



January 14, 2009
(100-1157)

AN 15 2009
VS

Ms. Nancy Ryan
Wisconsin Department of Natural Resources
2300 North Dr. MLK, Jr Drive
Milwaukee, Wisconsin 53212-8606

RE: Additional Information, Express Cleaners, 3941 North Main Street, Racine, Wisconsin; WDNR BRRTS #02-52-547631

Dear Ms. Ryan:

In a November 26, 2008 letter, the Wisconsin Department of Natural Resources (WDNR) requested additional information regarding the site investigation at Express Cleaners, 3941 North Main Street, Racine, Wisconsin (the Site). It is our understanding that the WDNR has agreed to conditionally approved the site investigation after receiving the following information from Northern Environmental Technologies, Incorporated (Northern Environmental).

- ▲ Soil isoconcentration map showing contaminant concentration and sample depth.
- ▲ Groundwater isoconcentration map.
- ▲ Updated cross section showing utility locations and sample results.
- ▲ Information regarding the depth and location of all utilities and a discussion regarding the mechanism for contaminant transport.
- ▲ Other information requested in the June 2008 letter from the WDNR. This included recalculation of soil screening levels, laboratory analytical data for soil boreholes B9 through B12, and waste disposal documentation.

FIGURE REVISIONS

Figures 3 through 5 from Northern Environmental's May 2008 site investigation report have been revised to address the first three items listed above and are included as Attachment A.

ADDITIONAL BURIED UTILITY INFORMATION

Buried natural gas, electric, water, and sanitary sewer utilities extend across the Site. The locations of the utilities are shown in the attached figures. City of Racine Engineering Department maps show the sanitary sewer located in the Main Street right-of-way is buried at approximately 10 feet below grade (fbg) and the water main at approximately 6 fbg. Therefore, the sanitary sewer and water laterals extending across the Site are believed to be approximately 8 and 5 fbg, respectively, as shown in the Figure 3 cross section. Natural gas and electric utilities are typically buried less than 4 fbg.

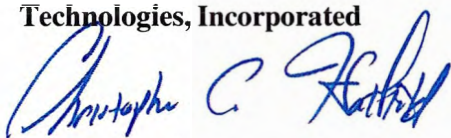
As stated in Northern Environmental's May 2008 site investigation report, contaminant migration in the subsurface is strongly influenced by groundwater flow. Westerly groundwater flow at the Site is likely influenced by surface topography and the downward sloping surface of the relatively impervious silty clay underlying silty sand. Buried utilities do not appear to be providing a preferential pathway for contaminant migration.

ADDITIONAL SITE INVESTIGATION DATA

Northern Environmental recalculated soil screening levels for the Site using the WDNR recommended data input defaults. The results, including a soil sample summary table showing the revised soil screening levels are included as Attachment B. The laboratory results missing from the site investigation report and the investigation disposal documentation are also included in Attachment B.

We trust this information meets your needs. Please contact us if you have any questions or comments.

Sincerely,
**Northern Environmental
Technologies, Incorporated**

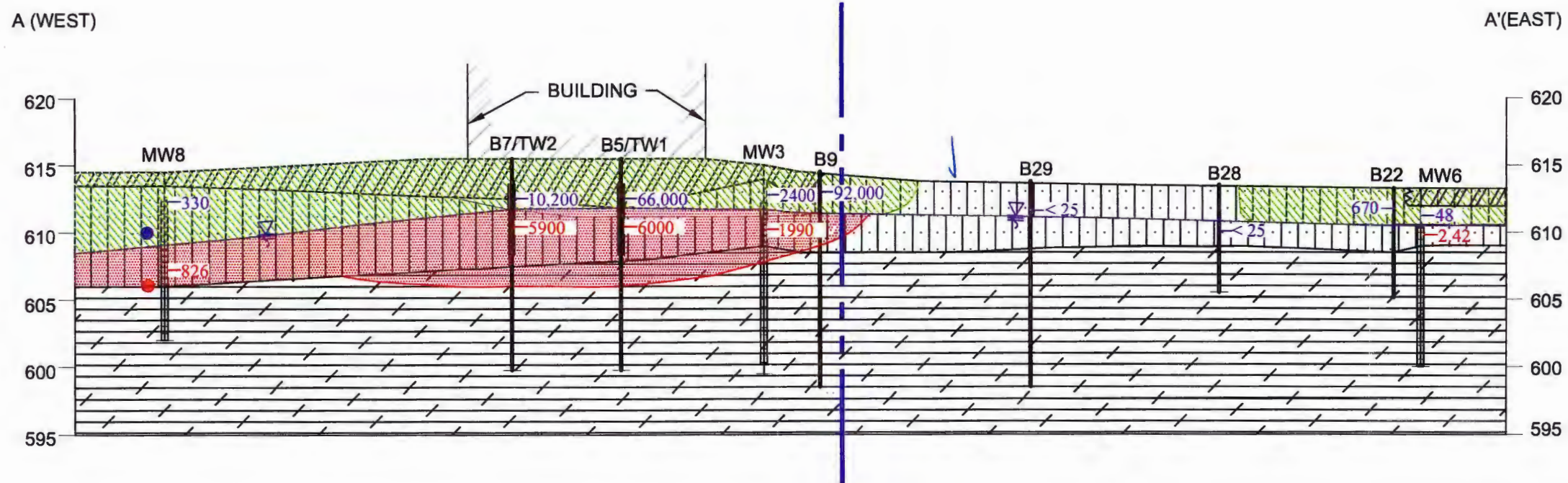


Christopher C. Hatfield, PG
Registered Geologist

CCH/lmh
Enclosures





c: Mr. William P. Scott, Gonzalez, Saggio & Harlan

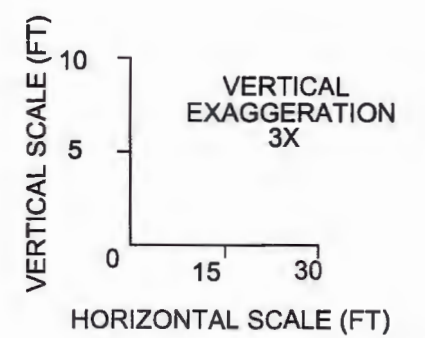
ATTACHMENT A
FIGURES 3 THROUGH 5



LEGEND

-  SILTY SAND
-  SILTY CLAY
-  SAND AND GRAVEL
-  EXTENT OF SOIL CONTAMINATION EXCEEDING EPA SITE SPECIFIC SOIL SCREENING LEVELS FOR SOIL TO GROUNDWATER
-  EXTENT OF GROUNDWATER CONTAMINATION EXCEEDING THE NR140 ES
-  WATER LATERAL
-  SANITARY SEWER LATERAL

-  5900 MONITORING WELL LOCATION AND IDENTIFICATION WITH GROUNDWATER PCE CONCENTRATION IN MICROGRAMS PER LITER
-  10,200 BOREHOLE LOCATION AND IDENTIFICATION WITH SOIL PCE CONCENTRATION IN MICROGRAMS PER KILOGRAM
-  WATER TABLE (JANUARY 15, 2008)
-  SUBJECT PROPERTY BOUNDARY



Northern EnvironmentalSM
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WISCONSIN MICHIGAN ILLINOIS IOWA

