

10 December 2007

Mr. Michael J. Hinton, P.E.  
Environmental Engineer 2  
New York State Department of Environmental Conservation  
Division of Environmental Remediation - Region 9  
270 Michigan Avenue  
Buffalo, New York 14203

RE: Monthly Progress Report – November 2007  
Greif, Inc. Facility – Tonawanda, New York  
NYSDEC VCP Number V00334-9



***Key Actions  
This Period:***

- Collected and recorded dense, non-aqueous phase liquid (DNAPL) and ground water levels in recovery wells, selected nearby monitoring wells, and vapor monitoring points in the Varnish Pit Area as part of the New York State Department of Environmental Conservation (NYSDEC)-approved Interim Remedial Measure (IRM).
- As of 4 December 2007, a total of 1,439.3 gallons of DNAPL and 6,708 gallons of aqueous phase liquid have been recovered during DNAPL recovery IRM activities. DNAPL recovery data are summarized in Tables 1 and 2 and Figures 1 and 2.
- Approximately 945 gallons of DNAPL and 4,523 gallons of aqueous liquid have been recovered by pumping from DNAPL recovery wells since 25 August 2005 (27 months of pumping).
- Approximately 495 gallons of DNAPL and 2,170 gallons of aqueous fluid have been condensed from extracted vapors since initiation of low vacuum-enhanced DNAPL recovery on 28 March 2007.
- Collected and recorded light, non-aqueous phase liquid (LNAPL) and ground water level measurements from monitoring well MW-23. These data are summarized in Table 3.
- A roof was installed over the treatment system chiller unit on 1 November 2007 to protect the chiller unit and associated piping from falling snow or ice.

- Problems/  
Resolutions:**
- The low vacuum skids and off-gas treatment system required routine maintenance and repairs. An alarm was tripped by what appeared to be a power surge on 21 November 2007 which shut the system down through the holiday weekend. After adjustments were made to the system, the system was re-started on 26 November 2007. The system was operating normally after re-start.
- Analytical Data  
Received:**
- Laboratory analytical report dated 13 November 2007 from TestAmerica in Amherst, New York, containing data from the ground water sampling event conducted on 8 and 9 October 2007. These data are summarized in Table 4.
- Documents  
Submitted:**
- Revised Work Plan for Evaluation of Vapor Intrusion dated 2 November 2007.
  - Monthly Progress Report for October 2007 dated 12 November 2007.
- Anticipated  
Actions -  
December 2007:**
- Conduct field work from 10 December through 12 December 2007 to implement the NYSDEC-approved Work Plan for Evaluation of Vapor Intrusion.
  - Continuation of DNAPL recovery system O&M and associated waste handling and management operations.
  - Measurement of LNAPL and ground water level measurements in monitoring well MW-23 on a monthly basis.
  - Prepare the Quarterly Ground Water Monitoring Report for October 2007. This report will include a discussion of the results for all eight quarters with regards to feasibility of monitored natural attenuation at the Site as well as a discussion of the result of background fluorescence analyses and fluorescent dye tracing results.
- NYSDEC-  
Approved Field  
Decisions:**
- None.

**Greif Facility - Tonawanda, New York**  
Monthly Progress Report - November 2007  
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*Prepared By:*



