SEMI ANNUAL REPORT

OPERATION AND MAINTENANCE

JULY 2005 TO DECEMBER 2005

PFOHL BROTHERS LANDFILL

CHEEKTOWAGA, NY

Submitted to:

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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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 the 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 fourth 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 from July 2005 through December 2005 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. An example of a daily inspection sheet is attached in Appendix A.

- Total cumulative effluent flow rates and volumes were summarized on a monthly basis starting in February 2003. The monthly totals for the period of July 2005 through December 2005, including graphs showing daily total discharge (gallons) as a function of calendar day, are presented in Appendix B.

- Remotely activated the pump station shutdown during wet weather flow conditions throughout the year as necessary.

- Performed repairs to wet well level control instrumentation, electrical equipment repair/ replacement/ calibration, and replacement of blown fuses.

- Southern Tier Nursery was contracted to replant wetlands nursery stock in September 2005.

- Niagara Grass was contracted to mow the entire site, which was performed between September 27, and October 4, 2005/ mowed the entire site.

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 July and December 2005. 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 fourth semi-annual groundwater quality monitoring event (Section 3.1.1.3 of the draft O&M plan). A summary of the monitoring activities is presented in the following subsections. Hydraulic and groundwater sampling locations are shown on Figure 3-1.

3.1 Groundwater Hydraulic Monitoring

Groundwater and surface water elevations were monitored on a quarterly basis at all locations listed in Table 3.1 of the O&M Plan except SG-02, which was not present. The hydraulic monitoring data tables are presented in Appendix C. Tables 1 and 2 of this appendix list the measured elevations. Table 3 provides a comparison of the measured levels in the wells and corresponding manholes during the September 2005 event and in the wells and corresponding manholes/wet wells during the December 2005 event.

The data presented in Appendix C indicate that groundwater levels outside the collection system were higher than the levels measured in the corresponding manhole for the September 2005

event and were also higher than the levels measured in the corresponding wet well or manhole for the December 2005 event. This data verifies that collection system is operating as designed.

3.2 Groundwater Quality Monitoring

The fourth semi-annual round of groundwater sampling was conducted between September 19 and 22, 2005. All wells listed in Table 3.2 of the draft O&M manual 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 GW-8SR difficulty was encountered reaching the specified maximum turbidity of 50 NTUs. Measurements of pH, specific conductivity, temperature, and turbidity taken during purging are provided in Appendix D. The samples were packed with ice in coolers and transported under chain-of-custody control to Severn Trent Laboratories Inc. of Amherst, New York (STL).

Groundwater samples were analyzed for the parameters listed in Table 3.2 of the draft O&M manual. Specifically, the following parameter classes were analyzed for: volatile organic compounds (VOCS), semivolatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), Metals, Dioxins & Furans, and Cyanide. Table 3-1 of this report presents a summary of detected parameters.

Two VOCs were detected above the Class GA water quality standards. Benzene was estimated at 2.3 micrograms per liter (μg/L) in GW-28S, which is slightly above its Class GA water quality standard of 1.0 μg/l. Vinyl chloride was detected at 6.9 μg/L in GW-8SR, which is slightly above its Class GA water quality standard of 2.0 μg/l.

One SVOC [bis(2-Ethylhexyl)phthalate] was estimated at 8.0 μg/l, which is slightly above its Class GA water quality standard of 5 μ/L, in background well GW-7D. This compound is commonly found as a laboratory contaminant.

No PCBs, Dioxins & Furans, or Cyanide were detected above the Class GA water quality standards.

Among the metals, iron, magnesium, manganese, and sodium routinely exceed Class GA standards in most site wells. 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. The concentration of iron, magnesium, manganese, and sodium in most site wells was similar to the concentrations found during previous sampling events. Chromium was estimated above its standard of 0.05 mg/L in eight wells (GW-03D, GW-7D, GW-8D, GW-26D, GW-31S, GW-32S, GW-33S and GW-35S). The chromium detections are biased low due to very poor recovery from the matrix spike (MS) and matrix spike duplicate (MSD). Lead exceeded its standard of 0.025 mg/L at GW-7D with a concentration of 0.19 mg/L.

The groundwater analytical data package was prepared by STL 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*, and EPA-540-R-99-008, October 1999; USEPA *CLP National Functional Guidelines for Inorganic Data Review*, EPA-540-R-01-008, July 2002; 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. Qualifications applied to the data include 'J' (estimated concentration), 'J-' (estimated concentration with possible low bias), 'UJ' (estimated reporting limit), and 'U' (not detected).

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

3.3 Groundwater Discharge Monitoring

URS completed two quarterly sampling events (September 2005 and December 2005) 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 Monitoring Well Inspection

During the September 2005 groundwater sampling event, a well inspection was performed. The well inspection indicated the following: a total of six wells required a expandable well plug; five wells required new locks; two wells required new concrete well pads; two wells required new protective casings; and one well required a new lid on its' protective casing. The monitoring well inspection logs may be found in Appendix G

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.

A monitoring well inspection during the September 2005 groundwater sampling event indicated that some well repairs were needed. The repairs include the replacement of six expandable

well plugs; replacement of five locks; replacement of two concrete well pads; replacement of two protective casings; and the replacement of one lid on a protective casing. The monitoring well inspection logs may be found in Appendix G and indicate the recommended repairs for each well.

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. Similar concentrations of most contaminants were found during previous sampling events. Based on results of the four 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 fifth round of groundwater sampling will be conducted during the Spring of 2006 and will include the annual radiochemistry sampling and analysis.

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

Surface Water and Sediment Sampling: The second of two scheduled surface water and sediment sampling events has been completed. The results of the two sampling events will be compared to pre-Remedial Action data to determine if post-Remedial Action activities have impacted the quality of the surface water and sediments. If it is determined that no impacts have occurred between pre- Remedial Action activities and post- Remedial Action activities, the O&M manual indicates the termination of this sampling program. The NYSDEC will be consulted prior any termination of the sampling program. A potential third round of surface water and sediment sampling would be performed during the Spring of 2006 if sampling is continued.

TABLES

TABLE 3-1
DETECTED ANALYTES IN GROUNDWATER
PFOHL BROTHERS LANDFILL SITE
SEPTEMBER 2005

Location ID			GW-01D	GW-01S	GW-03D	GW-03S	GW-04D
Sample ID			GW-1D	GW-1S	GW-3D	GW-3S	GW-4D
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			09/21/05	09/21/05	09/21/05	09/21/05	09/21/05
Parameter	**Units**	**Criteria***					
Volatile Organic Compounds							
1,2-Dichloroethene (total)	UG/L	5			0.72 J		
Benzene	UG/L	1					
Carbon disulfide	UG/L	60	0.16 J				0.21 J
Chlorobenzene	UG/L	5			0.58 J		
Chloroethane	UG/L	5					0.26 J
Methyl ethyl ketone (2-Butanone)	UG/L	50					
Tetrachloroethene	UG/L	5					
Toluene	UG/L	5	0.14 J				
Vinyl chloride	UG/L	2			0.55 J		
Semivolatile Organic Compounds							
1,4-Dichlorobenzene	UG/L	3			2 J		
bis(2-Ethylhexyl)phthalate	UG/L	5		3 J			3 J
Dioxins/Furans							
2,3,7,8-TCDF	NG/L	0.007					
Metals							
Aluminum	MG/L	-			0.80		0.26
Arsenic	MG/L	0.025					
Barium	MG/L	1	0.056	0.30	0.099	0.25	0.053
Cadmium	MG/L	0.005					
Calcium	MG/L	-	110	237	109	127	117
Chromium	MG/L	0.05	0.037 J-		0.14 J-		0.019 J-
Cobalt	MG/L	-			7.20E-03		

*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

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

NA - Not Analyzed

Only Detected Results Reported.

TABLE 3-1
DETECTED ANALYTES IN GROUNDWATER
PFOHL BROTHERS LANDFILL SITE
SEPTEMBER 2005

Location ID			GW-01D	GW-01S	GW-03D	GW-03S	GW-04D
Sample ID			GW-1D	GW-1S	GW-3D	GW-3S	GW-4D
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			09/21/05	09/21/05	09/21/05	09/21/05	09/21/05
Parameter	**Units**	**Criteria***					
Metals							
Copper	MG/L	0.2	0.037		0.035		
Iron	MG/L	0.3	5.9 J-	7.6 J-	6.0 J-	18.1 J-	1.6 J-
Lead	MG/L	0.025					
Magnesium	MG/L	35	38.8	39.1	20.7	75.1	55.3
Manganese	MG/L	0.3	0.10	0.76	0.68	0.28	0.035
Nickel	MG/L	0.1	0.025		0.068	0.012	0.023
Potassium	MG/L	-	2.8	2.8	5.5	2.8	3.2
Sodium	MG/L	20	74.8	321	232	53.1	54.5
Vanadium	MG/L	-					
Zinc	MG/L	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.

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TABLE 3-1
DETECTED ANALYTES IN GROUNDWATER
PFOHL BROTHERS LANDFILL SITE
SEPTEMBER 2005

Location ID			GW-04S	GW-07D	GW-07D	GW-07S	GW-07S
Sample ID			GW-4S	GW-07D	GW-7D	DUP-092005	GW-7S
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			09/20/05	09/20/05	09/21/05	09/20/05	09/20/05
Parameter	**Units**	**Criteria***				Field Duplicate (1-1)	
Volatile Organic Compounds							
1,2-Dichloroethene (total)	UG/L	5			NA		
Benzene	UG/L	1			NA		
Carbon disulfide	UG/L	60		0.53 J	NA		
Chlorobenzene	UG/L	5			NA		
Chloroethane	UG/L	5			NA		
Methyl ethyl ketone (2-Butanone)	UG/L	50		3.2 J	NA		
Tetrachloroethene	UG/L	5			NA		
Toluene	UG/L	5			NA		
Vinyl chloride	UG/L	2			NA		
Semivolatile Organic Compounds							
1,4-Dichlorobenzene	UG/L	3		NA			
bis(2-Ethylhexyl)phthalate	UG/L	5		NA	8 J		
Dioxins/Furans							
2,3,7,8-TCDF	NG/L	0.007		NA			
Metals							
Aluminum	MG/L	-	0.34	NA	0.84	0.23	
Arsenic	MG/L	0.025		NA			
Barium	MG/L	1	0.10	NA	0.069	0.19	0.19
Cadmium	MG/L	0.005		NA			
Calcium	MG/L	-	39.6	NA	57.9	27.1	33.4
Chromium	MG/L	0.05	9.30E-03 J-	NA	0.051 J-	0.020 J-	5.80E-03 J-
Cobalt	MG/L	-		NA			

*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.

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PFOHL BROTHERS LANDFILL SITE
SEPTEMBER 2005

Location ID			GW-04S	GW-07D	GW-07D	GW-07S	GW-07S
Sample ID			GW-4S	GW-07D	GW-7D	DUP-092005	GW-7S
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			09/20/05	09/20/05	09/21/05	09/20/05	09/20/05
Parameter	**Units**	**Criteria***				Field Duplicate (1-1)	
Metals							
Copper	MG/L	0.2		NA	0.021		
Iron	MG/L	0.3	1.5 J-	NA	3.8 J-	0.95 J-	0.51 J-
Lead	MG/L	0.025		NA	0.19		
Magnesium	MG/L	35	23.3	NA	20.7	24.2	25.8
Manganese	MG/L	0.3	0.26	NA	0.065	0.16	0.12
Nickel	MG/L	0.1	0.015	NA	0.044	0.014	
Potassium	MG/L	-	2.6	NA	7.8	5.0	2.6
Sodium	MG/L	20	27.4	NA	81.7	3,170	51.3
Vanadium	MG/L	-		NA			
Zinc	MG/L	2	0.021	NA	0.079		

*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.

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TABLE 3-1
DETECTED ANALYTES IN GROUNDWATER
PFOHL BROTHERS LANDFILL SITE
SEPTEMBER 2005

Location ID			GW-08D	GW-08SR	GW-26D	GW-28S	GW-29S
Sample ID			GW-8D	GW-8SR	GW-26D	GW-28S	GW-29S
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			09/21/05	09/21/05	09/20/05	09/20/05	09/20/05
Parameter	**Units**	**Criteria***					
Volatile Organic Compounds							
1,2-Dichloroethene (total)	UG/L	5	1.8	0.96 J	1.9		
Benzene	UG/L	1				2.3 J	
Carbon disulfide	UG/L	60	0.13 J				
Chlorobenzene	UG/L	5					
Chloroethane	UG/L	5					
Methyl ethyl ketone (2-Butanone)	UG/L	50					
Tetrachloroethene	UG/L	5					
Toluene	UG/L	5					
Vinyl chloride	UG/L	2	2.0	6.9	1.8		
Semivolatile Organic Compounds							
1,4-Dichlorobenzene	UG/L	3					
bis(2-Ethylhexyl)phthalate	UG/L	5					
Dioxins/Furans							
2,3,7,8-TCDF	NG/L	0.007					
Metals							
Aluminum	MG/L	-	1.1	3.2		1.0	0.29
Arsenic	MG/L	0.025					
Barium	MG/L	1	0.20	0.54	0.16	0.67	0.20
Cadmium	MG/L	0.005					
Calcium	MG/L	-	126	150	142	201	106
Chromium	MG/L	0.05	0.11 J-	4.60E-03 J-	0.28 J-	4.30E-03 J-	4.00E-03 J-
Cobalt	MG/L	-				4.70E-03	

*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.

