SEMI ANNUAL REPORT
OPERATION AND MAINTENANCE
PFOHL BROTHERS LANDFILL
CHEEKTOWAGA, NY

Submitted to:

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DECEMBER 2004

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1.0 INTRODUCTION

1.1 Background

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

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

1.2 Operation and Maintenance Activities

While construction of the remedy was substantially complete by late 2002, the final O&M manual has not yet been approved by NYSDEC and complete operational responsibilities have not yet been transferred to the Town of Cheektowaga. However, the Town and its consultant (URS Corporation) have assumed an increasing level 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.

Although complete O&M responsibilities have not yet been transferred, the Town and NYSDEC agreed, during a December 3, 2003 meeting, to begin implementing all of the O&M activities described in the latest draft of the O&M manual. This report is the second semi-annual report as called for by Section 3.6 of the draft O&M manual.

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 during 2004 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. Two example daily inspection sheets are attached in Appendix A.

- Total cumulative effluent flow rates and volumes were summarized on a monthly basis starting in February 2003. The monthly totals for the period of January 2004 through November 2004, including graphs showing daily total discharge (gallons) as a function of calendar day, are presented in Appendix B.

- Snow was plowed, as needed, to allow access to the site control building.

- Niagara Grass was retained to mow entire site during September 2004.

- The heater and the air conditioning wall unit were repaired in August 2004.

- Ball check valves were serviced, cleaned and replaced, as necessary, in all wet wells.

- Performed wet well level instrumentation repairs, equipment repair/ replacement/ calibration, replacement of surge suppressors and fuses, and repairs to the PC.

- The pump in Wet Well No. 6 was replaced (August 2004).

- A galvanized pipe on the pump/guise assembly in wet well No. 4 was replaced (October 2004) and the pump was re-installed with hose independent of the rail system (November 2004).

- CIR Electrical Contracting was retained to replace a 600 Volt/ 200 Amp fuse at the main disconnect and troubleshoot surge suppression equipment (February 2004).

- Wildlife control was performed, which included the removal of a dead deer in March 2004 and the trapping of woodchucks near Manhole 16 during May, June and July 2004.

- The pump at Wet Well No. 5 is scheduled for replacement in December 2004 due to a drop in the pumping rate over the past several months compared to the beginning of 2004.

A review of the total cumulative effluent flow rates and volumes presented in Appendix B indicates that discharge did not occur on numerous days between May and October 2004. The lack of discharge was attributed to level sensor instrumentation failures, which required operating the pumps in manual mode.

3.0 MONITORING ACTIVITIES

The Town retained URS Corporation to perform monitoring activities as outlined in Section 3.1 of the draft O&M plan. During the period of January 2004 through the present, URS performed groundwater hydraulic monitoring (Section 3.1.1.2 of the draft O&M plan) and effluent monitoring (Section 3.1.4 of the draft O&M plan) on a quarterly basis. URS also performed the first of two annual surface water and sediment monitoring events (Section 3.1.2 of the draft O&M plan) and the second semi-annual groundwater quality monitoring event (Section 3.1.1.3 of the draft O&M plan). The second semi-annual groundwater monitoring event was conducted nine months after the first event in order to bring the semi-annual sampling cycle to a March/September pattern rather than a January/July pattern. A summary of the monitoring activities is presented in the following subsections. Hydraulic and groundwater sampling

locations are shown on Figure 3-1. Surface water/sediment sample locations are shown on Figure 3-2.

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 except SG-02, which was not present. The hydraulic monitoring data tables and figures showing groundwater elevation contours are presented in Appendix C. The wet well (WW) elevations recorded for June 30, 2004 appear to be incorrect due to malfunctioning of the wet well level sensors. As a result, the wet well water surface elevations were not plotted on the corresponding figure in Appendix C (Figure 2).

The data and figures presented in Appendix C indicate that groundwater levels outside the collection system were generally higher than the levels measured in the corresponding wet well or manhole for each measurement date. The following exceptions were noted:

Location	Date	Water Surface Elevation (ft.)	Discussion
WW-02	5/3/04	689.54	Recorded water elevation in WW-02 may be incorrect. The water level elevations in adjacent system locations WW-01 (688.18) and MH-10 (688.46) are approximately 1 ft. lower.
GW-08S(R)	5/3/04	689.10	
MH-1	6/30/04	689.67	Collection system was not operated on 6/29 and 6/30 due to level sensor failure.
GW-3S	6/30/04	689.52	
MH-25	6/30/04	689.66	Collection system was not operated on 6/29 and 6/30 due to level sensor failure.
GW-4S	6/30/04	687.25	
WW-01	9/29/04	692.72	Recorded water elevation in WW-01 may be incorrect. The water level elevations in adjacent system locations MH-03 (688.19) and WW-02 (688.68) are approximately 3 ft. lower.
SG-01	9/29/04	691.40	

This data verifies that collection system is operating as designed.

3.2 Groundwater Quality Monitoring

The second semi-annual round of groundwater sampling was conducted during September 29, 2004 to October 3, 2004. All wells listed in the draft O&M manual (Table 3.2) were purged and sampled using dedicated equipment. Figure 3-1 shows the well locations. Purge logs and sampling summary sheets are provided in Appendix D. At six wells: GW-4D, GW-8SR, GW-31S, GW-33S, GW-34S, and GW-35S, difficulty was encountered reaching the specified maximum turbidity of 50 NTUs. This was attributed to low well recharge rates (most were pumped dry while purging), which required the sampling crew to return at a later time (sometimes more than once) to collect adequate sample volume. Measurements of pH, specific conductivity, temperature, and turbidity taken during purging are provided in Appendix D. Field measurements (pH, specific conductivity and temperature) were not obtained at GW-32S due to equipment malfunction. The samples were packed with ice in coolers and transported under chain-of-custody control to Waste Stream Technology, Inc. of Buffalo, New York (Waste Stream).

Groundwater samples were analyzed for the parameters listed in the draft O&M manual (Table 3.2). Table 3-1 of this report presents a summary of detected parameters. Two volatile organic compounds were detected slightly above the Class GA water quality standards. Benzene was detected in GW-28s at 2 micrograms per liter (µg/L) and 1,1,2-Trichloroethane was detected in GW-34S at 2 µg/L. The Class GA standard for each compound is 1 µg/L.

Among the metals, iron, magnesium, manganese, and sodium routinely exceed Class GA standards in most site wells. Except for sodium, these metals were found in similar concentrations in up-gradient wells MW-07S and MW-07D. Sodium concentrations were higher in bedrock wells (GW-3D, GW-8D and GW-26D) and shallow wells adjacent to roads (GW-1S, GW-8SR and GW-30S). 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 de-icing activities. Lead exceeded Class GA standards at GW-3D

and background well GW-7D with concentrations of .045 milligrams per liter (mg/L) and .082 mg/L respectively. The Class GA standard for lead is .025 mg/L.

The groundwater analytical data package was prepared by Waste Stream in accordance with NYSDEC Category A deliverable requirements. It was reviewed for compliance with analytical method requirements and the following guidelines: United States Environmental Protection Agency (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 EPA Method 1613, Revision A, Tetra- through Octa-chlorinated Dioxins and Furans by Isotopic Dilution (HRGC/HRMS)*, SOP No. 25, Revision 2, September 1999. Qualifiers applied to the data include "R" (rejected), "J/UJ" (estimated concentration/ estimated quantitation limit), "J+" (estimated inorganic concentration with possible high 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 was submitted separately from this report.

3.3 Groundwater Discharge Monitoring

URS completed three quarterly sampling events (March, July, and September 2004) 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. 02-11-CH016 between the Buffalo Sewer Authority and the Town of Cheektowaga. A copy of Permit No. 02-11-CH016 is included as Appendix E.

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

3.4 Surface Water/ Sediment Sampling

The first round of the annual surface water and sediment sampling was conducted on May 3, 2004. Eight-paired surface water and sediment locations listed in the draft O&M manual (Table 3.3) and shown on Figure 3-2 were sampled. At each location the surface water sample was collected prior to the sediment sample by immersing pre-cleaned, laboratory grade sample bottles into the middle of the water body. Measurements of pH, specific conductivity, temperature, and turbidity were taken and recorded on sampling summary sheets, which are provided in Appendix G. Each sediment sample was collected from the same location as its corresponding surface water sample. Descriptions of the sediment samples were also recorded on the sample summary sheets (Appendix G). The water and sediment samples were packed with ice in coolers and transported under chain-of-custody control to Waste Stream.

All surface water samples were analyzed for parameters listed in the draft O&M manual (Table 3.3). Table 3-2 presents a summary of detected parameters and provides comparison with Class B water quality standards. While the water bodies that surround the Pfohl Landfill are not designated in 6 NYCRR Part 825, these waters are within the Ellicott Creek drainage basin and are considered tributaries to the creek, which is designated as Class B in 6 NYCRR Part 825. Therefore, the water quality classification for Ellicott Creek is adopted in this semi-annual report to facilitate comparison and evaluation of the analytical results. As shown in Table 3.2, aluminum and iron exceeded the Class B standards at several sample locations.

The sediment samples were analyzed for the parameters listed in the draft O&M manual (Table 3.3). Table 3-3 of this report presents a summary of all detected parameters.

The sediment and surface water analytical data package was prepared by Waste Stream in accordance with NYSDEC Category A deliverable requirements. It was reviewed for compliance with the analytical method requirements and the following guidelines: USEPA *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 EPA Method 1613, Revision A, Tetra- through Octa-chlorinated Dioxins and Furans by Isotopic Dilution (HRGC/HRMS)*, SOP No. 25, Revision 2,

September 1999. Qualifiers applied to the data include "R" (rejected), "J/UJ" (estimated concentration/ estimated quantitation limit), "J+" (estimated inorganic concentration with possible high bias), and "U" (not detected).

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

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 contamination are present. Based on results of the two semi-annual sampling events, the analytical parameter list in Table 3.2 of the draft O&M manual may be revised pending consultation with the NYSDEC. The third round of groundwater sampling will be conducted during the spring of 2005 and will include the annual radiochemistry sampling and analysis.

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

Tables

TABLES

TABLE 3-1
DETECTED ANALYTES IN GROUNDWATER
PFOHL BROTHERS LANDFILL SITE
SEPTEMBER 2004

Location ID			GW-01D	GW-01S	GW-03D	GW-03S	GW-04D
Sample ID			GW-01D	GW-01S	GW-3D	GW-3S	GW-04D
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/02/04	10/02/04	09/30/04	09/29/04	10/02/04
Parameter	**Units**	**Criteria***					
Volatile Organic Compounds							
1,1,2-Trichloroethane	UG/L	1					
1,2-Dichloroethene (cis)	UG/L	5			1		
Acetone	UG/L	50			12 U		
Benzene	UG/L	1					
Chlorobenzene	UG/L	5			2		
Tetrachloroethene	UG/L	5			1		
Toluene	UG/L	5				1	
Vinyl chloride	UG/L	2			1		
Semivolatile Organic Compounds							
bis(2-Ethylhexyl)phthalate	UG/L	5					
Metals							
Aluminum	MG/L	-	0.025 J+	0.026 J+		0.157 J+	1.08
Arsenic	MG/L	0.025					
Barium	MG/L	1	0.052	0.279	0.102	0.237	0.070
Cadmium	MG/L	0.005					
Calcium	MG/L	-	106	183	110	109	183
Chromium	MG/L	0.05					0.026
Cobalt	MG/L	-					
Copper	MG/L	0.2					
Iron	MG/L	0.3	0.161	4.17	1.46	11.8	3.07
Lead	MG/L	0.025			0.045		
Magnesium	MG/L	35	34.8	26.7	18.1	76.1	58.8

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

Only Detected Results Reported.

TABLE 3-1
DETECTED ANALYTES IN GROUNDWATER
PFOHL BROTHERS LANDFILL SITE
SEPTEMBER 2004

Location ID			GW-01D	GW-01S	GW-03D	GW-03S	GW-04D
Sample ID			GW-01D	GW-01S	GW-3D	GW-3S	GW-04D
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/02/04	10/02/04	09/30/04	09/29/04	10/02/04
Parameter	**Units**	**Criteria***					
Metals							
Manganese	MG/L	0.3	0.017	0.788	0.599	0.362	0.066
Mercury	MG/L	7.00E-04		2.00E-04			2.00E-04
Nickel	MG/L	0.1		0.01	0.005	0.007	0.01
Potassium	MG/L	-	2.41	3.70	4.17	3.11	3.53
Sodium	MG/L	20	74.2	394	268	29.3	59.5
Vanadium	MG/L	-					
Zinc	MG/L	2		0.016		0.034	0.023

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

Flags assigned during chemistry validation are shown.

(oval) Concentration Exceeds Criteria

Only Detected Results Reported.

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[LOGDATE] >= #9/29/2004# AND [MATRIX] = 'WG' AND [LOCID] <> 'EFFLUENT'

TABLE 3-1
DETECTED ANALYTES IN GROUNDWATER
PFOHL BROTHERS LANDFILL SITE
SEPTEMBER 2004

Location ID			GW-04S	GW-07D	GW-07S	GW-08D	GW-08D
Sample ID			GW-04S	GW-07D	GW-07S	GW-8A	GW-8D
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/01/04	10/03/04	10/02/04	09/30/04	09/30/04
Parameter	Units	Criteria*				Field Duplicate (1-1)	
Volatile Organic Compounds							
1,1,2-Trichloroethane	UG/L	1					
1,2-Dichloroethene (cis)	UG/L	5				2	2
Acetone	UG/L	50		26			
Benzene	UG/L	1				0.2 J	
Chlorobenzene	UG/L	5					
Tetrachloroethene	UG/L	5					
Toluene	UG/L	5					
Vinyl chloride	UG/L	2				1	2
Semivolatile Organic Compounds							
bis(2-Ethylhexyl)phthalate	UG/L	5				2	
Metals							
Aluminum	MG/L	-	0.050 J+	0.278	0.046 J+	0.052 J+	0.034 J+
Arsenic	MG/L	0.025				0.009	
Barium	MG/L	1	0.101	0.047	0.204	0.104	0.103
Cadmium	MG/L	0.005					
Calcium	MG/L	-	38.0	42.5	30.8	105	104
Chromium	MG/L	0.05		0.013		0.007	
Cobalt	MG/L	-	0.007				
Copper	MG/L	0.2		0.010			
Iron	MG/L	0.3	3.12	1.89	1.03	5.15	5.07
Lead	MG/L	0.025		0.082			
Magnesium	MG/L	35	22.4	3.92	22.8	18.0	17.9

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

Only Detected Results Reported.

TABLE 3-1
DETECTED ANALYTES IN GROUNDWATER
PFOHL BROTHERS LANDFILL SITE
SEPTEMBER 2004

Location ID			GW-04S	GW-07D	GW-07S	GW-08D	GW-08D
Sample ID			GW-04S	GW-07D	GW-07S	GW-8A	GW-8D
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/01/04	10/03/04	10/02/04	09/30/04	09/30/04
Parameter	Units	Criteria*				Field Duplicate (1-1)	
Metals							
Manganese	MG/L	0.3	0.359	0.026	0.223	1.77	1.77
Mercury	MG/L	7.00E-04		2.00E-04	2.00E-04		
Nickel	MG/L	0.1	0.09	0.04	0.02	0.01	0.01
Potassium	MG/L	-	3.22	8.23	2.55	4.84	4.93
Sodium	MG/L	20	34.8	78.1	56.2	161	163
Vanadium	MG/L	-					
Zinc	MG/L	2	0.030	0.163	0.013	0.048	0.043

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

Flags assigned during chemistry validation are shown.

(oval) Concentration Exceeds Criteria

Only Detected Results Reported.

TABLE 3-1
DETECTED ANALYTES IN GROUNDWATER
PFOHL BROTHERS LANDFILL SITE
SEPTEMBER 2004

Location ID			GW-08SR	GW-26D	GW-28S	GW-29S	GW-30S
Sample ID			GW-8SR	GW-26D	GW-28S	GW-29S	GW-30S
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			09/30/04	10/01/04	09/30/04	10/01/04	10/01/04
Parameter	**Units**	**Criteria***					
Volatile Organic Compounds							
1,1,2-Trichloroethane	UG/L	1					
1,2-Dichloroethene (cis)	UG/L	5	4	2			
Acetone	UG/L	50					
Benzene	UG/L	1			2		
Chlorobenzene	UG/L	5					
Tetrachloroethene	UG/L	5					
Toluene	UG/L	5	1 U		1 U		
Vinyl chloride	UG/L	2	2	2			
Semivolatile Organic Compounds							
bis(2-Ethylhexyl)phthalate	UG/L	5					
Metals							
Aluminum	MG/L	-	0.543		0.035 J+	0.076 J+	0.034 J+
Arsenic	MG/L	0.025	0.015			0.015	
Barium	MG/L	1	0.554	0.168	0.456	0.181	0.656
Cadmium	MG/L	0.005					
Calcium	MG/L	-	178	153	213	144	301
Chromium	MG/L	0.05					
Cobalt	MG/L	-					
Copper	MG/L	0.2					
Iron	MG/L	0.3	6.31	5.33	17.0	3.40	17.5
Lead	MG/L	0.025	0.007				0.004
Magnesium	MG/L	35	61.1	26.5	73.9	63.2	75.2

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

Flags assigned during chemistry validation are shown.

(oval) Concentration Exceeds Criteria

Only Detected Results Reported.

TABLE 3-1
DETECTED ANALYTES IN GROUNDWATER
PFOHL BROTHERS LANDFILL SITE
SEPTEMBER 2004

Location ID			GW-08SR	GW-26D	GW-28S	GW-29S	GW-30S
Sample ID			GW-8SR	GW-26D	GW-28S	GW-29S	GW-30S
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			09/30/04	10/01/04	09/30/04	10/01/04	10/01/04
Parameter	Units	Criteria*					
Metals							
Manganese	MG/L	0.3	0.762	1.20	0.992	0.327	3.01
Mercury	MG/L	7.00E-04		2.00E-04		2.00E-04	3.00E-04
Nickel	MG/L	0.1	0.02		0.006	0.007	
Potassium	MG/L	-	2.65	4.78	36.4	1.18	3.30
Sodium	MG/L	20	202	275	85.8	20.5	1,150
Vanadium	MG/L	-	0.008		0.006		
Zinc	MG/L	2	0.023				

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

Flags assigned during chemistry validation are shown.

(oval) Concentration Exceeds Criteria

Only Detected Results Reported.

TABLE 3-1
DETECTED ANALYTES IN GROUNDWATER
PFOHL BROTHERS LANDFILL SITE
SEPTEMBER 2004

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			10/01/04	10/01/04	10/01/04	09/29/04	10/01/04
Parameter	**Units**	**Criteria***					
Volatile Organic Compounds							
1,1,2-Trichloroethane	UG/L	1				2	
1,2-Dichloroethene (cis)	UG/L	5					
Acetone	UG/L	50				17 J+	13 U
Benzene	UG/L	1					
Chlorobenzene	UG/L	5					
Tetrachloroethene	UG/L	5					
Toluene	UG/L	5					
Vinyl chloride	UG/L	2					
Semivolatile Organic Compounds							
bis(2-Ethylhexyl)phthalate	UG/L	5					
Metals							
Aluminum	MG/L	-	0.731	0.032 J+	0.182 J+	0.282	0.292
Arsenic	MG/L	0.025				0.011	
Barium	MG/L	1	0.051	0.047	0.029	0.138	0.031
Cadmium	MG/L	0.005	0.001				
Calcium	MG/L	-	259	133	216	181	195
Chromium	MG/L	0.05	0.009			0.015	
Cobalt	MG/L	-	0.005				
Copper	MG/L	0.2	0.023			0.012	
Iron	MG/L	0.3	2.57		0.335	7.37	0.726
Lead	MG/L	0.025	0.014	0.019	0.008	0.003	0.005
Magnesium	MG/L	35	82.6	59.6	51.0	79.2	67.8

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

Only Detected Results Reported.

TABLE 3-1
DETECTED ANALYTES IN GROUNDWATER
PFOHL BROTHERS LANDFILL SITE
SEPTEMBER 2004

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			10/01/04	10/01/04	10/01/04	09/29/04	10/01/04
Parameter	Units	Criteria*				-	
Metals							
Manganese	MG/L	0.3	1.53	0.100	0.384	0.318	1.49
Mercury	MG/L	7.00E-04	2.00E-04		2.00E-04		3.00E-04
Nickel	MG/L	0.1	0.01	0.006	0.005	0.03	0.007
Potassium	MG/L	-	18.6	3.83	3.95	9.23	4.89
Sodium	MG/L	20	14.1	21.5	16.9	88.5	13.4
Vanadium	MG/L	-				0.012	
Zinc	MG/L	2	0.047			0.025	0.037

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

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

Only Detected Results Reported.

N:\11172700.00000\GIS\dB\Program\Program.mde
Printed: 12/30/2004 8:42:13 AM
[LOGDATE] >= #9/29/2004# AND [MATRIX] = "WG" AND [LOCID] <> "EFFLUENT"

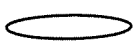
TABLE 3-2
DETECTED ANALYTES IN SURFACE WATER
PFOHL BROTHERS LANDFILL SITE
MAY 2004

Location ID				SW-01	SW-02	SW-03	SW-03	SW-04
Sample ID				SW-1	SW-2	SW-3	SW-3 Dup	SW-4
Matrix				Surface Water	Surface Water	Surface Water	Surface Water	Surface Water
Depth Interval (ft)				-	-	-	-	-
Date Sampled				05/03/04	05/03/04	05/03/04	05/03/04	05/03/04
Parameter	Units	Criteria (1)	Criteria (2)				Field Duplicate (1-1)	
Metals								
Aluminum	MG/L	0.1	-	0.663 J+	0.079 J+	0.032 J+	0.629 J+	0.353 J+
Barium	MG/L	-	-	0.054	0.049	0.051	0.058	0.043
Calcium	MG/L	-	-	69.1	74.7	78.6	86.2	78.9
Iron	MG/L	0.3	-	1.49	0.540	0.485	1.24	2.48
Lead	MG/L	*	-				0.003	0.019
Magnesium	MG/L	-	-	13.9	15.3	16.1	17.9	16.6
Manganese	MG/L	-	-	0.126	0.060	0.066	0.107	0.595
Potassium	MG/L	-	-	3.77	3.58	3.69	3.97	3.75
Sodium	MG/L	-	-	235	237	243	248	176
Vanadium	MG/L	0.14	-	1.81E-03	5.42E-04	4.86E-04	1.73E-03	1.32E-03
Zinc	MG/L	*	-	0.020	0.013	0.014	0.027	0.022
Radionuclides								
Bismuth 212 (Insoluble)	PCi/L	-	-					
Bismuth 212 (Soluble)	PCi/L	-	-					
Cesium 134 (Soluble)	PCi/L	-	80			5.90 J	3.80 J	

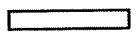
Criteria (1)- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. June 1998 (includes 4/2000 Addendum). Class B.

Criteria (2)- Derived from EPA Maximum Contaminant Level (MCL) of 4 millirem/year exposure.

Flags assigned during chemistry validation are shown.



Concentration Exceeds Criteria (1)



Concentration Exceeds Criteria (2)

* - Standard is based on Hardness.

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

Only Detected Results Reported.

