

10 May 2011

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Division of Environmental Remediation - Region 9  
270 Michigan Avenue  
Buffalo, New York 14203



RE: Monthly Progress Report – April 2011  
Greif, Inc. Facility – Tonawanda, New York  
NYSDEC VCP Number V00334-9

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***Key Actions  
This Period:***

- Performed routine operations and maintenance (O&M) on the Pilot Sub-Slab Depressurization (SSD) system and dense, non-aqueous phase liquid (DNAPL) recovery equipment. Collected and recorded relevant data. Data collected included liquid level measurements in selected Site wells and monitoring points (Table 1), vacuum readings in vacuum monitoring points (Table 2), and treatment system operational data (Table 3). The locations of wells and other monitoring points are presented in Figure 1. A map showing the estimated distribution of vacuum in the sub-slab at the facility on 21 April 2011 is presented in Figure 2.
- Replaced and installed new granular activated carbon (GAC) vessels on the Pilot SSD system.
- Evaluation of Pilot SSD System pilot test data and preparation of a report and SSD system design.
- Abandoned seven former in-situ heating remediation wells installed within Former Varnish Underground Storage Tank (UST) excavation area in preparation for the upcoming remedial soil excavation in this area.
- Completed an engineering evaluation of the potential need for structural excavation controls and development of an excavation plan for the Former Varnish UST Area.
- Planning and procurement of subcontractors, supplies, and equipment for the remedial soil

excavation in the Former Varnish UST Area.

***Problems/  
Resolutions:***

- Additional water accumulation was observed in the system piping associated with suction point locations SP-01 through SP-08 during the 21 April 2011 O&M site visit. Fluctuating vacuum readings similar to those during the December 2010, January 2011, February 2011, and March 2011 O&M site visits were also observed. The water accumulation is presumed to be due to condensation of moisture on the inside of SSD system piping. ERM briefly isolated the blower vacuum to discreet sections of the SSD system piping and removed a total of approximately 27-gallons of water from pipes PG-101, PG-102, PG-103, PG-104, and PG-105. Subsequent to the water removal, fluctuation in vacuum readings at suction points SP-01 through SP-08 ceased and vacuum reading returned to normal values generally consistent with previous month's readings. Water accumulation will be monitored and potential corrective actions will be discussed in the upcoming SSD design document.

***Analytical Data  
Received:***

- None.

***Documents  
Submitted:***

- Monthly Progress Report for March 2011 dated 10 April 2011.

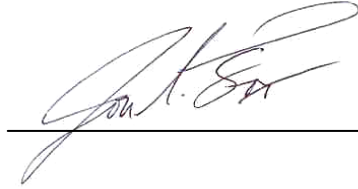
***Anticipated  
Actions –  
May 2011:***

- Routine O&M of the Pilot SSD System and DNAPL recovery equipment and adjustment of extraction and recovery parameters as necessary based on Site data and observations.
- Submit a Fact Sheet for distribution to the public participation contact list announcing the start of the remedial soil excavation in the Former Varnish UST Area.
- Initiate and complete the remedial soil excavation in the Former Varnish UST Area.
- Evaluation of SSD System pilot test data and results and preparation of a final design for the SSD System.

**NYSDEC-  
Approved Field  
Decisions:**

- None.