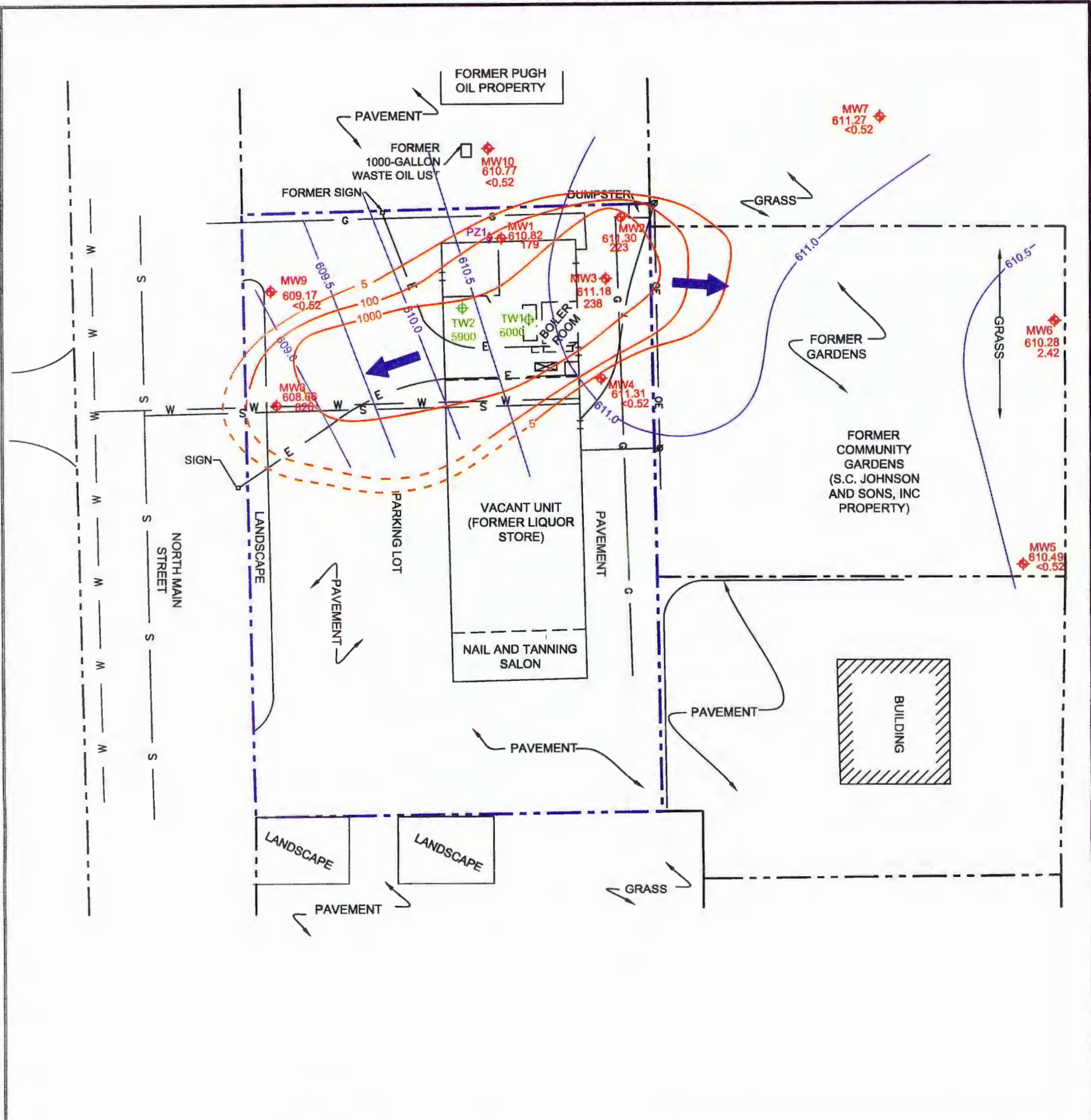
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GEOLOGIC CROSS SECTION A-A'

EXPRESS CLEANERS, INCORPORATED
3921 N. MAIN STREET
RACINE, WISCONSIN

PROJECT NUMBER: 100-1157 FIGURE 3

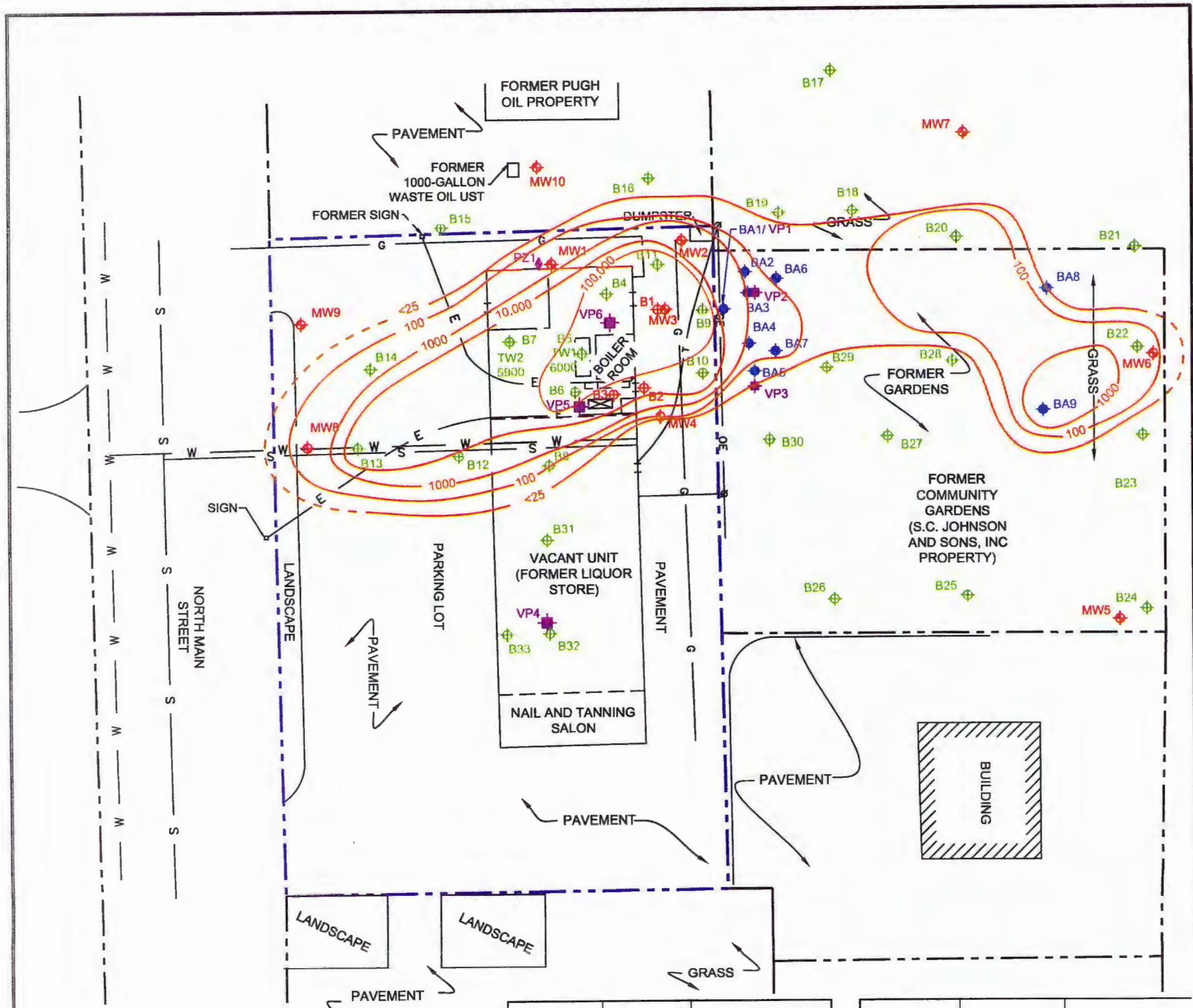


LEGEND

- SUBJECT PROPERTY BOUNDARY
- ADJACENT PROPERTY BOUNDARIES
- OVERHEAD ELECTRIC LINE
- FENCE
- UNDERGROUND GAS LINE
- WATERMAIN
- BURIED ELECTRIC LINE
- BURIED SANITARY SEWER
- BURIED TELEPHONE LINE
- UTILITY POLE
- FORMER DRY CLEANING MACHINE LOCATION
- EXISTING DRY CLEANING MACHINE
- MW1 610.85/179 2" MONITORING WELL LOCATION AND IDENTIFICATION WITH GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL AND PCE CONCENTRATION IN GROUNDWATER IN MICROGRAMS PER LITER
- PZ1 610.5 PIEZOMETER LOCATION AND IDENTIFICATION
- TW2 6000 1" TEMPORARY MONITORING WELL LOCATION AND PCE CONCENTRATION IN GROUNDWATER IN MICROGRAMS PER LITER
- 1000 GROUNDWATER PCE ISOCONCENTRATION LINE IN MICROGRAMS PER LITER (DASHED WHERE INFERRED)
- 611.0 GROUNDWATER CONTOUR IN FEET ABOVE MEAN SEA LEVEL
- GROUNDWATER FLOW DIRECTION



