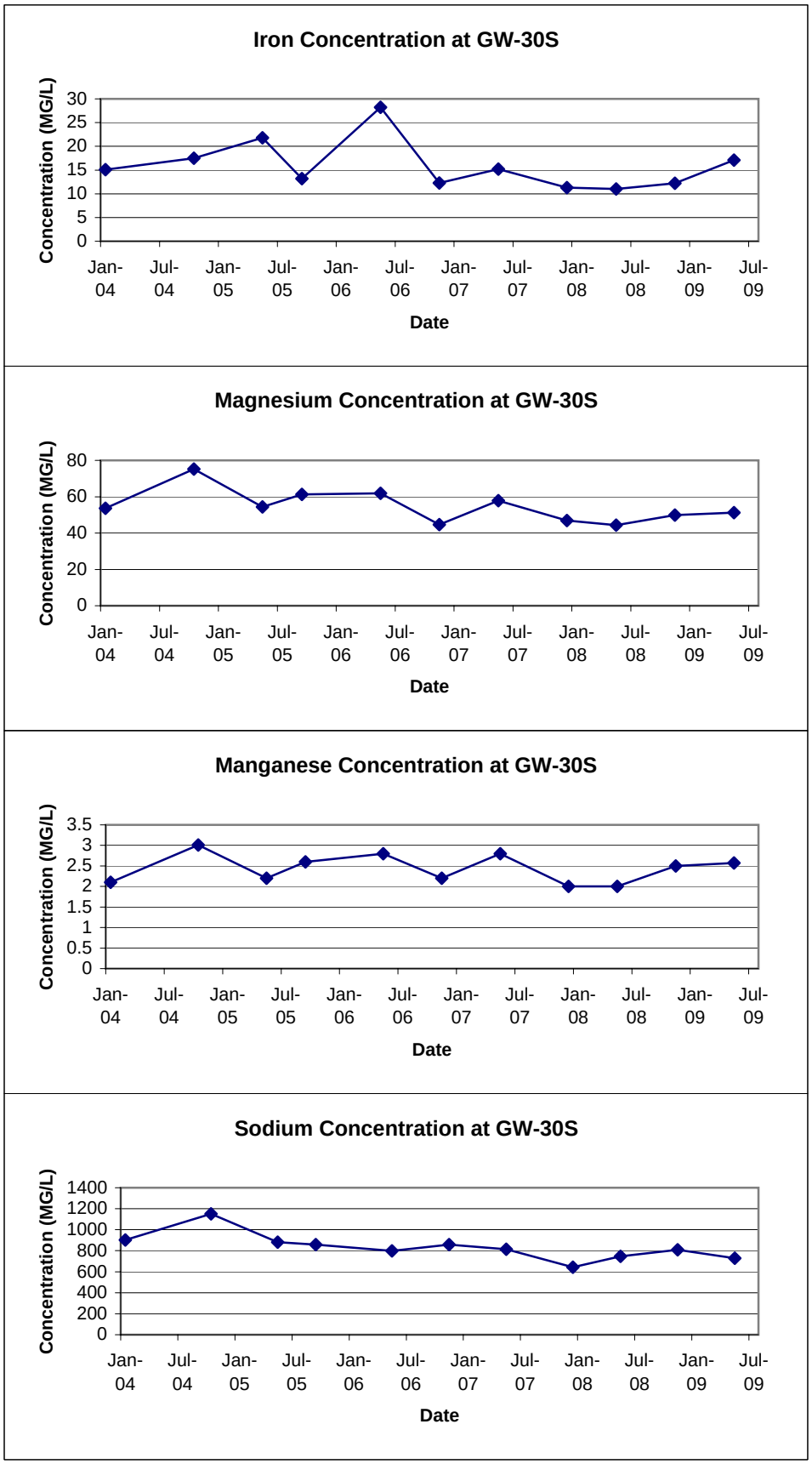

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FIGURE E-15
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-31S

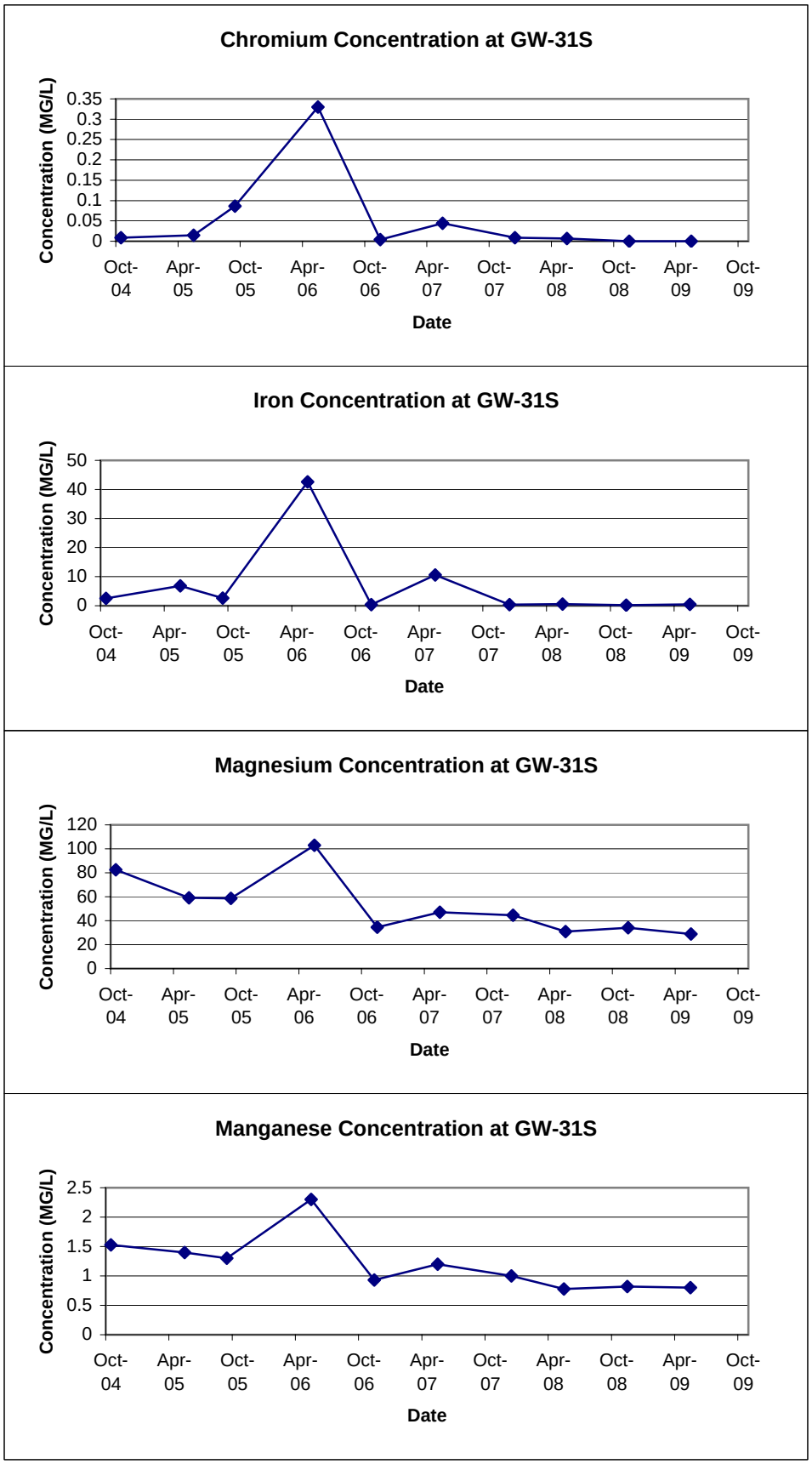

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FIGURE E-16
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-32S

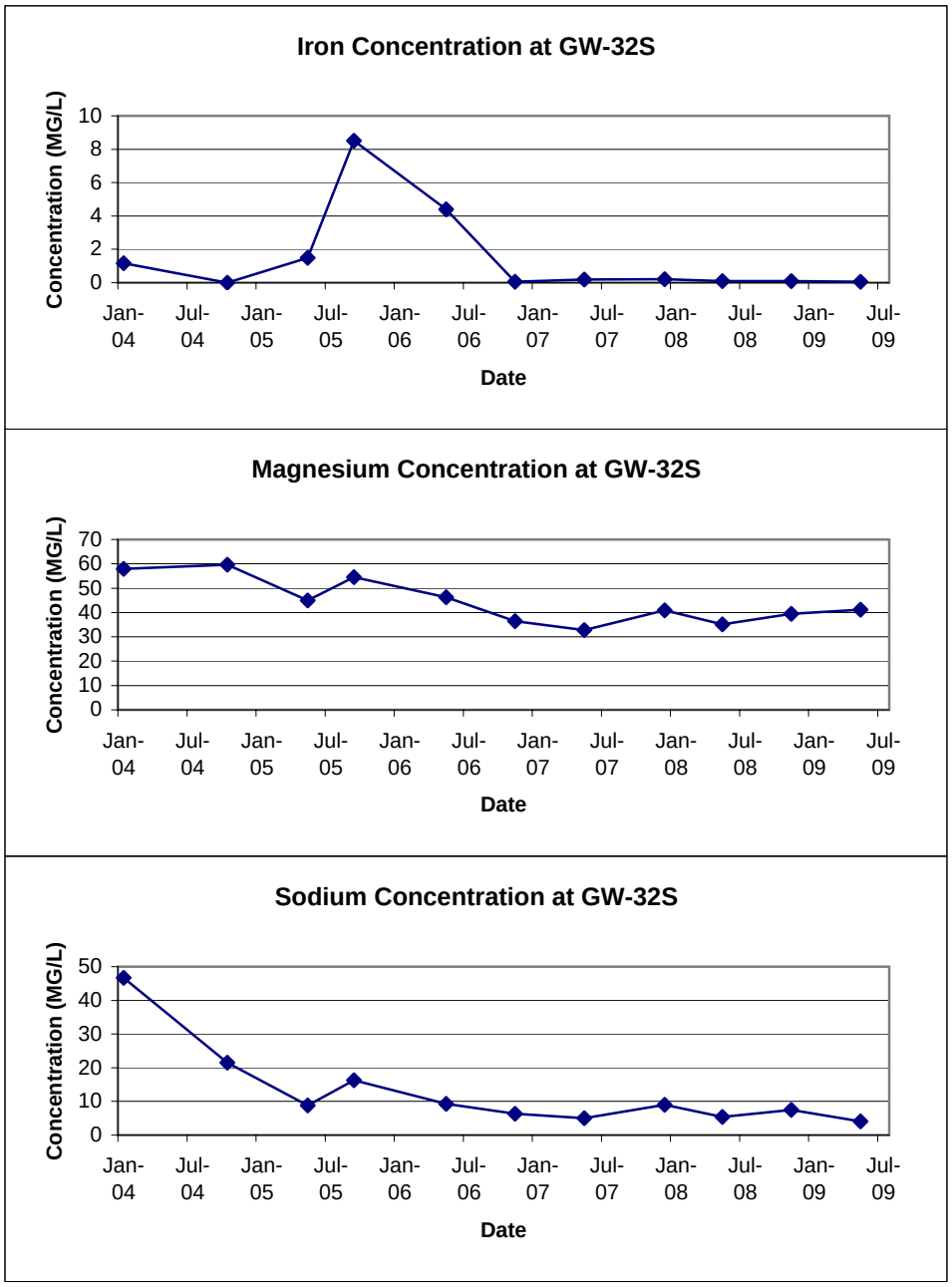

FIGURE E-17
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-33S

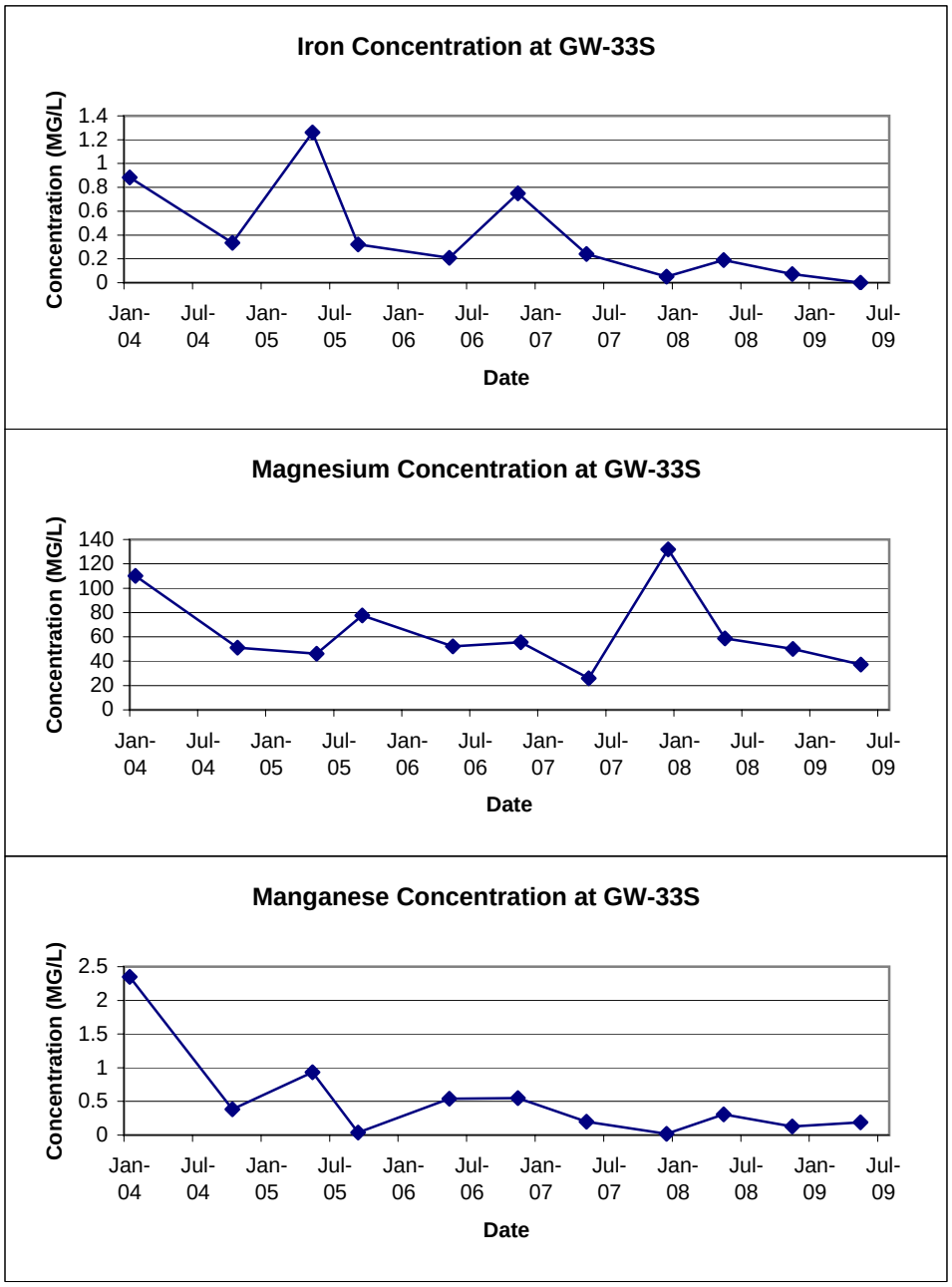

FIGURE E-18
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-34S

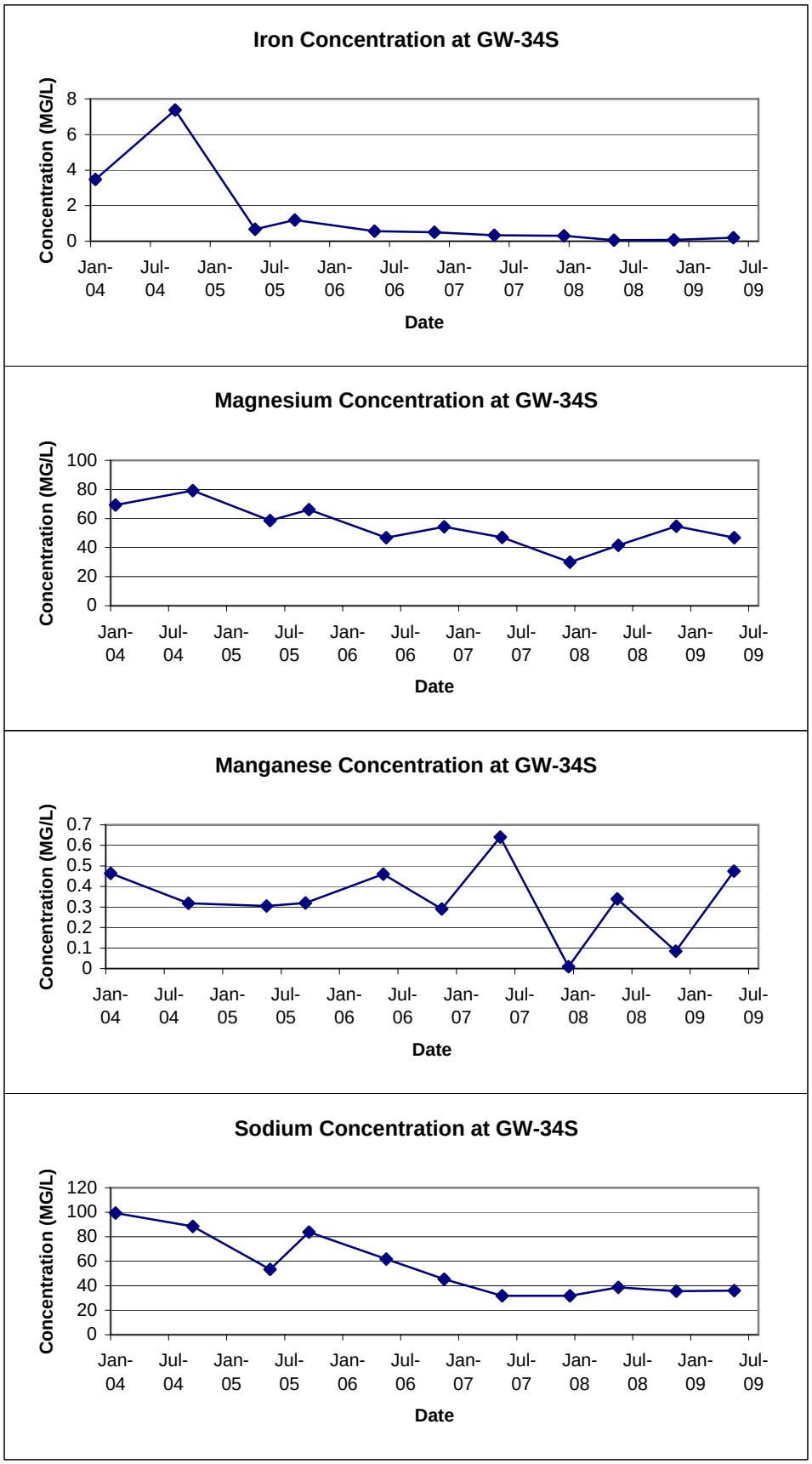

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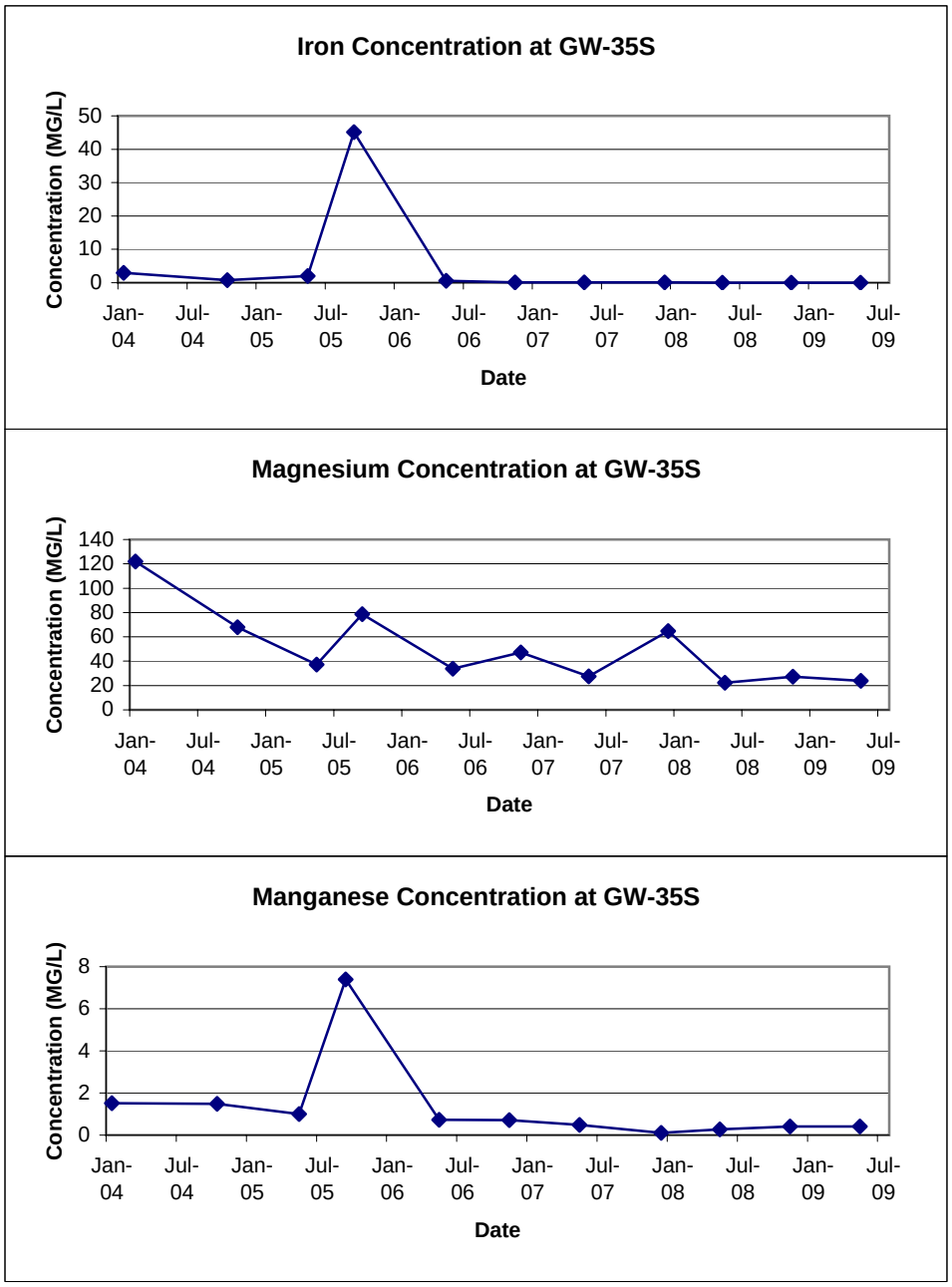
FIGURE E-19
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-35S



APPENDIX F

BSA PERMIT NO. 05-12-CH016

AUTHORIZATION TO DISCHARGE UNDER THE BUFFALO POLLUTANT DISCHARGE ELIMINATION SYSTEM

PERMIT NO. 05-12-CH016
USEPA Category 40 CFR Part 403

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

THE TOWN OF CHEEKTOWAGA

to discharge wastewater from a facility located at:

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

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

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

Effective this 1st day of April, 2006

To Expire the 31st day of March, 2009

General Manager

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

PART I: SPECIFIC CONDITIONS

A. DISCHARGE LIMITATIONS & MONITORING REQUIREMENTS

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

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

Footnotes are explained on page 5.

PART I: SPECIFIC CONDITIONS

A. DISCHARGE LIMITATIONS & MONITORING REQUIREMENTS

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

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

Footnotes are explained on page 5.

PART I: SPECIFIC CONDITIONS

B. DISCHARGE MONITORING REPORTING REQUIREMENTS

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

Sample		**Reporting Requirements**	
Point	**Parameter**	**Initial Report**	**Subsequent Reports**
001	All except USEPA Test Methods 608, 624, 625 & T Mercury	June 30, 2006	Every March 31st, June 30th, September 30th and December 31st
	USEPA Test Methods 608, 624 and 625 & T Mercury	March 31, 2008	

PART I: SPECIFIC CONDITIONS

C. SPECIAL REQUIREMENTS

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

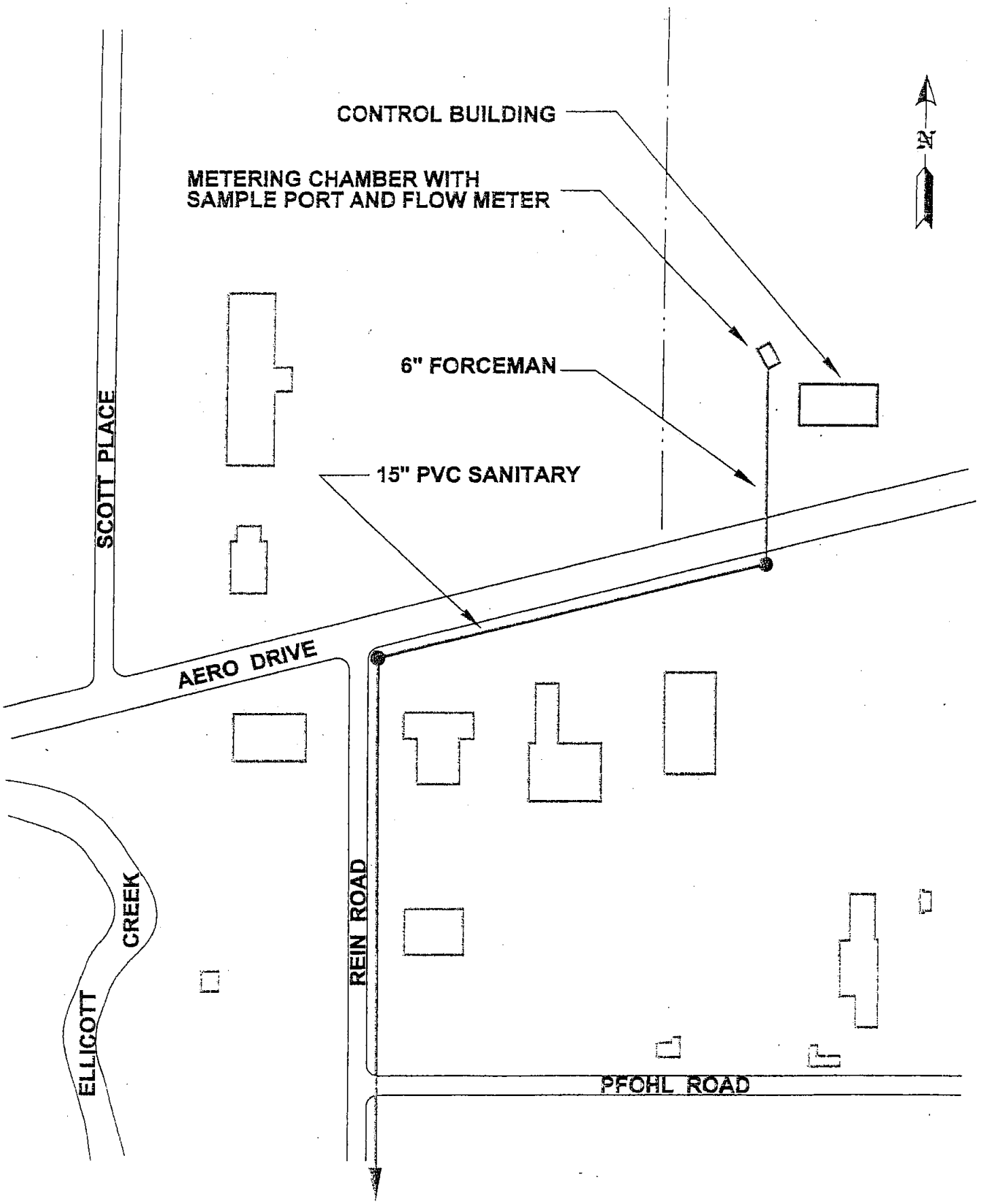
2. Composite samples may be time proportioned.