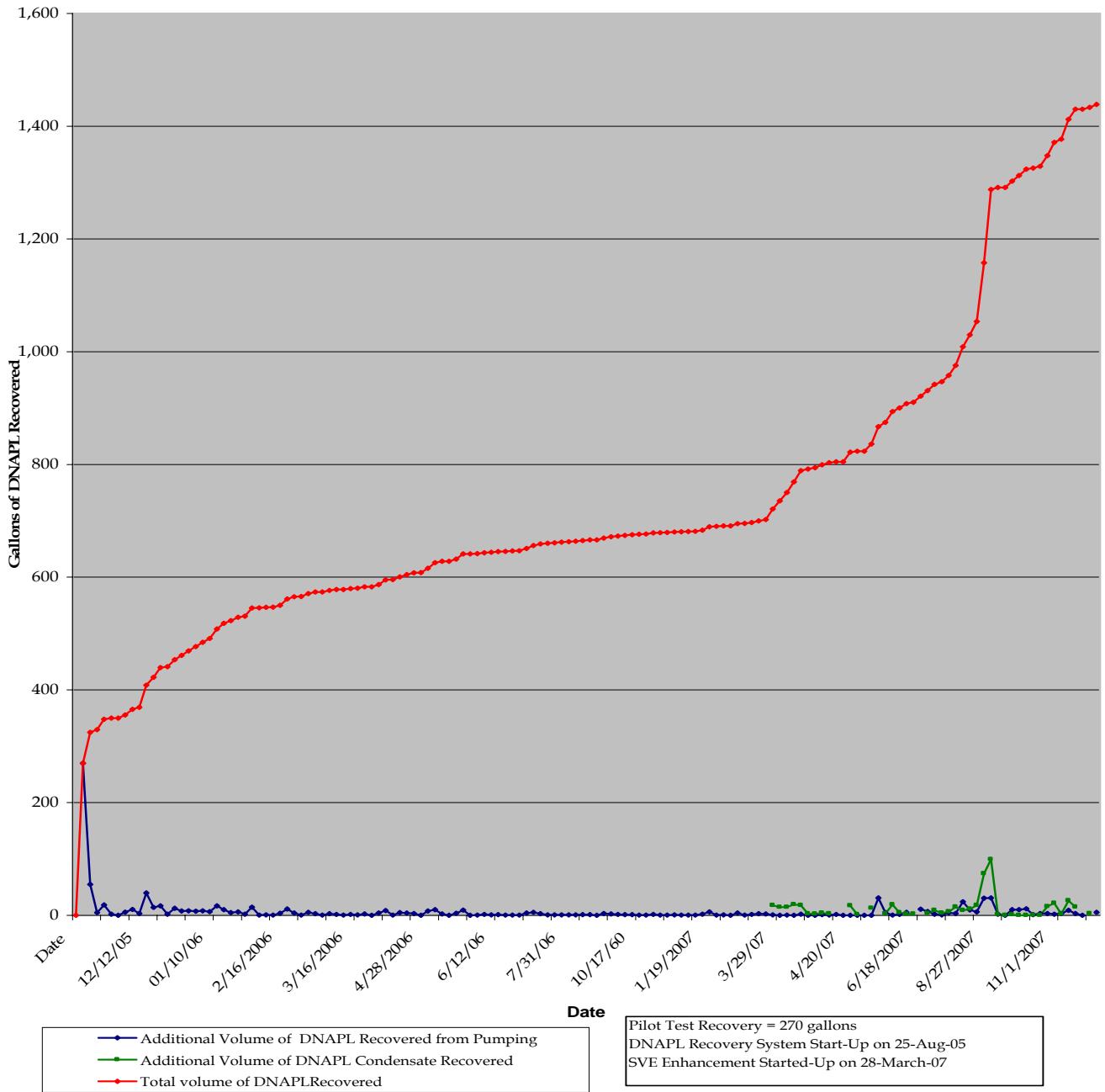
Jon S. Fox, P.G.  
Senior Consultant

**Date:** 10 December 2007

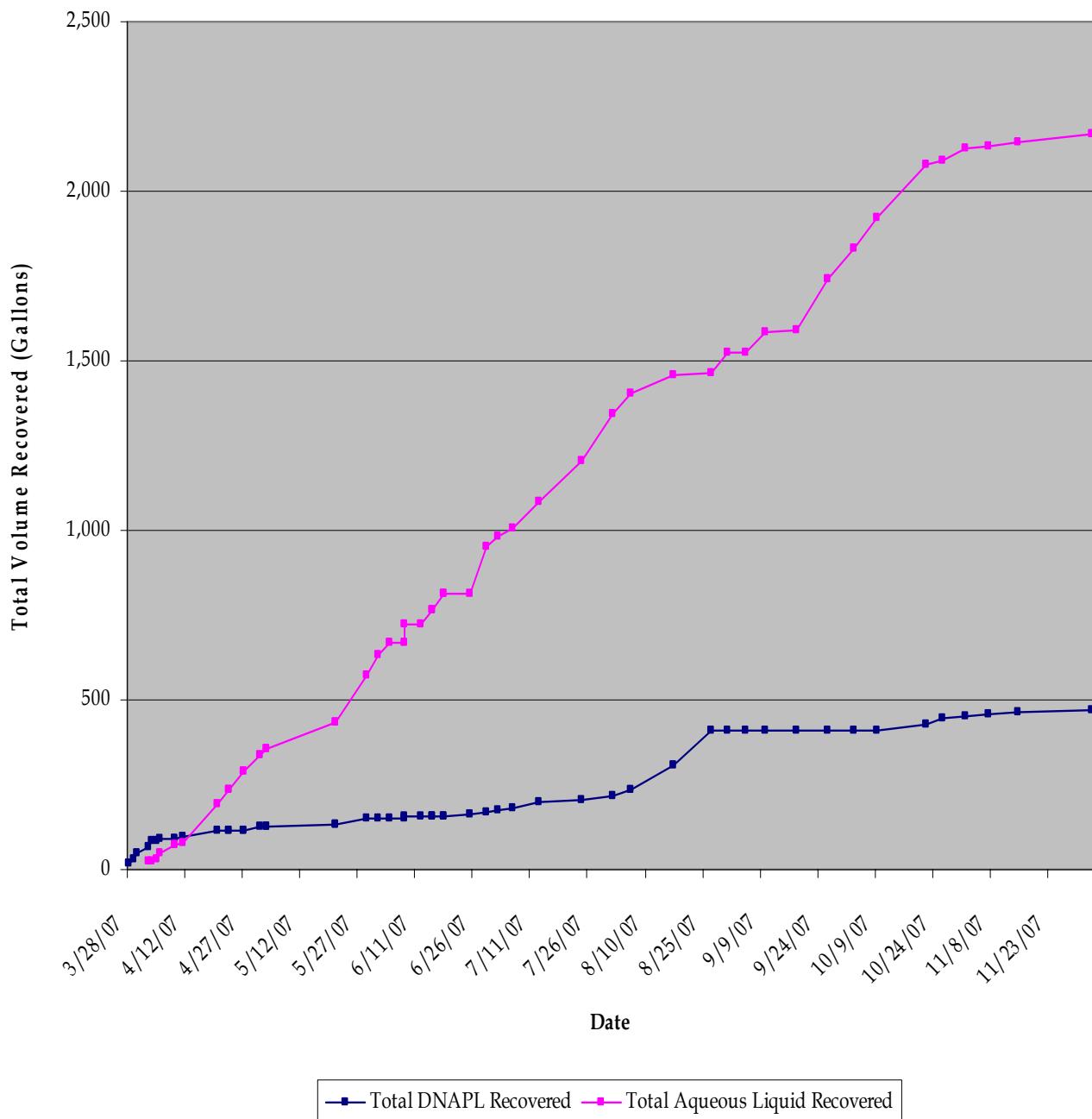
Cc: Mr. Robert Powell, C.S.P., A.R.M. (Sonoco)  
Mr. Pete Gruene (Palmetto Env. Mgmt. Solutions)  
Mr. Patrick Wolfe (Greif)  
Mr. James Charles, Esq. (NYSDEC)  
Mr. Matt Forcucci (NYSDOH)  
Mr. Gregory Sutton, P.E. (NYSDEC)  
Mr. A. Joseph White (NYSDEC)  
Mr. Edward Hinchey, P.G. (ERM)  
Mr. Dennis Roote, P.E. (ERM)