TABLE 3-2
DETECTED ANALYTES IN SURFACE WATER
PFOHL BROTHERS LANDFILL SITE
MAY 2004

Location ID				SW-05	SW-06	SW-07	SW-08
Sample ID				SW-5	SW-6	SW-7	SW-8
Matrix				Surface Water	Surface Water	Surface Water	Surface Water
Depth Interval (ft)				-	-	-	-
Date Sampled				05/03/04	05/03/04	05/03/04	05/03/04
Parameter	**Units**	**Criteria (1)**	**Criteria (2)**				
Metals							
Aluminum	MG/L	0.1	-	0.198 J+	1.17 J+	0.049 J+	
Barium	MG/L	-	-	0.019	0.042	0.045	0.052
Calcium	MG/L	-	-	69.8	155	95.0	102
Iron	MG/L	0.3	-	0.249	1.85	0.869	1.37
Lead	MG/L	*	-		0.026		
Magnesium	MG/L	-	-	20.6	42.5	22.4	23.0
Manganese	MG/L	-	-	0.084	0.170	0.135	0.292
Potassium	MG/L	-	-	4.73	8.43	2.44	2.03
Sodium	MG/L	-	-	179	52.3	116	107
Vanadium	MG/L	0.14	-	2.08E-03	2.54E-03	4.99E-04	2.19E-04
Zinc	MG/L	*	-	0.030	0.017		0.029
Radionuclides							
Bismuth 212 (Insoluble)	PCi/L	-	-	8.80 E		14.2 E	
Bismuth 212 (Soluble)	PCi/L	-	-	51.0 J			
Cesium 134 (Soluble)	PCi/L	-	80				

Criteria (1)- 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 (2)- Derived from EPA Maximum Contaminant Level (MCL) of 4 millirem/year exposure.

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria (1)

Concentration Exceeds Criteria (2)

* - Standard is based on Hardness.

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

Only Detected Results Reported.

TABLE 3-3
DETECTED ANALYTES IN SEDIMENT
PFOHL BROTHERS LANDFILL SITE
MAY 2004

Location ID		SW-01	SW-02	SW-03	SW-03	SW-04
Sample ID		SW-1	SW-2	SW-3	SW-3 Dup	SW-4
Matrix		Sediment	Sediment	Sediment	Sediment	Sediment
Depth Interval (ft)		-	-	-	-	-
Date Sampled		05/03/04	05/03/04	05/03/04	05/03/04	05/03/04
Parameter	Units				Field Duplicate (1-1)	
Volatile Organic Compounds						
Acetone	UG/KG	32 J	32 J	19 J	10 UJ	25 J
Semivolatile Organic Compounds						
Benzo(a)anthracene	UG/KG	67 U	491	405	238	205
Benzo(a)pyrene	UG/KG	67 U	671 J	416	286	221 J
Benzo(b)fluoranthene	UG/KG	67 U	913 J	481	357	236 J
Benzo(g,h,i)perylene	UG/KG	67 U	290 J	142	119	67 UJ
Benzo(k)fluoranthene	UG/KG	67 U	815 J	432	334	289 J
Chrysene	UG/KG	67 U	713	435	318	244
Fluoranthene	UG/KG	67 U	1,180	540	361	449
Indeno(1,2,3-cd)pyrene	UG/KG	67 U	254 J	157	118	67 UJ
Phenanthrene	UG/KG	67 U	446	147	67 U	243
Pyrene	UG/KG	67 U	1,470	576	370	488
Metals						
Aluminum	MG/KG	8,810	4,690	8,840	5,520	5,100
Antimony	MG/KG	2.13 J-	1.63 J-	2.19 J-	1.49 J-	1.95 J-
Arsenic	MG/KG	3.50	4.28	5.87	3.42	3.11
Barium	MG/KG	58.3	46.2	116	38.8	55.5
Beryllium	MG/KG	0.50 U	0.50 U	0.60	0.50 U	0.50 U
Cadmium	MG/KG	1.00 U	1.32	1.00 U	1.00 U	1.00 U
Calcium	MG/KG	20,100 J+	45,900 J+	53,600 J+	33,200 J+	59,700 J+
Chromium	MG/KG	18.3	16.2	35.5	40.5	11.9
Cobalt	MG/KG	7.37	4.39	6.54	3.87	4.12
Copper	MG/KG	22.4	26.9	20.6	13.5	17.7

Flags assigned during chemistry validation are shown.

Only Detected Results Reported.

Detection Limits shown are MDL

TABLE 3-3
DETECTED ANALYTES IN SEDIMENT
PFOHL BROTHERS LANDFILL SITE
MAY 2004

Location ID		SW-01	SW-02	SW-03	SW-03	SW-04
Sample ID		SW-1	SW-2	SW-3	SW-3 Dup	SW-4
Matrix		Sediment	Sediment	Sediment	Sediment	Sediment
Depth Interval (ft)		-	-	-	-	-
Date Sampled		05/03/04	05/03/04	05/03/04	05/03/04	05/03/04
Parameter	Units				Field Duplicate (1-1)	
Metals						
Iron	MG/KG	16,400	11,900	15,000	9,640	14,100
Lead	MG/KG	36.5	66.0	29.5	18.7	34.4
Magnesium	MG/KG	7,770	14,100	20,400	13,500	14,900
Manganese	MG/KG	276 J-	355 J-	643 J-	313 J-	397 J-
Mercury	MG/KG	0.088	0.055	0.050	0.047	0.085
Nickel	MG/KG	20.6	12.1	16.9	10.1	11.0
Potassium	MG/KG	893	572	960	850	527
Selenium	MG/KG	2.89	3.89	4.51	1.40 U	3.75
Silver	MG/KG	0.50 U	0.50 U	0.50 U	0.50 U	0.52
Sodium	MG/KG	554	482	420	352	630
Vanadium	MG/KG	16.2	10.9	16.9	11.4	13.2
Zinc	MG/KG	157	273	119	73.7	157
Miscellaneous Parameters						
Cyanide	MG/KG	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Percent Dry	PERCENT	40.6	42.0	54.0	60.9	39.1

Flags assigned during chemistry validation are shown.

Only Detected Results Reported.

Detection Limits shown are MDL

TABLE 3-3
DETECTED ANALYTES IN SEDIMENT
PFOHL BROTHERS LANDFILL SITE
MAY 2004

Location ID		SW-05	SW-06	SW-07	SW-08
Sample ID		SW-5	SW-6	SW-7	SW-8
Matrix		Sediment	Sediment	Sediment	Sediment
Depth Interval (ft)		-	-	-	-
Date Sampled		05/03/04	05/03/04	05/03/04	05/03/04
Parameter	**Units**				
Volatile Organic Compounds					
Acetone	UG/KG	10 UJ	20 J	10 UJ	10 UJ
Semivolatile Organic Compounds					
Benzo(a)anthracene	UG/KG	67 U	67 U	67 U	397 J
Benzo(a)pyrene	UG/KG	67 U	67 U	67 U	399 J
Benzo(b)fluoranthene	UG/KG	67 U	67 U	67 U	429 J
Benzo(g,h,i)perylene	UG/KG	67 U	67 U	67 U	174 J
Benzo(k)fluoranthene	UG/KG	67 U	67 U	67 U	427 J
Chrysene	UG/KG	67 U	67 U	67 U	419 J
Fluoranthene	UG/KG	67 U	67 U	67 U	601
Indeno(1,2,3-cd)pyrene	UG/KG	67 U	67 U	67 U	134 J
Phenanthrene	UG/KG	67 U	67 U	67 U	326
Pyrene	UG/KG	67 U	67 U	67 U	1,430 J
Metals					
Aluminum	MG/KG	6,970	7,130	2,120	7,740
Antimony	MG/KG	1.40 UJ	1.98 J-	1.40 UJ	2.38 J-
Arsenic	MG/KG	3.05	4.39	1.53	5.49
Barium	MG/KG	41.6	50.8	16.1	72.6
Beryllium	MG/KG	0.50 U	0.50 U	0.50 U	0.50 U
Cadmium	MG/KG	1.00 U	1.00 U	1.00 U	1.00 U
Calcium	MG/KG	6,070 J+	59,900 J+	32,900 J+	75,000 J+
Chromium	MG/KG	9.79	11.3	3.59	12.4
Cobalt	MG/KG	4.53	6.29	2.06	5.66
Copper	MG/KG	13.9	15.0	2.52	34.3

Flags assigned during chemistry validation are shown.

Only Detected Results Reported.

Detection Limits shown are MDL

TABLE 3-3
DETECTED ANALYTES IN SEDIMENT
PFOHL BROTHERS LANDFILL SITE
MAY 2004

Location ID		SW-05	SW-06	SW-07	SW-08
Sample ID		SW-5	SW-6	SW-7	SW-8
Matrix		Sediment	Sediment	Sediment	Sediment
Depth Interval (ft)		-	-	-	-
Date Sampled		05/03/04	05/03/04	05/03/04	05/03/04
Parameter	Units				
Metals					
Iron	MG/KG	11,200	13,800	6,600	19,000
Lead	MG/KG	26.1	16.7	8.94	59.5
Magnesium	MG/KG	3,690	19,800	10,700	21,800
Manganese	MG/KG	457 J-	482 J-	368 J-	699 J-
Mercury	MG/KG	0.088	0.063	0.036	0.075
Nickel	MG/KG	9.16	14.3	4.83	17.5
Potassium	MG/KG	545	1,070	233	765
Selenium	MG/KG	1.69	3.92	2.21	6.05
Silver	MG/KG	0.50 U	0.50 U	0.50 U	0.76
Sodium	MG/KG	214	204	243	504
Vanadium	MG/KG	14.4	15.8	4.96	16.1
Zinc	MG/KG	116	98.7	47.4	277
Miscellaneous Parameters					
Cyanide	MG/KG	0.50 U	0.50 U	0.50 U	1.14
Percent Dry	PERCENT	68.6	61.1	64.1	59.0

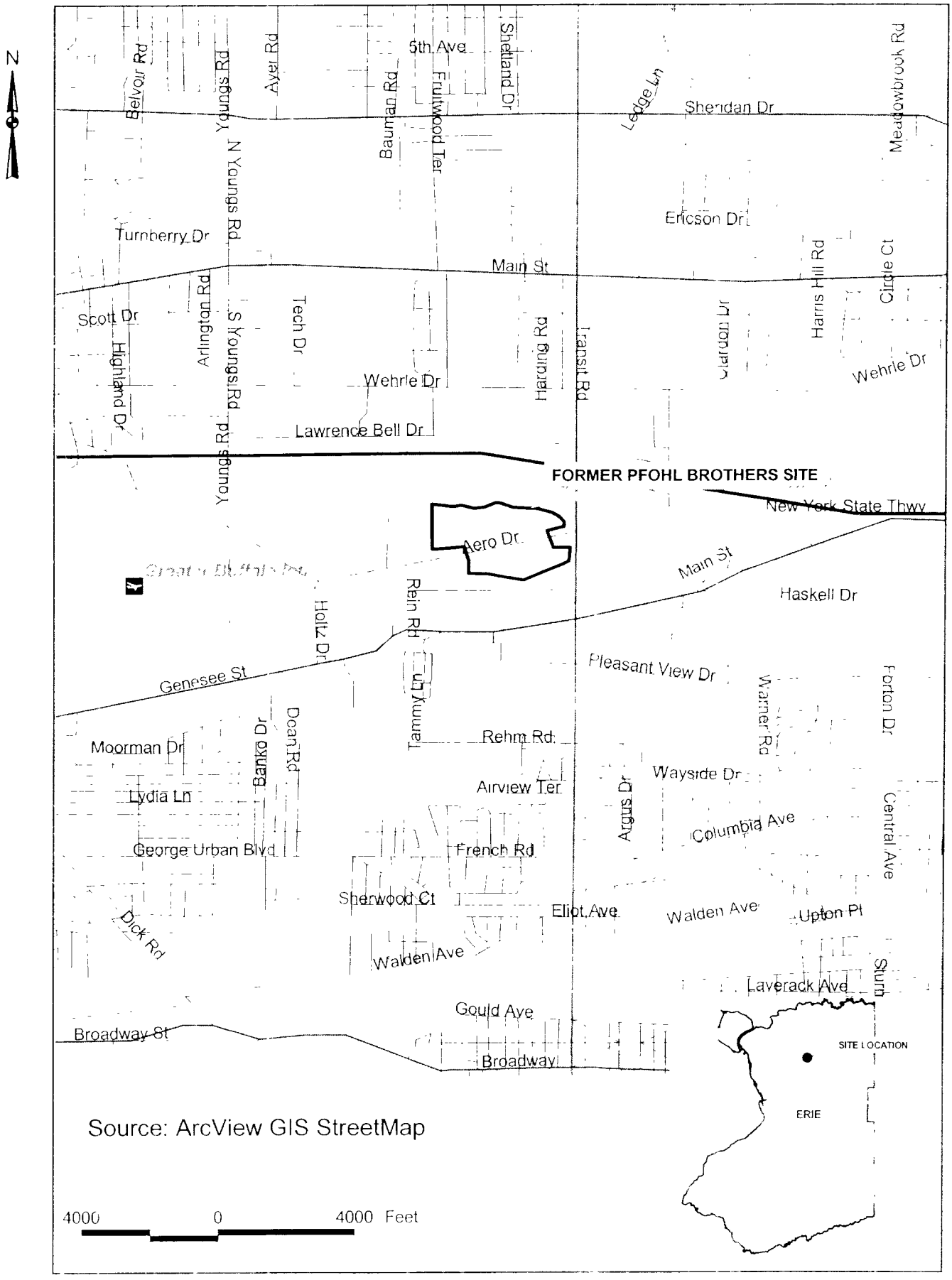
Flags assigned during chemistry validation are shown.

Only Detected Results Reported.

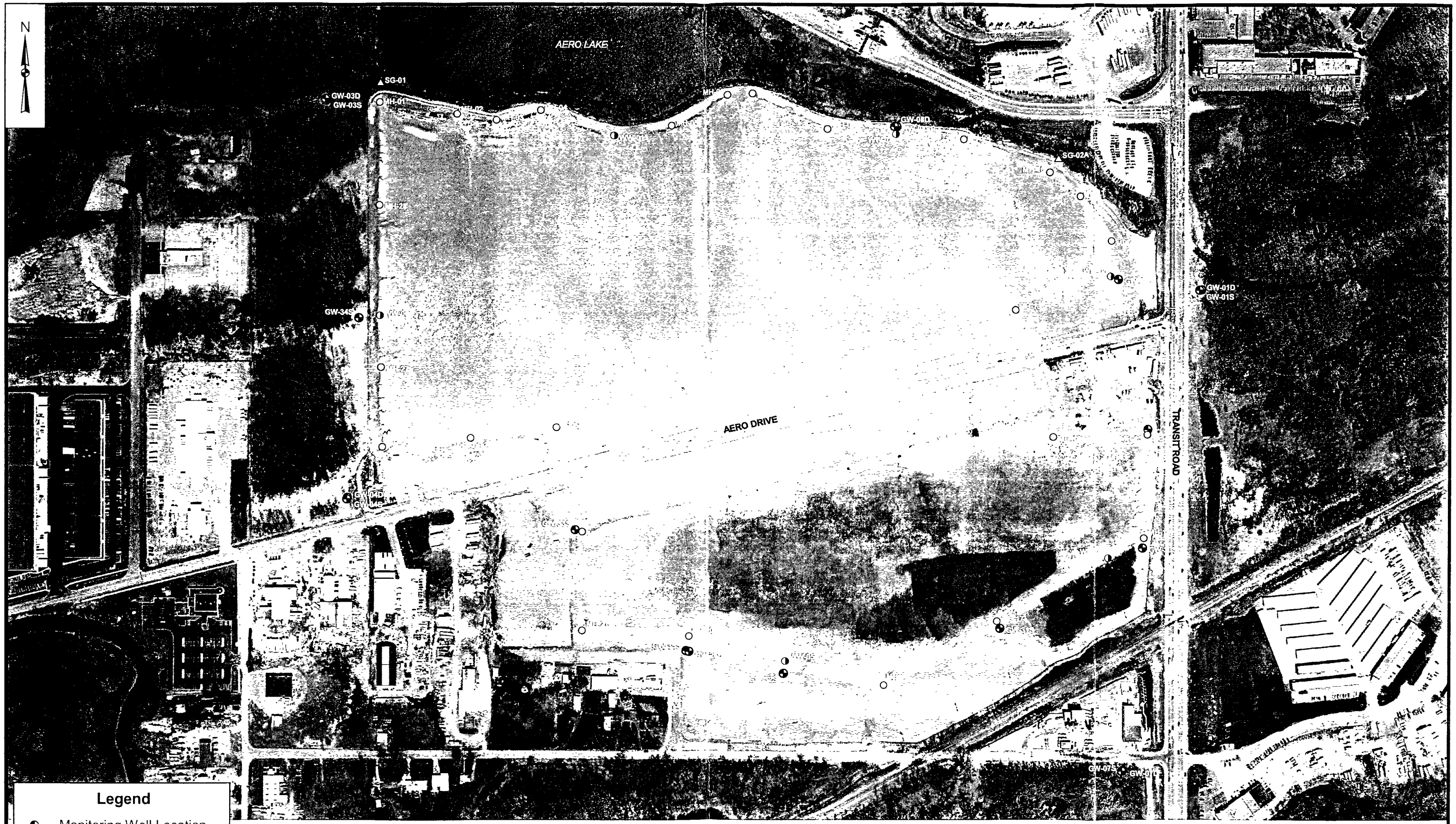
Detection Limits shown are MDL

Figures

FIGURES



URS	FORMER PFOHL BROTHERS LANDFILL SITE LOCATION MAP	FIGURE 1-1



FORMER PFHOL BROTHERS LANDFILL
MONITORING LOCATIONS

URS

FIGURE 3-1

N:\11172749.00000\GIS\Arc\View\pfhol.apr WELL LOCATIONS
12/28/2004

Legend

⊡ Surface Water Location

350 0 350 Feet

FORMER PFHOL BROTHERS LANDFILL
SURFACE WATER/SEDIMENT SAMPLING LOCATIONS

URS

FIGURE 3-2

N:\111172700 00000\GIS\ArcView\pfhol apr SURFACE WATER LOCATIONS
12/21/2004

Appendix A

APPENDIX A

EXAMPLE DAILY INSPECTION SHEETS

Pfohl Brothers Landfill Site

Daily Logsheet — **Town of Cheektowaga**

Date 11/3/04 — Weather conditions Clear

Time 2130 — Read by: J. Nichy

	Level of Water from bottom (ft.)	Flow gallons / minute	Flow Totals gallons	Pump Run Time Hrs.
WW-3	5.0	0	519246	412
WW-2	4.5	0	42390	33
WW-1	4.1	0	383167	26
WW-6	6.8	21.8	1095835	809
WW-4	9.8	24.7	207471	472
WW-5	11.2	0	2670716	762
Flow Totalizer at Meter chamber		45.3	4791927	

Heat Trace

Outside temp T = 34

Current A = 2.4

Set point SP = 40

Large Suppressor events 304059

Motor Control Center

Volts 480 volts

Amps 9 amps

Which WW was running?

1☐ 2☐ 3☐ 4☐ 5☐ 6☒

Filter **Checked** ☒ **Changed** ☐

Comments and/or Current Conditions

WW-5 Pump needs repair!!

Pfohl Brothers Landfill Site

Daily Logsheet — **Town of Cheektowaga**

Date 2/4/04 — Weather conditions Cloudy

Time 17:16 Hrs — Read by: T. Nichy

	Level of Water from bottom (ft.)	Flow gallons / minute	Flow Totals gallons	Pump Run Time Hrs.
WW-3	3.2	35.9	488687	237
WW-2	4.4	0.0	227649	153
WW-1	8.8	0.0	84411	30
WW-6	4.6	25.6	2928614	1609
WW-4	4.7	−10.5	5314006	2032
WW-5	4.2	0	1082691	261
Flow Totalizer at Meter chamber		53.4	9754820	

Heat Trace

Outside temp **T** = 24

Current **A** = 2.8

Set point **SP** = 40

Large Suppressor events 266874

Motor Control Center

Volts 480 **volts**

Amps 10 **amps**

Which WW was running?

1☒ 2☐ 3☒ 4☐ 5☐ 6☒

Filter **Checked** ☐ **Changed** ☐

Comments and/or Current Conditions

WW-1 – Flow Failure Alarm > Reset > Pump Activated

FT-107 Deviation

Well Negative Flow > Reset > OK

WW-4 Check Valve will need attention

Appendix B

APPENDIX B

MONTHLY FLOW SUMMARIES
JANUARY 2004 – NOVEMBER 2004

Main Pump Station No. 5

Lawrence E. Golas
Superintendent

Jon W. Nichy
Assistant Superintendent

Growing In A New Direction

TOWN OF CHEEKTOWAGA
Erie County, New York

February 3, 2004

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

Re: Pfohl Bros. Flow Data

Dear Mr. Pugh,

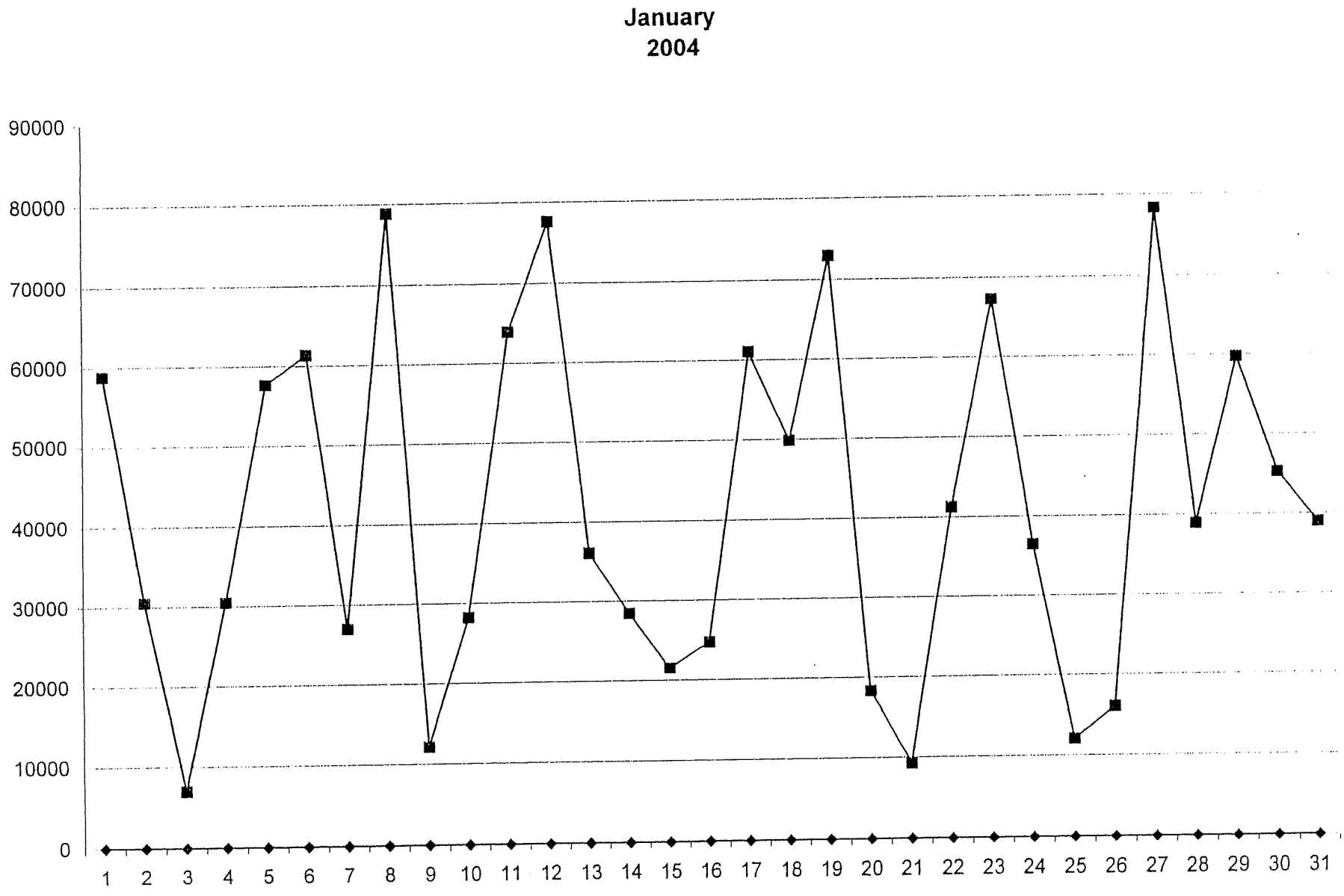
Enclosed for your review please find a copy of the January 2004 Direct Discharge Flow Data Report prepared by Jon W. Nichy. Should you have any other questions or comments regarding this submittal, please contact this office @ 896-1777.