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

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

5. Surchargeable over 250 mg/L.

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



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

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

PFOHL BROTHERS LANDFILL SITE

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

EXHIBIT

1

FILE: (M: PFOHL BROS.)

APPENDIX G

DISCHARGE REPORT SUMMARY TABLES

SAMPLING FIELD SHEET

URS

Client Name: Pfohl Brothers Landfill

Address: Aero Drive, Cheektowaga, NY

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

Installation:

Sample Point: SP-001

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

Date: 3/19/09 Crew: R. Murphy, R. Piurek, T. Ifkovich

Weather: 45° F, clear

Sampling Device: NA

Time of Installation: 11:25 Type of Sample: Composite

Sample Interval: NA Sample Volume: NA

Comments and Observations: No wells were pumping at the time of sample setup.
PLC display volumes: WW-01 (1,147,272 gals), WW-02 (41,144 gals), WW-03 (208,888 gals),
WW-04 (519,696 gals), WW-05 (4,029,357 gals), WW-06 (3,850,787 gals) & MH-25 (10,137,402 gals).

Date: 3/20/09 Crew: R. Murphy, R. Piurek, T. Ifkovich

Weather: 35° F, clear

Time of Collection: 11:25

Field Measurements:

11:30/RJM
(time/initial)

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

pH Measurement: 7.3

Temperature: 10.3°C

Identification: EFF-032009

Physical Observations:

Laboratory: TestAmerica, Buffalo, NY

Comments: Wells WW-3, WW-4, and WW-6 were pumping at the time of sample pickup.
PLC display volumes: WW-01 (1,147,272 gals), WW-02 (41,144 gals), WW-03 (213,086 gals),
WW-04 (523,838 gals), WW-05 (4,070,839 gals), WW-06 (3,857,339 gals) & MH-25 (10,193,776 gals).

Reviewed By: Date:
(Supervisor)

TABLE 1

PFOHL BROTHERS LANDFILL - EFFLUENT MONITORING ANALYTICAL RESULTS, TOTAL FLOW, AND MASS LOADINGS MARCH 2009

Sample ID	**EFF-032009**			
Matrix	**Effluent Water**			
Date Sampled	**3/20/2009**			
Parameter	**Result**	**Mass Loading**	**Discharge Limitation**	**Violations**
	(mg/L)	**(lbs/day)**	**(lbs/day)**	**(Y/N)**
Total Barium	0.32	0.15	2.34	No
Total Cadmuim	ND(1)	NA(2)	1.17	No
Total Chromium	0.00096	0.0005	1.17	No
Total Copper	0.0025	0.001	3.74	No
Total Lead	ND	NA	1.17	No
Total Nickel	0.0047	0.002	3.27	No
Total Zinc	0.013	0.006	5.84	No
Total Suspended Solids	7.2	NA	250 (3)	No
pH (4)	7.3	NA	5.0 - 12.0	No
Total Flow (5)		56,374	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: 6/22/09 Crew: R. Murphy, R. Piurek, T. Ifkovich

Weather: 77° F, partly cloudy

Sampling Device: NA

Time of Installation: 14:25 Type of Sample: Composite

Sample Interval: NA Sample Volume: NA

Comments and Observations: No wells were pumping at the time of sample setup.
PLC display volumes: WW-01 (1,448,245 gals), WW-02 (40,004 gals), WW-03 (297,176 gals),
WW-04 (619,260 gals), WW-05 (5,440,913 gals), WW-06 (4,728,854 gals) & MH-25 (12,922,351 gals).

Date: 6/23/09 Crew: R. Murphy, R. Piurek, T. Ifkovich

Weather: 84° F, clear

Time of Collection: 14:35

Field Measurements:

14:40/RJM (time/initial)

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

pH Measurement: 6.7

Temperature: 16.6°C

Identification: EFF-062309

Physical Observations:

Laboratory: TestAmerica, Buffalo, NY

Comments: Wells WW-1 and WW-5 were pumping at the time of sample pickup.
PLC display volumes: WW-01 (1,497,032 gals), WW-02 (40,004 gals), WW-03 (297,176 gals),
WW-04 (619,260 gals), WW-05 (5,446,397 gals), WW-06 (4,728,854 gals) & MH-25 (12,975,944 gals).

Reviewed By: Date:
(Supervisor)

TABLE 1

PFOHL BROTHERS LANDFILL - EFFLUENT MONITORING ANALYTICAL RESULTS, TOTAL FLOW, AND MASS LOADINGS JUNE 2009

Sample ID	**EFF-062309**			
Matrix	**Effluent Water**			
Date Sampled	**6/23/2009**			
Parameter	**Result**	**Mass Loading**	**Discharge Limitation**	**Violations**
	(mg/L)	**(lbs/day)**	**(lbs/day)**	**(Y/N)**
Total Barium	0.433	0.19	2.34	No
Total Cadmuim	ND[(1)]	NA[(2)]	1.17	No
Total Chromium	0.0004	0.0002	1.17	No
Total Copper	0.0022	0.001	3.74	No
Total Lead	0.0012	0.001	1.17	No
Total Nickel	0.006	0.003	3.27	No
Total Zinc	0.0115	0.005	5.84	No
Total Suspended Solids	28.8	NA	250 [(3)]	No
pH [(4)]	6.7	NA	5.0 - 12.0	No
Total Flow [(5)]		53,593	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 4-7, 2009*

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	3.80	14.94	Lubricated lock
GW-1D	OK	OK	OK	Bulged	2.93	39.63	Lubricated lock
GW-3S	OK	OK	OK	OK	2.56	13.24	
GW-3D	OK	OK	OK	OK	1.91	35.69	
GW-4S	OK	OK	OK	OK	4.41	16.25	Lubricated lock
GW-4D	OK	OK	OK	OK	12.46	45.57	
GW-7S	OK	OK	OK	OK	5.02	35.04	
GW-7D	OK	OK	OK	Damaged	41.95	60.30	

Additional Comments: The weep holes in the protective casing appear to have corroded shut, allowing water to freeze within the annular space, bulging the riser pipe this past winter.

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 4-7, 2009*

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	13.03	
GW-8D	OK	OK	OK	OK	5.88	36.60	
GW-26D	OK	OK	OK	OK	6.69	40.71	
GW-28S	OK	OK	OK	OK	9.65	15.55	
GW-29S	OK	OK	OK	OK	9.11	19.98	
GW-30S	OK	OK	OK	OK	8.35	17.95	
GW-31S	OK	OK	OK	OK	5.61	9.57	
GW-32S	OK	OK	OK	OK	3.79	9.92	

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: *May 4-7, 2009*

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	5.22	8.20	
GW-34S	OK	OK	OK	OK	2.92	10.00	
GW-35S	OK	OK	OK	OK	3.52	7.45	

Additional Comments: _____

_____

_____

ATTACHMENT B

July 2009 – December 2009

Semi Annual Report

URS

February 12, 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 tenth 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.
Buffalo, NY 14203
Tel: 716.856.5636
Fax: 716.856.2545

SEMI ANNUAL REPORT
OPERATION AND MAINTENANCE
JULY 2009 TO DECEMBER 2009
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 twelfth 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 2009 through December 2009 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 2009 through December 2009, 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.

- NYSEG crews made repairs to overhead conducter lines and re-crimped all connections on the customer side of the distribution pole to resolve incoming power fluctuations (August 2009).

- The battery for the Control Building intrusion alarm was replaced (August 2009).

- Niagara Grass performed a complete mowing of the entire landfill acreage the week of August 31st to September 4th, 2009.

- Wildlife trapper engaged on an as-needed basis to control ground burrowing animals, and as of September 2009 over 17 woodchucks were reported being trapped.

- Replaced WW-5 pump discharge hose on November 14, 2009.

- Great Lakes Building Systems completed replacement of the failed Control Building security panel (December 2009).

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 twelfth 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 the exception of the WW-6/GW-34S pairing on September 24, 2009 where the outside monitoring point was slightly lower on that date. These data verify that collection system is operating as designed.

3.2 Groundwater Quality Monitoring

The twelfth semi-annual round of groundwater sampling was conducted between November 10, 2009 and November 13, 2009. 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. Chromium was detected at concentrations exceeding groundwater standards in both GW-03S and GW-07D. Lead exceeded its groundwater standard in upgradient well GW-07D. Nickel was detected at a concentration exceeding its groundwater standard in well GW-03S.

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) sodium 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 twelve semi-annual sampling events except as described below. Figure E-2 for GW-01S, indicates a consistent drop in sodium concentration over the last five sampling events. Figure E-4 for GW-03S indicates an upward trend for nickel since monitoring began, in addition chromium has exceeded its groundwater standard at GW-03S for 3 of the last 5 sampling events. Figure E-5 for GW-04D, indicates a slight increasing trend for magnesium. 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 4 of the last 5 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 December 2009 is submitted separately from this report.

3.3 Groundwater Discharge Monitoring

URS completed two quarterly sampling events (September 2009 and December 2009) 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 September 2009 and December 2009, 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 2009 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 thirteenth round of groundwater sampling will be conducted in May 2009. 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 2009 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
NOVEMBER 2009

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			11/12/09	11/12/09	11/11/09	11/11/09	11/12/09
Parameter	**Units**	*					
Volatile Organic Compounds							
1,2-Dichloroethene (total)	UG/L	5			1.1 J		
Acetone	UG/L	50					
Vinyl chloride	UG/L	2			0.65 J		
Semivolatile Organic Compounds							
1,3-Dichlorobenzene	UG/L	3			1.4 J		
1,4-Dichlorobenzene	UG/L	3			2.2 J		
bis(2-Ethylhexyl)phthalate	UG/L	5					
Phenol	UG/L	1					0.43 J
Arsenic	MG/L	0.025					
Barium	MG/L	1	0.0670	0.163	0.0867	0.157	0.0722
Cadmium	MG/L	0.005		0.0003 J		0.0003 J	
Chromium	MG/L	0.05	0.0052	0.0014 J	0.0017 J	0.248	
Copper	MG/L	0.2				0.0075 J	
Iron	MG/L	0.3	0.415	9.02	2.48	2.40	0.063
Lead	MG/L	0.025					
Magnesium	MG/L	35	33.5	14.3	18.7	75.4	71.0
Manganese	MG/L	0.3	0.0190	0.735	0.888	0.227	0.0188
Nickel	MG/L	0.1	0.0027 J		0.0062 J	0.677	
Sodium	MG/L	20	87.8	149	181	38.3	73.2
Zinc	MG/L	2	0.0584	0.0027 J		0.0129	0.0015 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

Only Detected Results Reported.

TABLE 3-1
GROUNDWATER SAMPLE ANALYTICAL RESULTS
PFOHL BROTHERS LANDFILL SITE
NOVEMBER 2009

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			11/12/09	11/11/09	11/11/09	11/11/09	11/11/09
Parameter	**Units**	*				Field Duplicate (1-1)	
Volatile Organic Compounds							
1,2-Dichloroethene (total)	UG/L	5				1.2 J	1.2 J
Acetone	UG/L	50		2.7 J			
Vinyl chloride	UG/L	2				1.3	1.3
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			
Phenol	UG/L	1					
Arsenic	MG/L	0.025				0.0067 J	0.0065 J
Barium	MG/L	1	0.0992	0.0497	0.204	0.114	0.110
Cadmium	MG/L	0.005		0.0012			
Chromium	MG/L	0.05		0.128	0.0066	0.0166	0.0205
Copper	MG/L	0.2		0.0196			
Iron	MG/L	0.3	0.356	4.84	0.256	3.85	3.69
Lead	MG/L	0.025		0.132			
Magnesium	MG/L	35	24.1	25.3	29.4	20.1	19.4
Manganese	MG/L	0.3	0.284	0.0704	0.0625	0.651	0.629
Nickel	MG/L	0.1	0.0054 J	0.0636	0.0497	0.0087 J	0.0086 J
Sodium	MG/L	20	28.7	81.9	55.5	238	230
Zinc	MG/L	2	0.0027 J	0.0261	0.0042 J	0.0262	0.0246

*- 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

Only Detected Results Reported.

Advanced Selection: AMK-TEMF
N:\11172700.00000\GIS\dB\Program\EDMS.md
Printed: 2/27/2010 11:32:12 AM
[LOGDATE] BETWEEN #11/01/09# AND #11/30/09# AND ([SACODE] = 'N' OR [SACODE] = 'FD'

TABLE 3-1
GROUNDWATER SAMPLE ANALYTICAL RESULTS
PFOHL BROTHERS LANDFILL SITE
NOVEMBER 2009

Location ID			GW-08SR	GW-26D	GW-28S	GW-29S	GW-30S
Sample ID			GW-8SR	GW-26D	GW-28S	GW-29	GW-30S
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			11/11/09	11/12/09	11/11/09	11/13/09	11/13/09
Parameter	**Units**	*					
Volatile Organic Compounds							
1,2-Dichloroethene (total)	UG/L	5		2.0 J			
Acetone	UG/L	50					
Vinyl chloride	UG/L	2	1.0	1.6			
Semivolatile Organic Compounds							
1,3-Dichlorobenzene	UG/L	3					
1,4-Dichlorobenzene	UG/L	3					
bis(2-Ethylhexyl)phthalate	UG/L	5					
Phenol	UG/L	1				0.59 J	
Arsenic	MG/L	0.025	0.0086 J			0.0406	
Barium	MG/L	1	0.535	0.128	0.0762	0.334	0.402
Cadmium	MG/L	0.005				0.0003 J	0.0003 J
Chromium	MG/L	0.05	0.0020 J			0.0038 J	
Copper	MG/L	0.2	0.0013 J			0.0023 J	
Iron	MG/L	0.3	22.7	5.62	0.283	17.2	13.8
Lead	MG/L	0.025					
Magnesium	MG/L	35	49.2	20.7	33.9	81.4	43.3
Manganese	MG/L	0.3	1.10	1.01	1.05	0.804	2.24
Nickel	MG/L	0.1	0.0046 J	0.0030 J	0.0035 J	0.0017 J	
Sodium	MG/L	20	287	254	27.4	15.0	629
Zinc	MG/L	2	0.0039 J	0.0052 J	0.0033 J	0.0032 J	0.0015 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

Only Detected Results Reported.

Advanced Selection: AMK-TEMF
N:\11172700.00000\GIS\dB\Program\EDMS.md
Printed: 2/27/2010 11:32:12 AM
[LOGDATE] BETWEEN #11/01/09# AND #11/30/09# AND ([SACODE] = 'N' OR [SACODE] = 'FD'

TABLE 3-1
GROUNDWATER SAMPLE ANALYTICAL RESULTS
PFOHL BROTHERS LANDFILL SITE
NOVEMBER 2009

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			11/13/09	11/13/09	11/11/09	11/10/09	11/12/09
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					
Phenol	UG/L	1					
Arsenic	MG/L	0.025					
Barium	MG/L	1	0.0675	0.0682	0.0378	0.175	0.0666
Cadmium	MG/L	0.005	0.0004 J	0.0003 J			
Chromium	MG/L	0.05	0.0034 J	0.0015 J	0.0012 J		
Copper	MG/L	0.2	0.0021 J	0.0016 J		0.0016 J	
Iron	MG/L	0.3	0.264	0.097		0.046 J	0.044 J
Lead	MG/L	0.025					
Magnesium	MG/L	35	31.7	44.6	43.0	59.9	28.8
Manganese	MG/L	0.3	0.981	0.274	0.0431	0.155	0.396
Nickel	MG/L	0.1	0.0051 J	0.0023 J	0.0024 J	0.0061 J	0.0024 J
Sodium	MG/L	20	6.7	7.1	5.3	36.5	3.4
Zinc	MG/L	2	0.0068 J	0.0045 J	0.0027 J	0.0035 J	0.0033 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

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)

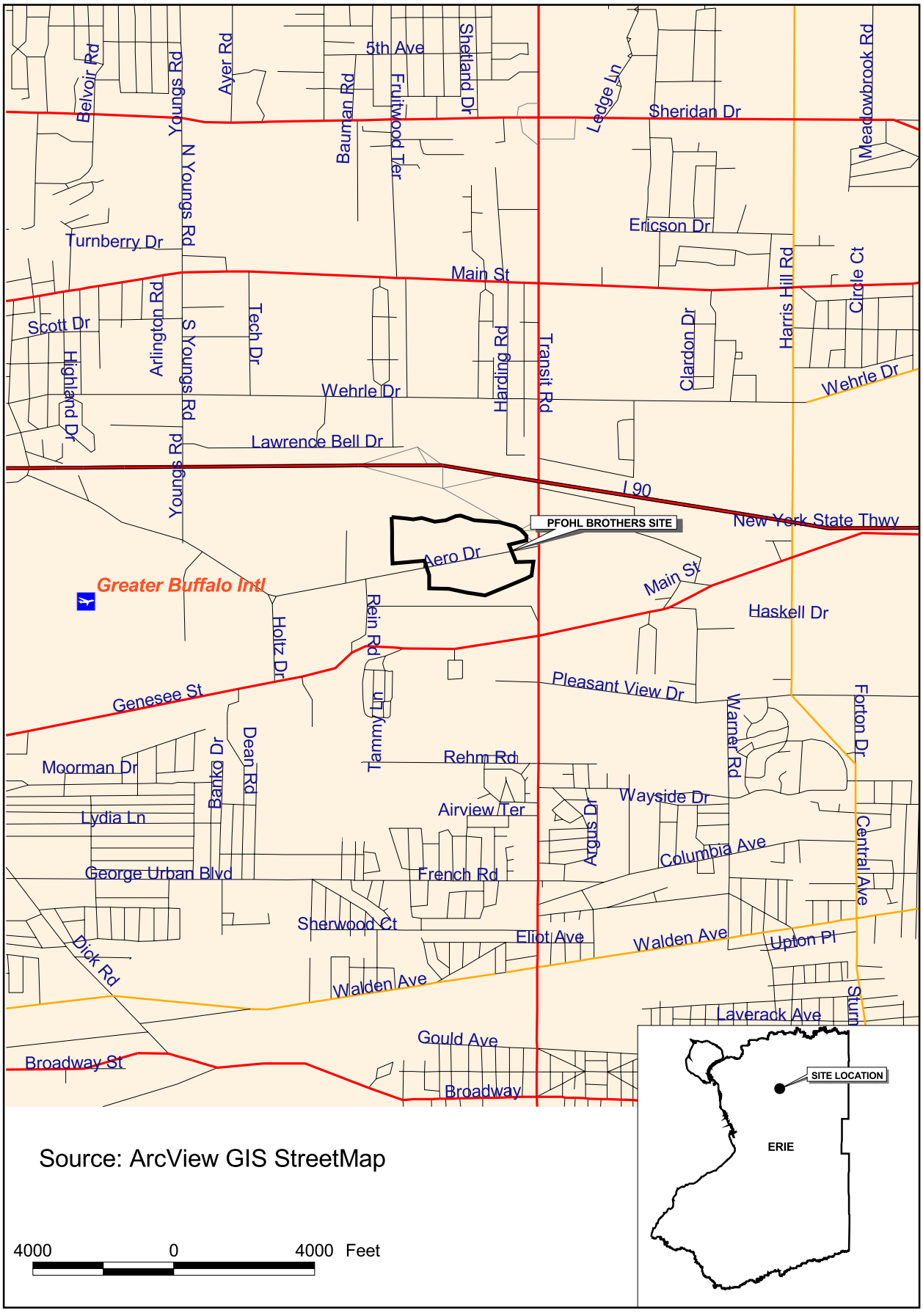
APPROVED REVISION OF TABLE 3.2 FROM THE O&M PLAN

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 7/27/09 — Weather conditions OVERCAST 76°

Time 1:56 — Read by: BILL PUGH

	Level of Water from bottom (ft.)	Flow gallons / minute	Flow Totals gallons	Pump Run Time Hrs.
WW-3	5.5	0	10	1343
WW-2	4.7	0	-1692	30
WW-1	4.2	0	140,039	1640
WW-6	6.8	0	225,212	2472
WW-4	6.5	15.2	43,544	3495
WW-5	5.6	27.8	373,553	2309

Flow Totalizer at Meter chamber 782,402

Heat Trace

Outside temp T = 76°

Current A = 0

Set point SP = 40°

Surge Suppressor events 1

Motor Control Center

Volts 480 volts

Amps 15 amps

Which WW was running?

1☐ 2☐ 3☐ 4☐ 5☑ 6☐

Filter **Checked** ☐ **Changed** ☐

Comments and/or Current Conditions

WW2 - NEG. FLOW. - RAN PUMP 2 ON MANUAL TO ATTEMPT TO CLEAR BALL CHECK VALVE. RESET ALL ALARMS. INCOMING VOLTAGE FLUCTUATION. CHECK WITH ELECTRICIAN — SIGNIFICANT CHANGE IN SURGE SUPRESSION READINGS FROM LAST RECORDED VALUE OF 58,631 ON 7/17/09

Pfohl Brothers Landfill Site

Daily Logsheet — **Town of Cheektowaga**

Date 10/23/09 — Weather conditions LIGHT RAIN 50°

Time 2:10 — Read by: BILL PUGH

	Level of Water from bottom (ft.)	Flow gallons / minute	Flow Totals gallons	Pump Run Time Hrs.
WW-3	5.5	0	34	1343
WW-2	4.6	0	14090	57
WW-1	3.9	0	499,497	1825
WW-6	6.0	0	1,244,208	3022
WW-4	7.0	0	204,834	3630
WW-5	6.3	39.4	1,672,684	2881

Flow Totalizer at Meter chamber: 3,661,124

Heat Trace

Outside temp T = 46

Current A = 0

Set point SP = 46

Surge Suppressor events: 414,308

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

TURNED HEATER ON FOR SEASON - LOW

Pfohl Brothers Landfill Site

Daily Logsheet — **Town of Cheektowaga**

Date 10/30/09 — Weather conditions OVERCAST 65°

Time 2:30 — Read by: BILL PUGH

	Level of Water from bottom (ft.)	Flow gallons / minute	Flow Totals gallons	Pump Run Time Hrs.
WW-3	5.5	0	34	1343
WW-2	4.7	0	14,025	57
WW-1	4.1	0	499,497	1825
WW-6	6.7	62.9	1,429,807	3071
WW-4	7.0	0	204,834	3630
WW-5	7.7	0	1,828,961	2949

Flow Totalizer at Meter chamber: 4,002,377

Heat Trace

Outside temp T = 65

Current A = 0

Set point SP = 40

Surge Suppressor events: 414,309

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 ALARMS - NEG. FLOW WW 2

APPENDIX B

MONTHLY FLOW SUMMARIES
JULY 2009 – DECEMBER 2009

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

August 7, 2009

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 2009** Direct Discharge Flow Data Report, prepared by Jon W. Nichy.

Please note that the **Discharge Totalizers** were reset on July 1, 2009.