**Prepared By:**

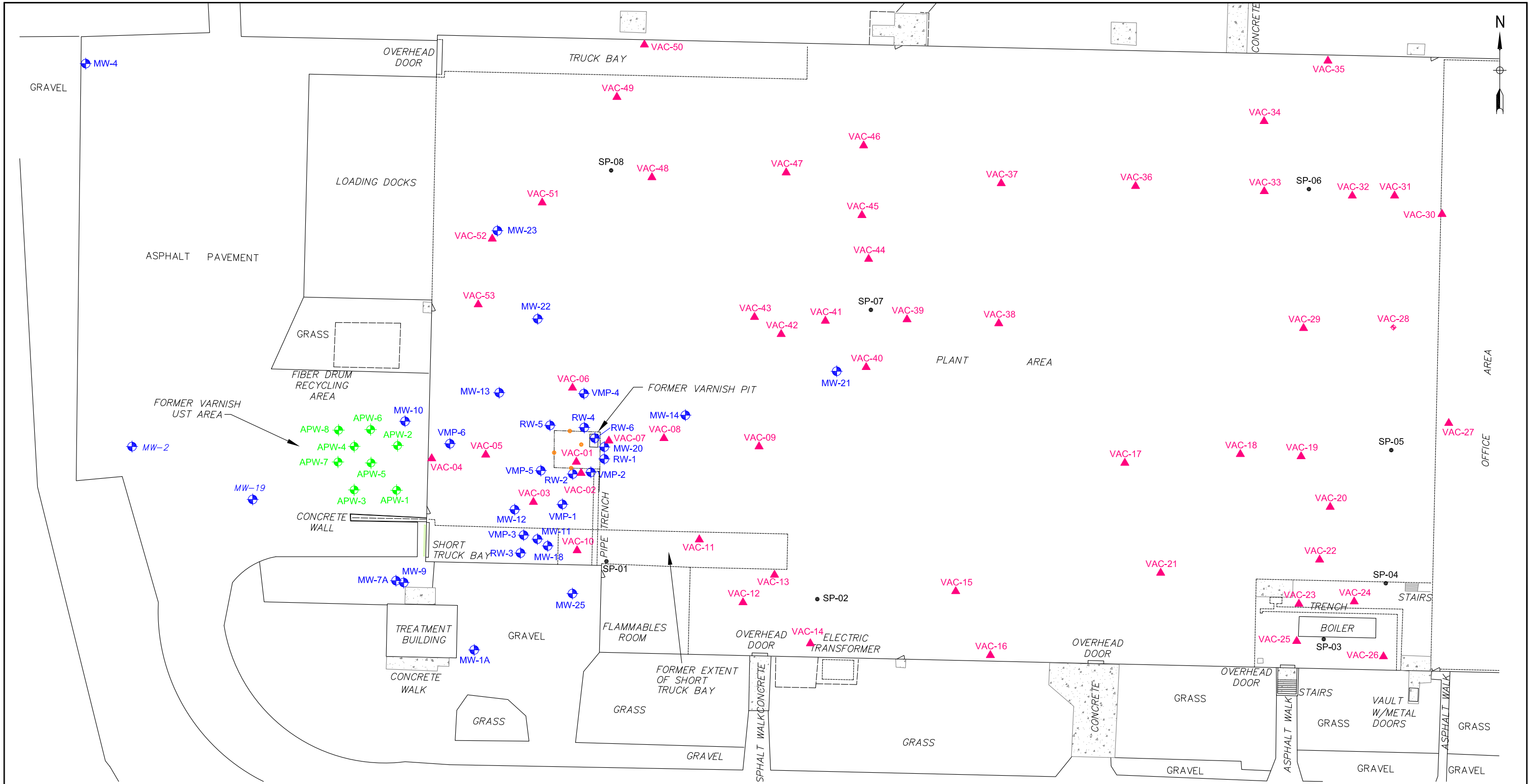


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Jon S. Fox, P.G.  
Senior Consultant

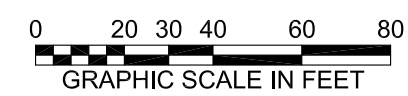
**Date:** 10 May 2011

**Cc:** Robert Powell, C.S.P., A.R.M. (Sonoco)  
Pete Gruene (Sonoco)  
Mike Sunderland (Sonoco)  
Patrick Wolfe (Greif)  
James Charles, Esq. (NYSDEC)  
Matt Forcucci (NYSDOH)  
Gregory Sutton, P.E. (NYSDEC)  
A. Joseph White (NYSDEC)  
Edward Hinchey, P.G. (ERM)  
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Rob Sents (ERM)