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PFOHL BROTHERS LANDFILL SITE
SEPTEMBER 2005

Location ID			GW-08D	GW-08SR	GW-26D	GW-28S	GW-29S
Sample ID			GW-8D	GW-8SR	GW-26D	GW-28S	GW-29S
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			09/21/05	09/21/05	09/20/05	09/20/05	09/20/05
Parameter	**Units**	**Criteria***					
Metals							
Copper	MG/L	0.2	0.010				
Iron	MG/L	0.3	14.9 J-	15.8 J-	8.7 J-	9.9 J-	1.2 J-
Lead	MG/L	0.025					
Magnesium	MG/L	35	30.8	49.6	23.1	67.3	56.7
Manganese	MG/L	0.3	0.91	0.40	1.7	0.98	0.19
Nickel	MG/L	0.1	0.056		0.059		0.016
Potassium	MG/L	-	6.0	3.6	5.7	37.7	1.2
Sodium	MG/L	20	196	160	216	70.9	18.8
Vanadium	MG/L	-		7.50E-03		5.80E-03	
Zinc	MG/L	2	0.096				

*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.

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TABLE 3-1
DETECTED ANALYTES IN GROUNDWATER
PFOHL BROTHERS LANDFILL SITE
SEPTEMBER 2005

Location ID			GW-30S	GW-31S	GW-32S	GW-33S	GW-33S
Sample ID			GW-30S	GW-31S	GW-32S	GW-33S	GW-33S
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			09/20/05	09/20/05	09/20/05	09/20/05	09/21/05
Parameter	**Units**	**Criteria***					
Volatile Organic Compounds							
1,2-Dichloroethene (total)	UG/L	5					NA
Benzene	UG/L	1					NA
Carbon disulfide	UG/L	60					NA
Chlorobenzene	UG/L	5					NA
Chloroethane	UG/L	5					NA
Methyl ethyl ketone (2-Butanone)	UG/L	50					NA
Tetrachloroethene	UG/L	5	0.53 J				NA
Toluene	UG/L	5					NA
Vinyl chloride	UG/L	2					NA
Semivolatile Organic Compounds							
1,4-Dichlorobenzene	UG/L	3				NA	
bis(2-Ethylhexyl)phthalate	UG/L	5		4 J		NA	
Dioxins/Furans							
2,3,7,8-TCDF	NG/L	0.007		2.10E-03 J		NA	
Metals							
Aluminum	MG/L	-		1.5	5.9	NA	0.33
Arsenic	MG/L	0.025				NA	
Barium	MG/L	1	0.50	0.054	0.085	NA	0.029
Cadmium	MG/L	0.005				NA	
Calcium	MG/L	-	245	208	111	NA	283
Chromium	MG/L	0.05		0.086 J-	0.070 J-	NA	0.055 J-
Cobalt	MG/L	-		4.40E-03	4.40E-03	NA	

*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.

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DETECTED ANALYTES IN GROUNDWATER
PFOHL BROTHERS LANDFILL SITE
SEPTEMBER 2005

Location ID			GW-30S	GW-31S	GW-32S	GW-33S	GW-33S
Sample ID			GW-30S	GW-31S	GW-32S	GW-33S	GW-33S
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			09/20/05	09/20/05	09/20/05	09/20/05	09/21/05
Parameter	**Units**	**Criteria***					
Metals							
Copper	MG/L	0.2			0.017	NA	
Iron	MG/L	0.3	13.2 J-	2.6 J-	8.5 J-	NA	0.32 J-
Lead	MG/L	0.025			9.40E-03	NA	
Magnesium	MG/L	35	61.2	58.6	54.5	NA	77.6
Manganese	MG/L	0.3	2.6	1.3	0.28	NA	0.037
Nickel	MG/L	0.1		0.052	0.051	NA	
Potassium	MG/L	-	4.2	21.0	7.9	NA	3.4
Sodium	MG/L	20	857	10.8	16.3	NA	19.9
Vanadium	MG/L	-			0.010	NA	
Zinc	MG/L	2		0.027	0.093	NA	

*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

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

NA - Not Analyzed

Only Detected Results Reported.

TABLE 3-1
DETECTED ANALYTES IN GROUNDWATER
PFOHL BROTHERS LANDFILL SITE
SEPTEMBER 2005

Location ID			GW-34S	GW-35S
Sample ID			GW-34S	GW-35S
Matrix			Groundwater	Groundwater
Depth Interval (ft)			-	-
Date Sampled			09/21/05	09/20/05
Parameter	**Units**	**Criteria***		
Volatile Organic Compounds				
1,2-Dichloroethene (total)	UG/L	5		
Benzene	UG/L	1		
Carbon disulfide	UG/L	60		
Chlorobenzene	UG/L	5		
Chloroethane	UG/L	5		
Methyl ethyl ketone (2-Butanone)	UG/L	50		
Tetrachloroethene	UG/L	5		
Toluene	UG/L	5		
Vinyl chloride	UG/L	2		
Semivolatile Organic Compounds				
1,4-Dichlorobenzene	UG/L	3		
bis(2-Ethylhexyl)phthalate	UG/L	5	4 J	
Dioxins/Furans				
2,3,7,8-TCDF	NG/L	0.007		
Metals				
Aluminum	MG/L	-		26.0
Arsenic	MG/L	0.025		0.016
Barium	MG/L	1	0.12	0.32
Cadmium	MG/L	0.005		2.50E-03
Calcium	MG/L	-	175	194
Chromium	MG/L	0.05		0.21 J-
Cobalt	MG/L	-		0.036

*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

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

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TABLE 3-1
DETECTED ANALYTES IN GROUNDWATER
PFOHL BROTHERS LANDFILL SITE
SEPTEMBER 2005

Location ID			GW-34S	GW-35S
Sample ID			GW-34S	GW-35S
Matrix			Groundwater	Groundwater
Depth Interval (ft)			-	-
Date Sampled			09/21/05	09/20/05
Parameter	**Units**	**Criteria***		
Metals				
Copper	MG/L	0.2		0.093
Iron	MG/L	0.3	1.2 J-	45.1 J-
Lead	MG/L	0.025		0.050
Magnesium	MG/L	35	66.1	78.7
Manganese	MG/L	0.3	0.32	7.4
Nickel	MG/L	0.1	0.016	0.15
Potassium	MG/L	-	8.4	13.0
Sodium	MG/L	20	83.8	13.3
Vanadium	MG/L	-		0.050
Zinc	MG/L	2		0.66

*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.

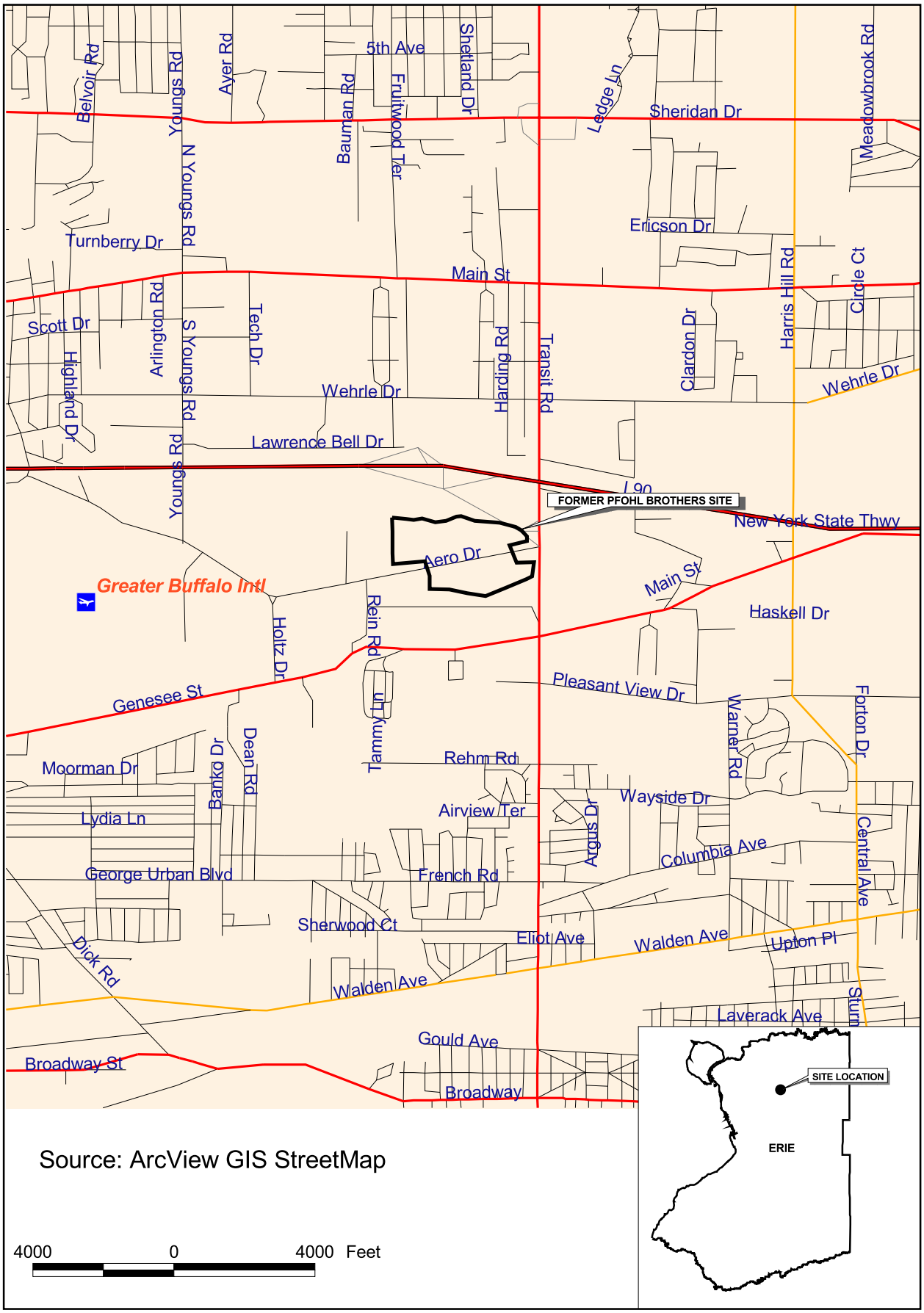
Concentration Exceeds Criteria

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

NA - Not Analyzed

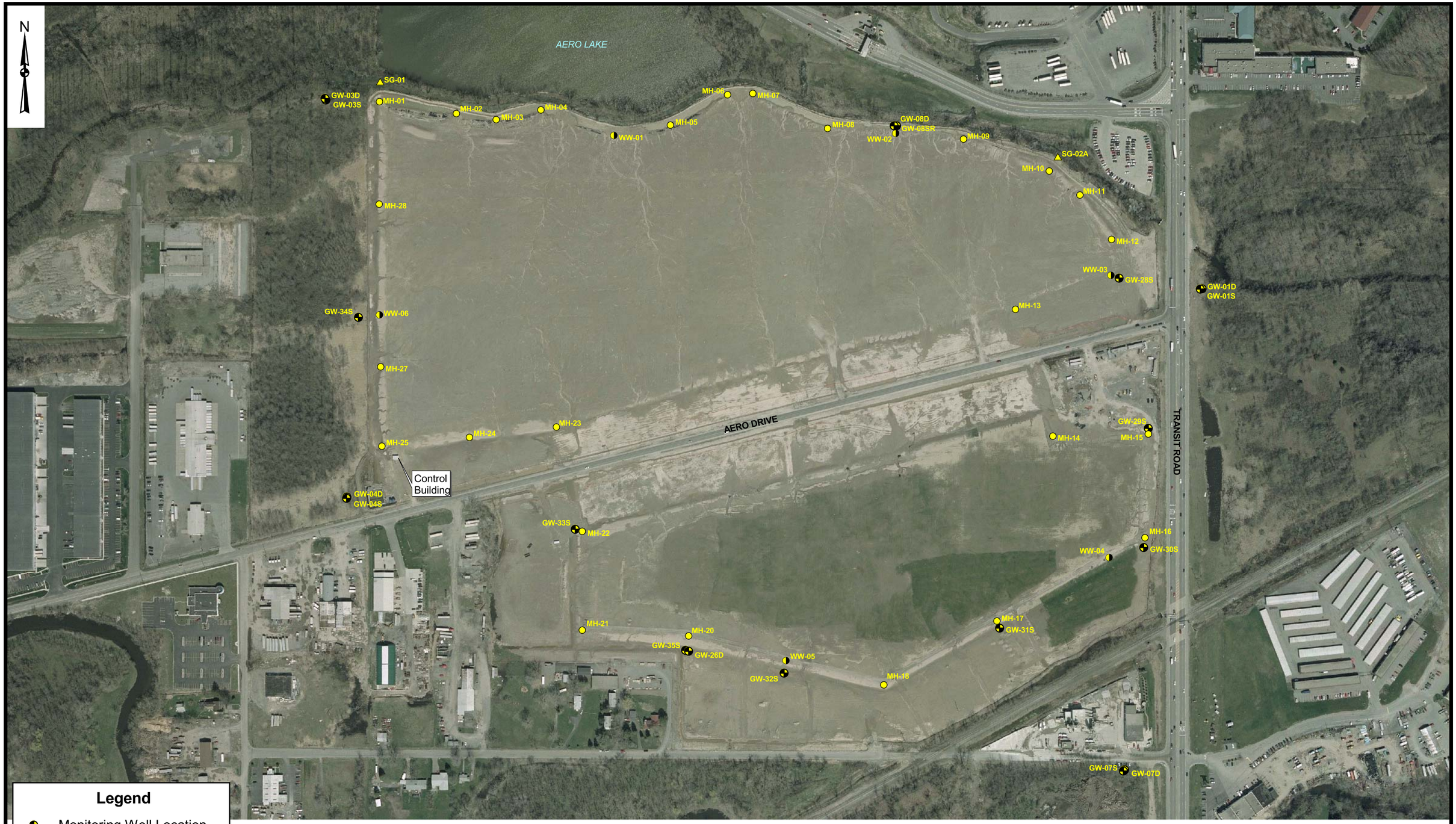
Only Detected Results Reported.

