

21 August 2013

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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 - July 2013  
Greif, Inc. Facility - Tonawanda, New York  
NYSDEC VCP Number V00334-9

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***Key Actions  
This Period:***

- Performed routine bi-monthly operations and maintenance (O&M) on the Sub-Slab Depressurization (SSD) System. Data collected this month includes product level measurements (Table 1), vacuum readings in vacuum monitoring points (Table 2), and treatment system operational data (Table 3). The locations of sampling and monitoring points have been updated and are presented in Figure 1. The estimated distribution of vacuum beneath the main building's floor slab on 31 July 2013 is presented in Figure 2.
- Preparations for upgrading of the SSD System's telemetry and communications equipment.
- Preparations for transport of hazardous spent granular activated carbon (GAC) waste from the site to a permitted recycling facility for regeneration.
- Preparation of a Draft Site Management Plan (SMP) including groundwater mapping and updating of the Site-specific Health and Safety Plan.

***Changes/  
Problems/  
Resolutions:***

- Review of Table 2 indicates the magnitude of vacuum at many vacuum monitoring points has been significantly increased due to the relocation of the SSD System blower from the treatment building to the mezzanine.

***Analytical  
Data Received:***

- None.

**Documents Submitted:**

- Correspondence regarding proof of filing of the environmental Deed Restriction with Erie County was submitted to the NYSDEC on 8 July 2013.
- Monthly Progress Report for June 2013 dated 10 July 2013.

**Anticipated Actions - August 2013:**

- Receive the final copy and proof of filing from Erie County for the environmental Deed Restriction filed by Greif on 25 June 2013.
- Transport of spent granular activated carbon vessels as hazardous waste from the site.
- Preparation for upgrading of the SSD System's telemetry and communication equipment.
- Preparation of a Site Management Plan.

**NYSDEC-Approved Field Decisions:**

- None.