## **Figures**

**Figure 1 - Summary of Fluid Recovery**  
**DNAPL Recovery IRM**  
**Greif Facility – Tonawanda, New York**



**Figure 2 - Summary of Fluid Recovery from Vapor Condensation  
DNAPL Recovery IRM  
Greif Facility – Tonawanda, New York**



## **Tables**

**TABLE 1**  
**SUMMARY OF FLUID RECOVERY FROM PUMPING**  
**DNAPL RECOVERY IRM**  
**GREIF FACILITY - TONAWANDA, NEW YORK**  
**NYSDEC VCP NUMBER V00334-9**

	Volume Recovered (gallons)		RW-1 Thickness (feet)		RW-2 Thickness (feet)		RW-4 Thickness (feet)	
Date	DNAPL	Water	DNAPL	Water	DNAPL	Water	DNAPL	Water
Pilot Test	270.0	0.0	5.62	3.56	0.88	3.90	NI	NI
12-Sept-05	54.9	1.9	1.79	7.75	1.56	7.94	1.47	7.42
1-Nov-05	4.8	296.2	2.57	6.66	3.39	5.81	2.17	6.32
11-Nov-05	3.6	38.8	1.77	6.17	3.42	5.68	1.30	7.18
14-Nov-05	0.6	97.2	1.74	6.49	3.14	5.68	1.28	7.11
15-Nov-05	14.1	49.0	1.73	5.79	2.27	6.53	1.30	7.00
16-Nov-05	0.0	120.3	1.86	4.64	2.32	6.29	1.28	6.89
17-Nov-05	2.0	77.6	1.75	5.54	2.27	6.02	1.28	6.77
18-Nov-05	0.0	52.9	1.79	6.88	2.37	6.33	1.28	6.81
21-Nov-05	0.0	338.8	1.98	1.07	2.67	5.27	1.32	6.29
22-Nov-05	0.0	50.3	2.04	2.63	2.69	5.40	1.31	6.29
23-Nov-05	0.0	74.0	2.06	6.08	2.72	5.51	1.33	6.28
28-Nov-05	5.6	362.4	2.13	5.63	2.78	4.86	1.56	5.54
1-Dec-05	0.0	8.7	2.11	5.77	2.80	5.05	1.76	5.44
2-Dec-05	0.0	52.0	2.08	5.39	2.69	4.58	1.59	5.45
6-Dec-05	10.4	163.2	2.24	3.06	2.76	4.69	1.58	5.04
7-Dec-05	3.4	48.0	2.02	0.02	2.77	4.66	1.63	4.96
8-Dec-05	1.8	48.5	2.02	0.16	2.62	0.42	1.58	4.90
9-Dec-05	7.4	24.6	1.99	0.18	2.60	0.26	1.58	4.81
12-Dec-05	30.3	72.8	2.01	0.15	2.81	4.34	1.56	2.74
13-Dec-05	6.3	14.6	2.03	0.02	3.62	0.94	2.96	3.08
14-Dec-05	7.6	0.6	2.00	0.08	2.68	1.15	3.04	3.14
15-Dec-05	17.0	29.8	2.03	0.01	2.63	1.18	1.61	0.25
19-Dec-05	1.9	5.7	2.00	0.07	2.81	4.17	2.63	3.55
21-Dec-05	12.3	38.7	2.00	0.10	2.66	1.68	1.78	1.04
22-Dec-05	7.6	6.5	1.99	0.07	2.66	2.95	1.41	0.22
27-Dec-05	8.0	18.5	2.03	0.03	2.49	0.17	2.20	3.95
28-Dec-05	7.4	18.6	2.00	0.10	2.56	0.05	1.37	0.03
29-Dec-05	5.3	2.9	2.00	0.10	2.57	0.05	1.37	0.03
3-Jan-06	2.6	38.7	2.01	0.02	2.49	0.03	1.38	0.10
6-Jan-06	6.6	10.2	1.97	0.08	2.46	0.05	1.37	0.11
10-Jan-06	16.8	2.5	1.96	1.04	2.48	0.11	1.47	0.02
12-Jan-06	10.0	0.0	2.00	0.08	2.52	0.07	1.37	0.03
19-Jan-06	4.7	34.8	1.97	0.05	2.48	0.13	1.37	0.02
23-Jan-06	6.0	14.3	1.98	0.11	2.47	0.12	1.37	0.03
26-Jan-06	6.5	11.3	1.96	0.07	2.49	0.12	1.37	0.05
30-Jan-06	4.3	14.8	1.93	0.15	2.49	0.09	1.49	0.33
2-Feb-06	3.2	0.1	1.96	0.07	2.49	0.14	1.36	0.06
3-Feb-06	0.5	5.6	1.96	0.07	2.49	0.13	1.35	0.07
6-Feb-06	0.5	24.0	1.95	0.25	2.47	0.13	1.58	1.74