FIGURES



URS	PFOHL BROTHERS LANDFILL SITE LOCATION MAP	FIGURE 1-1

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



Legend

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

400 0 400 Feet

PFOHL BROTHERS LANDFILL
MONITORING LOCATIONS

URS

FIGURE 3-1

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

APPENDIX A

EXAMPLE DAILY INSPECTION SHEET

Pfohl Brothers Landfill Site

Daily Logsheet — **Town of Cheektowaga**

Date: 9-30-05 — Weather conditions: SUNNY 65°

Time: 2:05 PM — Read by: BILL PUGH

	Level of Water from bottom (ft.)	Flow gallons / minute	Flow Totals gallons	Pump Run Time Hrs.
WW-3	4.4	0	361,776	184
WW-2	4.5	0	20,408	17
WW-1	4.0	0	524,895	313
WW-6	4.4	29.1	572,088	333
WW-4	4.6	32.1	1,466,530	750
WW-5	3.5	0	336,869	162

Flow Totalizer at Meter chamber: 3,305,400

Heat Trace

Outside temp T = 65 °F — Set point SP = 40 °F

Current A = 0

Surge Suppressor events: 505,355

Motor Control Center

Volts 480 volts — Which WW was running?

Amps 9 amps — 1☐ 2☐ 3☐ 4☐ 5☐ 6☐

Filter — Checked ☐ — Changed ☐

Comments and/or Current Conditions

RESET INVALID LEVEL ALARM WW-3 — OK

NIAGARA GRASS ON SITE CUTTING

S. SIDE OF AERO DR.

APPENDIX B

MONTHLY FLOW SUMMARIES

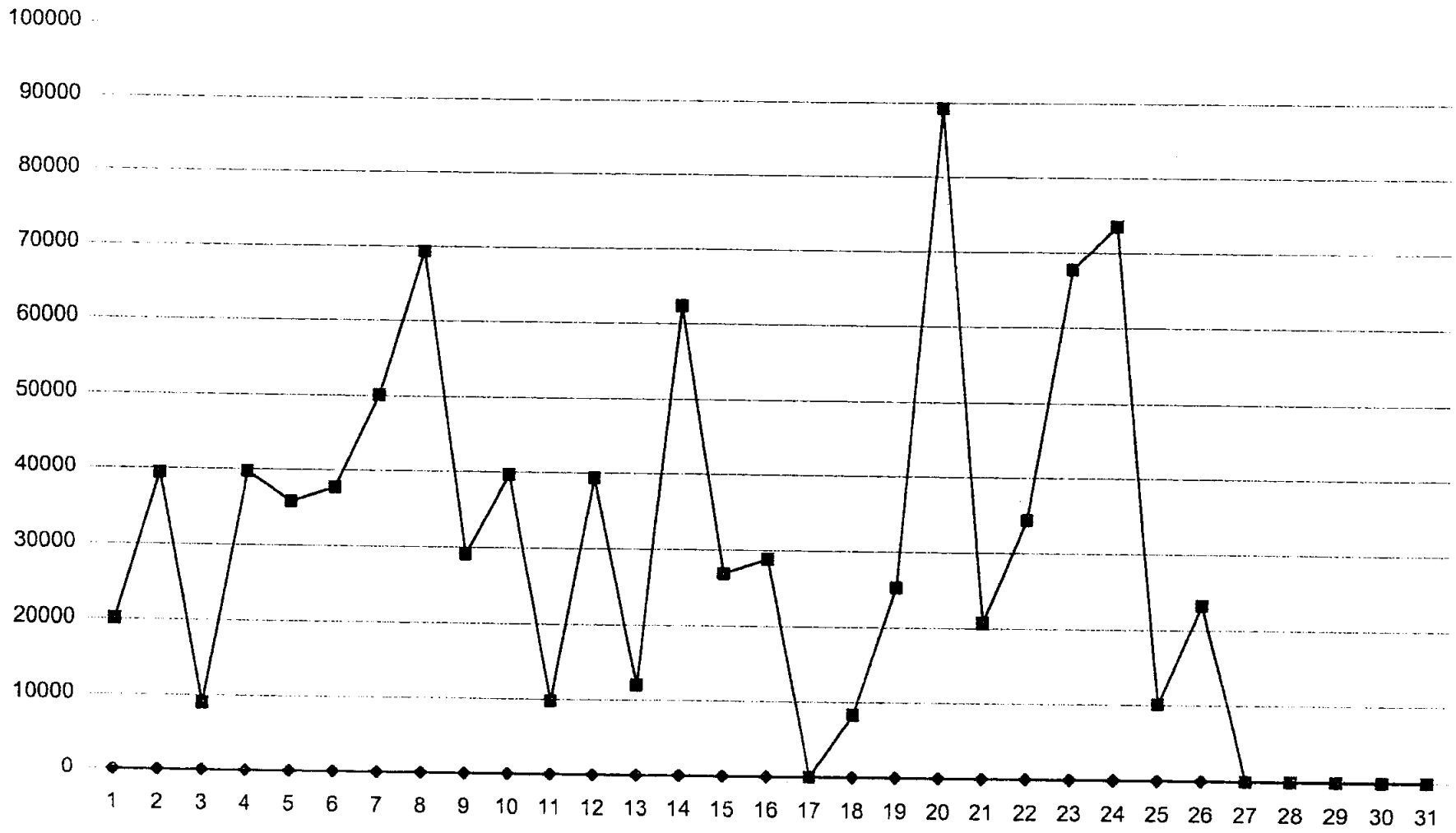
JULY 2005 – DECEMBER 2005

Direct Discharge Flow Data

6/30/05		0	0	0	
July-05	**Time; 11:58pm unless otherwise stated**	**Totalizer Reading (Gallons)**	**Daily Total Discharge (Gallons)**	**Total Direct Discharge (Gallons)**	**Notes**
1		20096	20,096	20,096	
2		59525	39,429	59,525	
3		68485	8,960	68,485	
4		108154	39,669	108,154	
5		143924	35,770	143,924	
6		181633	37,709	181,633	
7		231707	50,074	231,707	
8		300962	69,256	300,963	
9		330010	29,047	330,010	
10		369703	39,694	369,704	
11		379471	9,768	379,472	
12		418847	39,376	418,848	
13		430828	11,981	430,829	
14		493094	62,266	493,095	
15		519924	26,830	519,925	
16		548721	28,797	548,722	
17		548721	0	548,722	
18		556995	8,274	556,996	
19		582188	25,194	582,190	
20		671408	89,219	671,409	
21		692095	20,688	692,097	
22		726426	34,330	726,427	
23		794062	67,636	794,063	
24		867535	73,473	867,536	
25		877598	10,063	877,599	
26		900766	23,168	900,767	
27		900766	0	900,767	
28		900766	0	900,767	
29		900766	0	900,767	
30		900766	0	900,767	
31		900766	0	900,767	
		900,766	**900,767**	**900,767**	

6/30/05 Totalizers Reset 11 :58pm

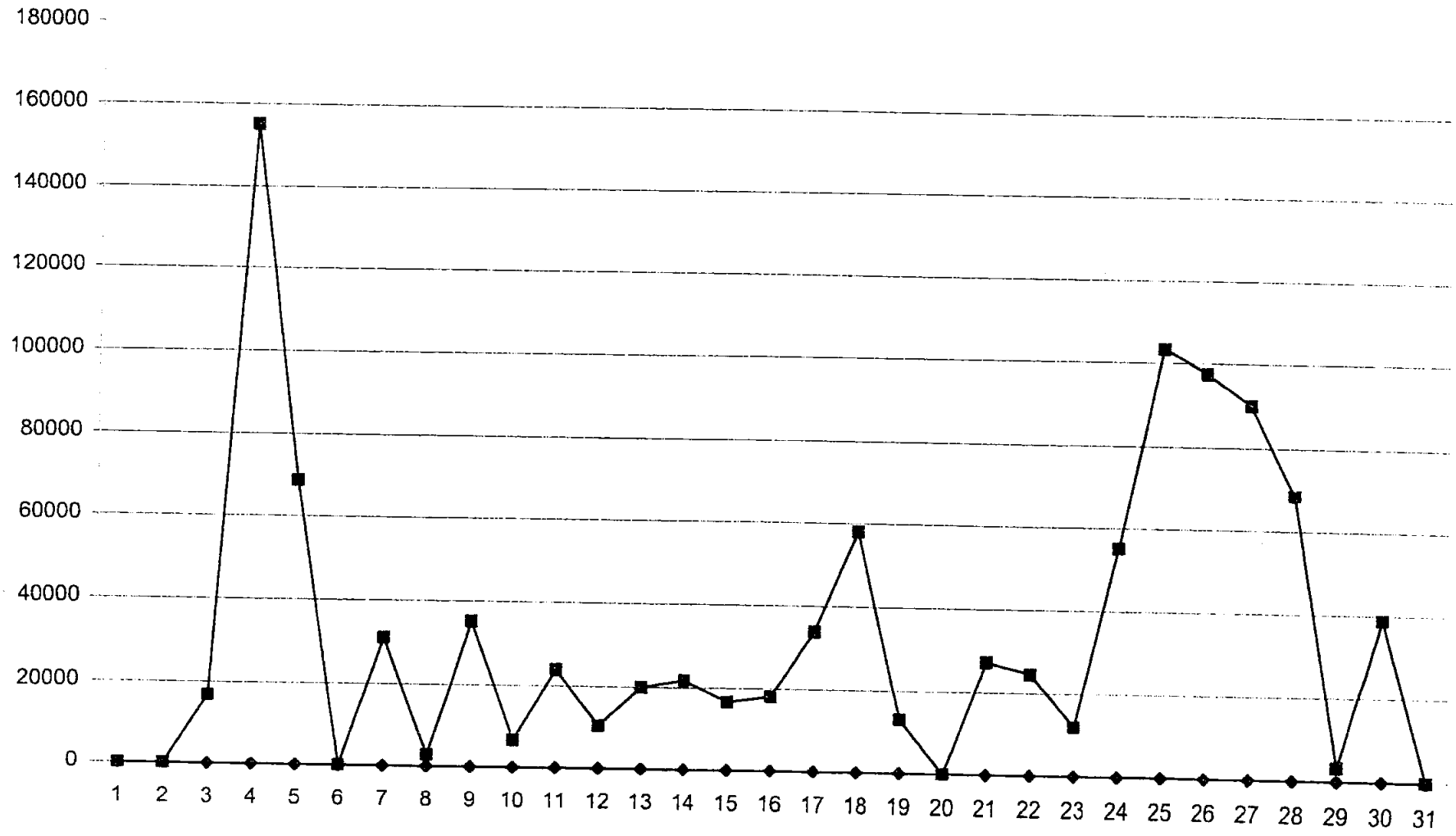
July
2005


100000
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

Direct Discharge Flow Data

7/31/05		900,766	0	900767	
August-05	**Time; 11:58pm unless otherwise stated**	**Totalizer Reading (Gallons)**	**Daily Total Discharge (Gallons)**	**Total Direct Discharge (Gallons)**	**Notes**
1		900766	0	900,767	
2		900766	0	900,767	
3		917623	16,857	917,624	
4		1072768	155,146	1,072,770	
5		1141603	68,835	1,141,605	
6		1141603	0	1,141,605	
7		1172797	31,194	1,172,799	
8		1175616	2,819	1,175,618	
9		1210901	35,285	1,210,903	
10		1217584	6,683	1,217,586	
11		1241668	24,084	1,241,670	
12		1252114	10,446	1,252,116	
13		1272135	20,021	1,272,137	
14		1293949	21,815	1,293,952	
15		1310636	16,686	1,310,638	
16		1328790	18,154	1,328,792	
17		1362706	33,916	1,362,708	
18		1420866	58,160	1,420,868	
19		1433929	13,063	1,433,931	
20		1433929	0	1,433,931	
21		1461313	27,384	1,461,315	
22		1485996	24,683	1,485,998	
23		1497993	11,997	1,497,995	
24		1553158	55,165	1,553,160	
25		1656531	103,372	1,656,532	
26		1754026	97,495	1,754,027	
27		1844166	90,140	1,844,167	
28		1912791	68,625	1,912,792	
29		1916050	3,260	1,916,052	
30		1954934	38,883	1,954,935	
31		1954934	0	1,954,935	
		1,054,168	**1,054,168**	**1,054,168**	