<p>Northern Environmental Hydrologists • Engineers • Surveyors • Scientists 330 South 4th Avenue, Park Falls, Wisconsin 54552 Phone: 800-498-3913 Fax: 715-762-1844</p> <p>WISCONSIN MICHIGAN ILLINOIS IOWA</p> <p><small>This drawing and all information contained thereon is the property of Northern Environmental. Northern Environmental will not be held liable for improper or incorrect usage. Professional seals and signatures do not apply to electronic drawing files. The user assumes all responsibility and risk for the accuracy and verification of all information contained in electronic files.</small></p>	<p>GROUNDWATER ELEVATION AND PCE CONCENTRATIONS IN GROUNDWATER JANUARY 15, 2008</p>
	<p>EXPRESS CLEANERS, INCORPORATED 3941 N. MAIN STREET RACINE, WISCONSIN</p>
<p>DATE: 04/15/08 DRAWN BY: BMP REVISED: 12/12/08 MSM</p>	<p>PROJECT NUMBER: 100-1157 FIGURE 4</p>

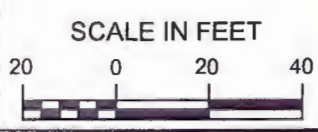


LEGEND

- SUBJECT PROPERTY BOUNDARY
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- FENCE
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- BURIED ELECTRIC LINE
- BURIED SANITARY SEWER
- BURIED TELEPHONE LINE
- UTILITY POLE
- FORMER DRY CLEANING MACHINE LOCATION
- EXISTING DRY CLEANING MACHINE
- VP1 SOIL VAPOR SAMPLING POINT LOCATION AND IDENTIFICATION
- BA1 HAND AUGER NEAR SURFACE SAMPLE LOCATION AND IDENTIFICATION
- B5 BOREHOLE LOCATION AND IDENTIFICATION
- B3 GABRIEL ENVIRONMENTAL BOREHOLE LOCATION AND IDENTIFICATION
- MW1 2" MONITORING WELL LOCATION AND IDENTIFICATION
- PZ1 PIEZOMETER LOCATION AND IDENTIFICATION
- TW2 1" TEMPORARY MONITORING WELL LOCATION
- 1000 SOIL PCE ISOCONCENTRATION LINE IN MICROGRAMS PER KILOGRAM

Sample Location	Sample Depth (feet)	Soil PCE Concentration (ug/kg)
PZ1	1-3	370
MW1	3.5-5.5	430
MW2	1-3	1740
MW3	1-3	8400
MW4	1-3	<25
MW6	2-4	48
MW8	1-3	330
B1	4	121,000
B2	2	9900
B2	12	465
B3	4	21,100
B4	2-4	270,000
B4	4-6	1,380
B4	14-16	270
B5	2-4	66,000
B5	10-12	305
B6	2-4	136,000
B6	12-14	174
B7	2-4	10,200
B7	6-8	77,000
B8	2-4	67
B9	0-2	92,000
B9	8-10	770,000
B10	2-4	14,000
B10	8-10	28
B11	2-4	63,000
B11	6-8	590,000
B12	2-4	1370
B13	2-4	112
B13	6-8	68,000
B14	2-4	131
B15	2-4	<25
B15	4-6	<25
B16	2-4	<25

Sample Location	Sample Depth (feet)	Soil PCE Concentration (ug/kg)
B17	2-4	<25
B18	2-4	<25
B19	2-4	<25
B20	2-4	104
B21	2-4	<25
B22	2-4	670
B23	2-4	<25
B24	2-4	<25
B25	2-4	<25
B26	2-4	<25
B27	2-4	<25
B28	2-4	<25
B29	2-4	<25
B30	2-4	<25
B31	2-4	<25
B32	2-4	<25
B33	2-4	<25
MW6	2-4	48
MW8	1-3	330
BA1	2	130
BA2	0.5	650
BA2	2	700
BA3	0.5	1200
BA3	2	1300
BA4	0.5	690
BA4	2	100
BA5	30	43
BA6	0.5	56
BA6	2	74
BA7	0.5	84
BA7	2	380
BA8	1.5	<25
BA9	0.5	33
BA9	2	1200



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ISOCONCENTRATION MAP OF PCE CONCENTRATIONS IN UNSATURATED SOIL
 EXPRESS CLEANERS, INCORPORATED
 3941 N. MAIN STREET
 RACINE, WISCONSIN
 DATE: 04/15/08 DRAWN BY: BMP REVISED: 12/12/08 MSM PROJECT NUMBER: 100-1157 FIGURE 5

ATTACHMENT B

ADDITIONAL SITE INVESTIGATION DATA

Table 2 Soil Sample Field Screening and Laboratory Analytical Results, Express Cleaners, Racine, Wisconsin