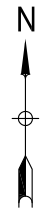
**LEGEND**

- ▲ Vacuum Monitoring Point Location
- ⊕ Monitoring or Recovery Well Location
- ⊕ Antenna Placement Well
- Suction Point Location
- Horizontal Suction Point Location
- Former Varnish Pit
- ⤴ Man Door
- ▣ Concrete Pad



TITLE			
SAMPLE AND MEASUREMENT LOCATIONS GREIF FACILITY-TONAWANDA, NEW YORK NYSDEC VCP NUMBER V00334-9			
PREPARED FOR			
SONOCO PRODUCTS COMPANY			
SCALE		FIGURE	
GRAPHIC		1	
DATE			
08-Feb-2011			
DRAWN:	JOB NO.:	FILE NAME:	
EMF	0112477.01	0112477-01-011	

Map Source: Wm. Schutt & Associates, P.C., 37 Central Ave, Lancaster, NY, Survey File: D0135103, WSA Proj: M01351.

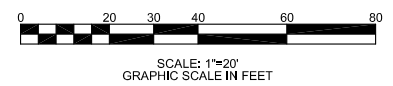


**LEGEND**

- Horizontal Suction Point Location
- Vertical Suction Point Location
- ▲ Vacuum Monitoring Point Location (vacuum in " H<sub>2</sub>O)
- NM Not Measured
- Estimated Extent of Sub-Floor Vacuum
- Former Varnish Pit
- Man Door
- Concrete Pad

**NOTES:**

1. " H<sub>2</sub>O = inches of water column



<p>TITLE</p> <p><b>SUBSURFACE VACUUM DISTRIBUTION</b></p> <p>21 APRIL 2011</p> <p><b>GREIF FACILITY-TONAWANDA, NEW YORK</b></p>			
<p>PREPARED FOR</p> <p><b>SONOCO PRODUCTS COMPANY</b></p>			
<p>DRAWN:</p> <p>EMF</p>	<p>JOB NO.:</p> <p>0112477.01</p>	<p>FILE NAME:</p> <p>0129254-01-003</p>	<p>SCALE</p> <p>GRAPHIC</p> <p>DATE</p> <p>2-May 2011</p>
			<p>FIGURE</p> <p><b>2</b></p>

**Table 1**  
**Summary of Non-Aqueous Phase Liquid Thicknesses in Wells**  
**Greif Facility - Tonawanda, New York**  
**NYSDEC VCP Number V00334-9**