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

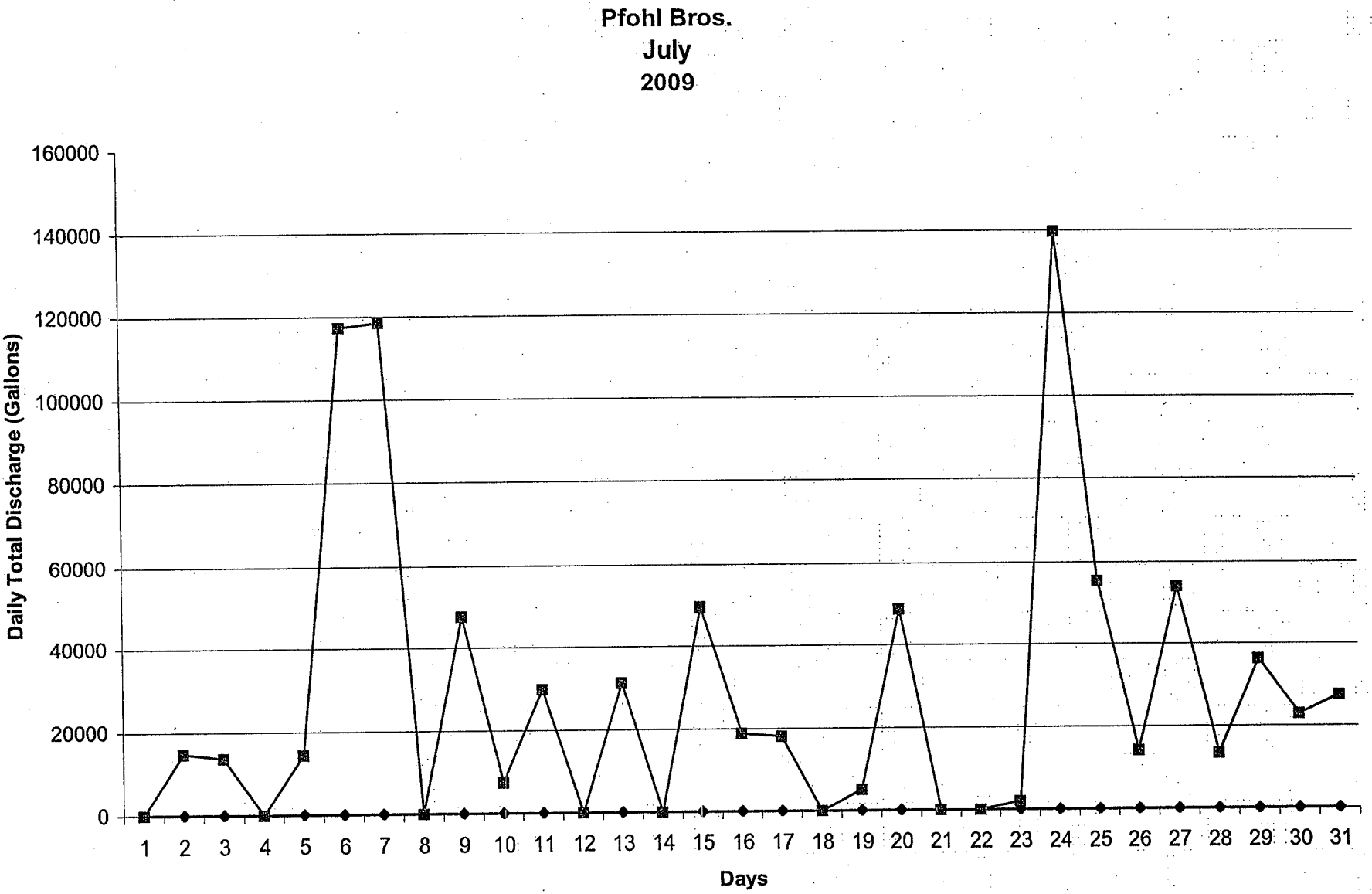
Should you have any other questions or comments regarding this submittal, please contact this office @ 896-1777.

Yours truly,
Town of Cheektowaga

Jon W. Nichy
Superintendent
Main Pump Station

Direct Discharge Flow Data

6/30/2009		13161919	30,345	13,161,956	
July-09	**Time; 11:58pm unless otherwise stated**	**Totalizer Reading (Gallons)**	**Daily Total Discharge (Gallons)**		**Notes**
1		0	0	0	
2		14733	14,733	14,733	
3		28408	13,675	28,408	
4		28408	0	28,408	
5		42820	14,412	42,820	
6		160138	117,318	160,138	
7		278606	118,468	278,606	
8		278606	0	278,606	
9		326089	47,483	326,089	
10		333617	7,528	333,617	
11		363392	29,775	363,392	
12		363392	0	363,392	
13		394644	31,252	394,644	
14		394644	0	394,644	
15		444029	49,386	444,030	
16		462758	18,729	462,759	
17		480808	18,050	480,809	
18		480808	0	480,809	
19		485954	5,146	485,955	
20		534455	48,502	534,457	
21		534455	0	534,457	
22		534455	0	534,457	
23		536424	1,969	536,426	
24		676001	139,577	676,003	
25		731266	55,265	731,268	
26		745355	14,088	745,356	
27		799099	53,745	799,101	
28		812460	13,360	812,461	
29		848711	36,252	848,713	
30		871476	22,765	871,478	
31		898917	27,441	898,919	
		898,919	**898,919**	**898,919**	


Pfohl Bros.
July
2009
Daily Total Discharge (Gallons)
160000
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
7/2/09	0613	1710	
7/3/09	0204		
7/5/09		1746	
7/6/09	0222	1052	
7/10/09	1507		
7/19/09		1745	
7/21/09	1908		
7/23/09		2259	
7/25/09	1757		
7/26/09		813	

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

September 9, 2009

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 2009** 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.

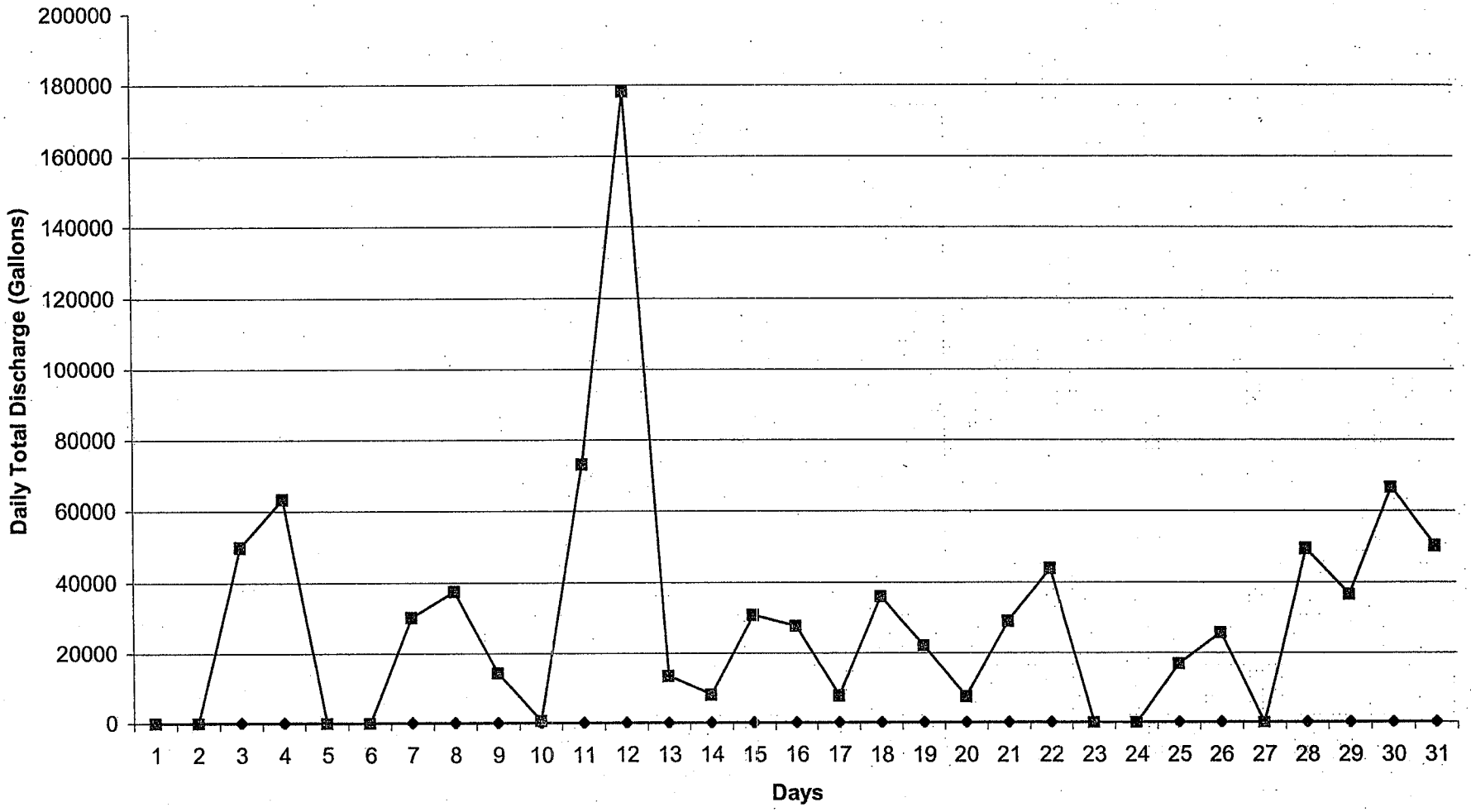
Yours truly,
Town of Cheektowaga

Jon W. Nichy
Superintendent
Main Pump Station

Direct Discharge Flow Data

7/31/2009		898917	27,441	898,919	
August-09	**Time; 11:58pm unless otherwise stated**	**Totalizer Reading (Gallons)**	**Daily Total Discharge (Gallons)**		**Notes**
1		0	0	898,919	
2		898917	0	898,919	
3		948797	49,880	948,799	
4		1011969	63,172	1,011,971	
5		1011969	0	1,011,971	
6		1011969	0	1,011,971	
7		1042279	30,310	1,042,281	
8		1079779	37,500	1,079,781	
9		1094130	14,351	1,094,132	
10		1094939	809	1,094,941	
11		1168086	73,147	1,168,088	
12		1346091	178,005	1,346,093	
13		1359543	13,452	1,359,545	
14		1367712	8,169	1,367,714	
15		1398621	30,910	1,398,624	
16		1426303	27,682	1,426,306	
17		1434096	7,793	1,434,099	
18		1470147	36,051	1,470,150	
19		1492325	22,178	1,492,328	
20		1499898	7,574	1,499,902	
21		1528953	29,055	1,528,957	
22		1572811	43,858	1,572,815	
23		1572811	0	1,572,815	
24		1572811	0	1,572,815	
25		1589670	16,859	1,589,674	
26		1615551	25,881	1,615,555	
27		1615551	0	1,615,555	
28		1664976	49,425	1,664,980	
29		1701641	36,665	1,701,645	
30		1768169	66,529	1,768,174	
31		1818391	50,222	1,818,396	
		919,477	**919,477**	**919,477**	

Pfohl Bros.
August
2009



PFOHL BROTHERS LANDFILL SITE
CHEEKTOWAGA, NEW YORK

Auto Dialer System Log

DATE	PUMP Inhibit -08 (Off)	TIME Enable -07 (On)	COMMENTS
8/4/09	11:31 PM		RAIN
8/7/09		1157 ON	
8/9/09	2:00 PM		RAIN
8/11/09		1422 ON	
8/23/09	4:26 PM		RAIN
8/23/09		11:49 PM	CLEAR
8/20/09	0938		
8/21/09		1252 ON	
8/29/09	0907		
8/29/09		1307 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

October 6, 2009

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 2009** 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.

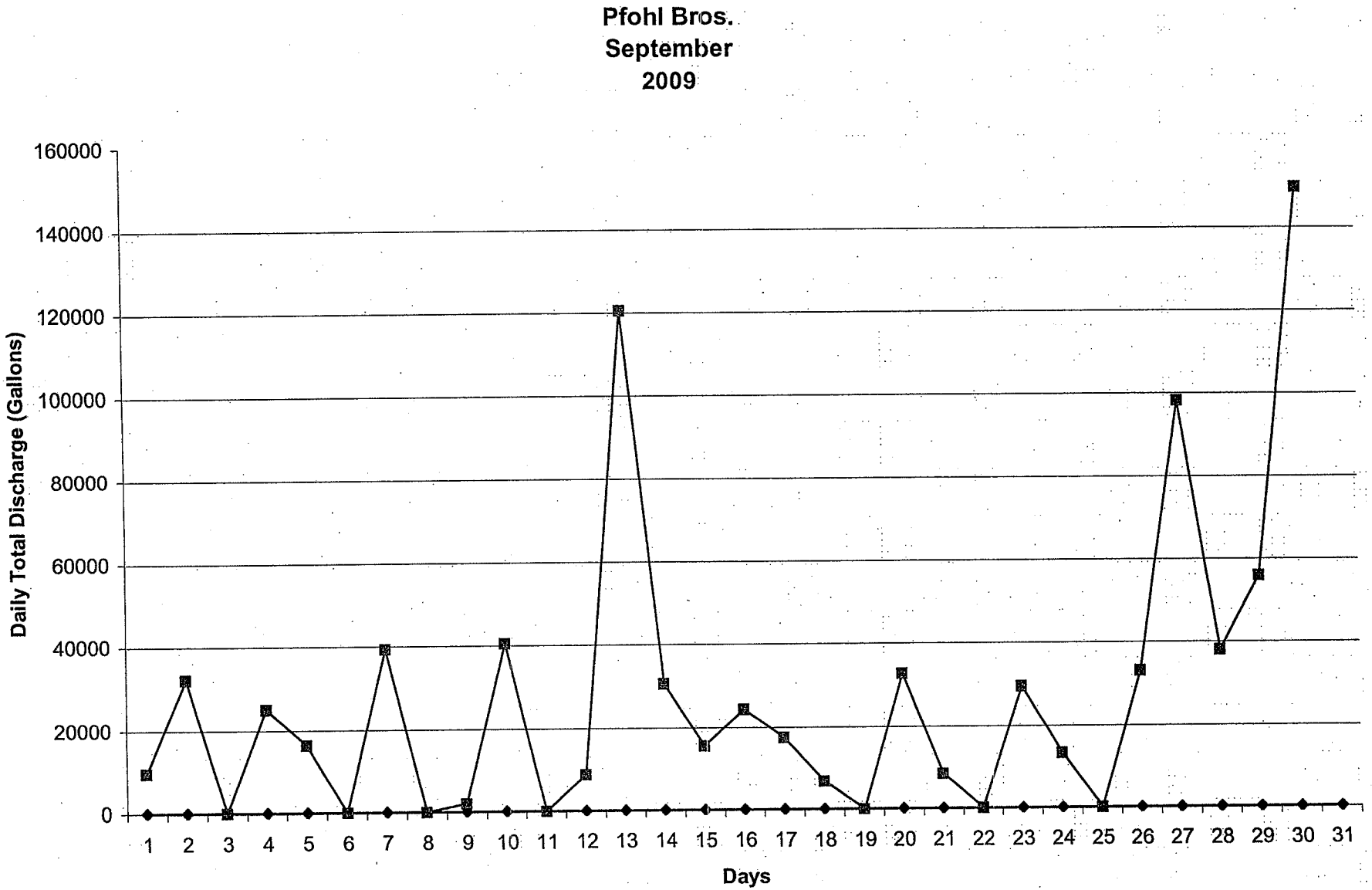
Should you have any other questions or comments regarding this submittal, please contact this office @ 896-1777.

Yours truly,
Town of Cheektowaga

Jon W. Nichy
Superintendent
Main Pump Station

Direct Discharge Flow Data

8/31/2009		1818391	50,222	1,818,396	
September-09	**Time; 11:58pm unless otherwise stated**	**Totalizer Reading (Gallons)**	**Daily Total Discharge (Gallons)**		**Notes**
1		1828075	9,684	1,828,080	
2		1860286	32,211	1,860,291	
3		1860286	0	1,860,291	
4		1885331	25,045	1,885,336	
5		1901723	16,393	1,901,729	
6		1901723	0	1,901,729	
7		1941024	39,301	1,941,030	
8		1941024	0	1,941,030	
9		1942991	1,967	1,942,997	
10		1983467	40,476	1,983,473	
11		1983467	0	1,983,473	
12		1992416	8,949	1,992,422	
13		2112869	120,452	2,112,874	
14		2143360	30,492	2,143,366	
15		2158914	15,554	2,158,920	
16		2183263	24,349	2,183,269	
17		2200724	17,461	2,200,730	
18		2207659	6,935	2,207,665	
19		2207659	0	2,207,665	
20		2240330	32,671	2,240,336	
21		2248842	8,512	2,248,848	
22		2248915	73	2,248,921	
23		2278328	29,414	2,278,335	
24		2291773	13,445	2,291,780	
25		2291947	174	2,291,954	
26		2324886	32,939	2,324,893	
27		2423090	98,204	2,423,097	
28		2461107	38,017	2,461,114	
29		2516973	55,866	2,516,980	
30		2666369	149,397	2,666,377	
31					
		847,978	**847,981**	**847,981**	


Pfohl Bros.
September
2009
Daily Total Discharge (Gallons)
160000
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
9/21	6:21 PM		RAIN
9/22	—	12:04 PM	CLEAN
9/28	9:50 AM		RAIN
9/29		2:42 pm	

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

November 4, 2009

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 2009** 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

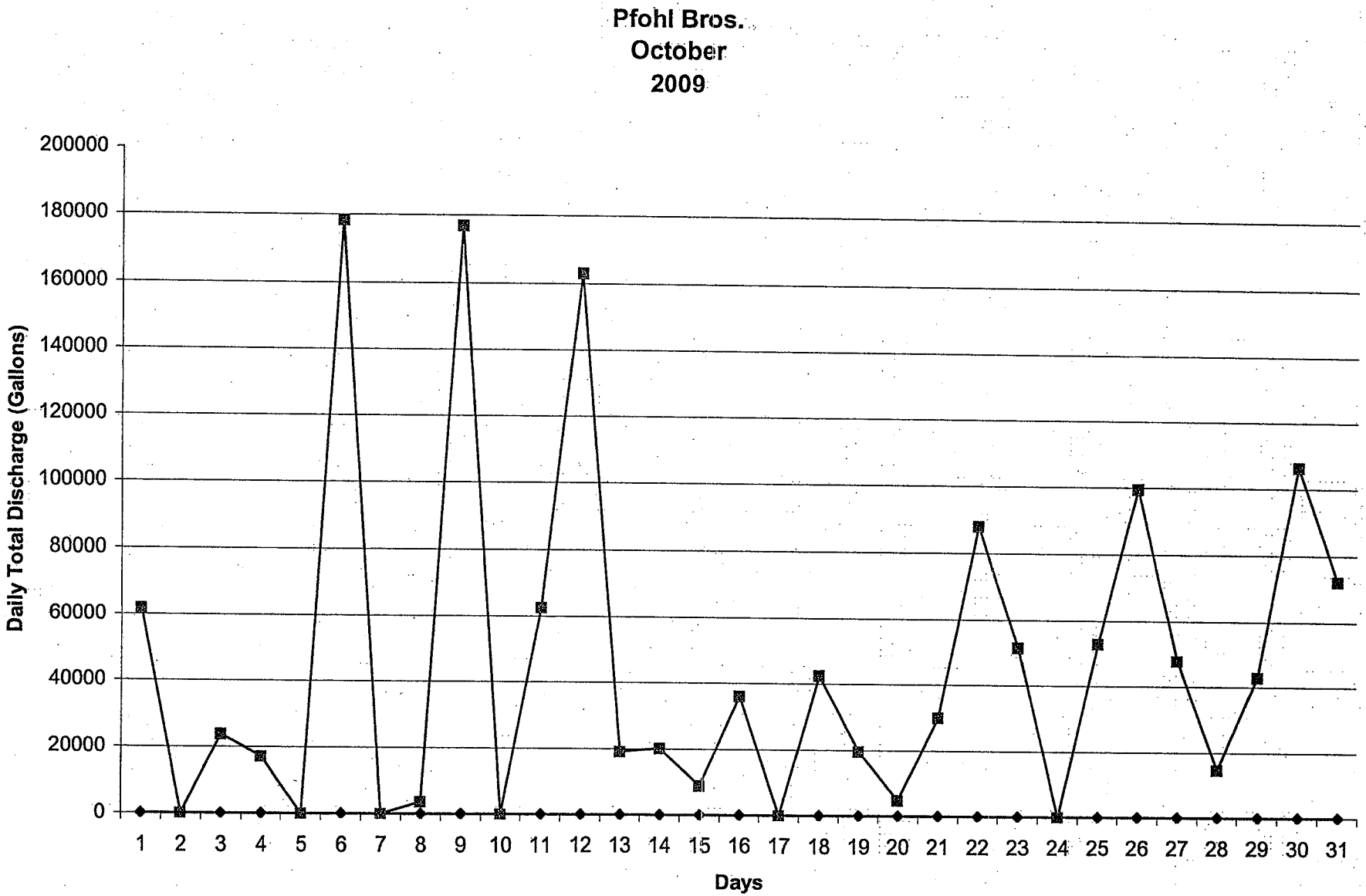
PFOHL BROTHERS LANDFILL SITE
CHEEKTOWAGA, NEW YORK

Auto Dialer System Log

DATE	PUMP Inhibit -08 (Off)	TIME Enable -07 (On)	COMMENTS
10/2/09	2:54pm		
10/3/09		10:04am	
10/6/09		12:28AM	CLEAR
10/6/09	11:17 AM		RAIN
10/08/09		11:20pm	CLEAR
10/23/09	7:20 PM		RAIN
10/25/09		3:08AM	CLEAR
10/9/09	10:22pm		
10/11/09		3:37pm	
10/31/09	05:19am		
10/31/09		1:58pm	

Direct Discharge Flow Data

9/30/2009		2666369	149,397	2,666,377	
October-09	**Time; 11:58pm unless otherwise stated**	**Totalizer Reading (Gallons)**	**Daily Total Discharge (Gallons)**		**Notes**
1		2728073	61,704	2,728,081	
2		2728073	0	2,728,081	
3		2751751	23,678	2,751,759	
4		2768840	17,089	2,768,848	
5		2768840	0	2,768,848	
6		2947071	178,230	2,947,078	
7		2947071	0	2,947,078	
8		2950773	3,703	2,950,781	
9		3127483	176,710	3,127,491	
10		3127483	0	3,127,491	
11		3190014	62,531	3,190,022	
12		3352880	162,866	3,352,888	
13		3371977	19,097	3,371,985	
14		3392110	20,134	3,392,119	
15		3401041	8,931	3,401,050	
16		3437135	36,095	3,437,145	
17		3437135	0	3,437,145	
18		3479529	42,394	3,479,539	
19		3499170	19,641	3,499,180	
20		3504083	4,913	3,504,093	
21		3534009	29,926	3,534,019	
22		3621791	87,782	3,621,801	
23		3673313	51,522	3,673,323	
24		3673313	0	3,673,323	
25		3726102	52,789	3,726,112	
26		3825574	99,472	3,825,584	
27		3873401	47,828	3,873,412	
28		3888088	14,687	3,888,099	
29		3930927	42,839	3,930,938	
30		4037247	106,320	4,037,258	
31		4109567	72,320	4,109,578	
		1,443,198	**1,443,201**	**1,443,201**	


Pfohl Bros.
October
2009
Daily Total Discharge (Gallons)
200000
180000
160000
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

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 3, 2009

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 2009** 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.

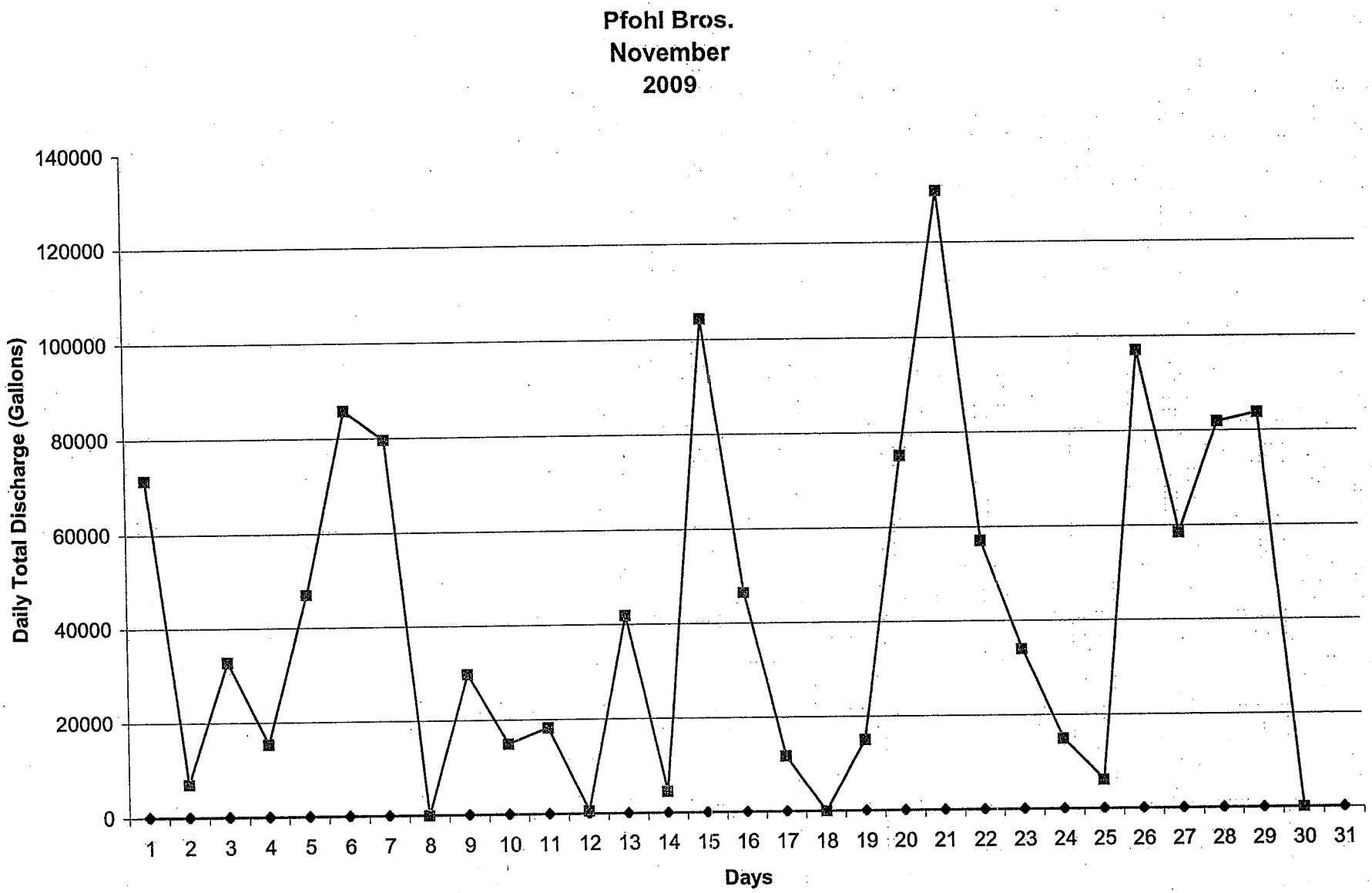
Should you have any other questions or comments regarding this submittal, please contact this office @ 896-1777.