Yours truly,

Jon W. Nichy
Assistant Superintendent
Main Pump Station

Direct Discharge Flow Data

12/31/03		8335579	58,858	40078145	
January-04	Time; 11:58pm unless otherwise stated	Totalizer Reading (Gallons)	Daily Total Discharge (Gallons)	Total Direct Discharge (Gallons)	Verification
1		8335579	58,858	40,137,003	
2		8366130	30,551	40,167,554	
3		8373163	7,034	40,174,588	
4		8403678	30,515	40,205,103	
5		8461339	57,661	40,262,764	
6		8522651	61,312	40,324,076	
7		8549633	26,982	40,351,058	
8		8628453	78,820	40,429,878	
9		8640637	12,184	40,442,062	
10		8668829	28,192	40,470,254	
11		8732696	63,867	40,534,121	
12		8810305	77,609	40,611,730	
13		8846464	36,159	40,647,889	
14		8874904	28,440	40,676,329	
15		8896488	21,584	40,697,913	
16		8921255	24,767	40,722,680	
17		8982280	61,025	40,783,705	
18		9032148	49,868	40,833,573	
19		9105025	72,877	40,906,450	
20		9123284	18,259	40,924,709	
21		9132594	9,310	40,934,019	
22		9173910	41,316	40,975,335	
23		9241194	67,284	41,042,619	
24		9277780	36,586	41,079,205	
25		9289894	12,114	41,091,319	
26		9305902	16,008	41,107,327	
27		9384226	78,324	41,185,651	
28		9423211	38,985	41,224,636	
29		9483002	59,791	41,284,427	
30		9528232	45230	41,329,657	
31		9567300	39,068	41,368,725	
		1,231,721	**1,290,580**	**1,290,580**	


January
2004
90000
80000
70000
60000
50000
40000
30000
20000
10000
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

Main Pump Station No. 5

Lawrence E. Golas
Superintendent

Jon W. Nichy
Assistant Superintendent

Growing In A New Direction

TOWN OF CHEEKTOWAGA
Erie County, New York

March 2, 2004

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 2004 Direct Discharge Flow Data Report prepared by Jon W. Nichy. Should you have any other questions or comments regarding this submittal, please contact this office @ 896-1777.

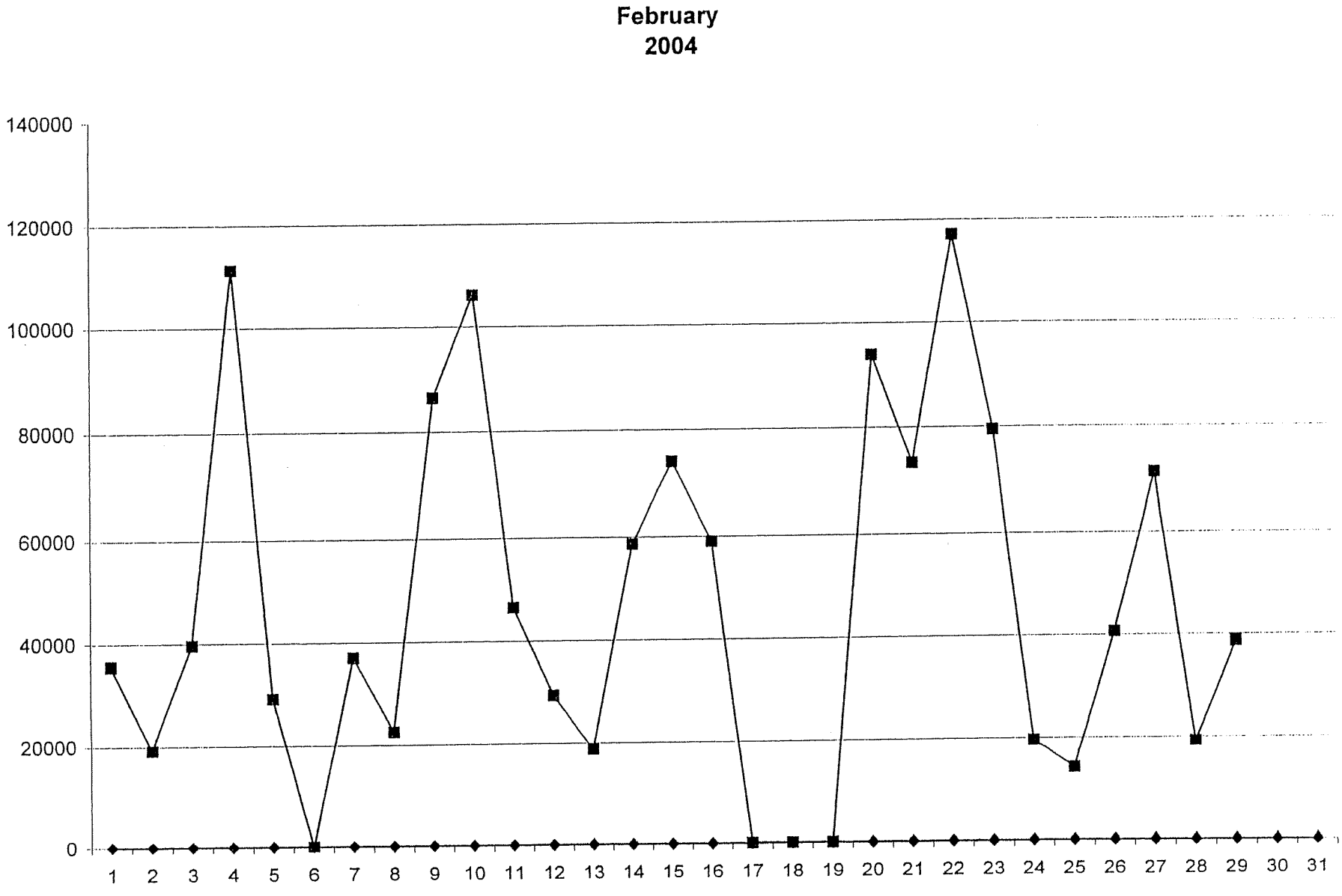
Yours truly,

Jon W. Nichy
Assistant Superintendent
Main Pump Station

RECEIVED
MAR - 4 2004
ENGINEERING
DEPT.

Direct Discharge Flow Data

1/31/04		9567300	39,068	41368725	
February-04	Time; 11:58pm unless otherwise stated	Totalizer Reading (Gallons)	Daily Total Discharge (Gallons)	Total Direct Discharge (Gallons)	Verification
1		9602931	35,631	41,404,356	
2		9622146	19,215	41,423,571	
3		9661762	39,616	41,463,187	
4		9773122	111,360	41,574,547	
5		9802312	29,190	41,603,737	
6		9802312	0	41,603,737	
7		9839342	37,030	41,640,767	
8		9861993	22,651	41,663,418	
9		9948458	86,465	41,749,883	
10		10054630	106,175	41,856,058	
11		10101130	46,494	41,902,552	
12		10130580	29,456	41,932,008	
13		10149330	18,745	41,950,753	
14		10207940	58,613	42,009,366	
15		10281840	73,900	42,083,266	
16		10340870	59,032	42,142,298	
17		10340870	0	42,142,298	
18		10340870	0	42,142,298	
19		10340870	0	42,142,298	
20		10434740	93,862	42,236,160	
21		10507940	73,205	42,309,365	
22		10625030	117,093	42,426,458	
23		10704460	79,422	42,505,880	
24		10724210	19,752	42,525,632	
25		10738390	14,179	42,539,811	
26		10779010	40,623	42,580,434	
27		10850130	71,121	42,651,555	
28		10869460	19,332	42,670,887	
29		10908170	38,706	42,709,593	
30					
31					
		1,340,870	**1,340,868**	**1,340,868**	


February
2004
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Main Pump Station No. 5

Lawrence E. Golas
Superintendent

Jon W. Nichy
Assistant Superintendent

Growing In A New Direction

TOWN OF CHEEKTOWAGA
Erie County, New York

April 5, 2004

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 2004 Direct Discharge Flow Data Report prepared by Jon W. Nichy. Should you have any other questions or comments regarding this submittal, please contact this office @ 896-1777.

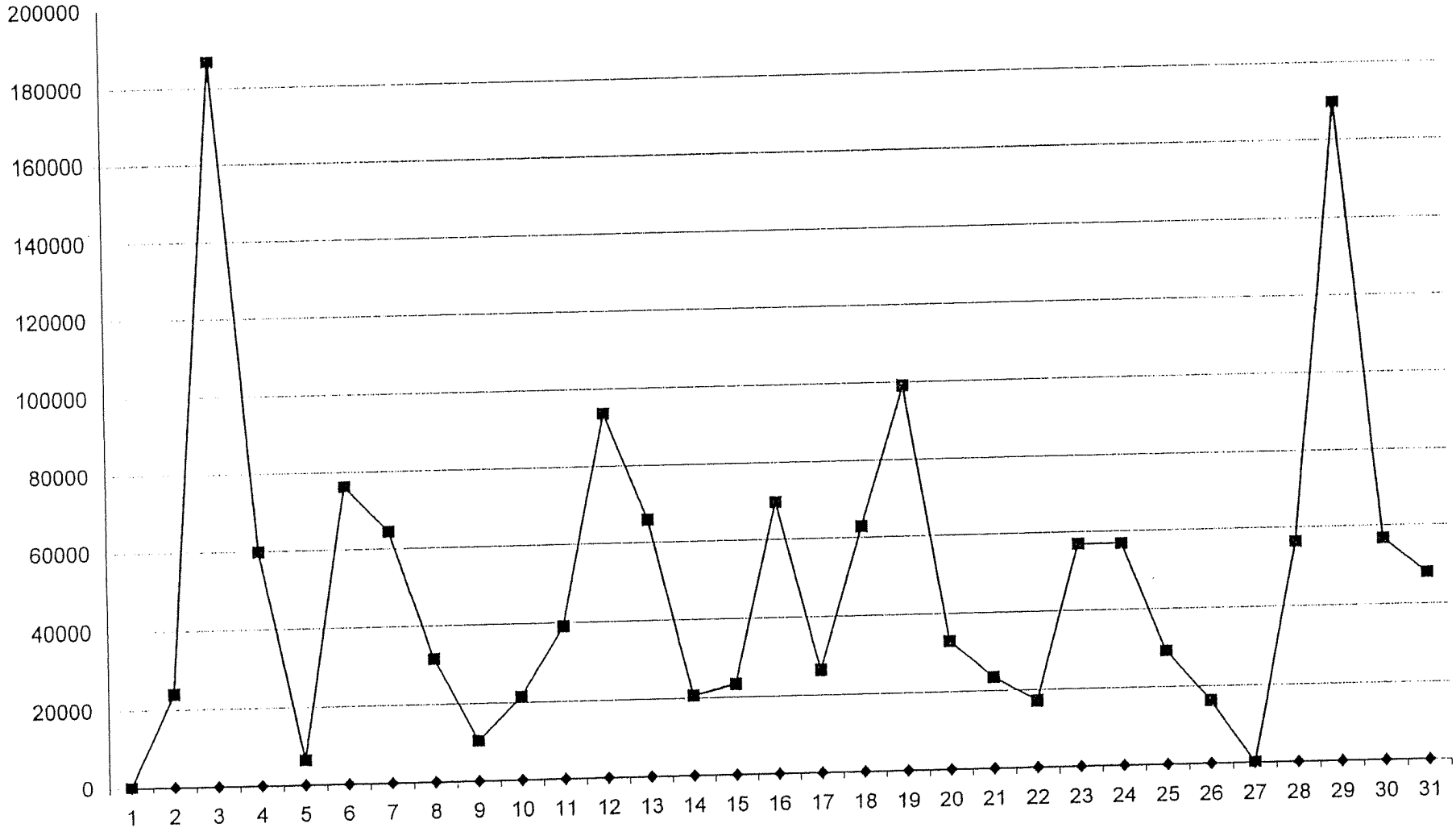
Yours truly,

Jon W. Nichy
Assistant Superintendent
Main Pump Station

Direct Discharge Flow Data

2/29/04		10908170	38,706	42709593	
March-04	Time; 11:58pm unless otherwise stated	Totalizer Reading (Gallons)	Daily Total Discharge (Gallons)	Total Direct Discharge (Gallons)	Verification
1		10908170	0	42,709,593	
2		10932090	23,922	42,733,515	
3		11118790	186,697	42,920,212	
4		11178530	59,745	42,979,957	
5		11184910	6,374	42,986,331	
6		11261060	76,153	43,062,484	
7		11325270	64,208	43,126,692	
8		11356900	31,629	43,158,321	
9		11367340	10,444	43,168,765	
10		11388720	21,380	43,190,145	
11		11427750	39,033	43,229,178	
12		11521570	93,821	43,322,999	
13		11587230	65,659	43,388,658	
14		11607860	20,631	43,409,289	
15		11631160	23,295	43,432,584	
16		11700660	69,503	43,502,087	
17		11726950	26,285	43,528,372	
18		11789690	62,738	43,591,110	
19		11888710	99,026	43,690,136	
20		11921690	32,977	43,723,113	
21		11945140	23,450	43,746,563	
22		11962360	17,221	43,763,784	
23		12019290	56,926	43,820,710	
24		12076120	56,839	43,877,549	
25		12105260	29,137	43,906,686	
26		12121500	16,242	43,922,928	
27		12121500	0	43,922,928	
28		12177840	56,339	43,979,267	
29		12347460	169,616	44,148,883	
30		12404150	56691	44,205,574	
31		12451960	47,813	44,253,387	
		1,543,790	**1,543,794**	**1,543,794**	

March
2004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Main Pump Station No. 5

Lawrence E. Golas
Superintendent

Jon W. Nichy
Assistant Superintendent

Growing In A New Direction

TOWN OF CHEEKTOWAGA
Erie County, New York

May 3, 2004

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 2004 Direct Discharge Flow Data Report prepared by Jon W. Nichy. Should you have any other questions or comments regarding this submittal, please contact this office @ 896-1777.

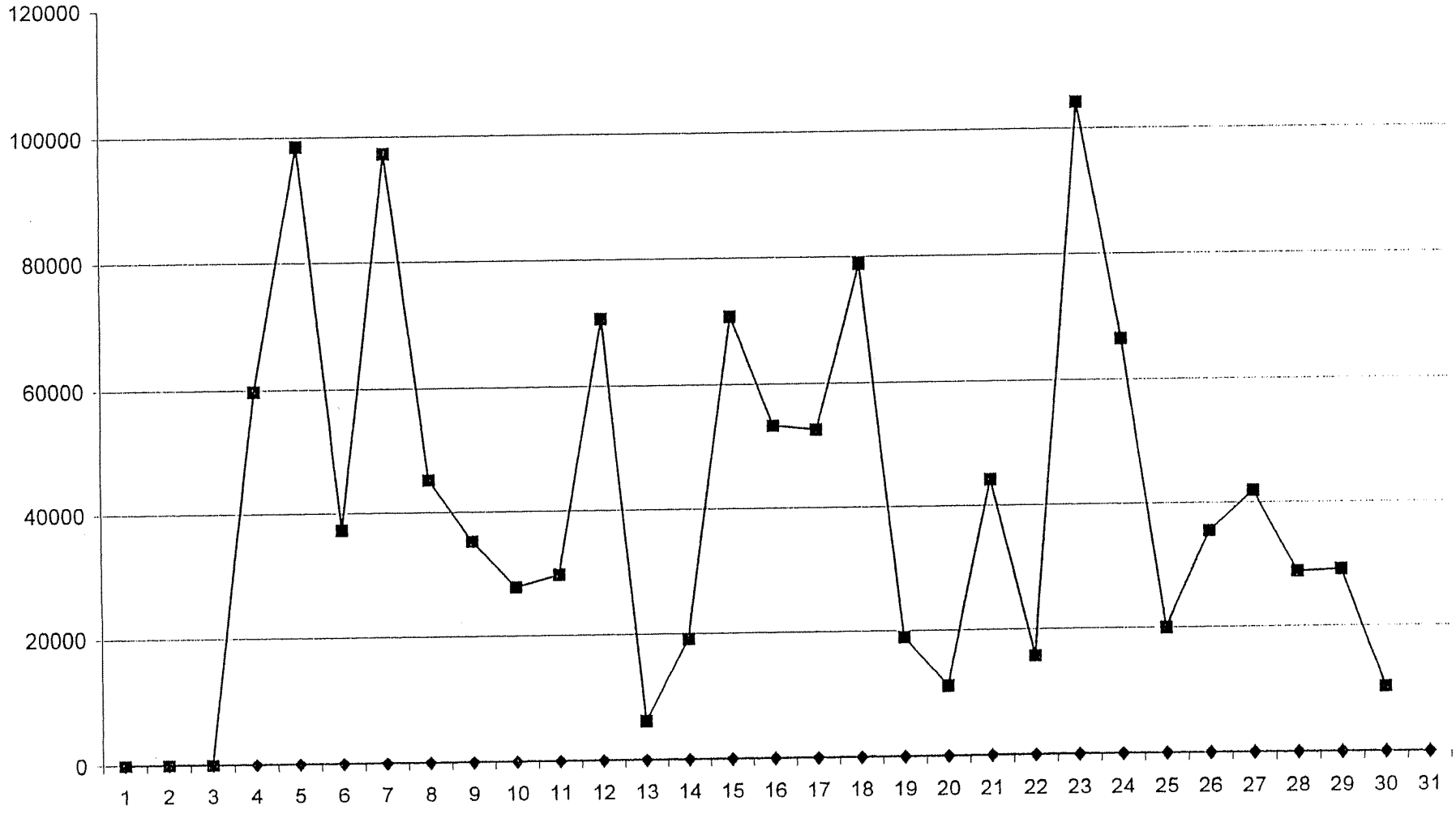
Yours truly,

Jon W. Nichy
Assistant Superintendent
Main Pump Station

Direct Discharge Flow Data

3/31/04		12451960	47,813	44253387	
April-04	Time; 11:58pm unless otherwise stated	Totalizer Reading (Gallons)	Daily Total Discharge (Gallons)	Total Direct Discharge (Gallons)	Verification
1		12451960	0	44,253,387	
2		12451960	0	44,253,387	
3		12451960	0	44,253,387	
4		12511710	59,743	44,313,130	
5		12610250	98,540	44,411,670	
6		12647520	37,279	44,448,949	
7		12744830	97,307	44,546,256	
8		12790070	45,235	44,591,491	
9		12825360	35,295	44,626,786	
10		12853070	27,713	44,654,499	
11		12882720	29,648	44,684,147	
12		12953500	70,779	44,754,926	
13		12959670	6,172	44,761,098	
14		12978860	19,185	44,780,283	
15		13049740	70,878	44,851,161	
16		13102970	53,238	44,904,399	
17		13155490	52,512	44,956,911	
18		13234350	78,866	45,035,777	
19		13253300	18,947	45,054,724	
20		13264360	11,056	45,065,780	
21		13308540	44,186	45,109,966	
22		13324320	15,779	45,125,745	
23		13428440	104,118	45,229,863	
24		13494980	66,545	45,296,408	
25		13514940	19,952	45,316,360	
26		13550370	35,431	45,351,791	
27		13592310	41,944	45,393,735	
28		13620990	28,683	45,422,418	
29		13649990	28,994	45,451,412	
30		13660200	10215	45,461,627	
31					
		1,208,240	**1,208,240**	**1,208,240**	

April
2004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Main Pump Station No. 5

Lawrence E. Golas
Superintendent

Jon W. Nichy
Assistant Superintendent

Growing In A New Direction

TOWN OF CHEEKTOWAGA
Erie County, New York

June 3, 2004

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 2004 Direct Discharge Flow Data Report prepared by Jon W. Nichy. Should you have any other questions or comments regarding this submittal, please contact this office @ 896-1777.