WELL	RW-1 (ft.) (DNAPL)	RW-2 (ft.) (DNAPL)	RW-4 (ft.) (DNAPL)	RW-5 (ft.) (LNAPL)	RW-6 (ft.) (DNAPL)	VMP-2 (ft.) (DNAPL)	VMP-5 (ft.) (DNAPL)	MW-20 (ft.) (DNAPL)	MW-23 (ft.) (LNAPL)
<b>Date</b>									
19-May-08	0.00	0.00	0.00	0.00	NI	0.00	HS	0.09	0.14
30-May-08	0.00	0.16	0.00	0.00	NI	0.00	HS	0.03	0.14
16-Jun-08	0.00	0.14	0.00	0.02	NI	0.00	0.02	0.07	0.13
25-Jun-08	0.00	0.16	0.00	0.02	NI	0.00	HS	0.07	0.26
3-Jul-08	0.00	0.16	0.00	0.02	NI	0.00	HS	0.09	0.18
23-Jul-08	0.00	0.16	0.00	0.02	NI	0.00	HS	0.10	0.09
6-Aug-08	0.03	0.16	0.00	0.04	NI	0.00	HS	0.11	0.09
19-Aug-08	0.03	0.16	0.00	0.04	NI	0.00	HS	0.13	0.11
21-Nov-08	HS	0.11	0.00	0.00	NI	0.00	HS	0.22	0.29
17-Dec-08	HS	0.11	0.00	0.00	NI	0.00	HS	0.24	0.29
14-Jan-09	0.00	0.00	0.00	0.00	NI	0.00	0.00	HS	0.13
26-Feb-09	0.00	0.00	0.00	0.00	NI	0.00	0.00	0.01	0.24
12-Mar-09	0.00	0.00	0.00	0.00	NI	0.00	0.00	0.00	0.09
22-Apr-09	0.00	0.00	0.00	0.00	NI	0.00	0.00	0.00	0.11
13-May-09	0.00	0.00	0.00	0.00	NI	0.00	0.00	0.00	0.09
25-Jun-09	NM	0.00	NM	0.00	NI	0.00	0.00	NM	0.12
17-Jul-09	NM	0.00	NM	0.00	NI	0.00	0.00	NM	0.11
27-Aug-09	0.00	0.00	0.00	0.00	NI	0.00	NM	NM	0.09
25-Sep-09	0.00	0.00	0.00	0.00	NM	0.00	NM	0.04	0.11
16-Oct-09	NM	0.00	0.00	0.00	NM	0.00	NM	NM	0.11
19-Nov-09	NM	0.00	NM	NM	NM	0.00	NM	NM	0.21
17-Dec-09	0.00	0.00	NM	NM	NM	0.00	0.00	0.01	0.23
14-Jan-10	0.00	0.00	0.00	NM	NM	0.00	0.00	0.01	0.21
17-Feb-10	0.00	0.00	NM	NM	NM	0.00	0.00	0.01	0.17
18-Mar-10	0.00	0.00	0.00	0.00	NM	0.00	0.00	0.01	0.09
13-Apr-10	0.00	0.00	0.00	0.00	0.49	0.00	0.00	0.01	0.12
18-May-10	0.00	0.00	0.00	0.00	0.53	0.00	NM	0.01	0.08
15-Jun-10	0.00	0.00	0.00	NM	0.01*	0.00	0.00	0.01	0.07
14-Jul-10	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.07
13-Aug-10	0.00	NM	0.00	NM	0.08	0.00	0.00	HS	0.10
14-Sep-10	0.00	NM	0.00	NM	0.04	0.00	0.00	NM	0.06
14-Oct-10	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.01	0.08
22-Nov-10	0.00	0.00	NM	0.00	0.04	0.00	0.00	0.01	0.14
15-Dec-10	0.00	0.00	0.00	NM	0.01	0.00	NM	0.01	0.09
18-Jan-11	0.00	0.00	0.00	NM	HS	0.00	NM	0.02	0.09
21-Feb-11	NM	0.00	0.00	0.00	0.03	0.00	0.00	0.03	0.04
11-Mar-11	0.00	0.00	0.00	0.00	0.21	0.00	0.00	0.04	0.03
21-Apr-11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04

**Notes:**

All values are reported in feet as measured with an electronic interface probe.

HS - heavy sheen but no measureable thickness.

NM - not measured; was covered with pallets or other surface obstruction.

NI - not installed as of this date.