Borehole Number	Sample Number	Date Sampled	Sample Depth (feet)	PID Response (ui)		Description	Detected Volatile Organic Compounds (µg/kg)				Total Organic Carbon (milligrams per kilogram)	Bulk Density (pounds per cubic feet)
				Rae Systems Meter (Parts Per Billion)	Thermo Instruments Meter (Parts Per Million)		cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloroethene	Trichloroethene (TCE)		
U.S. Environmental Protection Agency Site-Specific Soil Screening Levels for Soil to Groundwater							60	110	4.1	3.7		
U.S. Environmental Protection Agency Site-Specific Soil Screening Levels for Ingestion							156,000	313,000	110,000	143,000		
U.S. Environmental Protection Agency Site-Specific Soil Screening Levels for Fugitive Dust							7.74x10 ¹¹	7.74x10 ¹¹	3.25x10 ⁸	1.71x10 ⁶		
U.S. Environmental Protection Agency Site-Specific Soil Screening Levels for Inhalation of Volatiles							NE	NE	2100	14		
PZ1	PZ1-1	03/27/07	1-3	6703	1	Silty sand, Eolian deposits	<25	<25	370	<25	-	-
	PZ1-2	03/27/07	3.5-5.5	4831	1	Silty sand, Eolian deposits	-	-	-	-	-	-
	PZ1-3	03/27/07	6-8	5648	1	Silty clay, till	-	-	-	-	-	-
	PZ1-4	03/27/07	8.5-10.5	5123	1	Silty clay, till	-	-	-	-	-	-
	PZ1-5	03/27/07	11-13	3958	0	Silty clay, till	-	-	-	-	-	-
	PZ1-6	03/27/07	13.5-15.5	3869	1	Silty clay, till	-	-	-	-	-	-
	PZ1-7	03/27/07	16-18	4326	0	Silty clay, till	-	-	-	-	-	-
	PZ1-8	03/27/07	18.5-20.5	5260	0	Silty clay, till	-	-	-	-	-	-
	PZ1-9	03/27/07	21-23	1846	0	Silty clay, till	<25	<25	<25	<25	-	-
	PZ1-10	03/27/07	23.5-25.5	1891	0	Silty clay, till	-	-	-	-	-	-
	PZ1-11	03/27/07	26-28	1935	0	Silty clay, till	-	-	-	-	-	-
	PZ1-12	03/27/07	28-30	1897	0	Silty clay, till	-	-	-	-	-	-
MW1	MW1-1	03/27/07	1-3	2925	1.5	Silty sand, Eolian deposits	-	-	-	-	-	-
	MW1-2	03/27/07	3.5-5.5	1748	3	Silty sand, Eolian deposits	<25	<25	430	<25	-	-
	MW1-3	03/27/07	6-8	1369	0	Silty clay, till	-	-	-	-	-	-
	MW1-4	03/27/07	8.5-10.5	2193	0	Silty clay, till	-	-	-	-	-	-
	MW1-5	03/27/07	11-13	1989	0	Silty clay, till	-	-	-	-	-	-
	MW1-6	03/27/07	13.5-15.5	1884	0	Silty clay, till	<25	<25	<25	<25	-	-
MW2	MW2-1	03/27/07	1-3	9989	4	Silty sand, Eolian deposits	38 "J"	<25	1740	58 "J"	-	-
	MW2-2	03/27/07	3.5-5.5	1709	1	Silty sand, Eolian deposits	-	-	-	-	-	-
	MW2-3	03/27/07	6-8	2401	2	Silty clay, till	-	-	-	-	-	-
	MW2-4	03/27/07	8.5-10.5	1492	1	Silty clay, till	-	-	-	-	-	-
	MW2-5	03/27/07	11-13	2317	2	Silty clay, till	-	-	-	-	-	-
	MW2-6	03/27/07	13.5-15.5	2147	1	Silty clay, till	<25	<25	<25	<25	-	-
MW3	MW3-1	03/27/07	1-3	32,000	10	Silty sand, Eolian deposits	124	<25	8400	113	-	-
	MW3-2	03/27/07	3.5-5.5	27,000	5	Silty sand, Eolian deposits	-	-	-	-	-	-
	MW3-3	03/27/07	6-8	2713	2	Silty clay, till	-	-	-	-	-	-
	MW3-4	03/27/07	8.5-10.5	2221	1	Silty clay, till	-	-	-	-	-	-
	MW3-5	03/27/07	11-13	1436	0	Silty clay, till	-	-	-	-	-	-
	MW3-6	03/27/07	13.5-15.5	1605	1	Silty clay, till	<25	<25	41 "J"	<25	-	-
MW4	MW4-1	03/27/07	1-3	1955	3	Silty sand, Eolian deposits	<25	<25	<25	<25	-	-
	MW4-2	03/27/07	3.5-5.5	1424	2	Silty sand, Eolian deposits	-	-	-	-	-	-
	MW4-3	03/27/07	6-8	1087	3	Silty clay, till	-	-	-	-	-	-
	MW4-4	03/27/07	8.5-10.5	1102	2	Silty clay, till	<25	<25	<25	<25	-	-
	MW4-5	03/27/07	11-13	1677	3	Silty clay, till	-	-	-	-	-	-
	MW4-6	03/27/07	13.5-15.5	1097	2	Silty clay, till	-	-	-	-	-	-
B1*	B1-2	04/12/06	4	-	0	Clay	461	<5	121,000	610	-	-
	B1-6	04/12/06	12	-	0	Clay	<5	<5	<25	<5	-	-
B2*	B2-2	04/12/06	2	-	0	Sand	<5	<5	9900	<250	-	-
	B2-6	04/12/06	12	-	0	Clay	26	<5	465	<5	-	-
B3*	B3-2	04/12/06	4	-	0	Clay	6	<5	21,100	346	-	-
B4	B4-1	03/28/07	0-2	144,000	146	Silty sand, Eolian deposits	-	-	-	-	-	-
	B4-2	03/28/07	2-4	199,000	451	Silty sand, Eolian deposits	<2500	<2500	270,000	<2500	-	-
	B4-3	03/28/07	4-6	164,000	110	Silty sand, Eolian deposits	<2500	<2500	138,000	<2500	-	-
	B4-4	03/28/07	6-8	147,000	126	Silty sand, Eolian deposits	-	-	-	-	-	-
	B4-5	03/28/07	8-10	3159	1	Silty clay, till	-	-	-	-	-	-
	B4-6	03/28/07	10-12	9086	13	Silty clay, till	-	-	-	-	-	-
	B4-7	03/28/07	12-14	4266	1	Silty clay, till	-	-	-	-	-	-
	B4-8	03/28/07	14-16	9877	5	Silty clay, till	<25	<25	270	<25	-	-
B5/TW1	B5-1	03/28/07	0-2	103,000	71	Silty sand, Fill	-	-	-	-	-	-
	B5-2	03/28/07	2-4	185,000	88	Silty sand, Fill	<2500	<2500	66,000	<2500	-	-
	B5-3	03/28/07	4-6	22,000	14	Silty sand, Eolian deposits	-	-	-	-	-	-
	B5-4	03/28/07	6-8	79,000	47	Silty sand, Eolian deposits	-	-	-	-	-	-
	B5-5	03/28/07	8-10	2919	1	Silty clay, till	-	-	-	-	-	-
	B5-6	03/28/07	10-12	7106	4	Silty clay, till	1390	27.2 "J"	305	33 "J"	-	-
	B5-7	03/28/07	12-14	4607	3	Silty clay, till	-	-	-	-	-	-
	B5-8	03/28/07	14-16	4560	2	Silty clay, till	-	-	-	-	-	-
B6	B6-1	03/28/07	0-2	109,000	71	Silty sand, Fill	-	-	-	-	-	-
	B6-2	03/28/07	2-4	199,000	338	Silty sand, Fill	<2500	<2500	136,000	<2500	-	-
	B6-3	03/28/07	4-6	40,000	32	Silty sand, Eolian deposits	-	-	-	-	-	-
	B6-4	03/28/07	6-8	45,000	103	Silty sand, Eolian deposits	-	-	-	-	-	-
	B6-5	03/28/07	8-10	4316	5	Silty clay, till	-	-	-	-	-	-
	B6-6	03/28/07	10-12	5539	5	Silty clay, till	-	-	-	-	-	-
	B6-7	03/28/07	12-14	6324	6	Silty clay, till	<25	<25	174	<25	-	-
	B6-8	03/28/07	14-16	4915	5	Silty clay, till	-	-	-	-	-	-
B7/TW2	B7-1	03/28/07	0-2	4925	16	Silty sand, Eolian deposits	-	-	-	-	-	-
	B7-2	03/28/07	2-4	37,800	55	Silty sand, Eolian deposits	108	<25	10,200	87	-	-
	B7-3	03/28/07	4-6	6168	13	Silty sand, Eolian deposits	-	-	-	-	-	-
	B7-4	03/28/07	6-8	28,000	45	Silty sand, Eolian deposits	870	<25	77,000	650	-	-
	B7-5	03/28/07	8-10	4704	9	Silty clay, till	-	-	-	-	-	-
	B7-6	03/28/07	10-12	4311	4	Silty clay, till	-	-	-	-	-	-
	B7-7	03/28/07	12-14	2647	5	Silty clay, till	-	-	-	-	-	-
	B7-8	03/28/07	14-16	4350	4	Silty clay, till	<25	<25	<25	<25	-	-

Table 2 Soil Sample Field Screening and Laboratory Analytical Results, Express Cleaners, Racine, Wisconsin