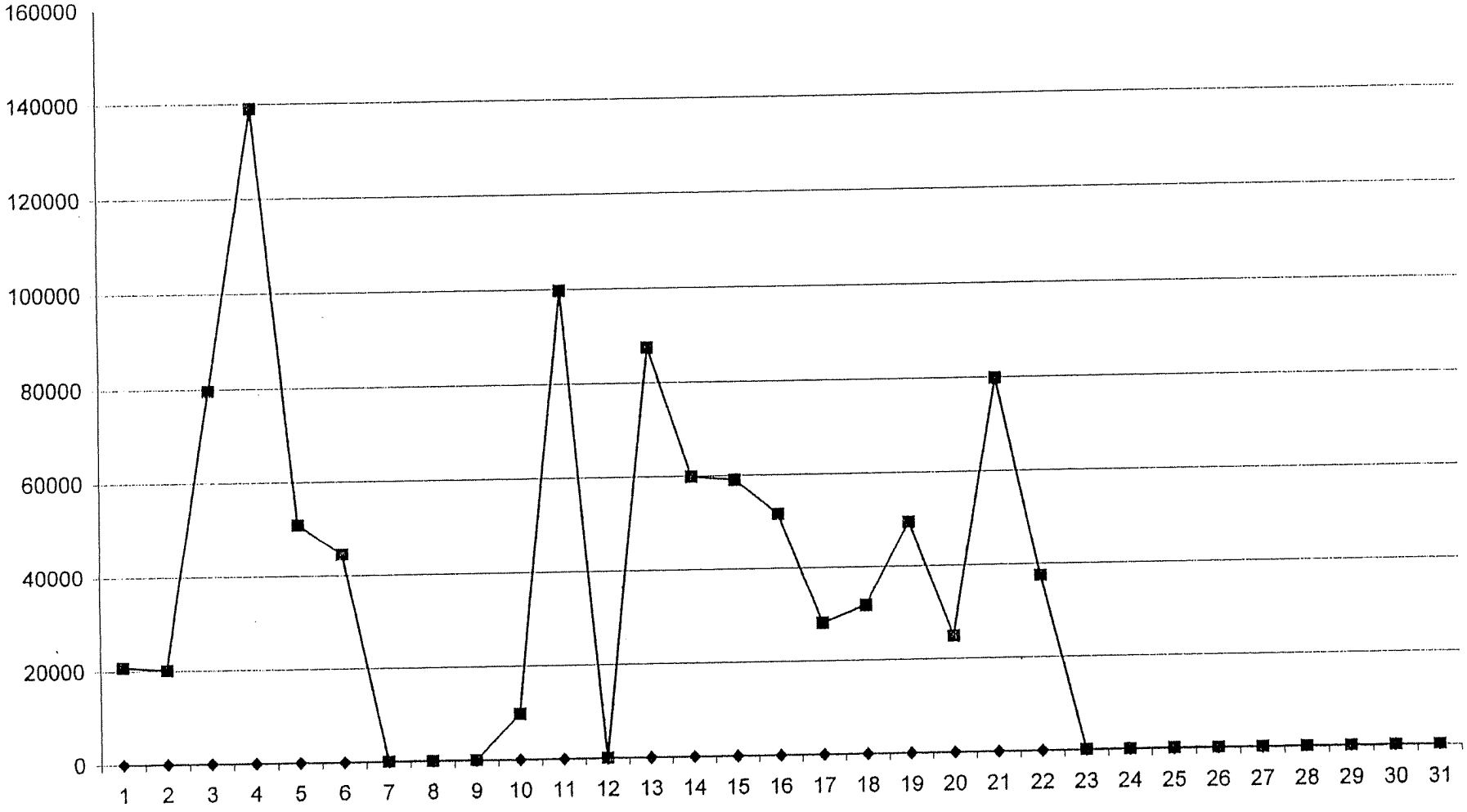
Yours truly,

Jon W. Nichy
Assistant Superintendent
Main Pump Station

Direct Discharge Flow Data

4/30/04		13660200	10,215	44253387	
May-04	Time; 11:58pm unless otherwise stated	Totalizer Reading (Gallons)	Daily Total Discharge (Gallons)	Total Direct Discharge (Gallons)	Verification
1		13681030	20,824	44,274,211	
2		13701160	20,133	44,294,344	
3		13780740	79,579	44,373,923	
4		13919720	138,985	44,512,908	
5		13970680	50,952	44,563,860	
6		14015200	44,522	44,608,382	
7		14015200	0	44,608,382	
8		14015200	0	44,608,382	
9		14015200	0	44,608,382	
10		14024960	9,762	44,618,144	
11		14124660	99,705	44,717,849	
12		14124660	0	44,717,849	
13		14121210	87,448	44,805,297	
14		14271930	59,821	44,865,118	
15		14330980	59,045	44,924,163	
16		14382650	51,667	44,975,830	
17		14410740	28,098	45,003,928	
18		14442420	31,675	45,035,603	
19		14492000	49,577	45,085,180	
20		14516890	24,898	45,110,078	
21		14596690	79,797	45,189,875	
22		14634110	37,424	45,227,299	
23		14634110	0	45,227,299	
24		14634110	0	45,227,299	
25		14634250	134	45,227,433	
26		14634250	0	45,227,433	
27		14634250	0	45,227,433	
28		14634250	0	45,227,433	
29		14634250	0	45,227,433	
30		14634250	0	45,227,433	
31		14634250	0	45,227,433	
		974,050	**974,046**	**974,046**	

May
2004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Main Pump Station No. 5

Lawrence E. Golas
Superintendent

Jon W. Nichy
Assistant Superintendent

Growing In A New Direction

TOWN OF CHEEKTOWAGA
Erie County, New York

July 7, 2004

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 2004 Direct Discharge Flow Data Report prepared by Jon W. Nichy. Should you have any other questions or comments regarding this submittal, please contact this office @ 896-1777.

Yours truly,

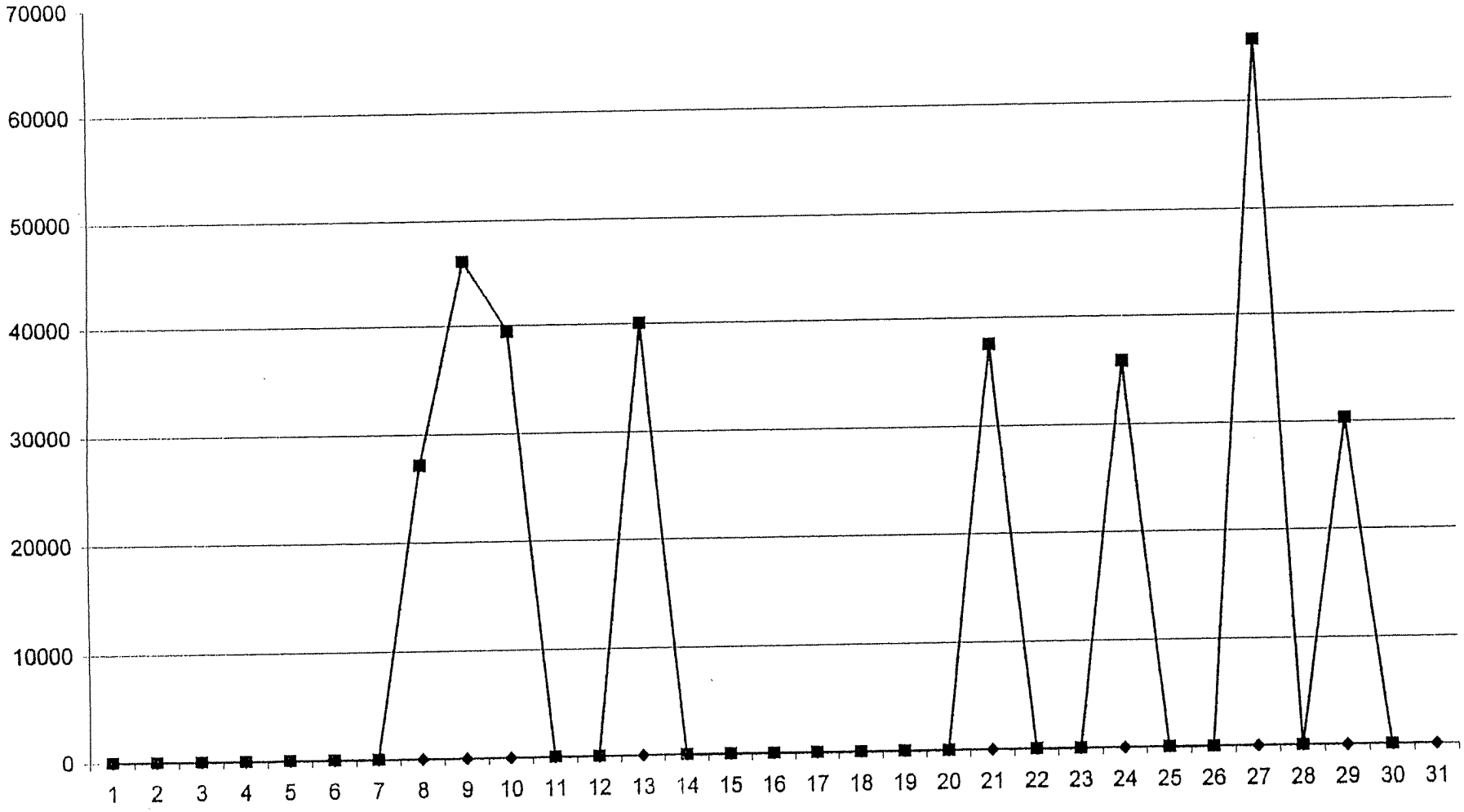
Jon W. Nichy
Assistant Superintendent
Main Pump Station

LEVEL CONTROL INSTRUMENTATION IS NOT OPERATIONAL. PARTS ORDERED FOR REPLACEMENT BY CRA. ACTUAL DISCHARGE IS DONE MANUALLY DURING SITE VISITS.

Direct Discharge Flow Data

5/31/04		14634250	0	45227433	
June-04	**Time; 11:58pm unless otherwise stated**	**Totalizer Reading (Gallons)**	**Daily Total Discharge (Gallons)**	**Total Direct Discharge (Gallons)**	**Verification**
1		14634250	0	45,227,433	
2		14634250	0	45,227,433	
3		14634250	0	45,227,433	
4		14634250	0	45,227,433	
5		14634250	0	45,227,433	
6		14634250	0	45,227,433	
7		14634250	0	45,227,433	
8		14661360	27,108	45,254,541	
9		14707490	46,129	45,300,670	
10		14746940	39,457	45,340,127	
11		14746940	0	45,340,127	
12		14746940	0	45,340,127	
13		14786980	40,041	45,380,168	
14		14786980	0	45,380,168	
15		14786980	0	45,380,168	
16		14786980	0	45,380,168	
17		14786980	0	45,380,168	
18		14786980	0	45,380,168	
19		14786980	0	45,380,168	
20		14786980	0	45,380,168	
21		14824550	37,568	45,417,736	
22		14824550	0	45,417,736	
23		14824550	0	45,417,736	
24		14860430	35,882	45,453,618	
25		14860430	0	45,453,618	
26		14860430	0	45,453,618	
27		14926200	65,762	45,519,380	
28		14926200	0	45,519,380	
29		14956500	30,309	45,549,689	
30		14956500	0	45,549,689	
31					
		322,250	**322,256**	**322,256**	

June
2004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Main Pump Station No. 5

Lawrence E. Golas
Superintendent

Jon W. Nichy
Assistant Superintendent

Growing In A New Direction

TOWN OF CHEEKTOWAGA
Erie County: New York

August 4, 2004

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 2004 Direct Discharge Flow Data Report prepared by Jon W. Nichy. Should you have any other questions or comments regarding this submittal, please contact this office @ 896-1777.

Yours truly,

Jon W. Nichy
Assistant Superintendent
Main Pump Station

SITE BEING MANUALLY OPERATED AWAITING RECEIPT / INSTALLATION OF LEVEL CONTROL REPAIR PARTS.

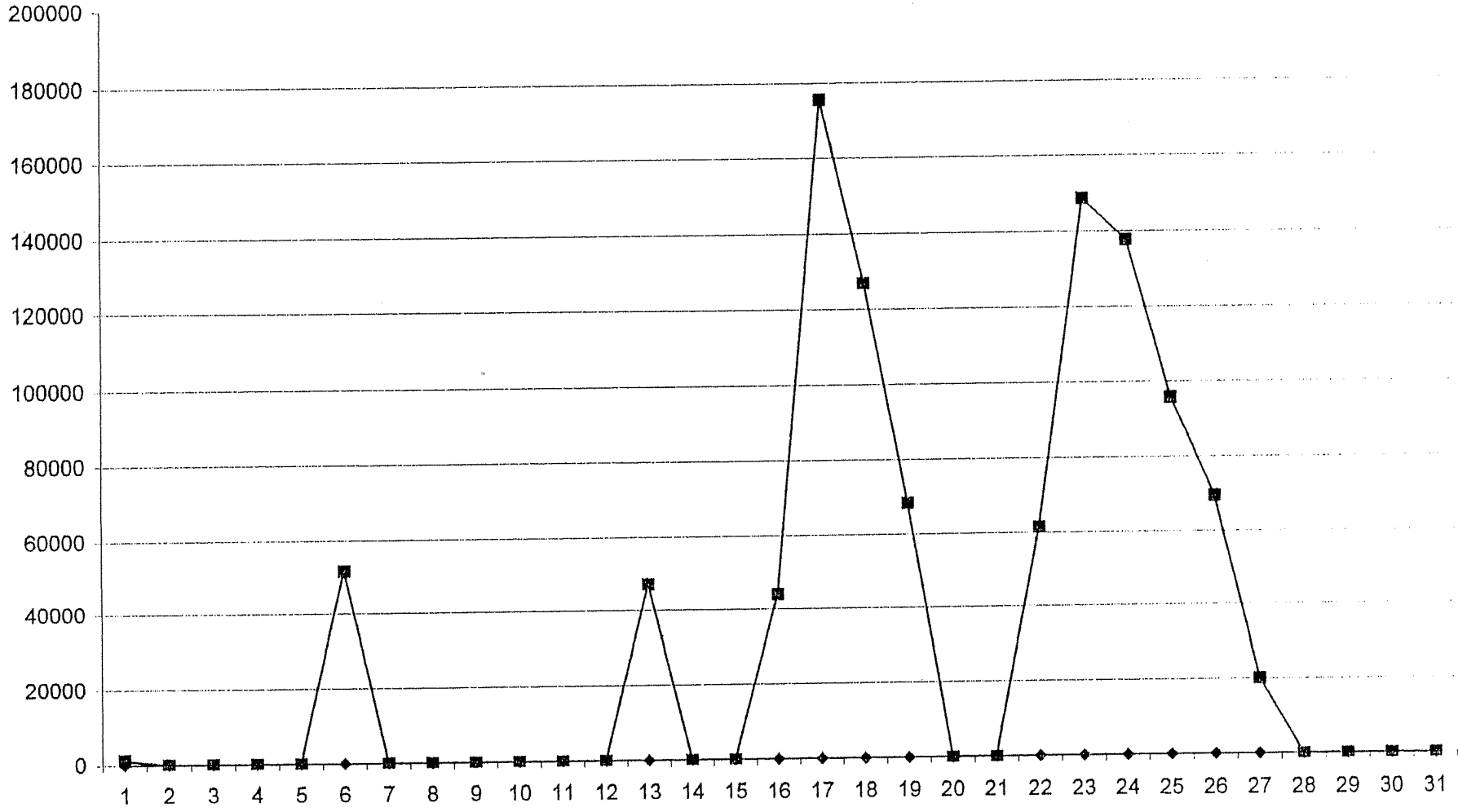
Direct Discharge Flow Data

6/30/04		0	0	0	
July-04	Time; 11:58pm unless otherwise stated	Totalizer Reading (Gallons)	Daily Total Discharge (Gallons)	Total Direct Discharge (Gallons)	Notes
1		1173	1,173	1,173	
2		1173	0	1,173	
3		1173	0	1,173	
4		1173	0	1,173	
5		1173	0	1,173	
6		52722	51,549	52,722	
7		52722	0	52,722	
8		52722	0	52,722	
9		52722	0	52,722	
10		52722	0	52,722	
11		52722	0	52,722	
12		52722	0	52,722	
13		99700	46,978	99,700	
14		99700	0	99,700	
15		99700	0	99,700	
16		143698	43,998	143,698	
17		319410	175,712	319,410	
18		446373	126,963	446,373	
19		514701	68,329	514,702	
20		514701	0	514,702	
21		514701	0	514,702	
22		576140	61,438	576,140	
23		724972	148,832	724,972	
24		862662	137,690	862,662	
25		958430	95,768	958,430	
26		1027828	69,399	1,027,829	
27		1047934	20,106	1,047,935	
28		1047934	0	1,047,935	
29		1047934	0	1,047,935	
30		1047934	0	1,047,935	
31		1047934	0	1,047,935	
		1,047,934	**1,047,935**	**1,047,935**	

0 Frequency of 0 Daily Discharge attributed to ongoing repairs at Pfohl Bros.site.
Automatic Level Controls not functioning, requiring pumps to be operated in manual mode.

6/30/04 Totalizers Reset 11:58pm

July
2004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Main Pump Station No. 5

Lawrence E. Golas
Superintendent

Jon W. Nichy
ssistant Superintendent

Growing In A New Direction

TOWN OF CHEEKTOWAGA
Erie County, New York

September 7, 2004

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 2004 Direct Discharge Flow Data Report prepared by Jon W. Nichy. Should you have any other questions or comments regarding this submittal, please contact this office @ 896-1777.

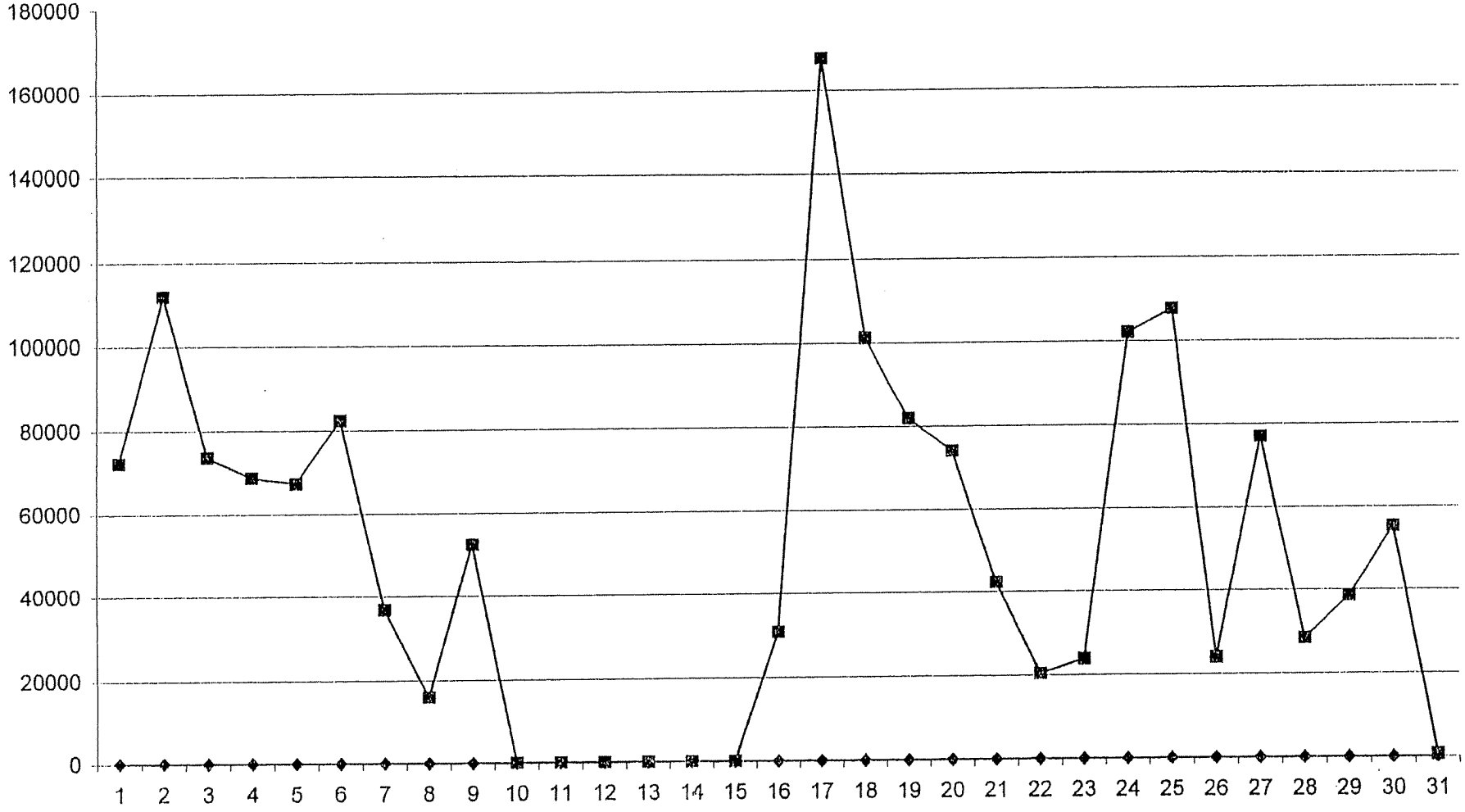
Yours truly,

Jon W. Nichy
Assistant Superintendent
Main Pump Station

7/31/04		1047934	0	1047935	
ugust-04	Time; 11:58pm unless otherwise stated	Totalizer Reading (Gallons)	Daily Total Discharge (Gallons)	Total Direct Discharge (Gallons)	Notes
1		1120024	72,089	1,120,024	
2		1231827	111,804	1,231,828	
3		1305319	73,492	1,305,320	
4		1373909	68,590	1,373,910	
5		1441124	67,215	1,441,125	
6		1523523	82,399	1,523,524	
7		1560272	36,749	1,560,273	
8		1576139	15,866	1,576,139	
9		1628545	52,406	1,628,545	
10		1628545	**0**	1,628,545	
11		1628545	**0**	1,628,545	
12		0	**0**	1,628,545	
13		0	**0**	1,628,545	
14		0	**0**	1,628,545	
15		0	**0**	1,628,545	
16		1659477	30,933	1,659,478	
17		1827212	167,735	1,827,213	
18		1928349	101,137	1,928,350	
19		2010323	81,974	2,010,324	
20		2084255	73,932	2,084,256	
21		2126626	42,372	2,126,628	
22		2147130	20,504	2,147,132	
23		2171028	23,898	2,171,030	
24		2273078	102,050	2,273,080	
25		2380629	107,551	2,380,631	
26		2404697	24,068	2,404,699	
27		2481524	76,827	2,481,526	
28		2510076	28,553	2,510,079	
29		2548554	38,478	2,548,557	
30		2603882	55328	2,603,885	
31		2604385	503	2,604,388	
		1,556,451	**1,556,453**	**1,556,453**	

0 Frequency of 0 Daily Discharge attributed to ongoing repairs at Pfohl Bros.site.
Automatic Level Controls not functioning, requiring pumps to be operated in manual mode.

August
2004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Main Pump Station No. 5

Lawrence E. Golas
Superintendent

Jon W. Nichy
Assistant Superintendent

Growing In A New Direction

TOWN OF CHEEKTOWAGA
Erie County, New York

October 5, 2004

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 2004 Direct Discharge Flow Data Report prepared by Jon W. Nichy. Should you have any other questions or comments regarding this submittal, please contact this office @ 896-1777.