Yours truly,
Town of Cheektowaga

Jon W. Nichy
Superintendent
Main Pump Station

Direct Discharge Flow Data

10/31/2009		4109567	72,320	4,109,578	
November-09	**Time; 11:58pm unless otherwise stated**	**Totalizer Reading (Gallons)**	**Daily Total Discharge (Gallons)**		**Notes**
1		4180876	71,309	4,180,887	
2		4187972	7,097	4,187,984	
3		4220767	32,795	4,220,779	
4		4236098	15,332	4,236,111	
5		4283102	47,004	4,283,115	
6		4368893	85,791	4,368,906	
7		4448470	79,577	4,448,483	
8		4448470	0	4,448,483	
9		4478122	29,653	4,478,136	
10		4493027	14,905	4,493,041	
11		4511345	18,318	4,511,359	
12		4511946	601	4,511,960	
13		4553822	41,876	4,553,836	
14		4558371	4,550	4,558,386	
15		4662757	104,386	4,662,772	
16		4709273	46,516	4,709,288	
17		4720965	11,692	4,720,980	
18		4720965	0	4,720,980	
19		4736071	15,106	4,736,086	
20		4811205	75,134	4,811,220	
21		4942054	130,849	4,942,069	
22		4999163	57,109	4,999,178	
23		5033105	33,942	5,033,120	
24		5048078	14,974	5,048,094	
25		5054292	6,214	5,054,308	
26		5151250	96,958	5,151,266	
27		5209846	58,596	5,209,862	
28		5291643	81,797	5,291,659	
29		5375302	83,659	5,375,318	
30		5375302	0	5,375,318	
31					
		1,265,735	**1,265,740**	**1,265,740**	


Pfohl Bros.
November
2009
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
~~11/28/09~~	~~9:55 PM~~		~~RAIN~~
11/14/09	0949	1106	
11/19/09	0815		
11/20/09		0939	
11/26/09	1537		
11/27/09		0859	
11/27/09	1914		
11/28/09		0720	
11/29/09	2149		

THE TOWN OF
CHEEKTOWAGA

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

JON W. NICHY
Superintendent

January 2, 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 **December 2009** 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.

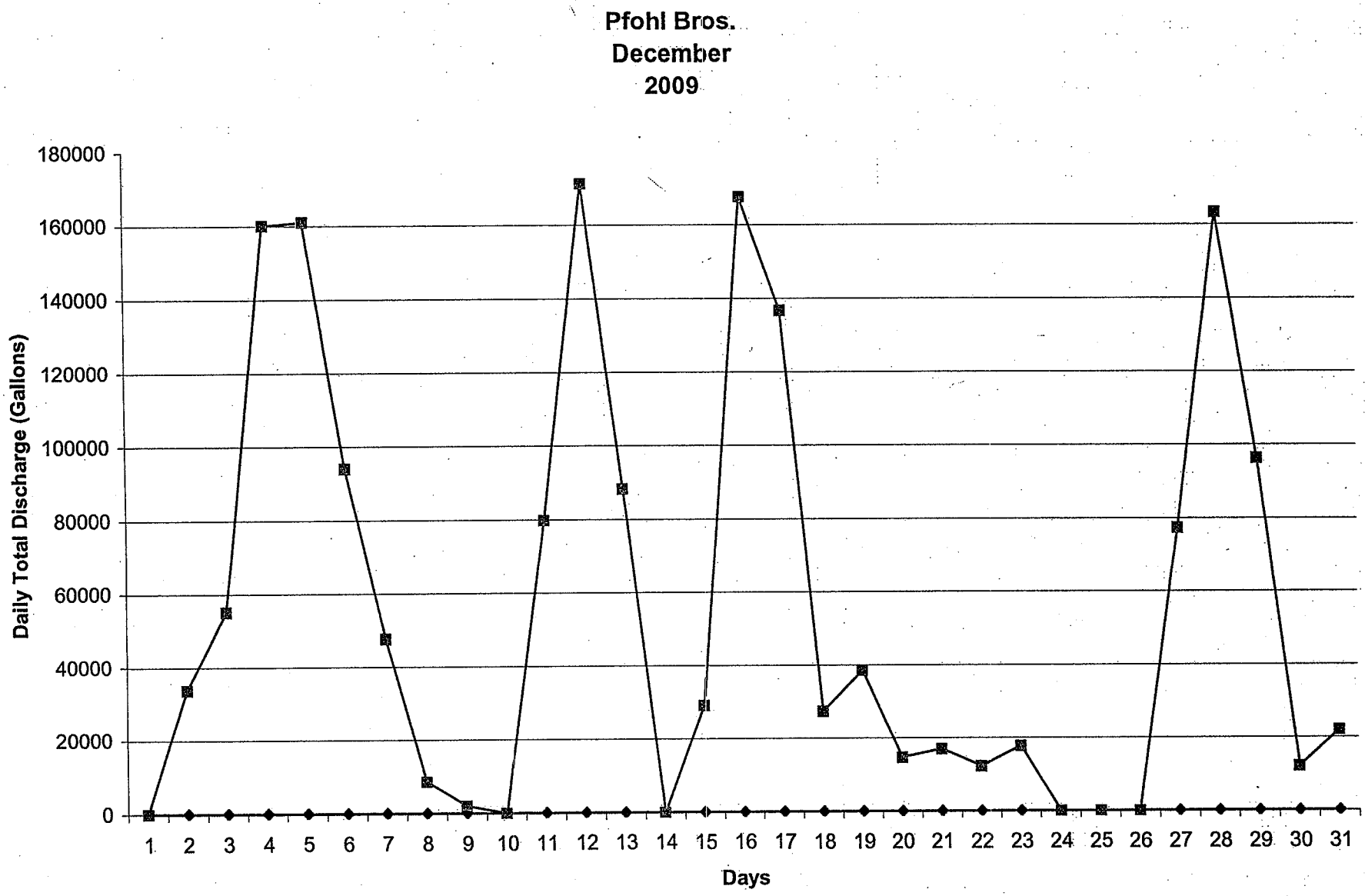
Should you have any other questions or comments regarding this submittal, please contact this office @ 896-1777.

Yours truly,
Town of Cheektowaga

Jon W. Nichy
Superintendent
Main Pump Station

Direct Discharge Flow Data

11/30/2009		5375302	0	5,820,342	
December-09	**Time; 11:58pm unless otherwise stated**	**Totalizer Reading (Gallons)**	**Daily Total Discharge (Gallons)**		**Notes**
1		5375302	0	5,820,342	
2		5409145	33,844	5,854,186	
3		5464131	54,986	5,909,172	
4		5624062	159,931	6,069,103	
5		5784969	160,907	6,230,010	
6		5878986	94,018	6,324,028	
7		5926620	47,634	6,371,662	
8		5935314	8,694	6,380,356	
9		5937258	1,944	6,382,300	
10		5937258	0	6,382,300	
11		6017005	79,747	6,462,047	
12		6188140	171,135	6,633,182	
13		6276427	88,287	6,721,469	
14		6276427	0	6,721,469	
15		6305602	29,176	6,750,645	
16		6473006	167,404	6,918,049	
17		6609581	136,575	7,054,624	
18		6636899	27,318	7,081,942	
19		6675503	38,604	7,120,546	
20		6690257	14,754	7,135,300	
21		6707221	16,964	7,152,264	
22		6719566	12,346	7,164,610	
23		6737278	17,712	7,182,322	
24		6737278	0	7,182,322	
25		6737278	0	7,182,322	
26		6737278	0	7,182,322	
27		6814557	77,279	7,259,601	
28		6977669	163,112	7,422,713	
29		7073909	96,240	7,518,953	
30		7086062	12,153	7,531,106	
31		7108085	22,023	7,553,129	
		1,732,783	**1,732,787**	**1,732,787**	


Pfohl Bros.
December
2009
Daily Total Discharge (Gallons)
180000
160000
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
12/2/09	6:45 PM		HEAVY RAIN
12/3/09		2:11	
12/13/09	1130 AM		RAIN
12/15/09		6:30 PM	
12/24/09	0800		Rain-Melt
12/24/09	~~080~~ →	0800	

APPENDIX C

HYDRAULIC MONITORING TABLES

TABLE 1
PFOHL BROTHERS LANDFILL SITE
GROUNDWATER ELEVATIONS
JULY - DECEMBER 2009

Location ID / Type	Northing	Easting	Ground Elevation (ft)	Casing Elevation (ft)	Meas.point (Riser)Elev.(ft)	Geol. Zone	Specific Gravity	Date / Time	Depth to Water (ft)	Water Elev. (ft)	Product Thick. (ft)	Corrected Water Elev. (ft)	Remark
GW-03S	1073812.622	1114605.762	692.61	NM	693.80	S	1						
MNW								9/24/2009 0000	6.24	687.56	0.00	687.56	
MNW								11/10/2009 0000	2.57	691.23	0.00	691.23	
MNW								12/21/2009 0000	2.45	691.35	0.00	691.35	
GW-04S	1072284.456	1114685.127	690.76	NM	692.72	S	1						
MNW								9/24/2009 0000	6.21	686.51	0.00	686.51	
MNW								11/10/2009 0000	4.41	688.31	0.00	688.31	
MNW								12/21/2009 0000	4.46	688.26	0.00	688.26	
GW-07S	1071238.157	1117666.265	697.47	NM	699.51	S	1						
MNW								9/24/2009 0000	6.99	692.52	0.00	692.52	
MNW								11/10/2009 0000	4.73	694.78	0.00	694.78	
MNW								12/21/2009 0000	4.37	695.14	0.00	695.14	
GW-08SR	1073714.172	1116786.343	695.08	NM	697.50	S	1						
MNW								9/24/2009 0000	7.30	690.20	0.00	690.20	
MNW								11/10/2009 0000	5.40	692.10	0.00	692.10	
MNW								12/21/2009 0000	5.40	692.10	0.00	692.10	
GW-28S	1073129.479	1117648.927	698.60	NM	700.95	S	1						
MNW								9/24/2009 0000	10.73	690.22	0.00	690.22	
MNW								11/10/2009 0000	9.05	691.90	0.00	691.90	
MNW								12/21/2009 0000	8.77	692.18	0.00	692.18	
GW-29S	1072552.638	1117761.993	697.50	NM	699.63	S	1						
MNW								9/24/2009 0000	10.14	689.49	0.00	689.49	
MNW								11/10/2009 0000	7.90	691.73	0.00	691.73	
MNW								12/21/2009 0000	7.91	691.72	0.00	691.72	

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 2009

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-30S	1072096.109	1117743.563	693.67	NM	696.58	S	1						
MNW								9/24/2009 0000	8.38	688.20	0.00	688.20	
MNW								11/10/2009 0000	8.10	688.48	0.00	688.48	
MNW								12/21/2009 0000	8.02	688.56	0.00	688.56	
GW-31S	1071786.280	1117191.441	695.84	NM	698.62	S	1						
MNW								9/24/2009 0000	8.65	689.97	0.00	689.97	
MNW								11/10/2009 0000	2.73	695.89	0.00	695.89	
MNW								12/21/2009 0000	NM	-	NM	-	Well Frozen
GW-32S	1071613.793	1116364.200	696.19	NM	698.37	S	1						
MNW								9/24/2009 0000	6.03	692.34	0.00	692.34	
MNW								11/10/2009 0000	3.16	695.21	0.00	695.21	
MNW								12/21/2009 0000	2.98	695.39	0.00	695.39	
GW-33S	1072165.625	1115561.866	695.94	NM	698.24	S	1						
MNW								9/24/2009 0000	7.52	690.72	0.00	690.72	
MNW								11/10/2009 0000	4.40	693.84	0.00	693.84	
MNW								12/21/2009 0000	4.95	693.29	0.00	693.29	
GW-34S	1072979.205	1114730.200	692.51	NM	694.77	S	1						
MNW								9/24/2009 0000	5.88	688.89	0.00	688.89	
MNW								11/10/2009 0000	2.75	692.02	0.00	692.02	
MNW								12/21/2009 0000	2.89	691.88	0.00	691.88	
GW-35S	1071701.925	1115985.585	696.19	NM	697.39	S	1						
MNW								9/24/2009 0000	6.05	691.34	0.00	691.34	
MNW								11/10/2009 0000	3.22	694.17	0.00	694.17	
MNW								12/21/2009 0000	2.96	694.43	0.00	694.43	

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 2009

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-01	1073806.665	1114810.501	698.62	NM	698.62	NA	1						
MH								9/24/2009 0000	9.87	688.75	0.00	688.75	
MH								11/10/2009 0000	10.25	688.37	0.00	688.37	
MH								12/21/2009 0000	10.43	688.19	0.00	688.19	
MH-03	1073736.789	1115259.334	699.40	NM	699.40	NA	1						
MH								9/24/2009 0000	10.73	688.67	0.00	688.67	
MH								11/10/2009 0000	11.12	688.28	0.00	688.28	
MH								12/21/2009 0000	11.23	688.17	0.00	688.17	
MH-07	1073838.229	1116243.757	696.82	NM	696.82	NA	1						
MH								9/24/2009 0000	8.96	687.86	0.00	687.86	
MH								11/10/2009 0000	9.32	687.50	0.00	687.50	
MH								12/21/2009 0000	9.42	687.40	0.00	687.40	
MH-10	1073540.729	1117381.524	703.01	NM	703.01	NA	1						
MH								9/24/2009 0000	14.48	688.53	0.00	688.53	
MH								11/10/2009 0000	14.49	688.52	0.00	688.52	
MH								12/21/2009 0000	14.52	688.49	0.00	688.49	
MH-15	1072531.567	1117761.125	699.02	NM	699.02	NA	1						
MH								9/24/2009 0000	14.89	684.13	0.00	684.13	
MH								11/10/2009 0000	14.82	684.20	0.00	684.20	
MH								12/21/2009 0000	14.92	684.10	0.00	684.10	
MH-16	1072133.714	1117748.238	698.57	NM	698.57	NA	1						
MH								9/24/2009 0000	14.49	684.08	0.00	684.08	
MH								11/10/2009 0000	14.51	684.06	0.00	684.06	
MH								12/21/2009 0000	14.52	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
JULY - DECEMBER 2009

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-17	1071813.137	1117180.019	702.16	NM	702.16	NA	1						
MH								9/24/2009 0000	18.11	684.05	0.00	684.05	
MH								11/10/2009 0000	18.12	684.04	0.00	684.04	
MH								12/21/2009 0000	18.15	684.01	0.00	684.01	
MH-20	1071756.395	1115997.024	706.20	NM	706.20	NA	1						
MH								9/24/2009 0000	19.75	686.45	0.00	686.45	
MH								11/10/2009 0000	19.74	686.46	0.00	686.46	
MH								12/21/2009 0000	19.77	686.43	0.00	686.43	
MH-22	1072158.023	1115589.309	698.05	NM	698.05	NA	1						
MH								9/24/2009 0000	9.00	689.05	0.00	689.05	
MH								11/10/2009 0000	8.97	689.08	0.00	689.08	
MH								12/21/2009 0000	8.99	689.06	0.00	689.06	
MH-25	1072483.928	1114820.313	698.17	NM	698.17	NA	1						
MH								9/24/2009 0000	9.45	688.72	0.00	688.72	
MH								11/10/2009 0000	9.84	688.33	0.00	688.33	
MH								12/21/2009 0000	10.04	688.13	0.00	688.13	
SG-01	1073882.887	1114813.101	NM	NM	690.00	NA	1						
SG								9/24/2009 0000	NM	-	NM	-	Dry
SG								11/10/2009 0000	-1.10	691.10	0.00	691.10	
SG								12/21/2009 0000	-1.18	691.18	0.00	691.18	
SG-02	1073738.27	1116805.85	NM	NM	690.00	NA	1						
SG								9/24/2009 0000	NM	-	NM	-	Dry
SG								11/10/2009 0000	-3.16	693.16	0.00	693.16	
SG								12/21/2009 0000	-3.10	693.10	0.00	693.10	

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 2009

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-01	1073676.903	1115710.476	NM	NM	684.02	NA	1						
MH								9/24/2009 0000	-4.5	688.52	0.00	688.52	
MH								11/10/2009 0000	-4.1	688.12	0.00	688.12	
MH								12/21/2009 0000	-4.0	688.02	0.00	688.02	
WW-02	1073684.724	1116792.311	NM	NM	684.18	NA	1						
MH								9/24/2009 0000	-4.6	688.78	0.00	688.78	
MH								11/10/2009 0000	-4.7	688.88	0.00	688.88	
MH								12/21/2009 0000	-4.6	688.78	0.00	688.78	
WW-03	1073140.339	1117618.499	NM	NM	683.80	NA	1						
MH								9/24/2009 0000	-5.4	689.20	0.00	689.20	
MH								11/10/2009 0000	-5.5	689.30	0.00	689.30	
MH								12/21/2009 0000	-5.6	689.40	0.00	689.40	
WW-04	1072057.563	1117610.508	NM	NM	676.62	NA	1						
MH								9/24/2009 0000	-7.0	683.62	0.00	683.62	
MH								11/10/2009 0000	-7.0	683.62	0.00	683.62	
MH								12/21/2009 0000	-6.9	683.52	0.00	683.52	
WW-05	1071661.368	1116370.876	NM	NM	676.14	NA	1						
MH								9/24/2009 0000	-6.7	682.84	0.00	682.84	
MH								11/10/2009 0000	-7.1	683.24	0.00	683.24	
MH								12/21/2009 0000	-5.6	681.74	0.00	681.74	
WW-06	1072988.420	1114811.518	NM	NM	681.89	NA	1						
MH								9/24/2009 0000	-7.3	689.19	0.00	689.19	
MH								11/10/2009 0000	-6.9	688.79	0.00	688.79	
MH								12/21/2009 0000	-6.8	688.69	0.00	688.69	

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

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: 11/12/2009 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: 3.97' Depth to Well Bottom: 14.94' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 6.8 Estimated Purge Volume (liters): 6.9

Sample ID: GW-1S Sample Time: 11:48 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)
10:58	Start pumping, bypassed flow through cell due to abundant orange particulates						180	3.97
11:03	↓	↓	↓	↓	↓	↓	150	4.30
11:08	↓	↓	↓	↓	↓	↓	150	4.45
11:13	7.38	12.03	1.070	4.98	190	-116.0	150	4.55
11:18	6.95	11.97	1.070	4.10	65	-109.3	150	4.60
11:23	6.71	11.88	1.099	3.95	55	-99.7	150	4.61
11:33	6.49	11.90	1.110	3.91	45	-92.9	150	4.61
11:38	6.45	11.93	1.115	3.87	45	-87.9	150	4.61
11:43	6.52	11.85	1.119	3.80	34	-83.8	150	4.61
Tolerance:	**0.1**	**---**	**3%**	**10%**	**10%**	**+ or - 10**	**---**	

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

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

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

Date: 11/12/2009 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: 2.83' Depth to Well Bottom: 39.65' Well Diameter: 4" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 90.9 Estimated Purge Volume (liters): 45.0

Sample ID: GW-1D Sample Time: 13:00 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)
12:10	7.25	11.09	1.063	4.79	20	-204.6	900	2.83
12:20	7.17	10.95	1.068	2.26	8.9	-250.8	900	2.88
12:30	7.06	11.07	1.065	2.35	5.1	-263.9	900	2.89
12:35	7.02	11.09	1.064	2.24	4.2	-270.8	900	2.89
12:40	6.92	11.15	1.061	2.30	4.5	-282.7	900	2.89
12:45	6.84	11.17	1.073	2.28	5.4	-289.0	900	2.89
12:50	6.82	11.15	1.070	2.29	4.2	-292.0	900	2.89
12:55	6.18	11.13	1.067	2.29	2.7	-295.7	900	2.89
13:00	6.80	11.21	1.069	2.21	2.3	-297.2	900	2.89
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: 11/11/2009 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: 2.39' Depth to Well Bottom: 13.25' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 6.7 Estimated Purge Volume (liters): 6.0

Sample ID: GW-3S Sample Time: 8:23 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)
7:43	7.69	8.93	1.157	7.66	120	12.8	220	2.39
7:48	7.62	9.54	1.148	5.63	55	24.9	140	4.61
7:53	7.58	9.64	1.145	6.02	40	32.2	140	4.85
7:58	7.55	9.68	1.144	6.03	38	33.1	140	5.04
8:03	7.52	9.85	1.142	6.33	26	34.8	140	5.36
8:08	7.51	9.95	1.142	6.16	26	39.3	140	5.64
8:13	7.50	10.10	1.141	5.91	24	36.7	140	5.84
8:18	7.47	10.23	1.143	5.65	24	28.3	140	6.11
8:23	7.46	10.30	1.143	5.56	23	28.9	140	6.30
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-3D

Date: 11/11/2009 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: 2.02' Depth to Well Bottom: 35.65' Well Diameter: 4" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 83.1 Estimated Purge Volume (liters): 53.4

Sample ID: GW-3D Sample Time: 9:45 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)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
8:45	7.44	11.36	1.408	5.30	3	-44.8	890	2.02
8:50	7.44	11.41	1.397	4.40	0	-51.9	890	2.04
9:00	7.37	11.44	1.398	4.24	0	-60.3	890	2.04
9:10	7.35	11.46	1.391	4.18	0	-64.4	890	2.04
9:20	7.34	11.48	1.391	4.30	0	-67.3	890	2.04
9:30	7.32	11.47	1.391	4.17	0	-69.3	890	2.04
9:35	7.32	11.49	1.390	4.17	0	-69.8	890	2.04
9:40	7.31	11.51	1.390	4.06	0	-70.8	890	2.04
9:45	7.30	11.50	1.390	4.01	0	-71.6	890	2.04
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: 11/12/2009 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: 4.43' Depth to Well Bottom: 16.23' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 7.3 Estimated Purge Volume (liters): 26.1

Sample ID: GW-4S Sample Time: 10:25 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)
7:46	8.82	10.83	0.460	5.45	60	-147.8	900	4.43
7:51	9.41	10.86	0.431	2.59	21	-95.4	900	10.11
7:56	9.46	10.76	0.436	2.42	4	-97.5	900	13.02
8:01	8.91	11.14	0.474	1.64	20	-144.2	900	14.85
8:06	8.50	11.20	0.490	1.03	0	-124.0	900	15.45
8:11	8.36	11.21	0.473	0.88	2	-137.8	900	16.04
8:15	8.32	11.06	0.462	2.59	2	-156.7	900	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: 11/12/2009 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: 13.01' Depth to Well Bottom: 45.57' Well Diameter: 4" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 80.4 Estimated Purge Volume (liters): 13.7

Sample ID: GW-4D Sample Time: 10:01 QA/QC: None

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information: 9:11 raised flow rate because pump kept shutting off at lower rate.

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)
8:22	7.91	9.43	1.241	4.70	330	-114.1	310	13.01
8:27	Cleaned out flow-through cell						120	
8:31	7.87	8.74	1.273	5.22	31	-135.2	120	13.61
8:41	7.82	8.81	1.270	2.76	14	-157.4	120	13.76
8:51	7.78	8.62	1.293	2.23	11	-209.4	120	13.89
9:01	7.79	7.94	1.304	2.33	11	-245.7	105	13.87
9:11	7.70	8.42	1.329	2.41	11	-276.0	140	13.94
9:21	7.67	9.34	1.327	2.51	10	-290.6	140	14.07
9:26	7.63	9.36	1.340	2.55	10	-303.4	140	14.11
9:31	7.58	9.22	1.352	2.64	10	-310.8	140	14.17
9:36	7.60	9.28	1.362	2.60	10	-313.2	140	14.08
9:41	7.52	9.50	1.377	2.83	10	-307.2	140	14.17
9:46	7.45	9.71	1.385	2.93	10	-313.5	140	14.25
9:51	7.34	9.94	1.376	2.88	10	-316.3	140	14.33
9:56	7.32	9.91	1.385	2.91	10	-315.1	140	14.40
10:01	7.31	9.99	1.387	2.92	10	-314.7	140	14.44
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 ($vol_{cyl} = \pi r^2 h$)

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): 11/10/09, 11/11/09

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	35.08	1"	0.040
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	4.73	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	30.35	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.17	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	5.2	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 3)	=		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						
pH	7.98	8.02	8.02	8.06	8.03						
SPEC. COND. (mS/cm)	0.576	0.576	0.576	0.574	0.570						
DO (mg/l)	8.42	9.32	10.90	10.83	9.22						
TEMPERATURE (^{0}C)	11.73	11.79	11.17	11.10	11.04						
TURBIDITY (NTU)	58	~50	~50	~70	~180						
ORP (millivolts)	93.1	123.3	126.2	144.4	165.2						
TIME											

COMMENTS: - Begin handbailing well. Batteries died in turbidity meter.
10:45 - Well dry after removing 7.5 gallons

11/11/2009 14:07 - return to well, depth to water = 4.97 feet.
14:15 - 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): 11/10/09, 11/11/09

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	60.28	1"	0.040
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	42.79	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	17.49	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)	=	11.5	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 3)	=		6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	12.0	8"	2.60

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

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	Initial	3	6	9	12						
pH	8.01	7.91	8.00	8.12	8.22						
SPEC. COND. (mS/cm)	0.678	0.690	0.713	0.740	0.752						
DO (mg/)	8.28	10.35	8.71	7.56	8.09						
TEMPERATURE (^{0}C)	11.09	11.09	11.14	11.16	11.22						
TURBIDITY (NTU)	<10	<10	~20	~40	~50						
ORP (millivolts)	-67.1	-80.3	-79.2	-83.2	-63.5						
TIME											

COMMENTS:

11:33 - Handbailed the well to dryness.

11/11/2009 14:18 - return to well, depth to water = 59.05 feet.