Borehole Number	Sample Number	Date Sampled	Sample Depth (feet)	PID Response (iui)		Description	Detected Volatile Organic Compounds (µg/kg)				Total Organic Carbon (milligrams per kilogram)	Bulk Density (pounds per cubic feet)
				Rae Systems Meter (Parts Per Billion)	Thermo Instruments Meter (Parts Per Million)		cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloroethene	Trichloroethene (TCE)		
U.S. Environmental Protection Agency Site-Specific Soil Screening Levels for Soil to Groundwater							60	110	4.1	3.7		
U.S. Environmental Protection Agency Site-Specific Soil Screening Levels for Ingestion							156,000	313,000	110,000	143,000		
U.S. Environmental Protection Agency Site-Specific Soil Screening Levels for Fugitive Dust							7.74x10 ¹¹	7.74x10 ¹¹	3.25x10 ⁸	1.71x10 ⁶		
U.S. Environmental Protection Agency Site-Specific Soil Screening Levels for Inhalation of Volatiles							NE	NE	2100	14		
B8	B8-1	03/28/07	0-2	2045	1	Silty sand, fill	-	-	-	-	-	-
	B8-2	03/28/07	2-4	3083	1	Silty sand, fill	<25	<25	67	<25	4200	147
	B8-3	03/28/07	4-6	3248	0	Silty sand, Eolian deposits	<25	<25	<25	<25	-	-
	B8-4	03/28/07	6-8	3239	1	Silty sand, Eolian deposits	-	-	-	-	-	-
	B8-5	03/28/07	8-10	2941	0	Silty sand, silty clay, till	-	-	-	-	-	-
	B8-6	03/28/07	10-12	3152	1	Silty sand, silty clay, till	-	-	-	-	-	-
	B8-7	03/28/07	12-14	2633	2	Silty clay, till	-	-	-	-	-	-
	B8-8	03/28/07	14-16	4112	2	Silty clay, till	<25	<25	<25	<25	-	-
B9	B9-1	03/29/07	0-2	199,000	170	Silty sand, fill	17,400	<2500	92,000	11,500	-	-
	B9-2	03/29/07	2-4	199,000	202	Silty sand, Eolian deposits	-	-	-	-	-	-
	B9-3	03/29/07	4-6	20,000	25	Silty sand, Eolian deposits	-	-	-	-	-	-
	B9-4	03/29/07	6-8	159,000	167	Silty clay, till	-	-	-	-	-	-
	B9-5	03/29/07	8-10	199,000	323	Silty clay, till	<5000	<5000	770,000	<5000	-	-
	B9-6	03/29/07	10-12	5014	3	Silty clay, till	-	-	-	-	-	-
	B9-7	03/29/07	12-14	3516	1	Silty clay, till	-	-	-	-	-	-
	B9-8	03/29/07	14-16	3311	1	Silty clay, till	<25	<25	<25	<25	-	-
B10	B10-1	03/29/07	0-2	8315	7	Silty sand, fill	-	-	-	-	-	-
	B10-2	03/29/07	2-4	9214	8	Silty sand, fill	<2500	<2500	14,000	<2500	-	-
	B10-3	03/29/07	4-6	4275	1	Silty sand, Eolian deposits	-	-	-	-	-	-
	B10-4	03/29/07	6-8	3250	1	Silty clay, till	-	-	-	-	-	-
	B10-5	03/29/07	8-10	3074	1	Silty clay, till	<25	<25	27.5 "J"	<25	-	-
	B10-6	03/29/07	10-12	2343	1	Silty clay, till	-	-	-	-	-	-
	B10-7	03/29/07	12-14	1256	2	Silty clay, till	-	-	-	-	-	-
	B10-8	03/29/07	14-16	2543	1	Silty clay, till	-	-	-	-	-	-
B11	B11-1	03/29/07	0-2	82,000	68	Silty sand, fill	-	-	-	-	-	-
	B11-2	03/29/07	2-4	115,000	156	Silty sand, Eolian deposits	<1250	<1250	63,000	<1250	-	-
	B11-3	03/29/07	4-6	9217	8	Silty sand, Eolian deposits	-	-	-	-	-	-
	B11-4	03/29/07	6-8	199,000	350	Silty clay, till	<1250	<1250	590,000	2760 "J"	-	-
	B11-5	03/29/07	8-10	27,000	17	Silty clay, till	-	-	-	-	-	-
	B11-6	03/29/07	10-12	7464	4	Silty clay, till	-	-	-	-	-	-
	B11-7	03/29/07	12-14	4075	3	Silty clay, till	-	-	-	-	-	-
	B11-8	03/29/07	14-16	3000	3	Silty clay, till	-	-	-	-	-	-
B12	B12-1	03/29/07	0-2	2577	1	Silty sand, fill	-	-	-	-	-	-
	B12-2	03/29/07	2-4	5615	3	Silty sand, Eolian deposits	<25	<25	1370	<25	3700	161.7
	B12-3	03/29/07	4-6	1751	1	Silty sand, Eolian deposits	-	-	-	-	-	-
	B12-4	03/29/07	6-8	1479	1	Silty clay, till	-	-	-	-	-	-
	B12-5	03/29/07	8-10	1692	1	Silty clay, till	-	-	-	-	-	-
	B12-6	03/29/07	10-12	1096	0	Silty clay, till	<25	<25	<25	<25	-	-
	B12-7	03/29/07	12-14	1089	0	Silty clay, till	-	-	-	-	-	-
	B12-8	03/29/07	14-16	459	0	Silty clay, till	-	-	-	-	-	-
B13	B13-1	11/14/07	0-2	1673	0	Asphalt, silty sand, fill	-	-	-	-	-	-
	B13-2	11/14/07	2-4	2667	12.5	Silty sand, eolian deposits	<25	<25	112	<25	-	-
	B13-3	11/14/07	4-6	978	21.9	Silty sand, eolian deposits	-	-	-	-	-	-
	B13-4	11/14/07	6-8	35,900	316.0	Silty clay, eolian deposits	330	<25	68,000	390	-	-
B14	B14-1	11/14/07	0-2	3263	6	Asphalt, silty sand, fill	-	-	-	-	-	-
	B14-2	11/14/07	2-4	3478	12	Silty sand, eolian deposits	<25	<25	131	<25	-	-
	B14-3	11/14/07	4-6	916	3	Silty sand, eolian deposits	-	-	-	-	-	-
	B14-4	11/14/07	6-8	395	0	Silty sand, eolian deposits	-	-	-	-	-	-
B15	B15-1	11/14/07	0-2	186	0	Silty sand, eolian deposits	-	-	-	-	-	-
	B15-2	11/14/07	2-4	249	0	Silty sand, eolian deposits	<25	<25	<25	<25	-	-
	B15-3	11/14/07	4-6	2462	12	Silty sand, eolian deposits	<25	<25	<25	<25	-	-
	B15-4	11/14/07	6-8	1190	6	Silty sand, eolian deposits	-	-	-	-	-	-
B16	B16-1	11/14/07	0-2	226	0	Asphalt, silty sand, fill	-	-	-	-	-	-
	B16-2	11/14/07	2-4	446	0	Silty sand, eolian deposits	<25	<25	<25	<25	-	-
	B16-3	11/14/07	4-6	71	0	Silty sand, eolian deposits	-	-	-	-	-	-
	B16-4	11/14/07	6-8	119	0	Silty sand, eolian deposits	-	-	-	-	-	-
B17	B17-1	11/14/07	0-2	182	3	Topsoil, silty sand, eolian deposits	-	-	-	-	-	-
	B17-2	11/14/07	2-4	532	6	Silty sand, eolian deposits	<25	<25	<25	<25	-	-
	B17-3	11/14/07	4-6	229	0	Silty sand, eolian deposits	-	-	-	-	-	-
	B17-4	11/14/07	6-8	769	0	Silty clay, till	-	-	-	-	-	-
B18	B18-1	11/14/07	0-2	0	0	Topsoil, silty sand, eolian deposits	-	-	-	-	-	-
	B18-2	11/14/07	2-4	870	6	Silty sand, eolian deposits	<25	<25	<25	<25	-	-
	B18-3	11/14/07	4-6	1135	9	Silty clay, till	-	-	-	-	-	-
	B18-4	11/14/07	6-8	1185	9	Silty clay, till	<25	<25	<25	<25	-	-
B19	B19-1	11/14/07	0-2	1572	12.0	Topsoil, silty sand, eolian deposits	-	-	-	-	-	-
	B19-2	11/14/07	2-4	1730	12.5	Silty sand, eolian deposits	<25	<25	<25	<25	-	-
	B19-3	11/14/07	4-6	1520	9	Silty clay, till	-	-	-	-	-	-
	B19-4	11/14/07	6-8	1399	9	Silty clay, till	-	-	-	-	-	-
B20	B20-1	11/14/07	0-2	1175	6	Topsoil, silty sand, eolian deposits	-	-	-	-	-	-
	B20-2	11/14/07	2-4	1279	9	Silty sand, eolian deposits	<25	<25	104	<25	-	-
	B20-3	11/14/07	4-6	1242	9	Silty clay, till	-	-	-	-	-	-
	B20-4	11/14/07	6-8	1389	9	Silty clay, till	-	-	-	-	-	-

Table 2 Soil Sample Field Screening and Laboratory Analytical Results, Express Cleaners, Racine, Wisconsin