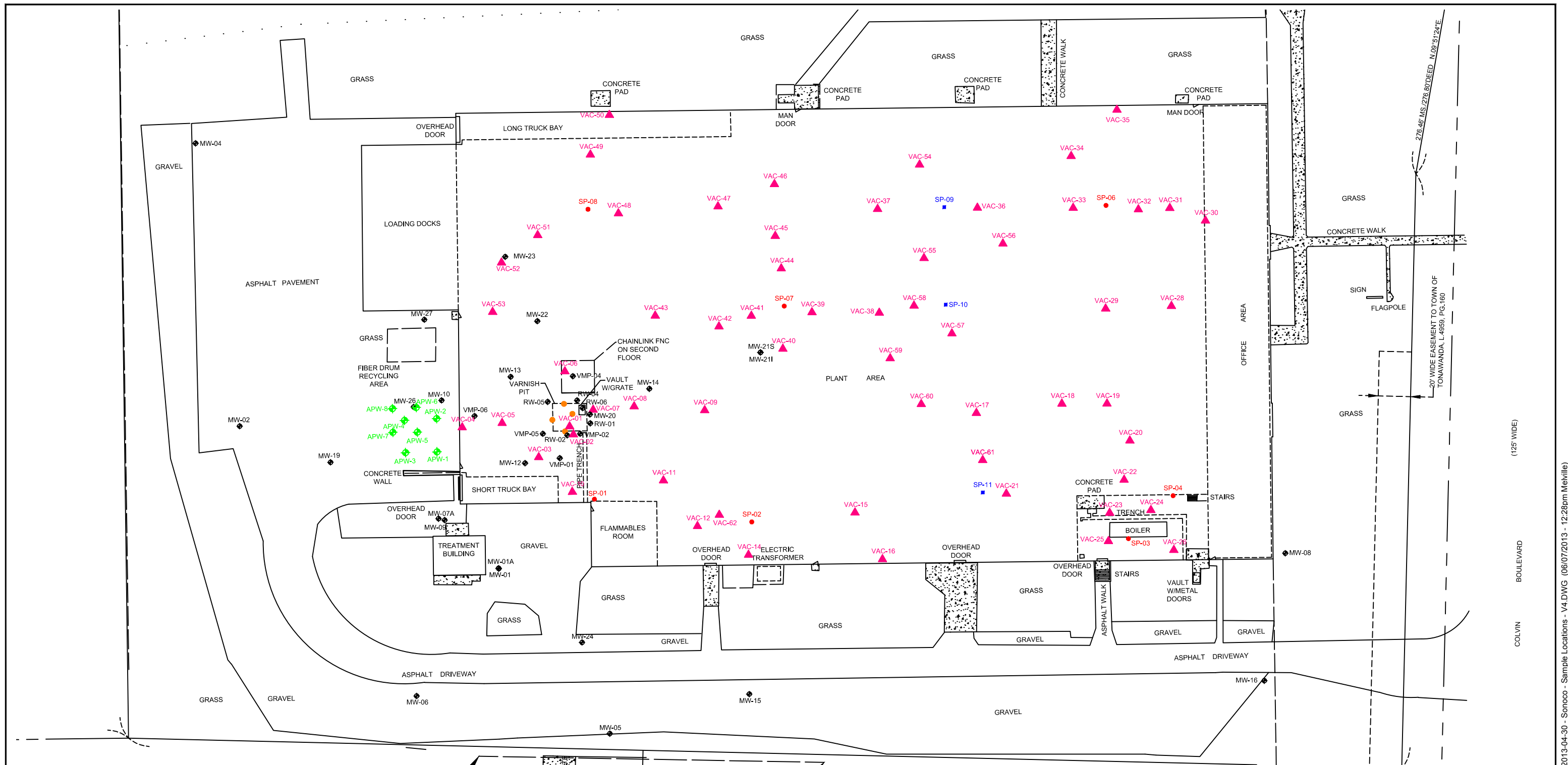
**Prepared By:**



Jon S. Fox, P.G.  
Principal Consultant

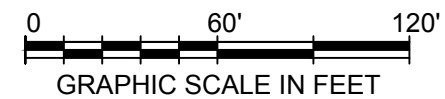
**Date:** 21 August 2013

**Cc:** Larry Pattengill (Sonoco)  
Pete Gruene (Sonoco)  
Patrick Wolfe (Greif)  
George Frazer (Greif)  
Gregory Sutton, P.E. (NYSDEC)  
Patrick Foster, Esq. (NYSDEC)  
Matt Forcucci (NYSDOH)  
A. Joseph White (NYSDEC)  
John Kuhn (ERM)  
John Mohlin, P.E. (ERM)