Yours truly,

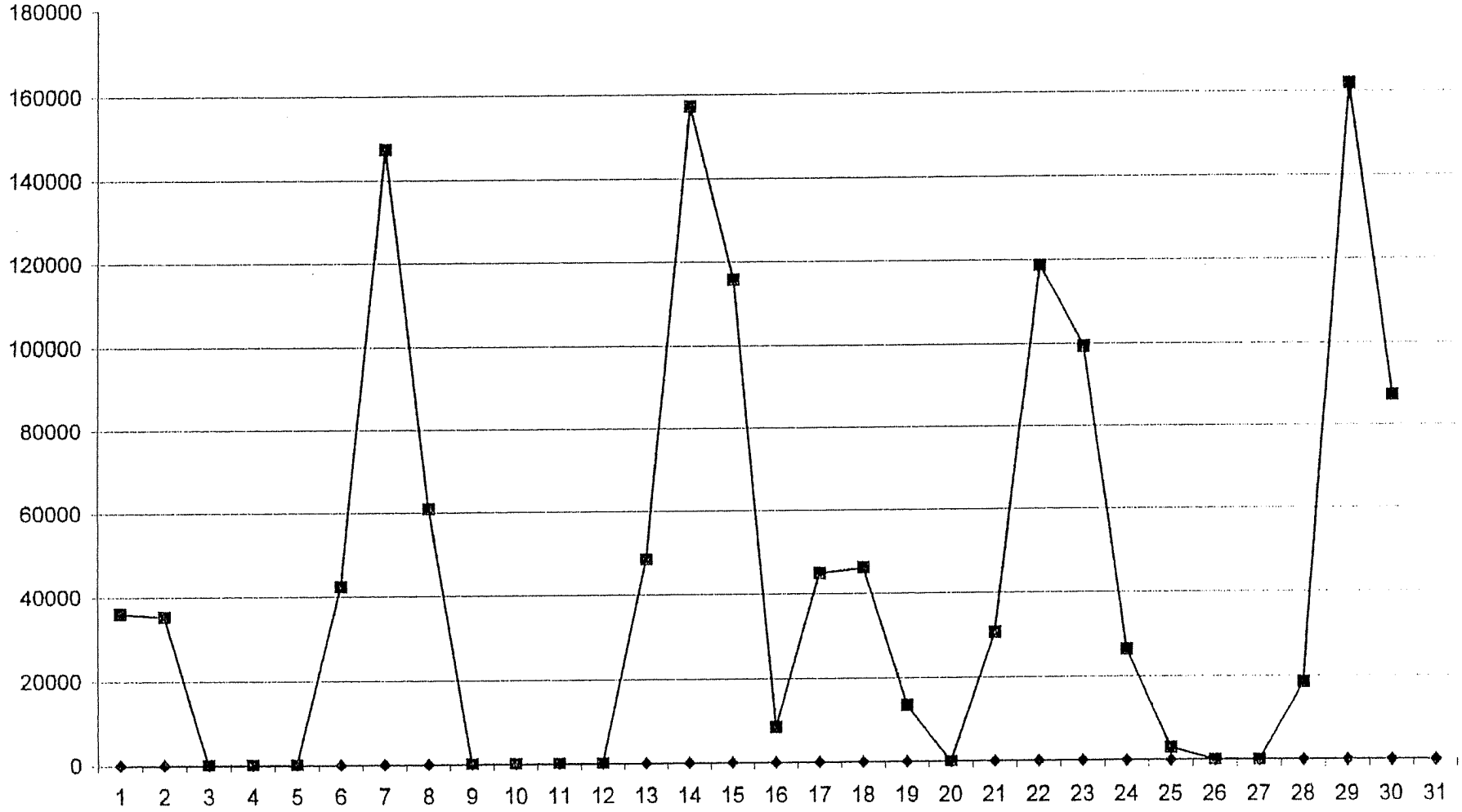
Jon W. Nichy
Assistant Superintendent
Main Pump Station

Direct Discharge Flow Data

8/31/04		2604385	503	2604388	
September-04	**Time; 11:58pm unless otherwise stated**	**Totalizer Reading (Gallons)**	**Daily Total Discharge (Gallons)**	**Total Direct Discharge (Gallons)**	**Notes**
1		2640525	36,141	2,640,529	
2		2675869	35,344	2,675,873	
3		2675869	**0**	2,675,873	
4		2675869	**0**	2,675,873	
5		2675869	**0**	2,675,873	
6		2718301	42,431	2,718,304	
7		2865624	147,323	2,865,627	
8		2926498	60,874	2,926,501	
9		2926498	**0**	2,926,501	
10		2926498	**0**	2,926,501	
11		2926498	**0**	2,926,501	
12		2926498	**0**	2,926,501	
13		2975042	48,544	2,975,045	
14		3132194	157,152	3,132,197	
15		3247792	115,597	3,247,794	
16		3256321	8,529	3,256,323	
17		3301331	45,010	3,301,333	
18		3347597	46,266	3,347,599	
19		3361272	13,675	3,361,274	
20		3361272	0	3,361,274	
21		3391906	30,634	3,391,908	
22		3510515	118,610	3,510,518	
23		3609838	99,323	3,609,841	
24		3636270	26,432	3,636,273	
25		3639343	3,074	3,639,347	
26		3639343	0	3,639,347	
27		3639343	0	3,639,347	
28		3657924	18,581	3,657,928	
29		38119664	161,740	3,819,668	
30		3907113	87448	3,907,116	
31					
		1,302,728	**1,302,728**	**1,302,728**	

0 Frequency of 0 Daily Discharge attributed to ongoing repairs at Pfohl Bros.site.
Automatic Level Controls not functioning, requiring pumps to be operated in manual mode.

September
2004



Main Pump Station No. 5

Lawrence E. Golas
Superintendent

Jon W. Nichy
Assistant Superintendent

Growing In A New Direction

TOWN OF CHEEKTOWAGA
Erie County, New York

November 4, 2004

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 2004 Direct Discharge Flow Data Report prepared by Jon W. Nichy. Should you have any other questions or comments regarding this submittal, please contact this office @ 896-1777.

Yours truly,

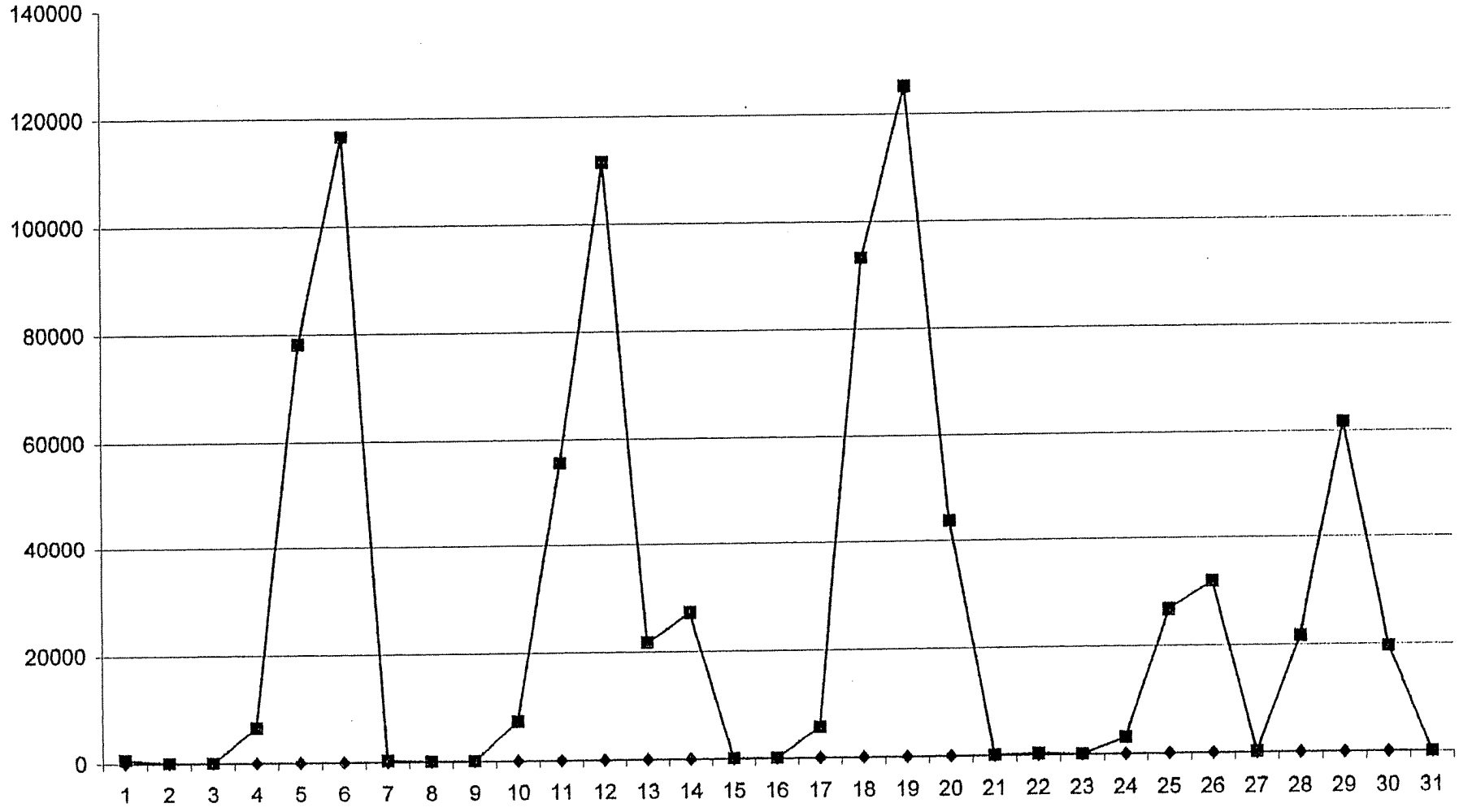
Jon W. Nichy
Assistant Superintendent
Main Pump Station

Direct Discharge Flow Data

9/30/04		3907113	87,448	3907116	
October-04	Time; 11:58pm unless otherwise stated	Totalizer Reading (Gallons)	Daily Total Discharge (Gallons)	Total Direct Discharge (Gallons)	Notes
1		3907811	698	3,907,814	
2		3907811	0	3,907,814	
3		3907811	0	3,907,814	
4		3914298	6,487	3,914,301	
5		3992413	78,115	3,992,416	
6		4109043	116,631	4,109,047	
7		4109328	285	4,109,332	
8		4109328	0	4,109,332	
9		4109328	0	4,109,332	
10		4116657	7,329	4,116,661	
11		4172139	55,482	4,172,143	
12		4283532	111,393	4,283,536	
13		4305239	21,708	4,305,244	
14		4332204	26,965	4,332,209	
15		4332204	0	4,332,209	
16		4332204	0	4,332,209	
17		4337929	5,725	4,337,934	
18		4430903	92,975	4,430,909	
19		4556078	125,175	4,556,084	
20		4599821	43,743	4,599,827	
21		4599849	29	4,599,856	
22		4600109	260	4,600,116	
23		4600109	0	4,600,116	
24		4603253	3,144	4,603,260	
25		4629844	26,591	4,629,851	
26		4661518	31,675	4,661,526	
27		4661740	222	4,661,748	
28		4683429	21,689	4,683,437	
29		4745091	61,662	4,745,099	
30		4764772	19682	4,764,781	
31		4764772	0	4,764,781	
		857,659	**857,665**	**857,665**	

0 Frequency of 0 Daily Discharge attributed to ongoing repairs at Pfohl Bros.site.
Automatic Level Controls not functioning, requiring pumps to be operated in manual mode.

October
2004



Main Pump Station No. 5

Lawrence E. Golas
Superintendent

Jon W. Nichy
Assistant Superintendent

Growing In A New Direction

TOWN OF CHEEKTOWAGA
Erie County, New York

December 6, 2004

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 2004 Direct Discharge Flow Data Report prepared by Jon W. Nichy. Should you have any other questions or comments regarding this submittal, please contact this office @ 896-1777.

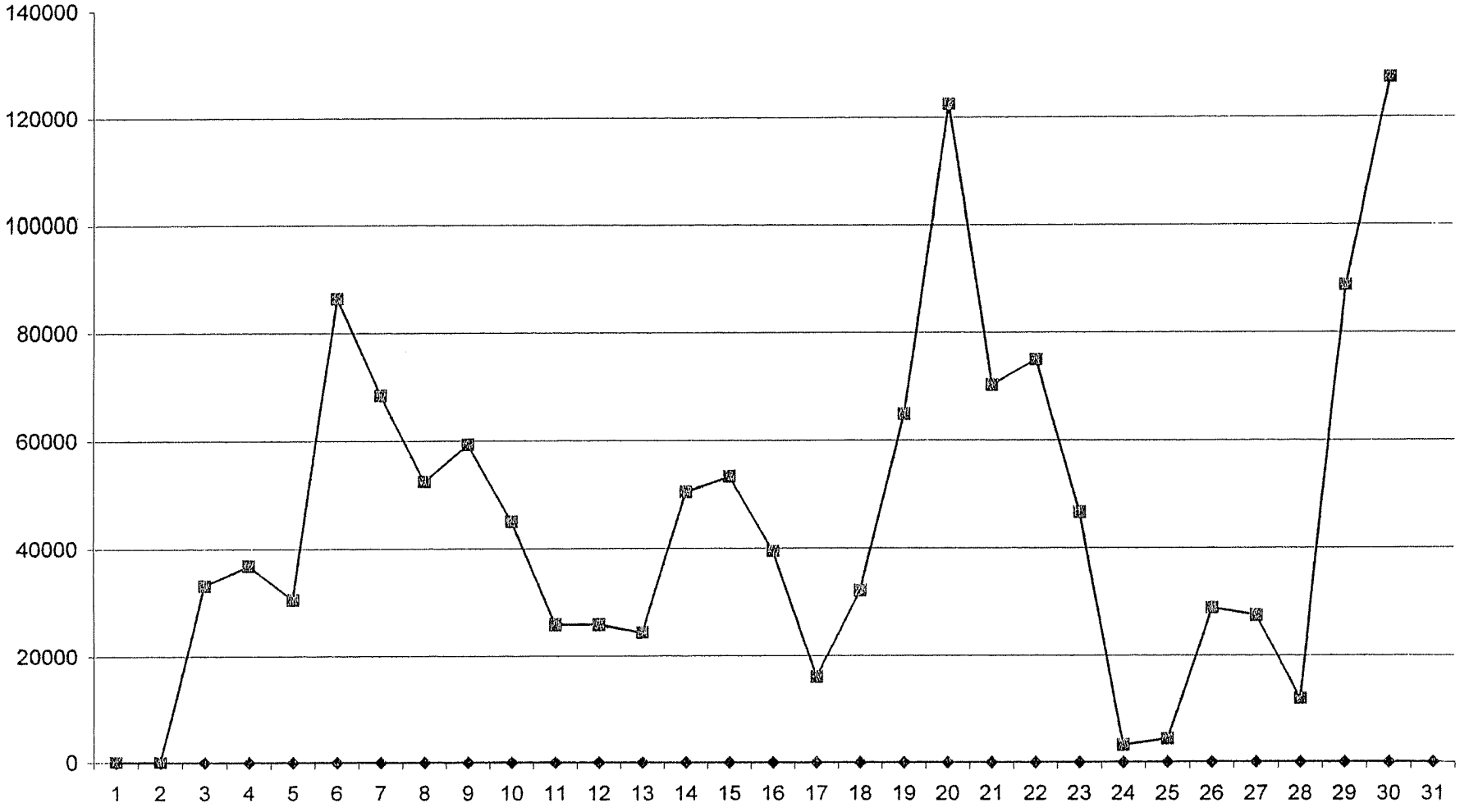
Yours truly,

Jon W. Nichy
Assistant Superintendent
Main Pump Station

Direct Discharge Flow Data

10/31/04		4764772	0	4764781	
November-04	**Time; 11:58pm unless otherwise stated**	**Totalizer Reading (Gallons)**	**Daily Total Discharge (Gallons)**	**Total Direct Discharge (Gallons)**	**Notes**
1		4764772	0	4,764,781	
2		4764772	0	4,764,781	
3		4797920	33,148	4,797,929	
4		4834724	36,805	4,834,734	
5		4865241	30,517	4,865,251	
6		4951626	86,385	4,951,636	
7		5020047	68,421	5,020,057	
8		5072521	52,474	5,072,531	
9		5131808	59,288	5,131,819	
10		5176857	45,049	5,176,868	
11		5202791	25,934	5,202,802	
12		5228702	25,911	5,228,713	
13		5253153	24,451	5,253,164	
14		5303685	50,532	5,303,696	
15		5357053	53,368	5,357,064	
16		5396475	39,422	5,396,486	
17		5412692	16,218	5,412,704	
18		5444835	32,143	5,444,847	
19		5509758	64,923	5,509,770	
20		5632306	122,549	5,632,319	
21		5702533	70,227	5,702,546	
22		5777511	74,978	5,777,524	
23		5824130	46,620	5,824,144	
24		5827333	3,203	5,827,347	
25		5831712	4,379	5,831,726	
26		5860527	28,815	5,860,541	
27		5888014	27,488	5,888,029	
28		5900115	12,101	5,900,130	
29		5988797	88,682	5,988,812	
30		6116325	127529	6,116,341	
31				6,116,341	
		1,351,553	**1,351,560**	**1,351,560**	

November
2004



Appendix C

APPENDIX C

HYDRAULIC MONITORING TABLES AND FIGURES

TABLE
FORMER PFOHL BROTHERS LANDFILL SITE
GROUNDWATER ELEVATIONS
MAY 2004

Location ID / Type	Northing	Easting	Ground Elevation (ft)	Casing Elevation (ft)	Meas.point (Riser)Elev.(ft)	Geol. Zone	Specific Gravity	Date / Time	Depth to Water (ft)	Water Elev. (ft)	Product Thick. (ft)	Corrected Water Elev. (ft)	Remark
GW-03S MNW	1073812.622	1114605.762	692.61	NA	693.80	S	1	5/3/2004 0949	2.06	691.74	0.00	691.74	
GW-04S MNW	1072284.456	1114685.127	690.76	NA	692.72	S	1	5/3/2004 1100	4.25	688.47	0.00	688.47	
GW-07S MNW	1071238.157	1117666.265	697.47	NA	699.51	S	1	5/3/2004 1052	4.85	694.66	0.00	694.66	
GW-08SR MNW	1073714.172	1116786.343	695.08	NA	697.50	S	1	5/3/2004 1002	8.40	689.10	0.00	689.10	
GW-28S MNW	1073129.479	1117648.927	698.60	NA	700.95	S	1	5/3/2004 1007	9.22	691.73	0.00	691.73	
GW-29S MNW	1072552.638	1117761.993	697.50	NA	699.63	S	1	5/3/2004 1017	6.06	693.57	0.00	693.57	
GW-30S MNW	1072096.109	1117743.563	693.67	NA	696.58	S	1	5/3/2004 1019	7.02	689.56	0.00	689.56	
GW-31S MNW	1071786.280	1117191.441	695.84	NA	698.62	S	1	5/3/2004 1022	3.75	694.87	0.00	694.87	
GW-32S MNW	1071613.793	1116364.200	696.19	NA	698.37	S	1	5/3/2004 1030	3.32	695.05	0.00	695.05	
GW-33S MNW	1072165.625	1115561.866	695.94	NA	698.24	S	1	5/3/2004 1040	4.25	693.99	0.00	693.99	
GW-34S MNW	1072979.205	1114730.200	692.51	NA	694.77	S	1	5/3/2004 0939	2.31	692.46	0.00	692.46	

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

TABLE
FORMER PFOHL BROTHERS LANDFILL SITE
GROUNDWATER ELEVATIONS
MAY 2004

Location ID / Type	Northing	Easting	Ground Elevation (ft)	Casing Elevation (ft)	Meas.point (Riser)Elev.(ft)	Geol. Zone	Specific Gravity	Date / Time	Depth to Water (ft)	Water Elev. (ft)	Product Thick. (ft)	Corrected Water Elev. (ft)	Remark
GW-35S MNW	1071701.925	1115985.585	696.19	NA	697.39	S	1	5/3/2004 1036	4.09	693.30	0.00	693.30	
MH-01 MH	1073806.665	1114810.501	698.62	NA	698.62	NA	1	5/3/2004 0944	10.57	688.05	0.00	688.05	
MH-03 MH	1073736.789	1115259.334	699.40	NA	699.40	NA	1	5/3/2004 0952	11.25	688.15	0.00	688.15	
MH-07 MH	1073838.229	1116243.757	696.82	NA	696.82	NA	1	5/3/2004 1001	9.43	687.39	0.00	687.39	
MH-10 MH	1073540.729	1117381.524	703.01	NA	703.01	NA	1	5/3/2004 1005	14.55	688.46	0.00	688.46	
MH-15 MH	1072531.567	1117761.125	699.02	NA	699.02	NA	1	5/3/2004 1015	15.05	683.97	0.00	683.97	
MH-16 MH	1072133.714	1117748.238	698.57	NA	698.57	NA	1	5/3/2004 1018	14.59	683.98	0.00	683.98	
MH-17 MH	1071813.137	1117180.019	702.16	NA	702.16	NA	1	5/3/2004 1021	18.15	684.01	0.00	684.01	
MH-20 MH	1071756.395	1115997.024	706.20	NA	706.20	NA	1	5/3/2004 1035	19.80	686.40	0.00	686.40	
MH-22 MH	1072158.023	1115589.309	698.05	NA	698.05	NA	1	5/3/2004 1039	9.23	688.82	0.00	688.82	
MH-25 MH	1072483.928	1114820.313	698.17	NA	698.17	NA	1	5/3/2004 0930	9.95	688.22	0.00	688.22	

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

TABLE
FORMER PFOHL BROTHERS LANDFILL SITE
GROUNDWATER ELEVATIONS
MAY 2004

Location ID / Type	Northing	Easting	Ground Elevation (ft)	Casing Elevation (ft)	Meas.point (Riser)Elev.(ft)	Geol. Zone	Specific Gravity	Date / Time	Depth to Water (ft)	Water Elev. (ft)	Product Thick. (ft)	Corrected Water Elev. (ft)	Remark
SG-01 SG	1073882.887	1114813.101		NA	690.00	S	1	5/3/2004 0945	-2.00	692.00	0.00	692.00	ues as negative for staff gua
SG-02	1073796.856	1115255.756						5/3/2004 0957	-2.10	-	0.00	-	
WW-01 MH	1073676.903	1115710.476		NA	684.02		1	5/3/2004 0956	-4.16	688.18	0.00	688.18	
WW-02 MH	1073684.724	1116792.311		NA	684.18		1	5/3/2004 1002	-5.36	689.54	0.00	689.54	
WW-03 MH	1073140.339	1117618.499		NA	683.80		1	5/3/2004 1008	-4.14	687.94	0.00	687.94	
WW-05 MH	1071661.368	1116370.876		NA	676.14		1	5/3/2004 1028	-8.88	685.02	0.00	685.02	
WW-06 MH	1072988.420	1114811.518		NA	681.89		1	5/3/2004 0934	-6.12	688.01	0.00	688.01	

NM - No Measurement

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

Type:
MH Manhole Monitoring Point
MNW Monitoring Well

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TABLE
FORMER PFOHL BROTHERS LANDFILL SITE
GROUNDWATER ELEVATIONS
JUNE 2004

Location ID / Type	Northing	Easting	Ground Elevation (ft)	Casing Elevation (ft)	Meas.point (Riser)Elev.(ft)	Geol. Zone	Specific Gravity	Date / Time	Depth to Water (ft)	Water Elev. (ft)	Product Thick. (ft)	Corrected Water Elev. (ft)	Remark
GW-03S MNW	1073812.622	1114605.762	692.61	NA	693.80	S	1	6/30/2004 1055	4.28	689.52	0.00	689.52	
GW-04S MNW	1072284.456	1114685.127	690.76	NA	692.72	S	1	6/30/2004 1121	5.47	687.25	0.00	687.25	
GW-07S MNW	1071238.157	1117666.265	697.47	NA	699.51	S	1	6/30/2004 1154	8.94	690.57	0.00	690.57	
GW-08SR MNW	1073714.172	1116786.343	695.08	NA	697.50	S	1	6/30/2004 1103	5.48	692.02	0.00	692.02	
GW-28S MNW	1073129.479	1117648.927	698.60	NA	700.95	S	1	6/30/2004 1111	7.81	693.14	0.00	693.14	
GW-29S MNW	1072552.638	1117761.993	697.50	NA	699.63	S	1	6/30/2004 1202	7.12	692.51	0.00	692.51	
GW-30S MNW	1072096.109	1117743.563	693.67	NA	696.58	S	1	6/30/2004 1205	6.36	690.22	0.00	690.22	
GW-31S MNW	1071786.280	1117191.441	695.84	NA	698.62	S	1	6/30/2004 1208	5.12	693.50	0.00	693.50	
GW-32S MNW	1071613.793	1116364.200	696.19	NA	698.37	S	1	6/30/2004 1212	4.80	693.57	0.00	693.57	
GW-33S MNW	1072165.625	1115561.866	695.94	NA	698.24	S	1	6/30/2004 1218	6.78	691.46	0.00	691.46	
GW-34S MNW	1072979.205	1114730.200	692.51	NA	694.77	S	1	6/30/2004 1042	4.91	689.86	0.00	689.86	

NM - No Measurement

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

Type:

MH	Manhole Monitoring Point
MNW	Monitoring Well

TABLE
FORMER PFOHL BROTHERS LANDFILL SITE
GROUNDWATER ELEVATIONS
JUNE 2004

Location ID / Type	Northing	Easting	Ground Elevation (ft)	Casing Elevation (ft)	Meas.point (Riser)Elev.(ft)	Geol. Zone	Specific Gravity	Date / Time	Depth to Water (ft)	Water Elev. (ft)	Product Thick. (ft)	Corrected Water Elev. (ft)	Remark
GW-35S MNW	1071701.925	1115985.585	696.19	NA	697.39	S	1	6/30/2004 1215	4.86	692.53	0.00	692.53	
MH-01 MH	1073806.665	1114810.501	698.62	NA	698.62	NA	1	6/30/2004 1302	8.95	689.67	0.00	689.67	
MH-03 MH	1073736.789	1115259.334	699.40	NA	699.40	NA	1	6/30/2004 1259	9.88	689.52	0.00	689.52	
MH-07 MH	1073838.229	1116243.757	696.82	NA	696.82	NA	1	6/30/2004 1255	8.01	688.81	0.00	688.81	
MH-10 MH	1073540.729	1117381.524	703.01	NA	703.01	NA	1	6/30/2004 1250	14.12	688.89	0.00	688.89	
MH-15 MH	1072531.567	1117761.125	699.02	NA	699.02	NA	1	6/30/2004 1238	10.14	688.88	0.00	688.88	
MH-16 MH	1072133.714	1117748.238	698.57	NA	698.57	NA	1	6/30/2004 1235	9.36	689.21	0.00	689.21	
MH-17 MH	1071813.137	1117180.019	702.16	NA	702.16	NA	1	6/30/2004 1230	13.23	688.93	0.00	688.93	
MH-20 MH	1071756.395	1115997.024	706.20	NA	706.20	NA	1	6/30/2004 1224	17.21	688.99	0.00	688.99	
MH-22 MH	1072158.023	1115589.309	698.05	NA	698.05	NA	1	6/30/2004 1220	8.54	689.51	0.00	689.51	
MH-25 MH	1072483.928	1114820.313	698.17	NA	698.17	NA	1	6/30/2004 1308	8.51	689.66	0.00	689.66	

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

TABLE
FORMER PFOHL BROTHERS LANDFILL SITE
GROUNDWATER ELEVATIONS
JUNE 2004

Location ID / Type	Northing	Easting	Ground Elevation (ft)	Casing Elevation (ft)	Meas.point (Riser)Elev.(ft)	Geol. Zone	Specific Gravity	Date / Time	Depth to Water (ft)	Water Elev. (ft)	Product Thick. (ft)	Corrected Water Elev. (ft)	Remark
SG-01 SG	1073882.887	1114813.101		NA	690.00	S	1	6/30/2004 1058	-1.50	691.50	0.00	691.50	values as negative for staff g
SG-02A SG	1073595.099	1117413.782		NA	690.00	S	1	6/30/2004 1103	-3.20	693.20	0.00	693.20	values as negative for staff g
WW-01 MH	1073676.903	1115710.476		NA	684.02		1	6/30/2004 1257	-8.88	692.90	0.00	692.90	es from PLC (not on same s
WW-02 MH	1073684.724	1116792.311		NA	684.18		1	6/30/2004 1252	-10.18	694.36	0.00	694.36	es from PLC (not on same s
WW-03 MH	1073140.339	1117618.499		NA	683.80		1	6/30/2004 1246	-10.81	694.61	0.00	694.61	es from PLC (not on same s
WW-05 MH	1071661.368	1116370.876		NA	676.14		1	6/30/2004 1227	-12.75	688.89	0.00	688.89	es from PLC (not on same s
WW-06 MH	1072988.420	1114811.518		NA	681.89		1	6/30/2004 1306	-11.47	693.36	0.00	693.36	es from PLC (not on same s

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

TABLE
FORMER PFOHL BROTHERS LANDFILL SITE
GROUNDWATER ELEVATIONS
SEPTEMBER 2004

Location ID / Type	Northing	Easting	Ground Elevation (ft)	Casing Elevation (ft)	Meas.point (Riser)Elev.(ft)	Geol. Zone	Specific Gravity	Date / Time	Depth to Water (ft)	Water Elev. (ft)	Product Thick. (ft)	Corrected Water Elev. (ft)	Remark
GW-03S MNW	1073812.622	1114605.762	692.61	NA	693.80	S	1	9/29/2004 0924	4.41	689.39	0.00	689.39	
GW-04S MNW	1072284.456	1114685.127	690.76	NA	692.72	S	1	9/29/2004 0823	5.55	687.17	0.00	687.17	
GW-07S MNW	1071238.157	1117666.265	697.47	NA	699.51	S	1	9/29/2004 1037	5.75	693.76	0.00	693.76	
GW-08SR MNW	1073714.172	1116786.343	695.08	NA	697.50	S	1	9/29/2004 0940	5.61	691.89	0.00	691.89	No J-plug in well
GW-28S MNW	1073129.479	1117648.927	698.60	NA	700.95	S	1	9/29/2004 0958	7.80	693.15	0.00	693.15	
GW-29S MNW	1072552.638	1117761.993	697.50	NA	699.63	S	1	9/29/2004 1030	7.77	691.86	0.00	691.86	
GW-30S MNW	1072096.109	1117743.563	693.67	NA	696.58	S	1	9/29/2004 1027	7.63	688.95	0.00	688.95	
GW-31S MNW	1071786.280	1117191.441	695.84	NA	698.62	S	1	9/29/2004 1023	4.58	694.04	0.00	694.04	
GW-32S MNW	1071613.793	1116364.200	696.19	NA	698.37	S	1	9/29/2004 1019	4.67	693.70	0.00	693.70	
GW-33S MNW	1072165.625	1115561.866	695.94	NA	698.24	S	1	9/29/2004 1007	6.56	691.68	0.00	691.68	
GW-34S MNW	1072979.205	1114730.200	692.51	NA	694.77	S	1	9/29/2004 0839	5.33	689.44	0.00	689.44	

NM - No Measurement

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

Type:

MH	Manhole Monitoring Point
MNW	Monitoring Well

TABLE
FORMER PFOHL BROTHERS LANDFILL SITE
GROUNDWATER ELEVATIONS
SEPTEMBER 2004

Location ID / Type	Northing	Easting	Ground Elevation (ft)	Casing Elevation (ft)	Meas.point (Riser)Elev.(ft)	Geol. Zone	Specific Gravity	Date / Time	Depth to Water (ft)	Water Elev. (ft)	Product Thick. (ft)	Corrected Water Elev. (ft)	Remark
GW-35S MNW	1071701.925	1115985.585	696.19	NA	697.39	S	1	9/29/2004 1013	4.60	692.79	0.00	692.79	
MH-01 MH	1073806.665	1114810.501	698.62	NA	698.62	NA	1	9/29/2004 0846	11.40	687.22	0.00	687.22	
MH-03 MH	1073736.789	1115259.334	699.40	NA	699.40	NA	1	9/29/2004 0930	11.21	688.19	0.00	688.19	
MH-07 MH	1073838.229	1116243.757	696.82	NA	696.82	NA	1	9/29/2004 0935	9.40	687.42	0.00	687.42	
MH-10 MH	1073540.729	1117381.524	703.01	NA	703.01	NA	1	9/29/2004 0943	14.48	688.53	0.00	688.53	
MH-15 MH	1072531.567	1117761.125	699.02	NA	699.02	NA	1	9/29/2004 1029	14.94	684.08	0.00	684.08	
MH-16 MH	1072133.714	1117748.238	698.57	NA	698.57	NA	1	9/29/2004 1026	14.44	684.13	0.00	684.13	
MH-17 MH	1071813.137	1117180.019	702.16	NA	702.16	NA	1	9/29/2004 1022	18.11	684.05	0.00	684.05	
MH-20 MH	1071756.395	1115997.024	706.20	NA	706.20	NA	1	9/29/2004 1012	19.74	686.46	0.00	686.46	
MH-22 MH	1072158.023	1115589.309	698.05	NA	698.05	NA	1	9/29/2004 1008	9.00	689.05	0.00	689.05	be likely hitting bottom @ 8.
MH-25 MH	1072483.928	1114820.313	698.17	NA	698.17	NA	1	9/29/2004 1042	11.08	687.09	0.00	687.09	

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

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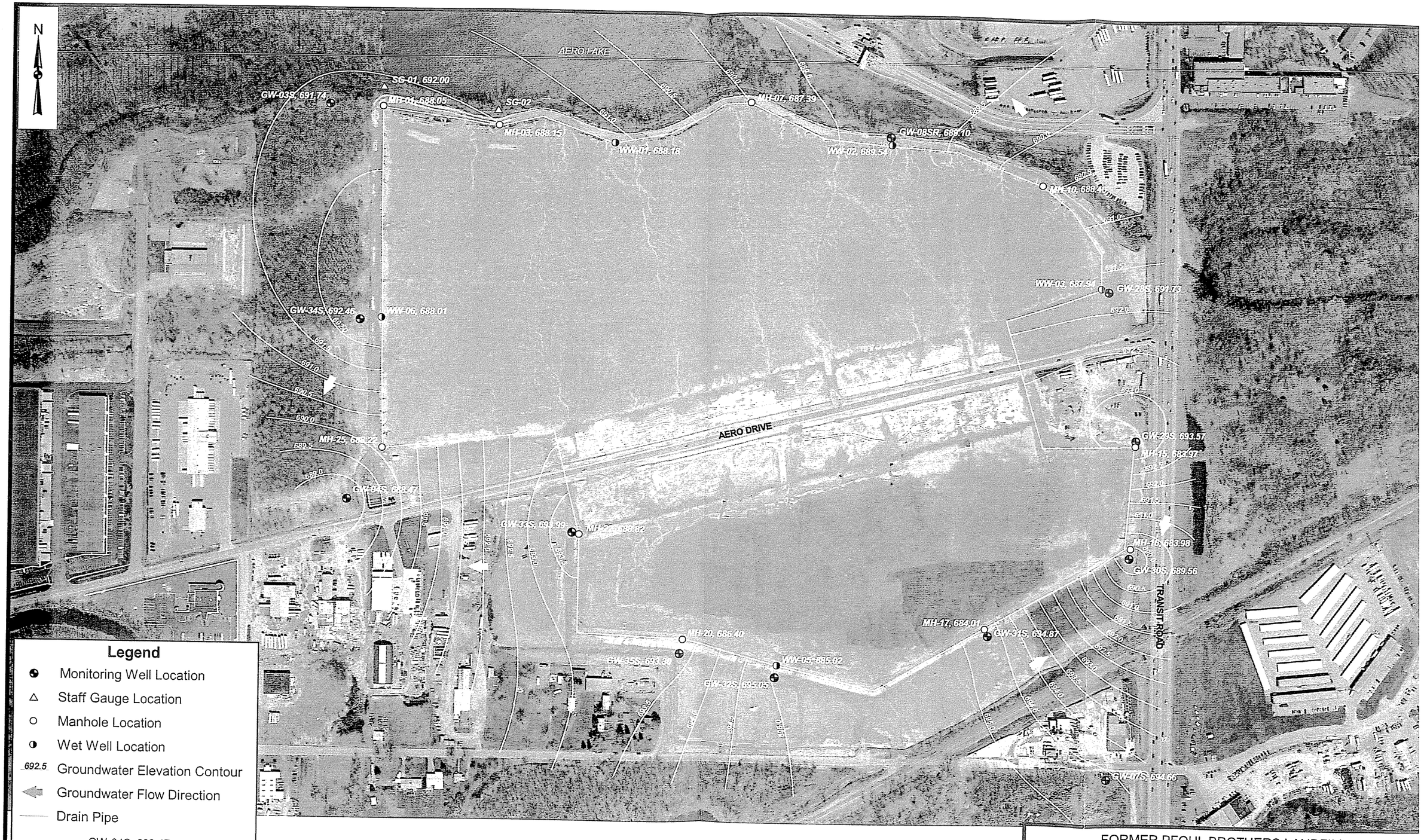
TABLE
FORMER PFOHL BROTHERS LANDFILL SITE
GROUNDWATER ELEVATIONS
SEPTEMBER 2004

Location ID / Type	Northing	Easting	Ground Elevation (ft)	Casing Elevation (ft)	Meas.point (Riser)Elev.(ft)	Geol. Zone	Specific Gravity	Date / Time	Depth to Water (ft)	Water Elev. (ft)	Product Thick. (ft)	Corrected Water Elev. (ft)	Remark
SG-01 SG	1073882.887	1114813.101		NA	690.00	S	1	9/29/2004 0847	-1.40	691.40	0.00	691.40	
SG-02	1073796.856	1115255.756						9/29/2004 0952	-3.08	-	0.00	-	
WW-01 MH	1073676.903	1115710.476		NA	684.02		1	9/29/2004 0715	-8.7	692.72	0.00	692.72	
WW-02 MH	1073684.724	1116792.311		NA	684.18		1	9/29/2004 0715	-4.5	688.68	0.00	688.68	
WW-03 MH	1073140.339	1117618.499		NA	683.80		1	9/29/2004 0715	-4.9	688.70	0.00	688.70	
WW-04 MH	1072057.563	1117610.508		NA	676.62		1	9/29/2004 0715	-7.3	683.92	0.00	683.92	
WW-05 MH	1071661.368	1116370.876		NA	676.14		1	9/29/2004 0715	-8.5	684.64	0.00	684.64	
WW-06 MH	1072988.420	1114811.518		NA	681.89		1	9/29/2004 0715	-5.7	687.59	0.00	687.59	

NM - No Measurement

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

Type:
MH Manhole Monitoring Point
MNW Monitoring Well



Legend

- Monitoring Well Location
- Staff Gauge Location
- Manhole Location
- Wet Well Location
- 692.5 Groundwater Elevation Contour
- Groundwater Flow Direction
- Drain Pipe

GW-04S, 688.47

Location ID — Groundwater Elevation (ft amsl)

NOTE:
Only Monitoring Wells used to generate groundwater elevation contours.

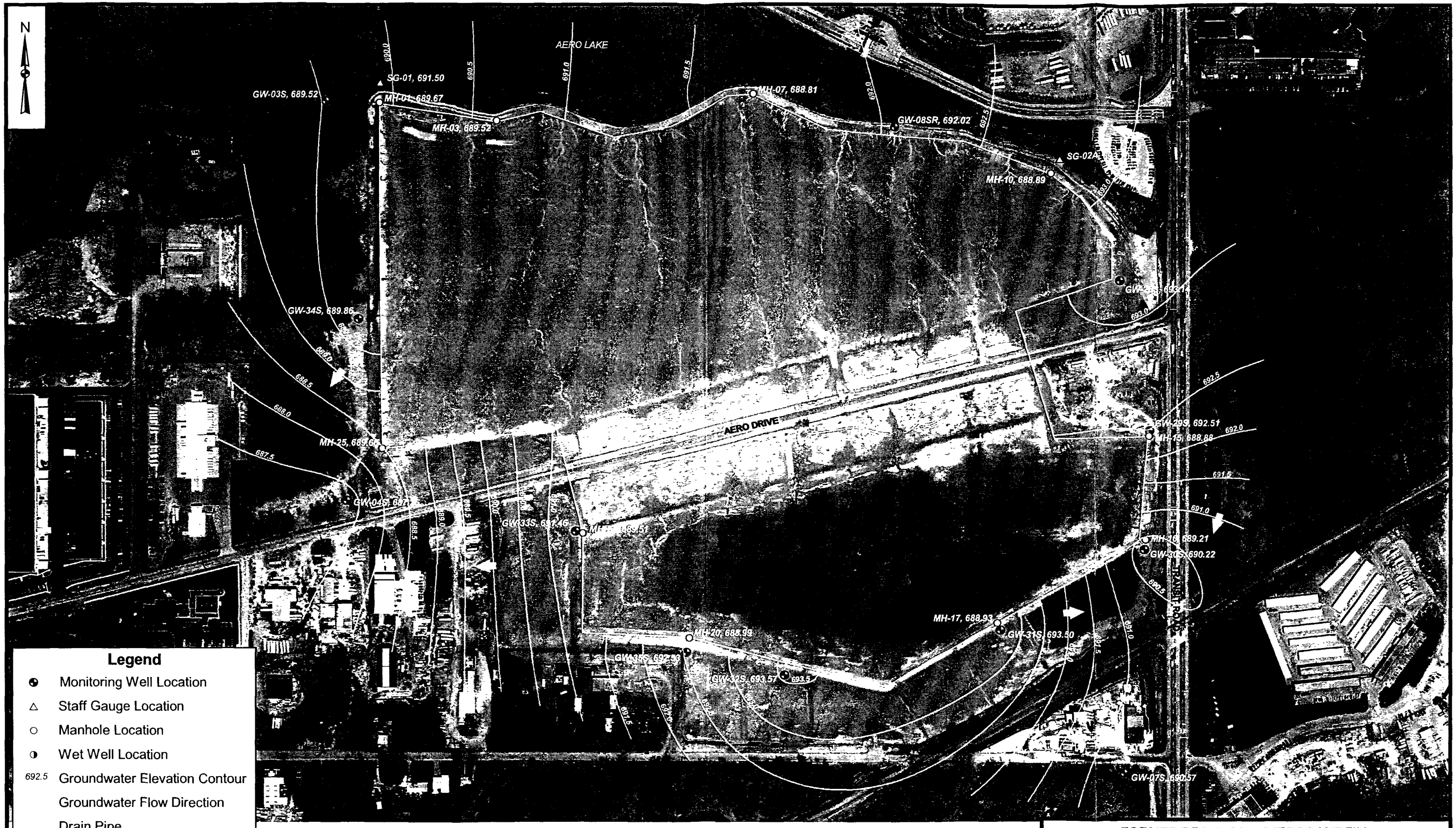
350 0 350 Feet

FORMER PFOHL BROTHERS LANDFILL
GROUNDWATER ELEVATION CONTOUR MAP
05/03/04

URS

FIGURE 1

N:\11172700.00000\GIS\ArcView\pfhol.apr 05/03/04 Groundwater Elevation Contours
12/28/2004



Legend

- Monitoring Well Location
- Staff Gauge Location
- Manhole Location
- Wet Well Location
- 692.5 Groundwater Elevation Contour
- Groundwater Flow Direction
- Drain Pipe

GW-04S, 687.25
Location ID — Groundwater Elevation (ft amsl)

NOTE:
(1) Only Monitoring Wells used to generate groundwater elevation contours
(2) System off

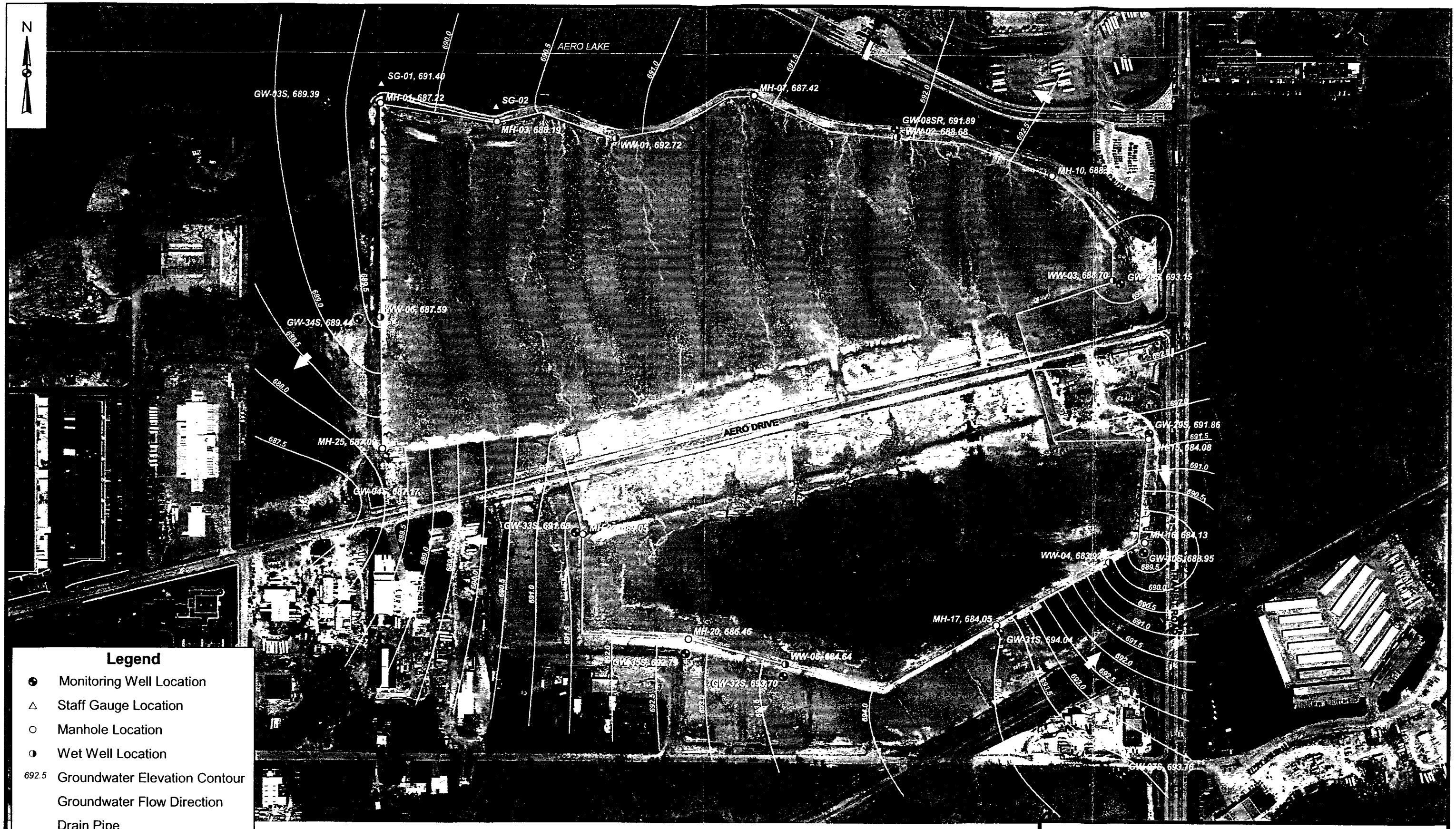
350 0 350 Feet

FORMER PFOHL BROTHERS LANDFILL
GROUNDWATER ELEVATION CONTOUR MAP
06/30/04

URS

FIGURE 2

N:\111\72700 00000\GIS\ArcView\phol apr 06\30\04 Groundwater Elevation Contours 12/28/2004



Legend

- Monitoring Well Location
- Staff Gauge Location
- Manhole Location
- Wet Well Location
- 692.5 Groundwater Elevation Contour
- Groundwater Flow Direction
- Drain Pipe

GW-04S, 687.17
Location ID
Groundwater Elevation (ft amsl)

NOTE
Only Monitoring Wells used to generate groundwater elevation contours.