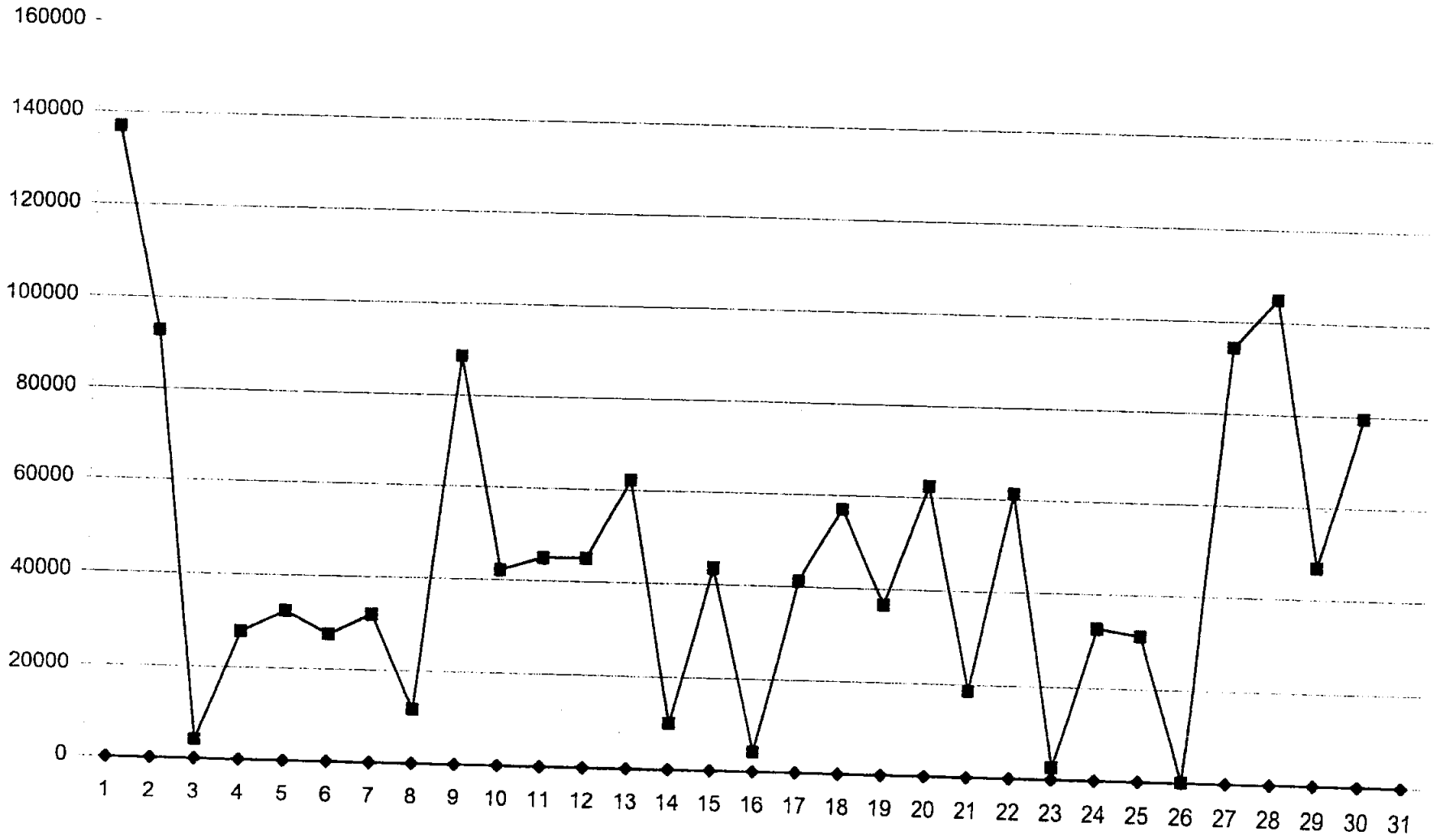
August
2005


180000
160000
140000
120000
100000
80000
60000
40000
20000
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

Direct Discharge Flow Data

8/31/05		1,954,934	0	1954935	
September-05	**Time; 11:58pm unless otherwise stated**	**Totalizer Reading (Gallons)**	**Daily Total Discharge (Gallons)**	**Total Direct Discharge (Gallons)**	**Notes**
1		2091805	136,871	2,091,806	
2		2184629	92,824	2,184,630	
3		2188813	4,184	2,188,814	
4		2216649	27,836	2,216,650	
5		2249022	32,374	2,249,024	
6		2276614	27,592	2,276,616	
7		2308683	32,070	2,308,686	
8		2320466	11,783	2,320,469	
9		2409014	88,549	2,409,018	
10		2451147	42,132	2,451,150	
11		2496010	44,864	2,496,014	
12		2541024	45,014	2,541,028	
13		2603132	62,108	2,603,136	
14		2613208	10,076	2,613,212	
15		2656743	43,535	2,656,747	
16		2660971	4,229	2,660,976	
17		2702212	41,240	2,702,216	
18		2759172	56,960	2,759,176	
19		2795774	36,602	2,795,778	
20		2858290	62,516	2,858,294	
21		2876939	18,650	2,876,944	
22		2938268	61,329	2,938,273	
23		2940808	2,540	2,940,813	
24		2973537	32,730	2,973,543	
25		3004886	31,349	3,004,892	
26		3004886	0	3,004,892	
27		3099457	94,571	3,099,463	
28		3204243	104,786	3,204,249	
29		3251049	46,806	3,251,055	
30		3330611	79,563	3,330,618	
31					
		1,375,677	**1,375,683**	**1,375,683**	

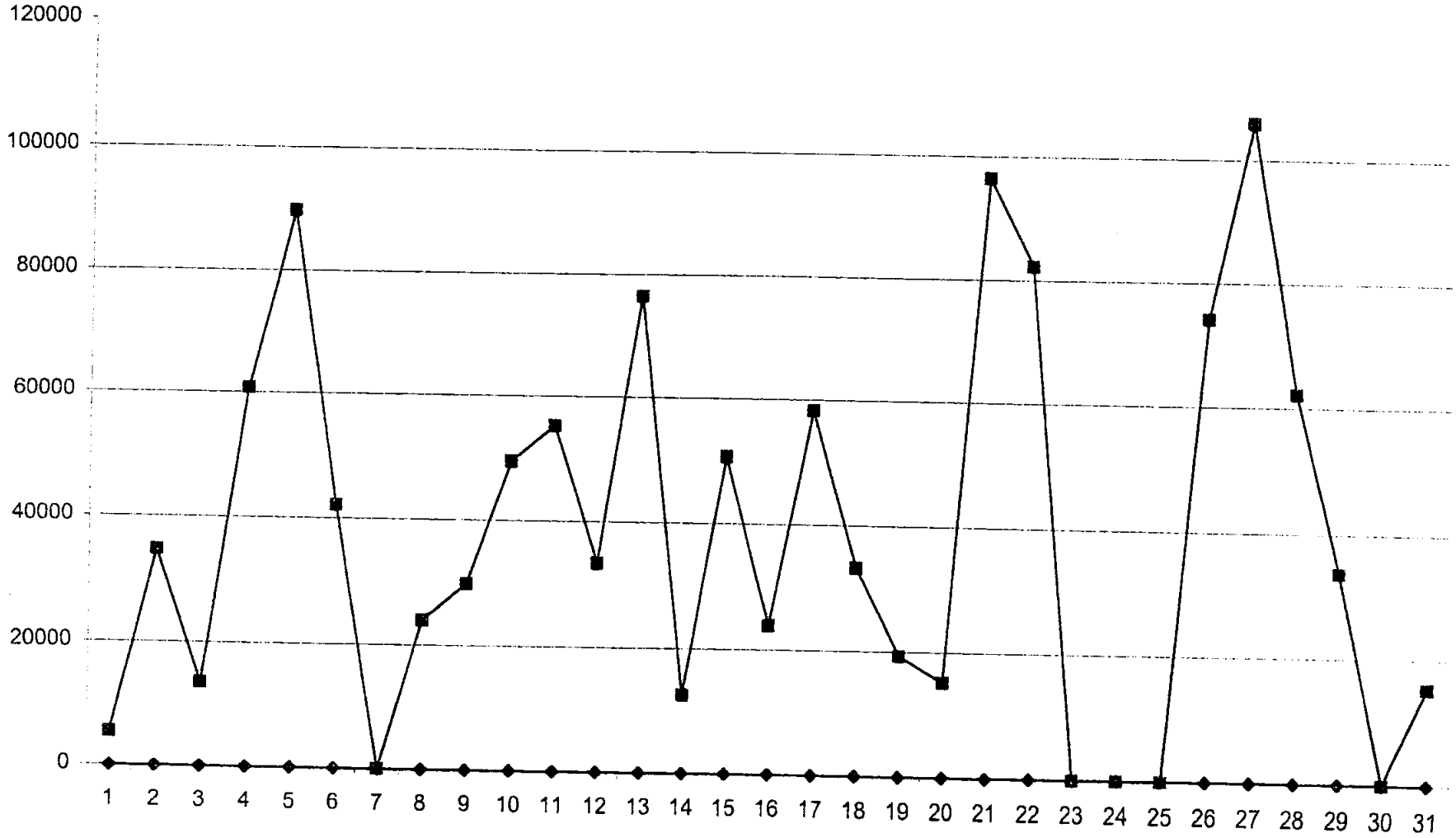
September
2005



Direct Discharge Flow Data

9/30/05		3,330,611	79,563	3330618	
October-05	**Time; 11:58pm unless otherwise stated**	**Totalizer Reading (Gallons)**	**Daily Total Discharge (Gallons)**	**Total Direct Discharge (Gallons)**	**Notes**
1		3336093	5,482	3,336,100	
2		3370819	34,726	3,370,826	
3		3384441	13,622	3,384,448	
4		3445192	60,751	3,445,199	
5		3534998	89,806	3,535,005	
6		3577125	42,127	3,577,132	
7		3577125	0	3,577,132	
8		3601090	23,965	3,601,097	
9		3631037	29,948	3,631,045	
10		3680639	49,602	3,680,647	
11		3736004	55,365	3,736,012	
12		3769502	33,498	3,769,510	
13		3846087	76,584	3,846,094	
14		3858712	12,626	3,858,720	
15		3909496	50,784	3,909,504	
16		3933419	23,922	3,933,426	
17		3991725	58,307	3,991,733	
18		4025108	33,383	4,025,116	
19		4044438	19,330	4,044,446	
20		4059702	15,265	4,059,711	
21		4156230	96,528	4,156,239	
22		4238457	82,227	4,238,466	
23		4238457	0	4,238,466	
24		4238457	0	4,238,466	
25		4238457	0	4,238,466	
26		4312668	74,211	4,312,677	
27		4418505	105,837	4,418,514	
28		4480691	62,186	4,480,700	
29		4514383	33,692	4,514,392	
30		4575499	0	4,514,392	
31		4590909	15,410	4,529,802	
		1,260,298	**1,199,184**	**1,199,184**	