\* - Product level after ERM initiated DNAPL recovery test

**Table 2**  
**Summary of Vacuum/Pressure Readings**  
**Greif Inc. Tonawanda, NY**  
**NYSDEC VCP Number V00334-9**

Location	Vac-01	Vac-02	Vac-03	Vac-04	Vac-05	Vac-06	Vac-07	Vac-08	Vac-09	Vac-10	Vac-11	Vac-12	Vac-13	Vac-14
Date														
16-Jun-10	0.1175	0.1375	0.1375	0	0.1425	0.1625	0.095	0.0325	0	0.10	0.0950	0	NM	0
14-Jul-10	1.65	1.45	0.47	0	0.68	0.46	0.125	0.0525	0	0.1625	0.16	0	0	0
13-Aug-10	1.3	1.25	0.46	0	0.65	0.45	0.135	0.07	0	0.19	0.175	0	0	NM
14-Sep-10	0.8	NM	0.29	0	0.28	0.195	0.055	0.015	0	NM	0.125	0	0	0
14-Oct-10	0.82	0.84	0.29	0	0.28	0.185	0.05	0.015	0	0.1375	0.12	0	0	NM
22-Nov-10	0.29	2.3	0.49	0	0.35	0.28	0.105	0.0025	0	0.155	0.135	0	NM	NM
16-Dec-10	0.26	2.1	0.42	0	0.2	0.14	0.075	0	0	0.13	0.105	0	0	NM
19-Jan-11	0.77	2	0.41	0	0.24	0.18	0.1	NM	0	0.155	0.125	0	NM	0
21-Feb-11	1.35	1.8	0.4	0	NM	0.17	0.1	0	0	NM	0.12	NM	0	0
11-Mar-11	1.8	2.25	0.5	0	NM	0.22	NM	0.01	0	NM	0.12	0	0	NM
21-Apr-11	1.35	2	0.45	0	0.25	0.2	0.1025	0	0	0.155	0.135	0	0	0

Location	Vac-15	Vac-16	Vac-17	Vac-18	Vac-19	Vac-20	Vac-21	Vac-22	Vac-23	Vac-24	Vac-25	Vac-26	Vac-27	Vac-28
Date														
16-Jun-10	0	NM	0.0025	0.25	0.42	0.175	0	0.0075	0	0	0.089	0.020	0.005	0.0175
14-Jul-10	0	0	NM	0.31	0.54	0.205	0	0	NM	NM	NM	NM	0.005	0.01
13-Aug-10	0	0	0.0025	0.31	0.52	NM	0	0	0	0	0.08	0.02	0.005	0.025
14-Sep-10	0	0	0	0.165	0.31	0.075	0	0	0	0	0.08	0.015	0.005	0.005
14-Oct-10	NM	0	0	0.18	0.35	0.105	0	0	0	0	0.08	0.015	0.0025	0.005
22-Nov-10	0	0	0	0.2	0.35	0.1	0	0	0	0	0.08	0.02	0.0025	0.0025
16-Dec-10	0	0	0	0.145	0.29	0.08	0	0	0	0	0.055	0.01	0	0.0025
19-Jan-11	0	0	0	0.15	0.29	0.08	0	0	0	0	0.075	0.02	0	0.0075
21-Feb-11	0.005	0	NM	0.18	0.35	NM	0	0.0125	0	0	0.0675	0.035	0.015	0.01
11-Mar-11	0	0	0	0.1875	0.34	0.12	0	0	0	0	0.08	0.025	0.01	0.02
21-Apr-11	0	0	0	0.18	0.32	0.105	0	0.01	0	0	0.08	0.0325	0.01	0.0125

Location	Vac-29	Vac-30	Vac-31	Vac-32	Vac-33	Vac-34	Vac-35	Vac-36	Vac-37	Vac-38	Vac-39	Vac-40	Vac-41	Vac-42
Date														
16-Jun-10	0.040	0	0	0.040	0.0675	0.0225	NM	0	0.030	NM	0.025	0.0275	0.0525	0.0025
14-Jul-10	NM	NM	NM	NM	0.125	0.0325	0	0	0	NM	0.03	0.0325	NM	0.005
13-Aug-10	0.0725	0	0.0375	0.0875	0.1625	0.05	0	0	0	0	0.05	0.04	0.0875	0.015
14-Sep-10	0.025	0	0.01	0.03	0.06	0.015	0	0	0	0	0.02	0.0075	0.025	0.0025
14-Oct-10	0.025	0	0.005	0.03	0.055	0.01	0	0	0	0	0.01	0.01	0.025	NM
22-Nov-10	0.015	0	0.0025	0.025	0.065	0.01	0	NM	0	0	0.005	NM	0.015	NM
16-Dec-10	0.02	NM	0.005	0.035	0.055	0.015	0	NM	0	0	0.005	NM	0.0125	NM
19-Jan-11	0.02	NM	0.0075	0.03	0.04	0.015	0	0	0	0	0.01	NM	0.0125	NM
21-Feb-11	0.015	0	0.01	0.035	0.0325	NM	NM	0	0	0.0025	0.015	0.01	0.0175	NM
11-Mar-11	0.02	0	0.02	0.0425	0.0625	0.03	0	0	0	0	0.0225	0.02	0.02	NM
21-Apr-11	0.0175	0	0.01	0.035	0.06	NM	NM	0	0	0	0.01	0.005	0.0125	0