350 0 350 Feet

FORMER PFOHL BROTHERS LANDFILL
GROUNDWATER ELEVATION CONTOUR MAP
09/29/04

URS

FIGURE 3

N:\11172700 00000\GIS\ArcView\pfhol.apr 09/29/04 Groundwater Elevation Contours
12/21/2004

Appendix D

APPENDIX D

GROUNDWATER PURGE AND COLLECTION LOGS

WELL INSPECTION SUMMARY

Project Name: *Pfohl Brothers Landfill* Project Number: *11172700.00002*

Inspection Crew Members: *R. Murphy, A. Brayman* Supervisor: *R. Murphy*

Date(s) of Inspection: *September 29, 2004*

Well I.D. Number	Lock	Surface Seal	Protective Casing	Riser	Water Level (ft. BTOC)	Well Depth (ft. BTOC)	Other Comments
GW-3S	OK	OK	OK	OK	4.41	13.49	Needs J-Plug
GW-3D	Cut-off, new lock needed	OK	OK	OK	2.02	35.93	Needs J-Plug
MW-34S	OK	OK	OK	OK	5.33	10.27	

Additional Comments: _____

WELL INSPECTION SUMMARY

Project Name: *Pfohl Brothers Landfill* Project Number: *11172700.00002*

Inspection Crew Members: *R. Murphy, A. Brayman* Supervisor: *R. Murphy*

Date of Inspection: *September 30, 2004*

Well I.D. Number	Lock	Surface Seal	Protective Casing	Riser	Water Level (ft. BTOC)	Well Depth (ft. BTOC)	Other Comments
GW-4S	OK	OK	OK	OK	5.59	16.48	
GW-4D	OK	OK	OK	OK	12.60	45.46	
GW-08SR	OK	OK	OK	OK	5.61	13.30	Needs J-Plug
GW-08D	OK	OK	OK	OK	5.92	36.88	
GW-28S	OK	OK	OK	OK	7.93	15.83	

Additional Comments: _____

WELL INSPECTION SUMMARY

Project Name: *Pfohl Brothers Landfill* Project Number: *11172700.00002*

Inspection Crew Members: *R. Murphy, A. Brayman* Supervisor: *R. Murphy*

Date of Inspection: *October 1, 2004*

Well I.D. Number	Lock	Surface Seal	Protective Casing	Riser	Water Level (ft. BTOC)	Well Depth (ft. BTOC)	Other Comments
GW-26D	OK	OK	OK	OK	6.82	41.01	
GW-29S	OK	OK	OK	OK	7.90	20.28	
GW-30S	OK	OK	OK	OK	7.78	18.24	
GW-31S	OK	OK	OK	OK	4.81	9.84	
GW-32S	OK	OK	OK	OK	4.04	10.19	
GW-33S	OK	OK	OK	OK	6.75	8.47	
GW-35S	OK	OK	OK	OK	4.36	7.75	

Additional Comments: _____

WELL INSPECTION SUMMARY

Project Name: *Pfohl Brothers Landfill* Project Number: *11172700.00002*

Inspection Crew Members: *R. Murphy, A. Brayman* Supervisor: *R. Murphy*

Date of Inspection: *October 2, 2004*

Well I.D. Number	Lock	Surface Seal	Protective Casing	Riser	Water Level (ft. BTOC)	Well Depth (ft. BTOC)	Other Comments
GW-1S	Absent	OK	OK	OK	3.51	15.21	
GW-1D	OK	OK	OK	OK	3.41	39.98	
GW-7S	OK	OK	OK	OK	5.90	35.68	
GW-7D	OK	OK	OK	OK	22.29	60.88	

Additional Comments: _____

WELL PURGING LOG

URS Corporation

SITE NAME: Pfohl Brothers Landfill WELL NO.: GW-1S

PROJECT NO.: 11172700.00002

STAFF: R. Murphy, A. Brayman

DATE(S): October 2, 2004

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	15.21	1"	0.040
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	3.51	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	11.70	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)	=	2.0	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 3)	=	6.0	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	7	8"	2.60

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

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)										
	0	2	4	6	7						
pH	7.32	7.30	7.32	7.15	7.18						
SPEC. COND. (umhos)	1,930	1,610	1,530	1,780	1,920						
TEMPERATURE (^{0}F)	62.1	61.0	60.9	60.5	60.7						
TURBIDITY (NTU)	239	81.2	59.9	16.1	15.1						

COMMENTS:

Purged using suction lift pump and dedicated tubing.

WELL PURGING LOG

URS Corporation

SITE NAME: Pfohl Brothers Landfill WELL NO.: GW-1D

PROJECT NO.: 11172700.00002

STAFF: R. Murphy, A. Brayman

DATE(S): October 2, 2004

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	39.98	1"	0.040
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	3.41	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	36.57	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.38	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	13.9	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 3)	=	41.7	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	80	8"	2.60

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

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)										
	0	8	16	24	32	40	48	56	64	72	80
pH	7.78	7.5	7.4	7.4	7.4	7.5	7.4	7.3	7.3	7.3	7.3
SPEC. COND. (umhos)	1,100	1,080	1,060	1,120	1,130	1,120	1,110	1,120	1,110	1,130	1,140
TEMPERATURE (^{0}F)	58.0	56.8	55.1	55.0	55.1	55.0	55.0	54.9	54.6	54.7	55.0
TURBIDITY (NTU)	>1000	16	2	1	0	0	0	0	0	0	0

COMMENTS:

Well purged with dedicated submersible pump & tubing, slight H2S odor.

WELL PURGING LOG

URS Corporation

SITE NAME: Pfohl Brothers Landfill WELL NO.: GW-3S

PROJECT NO.: 11172700.00002

STAFF: R. Murphy, A. Brayman

DATE(S): September 29, 2004

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	13.49	1"	0.040
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	4.41	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	9.08	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.17	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	1.5	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 3)	=	4.6	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	7	8"	2.60

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

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	0	2	4	5	6	7					
pH	7.22	7.11	7.14	7.21	7.04	7.06					
SPEC. COND. (umhos)	1,080	1,050	1,070	1,050	1,010	1,000					
TEMPERATURE (^{0}F)	67.9	66.9	67.5	67.4	64.0	63.5					
TURBIDITY (NTU)	596	120	79.7	49.6	48.6	50.4					

COMMENTS:

Well purged using dedicated bailer.
Abundant sand & silt in and around top of riser pipe, appears to be related to ant colony inside well casing.

WELL PURGING LOG

URS Corporation

SITE NAME: Pfohl Brothers Landfill WELL NO.: GW-3D

PROJECT NO.: 11172700.00002

STAFF: R. Murphy, A. Brayman

DATE(S): September 29-30, 2004

1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	35.93
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	2.02
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	33.91
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.38
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	12.9
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 3)	=	38.7
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	72

WELL ID.	VOL. (GAL/FT)
1"	0.040
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

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

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)										
	0	8	16	24	32	40	48	56	64	72	
pH	7.26	7.20	7.17	7.16	7.14	7.28	7.21	7.09	7.06	7.06	
SPEC. COND. (umhos)	1,310	1,320	1,320	1,300	1,310	1,310	1,310	1,310	1,310	1,320	
TEMPERATURE (^{0}F)	58.1	57.0	56.9	56.3	56.3	56.2	56.1	55.8	56.3	56.8	
TURBIDITY (NTU)	6.18	5.67	6.12	5.70	5.71	5.95	5.59	5.68	5.54	5.55	

COMMENTS:

Well purged using dedicated submersible pump and tubing.

WELL PURGING LOG

URS Corporation

SITE NAME: Pfohl Brothers Landfill WELL NO.: GW-4S

PROJECT NO.: 11172700.00002

STAFF: R. Murphy, A. Brayman

DATE(S): September 30 - October 1, 2004

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	16.48	1"	0.040
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	5.59	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	10.89	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.17	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	1.9	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 3)	=	5.6	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	5.5	8"	2.60

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

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	0	1	3	4	5	6	Sample				
pH	8.11	7.97	7.84	7.78	7.70	7.67	7.78				
SPEC. COND. (umhos)	560	460	440	440	430	430	380				
TEMPERATURE (^{0}F)	67.8	64.0	62.5	61.9	61.2	61.3	60.9				
TURBIDITY (NTU)	92.5	148	128	153	151	537	29				

COMMENTS:

Well purged with suction lift pump followed by bailing. Well dry at 5.5 gallons removed (9/30/04).
Well sampled on October 1 due to slow recovery.

WELL PURGING LOG

URS Corporation

SITE NAME: Pfohl Brothers Landfill WELL NO.: GW-4D

PROJECT NO.: 11172700.00002

STAFF: R. Murphy, A. Brayman

DATE(S): September 30 , 2004

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	45.46	1"	0.040
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	12.60	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	32.86	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.38	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	12.5	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 3)	=	37.5	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	72	8"	2.60

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

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)										
	0	8	16	24	32	40	48	56	64	72	
pH	7.9	7.7	7.4	7.4	7.5	7.5	7.3	7.4	7.4	7.4	
SPEC. COND. (umhos)	1,280	1,310	1,350	1,240	1,290	1,290	1,350	1,330	1,320	1,310	
TEMPERATURE (^{0}F)	NM(1)									→	
TURBIDITY (NTU)	49	34	>1,000	>1,000	>1,000	>1,000	723	823	720	738	

COMMENTS:

Difficulty getting submersible pump beyond 25 ft. (approx.), 16 gal. evacuated using dedicated submersible pump. Purged remaining water using tubing with terminal foot valve after 16 gals. evacuated. Water is black with organic matter.

(1) NM = Not Measured.

WELL PURGING LOG

URS Corporation

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

PROJECT NO.: 11172700.00002

STAFF: R. Murphy, A. Brayman

DATE(S): October 2, 2004

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	35.68	1"	0.040
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	5.90	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	29.78	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)	=	15.2	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	10	8"	2.60

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

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	0	2	4	6	8	10					
pH	8.12	7.68	7.51	7.41	7.60	7.90					
SPEC. COND. (umhos)	480	430	420	440	420	600					
TEMPERATURE (^{0}F)	62.4	60.4	58.9	60.4	60.4	NM(1)					
TURBIDITY (NTU)	138	41.4	44.8	17.6	21.8	26					

COMMENTS:

Well purged with suction lift pump followed by bailing, dry at 8.5 gals. removed (approx.).
Sample collected after adequate volume is available, approx. 4.5 hrs later.
NM = Not Measured

WELL PURGING LOG

URS Corporation

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

PROJECT NO.: 11172700.00002

STAFF: R. Murphy, A. Brayman

DATE(S): October 2-3, 2004

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	60.88	1"	0.040
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	22.29	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	38.59	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.38	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	14.7	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 3)	=	44.0	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	25	8"	2.60

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

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	0	8	16	25							
pH	8.4	8.2	8.2	8.2							
SPEC. COND. (umhos)	690	680	690	690							
TEMPERATURE (^{0}F)	55.3	54.9	54.7	54.6							
TURBIDITY (NTU)	153	20	21	22							

COMMENTS:

Well purged using dedicated pump and tubing followed by bailing, dry at 25 gal. (approx.) removed.
Slow recharge rate, sampled on 10/3/04 @ 10:40 hrs.

WELL PURGING LOG

URS Corporation

SITE NAME: Pfohl Brothers Landfill WELL NO.: GW-8SR

PROJECT NO.: 11172700.00002

STAFF: R. Murphy, A. Brayman

DATE(S): September 30, 2004

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	13.30	1"	0.040
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	5.61	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	7.69	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.17	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	1.3	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 3)	=	3.9	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	5	8"	2.60

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

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)										
	0	2	3	4	5						
pH	7.11	6.94	6.92	6.88	6.98						
SPEC. COND. (umhos)	1,440	1,470	1,370	1,310	1,380						
TEMPERATURE (^{0}F)	59.6	59.2	58.8	58.7	60.1						
TURBIDITY (NTU)	>1,000	>1,000	>1,000	>1,000	139						

COMMENTS:

Purged using suction lift pump & dedicated tubing.

WELL PURGING LOG

URS Corporation

SITE NAME: Pfohl Brothers Landfill WELL NO.: GW-8D

PROJECT NO.: 11172700.00002

STAFF: R. Murphy, A. Brayman

DATE(S): September 30, 2004

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	36.88	1"	0.040
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	5.92	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	30.96	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.38	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	11.8	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 3)	=	35.3	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	62	8"	2.60

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

	ACCUMULATED VOLUME PURGED (GALLONS)											
PARAMETERS	0	6	12	18	24	30	36	42	48	54	60	62
pH	7.06	7.05	7.07	7.10	7.09	7.08	7.10	7.11	7.09	7.10	7.10	7.00
SPEC. COND. (umhos)	1,400	1,010	1,000	1,010	990	990	980	980	990	980	970	970
TEMPERATURE (^{0}F)	58.1	56.9	57.9	60.1	59.1	59.4	58.5	58.5	59.4	59.1	58.7	58.4
TURBIDITY (NTU)	19.5	7.10	6.60	6.50	6.27	6.31	6.09	6.21	6.09	6.21	5.88	5.81

COMMENTS:

Purged using dedicated pump and tubing.
Water slightly gray colored, sulfur odor present. Sample bailer coated with black deposits.

WELL PURGING LOG

URS Corporation

SITE NAME: Pfohl Brothers Landfill WELL NO.: GW-26D

PROJECT NO.: 11172700.00002

STAFF: R. Murphy, A. Brayman

DATE(S): October 1, 2004

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	41.01	1"	0.040
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	6.82	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	34.19	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.38	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	13.0	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 3)	=	39.0	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	70	8"	2.60

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

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	0	10	20	30	40	50	60	70			
pH	7.75	7.62	7.53	7.39	7.38	7.34	7.36	7.33			
SPEC. COND. (umhos)	1,690	1,640	1,670	1,650	1,670	1,660	1,670	1,720			
TEMPERATURE (^{0}F)	65.3	61.3	62.8	62.6	64.6	63.9	64.7	67.4			
TURBIDITY (NTU)	9.19	65.9	7.40	6.12	11.6	9.23	6.23	6.01			

COMMENTS:

Purged using dedicated pump and tubing.
Purge water was initially clear, became more turbid (rusty brown color). Turbidity began to diminish at approx. 13 - 14 gals. evacuated.

WELL PURGING LOG

URS Corporation

SITE NAME: Pfohl Brothers Landfill WELL NO.: GW-28S

PROJECT NO.: 11172700.00002

STAFF: R. Murphy, A. Brayman

DATE(S): September 30, 2004

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	15.83	1"	0.040
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	7.93	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	7.90	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.17	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	1.3	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 3)	=	4.0	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	6	8"	2.60

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

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)										
	0	1	2	3	4	5	6				
pH	7.06	7.01	6.97	6.93	7.00	6.89	7.01				
SPEC. COND. (umhos)	1,450	1,560	1,500	1,540	1,550	1,570	1,640				
TEMPERATURE (^{0}F)	67.1	65.1	62.6	62.5	61.4	61.9	64.4				
TURBIDITY (NTU)	>1,000	>1,000	>1,000	256	50.4	24.8	10.12				

COMMENTS:

Purged using suction lift pump and dedicated tubing. Fine sand in purge water.
Sample bailer coated with black precipitate.

WELL PURGING LOG

URS Corporation

SITE NAME: Pfohl Brothers Landfill WELL NO.: GW-29S

PROJECT NO.: 11172700.00002

STAFF: R. Murphy, A. Brayman

DATE(S): October 1, 2004

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	20.28	1"	0.040
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	7.90	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	12.38	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)	=	2.1	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 3)	=	6.3	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	10	8"	2.60

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

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)										
	0	2	4	5	6	7	8	9	10		
pH	7.1	7.2	7.2	7.3	7.4	7.3	7.4	7.4	7.4		
SPEC. COND. (umhos)	1,150	1,180	1,170	1,160	1,110	1,060	1,010	1,000	1,000		
TEMPERATURE (^{0}F)	NM (1)	→									
TURBIDITY (NTU)	>1,000	>1,000	921	403	507	53.3	40.1	47.0	18.7		

COMMENTS:

Purged using suction lift pump and dedicated tubing. Well dry at 5.8 gals. evacuated, resume purging 20 minutes later.
NM = Not Measured.

WELL PURGING LOG

URS Corporation

SITE NAME: Pfohl Brothers Landfill WELL NO.: GW-30S

PROJECT NO.: 11172700.00002

STAFF: R. Murphy, A. Brayman

DATE(S): October 1, 2004

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	18.24	1"	0.040
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	7.78	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	10.46	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.17	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	1.8	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 3)	=	5.3	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	6	8"	2.60

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

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)										
	0	1	2	3	4	5	6				
pH	6.9	7.0	7.0	7.0	7.0	7.0	7.0				
SPEC. COND. (umhos)	>1,990	270	350	220	250	220	220				
TEMPERATURE (^{0}F)	NM (1)	→									
TURBIDITY (NTU)	>1,000	109.4	33.3	32.9	21.6	16.8	5.26				

COMMENTS:

Purged using suction lift pump and dedicated tubing. Iron particulates in well after 2 gals. (approx.) evacuated.
NM = Not Measured

WELL PURGING LOG

URS Corporation

SITE NAME: Pfohl Brothers Landfill WELL NO.: GW-31S

PROJECT NO.: 11172700.00002

STAFF: R. Murphy, A. Brayman

DATE(S): October 1, 2004

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	9.84	1"	0.040
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	4.81	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	5.03	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)	=	0.9	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 3)	=	2.6	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	1.5	8"	2.60

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

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	0	1	sample								
pH	7.40	7.10	7.30								
SPEC. COND. (umhos)	1,130	1,340	1,240								
TEMPERATURE (^{0}F)	NM (1)	→									
TURBIDITY (NTU)	404	>1,000	234								

COMMENTS:

Purged using dedicated bailer. Well dry at 1.5 gals. evacuated. Allow well to recharge and collect sample.
NM = Not Measured

WELL PURGING LOG

URS Corporation

SITE NAME: Pfohl Brothers Landfill WELL NO.: GW-32S

PROJECT NO.: 11172700.00002

STAFF: R. Murphy, A. Brayman

DATE(S): October 1, 2004

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	10.19	1"	0.040
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	4.04	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	6.15	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.17	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	1.0	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 3)	=	3.1	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	4	8"	2.60

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

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)										
	0	1	2	3	4						
pH	NM (1)	→									
SPEC. COND. (umhos)	NM	→									
TEMPERATURE (^{0}F)	NM	→									
TURBIDITY (NTU)	71.9	12.7	41.6	16.8	13.9						

COMMENTS:

pH, conductivity, temperature malfunctioning.
NM = Not Measured

WELL PURGING LOG

URS Corporation

SITE NAME: Pfohl Brothers Landfill WELL NO.: GW-33S

PROJECT NO.: 11172700.00002

STAFF: R. Murphy, A. Brayman

DATE(S): October 1, 2004

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	8.47	1"	0.040
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	6.75	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	1.72	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)	=	0.3	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 3)	=	0.9	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	1	8"	2.60

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

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)										
	0	0.25	0.5	0.75	1						
pH	7.40	7.27	7.35	7.36	7.45						
SPEC. COND. (umhos)	960	940	940	1,010	1,050						
TEMPERATURE (^{0}F)	59.0	60.1	60.0	60.3	60.9						
TURBIDITY (NTU)	277	167	120	291	224						

COMMENTS:

Well purged using dedicated bailer, dry at 1 gal. evacuated. Returned later (4.5 hrs and 5.5 hrs) to collect sample.

WELL PURGING LOG

URS Corporation

SITE NAME: Pfohl Brothers Landfill WELL NO.: GW-34S

PROJECT NO.: 11172700.00002

STAFF: R. Murphy, A. Brayman

DATE(S): September 29, 2004

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	10.27	1"	0.040
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	5.33	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	4.94	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)	=	0.8	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 3)	=	2.5	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	4	8"	2.60

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

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	0	1	2	3	4						
pH	5.95	6.53	6.66	6.76	6.88						
SPEC. COND. (umhos)	1,427	1,345	1,350	1,360	1,330						
TEMPERATURE (^{0}F)	66.8	64.9	63.9	63.9	64.5						
TURBIDITY (NTU)	153	88.3	59.8	62.1	66.0						

COMMENTS:

Well purged with dedicated bailer, water is initially black colored and the bailer is coated with black percipitate. Slow recharge after 2.5 gals. (approx.), several return visits needed to fill entire set of sample containers.

WELL PURGING LOG

URS Corporation

SITE NAME: Pfohl Brothers Landfill WELL NO.: GW-35S

PROJECT NO.: 11172700.00002

STAFF: R. Murphy, A. Brayman

DATE(S): October 1, 2004

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	7.75	1"	0.040
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	4.36	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	3.39	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)	=	0.6	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 3)	=	1.7	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	2	8"	2.60

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

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	0	0.5	1	1.5	2	sample					
pH	7.86	7.65	7.61	7.60	7.61	7.65					
SPEC. COND. (umhos)	846	1,060	1,050	1,040	1,010	1,040					
TEMPERATURE (^{0}F)	63.4	64.1	64.4	64.9	65.3	66.9					
TURBIDITY (NTU)	21.3	145	162	155	107.6	69.5					

COMMENTS:

Well purged using dedicated bailer.

GROUNDWATER SAMPLING - SAMPLE COLLECTION DATA SHEET

Project Name: *Pfohl Brothers Landfill* Project Number: *11172700.00002*

Sampling Crew Members: *R. Murphy, A. Brayman* Supervisor: *R. Murphy*

Date of Inspection: *September 29, 2004*

Sample I.D. Number	*Well Number*	*Well Volume (gal.)*	*Volume Purged (gal.)*	*Sample Time*	*Sample Description*	*Analysis Required*	*Chain-of-Custody Number*
GW-34S	GW-34S	0.8	4	13:40	Groundwater	VOCs/SVOCs/ PCBs/Metals/ Dioxins/Cyanide	1371
GW-3S	GW-35S	1.5	7	15:16	Groundwater		
Trip Blank	---	---	---	---	Trip Blank		

Additional Comments: _____

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GROUNDWATER SAMPLING - SAMPLE COLLECTION DATA SHEET

Project Name: *Pfohl Brothers Landfill* Project Number: *11172700.00002*

Sampling Crew Members: *R. Murphy, A. Brayman* Supervisor: *R. Murphy*

Date of Inspection: *September 30, 2004*

Sample I.D. Number	*Well Number*	*Well Volume (gal.)*	*Volume Purged (gal.)*	*Sample Time*	*Sample Description*	*Analysis Required*	*Chain-of-Custody Number*
GW-3D	GW-3D	12.9	72	9:30	Groundwater	VOCs/SVOCs/ PCBs/Metals/ Dioxins/Cyanide	1373
GW-3D MS	GW-3D	---	---	9:30	Matrix Spike		
GW-3D MSD	GW-3D	---	---	9:30	Matrix Spike Duplicate		
GW-8SR	GW-8SR	1.3	5	10:38	Groundwater		
GW-8D	GW-8D	11.8	62	11:40	Groundwater		
GW-8A	GW-8D	---	---	---	Field Replicate		
GW-28S	GW-28S	1.3	6	14:20	Groundwater		
Trip Blank	---	---	---	---	Trip Blank		

Additional Comments: _____

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GROUNDWATER SAMPLING - SAMPLE COLLECTION DATA SHEET

Project Name: *Pfohl Brothers Landfill* Project Number: *11172700.00002*

Sampling Crew Members: *R. Murphy, A. Brayman* Supervisor: *R. Murphy*

Date of Inspection: *October 1, 2004*

Sample I.D. Number	*Well Number*	*Well Volume (gal.)*	*Volume Purged (gal.)*	*Sample Time*	*Sample Description*	*Analysis Required*	*Chain-of-Custody Number*
GW-04S	GW-04S	1.9	5.5	08:08	Groundwater	VOCs/SVOCs/ PCBs/Metals/ Dioxins/Cyanide	1374
GW-35S	GW-35S	0.6	2	10:15	Groundwater		
GW-26D	GW-26D	13.0	70	11:35	Groundwater		
GW-32S	GW-32S	1.0	4	12:25	Groundwater		
GW-33S	GW-33S	0.3	1	13:40	Groundwater		
GW-30S	GW-30S	1.8	6	15:10	Groundwater		
GW-31S	GW-31S	0.9	1.5	15:30	Groundwater		
GW-29S	GW-29S	2.1	10	17:50	Groundwater		
Trip Blank	---	---	---	---	Trip Blank		

Additional Comments: _____

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GROUNDWATER SAMPLING - SAMPLE COLLECTION DATA SHEET

Project Name: *Pfohl Brothers Landfill* Project Number: *11172700.00002*

Sampling Crew Members: *R. Murphy, A. Brayman* Supervisor: *R. Murphy*

Date of Inspection: *October 2, 2004*

Sample I.D. Number	*Well Number*	*Well Volume (gal.)*	*Volume Purged (gal.)*	*Sample Time*	*Sample Description*	*Analysis Required*	*Chain-of-Custody Number*
GW-01S	GW-01S	2.0	7	12:05	Groundwater	VOCs/SVOCs/ PCBs/Metals/ Dioxins/Cyanide	1376
GW-01D	GW-01D	13.9	80	12:45	Groundwater		
GW-04D	GW-04D	12.5	72	13:30	Groundwater		
GW-07S	GW-07S	5.1	10	14:05	Groundwater		
Trip Blank	---	---	---	---	Trip Blank		

Additional Comments: _____

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GROUNDWATER SAMPLING - SAMPLE COLLECTION DATA SHEET

Project Name: *Pfohl Brothers Landfill* Project Number: *11172700.00002*

Sampling Crew Members: *R. Murphy, A. Brayman* Supervisor: *R. Murphy*

Date of Inspection: *October 3, 2004*

Sample I.D. Number	Well Number	Well Volume (gal.)	Volume Purged (gal.)	Sample Time	Sample Description	Analysis Required	Chain-of-Custody Number
GW-07D	GW-07D	14.7	25	10:40	Groundwater	VOCs/SVOCs/ PCBs/Metals/ Dioxins/Cyanide	1376

Additional Comments: _____

Appendix E

APPENDIX E

BSA PERMIT NO. 02-11-CH016

AUTHORIZATION TO DISCHARGE UNDER THE BUFFALO POLLUTANT DISCHARGE ELIMINATION SYSTEM

PERMIT NO. 02-11-CH016

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 **July 9, 2002** 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 15th day of January, 2003
To Expire the 14th day of January, 2006

General Manager

Signed this 15th day of Jan., 2003

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 6.