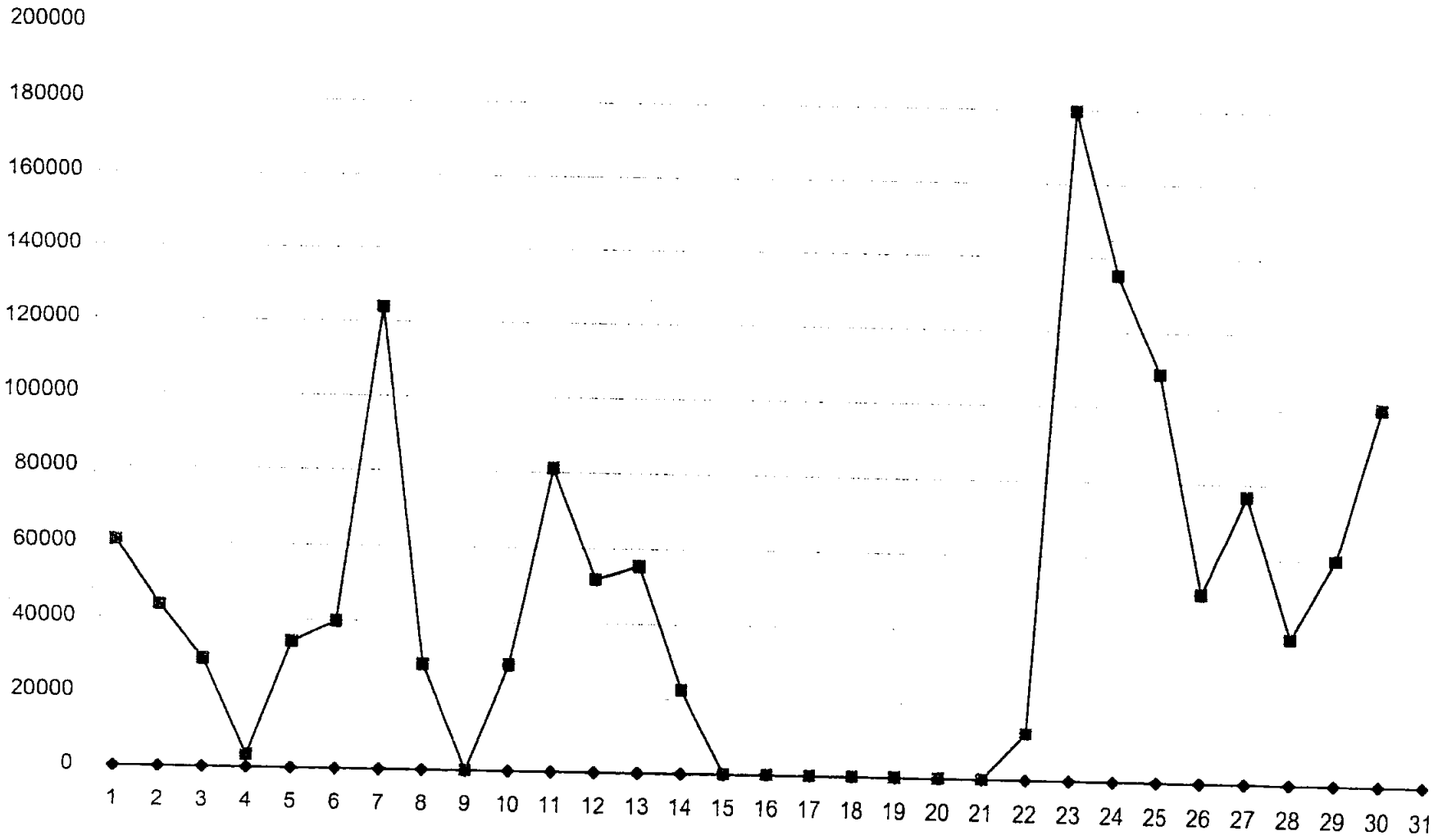
October
2005



Direct Discharge Flow Data

10/31/05		4,590,909	15,410	4529802	
November-05	**Time; 11:58pm unless otherwise stated**	**Totalizer Reading (Gallons)**	**Daily Total Discharge (Gallons)**	**Total Direct Discharge (Gallons)**	**Notes**
1		4651643	60,734	4,590,536	
2		4695293	43,650	4,634,186	
3		4724404	29,111	4,663,297	
4		4727822	3,418	4,666,715	
5		4761989	34,167	4,700,882	
6		4801880	39,891	4,740,773	
7		4925852	123,972	4,864,745	
8		4954354	28,503	4,893,248	
9		4954354	0	4,893,248	
10		4982995	28,641	4,921,889	
11		5064183	81,188	5,003,077	
12		5116008	51,825	5,054,902	
13		5171466	55,458	5,110,360	
14		5194003	22,538	5,132,898	
15		5194003	0	5,132,898	
16		5194003	0	5,132,898	
17		5194003	0	5,132,898	
18		5194003	0	5,132,898	
19		5194003	0	5,132,898	
20		5194003	0	5,132,898	
21		5194003	0	5,132,898	
22		5206447	12,444	5,145,342	
23		5386274	179,828	5,325,170	
24		5521547	135,273	5,460,443	
25		5630415	108,868	5,569,311	
26		5680968	50,553	5,619,864	
27		5757819	76,852	5,696,716	
28		5796979	39,160	5,735,876	
29		5857248	60,269	5,796,145	
30		5957893	100,645	5,896,790	
31					
		1,366,984	**1,366,988**	**1,366,988**	

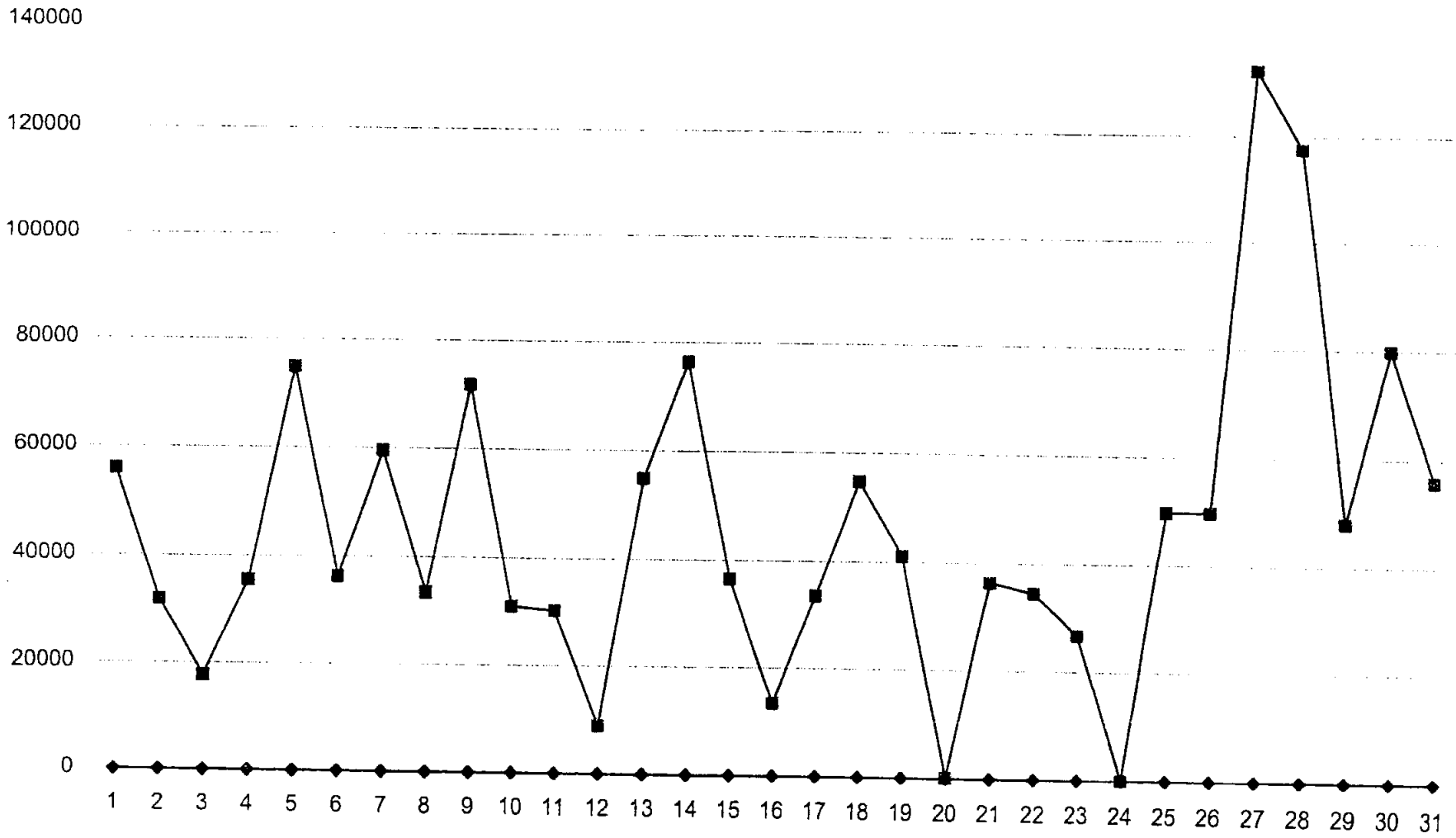
November
2005



Direct Discharge Flow Data

11/30/05		5,957,893	100,645	5896790	
December-05	**Time; 11:58pm unless otherwise stated**	**Totalizer Reading (Gallons)**	**Daily Total Discharge (Gallons)**	**Total Direct Discharge (Gallons)**	**Notes**
1		6013953	56,060	5,952,850	
2		6045885	31,933	5,984,783	
3		6063659	17,774	6,002,557	
4		6099232	35,573	6,038,130	
5		6174202	74,971	6,113,101	
6		6210566	36,364	6,149,465	
7		6270195	59,629	6,209,094	
8		6303787	33,592	6,242,686	
9		6375597	71,810	6,314,496	
10		6406685	31,089	6,345,585	
11		6437040	30,355	6,375,940	
12		6445952	8,912	6,384,852	
13		6500978	55,027	6,439,879	
14		6577375	76,397	6,516,276	
15		6613942	36,567	6,552,843	
16		6627452	13,511	6,566,354	
17		6661086	33,634	6,599,988	
18		6715966	54,881	6,654,869	
19		6757179	41,213	6,696,082	
20		6757179	0	6,696,082	
21		6793661	36,483	6,732,565	
22		6828207	34,546	6,767,111	
23		6854924	26,717	6,793,828	
24		6854924	0	6,793,828	
25		6904880	49,956	6,843,784	
26		6954903	50,024	6,893,808	
27		7087246	132,343	7,026,151	
28		7204865	117,619	7,143,770	
29		7253143	48,278	7,192,048	
30		7333091	79,949	7,271,997	
31		7389161	56,070	7,328,067	
		1,431,268	**1,431,277**	**1,431,277**	

December
2005



APPENDIX C

HYDRAULIC MONITORING TABLES

TABLE 1
PFOHL BROTHERS LANDFILL SITE
GROUNDWATER ELEVATIONS
SEPTEMBER 2005

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	9/19/2005 1112	4.28	689.52	0.00	689.52	
GW-04S MNW	1072284.456	1114685.127	690.76	NA	692.72	S	1	9/19/2005 1206	5.69	687.03	0.00	687.03	
GW-07S MNW	1071238.157	1117666.265	697.47	NA	699.51	S	1	9/19/2005 1134	6.16	693.35	0.00	693.35	
GW-08SR MNW	1073714.172	1116786.343	695.08	NA	697.50	S	1	9/19/2005 1054	5.42	692.08	0.00	692.08	
GW-28S MNW	1073129.479	1117648.927	698.60	NA	700.95	S	1	9/19/2005 1047	7.87	693.08	0.00	693.08	
GW-29S MNW	1072552.638	1117761.993	697.50	NA	699.63	S	1	9/19/2005 1142	8.07	691.56	0.00	691.56	
GW-30S MNW	1072096.109	1117743.563	693.67	NA	696.58	S	1	9/19/2005 1145	7.89	688.69	0.00	688.69	
GW-31S MNW	1071786.280	1117191.441	695.84	NA	698.62	S	1	9/19/2005 1149	5.63	692.99	0.00	692.99	
GW-32S MNW	1071613.793	1116364.200	696.19	NA	698.37	S	1	9/19/2005 1153	5.79	692.58	0.00	692.58	
GW-33S MNW	1072165.625	1115561.866	695.94	NA	698.24	S	1	9/19/2005 1200	7.93	690.31	0.00	690.31	
GW-34S MNW	1072979.205	1114730.200	692.51	NA	694.77	S	1	9/19/2005 1122	7.55	687.22	0.00	687.22	

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

Filter = (((tblGWD.LOGDATE Like "*2005"))) AND ((tblGWD.LOGDATE Like "9*"))

Printed: 3/28/2006 7:29:46 AM
N:\11172700.00000\GIS\dB\Program\Program.mde/Groundwater Le

TABLE 1
PFOHL BROTHERS LANDFILL SITE
GROUNDWATER ELEVATIONS
SEPTEMBER 2005

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	9/19/2005 1156	4.93	692.46	0.00	692.46	
MH-01 MH	1073806.665	1114810.501	698.62	NA	698.62	NA	1	9/19/2005 1104	11.08	687.54	0.00	687.54	
MH-03 MH	1073736.789	1115259.334	699.40	NA	699.40	NA	1	9/19/2005 1102	11.21	688.19	0.00	688.19	
MH-07 MH	1073838.229	1116243.757	696.82	NA	696.82	NA	1	9/19/2005 1058	9.44	687.38	0.00	687.38	
MH-10 MH	1073540.729	1117381.524	703.01	NA	703.01	NA	1	9/19/2005 1051	14.50	688.51	0.00	688.51	
MH-15 MH	1072531.567	1117761.125	699.02	NA	699.02	NA	1	9/19/2005 1141	14.98	684.04	0.00	684.04	
MH-16 MH	1072133.714	1117748.238	698.57	NA	698.57	NA	1	9/19/2005 1144	15.84	682.73	0.00	682.73	
MH-17 MH	1071813.137	1117180.019	702.16	NA	702.16	NA	1	9/19/2005 1148	18.34	683.82	0.00	683.82	
MH-20 MH	1071756.395	1115997.024	706.20	NA	706.20	NA	1	9/19/2005 1155	19.68	686.52	0.00	686.52	
MH-22 MH	1072158.023	1115589.309	698.05	NA	698.05	NA	1	9/19/2005 1159	9.08	688.97	0.00	688.97	
MH-25 MH	1072483.928	1114820.313	698.17	NA	698.17	NA	1	9/19/2005 1127	11.21	686.96	0.00	686.96	

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

Filter = (((tblGWD.LOGDATE Like "*2005"))) AND ((tblGWD.LOGDATE Like "9*"))

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TABLE 1
PFOHL BROTHERS LANDFILL SITE
GROUNDWATER ELEVATIONS
SEPTEMBER 2005

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	9/19/2005 1105	-1.62	691.62	0.00	691.62	
WW-01 MH	1073676.903	1115710.476		NA	684.02		1	9/16/2005 0000	-3.3	687.32	0.00	687.32	
WW-02 MH	1073684.724	1116792.311		NA	684.18		1	9/16/2005 0000	-4.5	688.68	0.00	688.68	
WW-03 MH	1073140.339	1117618.499		NA	683.80		1	9/16/2005 0000	-4.6	688.40	0.00	688.40	
WW-04 MH	1072057.563	1117610.508		NA	676.62		1	9/16/2005 0000	-4.9	681.52	0.00	681.52	
WW-05 MH	1071661.368	1116370.876		NA	676.14		1	9/16/2005 0000	-5.2	681.34	0.00	681.34	
WW-06 MH	1072988.420	1114811.518		NA	681.89		1	9/16/2005 0000	-4.6	686.49	0.00	686.49	

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 2
PFOHL BROTHERS LANDFILL SITE
GROUNDWATER ELEVATIONS
DECEMBER 2005