Borehole Number	Sample Number	Date Sampled	Sample Depth (feet)	PID Response (iuf)		Description	Detected Volatile Organic Compounds (µg/kg)				Total Organic Carbon (milligrams per kilogram)	Bulk Density (pounds per cubic feet)
				Rae Systems Meter (Parts Per Billion)	Thermo Instruments Meter (Parts Per Million)		cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloroethene	Trichloroethene (TCE)		
U.S. Environmental Protection Agency Site-Specific Soil Screening Levels for Soil to Groundwater							60	110	4.1	3.7		
U.S. Environmental Protection Agency Site-Specific Soil Screening Levels for Ingestion							156,000	313,000	110,000	143,000		
U.S. Environmental Protection Agency Site-Specific Soil Screening Levels for Fugitive Dust							7.74x10 ¹¹	7.74x10 ¹¹	3.25x10 ⁸	1.71x10 ⁶		
U.S. Environmental Protection Agency Site-Specific Soil Screening Levels for Inhalation of Volatiles							NE	NE	2100	14		
B21	B21-1	11/14/07	0-2	1304	9.0	Topsoil, silty sand, eolian deposits	-	-	-	-	-	-
	B21-2	11/14/07	2-4	1600	9.4	Silty sand, eolian deposits	<25	<25	<25	<25	-	-
	B21-3	11/14/07	4-6	1126	9.4	Silty clay, till	-	-	-	-	-	-
	B21-4	11/14/07	6-8	1525	9.4	Silty clay, till	-	-	-	-	-	-
B22	B22-1	11/14/07	0-2	1271	9	Topsoil, silty sand, eolian deposits	-	-	-	-	-	-
	B22-2	11/14/07	2-4	1731	12	Silty sand, eolian deposits	<25	<25	670	<25	-	-
	B22-3	11/14/07	4-6	1523	9	Silty sand, eolian deposits	-	-	-	-	-	-
	B22-4	11/14/07	6-8	1390	9	Silty clay, till	-	-	-	-	-	-
B23	B23-1	11/14/07	0-2	937	6	Topsoil, silty sand, eolian deposits	-	-	-	-	-	-
	B23-2	11/14/07	2-4	1059	6	Silty sand, eolian deposits	<25	<25	<25	<25	-	-
	B23-3	11/14/07	4-6	788	6	Silty sand, eolian deposits	-	-	-	-	-	-
	B23-4	11/14/07	6-8	1194	6	Silty sand, eolian deposits	-	-	-	-	-	-
B24	B24-1	11/14/07	0-2	706	3	Topsoil, silty sand, fill	-	-	-	-	-	-
	B24-2	11/14/07	2-4	1087	6	Silty sand, eolian deposits	<25	<25	<25	<25	-	-
	B24-3	11/14/07	4-6	645	3	Silty clay, till	<25	<25	<25	<25	-	-
	B24-4	11/14/07	6-8	631	3	Silty clay, till	-	-	-	-	-	-
B25	B25-1	11/14/07	0-2	1160	3	Topsoil, silty sand, fill	-	-	-	-	-	-
	B25-2	11/14/07	2-4	1248	6	Silty sand, eolian deposits	<25	<25	<25	<25	-	-
	B25-3	11/14/07	4-6	1121	6	Silty clay, till	-	-	-	-	-	-
	B25-4	11/14/07	6-8	1200	6	Silty clay, till	-	-	-	-	-	-
B26	B26-1	11/14/07	0-2	1082	3	Topsoil, silty sand, fill	-	-	-	-	-	-
	B26-2	11/14/07	2-4	1189	6	Silty sand, eolian deposits	<25	<25	<25	<25	-	-
	B26-3	11/14/07	4-6	783	3	Silty sand, eolian deposits	-	-	-	-	-	-
	B26-4	11/14/07	6-8	714	6	Silty sand, eolian deposits	-	-	-	-	-	-
B27	B27-1	11/14/07	0-2	1387	6	Topsoil, silty sand, fill	-	-	-	-	-	-
	B27-2	11/14/07	2-4	1427	6	Silty sand, eolian deposits	<25	<25	<25	<25	-	-
	B27-3	11/14/07	4-6	1443	3	Silty sand, eolian deposits	-	-	-	-	-	-
	B27-4	11/14/07	6-8	1399	6	Silty sand, eolian deposits	-	-	-	-	-	-
B28	B28-1	11/14/07	0-2	1361	6	Topsoil, silty sand, fill	-	-	-	-	-	-
	B28-2	11/14/07	2-4	1373	6	Silty sand, eolian deposits	<25	<25	<25	<25	-	-
	B28-3	11/14/07	4-6	1671	6	Silty sand, eolian deposits	-	-	-	-	-	-
	B28-4	11/14/07	6-8	1253	3	Silty clay, till	-	-	-	-	-	-
B29	B29-1	11/14/07	0-2	1267	6	Topsoil, silty sand, fill	-	-	-	-	-	-
	B29-2	11/14/07	2-4	1265	6	Silty sand, eolian deposits	<25	<25	<25	<25	-	-
	B29-3	11/14/07	4-6	10,500	56	Silty sand, eolian deposits	-	-	-	-	-	-
	B29-4	11/14/07	6-8	2005	9	Silty clay, till	-	-	-	-	-	-
B30	B30-1	11/14/07	0-2	1002	3	Topsoil, silty sand, fill	-	-	-	-	-	-
	B30-2	11/14/07	2-4	1366	6	Silty sand, eolian deposits	<25	<25	<25	<25	-	-
	B30-3	11/14/07	4-6	1107	3	Silty sand, eolian deposits	-	-	-	-	-	-
	B30-4	11/14/07	6-8	912	3	Silty clay, till	-	-	-	-	-	-
B31	B31-1	11/15/07	0-2	2025	6	Silty sand, fill	-	-	-	-	-	-
	B31-2	11/15/07	2-4	2384	6	Silty sand, fill	<25	<25	<25	<25	-	-
	B31-3	11/15/07	4-6	1825	6	Silty sand, eolian deposits	-	-	-	-	-	-
	B31-4	11/15/07	6-8	1769	6	Silty clay, till	-	-	-	-	-	-
B32	B32-1	11/15/07	0-2	1515	3	Silty sand, fill	-	-	-	-	-	-
	B32-2	11/15/07	2-4	1579	6	Silty sand, fill	<25	<25	<25	<25	-	-
	B32-3	11/15/07	4-6	1529	3	Silty sand, eolian deposits	-	-	-	-	-	-
	B32-4	11/15/07	6-8	1186	3	Silty sand, eolian deposits	-	-	-	-	-	-
B33	B33-1	11/15/07	0-2	609	3	Silty sand, fill	-	-	-	-	-	-
	B33-2	11/15/07	2-4	685	3	Silty sand, fill	<25	<25	<25	<25	-	-
	B33-3	11/15/07	4-6	49	3	Silty sand, eolian deposits	-	-	-	-	-	-
	B33-4	11/15/07	6-8	148	3	Silty sand, eolian deposits	-	-	-	-	-	-
MW5		01/04/08	Blind drilled to 13 feet below grade									
MW6	MW6-1	01/04/08	0-2		3	Silty sand, some clay, topsoil, fill	-	-	-	-	-	-
	MW6-2	01/04/08	2-4		6	Silty sand, Eolian	<25	<25	48 "J"	<25	-	-
	MW6-3	01/04/08	4-6		6	Silty clay, till	-	-	-	-	-	-
			Blind drilled to 13 feet below grade									
MW7		01/04/08	Blind drilled to 13 feet below grade									
MW8	MW8-1	01/04/08	1-3		18	Silty sand, Eolian	<25	<25	330	<25	-	-
	MW8-2	01/04/08	3-5		21	Silty sand, Eolian	-	-	-	-	-	-
	MW8-3	01/04/08	5-7		34	Silty sand, Eolian	-	-	-	-	-	-
	MW8-4	01/04/08	7-9		43	Silty sand, Eolian	-	-	-	-	-	-
	MW8-5	01/04/08	9-11		21	Silty clay, till	-	-	-	-	-	-
			Blind drilled to 12.5 feet below grade									
MW9		01/04/08	Blind drilled to 12.5 feet below grade									

Table 2 Soil Sample Field Screening and Laboratory Analytical Results, Express Cleaners, Racine, Wisconsin