14:25 - 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: 11/11/2010 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): 8.8

Sample ID: GW-8SR Sample Time: 11:16 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)
10:26	7.18	10.84	2.229	7.85	230	-48.1	220	5.42
10:31	6.97	10.99	2.333	6.14	225	-57.2	170	6.76
10:36	6.87	11.07	2.335	6.60	220	-59.4	170	7.03
10:41	6.80	11.30	2.339	7.00	150	-55.3	170	7.17
10:46	6.66	11.51	2.346	7.26	105	-49.4	170	7.25
10:51	6.59	11.43	2.370	7.41	70	-46.3	170	7.30
10:56	6.55	11.52	2.379	7.40	55	-41.7	170	7.32
11:01	6.47	11.67	2.384	7.45	45	-39.1	170	7.36
11:06	6.39	11.67	2.393	7.55	35	-38.3	170	7.37
11:11	6.32	11.68	2.399	7.60	30	-37.6	170	7.39
11:16	6.30	11.81	2.405	7.64	30	-38.4	170	7.41
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-8D

Date: 11/11/2009 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: 5.98' Depth to Well Bottom: 36.58' Well Diameter: 4" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 75.6 Estimated Purge Volume (liters): 50.6

Sample ID: GW-8D Sample Time: 12:32 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)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
11:37	6.39	11.31	2.004	7.21	230	-31.8	920	5.98
11:47	6.16	11.26	2.072	6.03	4	-38.7	920	5.98
11:57	6.06	11.30	1.977	5.80	2	-40.4	920	5.98
12:07	6.02	11.41	1.701	4.96	0	-25.5	920	5.98
12:12	6.07	11.34	1.694	4.86	0	-23.8	920	5.98
12:17	6.25	11.36	1.688	4.61	0	-24.1	920	5.98
12:22	6.32	11.41	1.687	4.62	0	-24.1	920	5.98
12:27	6.33	11.43	1.685	4.57	0	-23.9	920	5.98
12:32	6.41	11.51	1.679	4.52	0	-24.3	920	5.98
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: 11/12/2009 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: 6.85' Depth to Well Bottom: 40.75' Well Diameter: 4" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 83.7 Estimated Purge Volume (liters): 47.9

Sample ID: GW-26D Sample Time: 14:34 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)
13:39	7.30	11.96	1.636	8.80	40	-83.3	870	6.85
13:44	6.70	11.59	1.707	4.02	1	-91.2	870	6.87
13:54	6.28	11.54	1.708	4.22	0	-86.9	870	6.85
14:04	6.09	11.57	1.709	4.22	0	-82.2	870	6.86
14:09	6.06	11.55	1.711	4.09	0	-81.0	870	6.86
14:14	6.00	11.53	1.710	4.12	0	-78.8	870	6.86
14:19	6.03	11.54	1.712	4.25	0	-78.5	870	6.86
14:24	6.11	11.50	1.705	4.30	0	-79.4	870	6.86
14:29	6.14	11.49	1.707	4.34	0	-79.9	870	6.86
14:34	6.18	11.51	1.706	4.35	0	-80.7	870	6.86
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-28S

Date: 11/11/2009 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: 9.07' Depth to Well Bottom: 15.55' Well Diameter: 2" Screen Length:

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

Sample ID: GW-28S Sample Time: 13:32 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)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
12:57	7.40	12.81	0.753	3.47	17	-27.7	235	9.07
13:02	7.08	12.74	0.726	2.37	11	-13.2	180	10.04
13:07	7.02	12.72	0.716	2.27	8	0.9	180	10.23
13:12	6.99	12.75	0.713	2.23	7	11.5	180	10.33
13:17	6.91	12.67	0.715	2.15	5	30.2	180	10.40
13:22	6.87	12.85	0.722	2.10	5	35.6	180	10.41
13:27	6.81	12.82	0.729	2.15	5	38.6	180	10.43
13:32	6.81	12.76	0.732	2.14	5	40.7	180	10.44
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-29S

Date: 11/13/2009 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: 8.20' Depth to Well Bottom: 20.00' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 7.3 Estimated Purge Volume (liters): 10.0

Sample ID: GW-29S Sample Time: 11:59 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)
11:00	7.26	13.07	1.279	5.28	950	-69.4	170	8.20
11:05	6.97	13.22	1.271	4.66	550	-66.7	170	10.14
11:10	6.89	12.75	1.246	4.49	400	-62.6	170	10.32
11:15	6.89	12.69	1.226	4.48	310	-61.2	170	10.44
11:20	6.88	12.64	1.216	4.47	230	-59.2	170	10.57
11:25	6.86	12.73	1.207	4.34	170	-63.0	170	10.67
11:30	6.78	12.85	1.224	4.20	110	-65.7	170	10.76
11:35	6.75	12.93	1.229	4.15	100	-66.0	170	10.79
11:40	6.73	12.99	1.233	4.09	90	-66.2	170	10.83
11:45	6.71	13.01	1.240	4.00	70	-66.5	170	10.86
11:50	6.72	12.90	1.245	3.91	60	-62.4	170	10.89
11:53	6.75	12.86	1.246	3.88	50	-60.0	170	10.91
11:56	6.76	12.88	1.247	3.83	50	-57.8	170	10.92
11:59	6.78	12.85	1.250	3.80	45	-55.7	170	10.93
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: 11/13/2009 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: 8.13' Depth to Well Bottom: 17.95' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 6.1 Estimated Purge Volume (liters): 14.4

Sample ID: GW-30S Sample Time: 10:37 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)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
10:07	7.39	12.42	3.962	11.98	65	-38.3	480	8.13
10:17	6.98	12.84	3.628	6.65	15	-77.0	480	8.20
10:27	6.93	12.97	3.641	7.22	6	-84.6	480	8.20
10:32	6.91	13.06	3.651	7.47	3	-85.1	480	8.20
10:37	6.90	13.10	3.655	7.59	3	-84.0	480	8.20
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: 11/13/2009 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: 2.88' Depth to Well Bottom: 9.58' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 4.1 Estimated Purge Volume (liters): 3.6

Sample ID: GW-31S Sample Time: 9:30 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)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
8:55	7.67	8.85	0.713	6.89	13	90.7	125	2.88
9:00	7.60	8.96	0.715	2.50	9.0	95.0	100	4.36
9:05	7.54	9.06	0.716	2.14	8.0	98.8	100	4.71
9:10	7.52	9.20	0.717	2.06	8.0	100.2	100	5.01
9:15	7.50	9.40	0.718	1.99	9.2	103.7	100	5.28
9:20	7.44	9.40	0.721	1.97	7.7	103.2	100	5.52
9:25	7.42	9.63	0.722	1.92	7.5	97.4	100	5.72
9:30	7.41	9.70	0.724	1.92	7.7	93.5	100	5.92
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: 11/13/2009 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: 3.28' Depth to Well Bottom: 9.94' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 4.1 Estimated Purge Volume (liters): 6.1

Sample ID: GW-32S Sample Time: 8:23 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)
7:48	7.63	8.95	0.732	8.61	45	51.3	230	3.28
7:58	7.72	9.10	0.721	4.54	12	63.1	150	3.70
8:03	7.72	9.07	0.718	4.05	8	65.2	150	3.71
8:08	7.72	9.08	0.710	3.43	5	67.1	150	3.73
8:13	7.72	9.13	0.705	3.11	5	68.9	150	3.74
8:18	7.73	9.23	0.701	3.02	4	67.8	150	3.75
8:23	7.72	9.45	0.698	2.87	4	66.7	150	3.76
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: 11/11/2009 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: 4.55' Depth to Well Bottom: 8.20' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 2.3 Estimated Purge Volume (liters): 5.1

Sample ID: GW-33S Sample Time: 15:38 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)
14:58	7.62	11.44	0.820	5.45	2.6	64.1	210	4.55
15:03	7.49	11.48	0.814	4.76	1.6	76.8	120	5.70
15:08	7.41	11.55	0.821	4.52	1.4	88.1	120	5.88
15:13	7.33	11.60	0.832	4.23	1.3	97.6	120	6.05
15:18	7.30	11.33	0.842	3.70	0	105.1	110	6.11
15:23	7.28	11.43	0.850	3.56	0	107.9	110	6.16
15:28	7.28	11.45	0.854	3.29	0	107.4	110	6.21
15:33	7.27	11.36	0.857	3.12	0	104.1	110	6.23
15:38	7.27	11.24	0.861	3.02	0	104.3	110	6.25
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: 11/10/2009 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: 2.78' Depth to Well Bottom: 10.00' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 4.5 Estimated Purge Volume (liters): 12.4

Sample ID: GW-34S Sample Time: 16:20 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)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
15:25	7.58	11.11	1.464	9.90	11	93.3	375	2.78
15:30	6.98	10.32	1.461	4.76	10	125.2	210	4.00
15:35	6.81	10.09	1.458	5.55	10	143.7	210	4.20
15:40	7.11	10.90	1.450	5.88	6.8	133.5	210	4.31
15:45	6.89	10.08	1.445	6.01	6.5	136.6	210	4.41
15:50	6.84	10.00	1.429	6.09	3.8	134.3	210	4.51
15:55	6.84	9.89	1.405	6.24	2.9	130.0	210	4.56
16:00	6.86	9.83	1.377	6.21	2.0	123.3	210	4.58
16:05	6.87	9.72	1.319	5.76	1.4	112.0	210	4.58
16:10	6.88	9.64	1.294	5.34	0.7	101.3	210	4.58
16:15	6.89	9.61	1.277	5.20	0.5	97.2	210	4.58
16:20	6.90	9.61	1.263	5.19	0.4	96.6	210	4.58
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: 11/12/2009 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: 3.32' Depth to Well Bottom: 7.45' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 2.5 Estimated Purge Volume (liters): 7.4

Sample ID: GW-35S Sample Time: 15:15 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)
14:45	6.67	12.23	0.754	5.19	15	-3.2	245	3.32
14:50	6.56	11.90	0.607	3.17	3	1.2	245	4.11
14:55	6.58	11.67	0.583	2.65	2	2.2	245	4.12
15:00	6.58	11.46	0.580	2.20	1	-1.5	245	4.12
15:05	6.60	11.49	0.574	1.99	1	-2.7	245	4.12
15:10	6.61	11.26	0.572	1.96	1	4.3	245	4.12
15:15	6.63	11.11	0.577	1.86	1	7.0	245	4.12
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 ($vol_{cyl} = \pi r^2 h$)

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 10, 2009*

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	4.5	12.4	16:20	Groundwater	VOCs/SVOCs/ Metals	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 11, 2009*

Sample I.D. Number	***Well Number***	***Well Volume (liters)***	***Volume Purged (liters)***	***Sample Time***	***Sample Description***	***Analysis Required***	***Chain-of-Custody Number***
GW-3S	GW-3S	6.7	6	8:23	Groundwater	VOCs/SVOCs/ Metals	Not Applicable
GW-3D	GW-3D	83.1	53.4	9:45	Groundwater		Not Applicable
GW-3D MS	GW-3D	83.1	53.4	9:45	Matrix Spike		Not Applicable
GW-3D MSD	GW-3D	83.1	53.4	9:45	Matrix Spike Duplicate		Not Applicable
GW-8SR	GW-8SR	4.7	8.8	11:16	Groundwater		Not Applicable
GW-8D	GW-8D	75.6	50.6	12:32	Groundwater		Not Applicable
DUPLICATE	GW-8D	75.6	50.6	12:32	Blind Duplicate		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 11, 2009 (continued)*

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	4.0	6.6	13:32	Groundwater	VOCs/SVOCs/ Metals	Not Applicable
GW-7S	GW-7S	19.7	28.4	14:15	Groundwater		Not Applicable
GW-7D	GW-7D	43.5	45.4	14:25	Groundwater		Not Applicable
GW-33S	GW-33S	2.3	5.1	15:38	Groundwater		Not Applicable
TB-111109	---	---	---	---	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 12, 2009*

Sample I.D. Number	***Well Number***	***Well Volume (liters)***	***Volume Purged (liters)***	***Sample Time***	***Sample Description***	***Analysis Required***	***Chain-of-Custody Number***
GW-4D	GW-4D	80.4	13.7	10:01	Groundwater	VOCs/SVOCs/ Metals	Not Applicable
GW-4S	GW-4S	7.3	26.1	10:25	Groundwater		Not Applicable
GW-1S	GW-1S	6.8	6.9	11:48	Groundwater		Not Applicable
GW-1D	GW-1D	90.9	45.0	13:00	Groundwater		Not Applicable
GW-26D	GW-26D	83.7	47.9	14:34	Groundwater		Not Applicable
GW-35S	GW-35S	2.5	7.4	15:15	Groundwater		Not Applicable
TB-111209	---	---	---	---	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 13, 2009*

Sample I.D. Number	***Well Number***	***Well Volume (liters)***	***Volume Purged (liters)***	***Sample Time***	***Sample Description***	***Analysis Required***	***Chain-of-Custody Number***
GW-32S	GW-32S	4.1	6.1	8:23	Groundwater	VOCs/SVOCs/ Metals	Not Applicable
GW-31S	GW-31S	4.1	3.6	9:30	Groundwater		Not Applicable
GW-30S	GW-30S	6.1	14.4	10:37	Groundwater		Not Applicable
GW-29S	GW-29S	7.3	10.0	11:59	Groundwater		Not Applicable
TB-111309	---	---	---	---	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