**TABLE 1 (Continued)**  
**SUMMARY OF DNAPL RECOVERY FROM PUMPING**  
**DNAPL RECOVERY IRM**  
**GREIF FACILITY - TONAWANDA, NEW YORK**  
**NYSDEC VCP NUMBER V00334-9**

	Volume Recovered (gallons)		RW-1 Thickness (feet)		RW-2 Thickness (feet)		RW-4 Thickness (feet)	
Date	DNAPL	Water	DNAPL	Water	DNAPL	Water	DNAPL	Water
9-Feb-06	3.5	18.9	1.94	0.07	2.47	0.12	1.34	0.06
13-Feb-06	7.2	9.8	1.95	0.08	2.53	0.08	1.36	0.04
16-Feb-06	3.9	8.6	1.96	0.07	2.50	0.42	1.35	0.07
20-Feb-06	4.0	12.8	1.92	0.11	2.49	1.62	1.34	0.14
27-Feb-06	5.3	13.2	1.93	0.10	2.51	4.41	1.35	0.05
3-Mar-06	2.6	32.0	1.93	0.17	2.42	0.16	1.35	0.03
7-Mar-06	2.6	21.6	1.94	0.09	2.42	0.08	1.35	0.10
10-Mar-06	0.0	5.8	1.94	0.01	2.43	0.05	1.36	0.11
13-Mar-06	1.4	12.2	1.93	0.17	2.38	0.18	1.35	0.04
16-Mar-06	0.7	12.3	1.94	0.08	2.39	0.19	1.35	0.05
20-Mar-06	2.4	11.7	1.48	0.06	2.02	0.20	1.05	2.33
23-Mar-06	4.0	16.2	1.46	0.14	1.99	0.17	0.82	0.03
30-Mar-06	4.9	15.7	1.46	0.07	1.96	0.23	0.80	0.07
3-April-06	3.5	31.3	1.46	0.12	1.96	0.18	0.80	0.04
7-Apr-06	4.8	15.5	1.46	0.07	1.96	0.20	0.81	0.04
11-Apr-06	4.0	6.9	1.46	0.13	1.96	0.20	0.80	0.04
13-Apr-06	2.2	7.9	1.47	0.12	1.96	0.18	0.80	0.02
17-Apr-06	1.1	21.4	1.45	0.08	1.96	0.23	0.80	0.08
21-Apr-06	3.2	13.7	1.44	0.14	1.96	0.16	0.80	0.02
28-Apr-06	4.3	21.9	1.46	0.07	2.01	0.07	0.80	0.10
09-May-06	10.2	32.8	1.46	0.04	1.99	0.19	0.80	0.05
11-May-06	2.4	9.4	1.46	0.13	2.04	0.12	0.80	0.05
16-May-06	3.7	13.1	1.44	0.10	2.00	0.20	0.80	0.08
19-May-06	2.6	11.2	1.46	0.07	2.01	0.19	0.80	0.08
23-May-06	2.6	13.1	1.45	0.13	1.97	0.15	0.80	0.05
25-May-06	4.0	4.4	NM	NM	NM	NM	NM	NM
1-June-06	0.5	19.5	1.46	0.09	2.04	0.04	0.80	0.03
6-June-06	1.4	1.8	1.46	0.08	2.06	0.10	0.79	0.03
8-June-06	1.0	16.8	1.46	0.09	2.05	0.10	0.78	0.07
12-June-06	1.0	13.0	1.45	0.10	2.00	0.19	0.80	0.05
15-June-06	0.6	12.6	1.43	0.10	2.10	0.08	0.79	0.05
19-June-06	0.6	12.4	1.43	0.15	2.06	0.12	0.80	0.02
23-June-06	0.6	11.0	1.46	0.07	0.96	0.12	0.80	0.04
26-June-06	3.9	5.4	0.10	0.03	1.96	1.6	0.31	1.23
30-June-06	5.9	16.0	0.00	0.08	0.36	2.3	0.00	0.00
3-Jul-06	2.9	9.6	0.06	0.10	0.24	1.74	0.28	1.38
17-Jul-06	1.0	8.5	0.06	2.18	0.30	6.64	0.55	5.55
25-Jul-06	1.0	18.6	0.06	1.68	0.34	6.64	0.58	5.52
27-Jul-06	1.0	28.8	0.00	0.08	0.36	6.62	0.58	0.00
31-Jul-06	1.0	40.4	0.00	0.08	0.23	3.63	0.65	2.63
3-Aug-06	1.0	20.2	NM	NM	NM	NM	NM	NM
7-Aug-06	1.0	19.1	0.00	0.10	0.23	0.52	0.00	0.20
11-Aug-06	1.1	12.4	0.00	0.16	0.24	1.50	0.00	0.09
14-Aug-06	0.0	5.0	0.00	0.30	0.25	3.72	0.00	0.12
25-Aug-06	3.2	32.2	NM	NM	NM	NM	NM	NM