Borehole Number	Sample Number	Date Sampled	Sample Depth (feet)	PID Response (iui)		Description	Detected Volatile Organic Compounds (µg/kg)				Total Organic Carbon (milligrams per kilogram)	Bulk Density (pounds per cubic feet)
				Rae Systems Meter (Parts Per Billion)	Thermo Instruments Meter (Parts Per Million)		cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloroethene	Trichloroethene (TCE)		
U.S. Environmental Protection Agency Site-Specific Soil Screening Levels for Soil to Groundwater							60	110	4.1	3.7		
U.S. Environmental Protection Agency Site-Specific Soil Screening Levels for Ingestion							156,000	313,000	110,000	143,000		
U.S. Environmental Protection Agency Site-Specific Soil Screening Levels for Fugitive Dust							7.74x10 ¹¹	7.74x10 ¹¹	3.25x10 ⁸	1.71x10 ⁶		
U.S. Environmental Protection Agency Site-Specific Soil Screening Levels for Inhalation of Volatiles							NE	NE	2100	14		
MW10		01/04/08	Blind drilled to 12.5 feet below grade									
BA1	BA1-I	07/19/07	24	-	500	Native silty sand, eolian	<25	<25	130,000	<25	-	-
BA2	BA2-1	07/19/07	6	-	3	Silty sand, clay, topsoil	<25	<25	650	<25	-	-
	BA2-2	07/19/07	24	-	4	Native silty sand	<25	<25	700	<25	-	-
BA3	BA3-1	07/19/07	6	-	5	Silty sand, some clay, topsoil	<25	<25	1200	<25	-	-
	BA3-2	07/19/07	24	-	8	Native silty sand	<25	<25	1300	<25	-	-
BA4	BA4-1	07/19/07	6	-	5	Silty sand, clay, topsoil	<25	<25	690	<25	-	-
	BA4-2	07/19/07	24	-	6	Native silty sand	<25	<25	1000	<25	-	-
BA5	BA5-1	07/19/07	6	-	4	Silty sand, clay, fill	<25	<25	<25	<25	-	-
	BA5-2	07/19/07	30	-	5	Native silty sand	<25	<25	43	<25	-	-
BA6	BA6-1	07/19/07	6	-	4	Silty sand, fill	<25	<25	56	<25	-	-
	BA6-2	07/19/07	24	-	3	Native silty sand	<25	<25	74	<25	-	-
BA7	BA7-1	07/19/07	6	-	3	Silty sand, fill	<25	<25	84	<25	-	-
	BA7-2	07/19/07	24	-	4	Native silty sand	<25	<25	380	<25	-	-
BA8	BA8-1	07/19/07	6	-	4	Silty sand, clay	<25	<25	<25	<25	-	-
	BA8-2	07/19/07	18	-	4	Native silty sand	<25	<25	<25	<25	-	-
BA9	BA9-1	07/19/07	6	-	4	Silty sand, clay, fill	<25	<25	33	<25	-	-
	BA9-2	07/19/07	24	-	5	Native silty sand	<25	<25	1200"J"	<25	-	-

Note:
 PID = photoionization detector
 iui = instrument units as isobutylene
 µg/kg = micrograms per kilogram
 NE = not established by U.S. Environmental Protection Agency
 <x = compound not detected to a detection limit of x
 - = not analyzed
 J = analyte detected between the limit of detection and the limit of quantitation
 * = borehole completed by Gabriel Environmental Services

XXX = compound concentration exceeds Environmental Protection Agency site-specific soil screening levels for soil to groundwater



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http://rais.ornl.gov/cgi-bin/epa/ssl2.cgi
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Soil Screening Guidance for Chemicals

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Equation Values for Ingestion

Noncarcinogenic Parameter	Value	Carcinogenic Age-adjusted Parameter	Value	Carcinogenic Nonadjusted Parameter	Value
Target Hazard Quotient (unitless)	0.2	Target Risk (unitless)	1.0E-7	Target Risk (unitless)	1.0E-6
Body Weight (kg)	15	Adult Body Weight (kg)	70	Body Weight (kg)	70
		Child Body Weight (kg)	15		
Exposure Duration (yr)	6	Adult Exposure Duration (yr)	24	Exposure Duration (yr)	25
		Child Exposure Duration (yr)	6		
Exposure Frequency (day/yr)	350	Exposure Frequency (day/yr)	350	Exposure Frequency (day/yr)	250
Intake Rate (mg/day)	200	Adult Intake Rate (mg/day)	100	Intake Rate (mg/day)	50
		Child Intake Rate (mg/day)	200		
		Average Lifetime (yr)	70	Average Lifetime (yr)	70
		Age-adjusted Ingestion Factor (mg-yr/kg-day)	114.29		

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Soil Screening Levels for Ingestion (mg/kg)

Analyte	Cas Number	Oral RfD	Oral Slope Factor	Noncarcinogenic	Carcinogenic (Age-adjusted)	Carcinogenic (Nonadjusted)
Acenaphthene	83329	6.00E-02^a	9.39E+02			
Dichloroethylene, 1,2-cis-	156592	1.00E-02 ^b		1.56E+02		
Dichloroethylene, 1,2-trans-	156605	2.00E-02 ^a		3.13E+02		

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Equation Values for Inhalation of Fugitive Dust

Particulate Emission Factor Parameter	Value	Noncarcinogenic Parameter	Value	Carcinogenic Parameter	Value
Surface Area (acres)	0.5	Target Hazard Quotient (unitless)	0.2	Target Risk (unitless)	1.0E-7
City (climate zone)	Chicago(VII)	Exposure Duration (yr)	30	Exposure Duration (yr)	30
Q/C (g/m ² -s per kg/m ³)	98.43071	Exposure Frequency (day/yr)	350	Exposure Frequency (day/yr)	350
Fraction of vegetative cover (unitless)	0.5			Average Lifetime (yr)	70
Mean annual windspeed (m/s)	5				
Equivalent threshold value of windspeed at 7m (m/s)	11				
Function dependent on U _m /U _t (unitless)	0.2707				

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Soil Screening Levels for Inhalation of Fugitive Dust (mg/kg)

Analyte	Cas Number	Inhalation RfC	Inhalation Unit Risk	Particulate Emission Factor	Noncarcinogenic	Carcinogenic
Acenaphthene	83329			7.74E+08		
Dichloroethylene, 1,2-cis-	156592			7.74E+08		
Dichloroethylene, 1,2-trans-	156605			7.74E+08		

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Equation Values for Inhalation of Volatiles

Volatilization Factor Parameter	Value	Soil Saturation Concentration Parameter	Value	Noncarcinogenic Parameter	Value	Carcinogenic Parameter	Value
Surface Area (acres)	0.5			Target Hazard Quotient (unitless)	0.2	Target Risk (unitless)	1.0E-7
City (climate zone)	Chicago(VII)			Exposure Duration (yr)	30	Exposure Duration (yr)	30
Q/C (g/m ² -s per kg/m ³)	98.43071			Exposure Frequency (day/yr)	350	Exposure Frequency (day/yr)	350
Fraction organic carbon (unitless)	0.006	Fraction organic carbon (unitless)	0.006			Average Lifetime (yr)	70
Dry soil bulk density (g/cm ³)	1.5	Dry soil bulk density (g/cm ³)	1.5				
Soil particle density (g/cm ³)	2.65	Soil particle density (g/cm ³)	2.65				
Water-filled soil porosity (L _{water} /L _{soil})	0.2	Water-filled soil porosity (L _{water} /L _{soil})	0.2				
Exposure interval (s)	9.5e08						

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Soil Screening Levels for Inhalation of Volatiles (mg/kg)

Analyte	Cas Number	Inhalation RfC	Inhalation Unit Risk	Volatilization Factor	Soil Saturation Concentration	Noncarcinogenic	Carcinogenic
Acenaphthene	83329			4.2E+05			
Dichloroethylene, 1,2-cis-	156592			5.9E+03	1.3E+03		
Dichloroethylene, 1,2-trans-	156605			4.6E+03	3.2E+03		

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Equation Values for Soil to Ground Water

Partitioning Equation Parameter	Value
Dilution factor (unitless)	4
Fraction organic carbon in soil (unitless)	0.001
Water-filled soil porosity (L _{water} /L _{soil})	0.2
Dry soil bulk density (kg/L)	1.5
Soil particle density (kg/L)	2.65

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Soil Screening Levels for Soil to Ground Water (mg/kg)

Analyte	Cas Number	Ground Water Concentration* (mg/L)	Ground Water Concentration Source	Soil Screening Level
Acenaphthene	83329	8.8E+00	HBL	6.3E+01
Dichloroethylene, 1,2-cis-	156592	2.8E-01	MCLG	5.5E-02
Dichloroethylene, 1,2-trans-	156605	4.0E-01	MCLG	9.8E-02

* Ground Water Concentration=Ground Water Concentration Source x Dilution Factor

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Waste and Cleanup Risk Assessment

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http://rais.ornl.gov/cgi-bin/epa/ssl2.cgi
Last updated on Friday, June 27th, 2008.