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 USEPA Test Method 608[4]	0.001 lbs.	1 day	Composite[2]
		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]
	Radiochemistry	See page 4	1 day	

Footnotes are explained on page 6.

PART I: SPECIFIC CONDITIONS

A. DISCHARGE LIMITATIONS & MONITORING REQUIREMENTS cont'd.

RADIOCHEMISTRY

	Soluble	Insoluble	Period	Type
Radium-226	600 pci/L	6 pci/L	1 day	Grab
Thorium-228	2000 pci/L	20 pci/L	1 day	Grab
Thorium-230	1000 pci/L	10 pci/L	1 day	Grab
Thorium- 232	300 pci/L	3 pci/L	1 day	Grab
Total Uranium	3000 pci/L	30 pci/L	1 day	Grab

1. 6NYCRR Part 380 Rules and Regulations for Prevention and Control of Environmental Pollution by Radioactive Materials is hereby incorporated into this permit and the permittee shall comply with all of its terms as if fully set forth herein.

   a. Each sample for radiochemistry must be filtered by a NYSDOH approved laboratory to create a soluble (filtrate) and insoluble (filter) sample.

   b. Each fraction must be analyzed for gross alpha and gross beta using a seven (7) day TAT.

   c. If the concentration of the soluble (filtrate) exceeds 200 pci/L of gross alpha or gross beta, gamma spectrometry must be performed.

   d. If the concentration of the insoluble exceeds 10pci/L of gross alpha or 50 pci/L of gross beta, gamma spectrometry must be performed. The results must not exceed 1% of the values in –6 NYCRR Part 380 – 11.7.

   e. A background value of 1 pci/L may be subtracted from the gamma spectrometry in the insoluble fraction for the thorium and uranium series.
   USEPA Method 900.0 (40 CFR Part 136) must be used. Any required gamma spectrometry must be performed using Method 901.1.

   f. If the results of gamma spectrometry for any sample exceed the above conditions, discharge is to cease immediately, until waste water treatment procedures are corrected so that the wastewater discharge will meet these conditions.

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 and Radiochemistry	December 31, 2002	Every March 31st , June 30th, September 30th and December 31st
	USEPA Test Methods 608, 624 and 625 and Radiochemistry[a]	March 31, 2005	

a. These parameters must be tested and reported at least once during the life of this permit but no later than March 31, 2005. If the report shows any exceedences, quarterly monitoring must commence according to the above schedule.

PART I: SPECIFIC CONDITIONS

C. SPECIAL REQUIREMENTS

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

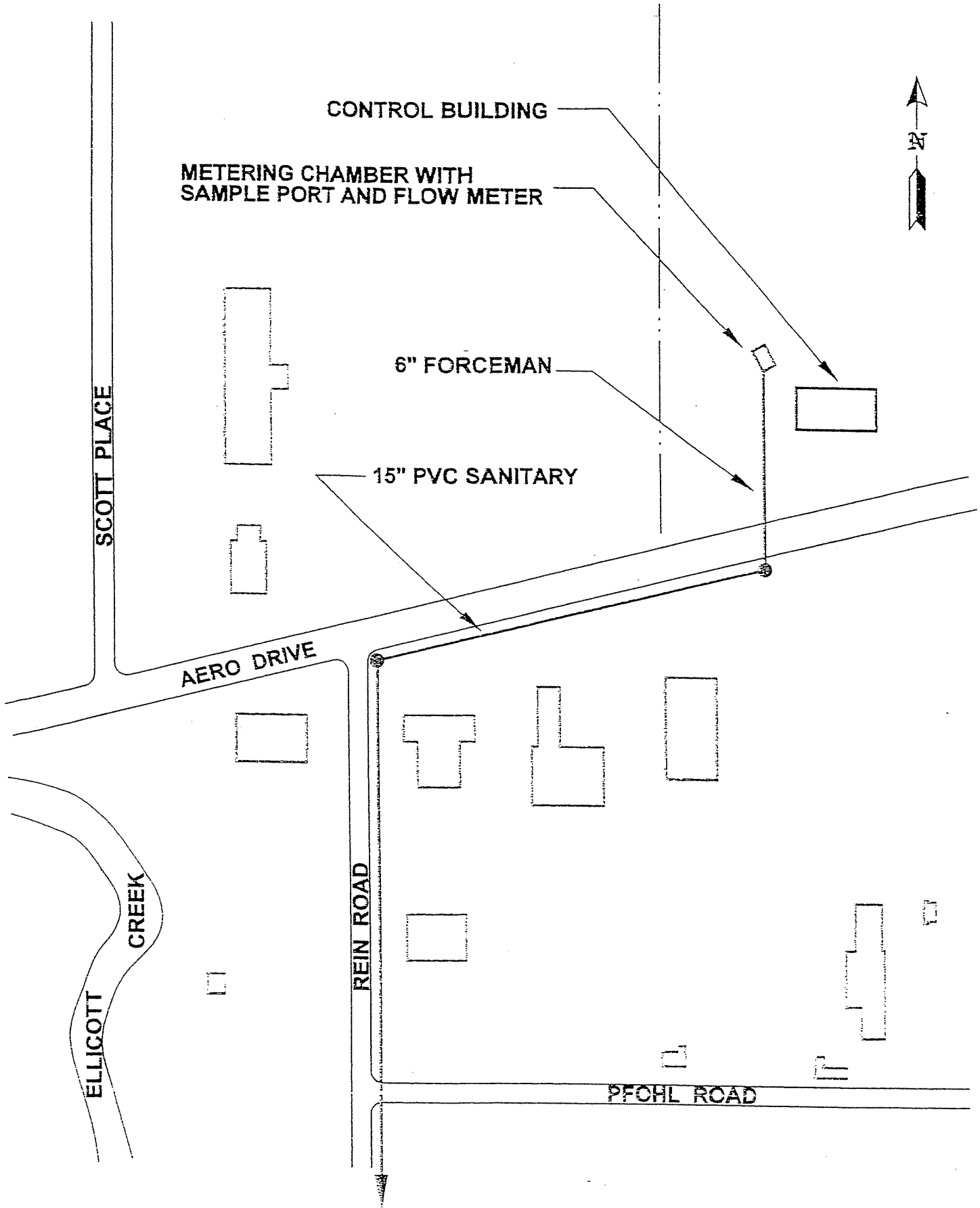
2. Composite samples may be time proportioned.

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 BRO

BUFFALO POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

PART II: GENERAL CONDITIONS

A. MONITORING AND REPORTING

1. Local Limits

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

2. Definitions

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

3. Discharge Sampling Analysis

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

4. Recording of Results

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

5. Additional Monitoring by Permittee

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

6. **Reporting**

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

Industrial Waste Section
Buffalo Sewer Authority Treatment Plant
90 West Ferry Street
Buffalo, New York 14213

All self-monitoring reports shall be prepared in accordance with the BSA "Sampling Measurement and Analytical Guidelines Sheet". These reporting requirements shall not relieve the permittee of any other reports, which may be required by the N.Y.S.D.E.C. or the U.S.E.P.A.

B. PERMITTEE REQUIREMENTS

1. **Change in Discharge**

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

2. **Records Retention**

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

3. **Notification of Slug, Accidental Discharge or Spill**

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

4. **Noncompliance Notification**

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

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

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

5. **Adverse Impact**

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

6. **Waste Residuals**

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

7. **Power Failures**

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

8. **Treatment Upsets**

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

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

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

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

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

9. **Treatment Bypasses**

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

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

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

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

b. Industrial users must provide immediate notice to the Industrial Waste Section upon discovery of an unanticipated bypass. If necessary, the

Industrial Waste Section may require the industrial user to submit a written report explaining the cause(s), nature, and duration of the bypass, and the steps being taken to prevent it's recurrence.

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

C. PERMITTEE RESPONSIBILITIES

1. Permit Availability

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

2. Inspections

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

3. Transfer of Ownership or Control

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

D. PERMITTEE LIABILITIES

1. Permit Modification

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

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

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

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

2. **Imminent Danger**

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

3. **Civil and Criminal Liability**

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

E. NATIONAL PRETREATMENT STANDARDS

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

F. PLANT CLOSURE

In the event of plant closure, the permittee is required to notify the Industrial Waste Section in writing as soon as an anticipated closure date is determined, but in no case later than five days of the actual closure.

G. CONFIDENTIALITY

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

H. SEVERABILITY

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

Appendix F

APPENDIX F

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: 3/24/04 Crew: M. Nemeth, S. Moeller, J. Stachowski

Weather: 53°, overcast, light rain.

Sampling Device: Polyethylene container

Time of Installation: 13:15 Type of Sample: 24 hr. composite

Sample Interval: NA Sample Volume: NA

Comments and Observations: Wet wells #4 and #6 pumping.
PLC display volumes: WW-04 = 6,426,852 gal., WW-06 = 3,640,760 gals., Totalizer = 12,060,018 gals.

Collection:

Date: 3/25/04 Crew: M. Nemeth, S. Moeller, J. Stachowski

Weather: Not recorded.

Time of Collection: 14:30

Field Measurements:

14:30/MN
(time/initial)

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

pH Measurement: 7.64

Temperature: 13.9° C

Identification: PB-040325

Physical Observations: Clear liquid

Laboratory: Waste Stream Technology, Inc., Buffalo, NY

Comments: PLC display volumes: WW-04 = 6,455,683 gals., WW-06= 3,658,281 gals.,
Totalizer = 12,101,910 gals.

Reviewed By: _____ Date: 4/19/04
(Supervisor)

TABLE 1

PFOHL BROTHERS LANDFILL - EFFLUENT MONITORING ANALYTICAL RESULTS, TOTAL FLOW, AND MASS LOADINGS MARCH 2004

Sample ID	PB-040325			
Matrix	Effluent Water			
Date Sampled	3/25/2004			
Parameter	Result	Mass Loading	Discharge Limitation	Violations
	(mg/L)	(lbs/day)	(lbs/day)	(Y/N)
Total Barium	0.362	0.127	2.34	No
Total Cadmuim	ND[1]	NA[2]	1.17	No
Total Chromium	ND	NA	1.17	No
Total Copper	0.027	0.009	3.74	No
Total Lead	ND	NA	1.17	No
Total Nickel	ND	NA	3.27	No
Total Zinc	0.084	0.029	5.84	No
Total Suspended Solids	24.4	8.529	250[3]	No
pH	7.64	NA	5.0 - 12.0[4]	No
Total Flow (gallons)	41,892	NA	140,000[5]	No

Notes:
(1) ND = Not Detected
(2) NA = Not Applicable
(3) Total Suspended Solids reported in mg/L
(4) pH reported in Standard Units
(5) Total Flow reported in gallons

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

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: 7/1/04 Crew: T. Urban, J. Doerr, J. Stachowski

Weather: 80° F, sunny

Sampling Device: NA

Time of Installation: NA Type of Sample: Grab directly into laboratory sample containers

Sample Interval: NA Sample Volume: NA

Comments and Observations: All wet well pumps not operating (HOA switches in OFF position). All pumps were activated by setting the HOA switches to the HAND position.

Collection:

Date: 7/1/04 Crew: T. Urban, J. Doerr, J. Stachowski

Weather: 80° F, sunny

Time of Collection: 14:52

Field Measurements:

14:55/TU
(time/initial)

pH Calibration: Buffer 7- 7.1 Buffer 4- 3.9 Buffer 10- 9.9

pH Measurement: 6.6

Temperature: 17.6° C

Identification: PB-040701

Physical Observations: light brown, no odor

Laboratory: Waste Stream Technology, Inc., Buffalo, NY

Comments: Pumps WW-1 and WW-2 shut off after 2 minutes due to no flow recorded on PLC display. Remaining well pumps operated for 10 minutes (14:42 hrs - 14:52 hrs). Flow volumes taken from PLC display are WW-3 (262 gal.), WW-4 (326 gal.) WW-5 (681 gal.), WW-6 (231gal.) & MH-25 (1,173 gal.).

Reviewed By: _____ Date: 7/22/04
(Supervisor)

TABLE 1

PFOHL BROTHERS LANDFILL - EFFLUENT MONITORING ANALYTICAL RESULTS, TOTAL FLOW, AND MASS LOADINGS JULY 2004

Sample ID	PB-040701			
Matrix	Effluent Water			
Date Sampled	7/1/2004			
Parameter	Result	Mass Loading	Discharge Limitation	Violations
	(mg/L)	(lbs/day)	(lbs/day)	(Y/N)
Total Barium	0.477	0.005	2.34	No
Total Cadmuim	ND(1)	NA(2)	1.17	No
Total Chromium	ND	NA	1.17	No
Total Copper	0.016	0.0002	3.74	No
Total Lead	0.007	0.0001	1.17	No
Total Nickel	ND	NA	3.27	No
Total Zinc	0.017	0.0002	5.84	No
Total Suspended Solids	39.6	0.3876	250	No
pH(3)	6.6	NA	5.0 - 12.0	No
Total Flow(4)	1,173	NA	140,000	No

Notes:
(1) ND = Not Detected
(2) NA = Not Applicable
(3) pH reported in Standard Units
(4) Total Flow reported in gallons/day

Mass Loading 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: 9/30/04 Crew: R. Murphy, A. Brayman, J. Stachowski

Weather: 53° F, overcast, calm

Sampling Device: NA

Time of Installation: 07:30 Type of Sample: Grab directly into laboratory sample containers

Sample Interval: NA Sample Volume: NA

Comments and Observations: Wet wells #3, #4, #5, and #6 pumping at time of sample set-up.
PLC display volumes: WW-01 (10,389 gals), WW-02 (21,752 gals), WW-03 (427,203 gals),
WW-04 (33,448 gals), WW-05 (2,400,353 gals),WW-06 (764,930 gals) & MH-25 (3,870,410 gals).

Date: 10/1/04 Crew: R. Murphy, A. Brayman, S. McCabe

Weather: 48° F, clear, calm

Time of Collection: 07:30

Field Measurements:

07:30/RJM
(time/initial)

pH Calibration: Buffer 7- 6.98 Buffer 4- 3.98 Buffer 10- 10.12

pH Measurement: 6.92

Temperature: 50.1° F

Identification: 4J04008-01

Physical Observations: Reddish with floating particles that resemble iron bacteria.

Laboratory: Waste Stream Technology, Inc., Buffalo, NY

Comments: No wet wells pumping at time of sample retrieval.
PLC display volumes: WW-01 (10,389 gals), WW-02 (21,752 gals), WW-03 (432,461 gals),
WW-04 (36,042 gals), WW-05 (2,403,799 gals), WW-06 (789,047 gals) & MH-25 (3,907,811 gals).

Reviewed By: _____ Date: 10/25/04
(Supervisor)

TABLE 1

PFOHL BROTHERS LANDFILL - EFFLUENT MONITORING ANALYTICAL RESULTS, TOTAL FLOW, AND MASS LOADINGS SEPTEMBER 2004

Sample ID	4J04008-01			
Matrix	Effluent Water			
Date Sampled	9/30/2004			
Parameter	Result	Mass Loading	Discharge Limitation	Violations
	(mg/L)	(lbs/day)	(lbs/day)	(Y/N)
Total Barium	0.425	0.133	2.34	No
Total Cadmuim	ND[1]	NA[2]	1.17	No
Total Chromium	ND	NA	1.17	No
Total Copper	0.011	0.003	3.74	No
Total Lead	ND	NA	1.17	No
Total Nickel	0.009	0.003	3.27	No
Total Zinc	0.021	0.007	5.84	No
Total Suspended Solids	16.0	4.993	250 [3]	No
pH [4]	6.92	NA	5.0 - 12.0	No
Total Flow [5]	37,401	NA	140,000	No

Notes:

(1) ND = Not Detected
(2) NA = Not Applicable
(3) Discharge Limitation in units of mg/L
(4) pH measurement and Discharge Limitation in Standard Units
(5) Total Flow reported in gallons

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

Appendix G

APPENDIX G

SURFACE WATER AND SEDIMENT SAMPLE COLLECTION LOGS

SURFACE WATER AND SEDIMENT SAMPLING - SAMPLE COLLECTION DATA SHEET

Project Name: *Pfohl Brothers Landfill*

Project Number: *11172700.00002*

Sampling Crew Members: *J.Christy, D. Cofield*

Supervisor: *J. Christy*

Date of Sample Collection: *3-May-04*

Sample I.D. Number	Sample Location	Est. Stream Width	Est. Stream Depth	Est. Stream Velocity	Field pH	Field Temp. (° F)	Field Turb. (NTU)	Time	Sample Analysis	Sample Description
SW-1	SW-1	30'	2-3'	none	6.95	61.3	27	13:10	VOC/SVOC/PCB/Metals/Cyanide/Gamma spec	Surface water:Clear, no odor, no sheen
SW-1	SW-1	---	---	---	---	---	---	13:10	VOC/SVOC/PCB/Metals/Cyanide	Sediment: Brown, silt and fine sand, organics
SW-2	SW-2	15'	<2'	none	7.02	57.7	5	13:40	VOC/SVOC/PCB/Metals/Cyanide/Gamma spec	Surface water:Clear, no odor, no sheen
SW-2	SW-2	---	---	---	---	---	---	13:40	VOC/SVOC/PCB/Metals/Cyanide	Sediment: Brown, silt and f-m sand
SW-3	SW-3	30'	2'	<0.1 mph	6.99	54.7	3	14:05	VOC/SVOC/PCB/Metals/Cyanide/Gamma spec	Surface water:Clear, no odor, no sheen
SW-3	SW-3	---	---	---	---	---	---	14:05	VOC/SVOC/PCB/Metals/Cyanide	Sediment: Brown, fine sand and silt
SW-3 DUP	SW-3	30'	2'	<0.1 mph	6.99	54.7	3	14:05	VOC/SVOC/PCB/Metals/Cyanide/Gamma spec	Duplicate Sample
SW-3 DUP	SW-3	---	---	---	---	---	---	14:05	VOC/SVOC/PCB/Metals/Cyanide	Duplicate Sample

Additional Comments: _____

SURFACE WATER AND SEDIMENT SAMPLING - SAMPLE COLLECTION DATA SHEET

Project Name: *Pfohl Brothers Landfill*

Project Number: *11172700.00002*

Sampling Crew Members: *J.Christy, D. Cofield*

Supervisor: *J. Christy*

Date of Sample Collection: *3-May-04*

Sample I.D. Number	Sample Location	Est. Stream Width	Est. Stream Depth	Est. Stream Velocity	Field pH	Field Temp. (° F)	Field Turb. (NTU)	Time	Sample Analysis	Sample Description
SW-4	SW-4	30'	1'	none	7.02	55.3	2	14:50	VOC/SVOC/PCB/Metals/Cyanide/Gamma spec	Surface water:Clear, no odor, no sheen
SW-4	SW-4	---	---	---	---	---	---	14:50	VOC/SVOC/PCB/Metals/Cyanide	Sediment: Brown, fine sand and silt
SW-5	SW-5	2'	<0.5'	none	7.55	57.1	7	14:30	VOC/SVOC/PCB/Metals/Cyanide/Gamma spec	Surface water:Clear, no odor, no sheen
SW-5	SW-5	---	---	---	---	---	---	14:30	VOC/SVOC/PCB/Metals/Cyanide	Sediment: Brown, silt and f-m sand
SW-6	SW-6	3'	<0.5'	none	6.9	58.8	2	15:15	VOC/SVOC/PCB/Metals/Cyanide/Gamma spec	Surface water:Slight yellow tint, no odor, no sheen
SW-6	SW-6	---	---	---	---	---	---	15:15	VOC/SVOC/PCB/Metals/Cyanide	Sediment: Dark brown, silt
SW-6 MS	SW-6	3'	<0.5'	none	6.9	58.8	2	15:15	VOC/SVOC/PCB/Metals/Cyanide/Gamma spec	Matrix Spike
SW-6 MS	SW-6	---	---	---	---	---	---	15:15	VOC/SVOC/PCB/Metals/Cyanide	Matrix Spike

Additional Comments: _____

SURFACE WATER AND SEDIMENT SAMPLING - SAMPLE COLLECTION DATA SHEET

Project Name: *Pfohl Brothers Landfill*

Project Number: *11172700.00002*

Sampling Crew Members: *J.Christy, D. Cofield*

Supervisor: *J. Christy*

Date of Sample Collection: *3-May-04*

Sample I.D. Number	Sample Location	Est. Stream Width	Est. Stream Depth	Est. Stream Velocity	Field pH	Field Temp. (° F)	Field Turb. (NTU)	Time	Sample Analysis	Sample Description
SW-6 MSD	SW-6	3'	<0.5'	none	6.9	58.8	2	15:15	VOC/SVOC/PCB/Metals/Cyanide/Gamma spec	Matrix Spike Duplicate
SW-6 MSD	SW-6	---	---	---	---	---	---	15:15	VOC/SVOC/PCB/Metals/Cyanide	Matrix Spike Duplicate
SW-7	SW-7	10'	<0.5'	none	5.85	55.4	5	15:55	VOC/SVOC/PCB/Metals/Cyanide/Gamma spec	Surface water:Clear, sheen,"soapy" apperance
SW-7	SW-7	---	---	---	---	---	---	15:55	VOC/SVOC/PCB/Metals/Cyanide	Sediment: Brown, silt and fine sand
SW-8	SW-8	30'	1'	<0.1 mph	6.6	56	14	16:20	VOC/SVOC/PCB/Metals/Cyanide/Gamma spec	Surface water:Clear, sheen
SW-8	SW-8	---	---	---	---	---	---	16:20	VOC/SVOC/PCB/Metals/Cyanide	Sediment: Black, silt and fine sand

Additional Comments: _____