**LEGEND**

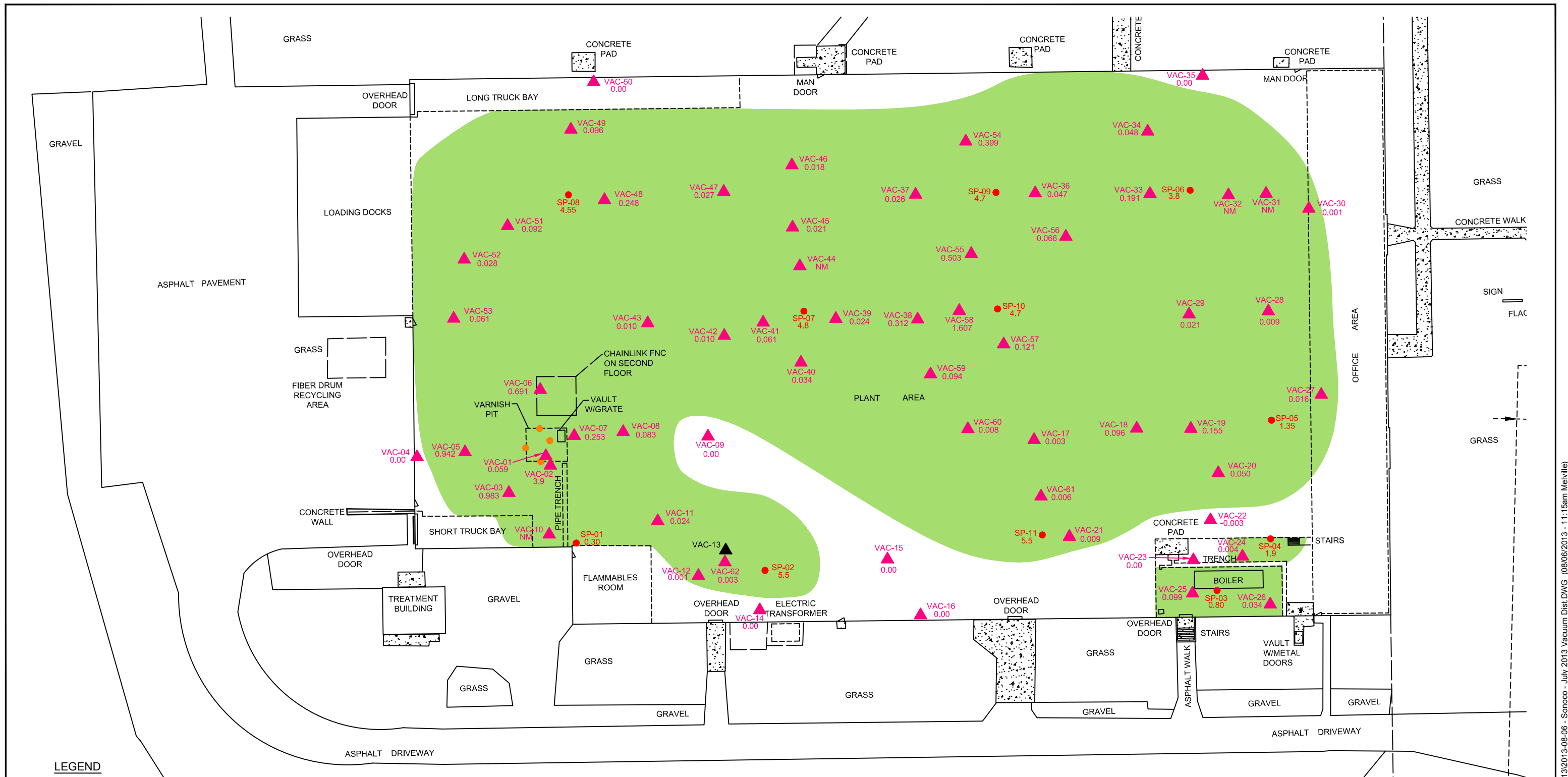
- Horizontal Suction Point Location
- Vertical Suction Point Location
- ▲ Vacuum Monitoring Point Location
- ◆ Aetna Placement Well
- ◆ Monitoring Well Location
- Suction Point Location
- Former Varnish Pit
- ▲ Man Door
- Concrete Pad



TITLE  
**SAMPLE AND MEASUREMENT LOCATIONS  
 GREIF FACILITY-TONAWANDA, NEW YORK  
 NYSDEC VCP NUMBER V00334-9**

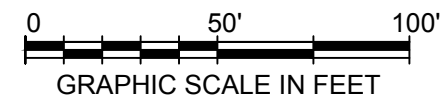
PREPARED FOR  
**SONOCO PRODUCTS COMPANY**

Environmental Resources Management		FIGURE <b>1</b>
DRAWN BY EMF	SCALE GRAPHIC	
DATE 07 JUNE 2013	JOB NO. 0194591.06	



- 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
  - ▲ Removed
  - ▲ Man Door
  - Concrete Pad