[SSG Home](#)

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Soil Screening Guidance for Chemicals

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Equation Values for Ingestion

Noncarcinogenic Parameter	Value	Carcinogenic Age-adjusted Parameter	Value	Carcinogenic Nonadjusted Parameter	Value
Target Hazard Quotient (unitless)	0.2	Target Risk (unitless)	1.0E-7	Target Risk (unitless)	1.0E-6
Body Weight (kg)	15	Adult Body Weight (kg)	70	Body Weight (kg)	70
		Child Body Weight (kg)	15		
Exposure Duration (yr)	6	Adult Exposure Duration (yr)	24	Exposure Duration (yr)	25
		Child Exposure Duration (yr)	6		
Exposure Frequency (day/yr)	350	Exposure Frequency (day/yr)	350	Exposure Frequency (day/yr)	250
Intake Rate (mg/day)	200	Adult Intake Rate (mg/day)	100	Intake Rate (mg/day)	50
		Child Intake Rate (mg/day)	200		
		Average Lifetime (yr)	70	Average Lifetime (yr)	70
		Age-adjusted Ingestion Factor (mg-yr/kg-day)	114.29		

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Soil Screening Levels for Ingestion (mg/kg)

Analyte	Cas Number	Oral RfD	Oral Slope Factor	Noncarcinogenic	Carcinogenic (Age-adjusted)	Carcinogenic (Nonadjusted)
Tetrachloroethylene	127184	1.00E-02 ^a	5.20E-02 ^v	1.56E+02	1.23E+00	1.10E+02
Trichloroethylene	79016	3.00E-04 ^v	4.00E-01 ^v	4.69E+00	1.60E-01	1.43E+01

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Equation Values for Inhalation of Fugitive Dust

Particulate Emission Factor Parameter	Value	Noncarcinogenic Parameter	Value	Carcinogenic Parameter	Value
Surface Area (acres)	0.5	Target Hazard Quotient (unitless)	0.2	Target Risk (unitless)	1.0E-7
City (climate zone)	Chicago(VII)	Exposure Duration (yr)	30	Exposure Duration (yr)	30
Q/C (g/m ² -s per kg/m ³)	98.43071	Exposure Frequency (day/yr)	350	Exposure Frequency (day/yr)	350
Fraction of vegetative cover (unitless)	0.5			Average Lifetime (yr)	70
Mean annual windspeed (m/s)	5				
Equivalent threshold value of windspeed at 7m (m/s)	11				
Function dependent on U _m /U _t (unitless)	0.2707				

Soil Screening Levels for Inhalation of Fugitive Dust (mg/kg)

Analyte	Cas Number	Inhalation RfC	Inhalation Unit Risk	Particulate Emission Factor	Noncarcinogenic	Carcinogenic
Tetrachloroethylene	127184	6.00E-01 ∇	5.8E-07 ∇	7.74E+08	9.69E+07	3.25E+05
Trichloroethylene	79016	4.00E-02 ∇	1.1E-04 ∇	7.74E+08	6.46E+06	1.71E+03

Equation Values for Inhalation of Volatiles

Volatilization Factor Parameter	Value	Soil Saturation Concentration Parameter	Value	Noncarcinogenic Parameter	Value	Carcinogenic Parameter	Value
Surface Area (acres)	0.5			Target Hazard Quotient (unitless)	0.2	Target Risk (unitless)	1.0E-7
City (climate zone)	Chicago(VII)			Exposure Duration (yr)	30	Exposure Duration (yr)	30
Q/C (g/m ² -s per kg/m ³)	98.43071			Exposure Frequency (day/yr)	350	Exposure Frequency (day/yr)	350
Fraction organic carbon (unitless)	0.006	Fraction organic carbon (unitless)	0.006			Average Lifetime (yr)	70
Dry soil bulk density (g/cm ³)	1.5	Dry soil bulk density (g/cm ³)	1.5				
Soil particle density (g/cm ³)	2.65	Soil particle density (g/cm ³)	2.65				
Water-filled soil porosity (L _{water} /L _{soil})	0.2	Water-filled soil porosity (L _{water} /L _{soil})	0.2				
Exposure interval (s)	9.5e08						

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Soil Screening Levels for Inhalation of Volatiles (mg/kg)

Analyte	Cas Number	Inhalation RfC	Inhalation Unit Risk	Volatilization Factor	Soil Saturation Concentration	Noncarcinogenic	Carcinogenic
Tetrachloroethylene	127184	6.0E-01 ∇	5.8E-07 ∇	5.0E+03	2.4E+02	6.3E+02	2.1E+00
Trichloroethylene	79016	4.0E-02 ∇	1.1E-04 ∇	6.4E+03	1.3E+03	5.4E+01	1.4E-02

Equation Values for Soil to Ground Water

Partitioning Equation Parameter	Value
Dilution factor (unitless)	2
Fraction organic carbon in soil (unitless)	0.001
Water-filled soil porosity (L _{water} /L _{soil})	0.2
Dry soil bulk density (kg/L)	1.5
Soil particle density (kg/L)	2.65

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Soil Screening Levels for Soil to Ground Water (mg/kg)

Analyte	Cas Number	Ground Water Concentration * (mg/L)	Ground Water Concentration Source	Soil Screening Level
Tetrachloroethylene	127184	1.0E-02	MCL	4.1E-03
Trichloroethylene	79016	1.0E-02	MCL	3.7E-03

* Ground Water Concentration=Ground Water Concentration Source × Dilution Factor

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NON-HAZARDOUS WASTE MANIFEST		1. Generator ID Number	2. Page 1 of 1	3. Emergency Response Phone 414-236-1083	4. Waste Tracking Number 1013080
5. Generator's Name and Mailing Address Erich Family Limited Partnership P.O. Box 081007 Racine WI 53408 Generator's Phone: 262 241-3133			Generator's Site Address (If different than mailing address) Express Cleaners 3941 N. Main Street Racine WI 53042		
6. Transporter 1 Company Name Badger Disposal of WI., Inc.			U.S. EPA ID Number W I D 9 8 8 5 8 0 0 5 6		
7. Transporter 2 Company Name			U.S. EPA ID Number		
8. Designated Facility Name and Site Address Badger Disposal of WI., Inc. 5611 West Hemlock Street Milwaukee WI 53223 Facility's Phone: 414 760-9175			U.S. EPA ID Number W I D 9 8 8 5 8 0 0 5 6		
9. Waste Shipping Name and Description		10. Containers		11. Total Quantity	12. Unit Wt./Vol.
		No.	Type		
1. Non-regulated material a. 114097, 8		0 0 2	DM	00110	G
2. Non-regulated material b. 114099-109		0 1 1	DM	00605	G
3.					
4.					
13. Special Handling Instructions and Additional Information 1)(L) W5017584, Purge Water 2)(S) W5017583, Soil					
14. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.					
Generator's/Officer's Printed/Typed Name Mike Pawaski (on BEHALF OF ERICH FAM. Limited Partnership)				Signature <i>[Signature]</i>	
				Month Day Year 10 13 08	
15. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: Date leaving U.S.:					
19. Transporter Acknowledgment of Receipt of Materials					
Transporter 1 Printed/Typed Name Mike Pawaski				Signature <i>[Signature]</i>	
				Month Day Year 10 13 08	
17. Discrepancy					
17a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection					
17b. Alternate Facility (or Generator) Manifest Reference Number: U.S. EPA ID Number					
17c. Signature of Alternate Facility (or Generator) Month Day Year					
18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a					
Printed/Typed Name Ron Mitchell				Signature <i>[Signature]</i>	
				Month Day Year 10 13 08	