**TABLE 1 (Continued)**  
**SUMMARY OF DNAPL RECOVERY FROM PUMPING**  
**DNAPL RECOVERY IRM**  
**GREIF FACILITY - TONAWANDA, NEW YORK**  
**NYSDEC VCP NUMBER V00334-9**

	Volume Recovered (gallons)		RW-1 Thickness (feet)		RW-2 Thickness (feet)		RW-4 Thickness (feet)	
Date	DNAPL	Water	DNAPL	Water	DNAPL	Water	DNAPL	Water
6-Sept-06	2.4	71.4	0.00	4.29	0.31	0.37	0.03	0.15
15-Sept-06	1.4	29.1	0.00	5.50	0.35	0.30	0.00	0.31
22-Sept-06	1.2	12.9	0.00	6.32	0.34	0.31	0.00	0.26
28-Sept-06	1.2	38.8	0.00	0.07	0.35	0.35	0.00	2.01
4-Oct-06	0.0	21.6	0.06	0.01	0.32	0.31	0.28	3.90
10-Oct-06	0.0	24.6	0.05	0.04	0.34	0.16	0.00	0.19
17-Oct-06	0.6	26.3	0.07	0.09	0.35	0.22	0.00	0.08
24-Oct-06	0.6	25.6	0.00	0.14	0.38	0.22	0.00	1.98
2-Nov-06	1.7	28.5	0.00	0.78	0.37	2.49	0.00	1.45
7-Nov-06	0.6	18.9	0.08	0.89	0.10	3.80	0.00	0.19
17-Nov-06	0.4	38.9	0.08	2.38	0.00	0.25	0.00	0.10
20-Nov-06	0.7	18.9	NM	NM	NM	NM	NM	NM
28-Nov-06	0.6	26.0	0.00	0.08	0.00	0.88	0.00	0.18
15-Dec-06	0.4	25.9	NM	NM	NM	NM	NM	NM
27-Dec-06	0.4	12.5	0.00	2.59	0.00	6.98	0.00	6.11
9-Jan-07	1.9	111.8	0.00	0.40	0.00	0.14	0.00	0.14
19-Jan-07	6.0	45.9	0.07	0.00	0.00	0.32	0.00	0.09
23-Jan-07	0.6	2.52	0.07	0.03	0.00	0.10	0.09	0.05
31-Jan-07	1.0	30.7	0.00	0.10	0.00	4.04	0.00	0.87
6-Feb-07	0.0	12.5	NM	NM	NM	NM	NM	NM
16-Feb-07	3.8	42.8	0.00	0.08	0.00	4.66	0.00	0.28
23-Feb-07	0.6	7.6	0.00	1.72	0.00	4.33	0.00	0.94
1-Mar-07	1.5	37.7	0.00	0.19	0.00	1.87	0.00	0.54
8-Mar-07	2.9	62.1	NM	NM	NM	NM	NM	NM
16-Mar-07	2.4	40.6	NM	NM	NM	NM	NM	NM
28-Mar-07	1.0	27.7	0.00	0.10	0.00	0.58	0.00	0.48
29-Mar-07	0.0	29.6	NM	NM	NM	NM	NM	NM
30-Mar-07	0.6	18.0	NM	NM	NM	NM	NM	NM
2-Apr-07	0.0	0.00	NM	NM	NM	NM	NM	NM
3-Apr-07	2.2	35.9	NM	NM	NM	NM	NM	NM
4-Apr-07	0.2	11.3	NM	NM	NM	NM	NM	NM
5-Apr-07	0.0	8.4	NM	NM	NM	NM	NM	NM
9-Apr-07	1.2	27.6	NM	NM	NM	NM	NM	NM
11-Apr-07	0.6	10.1	NM	NM	NM	NM	NM	NM
17-Apr-07	1.5	24.5	NM	NM	NM	NM	NM	NM
18-Apr-07	0.0	16.8	0.00	0.09	0.00	0.15	0.00	0.00
9-May-07	30.8	62.6	NM	NM	NM	NM	NM	NM
21-May-07	4.7	50.4	NM	NM	NM	NM	NM	NM
23-May-07	0.4	4.7	NM	NM	NM	NM	NM	NM
1-Jun-07	1.4	26.9	0.00	0.08	0.00	0.60	0.20	0.00
4-Jun-07	5.36	5.68	NM	NM	NM	NM	NM	NM

**TABLE 1 (Continued)**  
**SUMMARY OF DNAPL RECOVERY FROM PUMPING**  
**DNAPL RECOVERY IRM**  
**GREIF FACILITY - TONAWANDA, NEW YORK**  
**NYSDEC VCP NUMBER V00334-9**