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



<b>TITLE</b> SUBSURFACE VACUUM DISTRIBUTION 31 JULY 2013 GREIF FACILITY-TONAWANDA, NEW YORK			
PREPARED FOR <b>SONOCO PRODUCTS COMPANY</b>			
Environmental Resources Management		FIGURE <b>2</b>	
DRAWN BY EMF	SCALE GRAPHIC	DATE 06 AUGUST 2013	JOB NO. 0194591.06

**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
24-May-11	0.00	0.00	0.00	NM	0.15	0.3	0.00	0.1	0.1
21-June-11	0.00	0.00	0.00	0.00	0.1	0.00	0.00	0.03	0.08
21-July-11	0.00	0.00	0.00	NM	HS	0.00	0.00	0.01	0.06
29-Aug-11	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	HS
26-Sept-11	0.00	NM	0.00	0.00	0.10	0.00	NM	0.04	HS
28-Oct-11	0.00	0.00	NM	0.00	0.03	0.00	0.00	0.02	HS
18-Nov-11	0.00	0.00	NM	NM	HS	0.00	0.00	0.01	0.04
22-Dec-11	0.00	0.00	NM	NM	0.03	0.00	0.00	0.02	0.06
20-Jan-12	0.00	0.00	0.00	0.00	HS	0.00	0.00	0.02	HS
21-Feb-12	0.00	0.00	0.00	0.00	HS	0.00	0.00	0.03	HS
16-Mar-12	0.00	0.00	0.00	0.00	HS	0.00	0.00	HS	0.15
20-Apr-12	0.00	0.00	NM	NM	HS	0.00	0.00	0.02	0.02
17-May-12	0.00	0.00	0.00	0.00	1.06	0.00	0.00	0.01	0.03
20-Jun-12	0.00	0.00	0.00	0.00	HS	0.00	0.00	0.01	0.04
20-Jul-12	NM	0.00	NM	0.00	HS	0.00	0.00	NM	0.02
21-Aug-12	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.12	0.19
14-Sept-12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.09
17-Oct-12	0.00	0.00	0.00	0.00	0.11	0.00	NM	0.14	0.09
20-Nov-12	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.02	HS
19-Dec-12	0.00	0.00	NM	0.00	HS	0.00	0.00	0.03	0.06
24-Jan-13	0.00	0.00	0.00	0.00	HS	0.00	0.00	0.03	0.09
22-Feb-13	NM	NM	NM	NM	NM	NM	NM	NM	NM
25-Mar-13	0.00	0.00	NM	NM	0.04	0.00	0.00	0.04	HS
3-May-13	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02	0.00
31-Jul-13	0.00	0.00	NM	NM	HS	0.00	0.00	0.04	0.03

**Notes:**

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

HS - heavy sheen but no measureable thickness.

NM - not measured

NI - not installed as of this date.