Location	Vac-43	Vac-44	Vac-45	Vac-46	Vac-47	Vac-48	Vac-49	Vac-50	Vac-51	Vac-52	Vac-53
Date											
16-Jun-10	0.0025	0.0425	0.015	0.0125	NM	0.2125	0.0925	0	0.080	0.0125	0.0125
14-Jul-10	0	NM	NM	0.0125	NM	0.21	0.0875	NM	0.8	0.0175	0.0225
13-Aug-10	0	NM	NM	NM	NM	0.22	0.0925	0	0.085	NM	0.0225
14-Sep-10	0	NM	NM	0.0025	NM	0.1275	0.05	0	0.04	0.005	0
14-Oct-10	NM	NM	0	NM	NM	0.11	0.0375	0	0.03	0	0
22-Nov-10	0	NM	0	0	NM	0.135	0.0475	0	0.03	0.0025	0
16-Dec-10	0	0.015	0	0	NM	0.09	0.02	0	NM	0	0
19-Jan-11	0	NM	0	0	NM	0.12	0.035	0	0.03	0.0025	0
21-Feb-11	0	0.0325	0.01	0	0	0.125	0.035	0	0.03	0	0
11-Mar-11	0	NM	0.02	NM	0.005	0.16	0.0575	NM	0.05	0.03	0.01
21-Apr-11	0	NM	0	NM	0	0.1375	0.045	NM	0.025	0	0

**Notes:**  
- All vacuum and/or pressure readings are reported in inches of water column ("H2O).  
NM = not measured; was covered with pallets or other surface obstructions

**Table 3**  
**Summary of Treatment System Data**  
**Greif Facility - Tonawanda, New York**  
**NYSDEC VCP Number V00334-9**  
**Page 1 of 2**

Location Units	Header Vacuum						Header Air Flow					
	PG-101 " H <sub>2</sub> O	PG-102 " H <sub>2</sub> O	PG-103 " H <sub>2</sub> O	PG-104 " H <sub>2</sub> O	PG-105 " H <sub>2</sub> O	PG-106 " H <sub>2</sub> O	PG-101 cfm	PG-102 cfm	PG-103 cfm	PG-104 cfm	PG-105 cfm	PG-106 cfm
Date												
17-Dec-09	NF	-11.5	NM	NF	NF	NF	NF	NM	NM	NF	NF	NF
14-Jan-10	NF	-40	NM	NF	NF	NF	NF	94	NM	NF	NF	NF
17-Feb-10	NF	-4.2	NM	NF	NF	NF	NF	16	NM	NF	NF	NF
18-Mar-10	NF	-1.95	NM	NF	NF	NF	NF	15	NM	NF	NF	NF
13-Apr-10	NF	-2.85	-13.0	NF	NF	NF	NF	73	233	NF	NF	NF
18-May-10	NF	-3.95	-13.0	NF	NF	NF	NF	83	212	NF	NF	NF
15-Jun-10	NF	-2.60	-15.5	NF	NF	NF	NF	65	225	NF	NF	NF
14-Jul-10	NM	-1.75	-4.10	NM	NM	NF	NM	26	75	NM	NM	NF
13-Aug-10	-3.75	-1.30	-3.75	-3.70	-3.75	NF	67	19	73	65	82	NF
14-Sep-10	-3.15	-0.85	-3.25	-3.15	-3.2	NF	68	18	74	65	72	NF
14-Oct-10	-3.45	-0.91	-3.50	-3.45	-3.55	NF	70	32	76	66	72	NF
22-Nov-10	-4.05	-0.30	-4.15	-4.00	-4.2	NF	76	14	80	70	82	NF
16-Dec-10	-4.05	-0.30	-4.05	-3.95	-4.05	NF	70	14	85	75	94	NF
19-Jan-11	-3.55	-0.85	-3.60	-3.55	-3.6	NF	82	39	135	92	164	NF
21-Feb-11	-3.4	-1.55	-3.50	-3.40	-3.5	NF	116	36	105	78	144	NF
11-Mar-11	-3.35	-2.00	-3.35	-3.35	-3.4	NF	98	73	65	76	141	NF
21-Apr-11	-3.1	-1.65	-3.10	-3.05	-3.15	NF	97	84	103	106	170	NF