	Volume Recovered (gallons)		RW-1 Thickness (feet)		RW-2 Thickness (feet)		RW-4 Thickness (feet)	
Date	DNAPL	Water	DNAPL	Water	DNAPL	Water	DNAPL	Water
14-Jun-07	NM	NM	0.00	0.12	0.28	0.08	0.00	0.88
18-Jun-07	10.7	41.0	NM	NM	NM	NM	NM	NM
25-Jun-07	6.7	13.4	NM	NM	NM	NM	NM	NM
29-Jun-07	2.1	1.0	NM	NM	NM	NM	NM	NM
10-Jul-07	8.3	50.5	0.00	0.07	0.17	0.51	0.00	0.09
24-Jul-07	24.1	13.6	0.00	0.13	0.18	6.80	0.00	0.05
6-Aug	15.8	17.0	NM	NM	NM	NM	NM	NM
17-Aug-07	30.2	38.2	0.00	0.24	0.00	0.34	0.00	1.17
27-Aug-07	30.8	18.4	NM	NM	NM	NM	NM	NM
31-Aug-07	1.9	10.3	0.00	0.11	0.00	0.35	0.00	1.09
10- Sept-07	4.4	14.5	0.00	0.79	0.00	2.10	0.00	1.99
25-Sept-07	27.1	39.0	0.00	0.07	0.00	0.39	0.00	0.72
3-Oct-07	1.1	46.7	NM	NM	NM	NM	NM	NM
9-Oct-07	3.2	26.8	0.00	0.07	0.00	0.36	0.00	0.08
22-Oct-07	3.2	29.1	0.00	0.52	0.00	0.21	0.00	0.43
26-Oct-07	2.2	16.4	0.00	0.00	0.00	0.00	0.00	NM
29-Oct-07	NM	NM	0.00	1.07	NM	NM	0.00	1.09
1-Nov-07	3.2	6.8	0.00	0.10	0.00	0.37	0.00	0.55
7-Nov-07	8.8	0.4	NM	NM	NM	NM	NM	.79
15-Nov-07	3.4	2.1	0.00	0.09	0.00	0.37	0.00	1.17
4-Dec-07	5.3	14.1	NM	NM	NM	NM	0.00	1.33 NM
<b>TOTALS</b>	<b>944.9</b>	<b>4,539.1</b>						

**NOTES:**

- DNAPL and water recovery volumes are the volume of liquids recovered by pumping since the previous reading.
- Pilot test data reported at the end of the pilot test on 16 November 2004.
- Low vacuum enhancement was initiated on 28 March 2007.
- NI = well not installed yet.
- NM = not measured on this date.
- Volume readings represent the volume recovered since the previous reading.

**TABLE 2**  
**SUMMARY OF FLUID RECOVERY FROM CONDENSED VAPORS**  
**GREIF FACILITY - TONAWANDA, NEW YORK**  
**NYSDEC VCP NUMBER V00334-9**

Date	Additional Volume of DNAPL Recovered (gallons)	Additional Volume of Aqueous Fluids Recovered (gallons)
28-Mar-07	17.65	NM
29-Mar-07	14.35	NM
30-Mar-07	14.30	NM
2-Apr-07	19.10	25.0
3-Apr-07	17.76	1.5
4-Apr-07	2.62	3.5
5-Apr-07	2.32	19.0
11-Apr-07	4.12	21.0
17-Apr-07	2.88	10.5
20-Apr-07	17.31	114.5
23-Apr-07	1.56	40.0
27-Apr-07	0.00	53.0
1-May-07	12.61	52.0
3-May-07	0.00	15.0
21-May-07	3.12	77.00
29-May-07	18.72	143.0
1-Jun-07	4.92	57.00
8-Jun-07	2.24	92.00
15-Jun-07	2.94	40.00
18-Jun-07	NM	50.00
25-Jun-07	3.50	NM
29-Jun-07	8.72	140.00
2-Jul-07	3.90	25.0
6-Jul-07	6.54	30.0
13-Jul-07	14.84	75.0
24-Jul-07	8.96	120.0
1-Aug-07	11.40	97.0
6-Aug-07	17.60	60.7
17-Aug-07	73.90	103.0
27-Aug-07	99.44	60.0
31-Aug-07	1.44	0.0
10-Sept-07	1.20	60.0
18-Sept-07	0.00	5.0
25-Sept-07	0.00	150.0
3-Oct-07	0.60	95.0
9-Oct-07	0.00	85.0
22-Oct-07	15.76	65.0
26-Oct-07	21.45	NM
1-Nov-07	2.47	NM
30-Nov-07	40.78	90.0
4-Dec-07	3.38	NM
<b>TOTAL</b>	<b>494.4</b>	<b>2,169.7</b>

**TABLE 3**  
**SUMMARY OF LNAPL RECOVERY FROM MW-23**  
**DNAPL RECOVERY IRM**  
**GREIF FACILITY - TONAWANDA, NEW YORK**  
**NYSDEC VCP NUMBER V00334-9**

Date	Volume of LNAPL Recovered (gallons)	LNAPL Thickness in MW-23 (feet)	Water Thickness in MW-23 (feet)
9-Sept-05	0.00	0.40	3.38
12-Sept-05	0.00	0.41	3.23
20-Sept-05	0.00	0.52	2.98
11-Oct-05	0.00	0.56	2.67
21-Oct-05	0.00	0.57	2.78
26-Oct-05	0.00	0.60	2.78
2-Nov-05	0.00	0.68	2.67
11-Nov-05	0.04	0.27	2.53
15-Nov-05	0.10	0.61	2.10
16-Nov-05	0.04	0.25	1.55
17-Nov-05	0.03	0.18	1.22
18-Nov-05	0.00	0.08	0.97
21-Nov-05	0.02	0.15	1.09
22-Nov-05	0.04	0.27	0.68
23-Nov-05	0.04	0.26	0.49
29-Nov-05	0.04	0.23	0.54
2-Dec-05	0.00	0.20	0.42
6-Dec-05	0.03	0.20	0.51
7-Dec-05	0.00	0.16	0.36
8-Dec-05	0.03	0.16	0.40
9-Dec-05	0.00	0.07	0.35
12-Dec-05	0.00	0.07	0.41
19-Dec-05	0.00	0.17	0.39
22-Dec-05	0.03	0.17	0.54
27-Dec-05	0.00	0.14	0.45
29-Dec-05	0.03	0.17	0.48
3-Jan-06	0.02	0.15	0.37
6-Jan-06	0.00	0.12	0.30
10-Jan-06	0.00	0.08	0.42
12-Jan-06	0.00	0.13	0.35
19-Jan-06	0.02	0.12	0.48
26-Jan-06	0.03	0.18	0.50
30-Jan-06	0.00	0.18	0.57
2-Feb-06	0.03	0.17	0.61
3-Feb-06	0.00	0.17	0.40
6-Feb-06	0.00	0.20	0.40
9-Feb-06	0.00	0.20	0.45
13-Feb-06	0.00	0.20	0.54
16-Feb-06	0.00	0.14	0.66
20-Feb-06	0.00	0.07	0.75
27-Feb-06	0.02	0.15	0.75
3-Mar-06	0.03	0.17	0.48
7-Mar-06	0.03	0.17	0.38