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	12/13/2005 0933	2.95	690.85	0.00	690.85	
GW-04S MNW	1072284.456	1114685.127	690.76	NA	692.72	S	1	12/13/2005 1048	4.62	688.10	0.00	688.10	
GW-07S MNW	1071238.157	1117666.265	697.47	NA	699.51	S	1	12/13/2005 1059	5.33	694.18	0.00	694.18	
GW-08SR MNW	1073714.172	1116786.343	695.08	NA	697.50	S	1	12/13/2005 0945	5.48	692.02	0.00	692.02	
GW-28S MNW	1073129.479	1117648.927	698.60	NA	700.95	S	1	12/13/2005 0953	6.28	694.67	0.00	694.67	
GW-29S MNW	1072552.638	1117761.993	697.50	NA	699.63	S	1	12/13/2005 1038	6.72	692.91	0.00	692.91	
GW-30S MNW	1072096.109	1117743.563	693.67	NA	696.58	S	1	12/13/2005 1030	7.61	688.97	0.00	688.97	
GW-31S MNW	1071786.280	1117191.441	695.84	NA	698.62	S	1	12/13/2005 1026	3.05	695.57	0.00	695.57	
GW-32S MNW	1071613.793	1116364.200	696.19	NA	698.37	S	1	12/13/2005 1017	3.28	695.09	0.00	695.09	
GW-33S MNW	1072165.625	1115561.866	695.94	NA	698.24	S	1	12/13/2005 1009	4.87	693.37	0.00	693.37	
GW-34S MNW	1072979.205	1114730.200	692.51	NA	694.77	S	1	12/13/2005 0922	2.71	692.06	0.00	692.06	

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

Filter = ((tblGWD.LOGDATE Like "*2005" And tblGWD.LOGDATE Like "12*"))

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TABLE 2
PFOHL BROTHERS LANDFILL SITE
GROUNDWATER ELEVATIONS
DECEMBER 2005

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	12/13/2005 1014	3.36	694.03	0.00	694.03	
MH-01 MH	1073806.665	1114810.501	698.62	NA	698.62	NA	1	12/13/2005 0927	11.41	687.21	0.00	687.21	
MH-03 MH	1073736.789	1115259.334	699.40	NA	699.40	NA	1	12/13/2005 0939	11.22	688.18	0.00	688.18	
MH-07 MH	1073838.229	1116243.757	696.82	NA	696.82	NA	1	12/13/2005 0941	9.41	687.41	0.00	687.41	
MH-10 MH	1073540.729	1117381.524	703.01	NA	703.01	NA	1	12/13/2005 0951	14.47	688.54	0.00	688.54	
MH-15 MH	1072531.567	1117761.125	699.02	NA	699.02	NA	1	12/13/2005 1035	15.05	683.97	0.00	683.97	
MH-16 MH	1072133.714	1117748.238	698.57	NA	698.57	NA	1	12/13/2005 1029	16.85	681.72	0.00	681.72	
MH-17 MH	1071813.137	1117180.019	702.16	NA	702.16	NA	1	12/13/2005 1021	18.41	683.75	0.00	683.75	
MH-20 MH	1071756.395	1115997.024	706.20	NA	706.20	NA	1	12/13/2005 1012	19.73	686.47	0.00	686.47	
MH-22 MH	1072158.023	1115589.309	698.05	NA	698.05	NA	1	12/13/2005 1008	9.05	689.00	0.00	689.00	
MH-25 MH	1072483.928	1114820.313	698.17	NA	698.17	NA	1	12/13/2005 0916	11.07	687.10	0.00	687.10	

NM - No Measurement

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

Type:

MH	Manhole Monitoring Point
MNW	Monitoring Well

Filter = ((tblGWD.LOGDATE Like "*2005" And tblGWD.LOGDATE Like "12*"))

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TABLE 2
PFOHL BROTHERS LANDFILL SITE
GROUNDWATER ELEVATIONS
DECEMBER 2005

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	12/13/2005 0928	-1.84	691.84	0.00	691.84	
SG-02	1073796.856	1115255.756						12/13/2005 0948	-1.34	-	0.00	-	
WW-01 MH	1073676.903	1115710.476		NA	684.02		1	12/13/2005 0000	-4.0	688.02	0.00	688.02	
WW-02 MH	1073684.724	1116792.311		NA	684.18		1	12/13/2005 0000	-4.5	688.68	0.00	688.68	
WW-03 MH	1073140.339	1117618.499		NA	683.80		1	12/13/2005 0000	-4.8	688.60	0.00	688.60	
WW-04 MH	1072057.563	1117610.508		NA	676.62		1	12/13/2005 0000	-4.6	681.22	0.00	681.22	
WW-05 MH	1071661.368	1116370.876		NA	676.14		1	12/13/2005 0000	-4.7	680.84	0.00	680.84	
WW-06 MH	1072988.420	1114811.518		NA	681.89		1	12/13/2005 0000	-5.9	687.79	0.00	687.79	

NM - No Measurement

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

Type:

MH	Manhole Monitoring Point
MNW	Monitoring Well

Filter = ((tblGWD.LOGDATE Like "*2005" And tblGWD.LOGDATE Like "12*"))

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TABLE 3
PFOHL BROTHERS LANDFILL SITE
OVERBURDEN HYDRAULIC GRADIENT

WELL PAIR:	WW-1		*		WW-2		GW-8SR		WW-3		GW-28S	
	Set Point	Water Level	Water Level	Gradient	Set Point	Water Level	Water Level	Gradient	Set Point	Water Level	Water Level	Gradient
DATE												
9/19/2005	689.02	687.32* *	---	---	689.18	688.68 **	692.08	3.40	688.80	688.40 **	693.08	4.68
12/13/2005	689.02	688.02	---	---	689.18	688.68	692.02	3.34	688.80	688.60	694.67	6.07

WELL PAIR:	WW-4		*		WW-5		GW-32S		WW-6		GW-34S	
	Set Point	Water Level	Water Level	Gradient	Set Point	Water Level	Water Level	Gradient	Set Point	Water Level	Water Level	Gradient
DATE												
9/19/2005	681.62	681.52 **	---	---	681.14	681.34 **	692.58	11.24	686.89	686.49 **	687.22	0.73
12/13/2005	681.62	681.22	---	---	681.14	680.84	695.09	14.25	686.89	687.79	692.06	4.27

WELL PAIR:	MH-1		SG-1		MH-1		GW-3S		MH-15		GW-29S	
	Set Point	Water Level	Water Level	Gradient	Set Point	Water Level	Water Level	Gradient	Set Point	Water Level	Water Level	Gradient
DATE												
9/19/2005	---	687.54	691.62	4.08	---	687.54	689.52	1.98	---	684.04	691.56	7.52
12/13/2005	---	687.21	691.84	4.63	---	687.21	690.85	3.64	---	683.97	692.91	8.94

WELL PAIR:	MH-16		GW-30S		MH-17		GW-31S		MH-20		GW-35S	
	Set Point	Water Level	Water Level	Gradient	Set Point	Water Level	Water Level	Gradient	Set Point	Water Level	Water Level	Gradient
DATE												
9/19/2005	---	682.73	688.69	5.96	---	683.82	692.99	9.17	---	686.52	692.46	5.94
12/13/2005	---	681.72	688.97	7.25	---	683.75	695.57	11.82	---	686.47	694.03	7.56

WELL PAIR:	MH-22		GW-33S	
	Set Point	Water Level	Water Level	Gradient
DATE				
9/19/2005	---	688.97	690.31	1.34
12/13/2005	---	689.00	693.37	4.37

Notes:

* = No corresponding monitoring well.
** = Measured on 9/16/05

APPENDIX D

GROUNDWATER PURGE AND COLLECTION LOGS

WELL PURGING LOG

URS Corporation

SITE NAME: Pfohl Brothers Landfill WELL NO.: GW-01S

PROJECT NO.: 11172700.00003

STAFF: J. Doerr/A. Brayman

DATE(S): 9/21/2005

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	14.95	1"	0.040
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	3.02	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	11.93	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)	=	2.03	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 1)	=	6.08	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	6	8"	2.60

V=0.0408 x (CASING DIAMETER IN INCHES)^2

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	Initial	1	2	3	4	5	6				
pH	6.91	7.09	7.03	7.05	7.04	7.05	7.10				
SPEC. COND. (mS/cm)	3.10	2.60	2.60	2.60	2.50	2.50	2.60				
TEMPERATURE ^{0}C	17.1	16.1	16.1	15.9	15.4	15.2	15.2				
TURBIDITY	47	19	15	11	4	5	5				
DISSOLVED OXYGEN (mg/L)	-	-	-	-	-	-	-				
ORP (mV)	-	-	-	-	-	-	-				

COMMENTS:

Purged using peristaltic pump and dedicated tubing. Sampled with dedicated stainless steel bailer.

WELL PURGING LOG

URS Corporation

SITE NAME: Pfohl Brothers Landfill WELL NO.: GW-01D

PROJECT NO.: 11172700.00003

STAFF: J. Doerr/A. Brayman

DATE(S): 9/21/2005

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	39.61	1"	0.040
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	3.42	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	36.19	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.66	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	23.89	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 1)	=	71.66	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	72	8"	2.60

V=0.0408 x (CASING DIAMETER IN INCHES)^2

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	Initial	10	20	30	40	50	60	70			
pH	7.63	7.61	7.55	7.53	7.51	7.52	7.48	7.49			
SPEC. COND. (mS/cm)	1.20	1.20	1.20	1.20	1.20	1.20	1.30	1.20			
TEMPERATURE ^{0}C	12.2	12.1	12.0	12.0	12.1	12.0	11.8	12.0			
TURBIDITY	19	10	6	5	2	3	3	3			
DISSOLVED OXYGEN (mg/L)	-	-	-	-	-	-	-	-			
ORP (mV)	-	-	-	-	-	-	-	-			

COMMENTS:

Well purged with dedicated submersible pump & tubing. Sampled with dedicated stainless steel bailer.

WELL PURGING LOG

URS Corporation

SITE NAME: Pfohl Brothers Landfill WELL NO.: GW-03S

PROJECT NO.: 11172700.00003

STAFF: J. Doerr/A. Brayman

DATE(S): 9/21/2005

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	13.54	1"	0.040
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	4.28	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	9.26	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)	=	1.57	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 1)	=	4.72	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	5.0	8"	2.60

V=0.0408 x (CASING DIAMETER IN INCHES)^2

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	Initial	1	2	3	4	5					
pH	7.30	7.34	7.20	7.20	7.21	7.25					
SPEC. COND. (mS/cm)	1.30	1.30	1.40	1.40	1.30	1.30					
TEMPERATURE ^{0}C	17.1	16.1	15.3	15.0	14.8	14.7					
TURBIDITY	76	32	22	4	2	3					
DISSOLVED OXYGEN (mg/L)	-	-	-	-	-	-					
ORP (mV)	-	-	-	-	-	-					

COMMENTS:

Purged using peristaltic pump and dedicated tubing. Sampled with dedicated stainless steel bailer.

WELL PURGING LOG

URS Corporation

SITE NAME: Pfohl Brothers Landfill WELL NO.: GW-03D

PROJECT NO.: 11172700.00003

STAFF: J. Doerr/A. Brayman

DATE(S): 9/21/2005

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	35.99	1"	0.040
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	1.89	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	34.10	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.66	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	22.51	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 1)	=	67.53	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	70	8"	2.60

V=0.0408 x (CASING DIAMETER IN INCHES)^2

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	Initial	10	20	30	40	50	60	70			
pH	7.29	7.28	7.25	7.28	7.29	7.29	7.29	7.31			
SPEC. COND. (mS/cm)	1.90	2.00	2.00	2.00	2.00	2.00	2.00	2.00			
TEMPERATURE ^{0}C	14.4	13.2	12.7	12.7	12.7	12.7	12.7	12.7			
TURBIDITY	2	4	6	0	12	14	37	26			
DISSOLVED OXYGEN (mg/L)	-	-	-	-	-	-	-	-			
ORP (mV)	-	-	-	-	-	-	-	-			

COMMENTS:
Well purged with dedicated submersible pump & tubing. Sampled with dedicated stainless steel bailer.

WELL PURGING LOG

URS Corporation

SITE NAME: Pfohl Brothers Landfill WELL NO.: GW-04S

PROJECT NO.: 11172700.00003

STAFF: J. Doerr/A. Brayman

DATE(S): 9/21/2005

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	16.51	1"	0.040
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	5.69	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	10.82	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)	=	1.84	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 1)	=	5.52	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	4.5	8"	2.60

V=0.0408 x (CASING DIAMETER IN INCHES)^2

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	Initial	1.0	2.0	3.0	3.5	4.0	4.5				
pH	7.97	7.95	8.00	7.93	7.87	7.84	7.85				
SPEC. COND. (mS/cm)	0.50	0.50	0.50	0.50	0.50	0.50	0.50				
TEMPERATURE ^{0}C	16.4	15.5	15.3	14.4	13.7	13.3	13.2				
TURBIDITY	3	12	59	122	215	463	>999				
DISSOLVED OXYGEN (mg/L)	-	-	-	-	-	-					
ORP (mV)	-	-	-	-	-	-					

COMMENTS:

Purged and sampled using dedicated stainless steel bailer. Dry after removing ~ 4.5 gallons. Groundwater samples were collected once the well recharged. The turbidity was estimated to be below 50 NTU.

WELL PURGING LOG

URS Corporation

SITE NAME: Pfohl Brothers Landfill WELL NO.: GW-04D

PROJECT NO.: 11172700.00003

STAFF: J. Doerr/A. Brayman

DATE(S): 9/21/2005

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	45.36	1"	0.040
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	13.08	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	32.28	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.66	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	21.30	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 1)	=	63.91	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	30	8"	2.60

V=0.0408 x (CASING DIAMETER IN INCHES)^2

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	Initial	10	17	23	26	28					
pH	7.66	7.64	7.66	7.70	7.64	7.73					
SPEC. COND. (mS/cm)	1.30	1.30	1.30	1.30	1.30	1.30					
TEMPERATURE ^{0}C	12.5	11.1	11.9	11.6	11.3	11.4					
TURBIDITY	27	13	25	25	722	>999					
DISSOLVED OXYGEN (mg/L)	-	-	-	-	-	-	-				
ORP (mV)	-	-	-	-	-	-	-				

COMMENTS:

Well purged with dedicated submersible pump & tubing until water level dropped below 30'. Switched to purging with dedicated stainless steel bailer Dry after removing ~ 30 gallons. Groundwater samples were collected once the well recharged. Sampled with dedicated stainless steel bailer. The turbidity was estimated to be below 50 NTU.