**Location Key**

- PG-101 = Suction Pits 05, 06, 07 and 08 (pipe 1 of 2).
- PG-102 = interior of former varnish pit.
- PG-103 = horizontal suction points through former varnish pit's north, west, and south walls.
- PG-104 = Suction Pit 05, 06, 07, and 08 (pipe 2 of 2).
- PG-105 = Suction Pit 01 and 02.
- PG-106 = not connected.

**Notes:**

- Vacuum and pressure data are reported in inches of water; negative data represent vacuum; positive data represent pressure.
- Air flow data are based on measured air velocity and are reported in cubic feet per minute.
- NM = not measured
- NF = no flow as the piping associated with these measurement locations was not open/ connected at the time of measurement.



**Table 3 (Continued)**  
**Summary of Treatment System Data**  
**Greif Facility - Tonawanda, New York**  
**NYSDEC VCP Number V00334-9**  
**Page 2 of 2**

Location Units	Pre-Carbon			Mid-Carbon		Post-Carbon		
	Pressure " H <sub>2</sub> O	Temp °F	PID ppm	Temp °F	PID ppm	Temp °F	PID ppm	Flow cfm
<b>Date</b>								
17-Dec-09	+10.5	103	0.0	98	0.0	67	0.0	120
14-Jan-10	+7.5	114	46.5	102	18.7	91	13.9	73
17-Feb-10	+9.5	114	0.0	111	0.0	99	0.0	88
18-Mar-10	+9.0	115	0.0	108	0.0	98	0.0	98
13-Apr-10	+9.0	118	4.7	109	2.0	98	1.1	225
18-May-10	+8.5	108	3.0	103	2.2	94	1.7	220
15-Jun-10	+10.0	114	3.3	103	0.0	89	0.0	245
14-Jul-10	+11.0	112	5.2	106	4.1	98	1.9	263
13-Aug-10	+10.5	118	2.6	112	2.0	103	1.3	255
14-Sep-10	+13.0	100	2.2	90	1.1	NM	0.5	461
14-Oct-10	+15.5	104	0.3	104	0.0	NM	0.0	475
22-Nov-10	+15.5	102	0.4	97	0.0	94	0.0	490
16-Dec-10	+15.5	94	15.1	89	11.8	88	3.2	493
19-Jan-11	+16.5	94	1.0	88	1.1	86	0.2	516
21-Feb-11	+16	91	0.7	85	0	84	0	462
11-Mar-11	+15.5	97	189	91	69.2	91	5.7	522
21-Apr-11	+22.5	98	1.1	NM	0	97	0	220

**Notes:**

- Vacuum and pressure data are reported in inches of water; negative data represent vacuum; positive data represent pressure.
- Air flow data are based on measured air velocity and are reported in cubic feet per minute.
- Temperature reported in degrees Fahrenheit.
- PID = photoionization detector reading reported in parts per million.
- NM = not measured