**TABLE 3 (Continued)**  
**SUMMARY OF LNAPL RECOVERY FROM MW-23**  
**DNAPL RECOVERY IRM**  
**GREIF FACILITY - TONAWANDA, NEW YORK**  
**NYSDEC VCP NUMBER V00334-9**

Date	Volume of LNAPL Recovered (gallons)	LNAPL Thickness in MW-23 (feet)	Water Thickness in MW-23 (feet)
10-Mar-06	0.01	0.08	0.38
13-Mar-06	0.04	0.28	0.0
16-Mar-06	0.00	0.27	0.0
23-Mar-06	0.02	0.10	0.39
30-Mar-06	0.02	0.14	0.30
3-Apr-06	0.02	0.10	0.20
7-Apr-06	0.01	0.07	0.23
11-Apr-06	0.01	0.06	0.26
13-Apr-06	0.02	0.11	0.26
18-Apr-06	0.03	0.16	0.16
16-May-06	0.00	0.21	0.25
1-June-06	0.00	0.00	0.42
6-June-06	0.02	0.10	0.66
12-June-06	0.03	0.21	0.46
15-June-06	0.10	0.60	0.08
23-June-06	0.02	0.12	0.46
26-June-06	0.02	0.11	0.35
30-June-06	0.01	0.09	0.33
14-Aug-06	0.01	0.07	1.4
6-Sept-06	0.02	0.11	2.22
28-Sept-06	0.01	0.04	2.86
4-Oct-06	0.02	0.09	1.36
10-Oct-06	0.01	0.09	0.98
20-Nov-06	0.03	0.20	2.40
27-Dec-06	0.04	0.26	2.80
9-Jan-07	0.05	0.28	2.76
12-Jan-07	0.04	0.22	2.78
23-Jan-07	0.03	0.17	1.62
31-Jan-07	0.03	0.16	0.66
12-Feb-07	0.02	0.14	1.63
16-Feb-07	0.02	0.11	0.83
23-Feb-07	0.01	0.04	0.59
1-Mar-07	0.01	0.05	1.06
8-Mar-07	0.01	0.04	1.16
16-Mar-07	0.01	0.05	1.37
30-Mar-07	0.00	0.03	1.11
2-Apr-07	0.01	0.03	1.17
18-Apr-07	0.01	0.03	1.36
9-May-07	0.01	0.07	1.65
14-Jun-07	0.02	0.10	2.36
10-Jul-07	0.01	0.08	1.64
24-Jul-07	0.01	0.09	2.27
17-Aug-07	0.01	0.06	2.61

**TABLE 3 (Continued)**  
**SUMMARY OF LNAPL RECOVERY FROM MW-23**  
**DNAPL RECOVERY IRM**  
**GREIF FACILITY - TONAWANDA, NEW YORK**  
**NYSDEC VCP NUMBER V00334-9**

Date	Volume of LNAPL Recovered (gallons)	LNAPL Thickness in MW-23 (feet)	Water Thickness in MW-23 (feet)
5-Sept-07	0.01	0.08	2.79
25-Sept-07	0.01	0.03	3.35
9-Oct-07	0.02	0.10	2.96
15-Nov-07	0.01	0.09	2.63
TOTAL	1.48		

**NOTES:**

- Data refers to light, non-aqueous phase liquid (LNAPL) measured and recovered from monitoring well MW-23 (the only well observed with LNAPL to date).
- LNAPL volumes are estimated based on the measured thickness of LNAPL in the well prior to removal and the cross-sectional volume of the well screen and are thought to be conservatively low (additional LNAPL migration into the well during bailing is not accounted for).
- Volume readings represent the volume recovered since the previous reading.
- LNAPL and ground water thickness data were collected as static level measurements prior to bailing of the well.