\* - Product level after ERM initiated DNAPL recovery test





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

Location	Vac-57	Vac-58	Vac-59	Vac-60	Vac-61	Vac-62
Date						
16-Jun-10	NI	NI	NI	NI	NI	NI
14-Jul-10	NI	NI	NI	NI	NI	NI
13-Aug-10	NI	NI	NI	NI	NI	NI
14-Sep-10	NI	NI	NI	NI	NI	NI
14-Oct-10	NI	NI	NI	NI	NI	NI
22-Nov-10	NI	NI	NI	NI	NI	NI
16-Dec-10	NI	NI	NI	NI	NI	NI
19-Jan-11	NI	NI	NI	NI	NI	NI
21-Feb-11	NI	NI	NI	NI	NI	NI
11-Mar-11	NI	NI	NI	NI	NI	NI
21-Apr-11	NI	NI	NI	NI	NI	NI
24-May-11	NI	NI	NI	NI	NI	NI
21-Jun-11	NI	NI	NI	NI	NI	NI
21-Jul-11	NI	NI	NI	NI	NI	NI
29-Aug-11	NI	NI	NI	NI	NI	NI
26-Sep-11	NI	NI	NI	NI	NI	NI
28-Oct-11	NI	NI	NI	NI	NI	NI
18-Nov-11	NI	NI	NI	NI	NI	NI
22-Dec-11	NI	NI	NI	NI	NI	NI
20-Jan-12	NI	NI	NI	NI	NI	NI
21-Feb-12	NI	NI	NI	NI	NI	NI
16-Mar-12	NI	NI	NI	NI	NI	NI
20-Apr-12	NI	NI	NI	NI	NI	NI
17-May-12	NI	NI	NI	NI	NI	NI
20-Jun-12	NI	NI	NI	NI	NI	NI
20-Jul-12	NI	NI	NI	NI	NI	NI
21-Aug-12	NI	NI	NI	NI	NI	NI
14-Sep-12	NI	NI	NI	NI	NI	NI
17-Oct-12	NI	NI	NI	NI	NI	NI
20-Nov-12	NI	NI	NI	NI	NI	NI
11-Dec-12	0.003	0.174	0.013	0	0.002	0.084
24-Jan-13	0.011	0.557	0.036	0.002	0.001	0.005
22-Feb-13	0.012	0.63	0.035	0.001	0	0.008
25-Mar-13	0.011	0.627	0.034	0.001	0.001	NM
3-May-13	0.04	0.951	0.043	0.001	0.001	0
31-Jul-13	0.121	1.607	0.094	0.008	0.006	0.003

**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.  
 NI = Not installed.



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

Location	Header			Header Air Flow			Pre-Carbon				Effluent				
	MAN-1	MAN-2	MAN-3	MAN-1	MAN-2	MAN-3	SP-503	Temp-502	SP-503	SP-503	SP-507	Temp-506	SP-507	SP-507	SP-507
Units	" H <sub>2</sub> O	" H <sub>2</sub> O	" H <sub>2</sub> O	cfm	cfm	cfm	" H <sub>2</sub> O	°F	ppm	%RH	" H <sub>2</sub> O	°F	ppm	cfm	%RH
Date															
24-Jan-13	-3.55	-3.6	-3.35	297.92	162.68	370.44	23	94.5	0.0	28.8	0.789	118	0.0	417.48	17.1
25-Mar-13	-3	-3.2	-3.1	241.08	148.96	319.48	28	97	0.7	28.0	0.67	118	0.0	386.12	15.9
3-May-13	5	4	3.7	239.12	137.2	299.88	18	96.4	0.0	31.8	0.75	121	0.0	366.52	18
31-Jul-13	5	5	5	278.32	193.06	362.6	NM	NM	NM	NM	1.228	111	0.1	464.52	29.3

Location	Panel		Knock-out	Pre-Blower		Post-Blower	Pre/Post Filter	
	Temp-201	LEL-202	VG-301	Temp-401	SP-405	Temp-404	VG-402	VG-403
Units	°F	%	" H <sub>2</sub> O	°F	cfm	°F	" H <sub>2</sub> O	" H <sub>2</sub> O
Date								
24-Jan-13	78.5	0	-17	63	296.71	116	-19	-68
25-Mar-13	70.7	0	-13	66	284.88	118	-18	-70
3-May-13	72.3	0	-13	70	303.69	122	-16	-73
31-Jul-13	74.9	0	18	73	318.52	102	-25	-82

**Location Key**

MAN-1 = Suction Pits 01, 02, interior former varnish pit, and horizontal suction points through former varnish pit's north, west, and south walls.

MAN-2 = Suction Pits 05 and 11.

MAN-3 = Suction Pits 06, 07, 08, 09, and 10

**Notes:**

- Vacuum and pressure data is reported in inches of water.
- Air flow data is based on measured air velocity and is reported in cubic feet per minute.
- Temperature data is reported in degrees fahrenheit.
- Relative humidity is reported as a percentage.