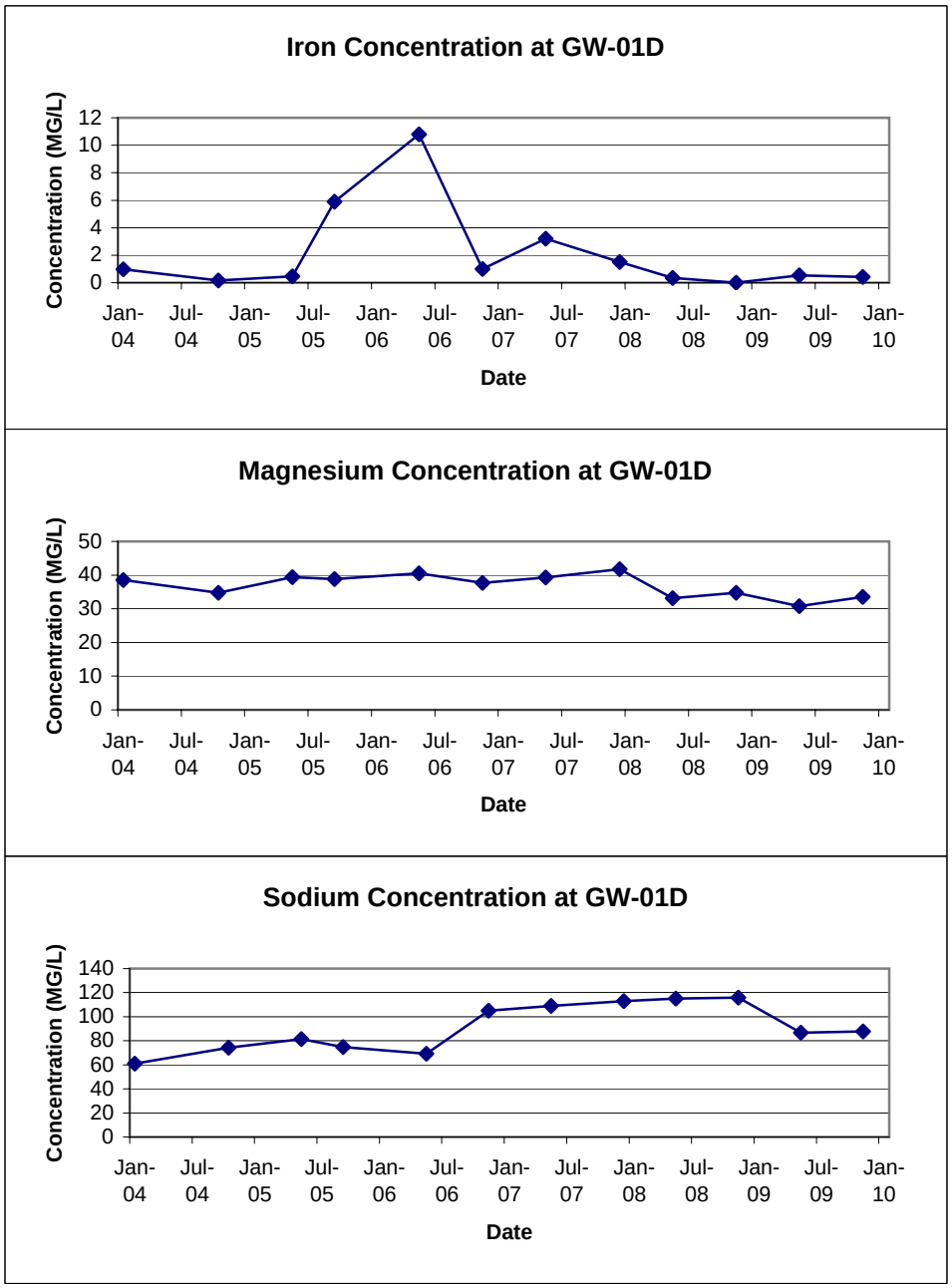


FIGURE E-2
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-1S

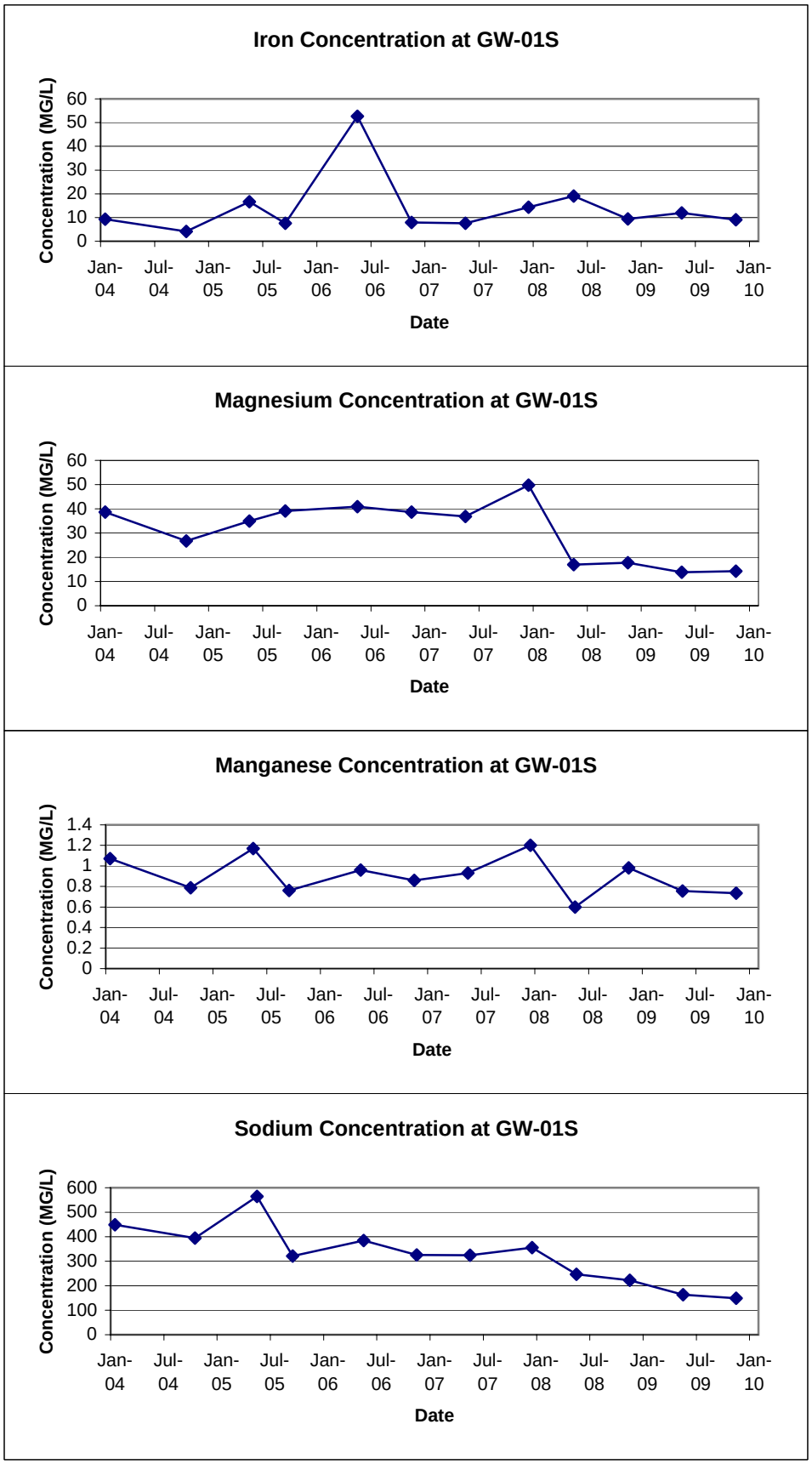


FIGURE E-3
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-3D

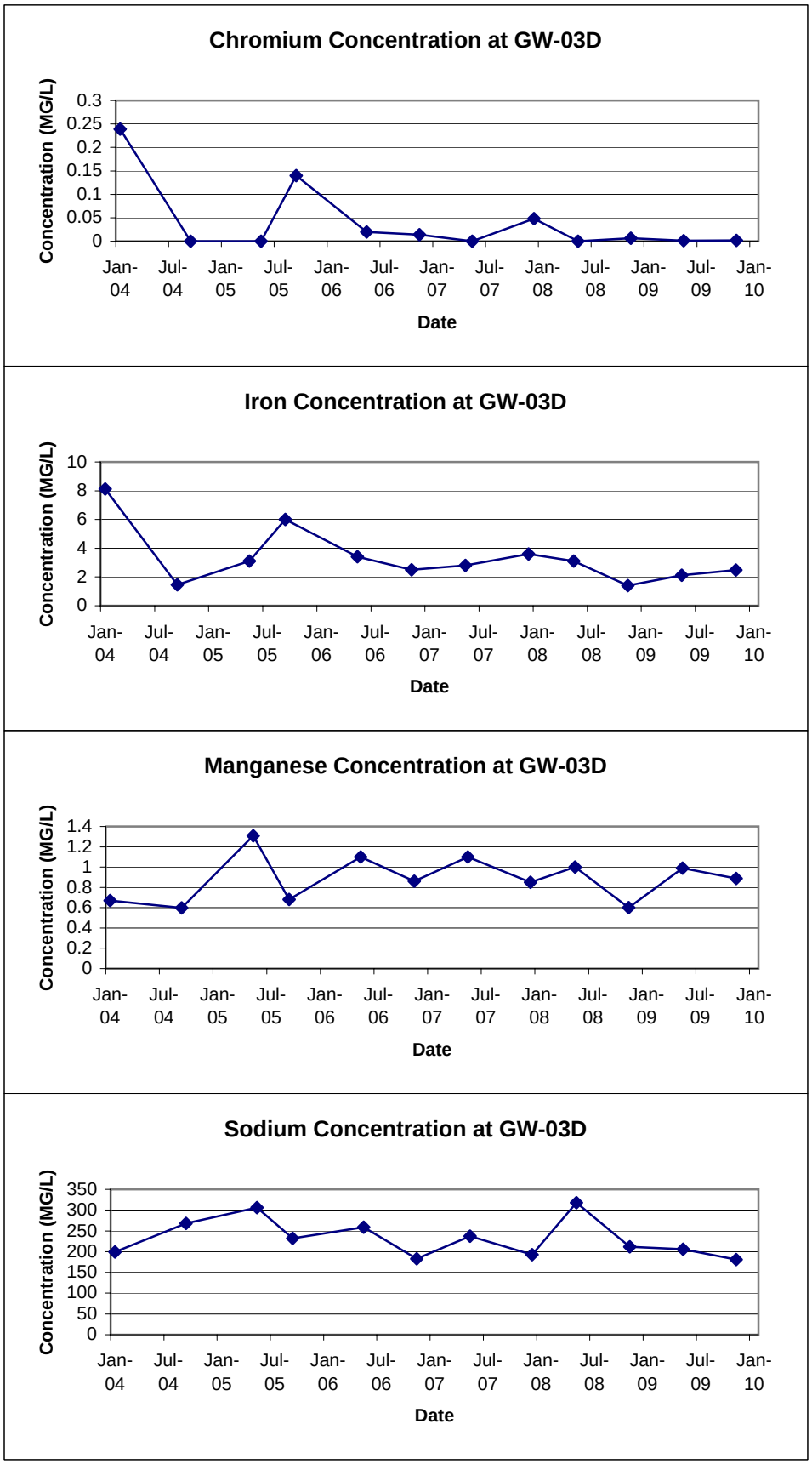


FIGURE E-4
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-3S

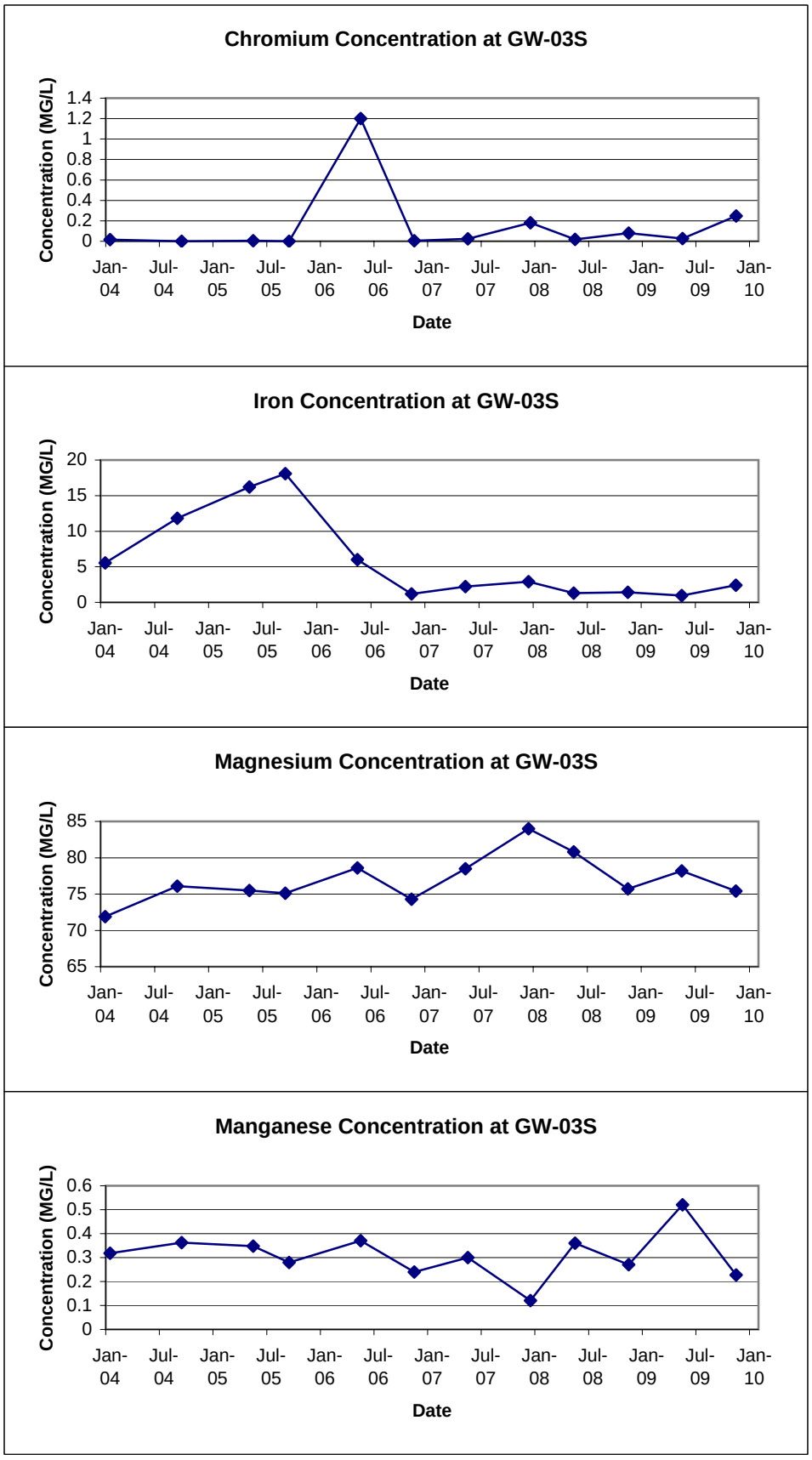


FIGURE E-4
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-3S

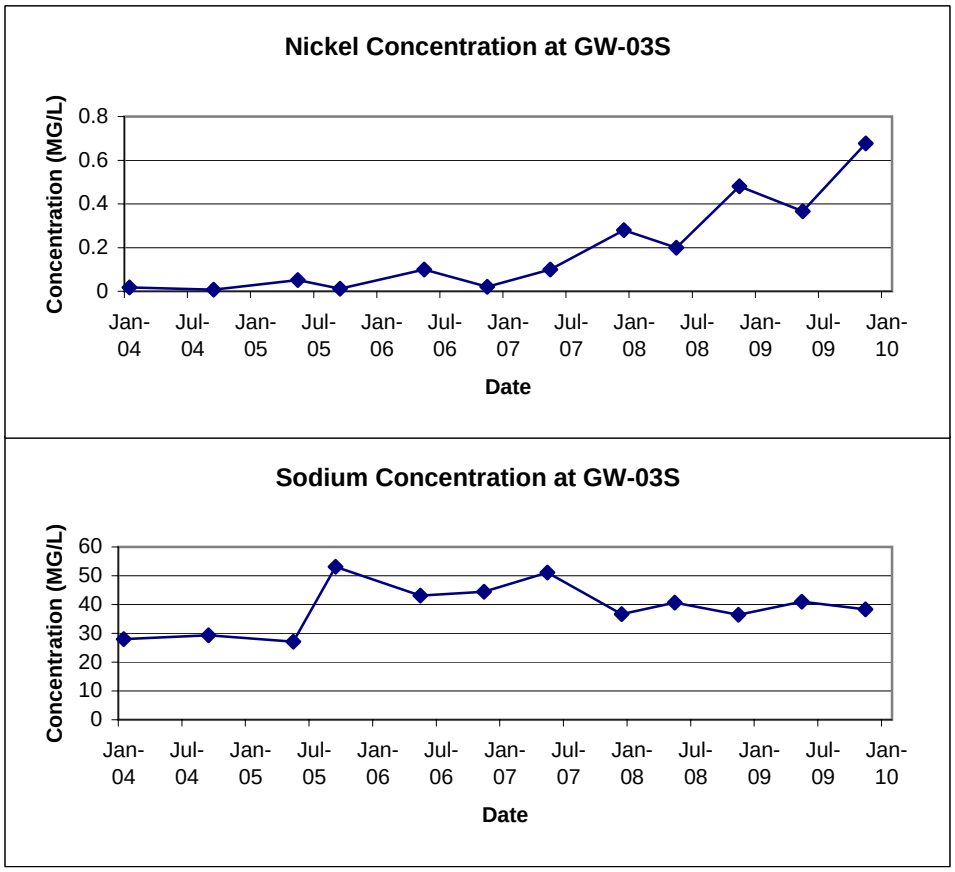


FIGURE E-5
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-4D

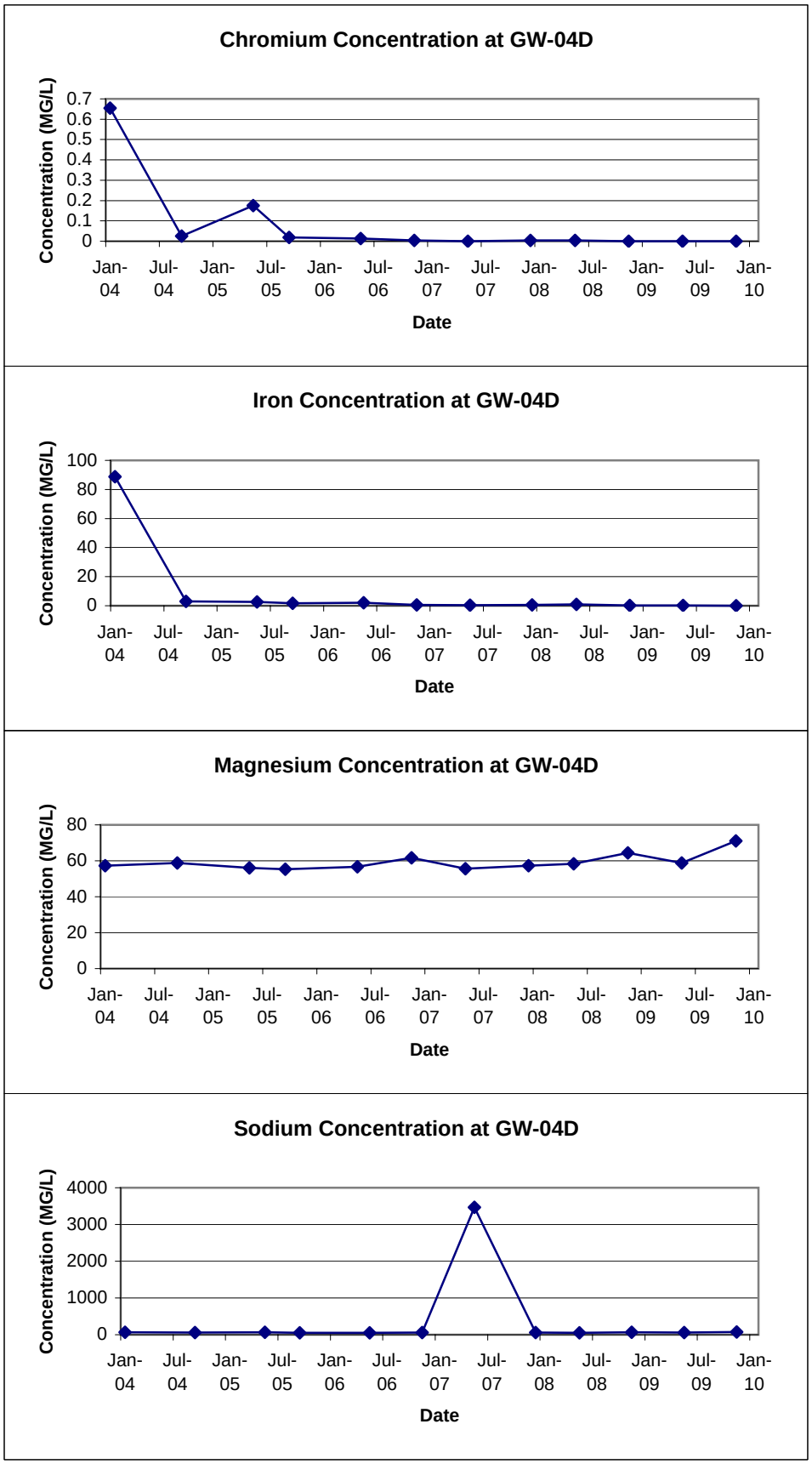


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FIGURE E-6
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-4S

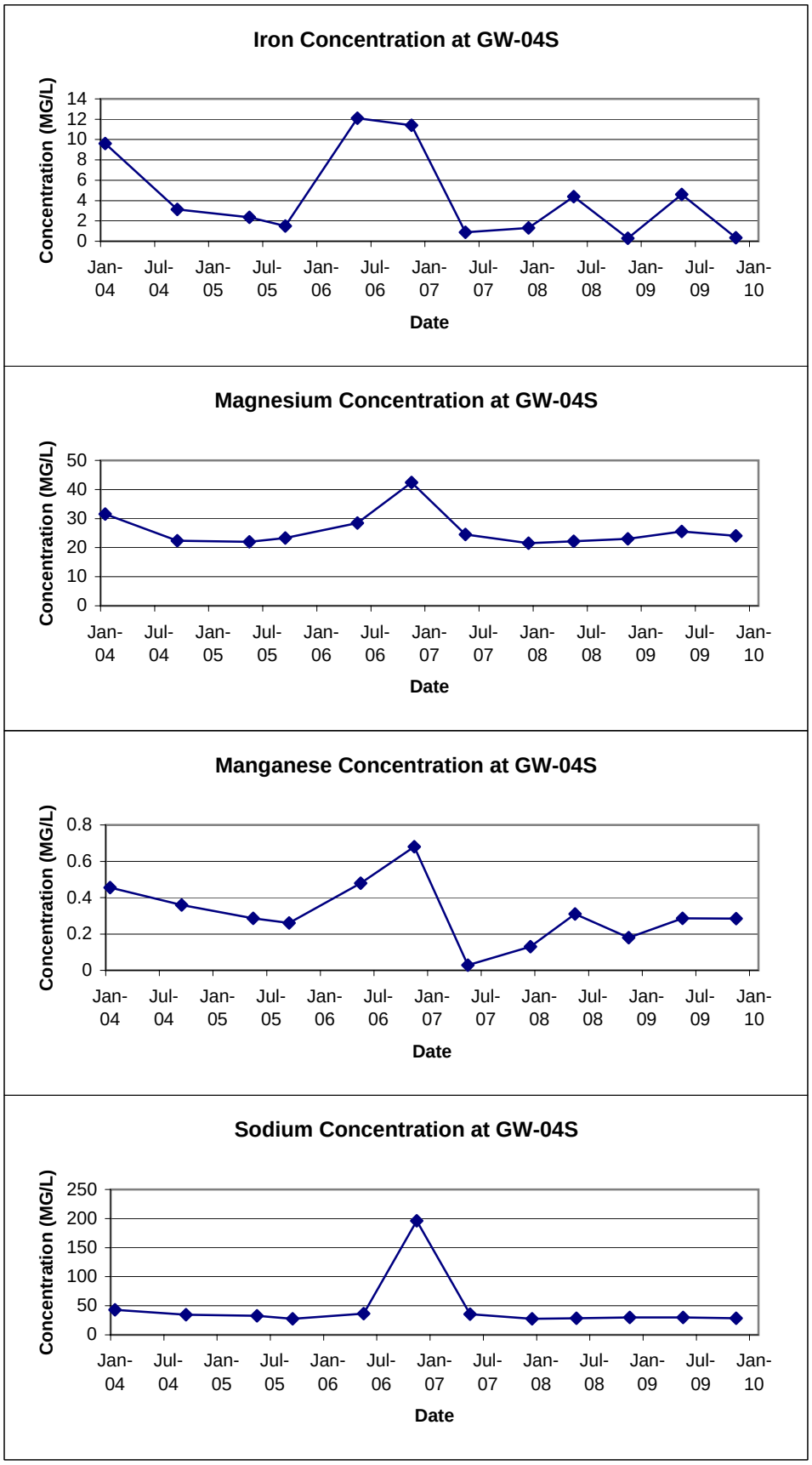

FIGURE E-7
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-7D

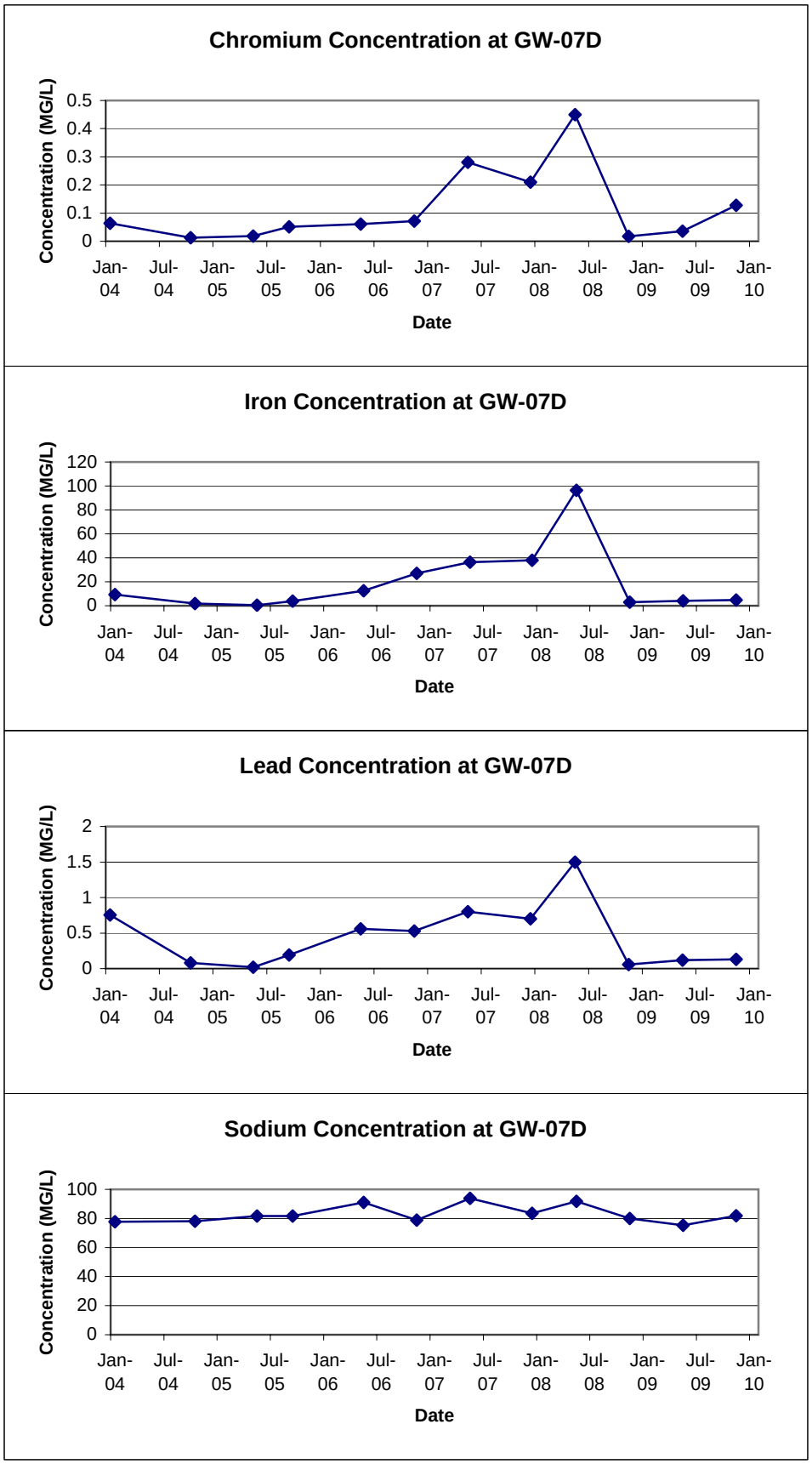

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FIGURE E-8
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-7S

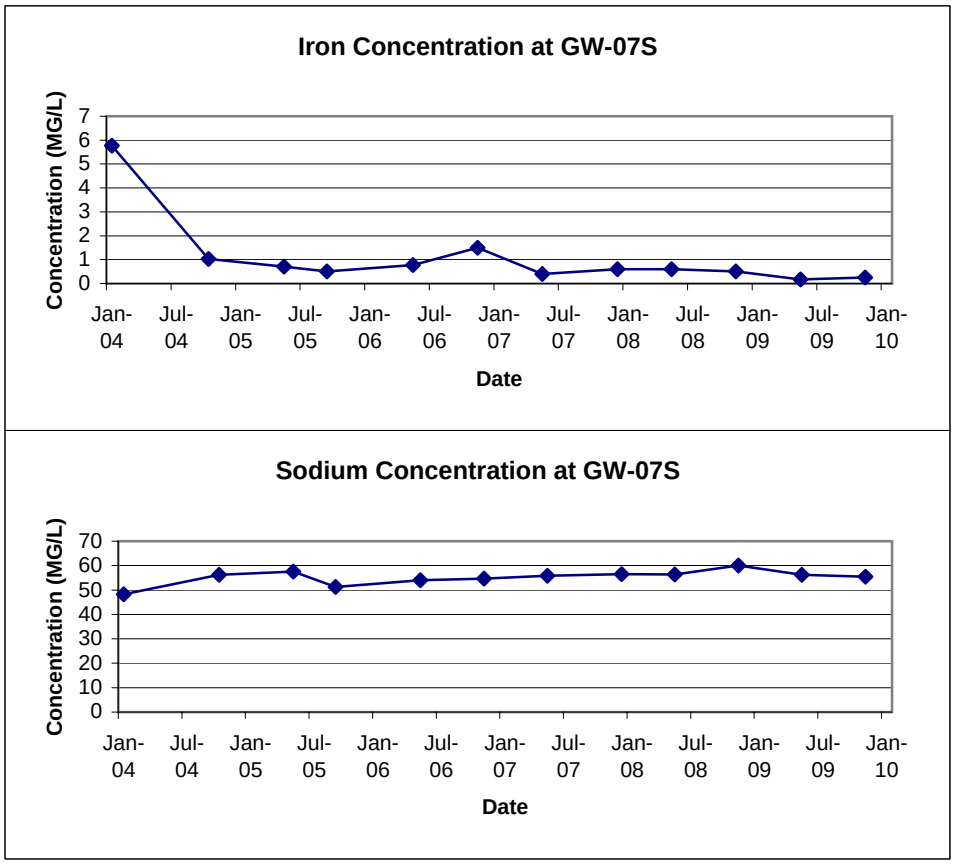

FIGURE E-9
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-8D

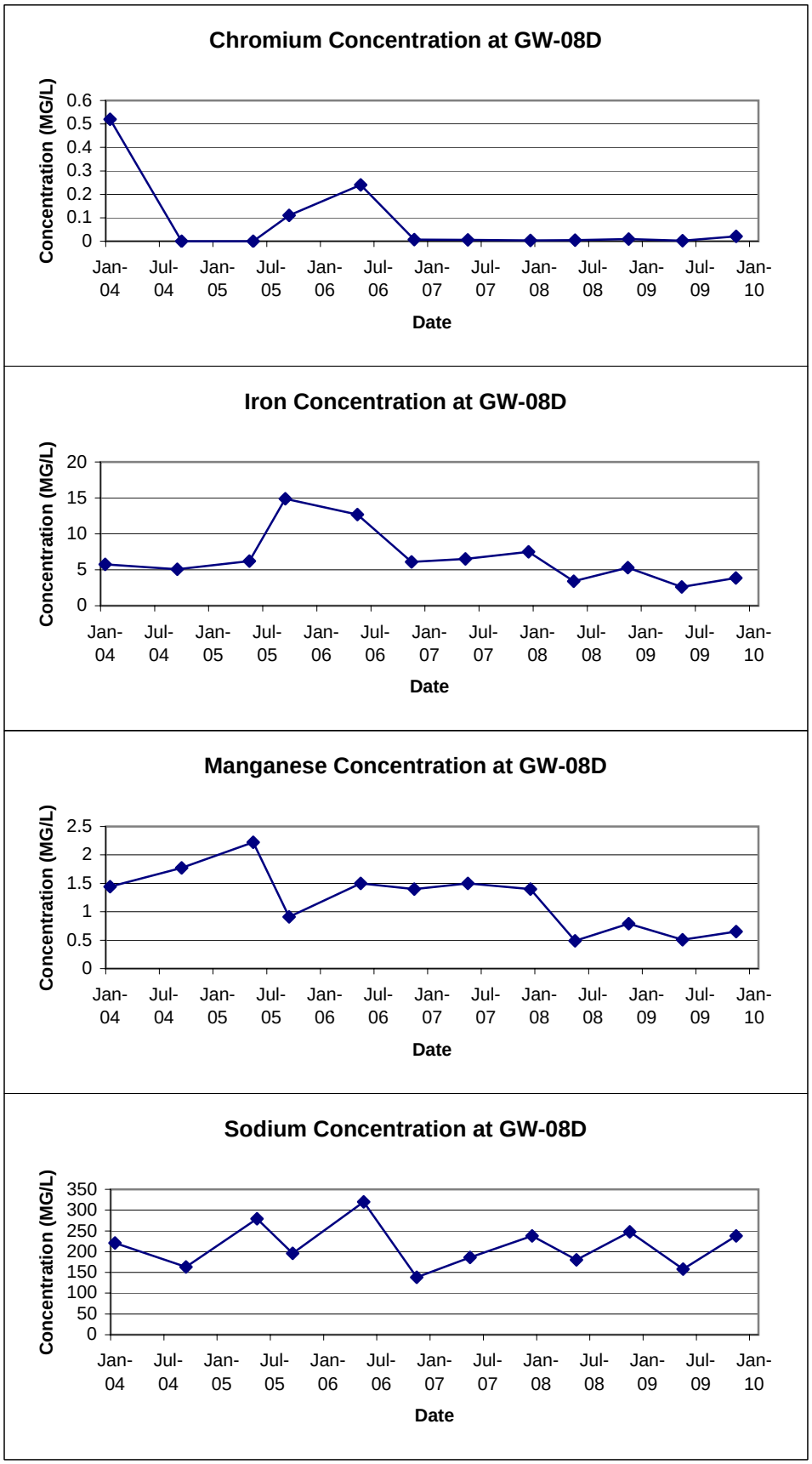

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FIGURE E-10
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-8SR

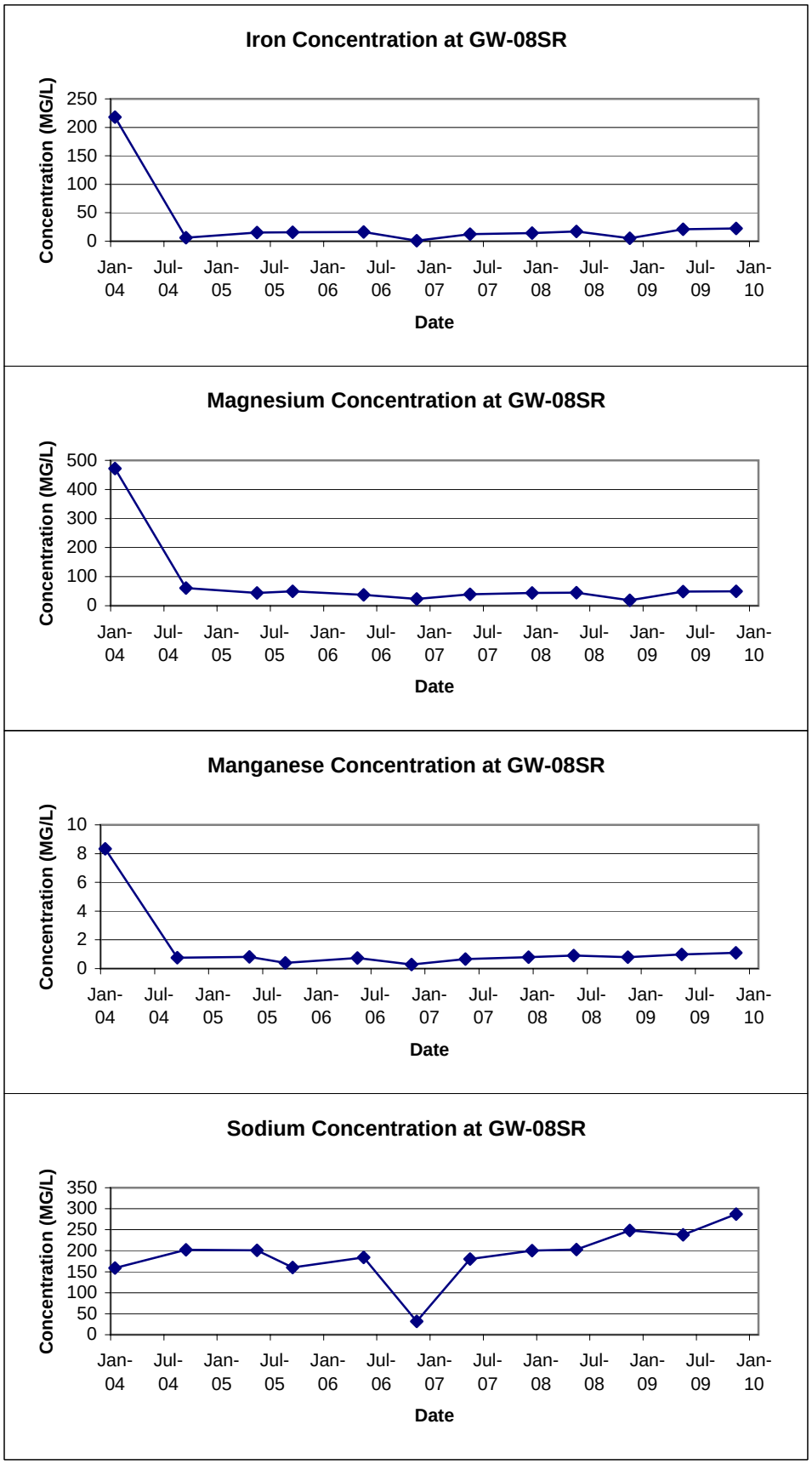

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FIGURE E-11
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-26D