**TABLE 4**  
**SUMMARY OF UNVALIDATED LABORATORY DATA RECEIVED IN**  
**NOVEMBER 2007 - GROUND WATER**  
**GREIF FACILITY - TONAWANDA, NEW YORK**  
**NYSDEC VCP NUMBER V00334-9**

Sample Designation	Sample Matrix	Sample Date	Compounds Detected	Concentration (ppb)
Greif-MW-12 (10/07)	Ground Water	9-Oct-07	1,1-Dichloroethane	1500
			1,1-Dichloroethene	300
			cis-1,2-Dichloroethene	2000
			trans-1,2-Dichloroethene	38 J
			Dissolved Organic Carbon (mg/L)	5.6
			Methane	5.4
			Methylene Chloride	77 B
			Sulfate (mg/L)	281
			1,1,1-Trichloroethane	650
			Trichloroethene	610
			Vinyl chloride	40
Greif-MW-13 (10/07)	Ground Water	9-Oct-07	1,1-Dichloroethane	9800
			1,1-Dichloroethene	16000
			cis-1,2-Dichloroethene	14000
			Dissolved Organic Carbon (mg/L)	13.0
			Methane	250
			Methylene Chloride	1500 B
			Sulfate (mg/L)	180
			1,1,1-Trichloroethane	38000
			Trichloroethene	53000
Greif-DUP (10/07) (blind duplicate of MW-13 sample)	Ground Water	9-Oct-07	1,1-Dichloroethane	9800
			1,1-Dichloroethene	16000
			cis-1,2-Dichloroethene	12000
			Dissolved Organic Carbon (mg/L)	14.3
			Methane	160
			Methylene Chloride	1500 B
			1,1,1-Trichloroethane	39000
			Sulfate (mg/L)	190
			Trichloroethene	53000
Greif-MW-14 (10/07)	Ground Water	9-Oct-07	1,1-Dichloroethane	2000
			1,1-Dichloroethene	1000
			cis-1,2-Dichloroethene	1500
			Dissolved Organic Carbon (mg/L)	3.7
			Methane	1.6
			Methylene Chloride	930 B
			Sulfate (mg/L)	146
			Trichloroethene	33000

**TABLE 4 (Continued)**

**SUMMARY OF UNVALIDATED LABORATORY DATA RECEIVED IN  
NOVEMBER 2007 - GROUND WATER  
GREIF FACILITY - TONAWANDA, NEW YORK  
NYSDEC VCP NUMBER V00334-9**

Sample Designation	Sample Matrix	Sample Date	Compounds Detected	Concentration (ppb)
Greif-MW-18 (10/7)	Ground Water	9-Oct-07	Chloroethane	7.6
			1,1-Dichloroethane	130
			1,1-Dichloroethene	20
			cis-1,2-Dichloroethene	41
			Dissolved Organic Carbon (mg/L)	6.3
			Methane	1.5
			Methylene Chloride	1.5BJ
			Sulfate (mg/L)	652
			1,1,1-Trichloroethane	23
			Trichloroethene	23
			Vinyl chloride	9.0
Greif-MW-21I (10/07)	Ground Water	9-Oct-07	cis-1,2-Dichloroethene	0.52J
			Trichloroethene	0.92J
			Dissolved Organic Carbon (mg/L)	5.1
			Methane	2.6
			Sulfate (mg/L)	186
Greif-MW-21S (10/07)	Ground Water	9-Oct-07	cis-1,2-Dichloroethene	0.70J
			Trichloroethene	7.76J
			Dissolved Organic Carbon (mg/L)	3.0
			Sulfate (mg/L)	119
			1,1,1-Trichloroethane	1.1
Greif-MW-22 (10/07)	Ground Water	9-Oct-07	1,1-Dichloroethane	7.4
			1,1-Dichloroethene	1.6
			cis-1,2-Dichloroethene	1.6
			Dissolved Organic Carbon (mg/L)	4.0
			Methane	3.9
			Sulfate (mg/L)	759
			1,1,1-Trichloroethane	4.7
			Trichloroethene	6.4
Greif-MW-24 (10/07)	Ground Water	9-Oct-07	Benzene	52
			Chloroform	1.4
			1,1-Dichloroethane	36
			1,2-Dichloroethane	2.6
			1,1-Dichloroethene	23
			cis-1,2-Dichloroethene	5600
			trans-1,2-Dichloroethene	50
			Ethylbenzene	3.8
			Tetrachloroethene	1.8
			Toluene	9.4
			1,1,1-Trichloroethane	2.2
			Dissolved Organic Carbon (mg/L)	11.1

**TABLE 4 (Continued)**  
**SUMMARY OF UNVALIDATED LABORATORY DATA RECEIVED IN**  
**NOVEMBER 2007 - GROUND WATER**  
**GREIF FACILITY - TONAWANDA, NEW YORK**  
**NYSDEC VCP NUMBER V00334-9**

Greif-MW-24 (10/07) (continued)			Methane	840
			Sulfate (mg/L)	1370
			Total Xylenes	3.3
			Trichloroethene	6200
			1,2,4- Trimethylbenzene	1.3
			Vinyl chloride	720
Greif-MW-25 (10/07)	Ground Water	9-Oct-07	Benzene	0.56J
			1,1-Dichloroethane	4.9
			1,1-Dichloroethene	1.3
			cis-1,2-Dichloroethene	78 D
			trans-1,2-Dichloroethene	4.5
			Dissolved Organic Carbon (mg/L)	4.1
			Methane	220
			Sulfate (mg/L)	2960
			Trichloroethene	29 D
			1,1,1-Trichloroethane	1.2
			Vinyl chloride	3.4 D

**NOTES:**

- Compounds, elements, or other parameters listed are limited to those that were detected.
- ---- = not detected in this sample.
- J = Indicates an estimated value.
- B = Indicates that the analyte was found in the associated blank as well as in the sample.
- D = Indicates that the concentration was identified in an analysis at the secondary dilution factor.
- pH reported in standard units (analyzed in the field using a calibrated electronic pH meter)