WELL PURGING LOG

URS Corporation

SITE NAME: Pfohl Brothers Landfill WELL NO.: GW-07S

PROJECT NO.: 11172700.00003

STAFF: J. Doerr/A. Brayman

DATE(S): 9/19/2005

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	35.30	1"	0.040
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	6.16	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	29.14	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.17	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	4.95	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 1)	=	14.86	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	6.5	8"	2.60

V=0.0408 x (CASING DIAMETER IN INCHES)^2

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	Initial	1	2	3	4	5	6				
pH	8.05	8.00	8.09	7.91	7.98	8.03	7.98				
SPEC. COND. (mS/cm)	0.60	0.60	0.60	0.60	0.60	0.60	0.60				
TEMPERATURE ^{0}C	16.5	14.2	13.2	1.8	11.8	11.5	12.1				
TURBIDITY	18	17	22	49	163	209	360				
DISSOLVED OXYGEN (mg/L)	-	-	-	-	-	-	-				
ORP (mV)	-	-	-	-	-	-	-				

COMMENTS:

Purged and sampled with dedicated stainless steel bailer. Dry after removing ~ 6.5 gallons. Groundwater samples were collected once the well recharged. The turbidity was estimated to be below 50 NTU.

WELL PURGING LOG

URS Corporation

SITE NAME: Pfohl Brothers Landfill WELL NO.: GW-07D

PROJECT NO.: 11172700.00003

STAFF: J. Doerr/A. Brayman

DATE(S): 9/19/2005

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	60.95	1"	0.040
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	28.35	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	32.60	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.66	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	21.52	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 1)	=	64.55	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	21	8"	2.60

V=0.0408 x (CASING DIAMETER IN INCHES)^2

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	Initial	1	2	3	4	5	6	12	16	20	
pH	8.14	8.16	8.14	8.12	8.11	8.10	8.16	8.14	8.15	8.46	
SPEC. COND. (mS/cm)	0.80	0.80	0.80	0.80	0.80	0.80	0.70	0.80	0.90	0.90	
TEMPERATURE ^{0}C	12.6	11.8	11.8	11.9	12.3	12.0	12.2	12.9	12.5	12.2	
TURBIDITY	3	4	3	4	4	4	5	13	13	135	
DISSOLVED OXYGEN (mg/L)	-	-	-	-	-	-	-	-	-	-	-
ORP (mV)	-	-	-	-	-	-	-	-	-	-	-

COMMENTS:
Well purged with dedicated submersible pump & tubing. Slight H_2S odor. Sampled with dedicated stainless steel bailer. Dry afte removing ~21 gallons. Groundwater samples were collected once the well recharged. The turbidity was estimated to be below 50 NTU.

WELL PURGING LOG

URS Corporation

SITE NAME: Pfohl Brothers Landfill WELL NO.: GW-08SR

PROJECT NO.: 11172700.00003

STAFF: J. Doerr/A. Brayman

DATE(S): 9/21/2005

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	13.31	1"	0.040
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	5.42	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	7.89	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)	=	1.34	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 1)	=	4.02	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	4	8"	2.60

V=0.0408 x (CASING DIAMETER IN INCHES)^2

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	Initial	0.5	1.0	2.0	2.5	3.0	3.5	4.0			
pH	7.19	7.09	7.12	7.11	7.32	7.14	7.13	7.13			
SPEC. COND. (mS/cm)	1.90	1.90	1.80	1.90	1.90	1.80	1.80	1.80			
TEMPERATURE ^{0}C	17.7	16.3	15.5	15.5	15.4	15.7	15.6	15.6			
TURBIDITY	92	56	106	310	198	248	167	247			
DISSOLVED OXYGEN (mg/L)	-	-	-	-	-	-	-	-			
ORP (mV)	-	-	-	-	-	-	-	-			

COMMENTS:

Purged using peristaltic pump and dedicated tubing. Sampled with dedicated stainless steel bailer.

WELL PURGING LOG

URS Corporation

SITE NAME: Pfohl Brothers Landfill WELL NO.: GW-08D

PROJECT NO.: 11172700.00003

STAFF: J. Doerr/A. Brayman

DATE(S): 9/21/2005

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	36.89	1"	0.040
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	5.73	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	31.16	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.66	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	20.57	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 1)	=	61.70	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	64	8"	2.60

V=0.0408 x (CASING DIAMETER IN INCHES)^2

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	Initial	10	20	30	40	50	60				
pH	7.16	7.04	7.02	7.03	7.02	7.00	7.00				
SPEC. COND. (mS/cm)	2.30	1.80	1.80	1.80	1.80	1.80	1.80				
TEMPERATURE ^{0}C	12.1	12.0	12.1	12.1	12.1	12.1	12.0				
TURBIDITY	14	3	2	2	2	2	1				
DISSOLVED OXYGEN (mg/L)	-	-	-	-	-	-	-				
ORP (mV)	-	-	-	-	-	-	-				

COMMENTS:

Well purged with dedicated submersible pump & tubing. Sampled with dedicated stainless steel bailer.

WELL PURGING LOG

URS Corporation

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

PROJECT NO.: 11172700.00003

STAFF: J. Doerr/A. Brayman

DATE(S): 9/20/2005

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	41.05	1"	0.040
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	6.54	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	34.51	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.66	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	22.78	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 1)	=	68.33	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	70	8"	2.60

V=0.0408 x (CASING DIAMETER IN INCHES)^2

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	Initial	10	20	30	40	50	60	70			
pH	7.34	7.23	7.17	7.13	7.17	7.24	7.19	7.16			
SPEC. COND. (mS/cm)	2.00	2.10	2.10	2.10	2.10	2.10	2.10	2.10			
TEMPERATURE ^{0}C	13.1	12.5	11.8	11.9	11.8	12.1	11.8	11.6			
TURBIDITY	2	1	2	1	2	1	1	1			
DISSOLVED OXYGEN (mg/L)	-	-	-	-	-	-	-	-			
ORP (mV)	-	-	-	-	-	-	-	-			

COMMENTS:

Well purged with dedicated submersible pump & tubing. Sampled with dedicated stainless steel bailer.

WELL PURGING LOG

URS Corporation

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

PROJECT NO.: 11172700.00003

STAFF: J. Doerr/A. Brayman

DATE(S): 9/20/2005

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	15.88	1"	0.040
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	7.87	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	8.01	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)	=	1.36	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 1)	=	4.09	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	4	8"	2.60

V=0.0408 x (CASING DIAMETER IN INCHES)^2

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	Initial	0.5	1.0	1.5	2.0	2.5	3.0	3.5			
pH	6.77	7.00	7.17	7.08	7.14	7.02	7.14	6.96			
SPEC. COND. (mS/cm)	1.70	1.40	1.30	1.50	1.60	1.70	1.80	1.80			
TEMPERATURE ^{0}C	16.7	16.8	16.4	16.1	15.8	15.6	15.6	15.4			
TURBIDITY	88	115	47	90	167	119	626	>999			
DISSOLVED OXYGEN (mg/L)	-	-	-	-	-	-	-	-			
ORP (mV)	-	-	-	-	-	-	-	-			

COMMENTS:

Purged using peristaltic pump and dedicated tubing. Dry after removing ~ 4 gallons. Groundwater samples were collected once the the well recharged. Sampled with dedicated stainless steel bailer. The turbidity was estimated to be below 50 NTU.

WELL PURGING LOG

URS Corporation

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

PROJECT NO.: 11172700.00003

STAFF: J. Doerr/A. Brayman

DATE(S): 9/19/2005

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	20.32	1"	0.040
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	8.07	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	12.25	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)	=	2.08	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 1)	=	6.25	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	3.75	8"	2.60

V=0.0408 x (CASING DIAMETER IN INCHES)^2

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	Initial	1.00	2.00	3.00	3.25	3.50					
pH	7.41	7.38	7.46	7.43	7.45	7.39					
SPEC. COND. (mS/cm)	0.80	0.90	0.80	0.90	0.90	1.00					
TEMPERATURE ^{0}C	15.20	14.30	14.30	13.70	13.40	13.20					
TURBIDITY	13	338	>999	>999	>999	>999					
DISSOLVED OXYGEN (mg/L)	-	-	-	-	-	-					
ORP (mV)	-	-	-	-	-	-					

COMMENTS:

Purged using peristaltic pump and dedicated tubing. Dry after removing ~ 3.75 gallons. Groundwater samples were collected once the well recharged. Sampled with dedicated stainless steel bailer. The turbidity was estimated to be below 50 NTU.

WELL PURGING LOG

URS Corporation

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

PROJECT NO.: 11172700.00003

STAFF: J. Doerr/A. Brayman

DATE(S): 9/20/2005

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	18.23	1"	0.040
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	7.89	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	10.34	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)	=	1.76	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 1)	=	5.27	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	6	8"	2.60

V=0.0408 x (CASING DIAMETER IN INCHES)^2

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	Initial	0.5	1.0	2.0	2.5	3.0	4.0	5.0	6.0		
pH	7.04	7.01	7.14	7.12	7.13	7.12	7.17	7.14	7.11		
SPEC. COND. (mS/cm)	5.40	5.30	5.30	5.20	5.20	5.20	5.20	5.20	5.10		
TEMPERATURE ^{0}C	18.2	15.5	15.7	15.1	15.0	15.0	15.1	15.1	15.0		
TURBIDITY	>999	22	186	18	8	8	5	4	4		
DISSOLVED OXYGEN (mg/L)	-	-	-	-	-	-	-	-	-		
ORP (mV)	-	-	-	-	-	-	-	-	-		

COMMENTS:

Purged using peristaltic pump and dedicated tubing. Sampled with dedicated stainless steel bailer.

WELL PURGING LOG

URS Corporation

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

PROJECT NO.: 11172700.00003

STAFF: J. Doerr/A. Brayman

DATE(S): 9/19/2005

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	9.86	1"	0.040
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	5.63	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	4.23	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)	=	0.72	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 1)	=	2.16	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	1.5	8"	2.60

V=0.0408 x (CASING DIAMETER IN INCHES)^2

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	Initial	1	1.5								
pH	7.21	7.18	7.20								
SPEC. COND. (mS/cm)	1.10	1.30	1.50								
TEMPERATURE ^{0}C	15.1	18.0	17.4								
TURBIDITY	13	>999	>999								
DISSOLVED OXYGEN (mg/L)	-	-	-								
ORP (mV)	-	-	-								

COMMENTS:

Purged and sampled with dedicated stainless steel bailer. Parameters taken every other bailer. Dry after removing ~ 1.5 gallons. Groundwater samples were collected once the well recharged. The turbidity was estimated to be below 50 NTU.

WELL PURGING LOG

URS Corporation

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

PROJECT NO.: 11172700.00003

STAFF: J. Doerr/A. Brayman

DATE(S): 9/19/2005

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	10.21	1"	0.040
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	5.79	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	4.42	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)	=	0.75	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 1)	=	2.25	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	2.5	8"	2.60

V=0.0408 x (CASING DIAMETER IN INCHES)^2

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	Initial	1.00	1.50	2.00	2.25	2.50					
pH	7.71	7.55	7.52	7.45	7.49	7.54					
SPEC. COND. (mS/cm)	0.70	0.80	0.90	1.10	1.00	0.90					
TEMPERATURE ^{0}C	19.5	18.1	17.4	17.4	17.1	17.3					
TURBIDITY	31	434	909	>999	>999	>999					
DISSOLVED OXYGEN (mg/L)	-	-	-	-	-	-					
ORP (mV)	-	-	-	-	-	-					

COMMENTS:

Purged and sampled with dedicated stainless steel bailer. Well dry after removing ~ 2.5 gallons. Groundwater samples were collected once the well recharged. The turbidity was estimated to be below 50 NTU.

WELL PURGING LOG

URS Corporation

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

PROJECT NO.: 11172700.00003

STAFF: J. Doerr/A. Brayman

DATE(S): 9/19/2005

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	8.51	1"	0.040
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	7.93	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	0.58	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)	=	0.10	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 1)	=	0.30	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	0.10	8"	2.60

V=0.0408 x (CASING DIAMETER IN INCHES)^2

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	Initial										
pH	7.05										
SPEC. COND. (mS/cm)	1.60										
TEMPERATURE ^{0}C	19.8										
TURBIDITY	>999										
DISSOLVED OXYGEN (mg/L)	-										
ORP (mV)	-										

COMMENTS:

Purged using peristaltic pump and dedicated tubing. Sampled with dedicated stainless steel bailer. Groundwater samples were collected once the well recharged. The turbidty was estimated to be below 50 NTU.