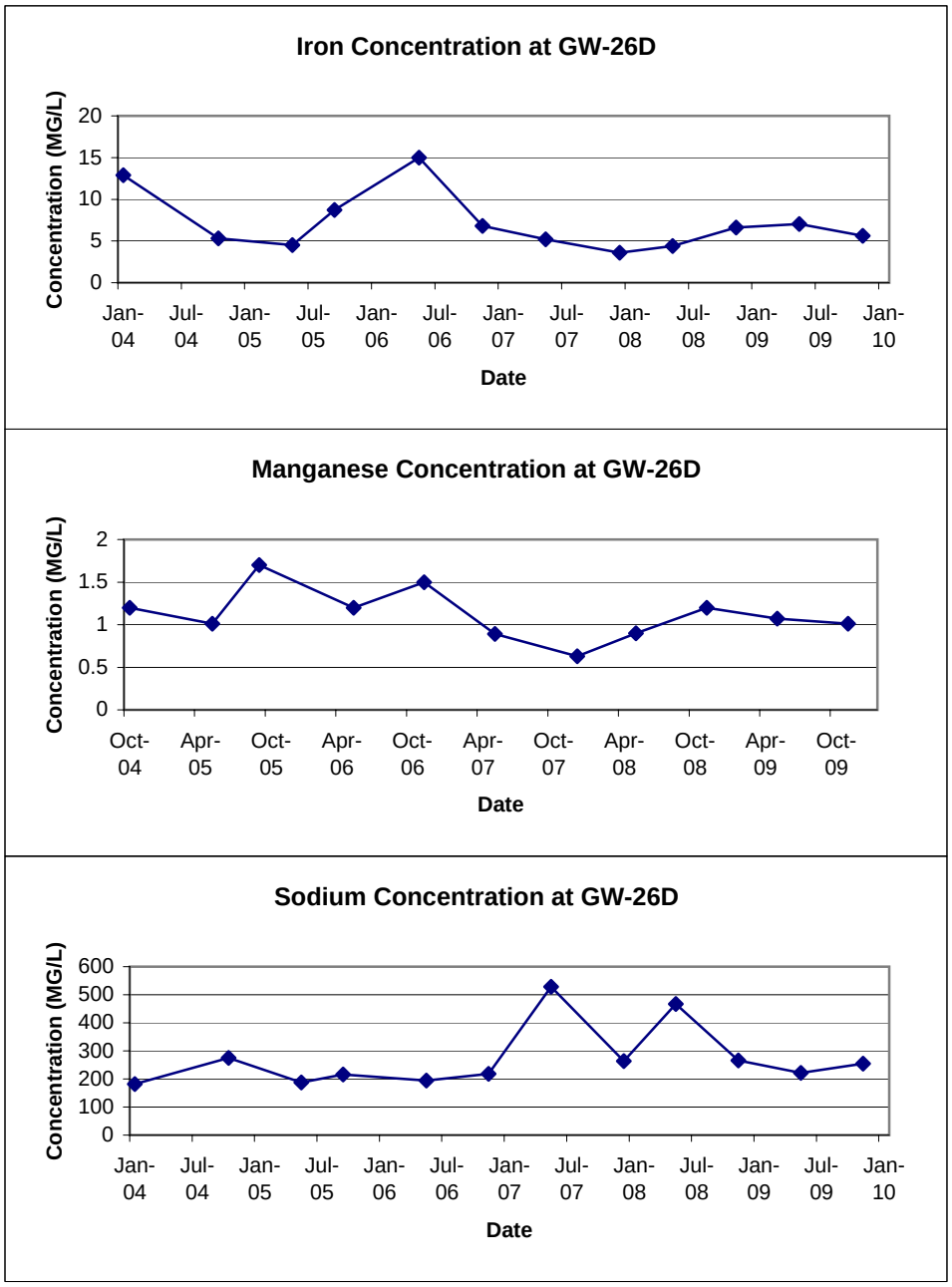

FIGURE E-12
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-28S

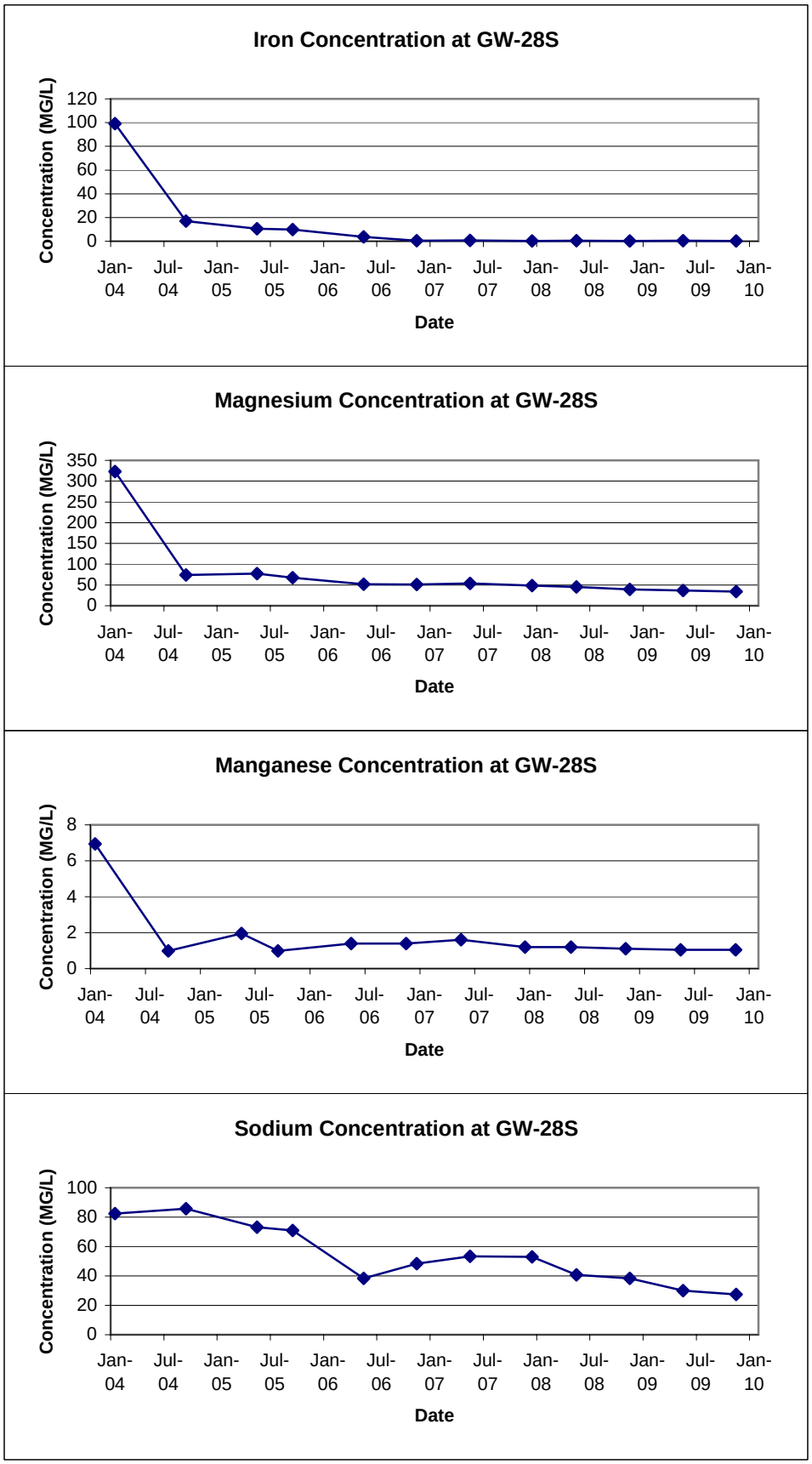

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FIGURE E-13
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-29S

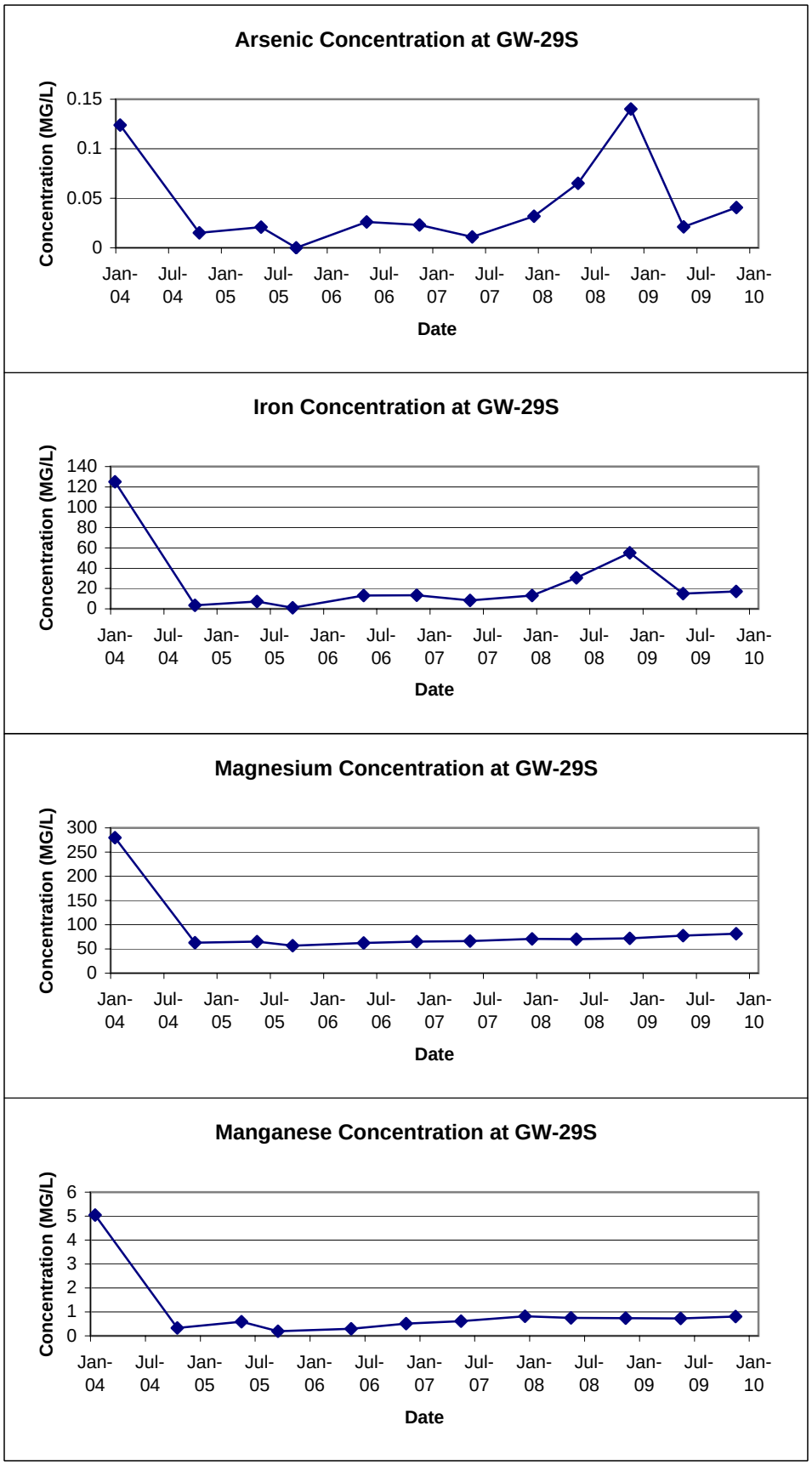

FIGURE E-13
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-29S

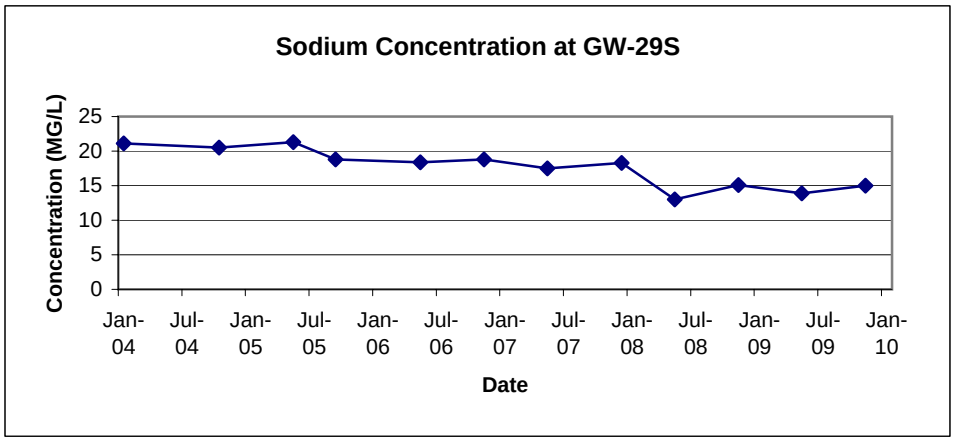

FIGURE E-14
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-30S

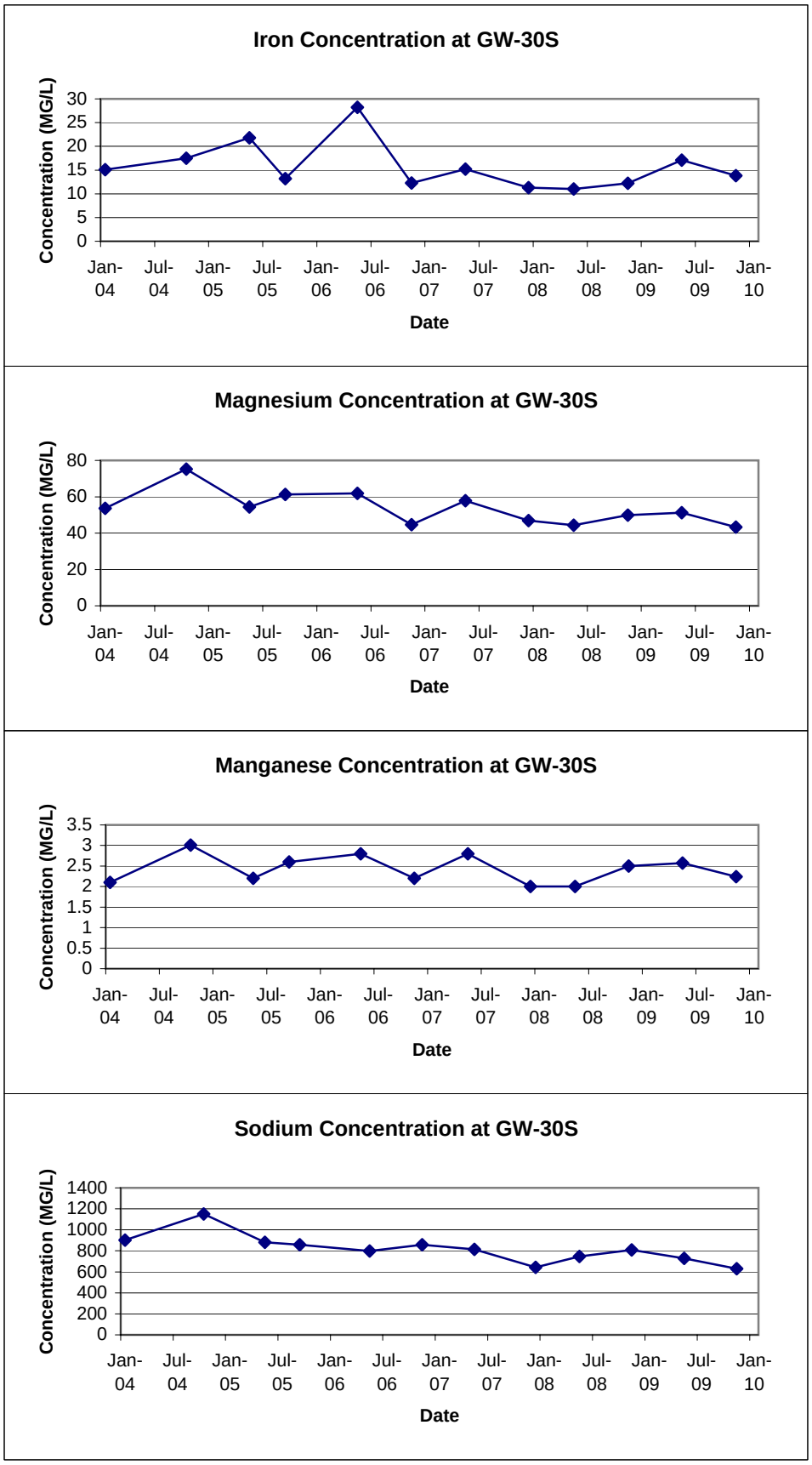

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FIGURE E-15
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-31S

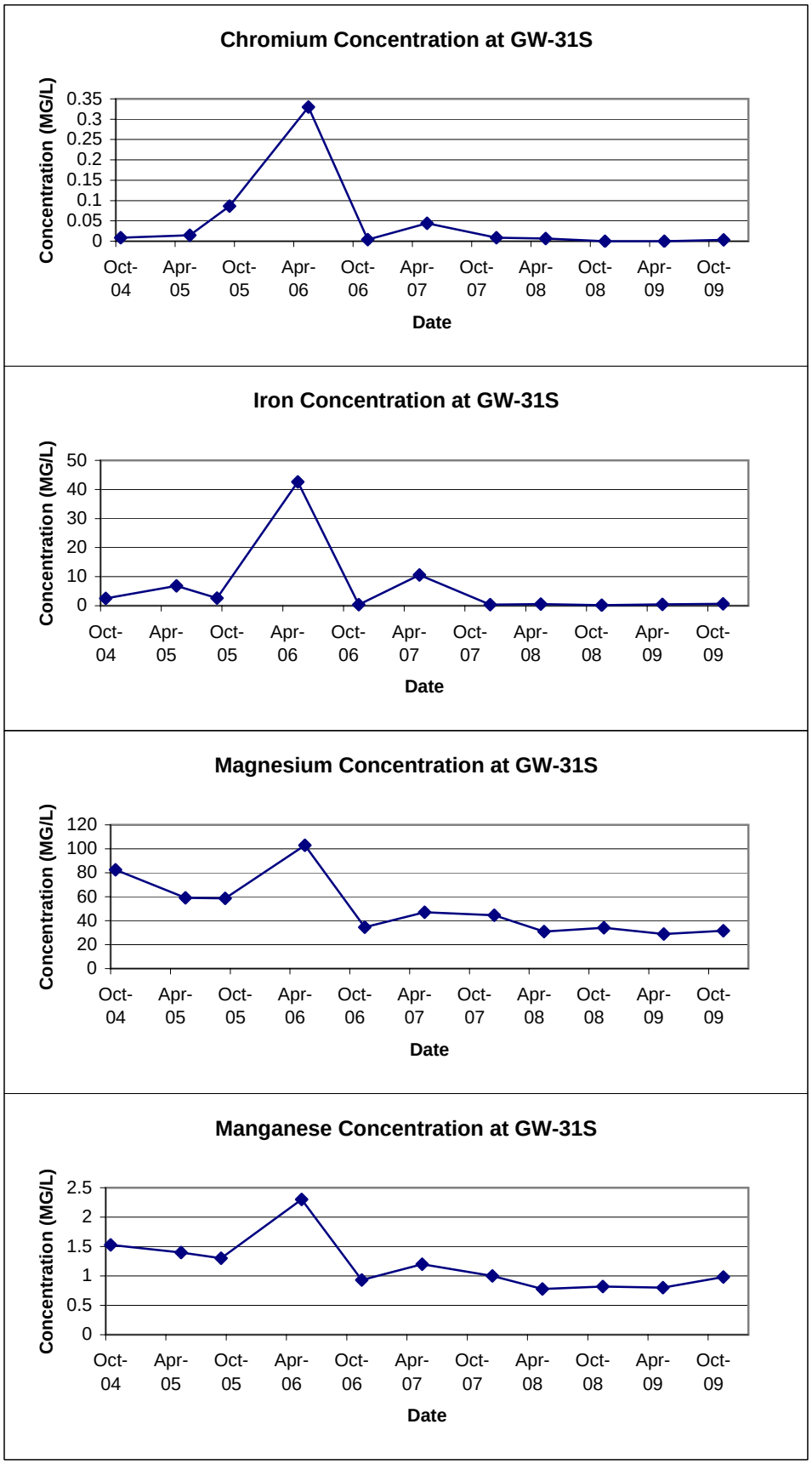

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FIGURE E-16
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-32S

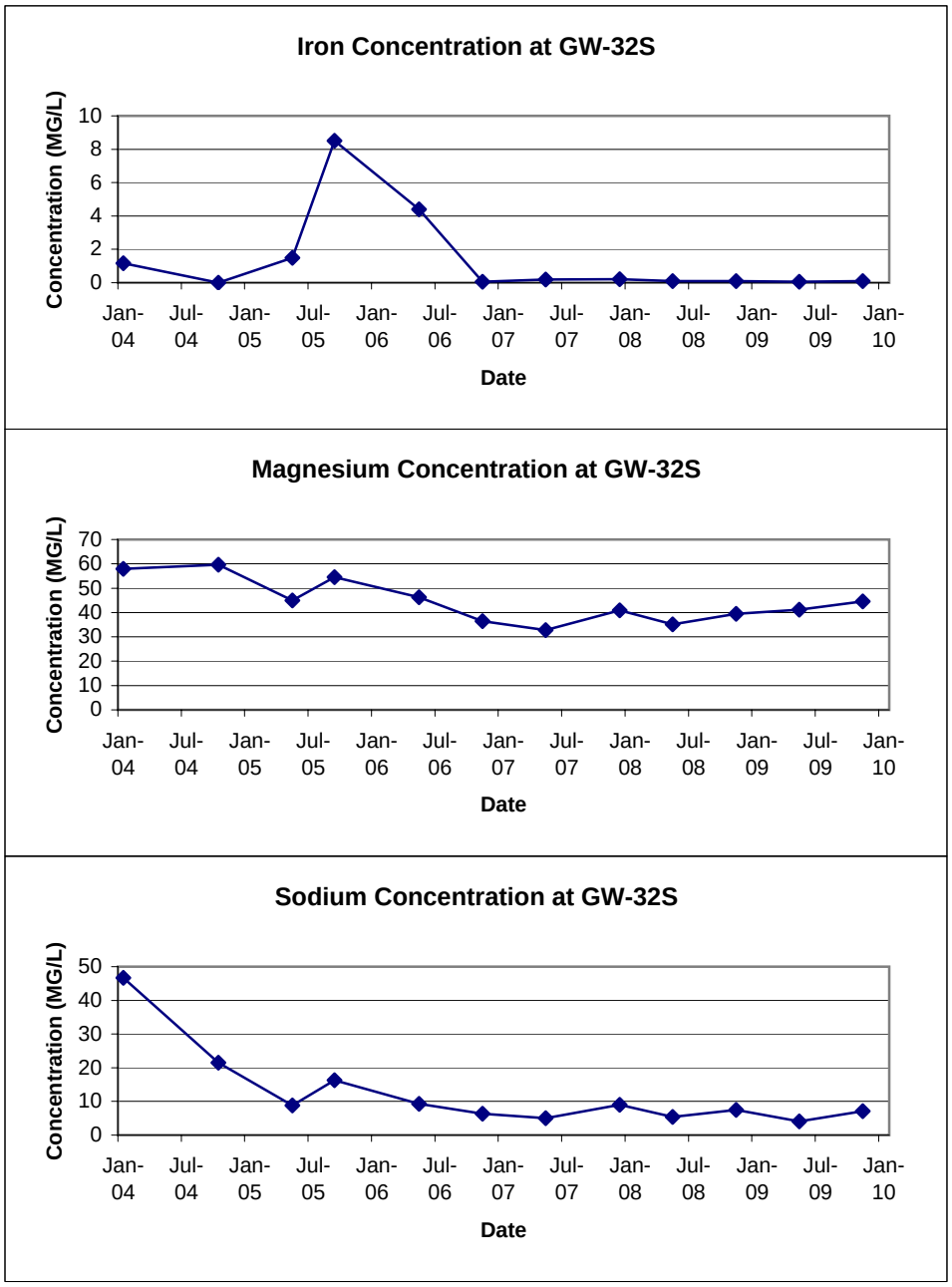

FIGURE E-17
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-33S

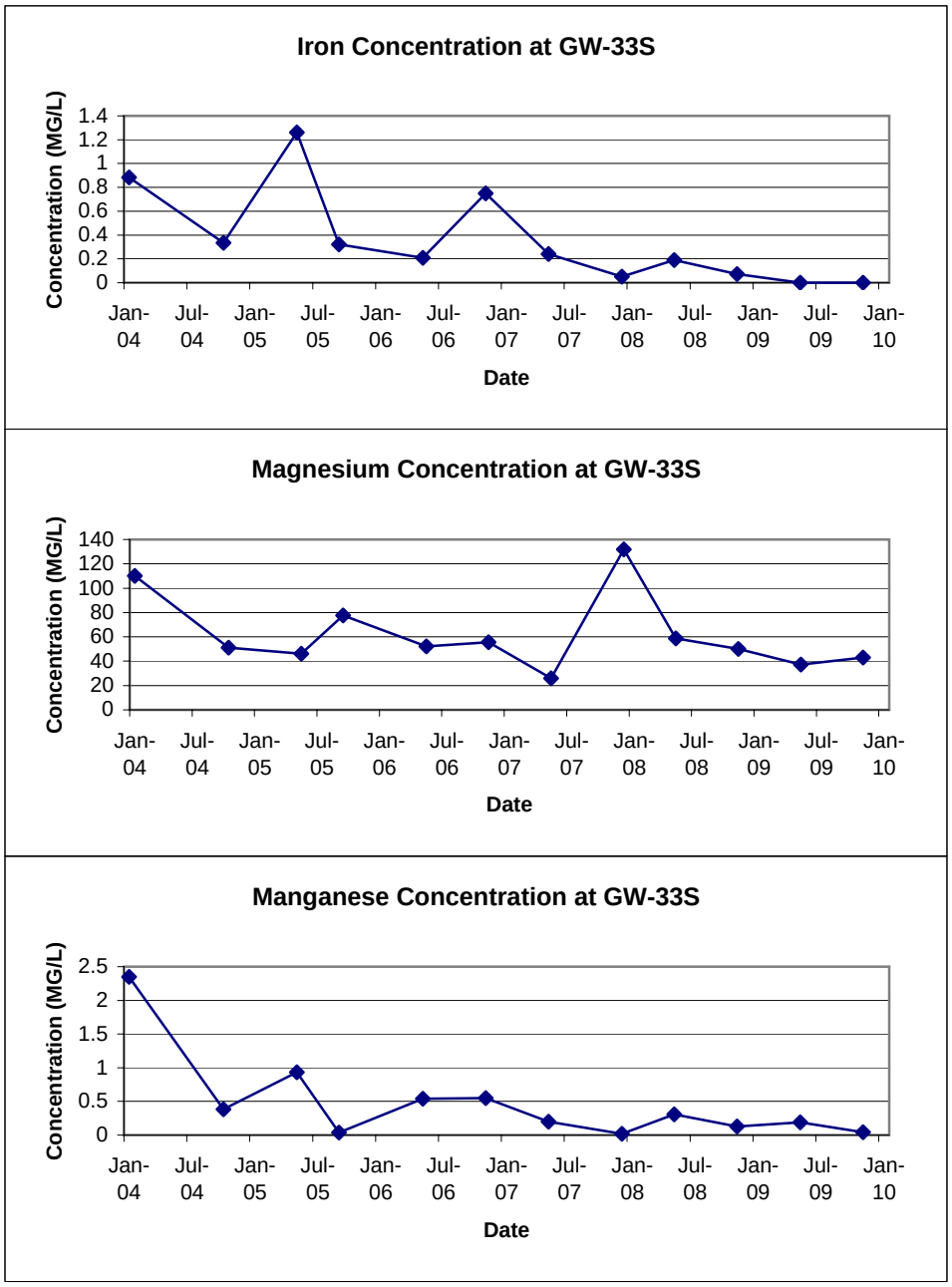

FIGURE E-18
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-34S

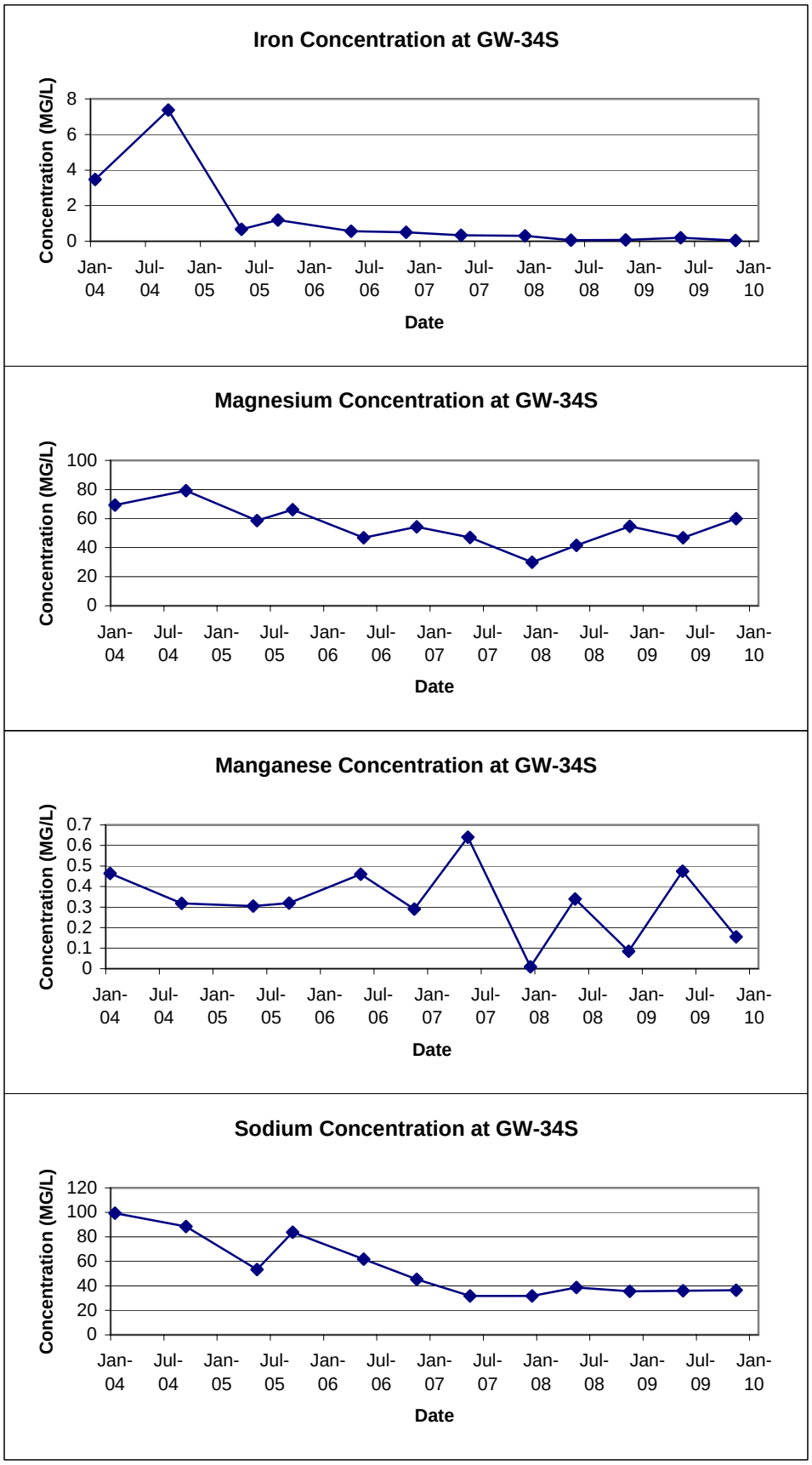

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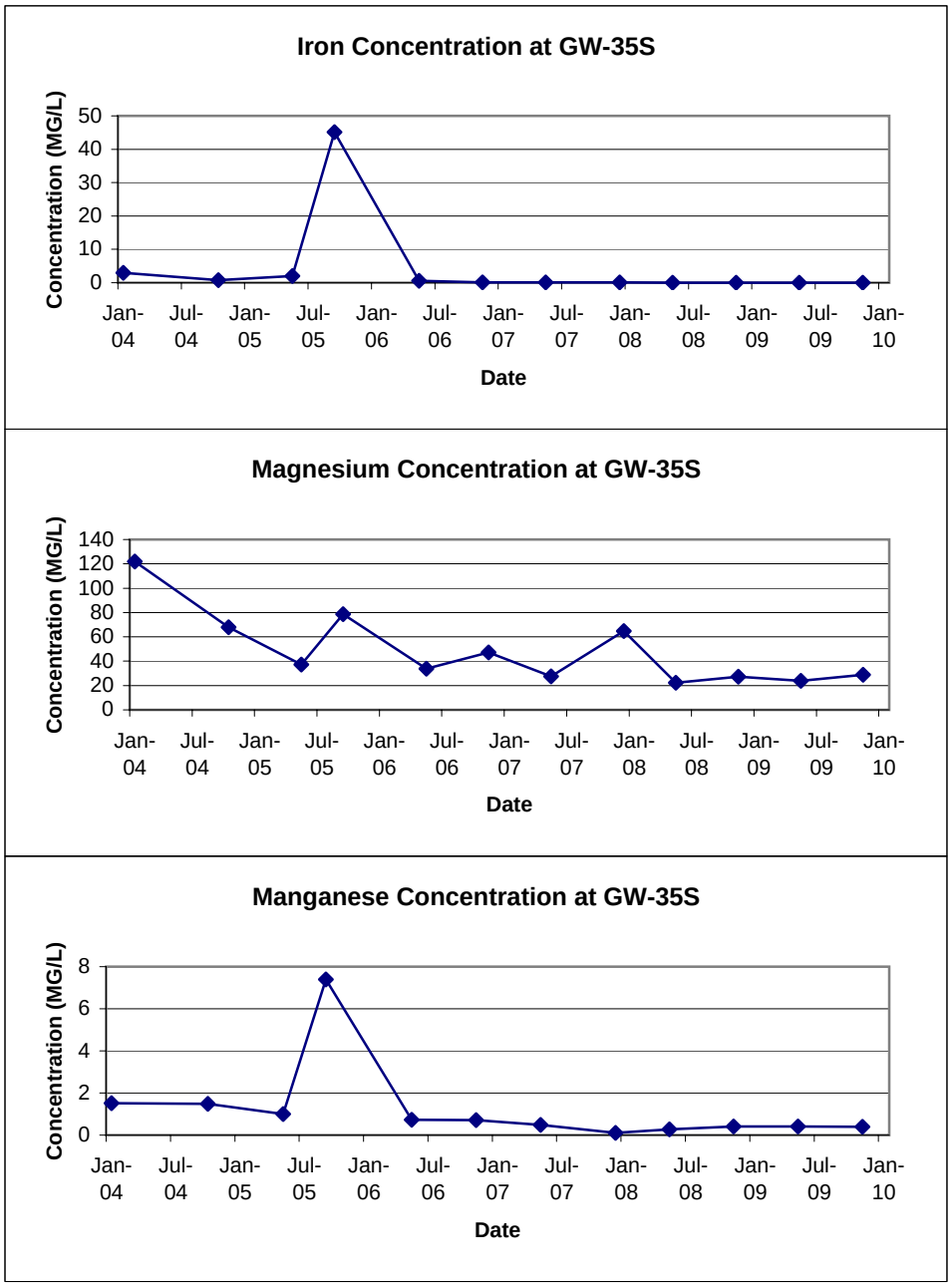
FIGURE E-19
TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-35S



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 Point	**Parameter**	**Reporting Requirements**	
		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.

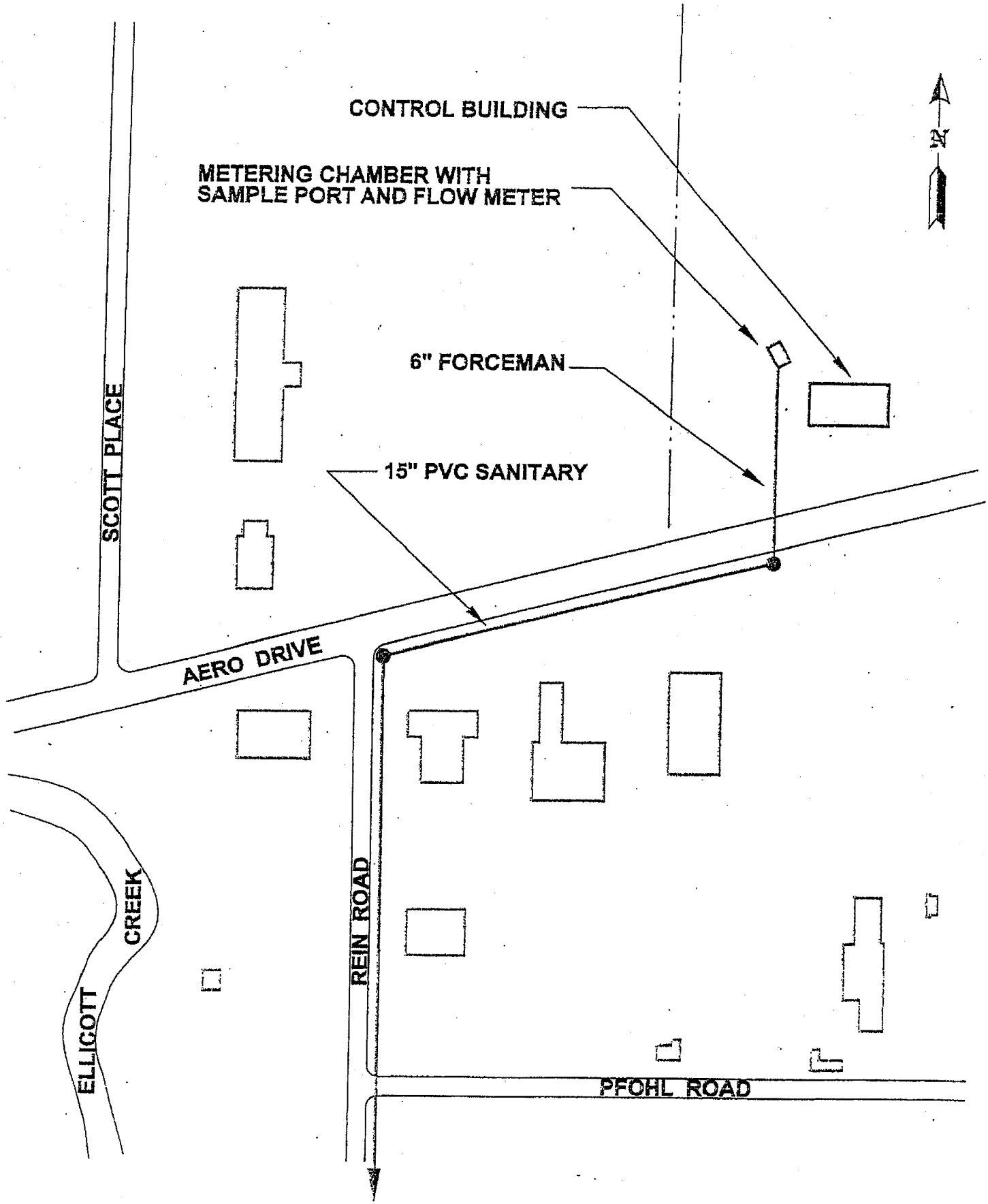
2. Composite samples may be time proportioned.

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

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

PFOHL BROTHERS
LANDFILL SITE

DRAWN BY: MARK J. CHRISTEL
DATE: 10/28/2002
REVISED: -

EXHIBIT
1

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: 09/24/09 Crew: R. Murphy, S. McCabe, T. Ifkovich

Weather: 70° F, cloudy

Sampling Device: NA

Time of Installation: 8:00 Type of Sample: Composite

Sample Interval: NA Sample Volume: NA

Comments and Observations: No wells were pumping at the time of sample setup.
PLC display volumes: WW-01 (362,553 gals), WW-02 (18,793 gals), WW-03 (34 gals),
WW-04 (158,142 gals), WW-05 (1,149,066 gals), WW-06 (581,544 gals) & MH-25 (2,291,676 gals).

Date: 9/25/09 Crew: R. Murphy, S. McCabe, T. Ifkovich

Weather: 52° F, partly cloudy

Time of Collection: 8:00

Field Measurements:

8:00/RJM
(time/initial)

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

pH Measurement: 6.8

Temperature: 15.4°C

Identification: EFF-092509

Physical Observations:

Laboratory: TestAmerica, Buffalo, NY

Comments: No wells were pumping at the time of sample pickup.
PLC display volumes: WW-01 (362,553 gals), WW-02 (18,793 gals), WW-03 (34 gals),
WW-04 (158,142 gals), WW-05 (1,149,350 gals), WW-06 (581,544 gals) & MH-25 (2,291,947 gals).

Reviewed By: Date:
(Supervisor)

TABLE 1

PFOHL BROTHERS LANDFILL - EFFLUENT MONITORING ANALYTICAL RESULTS, TOTAL FLOW, AND MASS LOADINGS SEPTEMBER 2009

Sample ID	**EFF-092509**			
Matrix	**Effluent Water**			
Date Sampled	**9/25/2009**			
Parameter	**Result**	**Mass Loading**	**Discharge Limitation**	**Violations**
	(mg/L)	**(lbs/day)**	**(lbs/day)**	**(Y/N)**
Total Barium	0.306	0.001	2.34	No
Total Cadmuim	ND[(1)]	NA[(2)]	1.17	No
Total Chromium	ND	NA	1.17	No
Total Copper	ND	NA	3.74	No
Total Lead	ND	NA	1.17	No
Total Nickel	0.0077	0.00002	3.27	No
Total Zinc	0.0056	0.00001	5.84	No
Total Suspended Solids	8.8	NA	250 [(3)]	No
pH [(4)]	6.8	NA	5.0 - 12.0	No
Total Flow [(5)]		271	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: 12/21/09 Crew: R. Murphy, R. Piurek, T. Ifkovich

Weather: 30° F, partly cloudy

Sampling Device: NA

Time of Installation: 10:55 Type of Sample: Composite

Sample Interval: NA Sample Volume: NA

Comments and Observations: No wells were pumping at the time of sample setup.
PLC display volumes: WW-01 (736,977 gals), WW-02 (13,792 gals), WW-03 (34 gals),
WW-04 (356,336 gals), WW-05 (2,779,490 gals), WW-06 (2,788,676 gals) & MH-25 (6,703,435 gals).

Date: 12/22/09 Crew: R. Murphy, R. Piurek, T. Ifkovich

Weather: 23° F, clear

Time of Collection: 11:05

Field Measurements:

11:10/RJM
(time/initial)

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

pH Measurement: 7.4

Temperature: 7.8°C

Identification: EFF-122209

Physical Observations:

Laboratory: TestAmerica, Buffalo, NY

Comments: No wells were pumping at the time of sample pickup.
PLC display volumes: WW-01 (736,977 gals), WW-02 (13,792 gals), WW-03 (34 gals),
WW-04 (356,336 gals), WW-05 (2,792,457 gals), WW-06 (2,788,676 gals) & MH-25 (6,716,428 gals).

Reviewed By: Date:
(Supervisor)

TABLE 1

PFOHL BROTHERS LANDFILL - EFFLUENT MONITORING ANALYTICAL RESULTS, TOTAL FLOW, AND MASS LOADINGS DECEMBER 2009

Sample ID	**EFF-122209**			
Matrix	**Effluent Water**			
Date Sampled	**12/22/2009**			
Parameter	**Result**	**Mass Loading**	**Discharge Limitation**	**Violations**
	(mg/L)	**(lbs/day)**	**(lbs/day)**	**(Y/N)**
Total Barium	0.238	0.026	2.34	No
Total Cadmuim	0.0003	0.00003	1.17	No
Total Chromium	0.0026	0.00028	1.17	No
Total Copper	0.0021	0.00023	3.74	No
Total Lead	ND(1)	NA(2)	1.17	No
Total Nickel	0.007	0.00076	3.27	No
Total Zinc	0.0123	0.00133	5.84	No
Total Suspended Solids	ND	NA	250 (3)	No
pH (4)	7.4	NA	5.0 - 12.0	No
Total Flow (5)		12,933	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 10-13, 2009*

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	3.97	14.94	
GW-1D	OK	OK	OK	Bulged	2.83	39.65	
GW-3S	OK	OK	OK	OK	2.39	13.25	
GW-3D	OK	OK	OK	OK	2.02	35.65	
GW-4S	OK	OK	OK	OK	4.43	16.23	
GW-4D	OK	OK	OK	OK	13.01	45.57	
GW-7S	OK	OK	OK	OK	4.73	35.08	
GW-7D	OK	OK	OK	Damaged	42.79	60.28	

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 10-13, 2009*

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	5.42	13.03	
GW-8D	OK	OK	OK	OK	5.98	36.58	
GW-26D	OK	OK	OK	OK	6.85	40.75	
GW-28S	OK	OK	OK	OK	9.07	15.55	
GW-29S	OK	OK	OK	OK	8.20	20.00	
GW-30S	OK	OK	OK	OK	8.13	17.95	
GW-31S	OK	OK	OK	OK	2.88	9.58	
GW-32S	OK	OK	OK	OK	3.28	9.94	

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 10-13, 2009*

Well I.D. Number	*Lock*	*Surface Seal*	*Protective Casing*	*Riser*	*Water Level (ft. BTOC)*	*Well Depth (ft. BTOC)*	*Other Comments*
GW-33S	OK	OK	OK	OK	4.55	8.20	
GW-34S	OK	OK	OK	OK	2.78	10.00	
GW-35S	OK	OK	OK	OK	3.32	7.45	

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
City/Town: Cheektowaga
County: Erie
Allowable Use(s) (if applicable, does not address local zoning):
Site Acreage: 94.0
Owner: Multiple Owners

Reporting Period: February 12, 2009 to February 12, 2010

Verification of Site Details **Box 2**

	YES	NO
1. Is the information in Box 1 correct?	☒	☐
If NO, are changes handwritten above or included 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?	☐	☒
If YES, is documentation or evidence that documentation has been previously submitted included with this certification?	☐	
3. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?	☐	☒
If YES, is documentation (or evidence that documentation has been previously submitted) included with this certification?	☐	
4. If use of the site is restricted, is the current use of the site consistent with those restrictions?	☒	☐
If NO, is an explanation included with this certification?	☐	
5. For non-significant-threat Brownfield Cleanup Program Sites subject to ECL 27-1415.7(c), has any new information revealed that assumptions made in the Qualitative Exposure Assessment regarding offsite contamination are no longer valid?	☐	☐ N/A
If YES, is the new information or evidence that new information has been previously submitted included with this Certification?	☐	
6. For non-significant-threat Brownfield Cleanup Program Sites subject to ECL 27-1415.7(c), are the assumptions in the Qualitative Exposure Assessment still valid (must be certified every five years)?	☐	☐ N/A
If NO, are changes in the assessment included with this certification?	☐	

SITE NO. 915043

Description of Institutional Controls

Parcel	Institutional Control
S_B_L Image: **82.03-4-9.11**	Building Use Restriction Ground Water Use Restriction Landuse Restriction
S_B_L Image: **82.03-4-9.2**	Building Use Restriction Ground Water Use Restriction Landuse Restriction
S_B_L Image: **82.03-4-10**	Building Use Restriction Ground Water Use Restriction Landuse Restriction
S_B_L Image: **82.03-4-5**	Building Use Restriction Ground Water Use Restriction Landuse Restriction
S_B_L Image: **81.04-1-27**	Building Use Restriction Ground Water Use Restriction Landuse Restriction
S_B_L Image: **81.04-1-28.1**	Building Use Restriction Ground Water Use Restriction Landuse Restriction
S_B_L Image: **81.04-2-9.1**	Building Use Restriction Ground Water Use Restriction Landuse Restriction
S_B_L Image: **81.04-2-10.1**	Building Use Restriction Ground Water Use Restriction Landuse Restriction
S_B_L Image: **81.04-2-11**	Building Use Restriction Ground Water Use Restriction Landuse Restriction
S_B_L Image: **82.03-4-11**	Building Use Restriction Ground Water Use Restriction Landuse Restriction
S_B_L Image: **82.03-4-6**	Building Use Restriction Ground Water Use Restriction Landuse Restriction
S_B_L Image: **82.03-4-8**	Building Use Restriction Ground Water Use Restriction Landuse Restriction
S_B_L Image: **82.03-4-9.12**	Building Use Restriction Ground Water Use Restriction Landuse Restriction
S_B_L Image: **81.04-1-26**	Building Use Restriction Ground Water Use Restriction Landuse Restriction

Surface Water Use Restriction

Description of Engineering Controls

Parcel	Engineering Control
S_B_L Image: **82.03-4-9.11**	Cover System Fencing/Access Control Leachate Collection Vapor Mitigation
S_B_L Image: **82.03-4-9.2**	Cover System Fencing/Access Control Leachate Collection Vapor Mitigation
S_B_L Image: **82.03-4-10**	Cover System Fencing/Access Control Leachate Collection Vapor Mitigation
S_B_L Image: **82.03-4-5**	Cover System Fencing/Access Control Leachate Collection Vapor Mitigation
S_B_L Image: **81.04-1-27**	Cover System Fencing/Access Control Leachate Collection Vapor Mitigation
S_B_L Image: **81.04-1-28.1**	Cover System Fencing/Access Control Leachate Collection Vapor Mitigation
S_B_L Image: **81.04-2-9.1**	Cover System Fencing/Access Control Leachate Collection Vapor Mitigation
S_B_L Image: **81.04-2-10.1**	Cover System Fencing/Access Control Leachate Collection Vapor Mitigation
S_B_L Image: **81.04-2-11**	Cover System Fencing/Access Control Leachate Collection Vapor Mitigation
S_B_L Image: **82.03-4-11**	Cover System Fencing/Access Control Leachate Collection Vapor Mitigation
S_B_L Image: **82.03-4-6**	Cover System Fencing/Access Control Leachate Collection Vapor Mitigation
S_B_L Image: **82.03-4-8**	Cover System Fencing/Access Control Leachate Collection Vapor Mitigation

Parcel	Engineering Control
S_B_L Image: **82.03-4-9.12**	Cover System Fencing/Access Control Leachate Collection Vapor Mitigation
S_B_L Image: **81.04-1-26**	Cover System Fencing/Access Control Leachate Collection Vapor Mitigation

Attach documentation if IC/ECs cannot be certified or why IC/ECs are no longer applicable. (See instructions)

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.

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

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
☒	☐

3. If this site has an Operation and Maintenance (O&M) Plan (or equivalent as required in the Decision Document);

   I certify by checking "YES" below that the O&M Plan Requirements (or equivalent as required in the Decision Document) are being met.

☒	☐

4. If this site has a Monitoring Plan (or equivalent as required in the remedy selection document);

   I certify by checking "YES" below that the requirements of the Monitoring Plan (or equivalent as required in the Decision Document) is being met.

YES	NO
☒	☐

IC CERTIFICATIONS
SITE NO. 915043

Box 6

SITE O&M MANAGER

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 (print name) at TOWN OF CHEEKTOWAGA ENGINEERING DEPT. 275 ALEXANDER AVE. CHEEKTOWAGA N.Y. 14211 (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. PL — 2/8/10

Signature of ~~Owner~~ or ~~Remedial Party~~ Rendering Certification — Date

SITE O&M MANAGER

IC/EC CERTIFICATIONS

Box 7

QUALIFIED ENVIRONMENTAL PROFESSIONAL (QEP) 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 (print name) at TOWN OF CHEEKTOWAGA ENGINEERING DEPT. 275 ALEXANDER AVE. CHEEKTOWAGA N.Y. 14211 (print business address),

am certifying as a Qualified Environmental Professional for the TOWN OF CHEEKTOWAGA SITE O&M PROVIDER/MANAGER

(~~Owner or Remedial Party~~) for the Site named in the Site Details Section of this form.

STATE OF NEW YORK
WILLIAM RAYMOND PUGH
LICENSE NO. 063939
LICENSED PROFESSIONAL ENGINEER

W. R. PL, P.E. — Stamp (if Required) — 2/8/10

Signature of Qualified Environmental Professional, for the ~~Owner or Remedial Party~~, Rendering Certification — Date

SITE O&M PROVIDER/MANAGER