WELL PURGING LOG

URS Corporation

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

PROJECT NO.: 11172700.00003

STAFF: J. Doerr/A. Brayman

DATE(S): 9/21/2005

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	10.30	1"	0.040
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	7.55	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	2.75	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)	=	0.47	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 1)	=	1.40	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	1.5	8"	2.60

V=0.0408 x (CASING DIAMETER IN INCHES)^2

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	Initial	0.5	1.0	1.5							
pH	7.18	7.14	7.11	7.20							
SPEC. COND. (mS/cm)	1.40	1.40	1.40	1.50							
TEMPERATURE ^{0}C	18.5	14.8	14.2	14.1							
TURBIDITY	160	30	19	54							
DISSOLVED OXYGEN (mg/L)	-	-	-	-							
ORP (mV)	-	-	-	-							

COMMENTS:

Purged using peristaltic pump and dedicated tubing. Dry after removing ~ 1.5 gallons. Groundwater samples were collected once the well recharged. Sampled with dedicated stainless steel bailer. The turbidity was estimated to be below 50 NTU.

WELL PURGING LOG

URS Corporation

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

PROJECT NO.: 11172700.00003

STAFF: J. Doerr/A. Brayman

DATE(S): 9/19/2005

			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.)	=	4.93	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	2.82	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)	=	0.48	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 1)	=	1.44	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	0.8	8"	2.60

V=0.0408 x (CASING DIAMETER IN INCHES)^2

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	Initial	0.25	0.375	0.5	0.625	0.75	0.825				
pH	7.64	7.49	7.39	7.50	7.41	7.54	7.45				
SPEC. COND. (umhos)	1.10	0.80	0.90	0.80	0.90	0.90	0.90				
TEMPERATURE ^{0}C	19.1	19.4	19.1	19.0	18.6	18.3	18.6				
TURBIDITY	80	224	>999	858	>999	>999	>999				
DISSOLVED OXYGEN (mg/L)	-	-	-	-	-	-	-				
ORP (mV)	-	-	-	-	-	-	-				

COMMENTS:

Purged and sampled with dedicated stainless steel bailer. Dry after removing ~0.8 gallons. Groundwater samples were collected once the well recharged. The turbidity was estimated to be below 50 NTU.

GROUNDWATER SAMPLING - SAMPLE COLLECTION DATA SHEET

Project Name: *Pfohl Brothers* Project Number: *11172700.00003*

Sampling Crew Members: *J. Doerr; A. Brayman* Supervisor: *J. Stachowski*

Date of Inspection: *9/19/05-9/22/05*

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	6.08	6	14:10	Groundwater	VOCs/SVOCs/ PCBs/Metals/ Cyanide/Dioxins & Furans	
GW-01D	GW-01D	23.9	72	14:05	Groundwater		
GW-03S	GW-03S	1.57	5	11:50	Groundwater		
GW-03D	GW-03D	22.5	70	11:40	Groundwater		
GW-04S	GW-04S	1.84	4.5	14:55	Groundwater		
GW-04D	GW-04D	21.3	30	14:20	Groundwater		
GW-07S	GW-07S	4.95	6.5	13:05	Groundwater		
GW-07D	GW-07D	21.52	21	13:25	Groundwater		

Additional Comments: Any wells showing the purge amount as less than 3 well volumes were purged until dry

GROUNDWATER SAMPLING - SAMPLE COLLECTION DATA SHEET

Project Name: *Pfohl Brothers* Project Number: *11172700.00003*

Sampling Crew Members: *J. Doerr; A. Brayman* Supervisor: *J. Stachowski*

Date of Inspection: *9/19/05-9/22/05*

Sample I.D. Number	*Well Number*	*Well Volume (gal.)*	*Volume Purged (gal.)*	*Sample Time*	*Sample Description*	*Analysis Required*	*Chain-of-Custody Number*
GW-08SR	GW-08SR	1.34	4	9:55	Groundwater	VOCs/SVOCs/ PCBs/Metals/ Cyanide/Dioxins & Furans	
GW-08D	GW-08D	20.57	64	9:40	Groundwater		
GW-26D	GW-26D	22.78	70	14:10	Groundwater		
GW-28S	GW-28S	1.36	4	16:50	Groundwater		
GW-29S	GW-29S	2.08	3.75	10:25	Groundwater		
GW-30S	GW-30S	1.76	6	11:05	Groundwater		
GW-31S	GW-31S	0.72	1.5	10:05	Groundwater		
GW-32S	GW-32S	0.75	2.5	9:45	Groundwater		

Additional Comments: Any wells showing the purge amount as less than 3 well volumes were purged until dry

GROUNDWATER SAMPLING - SAMPLE COLLECTION DATA SHEET

Project Name: *Pfohl Brothers* Project Number: *11172700.00003*

Sampling Crew Members: *J. Doerr; A. Brayman* Supervisor: *J. Stachowski*

Date of Inspection: *9/19/05-9/22/05*

Sample I.D. Number	***Well Number***	***Well Volume (gal.)***	***Volume Purged (gal.)***	***Sample Time***	***Sample Description***	***Analysis Required***	***Chain-of-Custody Number***
GW-33S	GW-33S	0.1	0.1	13:50	Groundwater	VOCs/SVOCs/ PCBs/Metals/ Cyanide/Dioxins & Furans	
GW-34S	GW-34S	0.47	1.5	15:40	Groundwater		
GW-35S	GW-35S	0.48	0.8	9:25	Groundwater		
TB-092005	---	---	---	---	Trip Blank	VOCs	
TB-092105	---	---	---	---	Trip Blank		

Additional Comments: Any wells showing the purge amount as less than 3 well volumes were purged until dry

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	0.001 lbs.	1 day	Composite[2]
	USEPA Test Method 608[4]	To be monitored	1 day	Grab[3]
	USEPA Test Method 624[4]	To be monitored	1 day	Grab[3]
	USEPA Test Method 625[4]	To be monitored	1 day	Grab[3]
	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.

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

DISCHARGE REPORT SUMMARY TABLES

SAMPLING FIELD SHEET

URS

Client Name: Pfohl Brothers Landfill

Address: Aero Drive, Cheektowaga, NY

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

Installation:

Sample Point: SP-001

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

Date: 9/16/05 Crew: J. Doerr, A. Brayman, J. Stachowski

Weather: 64° F, Light rain

Sampling Device: NA

Time of Installation: 08:10 Type of Sample: Grab directly into laboratory sample containers

Sample Interval: NA Sample Volume: NA

Comments and Observations: WW-4 was pumping at time of sample set-up.
PLC display volumes: WW-01 (491,740 gals), WW-02 (20,415 gals), WW-03 (276,325 gals),
WW-04 (1,135,970gals), WW-05 (266,825 gals),WW-06 (381,566 gals) & MH-25 (2,624,681 gals).

Date: 9/16/05 Crew: J. Doerr, A. Brayman, S. McCabe

Weather: 64 ° F, overcast

Time of Collection: 08:20

Field Measurements:

08:25/JD
(time/initial)

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

pH Measurement: 6.73

Temperature: 17.9°C

Identification: PB-091605

Physical Observations: None

Laboratory: Severn Trent, Buffalo, NY

Comments and Observations: WW-4 was pumping at time of sample set-up.
PLC display volumes: WW-01 (491,740 gals), WW-02 (20,415 gals), WW-03 (276,325 gals),
WW-04 (1,173,940gals), WW-05 (266,825 gals),WW-06 (381,566 gals) & MH-25 (2,632,385 gals).

Reviewed By: _____ Date: 10/03/05
(Supervisor)

TABLE 1

PFOHL BROTHERS LANDFILL - EFFLUENT MONITORING ANALYTICAL RESULTS, TOTAL FLOW, AND MASS LOADINGS SEPTEMBER 2005

Sample ID	**PB-091605**			
Matrix	**Effluent Water**			
Date Sampled	**9/16/2005**			
Parameter	**Result**	**Mass Loading**	**Discharge Limitation**	**Violations**
	(mg/L)	**(lbs/day)**	**(lbs/day)**	**(Y/N)**
Total Barium	0.48	0.18	2.34	No
Total Cadmuim	ND(1)	NA(2)	1.17	No
Total Chromium	ND	NA	1.17	No
Total Copper	ND	NA	3.74	No
Total Lead	ND	NA	1.17	No
Total Nickel	ND	NA	3.27	No
Total Zinc	ND	NA	5.84	No
Total Suspended Solids	15.0	5.72	250 (3)	No
pH (4)	6.73	NA	5.0 - 12.0	No
Total Flow (5)		45,674	140,000	No

Notes:

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

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

SAMPLING FIELD SHEET

URS

Client Name: Pfohl Brothers Landfill

Address: Aero Drive, Cheektowaga, NY

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

Installation:

Sample Point: SP-001

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

Date: 12/13/05 Crew: R. Murphy, A. Brayman, J. Stachowski

Weather: 5° F, sunny, calm

Sampling Device: NA

Time of Installation: 08:55 Type of Sample: Grab directly into laboratory sample containers

Sample Interval: NA Sample Volume: NA

Comments and Observations: Wet wells WW-04 and WW-06 pumping.
PLC display volumes: WW-01 (576,642 gals), WW-02 (42,586 gals), WW-03 (714,642 gals),
WW-04 (2,831,579 gals), WW-05 (697,243 gals),WW-06 (1,598,606 gals) & MH-25 (6,464,789 gals).

Date: 12/14/05 Crew: R. Murphy, A. Brayman, J. Stachowski

Weather: 10 ° F, clear

Time of Collection: 08:30

Field Measurements:

08:25/RM
(time/initial)

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

pH Measurement: 6.6

Temperature: 5.6°C

Identification: PB-121405

Physical Observations: None

Laboratory: Severn Trent, Buffalo, NY

Comments: Wet well WW-06 pumping.
PLC display volumes: WW-01 (576,642 gals), WW-02 (42,586 gals), WW-03 (714,642 gals),
WW-04 (2,844,548 gals), WW-05 (697,243 gals), WW-06 (1,636,692 gals) & MH-25 (6,515,198 gals).

Reviewed By: _____ Date: 01/19/06
(Supervisor)

TABLE 1

PFOHL BROTHERS LANDFILL - EFFLUENT MONITORING ANALYTICAL RESULTS, TOTAL FLOW, AND MASS LOADINGS DECEMBER 2005

Sample ID	**PB-121405**			
Matrix	**Effluent Water**			
Date Sampled	**12/14/2005**			
Parameter	**Result**	**Mass Loading**	**Discharge Limitation**	**Violations**
	(mg/L)	**(lbs/day)**	**(lbs/day)**	**(Y/N)**
Total Barium	0.31	0.13	2.34	No
Total Cadmuim	ND[(1)]	NA[(2)]	1.17	No
Total Chromium	ND	NA	1.17	No
Total Copper	ND	NA	3.74	No
Total Lead	ND	NA	1.17	No
Total Nickel	ND	NA	3.27	No
Total Zinc	ND	NA	5.84	No
Total Suspended Solids	ND	NA	250 [(3)]	No
pH [(4)]	6.6	NA	5.0 - 12.0	No
Total Flow [(5)]		50,409	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

MONITORING WELL INSPECTION LOGS

WELL INSPECTION SUMMARY

Project Name: *Pfohl Brothers Landfill* Project Number: *11172700.00003*

Inspection Crew Members: *J. Doerr, A. Brayman* Supervisor: *J. Stachowski*

Date of Inspection: *September 19, 2005*

Well I.D. Number	*Lock*	*Surface Seal*	*Protective Casing*	*Riser*	*Water Level (ft. BTOC)*	*Well Depth (ft. BTOC)*	*Other Comments*
GW-1S	missing	OK	rotted	OK	3.02	14.95	no J-plug
GW-1D	missing	OK	rotted	OK	3.42	39.61	no J-plug
GW-3S	OK	broken	OK	OK	4.28	13.54	no J-plug
GW-3D	missing	broken	OK	OK	1.89	35.99	no J-plug
GW-4S	OK	OK	OK	OK	5.69	16.51	
GW-4D	OK	OK	OK	OK	13.08	45.36	
GW-07S	missing	OK	lid broken	OK	6.16	35.3	
GW-7D	rusted	OK	OK	Damaged	28.35	60.95	

Additional Comments: _____

_____

_____

WELL INSPECTION SUMMARY

Project Name: *Pfohl Brothers Landfill* Project Number: *11172700.00003*

Inspection Crew Members: *J. Doerr, A. Brayman* Supervisor: *J. Stachowski*

Date of Inspection: *September 19, 2005*

Well I.D. Number	*Lock*	*Surface Seal*	*Protective Casing*	*Riser*	*Water Level (ft. BTOC)*	*Well Depth (ft. BTOC)*	*Other Comments*
GW-8SR	OK	OK	OK	OK	5.42	13.31	no J-plug
GW-8D	OK	OK	OK	OK	5.73	36.89	no J-plug
GW-26D	OK	OK	OK	OK	6.54	41.05	
GW-28S	OK	OK	OK	OK	7.87	15.88	
GW-29S	OK	OK	OK	OK	8.07	20.32	
GW-30S	OK	OK	OK	OK	7.89	18.23	
GW-31S	OK	OK	OK	OK	5.63	9.86	
GW-32S	OK	OK	OK	OK	5.79	10.21	

Additional Comments: _____

_____

_____

WELL INSPECTION SUMMARY

Project Name: *Pfohl Brothers Landfill* Project Number: *11172700.00003*

Inspection Crew Members: *J. Doerr, A. Brayman* Supervisor: *J. Stachowski*

Date(s) of Inspection: *September 19, 2005*

Well I.D. Number	*Lock*	*Surface Seal*	*Protective Casing*	*Riser*	*Water Level (ft. BTOC)*	*Well Depth (ft. BTOC)*	*Other Comments*
GW-33S	OK	OK	OK	OK	7.93	8.51	
GW-34S	OK	OK	OK	OK	7.55	10.30	
GW-35S	OK	OK	OK	OK	4.93	7.75	

Additional Comments: _____

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